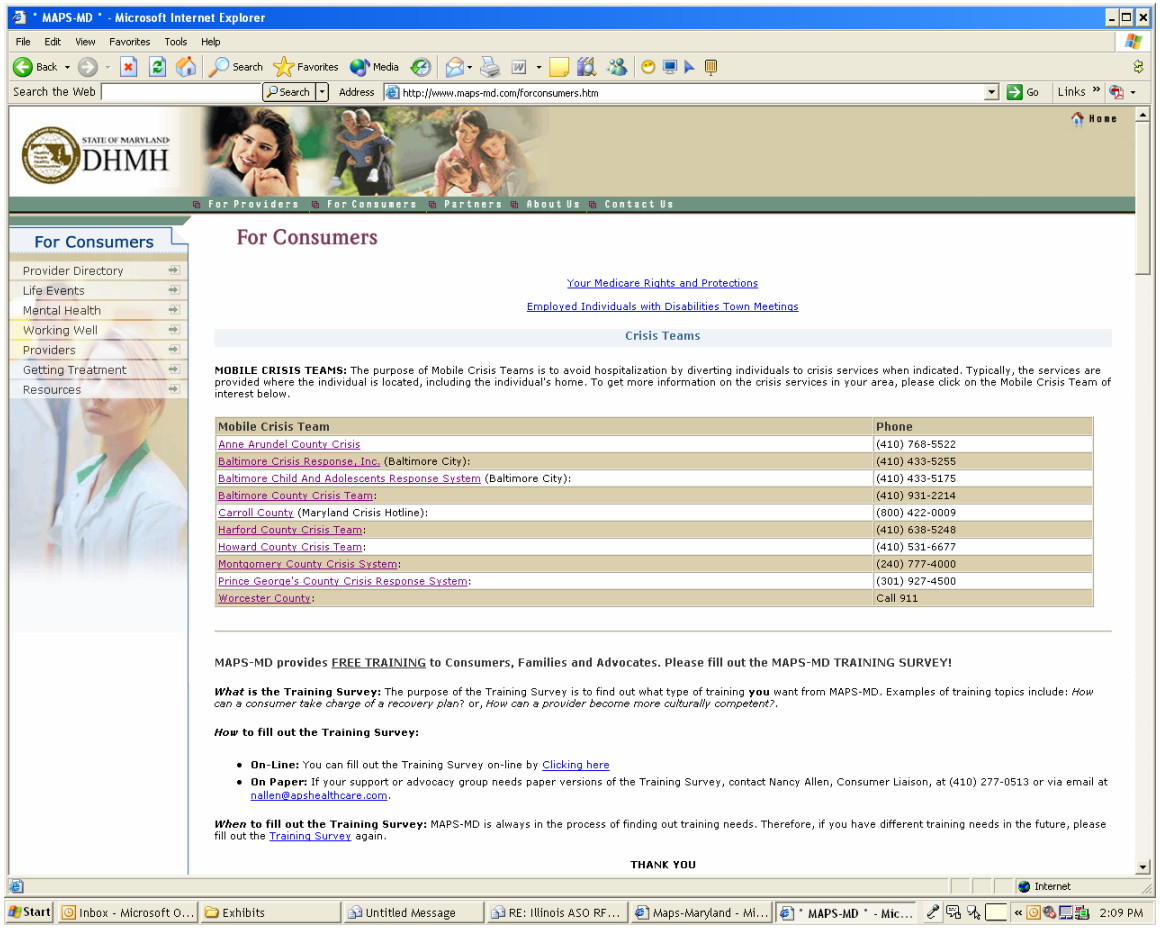
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Employed Individuals with Disabilities Town Meetings
Crisis Teams
MOBILE CRISIS TEAMS: The purpose of Mobile Crisis Teams is to avoid hospitalization by diverting individuals to crisis services when indicated. Typically, the services are provided where the individual is located, including the individual's home. To get more information on the crisis services in your area, please click on the Mobile Crisis Team of interest below.
Mobile Crisis Team | Phone
Anne Arundel County Crisis | (410) 768-5522
Baltimore Crisis Response, Inc. (Baltimore City): | (410) 433-5255
Baltimore Child And Adolescents Response System (Baltimore City): | (410) 433-5175
Baltimore County Crisis Team: | (410) 931-2214
Carroll County (Maryland Crisis Hotline): | (800) 422-0009
Harford County Crisis Team: | (410) 638-5248
Howard County Crisis Team: | (410) 531-6677
Montgomery County Crisis System: | (240) 777-4000
Prince George's County Crisis Response System: | (301) 927-4500
Worcester County: | Call 911
MAPS-MD provides FREE TRAINING to Consumers, Families and Advocates. Please fill out the MAPS-MD TRAINING SURVEY!
What is the Training Survey: The purpose of the Training Survey is to find out what type of training you want from MAPS-MD. Examples of training topics include: How can a consumer take charge of a recovery plan? or, How can a provider become more culturally competent?.
How to fill out the Training Survey:
On-Line: You can fill out the Training Survey on-line by Clicking here
On Paper: If your support or advocacy group needs paper versions of the Training Survey, contact Nancy Allen, Consumer Liaison, at (410) 277-0513 or via email at nallen@apshealthcare.com.
When to fill out the Training Survey: MAPS-MD is always in the process of finding out training needs. Therefore, if you have different training needs in the future, please fill out the Training Survey again.
THANK YOU
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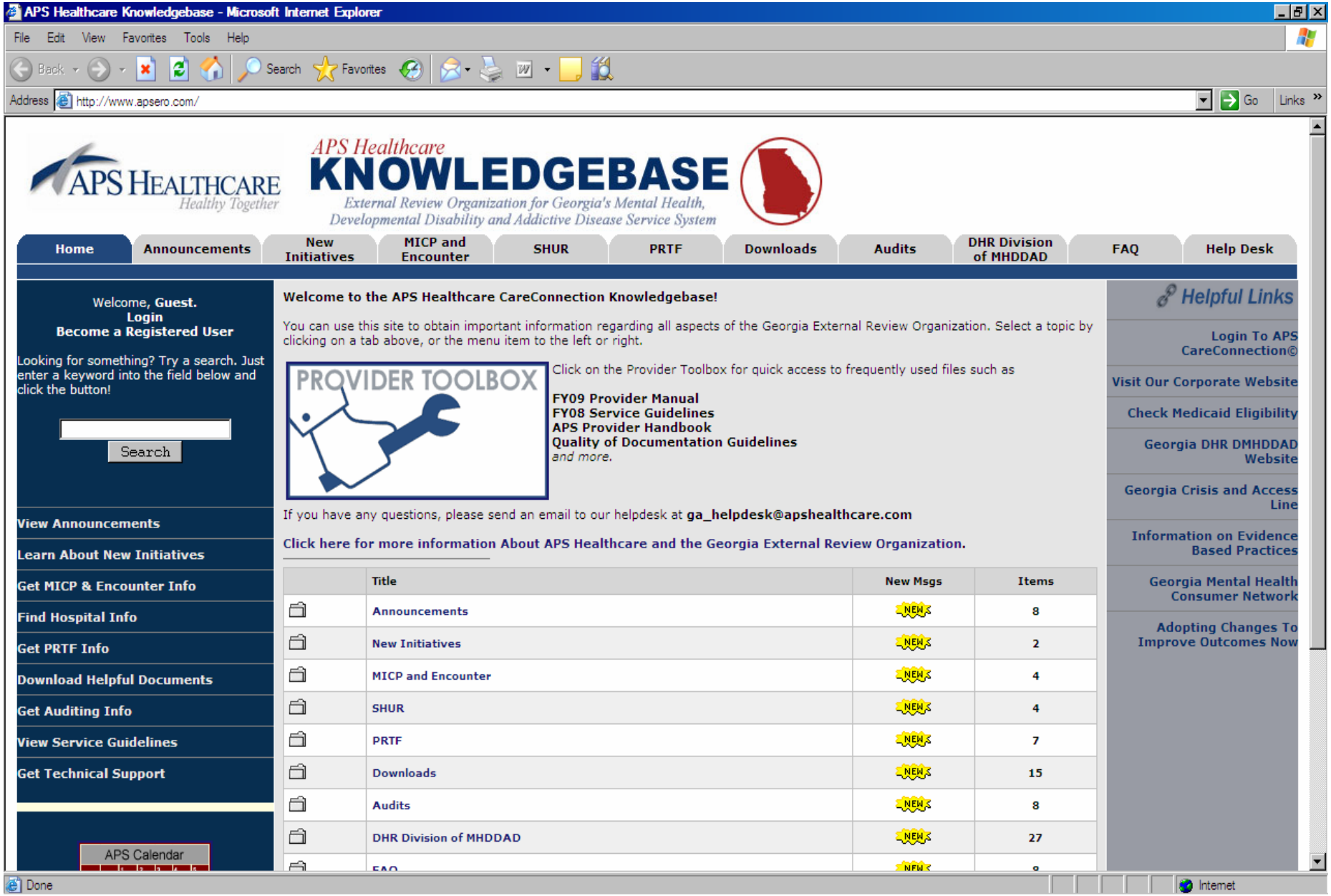
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Healthy Together
APS Healthcare
KNOWLEDGEBASE
External Review Organization for Georgia's Mental Health, Developmental Disability and Addictive Disease Service System
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Looking for something? Try a search. Just enter a keyword into the field below and click the button!
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View Announcements
Learn About New Initiatives
Get MICP & Encounter Info
Find Hospital Info
Get PRTF Info
Download Helpful Documents
Get Auditing Info
View Service Guidelines
Get Technical Support
APS Calendar
Welcome to the APS Healthcare CareConnection Knowledgebase!
You can use this site to obtain important information regarding all aspects of the Georgia External Review Organization. Select a topic by clicking on a tab above, or the menu item to the left or right.
PROVIDER TOOLBOX
Click on the Provider Toolbox for quick access to frequently used files such as
FY09 Provider Manual
FY08 Service Guidelines
APS Provider Handbook
Quality of Documentation Guidelines
and more.
If you have any questions, please send an email to our helpdesk at ga_helpdesk@apshealthcare.com
Click here for more information About APS Healthcare and the Georgia External Review Organization.
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APS HEALTHCARE
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GAMMP

GAMMP HOME
MEDICAID MEMBERS
MEDICAID PROVIDERS
LA INFORMACIÓN DEL MIEMBRO EN ESPAÑOL

Georgia Medicaid Management Program (GAMMP)

The Georgia Department of Community Health has chosen APS Healthcare to help Medicaid members manage their illnesses and medical services. Members served in this program are in the Aged, Blind, and Disabled (ABD) category and other non-CMO members like medically fragile, foster care and Title V children. Other members are currently served in:

- SOURCE
- ICWP/TBI
- CCSP
- MRWP
- CHSS
- Georgia Pediatric Program (GAPP)
- Katie Beckett waiver
- Nursing Homes
- Hospice
- Targeted Case Management

APS Healthcare will contact Medicaid members and providers across Georgia to explain the services offered through GAMMP.

Please call us at 866-269-7291

For information specific to Medicaid and its policies, visit their website at www.dch.ga.gov

Georgia Health Partnership is responsible for payment of medical services and services to members and providers. For more information on these topics, visit their website at www.ghp.georgia.gov

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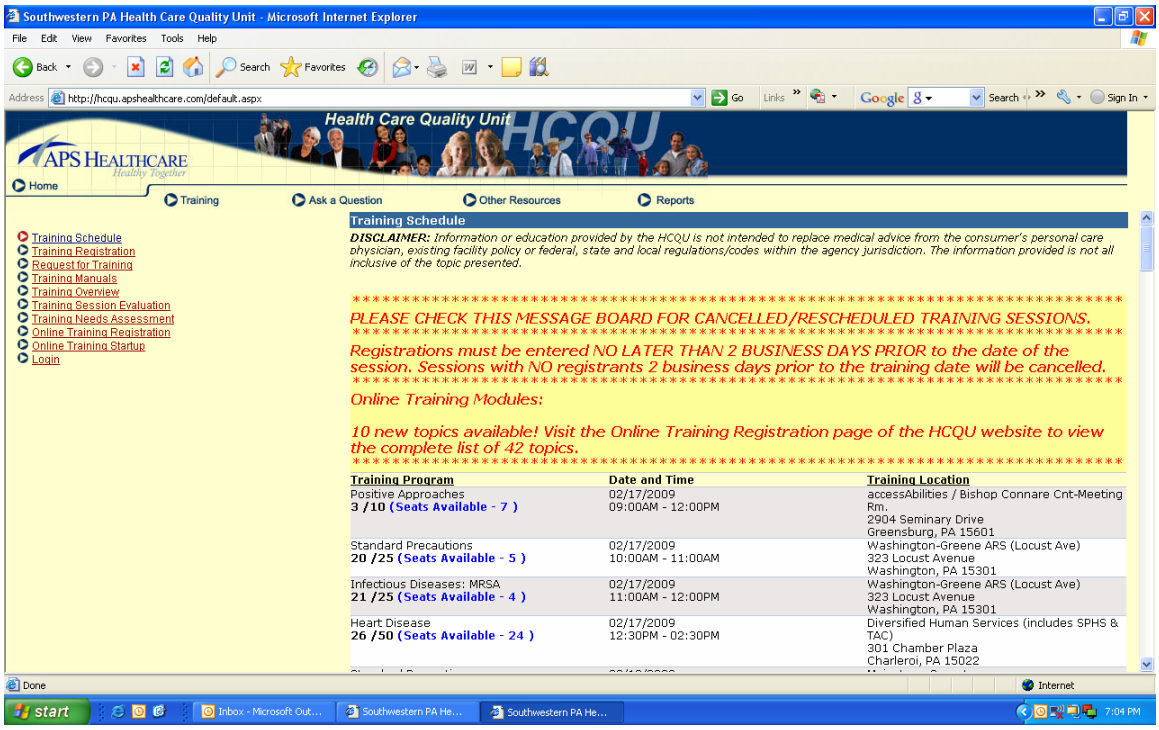
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HCQU
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Reports
Training Schedule
Training Registration
Request for Training
Training Manuals
Training Overview
Training Session Evaluation
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Online Training Startup
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Training Schedule
DISCLAIMER: Information or education provided by the HCQU is not intended to replace medical advice from the consumer's personal care physician, existing facility policy or federal, state and local regulations/codes within the agency jurisdiction. The information provided is not all inclusive of the topic presented.
PLEASE CHECK THIS MESSAGE BOARD FOR CANCELLED/RESCHEDULED TRAINING SESSIONS.
Registrations must be entered NO LATER THAN 2 BUSINESS DAYS PRIOR to the date of the session. Sessions with NO registrants 2 business days prior to the training date will be cancelled.
Online Training Modules:
10 new topics available! Visit the Online Training Registration page of the HCQU website to view the complete list of 42 topics.
Training Program
Date and Time
Training Location
Positive Approaches
3 /10 (Seats Available - 7)
02/17/2009
09:00AM - 12:00PM
accessAbilities / Bishop Connare Cnt-Meeting Rm.
2904 Seminary Drive
Greensburg, PA 15601
Standard Precautions
20 /25 (Seats Available - 5)
02/17/2009
10:00AM - 11:00AM
Washington-Greene ARS (Locust Ave)
323 Locust Avenue
Washington, PA 15301
Infectious Diseases: MRSA
21 /25 (Seats Available - 4)
02/17/2009
11:00AM - 12:00PM
Washington-Greene ARS (Locust Ave)
323 Locust Avenue
Washington, PA 15301
Heart Disease
26 /50 (Seats Available - 24)
02/17/2009
12:30PM - 02:30PM
Diversified Human Services (includes SPHS & TAC)
301 Chamber Plaza
Charleroi, PA 15022
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Southwestern PA He...
Southwestern PA He...
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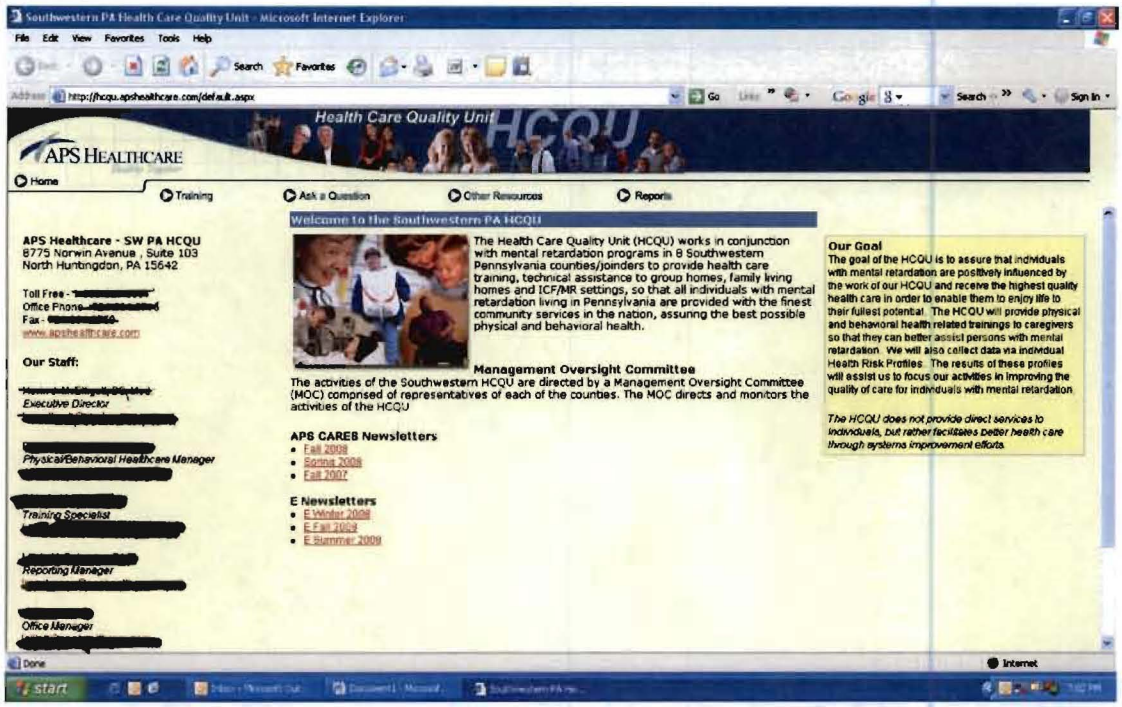
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http://hcqu.apshealthcare.com/default.aspx
Health Care Quality Unit
HCQU
APS HEALTHCARE
Home
Training
Ask a Question
Other Resources
Reports
Welcome to the Southwestern PA HCQU
APS Healthcare - SW PA HCQU
8775 Norwin Avenue , Suite 103
North Huntingdon, PA 15642
Toll Free -
Office Phone
Fax -
Our Staff:
Executive Director
Physical/Behavioral Healthcare Manager
Training Specialist
Reporting Manager
Office Manager
The Health Care Quality Unit (HCQU) works in conjunction with mental retardation programs in 8 Southwestern Pennsylvania counties/joinders to provide health care training, technical assistance to group homes, family living homes and ICF/MR settings, so that all individuals with mental retardation living in Pennsylvania are provided with the finest community services in the nation, assuring the best possible physical and behavioral health.
Management Oversight Committee
The activities of the Southwestern HCQU are directed by a Management Oversight Committee (MOC) composed of representatives of each of the counties. The MOC directs and monitors the activities of the HCQU
APS CARES Newsletters
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E Newsletters
E Winter 2008
E Fall 2008
E Summer 2009
Our Goal
The goal of the HCQU is to assure that individuals with mental retardation are positively influenced by the work of our HCQU and receive the highest quality health care in order to enable them to enjoy life to their fullest potential. The HCQU will provide physical and behavioral health related trainings to caregivers so that they can better assist persons with mental retardation. We will also collect data via individual Health Risk Profiles. The results of these profiles will assist us to focus our activities in improving the quality of care for individuals with mental retardation.
The HCQU does not provide direct services to individuals, but rather facilitates better health care through systems improvement efforts.
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Behavioral Health Services
Utilization Review Program

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QUALITY & DATA
ADULT MENTAL HEALTH PNMI BED OCCUPANCY INFORMATION

Provider Homepage

APS Healthcare was awarded the contract with the State of Maine's Department of Health and Human Services to provide a Behavioral Health Utilization Management System for services currently purchased through the State's Office of Maine Care Services and administered by the Adult Mental Health Services, Children's Behavioral Health Services, and the Office of Substance Abuse.

APS Healthcare will operate a 24 hour/7 day a week call center as part of the Maine ASO Behavioral Health Utilization Review Program that will provide access for providers and assists with both operational and educational activities related to the program. Providers can access the Help Desk, review requests and access information as participants in the program.

Please note and read the Level of Care Criteria.

For Provider Inquiries, contact us at **(866) 521-0027** and press the option for Providers.

Important Updates (All earlier updates are posted on the archive page)

Service Grid Revision for 1/1/09

CSR Alignment & APS CareConnection Changes - 10/24/08

Enrollment-RDS Required Fields - 9/19/08

Reading .PDF Documents

In order to view the .PDF files, you will need Acrobat Reader.

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CALL 1-888-545-1710 FOR MORE INFORMATION

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[redacted]
Read More...

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Healthy Together! Health Coach/Case Manager
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Read More...

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EQUALITYCARE CLIENTS AND PATIENTS
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CONTACT US
CALL 1-888-545-1710 FOR MORE INFORMATION

Health Tips

For More Health Tips
ENTER THE KNOWLEDGEBASE

Asthma

Asthma Action Plan
Asthma Triggers
Exercise Action Plan (for a child)
Exercise can Trigger your Asthma
How to Use the Aerochamber
More information about Asthma online
Using Your Inhaler
Using Your Peak Flow Meter
You can have GERD and Asthma at the Same Time

Cardio

How to Plan Meals if you have Heart Failure
Know your Numbers - your Blood Pressure
My Blood Pressure Record
What is COPD?
What is High Blood Pressure?
You can Control your Heart Condition

Client Tools

Know the facts: How to have a Healthy Holiday Season
Know the Facts: Get access to free health information
Know the facts: The ***Healthy Together!*** program can help you manage your health
Know the facts: What are your rights?
Know the Facts: When to visit the Emergency Room
Telephone Assistance Program

Internet

pennsylvania
DEPARTMENT OF PUBLIC WELFARE
www.dpw.state.pa.us

MEDICAL ASSISTANCE BULLETIN

ISSUE DATE	EFFECTIVE DATE	NUMBER
September 18, 2008	September 1, 2008	99-08-13

SUBJECT

Updates to the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program Periodicity Schedule

Michael Nardone, Deputy Secretary
Office of Medical Assistance Programs

PURPOSE:

The purpose of this Bulletin is to notify providers of updates to Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Periodicity Schedule and Coding Matrix (Periodicity Schedule) and billing instructions for EPSDT screens, effective September 1, 2008; and to announce associated fee increases for complete EPSDT screens.

SCOPE:

This bulletin applies to all providers enrolled in the Medical Assistance (MA) Program who provide EPSDT screens for MA recipients in the Fee-for-Service (FFS) (including ACCESS Plus) and managed care delivery systems, except that providers rendering services in the managed care delivery system should address any payment-related or coding questions to the appropriate MA Managed Care Organization (MCO).

BACKGROUND:

The Department of Public Welfare (Department) recognizes the EPSDT screening period as a unique opportunity to perform a comprehensive evaluation of a child's health and provide appropriate and timely follow-up diagnostic and treatment services. The Department emphasizes the importance of the EPSDT screening program and covers screening services at intervals which are based on the recommendations of the American Academy of Pediatrics (AAP), American Dental Association (ADA) and the American Academy of Pediatric Dentistry (AAPD). The most recent update to Pennsylvania's EPSDT Periodicity Schedule was issued with a MA Bulletin in October 2005 to support the early intervention and prevention of pediatric overweight and obesity.

COMMENTS AND QUESTIONS REGARDING THIS BULLETIN SHOULD BE DIRECTED TO:

The appropriate toll-fee number for your provider type.

Visit the Office of Medical Assistance Programs Web site at www.dpw.state.pa.us/omap

The AAP published its third edition of *Bright Futures: Guidelines for Health Supervision of Infants, Children and Adolescents* earlier this year. The 2008 Bright Futures Guidelines reflect the current recommendations of the AAP and the organizations, agencies and other members of the Bright Futures Project Advisory Committees for preventative pediatric screening and health supervision.

The 2008 Bright Futures Guidelines recommend that children receive structured developmental screening, not just developmental surveillance, and screening for Autism Spectrum Disorders (ASDs) as components of a complete EPSDT screen at certain periodicities. Developmental surveillance is the process of observing children to determine whether they may be at risk of developmental delays. Screening for developmental delays and ASDs is defined as the use of standardized screening tools to identify and refine that observed risk.

The 2008 Bright Futures Guidelines and the Centers for Medicare and Medicaid Services also recommend that the preventative oral health component of the screen include a referral to a dental home. According to the AAPD, a dental home is an ongoing relationship between a dentist and patient that includes all aspects of oral health care, including referral to dental specialists when appropriate, delivered in a comprehensive, continuously accessible, coordinated and family-centered way. Ideally, a dental home should be established no later than 12 months of age.

To encourage providers to perform complete EPDST screens and support the additional time needed to perform such screens and increase the number of screens performed, several years ago the MA Program established a higher fee of $65.00 for complete EPSDT screens. A complete EPSDT screen is one that includes all of the components listed on the Department's Periodicity Schedule.

DISCUSSION:

Effective September 1, 2008, the Department has updated the EPSDT Periodicity Schedule and billing instructions for EPSDT screens and has increased the fees for complete EPSDT screens.

EPSDT Periodicity Schedule

The key updates to the EPSDT Periodicity Schedule are the following:

- Addition of newborn metabolic and hemoglobinopathy screenings, performed according to State law, as a required component of the periodic screen for newborns;

- Addition of periodic screens at 30 months, seven years and nine years of age;

- Addition of developmental surveillance as a required component of all periodic screens, newborn through 20 years of age, except where structured developmental screenings are required;

- Addition of a structured developmental screening as a required component of the periodic screen at nine to 11 months, 18 months and 30 months of age;

- Addition of anemia screening as a required component of the periodic screen at 12 months of age, unless performed at an earlier periodic screen;

- Addition of a structured screen for Autism Spectrum Disorders as a required component of the periodic screens at 18 months and 24 months of age;

- Addition of the dental risk assessments or referral to a dental home as a required component of the periodic screens at 12 months, 18 months, 24 months and 30 months of age;

- Addition of referral to a dental home as a required component of every periodic screen, beginning at 3 years of age;

- Removal of urinalysis testing as a required component of the periodic screen at five years of age. If the provider determines a need for this screen at any periodic screen, the provider should order the test as a laboratory or diagnostic procedure;

- Addition of dyslipidemia screening as a required component of the periodic screen at 18 years of age or, if not performed then, dyslipidemia screening is a required component of the periodic screen at 19 or 20 years of age;

- Addition of psychosocial and behavioral assessment as a required component of all periodic screens, newborn through 20 years of age;

- Addition of alcohol and drug use risk assessment as a required component of every periodic screen beginning with the screen at 11 years of age.

MA fees for complete EPSDT screens:

The Department has increased the MA fees for complete EPSDT screens to support the additional time needed to perform a complete EPSDT screen due to the new screening components. Effective with dates of service on and after September 1, 2008, MA fees for complete EPSDT screens are as follows:

Screening Period	Description *	Current Fee For Complete Screen	Fee For Complete Screen Effective September 1, 2008
Newborn	Office Visit, developmental surveillance, psychosocial/behavioral	$65.00	$80.00

Screening Period	Description *	Current Fee For Complete Screen	Fee For Complete Screen Effective September 1, 2008
	assessment, oral health		
by 1 month of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
2-3 months of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
4-5 months of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
6-8 months of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
9-11 months of age	Office visit, structured developmental screen, psychosocial/behavioral assessment, lead screen, anemia screen, oral health	$65.00	$105.00
12 months of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
15 months of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
18 months of age	Office visit, structured developmental screen, structured autism screen, psychosocial/behavioral assessment, lead screen, oral health	$65.00	$125.00
24 months of age	Office Visit, structured autism screen, developmental surveillance, psychosocial/behavioral assessment, lead screen, oral health	$65.00	$105.00
30 months of age	Office Visit, structured developmental screen, psychosocial/behavioral assessment, lead screen, oral health	$65.00	$105.00
3 years of age and older	Office visit, oral health, age appropriate screens/surveillance	$65.00	$90.00

*****Descriptions do not include all activities associated with each periodic EPSDT screen.

A complete listing of all activities is included on the Periodicity Schedule.

These MA fees are paid for a complete EPSDT screen performed according to the Periodicity Schedule, including all component codes listed for the screening period and appropriate modifiers, referral codes and diagnosis codes. Incomplete EPSDT screens will be paid at the MA Program Fee Schedule rates for the assessment code and for each component procedure code reported. To encourage providers to perform a complete EPSDT screen at each interval on the Periodicity Schedule, the MA fees for the complete EPSDT screens are higher than the combined fees for each component of each periodic screen. The combined MA fee for all individual service components will not equal or exceed the MA fee for a complete EPSDT screen which is assigned to the specific screening period.

The Department has developed a new desk guide (attached) to assist providers in determining the appropriate screen to perform depending on the child's age, in order to receive the appropriate payment for the screening period.

PROCEDURE:

EPSDT Periodicity Schedule:

Effective September 1, 2008, providers should use the attached EPSDT Periodicity Schedule which details the appropriate EPSDT screening periodicities and screening services.

Screening Visits Desk Guide:

Providers in the FFS delivery system (including ACCESS Plus) should use this desk guide in conjunction with the Periodicity Schedule to determine the appropriate screen to perform based on the child's age in order to be paid the appropriate fee for that screen. Example: If the child is 3 years, 8 months of age, perform the screen for 4 year olds.

Providers in the managed care delivery system should contact the appropriate MCO for all billing or payment questions including the age ranges for which payment will be made for each periodic screen.

Dental Referral:

When the provider is conducting an EPSDT screen and the child requires a referral to a dental home according to the Periodicity Schedule, the provider must follow the procedures outlined below in order to be paid for a complete EPSDT screen:

- **Dental referrals for children in the FFS delivery system, including ACCESS Plus:**

  1) Advise the parent or guardian a dental referral is required according to the Periodicity Schedule.

  2) Notify the Department or ACCESS Plus that the child is due for a dental referral as part of a complete EPSDT screen. This notification constitutes the provider's referral to a dental home:

- If the child is enrolled in ACCESS Plus, call the following hotline to complete a referral to a dental home:
  ACCESS Plus Enrollee Hotline: 1-800-543-7633 option #2

- If the child is receiving services in the FFS delivery system but is not enrolled in ACCESS Plus, call the following to complete a referral to a dental home:
  Department's Intensive Case Management Unit: 1-866-588-9819

3) Place the YD referral code in block 10d of the CMS-1500 claim form to indicate referral to a dental home has been completed. Absence of the YD referral code during any required screening period will indicate an incomplete EPSDT screen and therefore will be paid at the MA Program Fee Schedule rates for the screen components, as stated above.

4) Document the referral to the dental home in the child's medical record.

The Department or the ACCESS Plus contractor will follow-up as appropriate with the parent or child, to confirm that the child completes the recommended visit to a participating dental provider.

- **Dental referrals for children enrolled in an MCO:**

1) Advise the parent or guardian a dental referral is required according to the Periodicity Schedule.

2) Notify the appropriate MCO that the child is due for a dental referral as part of a complete EPSDT screen. This notification constitutes the provider's referral to a dental home. Use the following MCO telephone numbers to complete a referral to a dental home:

MCO Name	Department to contact with Dental Referrals	Department telephone number	Alternate phone number (if available)
Gateway	Care Management	1-800-642-3550, option 4	
Unison	Provider Services	1-800-600-9007	
UPMC	Special Needs Unit	1-800-286-4242, option 2	
AmeriHealth Mercy	Member Services	1-888-991-7200	
Keystone Mercy	Member Services	1-800-521-6860	
AmeriChoice	Dental Department	(215) 832-4851	(215) 832-4532
Health Partners	EPSDT Outreach	(215) 991-4280	(215) 991-4135

3) Complete the electronic 837P or submit internet billing according to the billing procedures established by the MCO.

4) Document the referral to the dental home in the child's medical record.

The MCO will follow-up with the parent or child, as appropriate, to confirm that the child completes the recommended visit to a participating dental provider.

Use of modifier 52 for certain laboratory services:

Modifier 52 is used to identify that certain screening and laboratory services were not completed during the periodic screen, in which case the provider must complete the service at the next periodic screen. As listed on the Periodicity Schedule, certain laboratory services are to be provided at specified periodicities, unless done previously (see laboratory services 85013, 85018, 83655, and 80061, and #11 on the Periodicity Schedule Legend). For example, a provider should use the 52 modifier to indicate that hemoglobin screening (85018) was not completed for the periodic screen at 9-11 months of age. The provider must complete the hemoglobin screening during the next screening opportunity according to the Periodicity Schedule, in this case, the periodic screen at 12 months of age, for which the hemoglobin screen is also required unless done previously. If the provider also uses modifier 52 for the hemoglobin screening at the later periodic screen, that periodic screen will be considered an incomplete screen. Incomplete screens will be paid at the MA Program Fee Schedule rates for the screen components, as stated above.

If a provider is unable to perform a laboratory service in the office, the provider should make a referral to an outside lab and use modifier 90 in conjunction with the procedure code for the service to indicate the referral.

NOTE: This bulletin supersedes MA Bulletin 01-05-04, 08-05-07, 09-05-09, 31-05-10 and 33-05-03, Revisions to the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Periodicity Schedule, issued October 25, 2005.

Reminder: Please refer to the CMS Billing Guide for PROMISe™ Early & Periodic Screening, Diagnosis and Treatment (EPSDT) Services, which may be found at http://www.dpw.state.pa.us/PartnersProviders/PROMISe/003675041.htm, for a complete listing of referral codes, modifiers and diagnosis codes that apply to the EPSDT Program.

ATTACHMENTS:

Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program Periodicity Schedule and Coding Matrix (Effective September 1, 2008)

Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program Age Range Requirements for Screening Visits Desk Guide (Effective September 1, 2008)

Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program
Periodicity Schedule and Coding Matrix
(Effective September 1, 2008)

Services	Newborn (Inpatient)	By 1 Mo	2-3 Mo	4-5 Mo	6-8 Mo	9-11 Mo	12 Mo	15 Mo	18 Mo	24 Mo	30 Mo	3 y	4 y
Assessment: [1]	**A completed screen requires a code from each service required for that age. Report only one CPT code if multiple CPT codes are listed per service, except for immunizations.**												
New Patient	99431 EP [9] / 99435 EP [10]	99381 EP	99381 EP	99381 EP	99381 EP	99381 EP	99382 EP	99382 EP	99382 EP	99382 EP	99382 EP	99382 EP	99382 EP
Established Patient		99391 EP	99391 EP	99391 EP	99391 EP	99391 EP	99392 EP	99392 EP	99392 EP	99392 EP	99392 EP	99392 EP	99392 EP
• Newborn Metabolic Hemoglobin Screening [2]	←----------	•----------	----------→										
• Developmental Surveillance [12]	•	•	•	•	•		•	•		•		•	•
• Psychosocial/Behavioral Assessment	•	•	•	•	•	•	•	•	•	•	•	•	•
• Alcohol and Drug Use Assessment													
• Developmental Screening						96110			96110		96110		
• Autism Screening									96110 U1	96110 U1			
Vision [3]	Assessed through observation or through health history/physical.												
• Visual acuity screen												99173	99173
Hearing [3]													
• Audio Screen												92551	92551
• Pure tone-air only												92552	92552
Dental [6, 13]							• or ★ [5]		• or ★ [5]	• or ★ [5]	• or ★ [5]	•[5]	•[5]
Anemia [3, 4]													
• Hematocrit (spun)						85013 [7]	85013[11]						
• Hemoglobin						85018 [7]	85018[11]						
Venous Lead [3, 4]						83655	83655[11]	83655[11]	83655[11]	83655	83655[11]	83655[11]	83655[11]
Tuberculin Test [3]	If indicated by history and/or symptoms.												
Sickle Cell													
Sexually Transmitted Infections [8]													
Dyslipidemia [3, 4]													
Immunizations	Administer immunizations according to the ACIP schedule. For children 18 years and younger, these immunization codes are collected for administration purposes to document antigens given. Because the PA Department of Health provides vaccines free of charge to providers through the Vaccines for Children Program (see MA Bulletins 01-00-10, 10-00-03, 11-00-05, 26-00-04), only a vaccine administration fee will be reimbursed.												

Please refer to the attached EPSDT Program Periodicity and Coding Matrix Legend.

Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program
Periodicity Schedule and Coding Matrix
(Effective September 1, 2008)

Services	5 y	6 y	7 y	8 y	9 y	10 y	11 y	12 y	13 y	14 y	15 y	16 y	17 y	18 y	19 y	20 y
Assessment: [1]	**A completed screen requires a code from each service required for that age. Report only one CPT code if multiple CPT codes are listed per service, except for immunizations.**															
New Patient	99383 EP	99383 EP	99383 EP	99383 EP	99383 EP	99383 EP	99383 EP	99384 EP	99384 EP	99384 EP	99384 EP	99384 EP	99384 EP	99385 EP	99385 EP	99385 EP
Established Patient	99393 EP	99393 EP	99393 EP	99393 EP	99393 EP	99393 EP	99393 EP	99394 EP	99394 EP	99394 EP	99394 EP	99394 EP	99394 EP	99395 EP	99395 EP	99395 EP
• Developmental Surveillance[12]	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
• Psychosocial/Behavioral Assessment	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
• Alcohol and Drug Use Assessment							Through risk assessment									
• Developmental Screening • Autism Screening	If indicated by risk assessment and/or symptoms.															
Vision [3]																
• Visual acuity screen	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173
Hearing [3]																
• Audio Screen	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551
• Pure tone-air only	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552
Dental [6, 13]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]
Anemia [3, 4] • Hematocrit (spun) • Hemoglobin	If indicated by risk assessment and/or symptoms. See Recommendations to prevent and control iron deficiency in the United States. *MMWR*. 1998;47(RR-3):1-36. Beginning at 12 years of age for females, do once after onset of menses and if indicated by history and/or symptoms.															
Venous Lead [3, 4]	83655[11]	83655[11]														
Tuberculin Test [3] Sickle Cell Sexually Transmitted Infections [8]	If indicated by history and/or symptoms.															
Dyslipidemia [3, 4]														80061	80061[11]	80061[11]
Immunizations	Administer immunizations according to the ACIP schedule. For children 18 years and younger, these immunization codes are collected for administration purposes to document antigens given. Because the PA Department of Health provides vaccines free of charge to providers through the Vaccines for Children Program (see MA Bulletins 01-00-10, 10-00-03, 11-00-05, 26-00-04), only a vaccine administration fee will be reimbursed.															

Please refer to the attached EPSDT Program Periodicity and Coding Matrix Legend.

EPSDT Program Periodicity Schedule and Coding Matrix

LEGEND

[1] Included in the assessment: a comprehensive history and physical examination; counseling/anticipatory guidance/risk factor reduction interventions; age-appropriate nutritional counseling; the calculation of Body Mass Index (BMI); newborn metabolic/hemoglobin screening and follow-up; growth measurements and head circumference; an oral dental exam; blood lead (BL) risk assessment; blood pressure risk assessment; developmental and autism screenings; developmental surveillance; psychosocial/behavioral assessments; alcohol and drug use assessment; and the ordering of appropriate laboratory/diagnostic procedures as recommended by the current AAP guidelines.

[2] Newborn metabolic and hemoglobinopathy screenings should be done according to state law. According to AAP recommendations, Newborn metabolic and hemoglobinopathy screenings should take place between newborn and 2 months of age.

[3] Use CPT modifier -52 EPSDT Screening Services/Components Not Completed *plus* CPT code for standard testing method for objective vision/hearing testing, anemia, dyslipidemia, lead and tuberculin testing not completed. If a screening service/component is reported with modifier 52, the provider must complete the screening service/component during the next screening opportunity according to the Periodicity Schedule.

[4] Use CPT modifier -90 Reference Outside Lab *plus* CPT code when laboratory procedures are performed by a party other than the treating or reporting physician.

[5] • indicates referral to a dental home, ★indicates administer oral health risk assessment. Assess need for fluoride supplementation. Determine whether the patient has a dental home. If the patient does not have a dental home, a referral should be made to one.

[6] Dental Periodicity Schedule: Per the American Academy of Pediatric Dentistry, the first examination is recommended at the time of the eruption of the first tooth and no later than 12 months of age. Repeat every 6 months or as indicated by the child's risk status/susceptibility to disease. www.aapd.org/media/Policies_Guidelines/G_Periodicity.pdf

[7] Initial measurement of hemoglobin or hematocrit is recommended between 9 and 12 months of age.

[8] All sexually active patients should be screened for sexually transmitted infections (STI). All sexually active girls should have screening for cervical dysplasia as part of a pelvic examination beginning within 3 years of onset of sexual activity or age 21 (which ever comes first).

[9] Procedure code 99431 and modifier EP are to be used for a newborn screen performed in the hospital, but not on the same day as hospital discharge.

[10] Procedure code 99435 and modifier EP are to be used for a newborn screen performed in the hospital on the same day as hospital discharge.

[11] Provide at times noted, unless done previously.

[12] Developmental Surveillance is required for all periods, except when developmental screenings are required.

[13] All referrals to a dental home must be reported using the YD referral code.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Purpose of the document

The purpose of this document is to provide a block-by-block reference guide to assist the following provider types in successfully completing the CMS-1500 Claim Form:

- **Certified Nurse Midwife**
- **Certified Registered Nurse Practitioners**
- **Hospital Based Clinics**
- **Independent Medical/Surgical Clinics**
- **Physicians**

Document format

This document contains a table with four columns. Each column provides a specific piece of information as explained below:

- **Block Number** – Provides the block number as it appears on the claim.
- **Block Name** – Provides the block name as it appears on the claim.
- **Block Code** – Lists a code that denotes how the claim block should be treated. They are:

  M – Indicates that the claim block must be completed.

  A – Indicates that the claim block must be completed, if applicable.

  O – Indicates that the claim block is optional.

  LB – Indicates that the claim block should be left blank.

  * – Indicates special instruction for block completion.
- **Notes** – Provides important information specific to completing the claim block. In some instances, the Notes section will indicate provider specific block completion instructions.

Message for Hospitals

If hospitals bill for complete EPSDT screens on the UB-04 or in the 837I electronic format, **the MA fee for a complete EPSDT screening will not be received**.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

IMPORTANT INFORMATION FOR CMS-1500 CLAIM FORM COMPLETION

Note #1: If you are submitting handwritten claim forms you must use **blue** or **black** ink.

Note #2: **Font Sizes –** Because of limited field size, either of the following type faces and sizes are recommended for form completion:

- **Times New Roman, 10 point**
- **Arial, 10 Point**

Other fonts may be used, but ensure that all data will fit into the fields, or the claim may not process correctly.

Note #3: When completing the following blocks of the CMS-1500, **do not use decimal points and be sure to enter dollars and cents**:

1. Block 24f ($Charges)
2. Block 29 (Amount Paid)

If you fail to enter both dollars and cents, your claim may process incorrectly. For example, if your usual charge is sixty-five dollars and you enter 65, your usual charge may be read as .65 cents.

Example #1: When completing Block 24f, enter your usual charge to the general public, without a decimal point. You must include the dollars and cents. If your usual charge is fifteen dollars, enter:

24f	
$CHARGES	
15	00

Example #2: When completing Block 29, you are reporting patient pay assigned by the County Assistance Office (CAO). Enter patient pay as follows, including dollars and cents:

29	
Amount Paid	
50	00

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Complete EPSDT Screens

All providers billing for complete Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Screens must bill using the CMS-1500 Claim Form or electronically using the 837P format.

Providers choosing to bill for EPSDT Screens via the CMS-1500 Claim Form must bill using all of the individual age-appropriate procedure codes, including immunizations, for a complete screen. Please consult the **Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program Periodicity Schedule and Coding Matrix (Periodicity Schedule)** and the **Age Range Requirements for Screening Visits Desk Guide** as well as the **Recommended Childhood and Adolescent Immunization Schedules (Immunization Schedules)** for screening eligibility information and the services required to bill for a complete EPSDT Screen.

Note: The **Periodicity Schedule** and the **Immunization Schedules** are updated *periodically* and published in Medical Assistance Bulletins (MABs). Please use the most recent schedules when providing EPSDT Screens.

Please review the instructions in the billing guide for the following blocks when submitting a claim form for a complete EPSDT Screen:

- **Block 10d (Reserved for Local Use)** – This Block **MUST** be completed when a referral was made as a result of the screen, including where required according to the Periodicity Schedule. Use the appropriate EPSDT Referral Code(s) when you refer a child to another practitioner as a result of the EPSDT Screen.

Please note effective with dates of service on and after September 1, 2008, the YD referral code for Dental referrals will be required for all complete EPSDT screens delivered to children who are age 3 and older.

- **Block 21 (Diagnosis or Nature of Illness or Injury)** – The diagnosis (DX) code in block 21 must be either **V200**, **V201** or **V202** for an EPSDT Screen. When applicable, you may enter up to three additional diagnosis codes. Please note that you are **not required** to use immunization diagnosis codes.
- **Block 24h** – Enter Visit Code **03** to indicate that you are billing for an EPSDT service.

The EPSDT assessment code and modifier EP must be reported on the first claim line of Block 24d. Please list all of the required components of a EPSDT Screen, which were provided, in Block 24d on lines 02 through 06. If more than six claim lines are necessary to report the components of a complete EPSDT Screen, **please use two claim forms**. If a second CMS-1500 Claim Form is necessary, use the second CMS-1500 Claim Form to report any additional procedure codes (e.g., immunizations).

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Complete EPSDT Screens (cont'd)

The following provides an example of how to complete the CMS-1500 for a EPSDT Screen.

Example:

A 3-year old child comes into your office/hospital clinic for an EPSDT Screen. As per the Periodicity Schedule, the **required components** for a 3-year EPSDT Screen are:

- A periodic preventative medicine evaluation (new patient – Procedure Code 99382) or reevaluation (established patient – Procedure Code 99392);
- Visual acuity screen (Procedure Code 99173)
- Hearing – Audio Screen or Pure tone-air only (Procedure Codes 92551 or 92552)
- Referral to a dental home.

Enter the required components of the EPSDT Screen, which were performed.

For example:

- **Claim Line 1, Block 24d** – Enter **99392 EP**
- **Claim Line 2, Block 24d** – Enter **99173**
- **Claim Line 3, Block 24d** – Enter **92551**
- **Block 10d, YD referral code**

Utilize a second CMS-1500 Claim Form if more than six claim lines are required to report the components of the EPSDT Screen.

MA Fee for Complete/ Incomplete EPSDT Screen

The MA fees for complete EPSDT Screens are paid by the Department when a complete EPSDT Screen has been performed and billed according to the Pennsylvania's EPSDT Program Periodicity Schedule and Coding Matrix, with the appropriate use of modifiers, referral codes and diagnosis codes. Incomplete EPSDT Screens may be paid at the MA fee schedule rate for the assessment code (as represented by the MA Fee Schedule) and/or MA fee schedule rate for each component code reported. The combined MA fee for all required individual service components will not equal or exceed the MA fee for a complete EPSDT Screen which is assigned to the specific screening period.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Incomplete EPSDT Screens

Incomplete EPSDT Screens are office visits where the provider did not complete all of the required components listed on the Periodicity Schedule for the child's screening period. This includes use of applicable modifiers, diagnosis codes and required referral codes.

Independent Medical/Surgical Clinic providers who wish to bill for the office visit components/incomplete EPSDT Screen should bill the service as a clinic visit with procedure code T1015, with their pricing modifier U7 and informational modifier EP. This service should also be billed on the CMS 1500 / 837P.

Outpatient hospital clinics wishing to bill individual EPSDT components/incomplete screens should refer to the Medical Assistance Program Fee Schedule and the **UB-04 Billing Guide for PROMISe Hospitals** for instructions.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

You must follow these instructions to complete the CMS-1500 Claim Form when billing the Department of Public Welfare. **Do not imprint, type, or write any information on the upper right hand portion of the form.** This area is used to stamp the Internal Control Number (ICN), which is vital to the processing of your claim. Do not submit a photocopy of your claim to DPW.

Block No.	Block Name	Block Code	Notes
1	Type of Claim	M	Place an **X** in the Medicaid box.
1a	Insured's ID Number	M	Enter the 10-digit recipient number found on the ACCESS card. If the recipient number is not available, access the Eligibility Verification System (EVS) by using the recipient's Social Security Number (SSN) and date of birth (DOB). The EVS response will then provide the 10-digit recipient number to use for this block.
2	Patient's Name	A	It is recommended that this field be completed to enable Medical Assistance (MA) to research questions regarding a claim. ***This field is required when billing for newborns using the mother's patient number.** Enter the newborns name. If the first name is not available, you are permitted to use Baby Boy or Baby Girl.
3	Patient's Birthdate and Sex	A	Enter the patient's date of birth using an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 02151978) and indicate the patient's gender by placing an **X** in the appropriate box. ***Same as the special instruction for Block 2.** Enter the newborn's date of birth in an eight-digit format.
4	Insured's Name	A	If the patient has health insurance other than MA, list the name of the insured here. Enter the name of the insured except when the insured and the patient are the same - then the word **SAME** may be entered. If there is no other insurance other than MA, leave this block blank.
5	Patient's Address	O	Enter the patient's address.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
6	Patient's Relationship to the Insured	A	Check the appropriate box for the patient's relationship to the insured listed in Block 4.
7	Insured's Address	A	Enter the insured's address and telephone number except when the address is the same as the patient's, then enter the word **SAME**. Complete this block only when Block 4 is completed.
8	Patient Status	O	Place an **X** in the appropriate blocks to describe the patient's status.
9	Other Insured's Name	A	If the patient has another health insurance secondary to the insurance named in Block 11, enter the last name, first name, and middle initial of the insured if it is different from the patient named in Block 2. If the patient and the insured are the same, enter the word **SAME.** If the patient has MA coverage only, leave the block blank.
9a	Other Insured's Policy and Group Number	A	This block identifies a secondary insurance other than MA, **and** the primary insurance listed in 11a–d. Enter the policy number and the group number of any secondary insurance that is available. Only use Blocks 9a–d, if you have completed Blocks 11a–d, and a secondary policy is available. (For example, the patient may have both Blue Cross and Aetna benefits available.)
9b	Other Insured's Date of Birth and Sex	A	If a secondary insurance exists, enter the other insured's date of birth. Please make sure the date is in an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 03011978) and indicate the patient's gender by placing an **X** in the appropriate box.
9c	Employer's Name or School Name	A	Enter the name of the other insured's employer.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
9d	Insurance Plan Name or Group Name	A	Enter the other insured's insurance plan name or group name.
10a-10c	Is Patient's Condition Related To:	A	Complete the block by placing an **X** in the appropriate **YES** or **NO** box to indicate whether the patient's condition is related to employment, auto accident, or other accident (e.g., liability suit) as it applies to one or more of the services described in Block 24d. For auto accidents, enter the state's two-digit postal code for the state in which the accident occurred in the PLACE block (e.g., PA for Pennsylvania).
10d	Reserved For Local Use	A	**This Block MUST be completed** when a referral was made as a result of the screen, including where required according to the Periodicity Schedule. This block is used for Federal reporting purposes. **NOTE: Effective with dates of service on and after September 1, 2008, referral to a dental home is a required component of all EPSDT Screens beginning at 3 years of age.** Enter the applicable two-character EPSDT Referral Code for referrals made or needed as a result of the screen: **YM** – Medical Referral **YD** – Dental Referral **(a required component for all children 3 years of age and above)** **YV** – Vision Referral **YH** – Hearing Referral **YB** – Behavioral Health Referral **YO** – Other Referral For a complete listing and explanation of EPSDT Referral Codes, please refer to the *CMS-1500 Claim Form Desk Reference*, located in Appendix A of the handbook.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
11	Insured's Policy Group or FECA Number	A/A	Enter the policy number and group number of the primary insurance other than MA.
11a	Insured's Date of Birth and Sex	A/A	Enter the insured's date of birth in an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 03011978) and insured's gender if it is different than Block 3.
11b	Employer's Name or School Name	A	Enter the name of the other insured's employer for the primary insurance.
11c	Insurance Plan Name or Program Name	A	List the name and address of the primary insurance listed in Block 11.
11d	Is There Another Health Benefit Plan?	A	If the patient has another resource available to pay for the service, bill the other resource before billing MA. If the **YES** box is checked, Blocks 9a–d must be completed with the information on the additional resource.
12	Patient's or Authorized Person's Signature and Date	M/M	The patient's signature or the words **Signature Exception** must appear in this field. Also, enter the date of claim submission in an 8-digit MMDDCCYY format (e.g., 03012004) with no slashes, hyphens, or dashes. **Note:** Please refer to Section 6 of the PA PROMISe™ Provider Handbook for the 837 Professional/CMS-1500 Claim Form for additional information on obtaining patients signatures.
13	Insured's or Authorized Person's Signature	O	If completed, this block should contain the signature of the insured, if the insured is not the patient.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
14	Date of Current	O	If completed, enter the date of the current illness (first symptom), injury (accident date), or pregnancy in an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 03012004).
15	If Patient Has Had Same or Similar Illness	O	If the patient has had the same or similar illness, list the date of the first onset of the illness in an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 03012002).
16	Dates Patient Unable to Work in Current Occupation	O	If completed, enter the **FROM** and **TO** dates in an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 03012003), only if the patient is unable to work due to the current illness or injury. This block is only necessary for Worker's Compensation cases. It must be left blank for all other situations.
17	Name of Referring Physician or Other Source	A	Enter the name and degree of the referring or prescribing practitioner, when applicable.
17a	I.D. Number of Referring Physician	A	In the first portion of this block, enter a two-digit qualifier that indicates the type of ID: **0B** = License Number **1D** = 13-digit Provider ID number (Legacy Number) In the second portion, enter the **license number** of the referring or prescribing practitioner named in Block 17 (e.g., MD123456X). If the practitioner's license number was issued after June 29, 2001, enter the number in the new format (e.g., MD123456). If an out-of-state provider orders the service, enter the two-letter State abbreviation, followed by six "9"s, and an "X". For example, a prescribing practitioner from New Jersey would be entered as NJ999999X.
17b	NPI #	A	Enter the 10-digit National Provider Identifier number of the referring provider, ordering provider, or other source.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
18	Hospitalization Dates Related to Current Services	LB	Do not complete this block.
19	Reserved For Local Use	A/A	This field must be completed with attachment type codes, when applicable. Attachment type codes begin with the letters "**AT**" followed by a two-digit number (i.e., **AT05**). Enter up to four, 4-character alphanumeric attachment type codes. When entering more than one attachment type code, separate the codes with a comma (,). When using "**AT05**" indicating a Medicare payment, please remember to properly complete and **attach** the "Supplemental Medicare Attachment for Providers" form. When using "**AT10**" indicating a payment from a Commercial Insurance, please remember to properly complete and **attach** the "Supplemental Attachment for Commercial Insurance for Providers" form. Attachment Type Code "**AT99"** indicates that remarks are attached. Remarks must be placed on an 8-1/2" x 11" sheet of white paper clipped to your claim. Remember, when you have a remarks sheet attached, include your provider number and the recipient's number on the top left-hand corner of the page (i.e., Enter **AT26, AT99** if billing for newborns that have temporary eligibility under the mother's recipient number. On the remarks sheet, include the mother's full name, date of birth, and social security number.). If submitting an adjustment to a previously paid CMS-1500 claim (as referenced in Block 22), you must paper clip an 8-1/2" by 11" sheet of paper to the paper claim form containing an explanation as to why you are submitting the claim adjustment. For a complete listing and description of Attachment Type Codes, please refer to the *CMS-1500 Claim Form Desk Reference*, located in Appendix A of the handbook. *For additional information on completing CMS-1500 Claim Form adjustments, please refer to Section 2.10 – Claim Adjustments of the 837 Professional/CMS-1500 Claim Form Handbook.*

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
		A	**Qualified Small Businesses** Qualified small businesses must always enter the following message in Block 19 (Reserved for Local Use) of the CMS-1500, in addition to any applicable attachment type codes: "**(Name of Vendor) is a qualified small business concern as defined in 4 Pa Code §2.32.**"
Note: If the recipient has coverage through Medicare Part B and MA, this claim should automatically cross over to MA for payment of any applicable deductible or co-insurance. If the claim does not cross over from Medicare and you are submitting the claim directly to MA, enter **AT05** in Block 19 and attach a completed "Supplemental Medicare Attachment for Providers" form to the claim.			
20	Outside Lab?	LB	Do not complete this block.
21	Diagnosis or Nature of Illness or Injury	M/A	**When billing for EPSDT screens,** diagnosis (DX) code V200, V201 or V202 (Routine Infant or Child Health Check) must be used in this block. **EXCEPTION** when billing for newborns in an inpatient setting (Place of Service 21). Please use Diagnosis Code V3000 in the primary field with V200,V201 or V202 in the secondary field when submitting an EPSDT screen performed in an inpatient hospital setting. Additional diagnosis codes should be entered in fields 21.2, 21.3, and 21.4. An appropriate diagnosis code must be included for each referral. Immunization V-Codes are not required.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
22	Medicaid Resubmission	A/A	This block has two uses: 1) When resubmitting a rejected claim. If resubmitting a rejected claim, enter the 13-digit internal control number (ICN) of the **ORIGINAL** rejected claim in the right portion of this block (e.g., | 1103123523123). 2) When submitting a claim adjustment for a previously approved claim**.** If submitting a claim adjustment, enter ADJ in the left portion of the block and the **LAST APPROVED** 13-digit ICN, a space and the 2-digit line number from the RA Statement in the right portion of the block (e.g., ADJ | 1103123523123 01). **Note:** If your claim was submitted prior to the implementation of PROMISe™, enter the 10-digit claim reference number (CRN) in place of the ICN.
23	Prior Authorization Number	LB	Do not complete this block.
24a	Dates of Service	M/M	Enter the applicable date(s) of service.
24b	Place of Service	M	Enter the two-digit place of service code that indicates where the service was performed. **11** – Office **21** – Inpatient Hospital **22** – Outpatient Hospital **49** – Independent Clinic
24c	EMG	LB	Do not complete this block**.**

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
24d	Procedures, Services, or Supplies (CPT/HCPCS & Modifier)	M/A/A	Review the applicable CPT code(s) for all services provided. Refer to the Periodicity Schedule and Coding Matrix for all required components of a complete EPSDT Screen. List the procedure code(s) for the service(s) being rendered and any applicable modifier(s). In the first section of the block, enter the procedure code that describes the service provided. In the second and third sections of the block, enter up to four applicable modifiers. *If you were unable to provide a required service, please use the appropriate procedure code with modifier 52. Providers should make every effort possible to complete that service at the next screening opportunity.* *If you have referred a child to an outside laboratory, please use the appropriate procedure code with modifier 90.* *For compensable procedure code modifier combinations, please refer to the PA* PROMISe™ *fee schedule accessible via the DPW Internet site.*
24e	Diagnosis Pointer	M	This block may contain up to four digits. If the service was provided for the primary diagnosis (in Block 21), enter **1**. If provided for the secondary diagnosis, enter **2**. If provided for the third diagnosis, enter **3**, and for the fourth diagnosis, enter **4.**
24f	$Charges	M	Enter your usual charge to the general public for the service(s) provided. If billing for multiple units of service, multiply your usual charge by the number of units billed and enter that amount. For example, if your usual charge is sixty-five dollars, enter **6500**.
24g	Days or Units	M	Enter the number of units, services, provided.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
24h	EPSDT/Family Planning	A	**Enter Visit Code 03 when providing EPSDT screening services.**
24i	ID Qualifier	A	Enter the two-digit ID Qualifier: **1D** = 13-digit Provider ID Number (legacy #)
24j (a)	Rendering Provider ID #	A	Complete with the **Rendering Provider's** Provider ID number (nine-digit provider number and the applicable four-digit service location – 13-digits total). **Note**: Only one rendering provider per claim form.
24j (b)	NPI	A	Enter the 10-digit NPI number of the rendering provider.
25	Federal Tax I.D. Number	M	Enter the provider's Federal Tax Employer Identification Number (EIN) or SSN and place an **X** in the appropriate block.
26	Patient's Account Number	O	**Use of this block is strongly recommended**. It can contain up to ten alpha, numeric, or alphanumeric characters and can be used to enter the patient's account number or name. Information in this block will appear in the first column of the Detail Page in the RA Statement and will help identify claims if an incorrect patient number is listed.
27	Accept Assignment?	LB	Do not complete this block.
28	Total Charge	LB	Do not complete this block.
29	Amount Paid	LB	Do not complete this block.
30	Balance Due	LB	Do not complete this block.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
31	Signature of Physician or Supplier Including Degree or Credentials	M/M	This block must contain the signature of the provider rendering the service. A signature stamp is acceptable, except for abortions, if the provider authorizes its use and assumes responsibility for the information on the claim. If submitting by computer-generated claims, this block can be left blank; however, a Signature Transmittal Form (MA 307) must be sent with the claim(s). Enter the date the claim was submitted in this block in an eight-digit (MMDDCCYY) format (e.g. 03012004).
32	Service Facility Location Information	LB	Do not complete this block.
32a		LB	Do not complete this block.
32b		LB	Do not complete this block.
33	Billing Provider Info & Ph.#	A/A& M/M	Enter the billing provider's name, address, and telephone number **Do not use slashes, hyphens, or spaces.** **Note:** If services are rendered in the patient's home or facility, enter the service location of the provider's main office.
33a		A	Enter the 10-digit NPI number of the billing provider.
33b		M/A	Enter the 13-digit Group/Billing Provider ID number (Legacy #)

Persons with Disabilities Rural Shared-Ride Transportation Program (PwD) Fact Sheet

What is it?

The Persons with Disabilities Rural Shared Ride Transportation Program creates affordable, accessible transportation on shared-ride vehicles. PennDOT provides grants to local transportation operators to provide door-to-door advanced reservation transportation in specific counties. Passengers pay at least 15% of the regular shared-ride fare.

Who doesn't have it?

People with disabilities in **16** eligible counties: **Warren, Forest, Clarion, Butler, Armstrong, Indiana, Westmoreland, Cambria, Somerset, Susquehanna, Wyoming, Lackawanna, Luzerne, Montour, Wayne and Delaware**

Why not?

PwD shared-ride started as a pilot program in 8 counties in 2001. Over the last 7 years additional funding has been provided that enabled the program to gradually expand to cover 75% of the state. However, additional funding is needed to make the program available in the remaining 25%. (see back for map of counties).

What is the real issue?

Equity: There should not be *have and have nots* when it comes to people with disabilities getting to work, school, church, grocery stores, doctor offices and many other destinations necessary to live independently.

How is the program improving the lives of people with disabilities?

- 76% of passengers are able to live in their own home because of available transportation
- 46% are able to get and keep jobs

How does the Commonwealth benefit?

- More people are working and paying taxes
- More people are purchasing goods and services, and participating in their communities

What needs to happen for statewide coverage?

An additional investment of $2.25 million (bringing the total line item for the PwD program in the PennDOT budget to $7.55 million), so that PwD can be available to people in all 65 eligible counties.

The Transportation Commission recommended the program be expanded statewide.

Contact John Tassone, Chair of the Transportation Alliance at xxx.xxx.xxxx

CHCS Center for Health Care Strategies, Inc.

Issue Brief

JULY 2007

Encouraging Healthy Behaviors in Medicaid: Early Lessons from Florida and Idaho

By John Barth and Jessica Greene

Public policies to reward healthy behaviors are emerging as part of a national trend in health care toward consumer direction. Consumer-directed health care encourages people to take charge of their health and health care by promoting personal responsibility and quality- and cost-conscious decision making. In Medicaid, there are a growing number of consumer-directed policies that give consumers control over their own health care purchasing. One policy that a number of states are considering is *Health Opportunity Accounts*, which are essentially savings accounts for purchasing health care services. These accounts are coupled with a high deductible version of Medicaid.

For the most part, state Medicaid agencies have not traditionally sought to influence recipients' health-related behaviors. Wellness programs, like smoking cessation, are still not universally covered by Medicaid agencies[1] and encouraging healthy behaviors represents a new direction for Medicaid agencies toward promoting health and wellness. Improving Medicaid consumer's health and wellness-related behaviors is important for the long-term health of recipients. Unhealthy behaviors have become the top causes of mortality and morbidity in the United States.[2] Tobacco use, obesity, and misuse of alcohol account for over one third of all deaths in the country. The prevalence rates of these unhealthy behaviors are particularly high for those with low incomes and minorities.[3] If Medicaid agencies are successful in improving recipients' health-related behaviors, not only will long-term health outcomes improve, but there could be cost savings to Medicaid.

Two states, Florida and Idaho, are pioneers in implementing consumer health savings accounts as part of larger Medicaid reform efforts. Florida's Enhanced Benefits Accounts pilot, which began in September 2006, aims to reward Medicaid recipients up to $125 a year for adopting a host of specified wellness and healthy behaviors. Idaho's Preventive Health Assistance program, launched statewide in January 2007, promotes well child visits, tobacco cessation, and weight management. This issue brief briefly describes Florida and Idaho's incentive account programs and summarizes early lessons from these two states in encouraging consumers to adopt healthier behaviors.

Early Lessons

Educating Recipients about Incentive Programs is Challenging

Due to low literacy skills and the difficulty in reaching many by mail, educating Medicaid consumers is challenging under the best circumstances.[4] Educating consumers about a new initiative – especially one as unfamiliar as an incentive program – can be doubly challenging because its complexity requires more explanation. Both Florida and Idaho have used the following strategies to educate consumers about the incentive programs:

- **Keep information simple.** Both Florida and Idaho's Medicaid agencies separated education on the incentive program from education about overall Medicaid reform. This reduced the sheer quantity of information that consumers received, which is an important communication strategy for a population with low literacy levels.[5]

This issue brief is based on a CHCS resource paper: *Medicaid Efforts to Incentivize Healthy Behavior,* by Jessica Greene, PhD, University of Oregon. Dr. Greene based the report on focus groups and telephone surveys of Medicaid consumers in Florida and on interviews with Medicaid officials in Florida and Idaho. View the full report at www.chcs.org.

- **Learn from experience and make adjustments.** Both states are using consumer mailings to introduce the program. Despite developing materials at the 4th-grade level and conducting pre-testing with recipients, Florida found that there was substantial confusion over one particular form that was included in the mailing. Florida no longer includes this form with the mailing and has made changes to improve the clarity of its materials.
- **Use multiple media to provide education.** In addition to a direct mail introductory packet for consumers, both states are using additional media to educate consumers. Both states have toll-free phone numbers for fielding incentive program calls and have posted online information to help consumers understand how to use the incentive options. In responding to a telephone survey, more than half of parents and guardians of children with Medicaid (58%) in Florida noted that they have convenient internet access.[6]

Key Lesson: States considering an incentive program should develop a comprehensive education approach that recognizes the literacy level (and primary languages) of consumers, provides information through multiple channels, and can be adjusted based on experience gained as the program rolls out.

Program Descriptions

Florida's Enhanced Benefits Accounts program began in Duval and Broward counties in September 2006. Beneficiaries are eligible to earn and use credits by participating in healthy behavior activities offered by health plans, community centers, or other non-profit organizations. Members receive credits for each healthy behavior activity. Credits can be used to buy designated health-related items including first aid supplies, cough and cold medication, dental supplies, and many other over-the-counter items. More information: http://ahca.myflorida.com/Medicaid/Enhanced_Benefits/index.shtml

Idaho's Preventive Health Assistance (PHA) program began statewide in January 2007. The program aims to: (1) encourage recipients to be responsible for their health and well-being and (2) provide a financial "safety net" for recipients required to pay a monthly premium. The money earned through wellness behaviors can be used to pay the Medicaid premium. The "Wellness PHA" is for children whose families are required to pay a monthly premium. Eligible children are rewarded for attending annual well-child visits and obtaining timely immunizations. The "Behavioral PHA" is designed to encourage lifestyle changes for beneficiaries who use tobacco or have weight problems. More information: http://www.healthandwelfare.idaho.gov/site/4161/default.aspx

Educating Medicaid Partners is Essential

Medicaid partner organizations, including managed care organizations and local organizations that serve as incentive providers, can serve as critical conduits to deliver clear and understandable information to consumers about the incentive program. Both Florida's and Idaho's Medicaid agencies have educated key partners so they can accurately answer consumer questions.

- **Managed Care Organizations:** In Florida's reform counties, recipients are all enrolled in managed care plans. Florida provided health plans with a script for call centers and is planning to provide health plans access to recipients' incentive account balances, in accordance with privacy regulations.
- **Incentive Vendor Organizations:** Idaho is relying heavily on incentive program vendors, like the local YMCA, to promote the program. Vendors are distributing program brochures supplied by the state and are using on-site promotion to inform consumers about the benefits available to them. According to one Medicaid staff person, there is "enthusiasm for how we can work together and promote each other."

Key Lesson: States implementing an incentive program should equip their community program partners with information to help educate consumers about the incentive program and respond to consumer questions.

Addressing the Barriers Recipients Face in Engaging in Healthy Behaviors

When developing incentive programs, policymakers should be mindful of the barriers that Medicaid consumers face in adopting healthy behaviors. Two key barriers were repeatedly mentioned in consumer focus groups and surveys in Florida:

- **Transportation options are limited.** Respondents mentioned this barrier both with regard to accessing health care and healthy activities. Consumers with cars cited the cost of gasoline, and those without cars described how their access to health services was limited.

- **Exercise-related programs are expensive.** Consumers cited the high cost of sports and exercise programs as a key barrier to participation. One focus group member described trying to sign up for a "Mommy & Me" yoga class, "When I went to sign up for me and my son, the lady told me it's $250 for the sign up, but then it's $40 a month for the class. I said I can do Mommy & Me in my home." Idaho's healthy behaviors incentive program was designed to overcome some of the barriers consumers face in accessing affordable exercise programs. The Medicaid agency developed a list of approved local vendors, and the generous reward amount ($200 annually) helps consumers enroll in physical activity classes.

Key Lesson: States considering an incentive program should recognize that consumers served by Medicaid face significant barriers to successfully participating in an incentive program and should design interventions to overcome the barriers.

Documenting Lifestyle Behavior Changes May Require New Tracking Mechanisms

Tracking simple wellness visits is fairly easy for states, but determining whether or not Medicaid consumers are participating in programs to stop their smoking habits, exercise regularly, or adopt a better daily diet requires new processes.

- **Wellness visit-based incentives.** Florida and Idaho are providing incentives for children who have annual well-child check-ups and are up-to-date on their immunizations. These types of activities related to provider office visits (as well as screening tests and other preventive visits) are easily identified by Medicaid programs through administrative claims data. Using this automated approach is simple for consumers and for the Medicaid agency – once the consumer achieves the appropriate number of encounters there is an automatic "deposit" made into an incentive account.

- **Lifestyle behavior change-based incentives.** Changing lifestyle behaviors, like tobacco use and physical activity levels, holds the greatest potential for improving health status and reducing Medicaid costs. There are, however, no existing systems to track whether consumers participate in relevant programs to support change or actually make lifestyle changes. Tracking and rewarding behavioral accomplishments is far more difficult than reviewing administrative claims data. Both Florida and Idaho have had to develop new systems to track program participation, including forms that must be signed by a program representative (and in one case a physician) and submitted for consumers to receive "deposits" to their incentive accounts. Neither program is seeking to track whether recipients are successful in making lifestyle changes.

Key Lesson: States considering an incentive program may have to develop new systems to collect data on consumer participation in lifestyle behavior change programs. Tracking changes in actual lifestyle behaviors is substantially more difficult for states.

Conclusion

Medicaid programs across the United States are considering consumer health savings accounts to reward Medicaid recipients' adoption of healthy behaviors. Two states – Florida and Idaho – began implementation of their health savings accounts in 2006 and 2007 respectively and their experience offers early lessons for other state policy makers. One key lesson is for Medicaid officials to spend upfront time in designing a comprehensive approach to support Medicaid recipients in using the accounts and in making healthy choices. States should also assess consumer awareness and understanding of the program to ensure that they have sufficient understanding to make healthy lifestyle

changes and benefit from the program. Providing varied, targeted and easy-to-understand educational materials and approaches, developing connections with program partners, and addressing systemic barriers are all critical components to program success. States should carefully review their incentive approaches to ensure that existing reporting systems can support the policy. If necessary, states may need to invest additional resources to develop systems that adequately track data on consumer outcomes related to lifestyle behavior changes.

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Endnotes

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About the Center for Health Care Strategies

The Center for Health Care Strategies (CHCS) is a nonprofit health policy resource center dedicated to improving the quality and cost effectiveness of health care for Americans with chronic illnesses and disabilities, the elderly, and racially and ethnically diverse populations. CHCS works with state and federal agencies, health plans, and providers to develop innovative programs to better serve adults and children with complex and high-cost health care needs. Its program priorities are: advancing regional quality improvement, reducing racial and ethnic disparities, and integrating care for people with complex and special needs. For more information, visit **www.chcs.org**.

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NGA Center for BEST PRACTICES

Issue Brief

Creating Healthy States: Promoting Healthy Living in the Medicaid Program

Executive Summary

Medicaid provides health and long-term care coverage to more than 53 million Americans and maintains an annual operating budget of $320 billion. Given Medicaid's broad reach and high cost to states, officials increasingly are looking to the program as a way to improve the health of state residents and reduce state expenditures associated with poor health conditions.

Health care costs in the United States are approaching $1.8 trillion per year, with states paying upwards of $21 billion annually to treat chronic—and often preventable—conditions such as diabetes, cancer, and cardiovascular disease. The Medicaid program is a major financer of treatment for these chronic conditions because of the demographics of the population it serves.

Experts have concluded moderate weight loss, exercise, and smoking cessation strategies can save billions of health care dollars each year—a strong incentive for states to promote healthy lifestyles among Medicaid beneficiaries. Governors have opportunities to use three basic strategies to encourage healthy behaviors:

- **Providing Wellness Incentives for Beneficiaries:** Several states have proposed innovative programs to encourage Medicaid beneficiaries to practice healthy behaviors and use the health care system wisely. New flexibility under the Deficit Reduction Act (DRA) has enabled states to target and tailor programs for select populations, expand innovative strategies for beneficiary engagement, and identify practices that work.
- **Offering Tools and Incentives to Engage Medicaid Providers:** Many states offer payment incentives to encourage providers to recommend wellness or preventive services for beneficiaries, including fee-for-service payments to providers, partial capitation or enhanced payments for primary care case management, and capitation payments for managed care organizations.
- **Targeting and Tailoring Medicaid Benefits to Wellness:** Under DRA, states have the flexibility to create benefit packages aimed at the health care needs of different populations enrolled in the state program. This flexibility will allow states to address specific benefit needs by diagnosis or region. This may include tailoring health maintenance efforts and incentives for selected healthy populations at high risk for chronic diseases, or targeting intensive programs to promote prenatal smoking cessation in heavy-need localities.

Introduction

As the largest health insurance program in the United States, Medicaid provides more than 53 million Americans with health and long-term care coverage and maintains an annual operating budget of $320 billion. Given Medicaid's broad reach, the high cost to states, and the growing costs of health care services, officials are increasingly looking to the program as a way to improve the health of state residents and reduce state expenditures associated with poor—and preventable—health conditions.

Medicaid primarily serves three groups of beneficiaries: low-income children and working adults, the elderly, and individuals with disabilities or special needs. Typically the elderly and individuals with disabilities or special needs have many complex health needs and use a number of services. Medicaid enrollees often are disproportionately affected by the nationwide epidemics of obesity and related chronic diseases, such as diabetes and heart disease.

To counter declining health among these groups and the rising costs associated with chronic conditions, states are implementing a number of strategies targeted at Medicaid beneficiaries and providers. States can and have expanded coverage to include wellness and preventive services, and used strategies—such as pay-for-performance, disease management, and incentives programs—to improve health outcomes. States can apply these strategies under current authorities or by seeking waivers from federal rules.

States are also beginning to use the Deficit Reduction Act (DRA) of 2005 as one tool to improve health services and the health condition of the Medicaid population. The DRA eliminates the requirement that certain efforts be implemented statewide, enabling states to target alternative benefit packages to specific subsets of Medicaid beneficiaries in the neediest regions. It also eliminates the 'comparability' requirement, allowing states to tailor benefit programs and services to meet the health care needs of different population groups.

Benefit changes that target and tailor Medicaid benefits may be approved through the State Plan amendment process. However, because DRA applies exclusively to current eligibility groups, states cannot use the law to expand eligibility to new populations. In addition, new benefit packages must be actuarially equivalent to one of the specified benchmark options. Children younger than 19 years who receive benchmark coverage still must receive early and periodic screening, diagnosis, and treatment (EPSDT) services from a combination of the benchmark plan and a wraparound plan.

Making the Case for Healthy Living in the Medicaid Program

Health care costs in the United States are approaching $1.8 trillion a year, with states paying upwards of $21 billion each year to treat chronic—and often preventable—conditions such as diabetes, cancer, and cardiovascular disease.[1] The Medicaid program is a major financer of treatment for these chronic conditions because of the demographics of the population it serves.

Preventive care and counseling yield substantial benefits for state budgets and patients. Research shows investments in disease prevention and health promotion strategies can result in financial returns for a state. In 1998, **North Carolina** implemented disease management program strategies for Medicaid beneficiaries suffering from diabetes, asthma, and cardiovascular diseases through the state's primary care case management (PCCM) program. An evaluation of the expenditures and use of services among diabetic and asthmatic Medicaid beneficiaries in 2002 revealed monthly savings of $21 per member.[2] Additional research has demonstrated that diabetes management services yield a net benefit of $2,702 per enrollee compared to traditional care, with the cost of services ranging from $42 to $84 per patient per year.[3]

Governors have opportunities to cut costs while promoting healthy living practices among beneficiaries through provider and enrollee incentives, care coordination, and disease management strategies. Experts have concluded moderate weight loss, exercise, and smoking cessation strategies can save billions of health care dollars each year. These efforts can reduce the number of healthy people who develop disease and the need for health care services among people who already have a chronic condition. Consider the following statistics.

- *Modest Weight Loss*: The Centers for Disease Control and Prevention (CDC) estimates the lifetime medical care costs for an overweight person who sustained a 10 percent weight reduction would decrease from $2,200 to $5,300.[4]
- *Moderate Exercise*: If 10 percent of adults began a regular walking program, an estimated $5.6 billion in heart disease costs could be saved annually.[5]
- *Smoking Cessation*: Pregnant women who quit smoking gain substantial and immediate health benefits beyond the long-term benefits to the general population. Prenatal smoking cessation protects against adverse birth outcomes such as low birth weight and mental retardation and reduces the cost of neonatal heath care.[6] The CDC estimates Medicaid could save almost $3.50 in averted neonatal medical expenditures for every $1 spent on counseling pregnant smokers to quit.[7]

States can reap additional benefits through the multi-component programs within and beyond the Medicaid program. Within Medicaid, these programs can provide health behavior education, risk factor screening, referrals for additional services, health and fitness programs, and support systems.

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[1]Centers for Disease Control and Prevention, *Overweight and Obesity: Economic Consequences.* Available at: <http://www.cdc.gov/nccdphp/dnpa/obesity/economic_consequences.htm>
[2]Cecil G. Sheps Center for Health Services Research, <www.shepscenter.unc.edu/research_programs/rural_programs>.
[3] *Guide to Community Preventive Services: Diabetes*. Available at: <http://www.thecommunityguide.org/diabetes/dm-econ.pdf>.
[4]Centers for Disease Control and Prevention, *Preventing Obesity and Chronic Diseases Through Good Nutrition and Physical Activity*. Available at: <http://www.cdc.gov/nccdphp/publications/factsheets/Prevention/obesity.htm>.
[5]Ibid.
[6] Centers for Disease Control and Prevention, *Smoking Cessation for Pregnant Women* (2002). Available at: <http://www.cdc.gov/tobacco/research_data/economics/health_econ_impact.htm>.
[7] Ibid.

Governors also can combine Medicaid efforts with initiatives to provide supportive community structures that promote comprehensive healthy living—such as improved access to fresh produce, parks, and recreational facilities in urban areas—while working with Medicaid providers to encourage the use of these opportunities among beneficiaries. By taking a more systemic approach to wellness, states can realize savings and improvements for Medicaid recipients, enrollees in other public programs, and the general populace.

Recent State Medicaid Wellness Initiatives

Several state Medicaid programs have been advancing wellness initiatives steadily by providing healthy choice incentives for beneficiaries, tools and incentives for providers (such as care coordination, disease management, pay for performance, and other payment incentives), and tailored benefits (see Table 1).

Table 1: State Strategies to Promote Healthier Living in the Medicaid Programs

States	Wellness Incentives for Beneficiaries	Tools/Incentives for Provider Engagement		Tailored Benefits
		Care Coordination/ Disease Management	Payment Methods/ Pay for Performance	
Florida	✚			✚
Idaho			✚	✚
Illinois			✚	
Indiana		✚		
Kentucky				✚
North Carolina		✚	✚	
West Virginia	✚			

Note: This table indicates only the specific strategies highlighted in this paper. States may use a number of different strategies not reflected here.

Wellness Incentives for Beneficiaries

A number of states have proposed innovative programs to encourage beneficiaries to practice healthy behaviors and use the health care system wisely. The new flexibility under DRA has enabled states to target and tailor programs for select populations, expand innovative strategies for engaging beneficiaries, and identify practices that work.

State efforts to provide such incentives for healthy behaviors are quite new, but the private sector has used them in employee wellness programs and health plans. Although the potential for states to adapt private-sector approaches may be limited by the political environment or the beneficiary populations, these examples are worth noting.

West Virginia Extended Benefits Package

West Virginia is promoting healthier living among Medicaid beneficiaries by offering enrollees an optional, extended benefits package that includes services not traditionally offered. Enhanced services include access to—or expanded coverage for—tobacco cessation treatment, nutrition education, diabetes care, treatment for chemical dependency, mental health services, cardiac rehabilitation, chiropractic services, and dental care. Medicaid recipients will gain access to these enhanced services by signing a member agreement to attend scheduled preventive health visits and take medications as directed. The agreement also requires parents to take their children to regularly scheduled checkups, immunizations, and dental exams.

To encourage beneficiaries further to adopt healthier lifestyles, West Virginia will offer members enrolled in the enhanced benefit plan an opportunity to accrue credits toward health services in a Healthy Rewards Account. The credits, awarded for making healthy decisions and using the health care system appropriately, can be used to pay for a pre-set list of items or services determined by the state. Although the details of the credit program still are being determined, the state is considering allowing credits to cover nonemergency care services, co-pays, and uncovered health care services and products, such as over-the-counter medications.

Under the state's proposal, beneficiaries who choose not to sign the agreement will receive the standard Medicaid benefit package. In future years, however, beneficiaries who miss appointments, use emergency services for non-emergency care, do not comply with the preferred drug list, or smoke may receive disincentives.

West Virginia will focus communications efforts on educating and orienting beneficiaries to the new program and its benefit package. Beneficiaries in three counties will participate in a pilot program in 2007.

Florida Healthy Living Incentives

On July 1, 2006, **Florida** initiated its substantial waiver program with pilots to promote healthy living through incentives for enrollees who pursue healthy behaviors through preventive services and reduce the risk of poor health care outcomes. The pilot will assess a risk-adjusted premium that reflects each beneficiary's health status. With the premium value, the state will purchase coverage provided by state-approved managed care plans on behalf of beneficiaries. Many plans will assume risk for a state-specified set of comprehensive benefits and catastrophic health care. The plans can create customized benefit packages and provide beneficiaries the flexibility to choose the plan that best meets their needs.

Recipients enrolling in the new plans will receive monetary incentives for participating in healthy activities, such as smoking cessation, annual checkups, and disease management programs. The fiscal value of each activity will be deposited into an Enhanced Benefit Account. Initially, beneficiaries will have an opportunity to earn up to $125 per year in these accounts and use funds for over-the-counter pharmaceuticals, first-aid supplies, and other items that can be purchased in a pharmacy. The program may be expanded to include other items such as non-covered health care services, including exercise programs, reading glasses and other health care items/services not covered by the Medicaid Reform plans in the future.

The enhanced benefits accrued in an enrollee's account will be available for use for up to three years after Medicaid eligibility has ended. Use of the funds during enrollment is limited to the list of approved items. Therefore, unused funds will remain in the recipients account for purchase of those items. However, if the individual regains Medicaid eligibility, unspent funds accrued during past enrollment will remain in the account and earning potential will be reinstated.

Florida anticipates that marketplace competition among managed care organizations will maximize benefit packages for the premiums offered by the state. To guide the development and evaluation of the Enhanced Benefit Plan, Florida has convened a panel of members representing the Division of Medicaid, patients, health plans, and the fraud and abuse agency.

Private-Sector Examples

In 1995, Johnson & Johnson launched a wellness program targeting its 18,000-member employee insurance pool. From 1995 to 1999, the corporation realized an average annual savings of $8.5 million, which amounted to a $225 medical care savings per employee each year. Johnson & Johnson enrolled more than 90 percent of all eligible employees and discovered that increases in employee enrollment coincided with increased financial incentive program offerings. For example, when Johnson & Johnson offered high-risk employees $500 medical plan discounts, employee enrollment increased substantially.

In **California**, Blue Shield's Healthy Lifestyle Rewards pilot program offers cash incentives to members who work toward adopting healthy behaviors. Participants may register for the pilot program by filling out a health assessment on Blue Shield's Web site that indicates areas in which the participant can improve his or her health. The recommendations may include one of several lifestyle programs (e.g., smoking cessation, weight loss, and stress reduction) with tools to help people meet their goals. Participants must engage in at least one prescribed activity per week during a 12-week period to be eligible for a $50 cash reward.

Tools and Incentives to Engage Providers

Many states have created tools and incentives to promote provider engagement, including care coordination, disease management, and payment strategies. Care coordination and disease management practices enable beneficiaries and providers to take a more strategic and comprehensive approach to health needs, while ensuring cost savings to the enrollee and the state. Providers, particularly primary care practitioners, offer considerable health care navigational assistance to Medicaid recipients by coordinating care, assisting in lifestyle modifications, and ensuring appropriate medical services for ailments and conditions.

Many states offer a variety of payment incentives to encourage providers to recommend wellness or preventive services to beneficiaries. These incentives are built into the existing provider payment strategies, which include:

- fee-for-service (FFS) payments to individual providers,
- partial capitation or enhanced payments for providers that provide primary care case management (PCCM), and
- capitation payments for managed care organizations (MCOs).

During the last 15 years, Medicaid increasingly has looked to MCOs as a way to increase beneficiaries' access to and use of appropriate services. Between 1991 and 2004, the number of Medicaid beneficiaries enrolled in some form of managed care grew from 2.7 million to 27 million.[8] Managed care has reduced duplication of services and unnecessary care while increasing appropriate care, saving states millions in Medicaid expenditures. In some cases, these savings have been re-invested in the Medicaid program to provide incentives for MCOs to offer additional preventive and wellness services, such as tobacco cessation services and nutrition counseling. These additional services further reduce expenditures by decreasing acute or chronic care costs associated with preventable chronic diseases.

Care Coordination and Disease Management

Many private physicians need assistance caring for the more complex health conditions and hard-to-reach patients. In response, a number of states have developed care coordination and disease management programs to link Medicaid beneficiaries to prevention or health promotion resources and ensure they receive necessary medical treatment. These programs also provide navigational health care assistance to help recipients identify appropriate and necessary care providers.

Indiana Disease Management Program

The Medicaid program in **Indiana** has worked with the state department of health to develop the Indiana Chronic Disease Management Program (ICDMP) for Medicaid recipients with chronic conditions. The program provides a number of services and support programs to help beneficiaries with diabetes, heart disease, asthma, and kidney disease, and benefit providers.

Through the Indiana program, high-risk individuals receive the services of a nurse case manager who works with the primary care provider to provide one-on-one training in lifestyle changes and medical self-management. Lower-risk enrollees are served by a call center that is available outside regular office hours and makes pro-active calls to encourage compliance. Physicians, case managers, and the call center can use a recently developed centralized electronic medical record for enrolled Medicaid recipients to share claims information, clinical data, and care plans.

Indiana evaluated the ICDMP strategies in a random clinical trials and found cost savings among congestive heart failure (CHF) participants. Members participating in the CHF ICDMP saved, on average, $439 per member per month, while hospital costs among high-risk CHF patients decreased $87 per member per month and increased $259 per member per month in the non-ICDMP participants, respectively.

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[8] Centers for Medicare and Medicaid Services, *Medicaid Managed Care.* Available at: http://www.cms.hhs.gov/MedicaidManagCare/.

North Carolina Community Care

In 1998, **North Carolina** enhanced its basic primary care case management program, Carolina Access, by working with local physicians, hospitals, and public health and social service providers to improve the quality and reduce the cost of care for Medicaid beneficiaries. Under Community Care of North Carolina, 15 local provider networks throughout the state collaboratively develop care and disease management systems to support beneficiaries.

The North Carolina Medicaid program integrates disease management strategies, public health practices, provider groups, and social services to improve the health of beneficiaries by leveraging access to programs in the state. Each of the local provider networks maintains case managers that work with enrollees and primary care providers to manage asthma, diabetes, and congestive heart failure by developing a care plan and ensuring constant communication among both groups. These plans ensure beneficiaries receive necessary medication and preventive, primary, and specialty care services. Case managers also work with high-cost users, including patients who frequently use emergency services for non-emergency care.

By establishing 15 local provider networks, North Carolina maintains the flexibility to pilot projects within a network. For example, one network provides childhood obesity screenings in schools and community centers to identify and intervene on behalf of at-risk children at an early stage.

A key component of the Community Care Program is the partnership with community physicians. Physician leaders from participating networks come together to design and develop the clinical improvement initiatives implemented by the Community Care Program (see *North Carolina* under the Provider Payment Incentives section).

Provider Payment Incentives

Medicaid programs use a variety of methods to pay providers for services, including fee-for-service payments to providers, capitation payments for managed care organizations, and partial capitation or enhanced payments for primary care case management providers. In addition, Medicaid may pay for some administrative procedures such as outreach, health education, or care coordination. State Medicaid agencies have flexibility under federal rules to develop payment mechanisms that work within their state's health care system and attract qualified providers.

In addition to reimbursing office visit charges, some states encourage providers to offer and promote wellness services through additional payments for health risk assessments and preventive services—such as nutrition counseling for at-risk, overweight children without a diagnosis of diabetes.

Many states reward Medicaid providers by using pay-for-performance incentives to increase the use of preventive services. Some states have focused on rewarding providers who deliver better care to beneficiaries with chronic diseases such as asthma and diabetes; plans in Maryland, Nevada, New York, Pennsylvania, and Rhode Island use financial incentives or disincentives to encourage high quality care. California, Michigan, and New Mexico primarily reward high performing plans by auto-assigning beneficiaries who do not choose a plan. Although some of these programs are in the early stages of implementation, others have reported improved access to care.

North Carolina Fair Market Rates

North Carolina has been successful in providing access to health promotion and disease prevention by paying primary care providers at rates similar to those in the private sector. By paying a fair market rate, North Carolina has been able to ensure ready access to preventive services in all areas of the state. In addition, the primary care providers in the network receive $2.50 per member per month (PMPM) to serve as the beneficiary's medical home, authorize referrals, implement evidence-based best practice guidelines, and provide basic case management. These reimbursement mechanisms have helped the Medicaid program enlist full cooperation from the medical community in disease management activities.

North Carolina also contracts with nonprofit administrative entities responsible for developing and managing its 15 provider networks. These entities receive a PMPM fee of $2.50 to hire care managers, provide disease and case management, and implement utilization review and quality improvement across the providers in their network.

Illinois Children's Health Screening

Illinois is promoting important developmental screening tools to identify areas needing preventive or other health services. This approach of early identification, health promotion, and intervention can improve health outcomes and identify problems before they impact development. Illinois provides an extra payment to pediatricians for using a developmental screening tool in addition to the standard payment for a well child exam.

Georgia Financial Bonuses

Although not a Medicaid program, **Georgia** recently launched a statewide program to provide financial bonuses to physicians who improve care for the state's more than 500,000 residents with diabetes. Physicians who choose to participate in the incentive program will be evaluated on how well they improve care for patients covered by the Georgia Health Benefit Plan, which insures 640,000 state employees and retirees. State health officials say roughly 30,000 people covered under the plan have diabetes or are at risk of developing the disease.

Physicians who meet Georgia's quality standards will receive $62 per year per patient who is covered by one of the participating employers, with an annual physician cap of $20,000. Georgia will conduct this program for its employees; participating private sector employers include BellSouth and UPS. However, many of these same providers serve Medicaid recipients, and research demonstrates that physicians who change their practice with one set of patients will do so for others.

Targeted and Tailored Benefits

Under DRA, states have the flexibility to create benefit packages targeted to the health care needs of different populations enrolled in the state program. This flexibility will allow states to address specific benefit needs by condition, risk status, or region. This may include tailoring health maintenance efforts and incentives for selected healthy populations at high risk for chronic diseases, or targeting intensive programs to promote prenatal smoking cessation in localities identified as having heavy need. To date, three states—Idaho, Kentucky, and West Virginia—are launching tailored benefit packages.

Idaho Benchmark Plans

Idaho's Medicaid program will offer beneficiaries three benchmark plans that provide specialized care for enrollees under a primary care case management program:

- Basic Benchmark Plans for healthy, low-income children and working-age adults,
- Enhanced Benchmark Plans for individuals with disabilities and special medical needs, and
- Special Coordinated Plans for the elderly and dual-eligible recipients.

The Basic Benchmark Plan provides traditional coverage to over 80 percent of eligible Idaho residents, and the state is expanding covered benefits to wellness services, such as preventive screenings and nutritional services. The plan will offer participants personal health accounts to purchase goods and services that promote active lives and healthier living.

All three benchmark plans will offer annual preventive health care exams for adults to screen enrollees for developing diseases. They will cover current Medicaid State Plan benefits, with the exception of long-term care, extended mental health benefits, and organ transplants. Beneficiaries needing these services may transfer to the Enhanced Plan if the excluded services are deemed medically necessary.

Idaho also hopes to incorporate health risk assessments and other screening procedures into the program to help match beneficiary needs to a specific plan's benefits package. Recipients will retain the flexibility to move among plans should health care needs change.

Kentucky Benchmark Plans

Kentucky was the first state in the nation to provide a comprehensive plan to redesign its Medicaid program under the provisions of the DRA. To address competing health care needs among children, the elderly, the physically and mentally disabled, and the general Medicaid population. Kentucky KyHealth Choices program will offer Medicaid beneficiaries one of four benchmark plans:

- Family Choices for healthy children, including State Children's Health Insurance Program (SCHIP) recipients,
- Comprehensive Choices for elderly individuals who need nursing facility care and individuals with acquired brain injuries,
- Optimum Choices for individuals with mental retardation and developmental disabilities in need of long-term care services, and
- Global Choices for the general Medicaid population, including most adults, foster care children, and medically fragile children.

Under the new benchmark plans, beneficiaries in designated geographic regions who are suffering from pulmonary disease, diabetes or other cardiac conditions will receive disease management services and other enhanced benefits. Beneficiaries who participate in the disease management programs and follow treatment regimes may earn "Get Healthy" benefits, which include limited dental and vision services, visits to nutritionists and dieticians for meal planning and counseling, and smoking cessation treatment—including nicotine replacement therapy.

Kentucky has begun implementing the new benefit design throughout the state except in the Louisville area, where an existing Medicaid health care demonstration project, Passport, will continue to operate.

Conclusion

Medicaid programs play a key role in providing critical health care services to a vulnerable population and could make a major contribution to efforts to achieve better health nationwide. Policymakers increasingly recognize the potential value of encouraging and supporting healthy behaviors and sustainable lifestyle changes. DRA expands states' opportunities to assemble a coherent wellness strategy, pilot innovative approaches, and target their efforts to those Medicaid recipients with the greatest need and largest potential benefit. As the economic returns on these disease prevention strategies and health promotion services emerge, they will become even more attractive to states facing the rising costs of treating chronic diseases.

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Accessibility Analysis

October 08, 2008

A report on the accessibility of the

APS Healthcare, Inc. Network Providers

for the zipcodes of

CLIENT

Summary of Urban/Suburban Zipcodes With Access to Practitioners

Accessibility analysis specifications	
Provider group:	**Practitioners** 45,133 providers at 27,678 locations (based on 45,133 records)
Zipcode group:	**Urban/Suburban Zipcodes** 22 zipcodes
Access standard:	**1in5 miles**
Zipcodes with desired access:	22 (100.0%)

Average distance to a choice of providers for zipcodes with desired access

Number of providers	1	2	3	4	5
Miles	0.7	1.2	1.6	2.8	3.2

Key geographic areas

City	Total number of zipcodes	Zipcodes with desired access		
		Number	Percent	Average distance to 1 provider
BOISE, ID	14	14	100	0.8
NAMPA, ID	3	3	100	0.7
CALDWELL, ID	2	2	100	0.1
COEUR D ALENE, ID	2	2	100	0.5
REXBURG, ID	1	1	100	0.0

Summary of Urban/Suburban Zipcodes Without Access to Practitioners

Accessibility analysis specifications	
Provider group:	**Practitioners** 45,133 providers at 27,678 locations (based on 45,133 records)
Zipcode group:	**Urban/Suburban Zipcodes** 22 zipcodes
Access standard:	**1in5 miles**
Zipcodes without desired access:	0 (0.0%)

Average distance to a choice of providers for zipcodes without desired access

Number of providers	1	2	3	4	5
Miles	---	---	---	---	---

Key geographic areas

City	Total number of zipcodes	Zipcodes without desired access		
		Number	Percent	Average distance to 1 provider

Summary of Rural Zipcodes With Access to Practitioners

Accessibility analysis specifications	
Provider group:	**Practitioners** 45,133 providers at 27,678 locations (based on 45,133 records)
Zipcode group:	**Rural Zipcodes** 317 zipcodes
Access standard:	**1in40 miles**
Zipcodes with desired access:	288 (90.9%)

Average distance to a choice of providers for zipcodes with desired access

Number of providers	1	2	3	4	5
Miles	13.2	16.7	19.1	20.8	22.6

Key geographic areas

City	Total number of zipcodes	Zipcodes with desired access		
		Number	Percent	Average distance to 1 provider
BOISE, ID	23	23	100	1.0
IDAHO FALLS, ID	7	7	100	0.9
POCATELLO, ID	6	6	100	1.5
SANDPOINT, ID	3	3	100	3.7
COTTONWOOD, ID	2	2	100	6.3
COUNCIL, ID	2	2	100	12.2
IRWIN, ID	2	2	100	24.2
LAPWAI, ID	2	2	100	5.4
MALAD CITY, ID	2	2	100	35.1
MERIDIAN, ID	2	2	100	1.3

Summary of Rural Zipcodes Without Access to Practitioners

Accessibility analysis specifications	
Provider group:	**Practitioners** 45,133 providers at 27,678 locations (based on 45,133 records)
Zipcode group:	**Rural Zipcodes** 317 zipcodes
Access standard:	**1in40 miles**
Zipcodes without desired access:	29 (9.1%)

Average distance to a choice of providers for zipcodes without desired access

Number of providers	1	2	3	4	5
Miles	53.0	54.6	55.7	60.6	61.2

Key geographic areas

City	Total number of zipcodes	Zipcodes without desired access		
		Number	Percent	Average distance to 1 provider
MOORE, ID	2	2	100	49.1
MALTA, ID	2	1	50	42.2
ARCO, ID	1	1	100	51.1
CARMEN, ID	1	1	100	63.1
CHALLIS, ID	1	1	100	55.6
CLAYTON, ID	1	1	100	42.0
COBALT, ID	1	1	100	79.7
CONDA, ID	1	1	100	41.9
DUBOIS, ID	1	1	100	42.1
ELLIS, ID	1	1	100	78.0

Accessibility Analysis

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A report on the accessibility of the

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for the zipcodes of

CLIENT

Summary of Urban/Suburban Zipcodes With Access to Facilities

Accessibility analysis specifications	
Provider group:	**Facilities** 1,478 providers at 1,435 locations (based on 1,478 records)
Zipcode group:	**Urban/Suburban Zipcodes** 22 zipcodes
Access standard:	**1in10 miles**
Zipcodes with desired access:	22 (100.0%)

Average distance to a choice of providers for zipcodes with desired access

Number of providers	1	2	3	4	5
Miles	2.3	4.4	6.0	9.6	12.3

Key geographic areas

City	Total number of zipcodes	Zipcodes with desired access		
		Number	Percent	Average distance to 1 provider
BOISE, ID	14	14	100	1.7
NAMPA, ID	3	3	100	6.3
CALDWELL, ID	2	2	100	0.5
COEUR D ALENE, ID	2	2	100	1.6
REXBURG, ID	1	1	100	3.2

Summary of Urban/Suburban Zipcodes Without Access to Facilities

Accessibility analysis specifications	
Provider group:	**Facilities** 1,478 providers at 1,435 locations (based on 1,478 records)
Zipcode group:	**Urban/Suburban Zipcodes** 22 zipcodes
Access standard:	**1in10 miles**
Zipcodes without desired access:	0 (0.0%)

Average distance to a choice of providers for zipcodes without desired access

Number of providers	1	2	3	4	5
Miles	---	---	---	---	---

Key geographic areas

City	Total number of zipcodes	Zipcodes without desired access		
		Number	Percent	Average distance to 1 provider

Summary of Rural Zipcodes With Access to Facilities

Accessibility analysis specifications	
Provider group:	**Facilities** 1,478 providers at 1,435 locations (based on 1,478 records)
Zipcode group:	**Rural Zipcodes** 317 zipcodes
Access standard:	**1in60 miles**
Zipcodes with desired access:	303 (95.6%)

Average distance to a choice of providers for zipcodes with desired access

Number of providers	1	2	3	4	5
Miles	22.9	33.4	40.2	52.1	58.4

Key geographic areas

City	Total number of zipcodes	Zipcodes with desired access		
		Number	Percent	Average distance to 1 provider
BOISE, ID	23	23	100	1.2
IDAHO FALLS, ID	7	7	100	3.4
POCATELLO, ID	6	6	100	2.9
SANDPOINT, ID	3	3	100	4.6
COTTONWOOD, ID	2	2	100	37.9
COUNCIL, ID	2	2	100	18.2
IRWIN, ID	2	2	100	24.5
LAPWAI, ID	2	2	100	6.6
MALAD CITY, ID	2	2	100	48.9
MERIDIAN, ID	2	2	100	2.2

Summary of Rural Zipcodes Without Access to Facilities

Accessibility analysis specifications	
Provider group:	**Facilities** 1,478 providers at 1,435 locations (based on 1,478 records)
Zipcode group:	**Rural Zipcodes** 317 zipcodes
Access standard:	**1in60 miles**
Zipcodes without desired access:	14 (4.4%)

Average distance to a choice of providers for zipcodes without desired access

Number of providers	1	2	3	4	5
Miles	69.1	73.0	75.4	76.5	79.7

Key geographic areas

City	Total number of zipcodes	Zipcodes without desired access		
		Number	Percent	Average distance to 1 provider
MOORE, ID	2	2	100	68.7
MALTA, ID	2	1	50	71.0
MONTPELIER, ID	2	1	50	63.9
ARCO, ID	1	1	100	64.9
BERN, ID	1	1	100	62.5
CLAYTON, ID	1	1	100	65.4
DINGLE, ID	1	1	100	64.2
GENEVA, ID	1	1	100	69.7
GRAND VIEW, ID	1	1	100	78.5
LEADORE, ID	1	1	100	69.2

Standards of Medical Care in Diabetes—2007

American Diabetes Association

CONTENTS

The recommendations in this article are based on the evidence reviewed in the following publication: Standards of care for diabetes (Technical Review). *Diabetes Care* 17:1514–1522, 1994.

Originally approved 1988. Most recent review/revision, October 2006.

Abbreviations: ABI, ankle-brachial index; AMI, acute myocardial infarction; ARB, angiotensin receptor blocker; CAD, coronary artery disease; CBG, capillary blood glucose; CHD, coronary heart disease; CHF, congestive heart failure; CKD, chronic kidney disease; CMS, Centers for Medicare and Medicaid Services; CSII, continuous subcutaneous insulin infusion; CVD, cardiovascular disease; DCCB, dihydropyridine calcium channel blocker; DCCT, Diabetes Control and Complications Trial; DKA, diabetic ketoacidosis; DMMP, diabetes medical management plan; DPN, distal symmetric polyneuropathy; DPP, Diabetes Prevention Program; DRI, dietary reference intake; DRS, Diabetic Retinopathy Study; DSME, diabetes self-management education; DSMT, diabetes self-management training; ECG, electrocardiogram; ESRD, end-stage renal disease; ETDRS, Early Treatment Diabetic Retinopathy Study; FDA, Food and Drug Administration; FPG, fasting plasma glucose; GDM, gestational diabetes mellitus; GFR, glomerular filtration rate; HRC, high-risk characteristic; ICU, intensive care unit; IFG, impaired fasting glucose; IGT, impaired glucose tolerance; MNT, medical nutrition therapy; NDEP, National Diabetes Education Program; NPDR, nonproliferative diabetic retinopathy; OGTT, oral glucose tolerance test; PAD, peripheral arterial disease; PDR, proliferative diabetic retinopathy; PPG, postprandial plasma glucose; RDA, recommended dietary allowance; SMBG, self-monitoring of blood glucose; TZD, thiazolidinedione; UKPDS, U.K. Prospective Diabetes Study.

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Diabetes is a chronic illness that requires continuing medical care and patient self-management education to prevent acute complications and to reduce the risk of long-term complications. Diabetes care is complex and requires that many issues, beyond glycemic control, be addressed. A large body of evidence exists that supports a range of interventions to improve diabetes outcomes.

These standards of care are intended to provide clinicians, patients, researchers, payors, and other interested individuals with the components of diabetes care, treatment goals, and tools to evaluate the quality of care. While individual preferences, comorbidities, and other patient factors may require modification of goals, targets that are desirable for most patients with diabetes are provided. These standards are not intended to preclude more extensive evaluation and management of the patient by other specialists as needed. For more detailed information, refer to refs. 1–3.

The recommendations included are diagnostic and therapeutic actions that are known or believed to favorably affect health outcomes of patients with diabetes. A grading system (Table 1), developed by the American Diabetes Association (ADA) and modeled after existing methods, was utilized to clarify and codify the evidence that forms the basis for the recommendations. The level of evidence that supports each recommendation is listed after each recommendation using the letters A, B, C, or E.

I. CLASSIFICATION AND DIAGNOSIS

A. Classification

In 1997, ADA issued new diagnostic and classification criteria (4); in 2003, modifications were made regarding the diagnosis of impaired fasting glucose (IFG) (5). The classification of diabetes includes four clinical classes:

- Type 1 diabetes (results from β-cell destruction, usually leading to absolute insulin deficiency)
- Type 2 diabetes (results from a progressive insulin secretory defect on the background of insulin resistance)
- Other specific types of diabetes due to other causes, e.g., genetic defects in

Table 1—*ADA evidence grading system for clinical practice recommendations*

Level of evidence	Description
A	Clear evidence from well-conducted, generalizable, randomized controlled trials that are adequately powered, including: ● Evidence from a well-conducted multicenter trial ● Evidence from a meta-analysis that incorporated quality ratings in the analysis ● Compelling nonexperimental evidence, i.e., "all or none" rule developed by Center for Evidence Based Medicine at Oxford Supportive evidence from well-conducted randomized controlled trials that are adequately powered, including: ● Evidence from a well-conducted trial at one or more institutions ● Evidence from a meta-analysis that incorporated quality ratings in the analysis
B	Supportive evidence from well-conducted cohort studies ● Evidence from a well-conducted prospective cohort study or registry ● Evidence from a well-conducted meta-analysis of cohort studies Supportive evidence from a well-conducted case-control study
C	Supportive evidence from poorly controlled or uncontrolled studies ● Evidence from randomized clinical trials with one or more major or three or more minor methodological flaws that could invalidate the results ● Evidence from observational studies with high potential for bias (such as case series with comparison to historical controls) ● Evidence from case series or case reports Conflicting evidence with the weight of evidence supporting the recommendation
E	Expert consensus or clinical experience

β-cell function, genetic defects in insulin action, diseases of the exocrine pancreas (such as cystic fibrosis), and drug or chemical induced (such as in the treatment of AIDS or after organ transplantation)

- Gestational diabetes mellitus (GDM) (diagnosed during pregnancy)

Some patients cannot be clearly classified as type 1 or type 2 diabetes. Clinical presentation and disease progression vary considerably in both types of diabetes. Occasionally, patients who otherwise have type 2 diabetes may present with ketoacidosis. Similarly, patients with type 1 may have a late onset and slow (but relentless) progression of disease despite having features of autoimmune disease. Such difficulties in diagnosis may occur in children, adolescents, and adults. The true diagnosis may become more obvious over time.

B. Diagnosis

Recommendations

- The FPG is the preferred test to diagnose diabetes in children and nonpregnant adults. (E)
- Use of the A1C for the diagnosis of diabetes is not recommended at this time. (E)

Criteria for the diagnosis of diabetes in nonpregnant adults are shown in Table 2. Three ways to diagnose diabetes are available, and each must be confirmed on a subsequent day unless unequivocal symptoms of hyperglycemia are present. Although the 75-g oral glucose tolerance test (OGTT) is more sensitive and modestly more specific than fasting plasma glucose (FPG) to diagnose diabetes, it is poorly reproducible and rarely performed in practice. Because of ease of use, acceptability to patients, and lower cost, the FPG is the preferred diagnostic test. It should be noted that the vast majority of people who meet diagnostic criteria for diabetes by OGTT, but not by FPG, will have an A1C value <7.0%. The use of the A1C for the diagnosis of diabetes is not recommended at this time.

Hyperglycemia not sufficient to meet the diagnostic criteria for diabetes is categorized as either IFG or impaired glucose tolerance (IGT), depending on whether it is identified through an FPG or an OGTT:

- IFG = FPG 100 mg/dl (5.6 mmol/l) to 125 mg/dl (6.9 mmol/l)
- IGT = 2-h plasma glucose 140 mg/dl (7.8 mmol/l) to 199 mg/dl (11.0 mmol/l)

Recently, IFG and IGT have been officially termed "pre-diabetes." Both categories, IFG and IGT, are risk factors for future diabetes and cardiovascular disease (CVD).

In the absence of unequivocal hyperglycemia, these criteria should be confirmed by repeat testing on a different day. The OGTT is not recommended for routine clinical use but may be required in the evaluation of patients with IFG (see text) or when diabetes is still suspected despite a normal FPG, as with the postpartum evaluation of women with GDM.

II. SCREENING FOR DIABETES

Recommendations

- Screening to detect pre-diabetes (IFG or IGT) and diabetes should be considered in individuals ≥45 years of age, particularly in those with a BMI ≥25 kg/m^2. Screening should also be considered for people who are <45 years of age and are overweight if they have an-

Table 2—*Criteria for the diagnosis of diabetes*

1.	Symptoms of diabetes and a casual plasma glucose ≥200 mg/dl (11.1 mmol/l). Casual is defined as any time of day without regard to time since last meal. The classic symptoms of diabetes include polyuria, polydipsia, and unexplained weight loss.
	OR
2.	FPG ≥126 mg/dl (7.0 mmol/l). Fasting is defined as no caloric intake for at least 8 h.
	OR
3.	2-h plasma glucose ≥200 mg/dl (11.1 mmol/l) during an OGTT. The test should be performed as described by the World Health Organization, using a glucose load containing the equivalent of 75-g anhydrous glucose dissolved in water.

Table 3—*Criteria for testing for diabetes in asymptomatic adult individuals*

1. Testing for diabetes should be considered in all individuals at age 45 years and above, particularly in those with a BMI ≥25 kg/m^2*, and, if normal, should be repeated at 3-year intervals.
2. Testing should be considered at a younger age or be carried out more frequently in individuals who are overweight (BMI ≥25 kg/m^2*) and have additional risk factors:
   - are habitually physically inactive
   - have a first-degree relative with diabetes
   - are members of a high-risk ethnic population (e.g., African American, Latino, Native American, Asian American, Pacific Islander)
   - have delivered a baby weighing >9 lb or have been diagnosed with GDM
   - are hypertensive (≥140/90 mmHg)
   - have an HDL cholesterol level <35 mg/dl (0.90 mmol/l) and/or a triglyceride level >250 mg/dl (2.82 mmol/l)
   - have PCOS
   - on previous testing, had IGT or IFG
   - have other clinical conditions associated with insulin resistance (e.g., PCOS or acanthosis nigricans)
   - have a history of vascular disease

*May not be correct for all ethnic groups. PCOS, polycystic ovary syndrome.

other risk factor for diabetes (Table 3). Repeat testing should be carried out at 3-year intervals. (E)

- Screen for pre-diabetes and diabetes in high-risk, asymptomatic, undiagnosed adults and children within the health care setting. (E)
- To screen for diabetes/pre-diabetes, either an FPG test or 2-h OGTT (75-g glucose load) or both are appropriate. (B)
- An OGTT may be considered in patients with IFG to better define the risk of diabetes. (E)

There is a major distinction between diagnostic testing and screening. Both utilize the same clinical tests, which should be done within the context of the health care setting. When an individual exhibits symptoms or signs of the disease, diagnostic tests are performed, and such tests do not represent screening. The purpose of screening is to identify asymptomatic individuals who are likely to have diabetes or pre-diabetes. Separate diagnostic tests using standard criteria are required after positive screening tests to establish a definitive diagnosis as described above.

Type 1 diabetes

Generally, people with type 1 diabetes present with acute symptoms of diabetes and markedly elevated blood glucose levels. Because of the acute onset of symptoms, most cases of type 1 diabetes are detected soon after symptoms develop. Widespread clinical testing of asymptomatic individuals for the presence of autoantibodies related to type 1 diabetes cannot be recommended at this time as a means to identify individuals at risk. Reasons for this include the following: *1*) cutoff values for some of the immune marker assays have not been completely established in clinical settings; *2*) there is no consensus as to what action should be taken when a positive autoantibody test result is obtained; and *3*) because the incidence of type 1 diabetes is low, testing of healthy children will identify only a very small number (<0.5%) who at that moment may be "pre-diabetic." Clinical studies are being conducted to test various methods of preventing type 1 diabetes in high-risk individuals (e.g., siblings of type 1 diabetic patients). These studies may uncover an effective means of preventing type 1 diabetes, in which case targeted screening may be appropriate in the future.

Type 2 diabetes

Type 2 diabetes is frequently not diagnosed until complications appear, and approximately one-third of all people with diabetes may be undiagnosed. Individuals at high risk should be screened for diabetes and pre-diabetes. Criteria for testing for diabetes in asymptomatic, undiagnosed adults are listed in Table 3. The effectiveness of early diagnosis through screening of asymptomatic individuals has not been determined (6).

Screening should be carried out within the health care setting. Either an FPG test or 2-h OGTT (75-g glucose load) is appropriate. The 2-h OGTT identifies people with IGT, and thus, more people are at increased risk for the development of diabetes and CVD. It should be noted that the two tests do not necessarily detect the same individuals (7). It is important to recognize that although the efficacy of interventions for primary prevention of type 2 diabetes have been demonstrated among individuals with IGT (8–10), such data among individuals with IFG (who do not also have IGT) are not available. The FPG test is more convenient to patients, more reproducible, less costly, and easier to administer than the 2-h OGTT (4,5). Therefore, the recommended initial screening test for nonpregnant adults is the FPG. An OGTT may be considered in patients with IFG to better define the risk of diabetes.

The incidence of type 2 diabetes in adolescents has increased dramatically in the last decade. Consistent with screening recommendations for adults, only children and youth at increased risk for the presence or the development of type 2 diabetes should be tested (11) (Table 4).

The effectiveness of screening may also depend on the setting in which it is performed. In general, community screening outside a health care setting may be less effective because of the failure of people with a positive screening test to seek and obtain appropriate follow-up testing and care or, conversely, to ensure appropriate repeat testing for individuals who screen negative. That is, screening outside of clinical settings may yield ab-

Table 4—*Testing for type 2 diabetes in children*

Criteria
- Overweight (BMI >85th percentile for age and sex, weight for height >85th percentile, or weight >120% of ideal for height)

Plus any two of the following risk factors:
- Family history of type 2 diabetes in first- or second-degree relative
- Race/ethnicity (Native American, African American, Latino, Asian American, Pacific Islander)
- Signs of insulin resistance or conditions associated with insulin resistance (acanthosis nigricans, hypertension, dyslipidemia, or PCOS)
- Maternal history of diabetes or GDM

Age of initiation: age 10 years or at onset of puberty, if puberty occurs at a younger age
Frequency: every 2 years
Test: FPG preferred

Clinical judgment should be used to test for diabetes in high-risk patients who do not meet these criteria. PCOS, polycystic ovary syndrome.

normal tests that are never discussed with a primary care provider, low compliance with treatment recommendations, and a very uncertain impact on long-term health. Community screening may also be poorly targeted, i.e., it may fail to reach the groups most at risk and inappropriately test those at low risk (the worried well) or even those already diagnosed (12,13).

On the basis of expert opinion, screening should be considered by health care providers at 3-year intervals beginning at age 45, particularly in those with BMI ≥25 kg/m^2. The rationale for this interval is that false negatives will be repeated before substantial time elapses, and there is little likelihood of an individual developing any of the complications of diabetes to a significant degree within 3 years of a negative screening test result. Testing should be considered at a younger age or be carried out more frequently in individuals who are overweight and have one or more of the other risk factors for type 2 diabetes.

III. DETECTION AND DIAGNOSIS OF GDM

Recommendations

- Screen for diabetes in pregnancy using risk factor analysis and, if appropriate, use of an OGTT. (C)
- Women with GDM should be screened for diabetes 6–12 weeks postpartum and should be followed up with subsequent screening for the development of diabetes or pre-diabetes. (E)

Risk assessment for GDM should be undertaken at the first prenatal visit. Women with clinical characteristics consistent with a high risk for GDM (e.g., those with marked obesity, personal history of GDM or delivery of a previous large-for-gestation-age infant, glycosuria, polycystic ovary syndrome, or a strong family history of diabetes) should undergo glucose testing as soon as possible (14). An FPG ≥126 mg/dl or a casual plasma glucose ≥200 mg/dl meets the threshold for the diagnosis of diabetes and needs to be confirmed on a subsequent day as soon as possible unless unequivocal symptoms of hyperglycemia are present. High-risk women not found to have GDM at the initial screening and average-risk women should be tested between 24 and 28 weeks of gestation. Testing should follow one of two approaches:

- One-step approach: perform a diagnostic 100-g OGTT
- Two-step approach: perform an initial screening by measuring the plasma or serum glucose concentration 1 h after a 50-g oral glucose load (glucose challenge test) and perform a diagnostic 100-g OGTT on that subset of women exceeding the glucose threshold value on the glucose challenge test. When the two-step approach is used, a glucose threshold value ≥140 mg/dl identifies ~80% of women with GDM, and the yield is further increased to 90% by using a cutoff of ≥130 mg/dl.

Diagnostic criteria for the 100-g OGTT are as follows: ≥95 mg/dl fasting, ≥180 mg/dl at 1 h, ≥155 mg/dl at 2 h, and ≥140 mg/dl at 3 h. Two or more of the plasma glucose values must be met or exceeded for a positive diagnosis. The test should be done in the morning after an overnight fast of 8–14 h. The diagnosis can be made using a 2-h, 75-g glucose tolerance test, but that test is not as well validated for detection of at-risk infants or mothers as the 3-h, 100-g OGTT.

Low-risk status requires no glucose testing, but this category is limited to those women meeting all of the following characteristics:

- Age <25 years
- Weight normal before pregnancy
- Member of an ethnic group with a low prevalence of diabetes
- No known diabetes in first-degree relatives
- No history of abnormal glucose tolerance
- No history of poor obstetric outcome

Because women with a history of GDM have an increased subsequent risk for diabetes, they should be screened for diabetes 6–12 weeks postpartum and should be followed up with subsequent screening for the development of diabetes or pre-diabetes. For information on the National Diabetes Education Program (NDEP) campaign to prevent type 2 diabetes in women with GDM, go to www.ndep.nih.gov/diabetes/pubs/NeverTooEarly_Tipsheet.pdf.

IV. PREVENTION/DELAY OF TYPE 2 DIABETES

Recommendations

- Individuals at high risk for developing diabetes need to become aware of the many benefits of modest weight loss and participating in regular physical activity. (A)
- Patients with IGT should be given counseling on weight loss as well as instruction for increasing physical activity. (A) (Reimbursement for such counseling is encouraged.)
- Patients with IFG should be given counseling on weight loss as well as instruction for increasing physical activity. (E) (Reimbursement for such counseling is encouraged.)
- Follow-up counseling appears to be important for success. (B)
- Monitoring for the development of diabetes in those with pre-diabetes should be performed every 1–2 years. (E)
- Close attention should be given to, and appropriate treatment given for, other CVD risk factors (e.g., tobacco use, hypertension, dyslipidemia). (A)
- Because of possible side effects and cost, there is insufficient evidence to support the use of drug therapy. (E)

Many studies have shown that individuals at high risk for developing diabetes (those with IFG, IGT, or both) can be given a wide variety of interventions that significantly delay, and sometimes prevent, the onset of diabetes (8–10,15–18). An intensive lifestyle modification program has been shown to be very effective (~58% reduction after 3 years). Use of the pharmacologic agents metformin, acarbose, orlistat, and rosiglitazone has also been shown to decrease incident diabetes to various degrees. Of note, however, each of these drugs may cause side effects of varying severity in a small number of individuals.

Lifestyle modification

In well-controlled studies that included a lifestyle intervention arm, substantial efforts were necessary to achieve only modest changes in weight and exercise, but those changes were sufficient to achieve an important reduction in the incidence of diabetes. In the DPP lifestyle group, a low-fat (<25% fat) intake was recommended; if reducing fat did not produce weight loss to goal, calorie restriction was also recommended. Participants weighing 120–174 lb (54–78 kg) at baseline were instructed to follow a 1,200 kcal/day diet (33 g fat), those 175–219 lb (79–99 kg) were instructed to follow a 1,500 kcal/day diet (42 g fat), those 220–249 lb (100–113 kg) were instructed to follow an 1,800 kcal/day diet (50 g fat), and

those >250 lb (114 kg) were instructed to follow a 2,000 kcal/day diet (55 g fat). On average, 50% of the lifestyle group achieved the goal of ≥7% weight reduction and 74% maintained at least 150 min/week of moderately intense activity (8). In the Finnish Diabetes Prevention Study, weight loss averaged 9.2 lb at 1 year, 7.7 lb after 2 years, and 4.6 lb after 5 years (9); "moderate exercise," such as brisk walking, for 30 min/day was suggested. In the Finnish study, there was a direct relationship between adherence with the lifestyle intervention and the reduced incidence of diabetes.

Lifestyle or medication?

Many factors must be considered when undertaking the effort to modify the course of glucose intolerance. Lifestyle modification may have other beneficial effects (e.g., reduced CVD), but is often very difficult to sustain, and its cost-effectiveness is questionable if the regimen is similar to what was employed in clinical trials. Even so, lifestyle intervention still may be cost-effective compared with some pharmacologic treatments. Drug therapy can be very costly (except for metformin, which is a generic drug), and side effects can range from mild/moderate discomfort to serious cardiovascular events. Finally, whether diabetes prevention efforts can, over the long term, influence the development of micro- or macrovascular events is unknown. It is possible that at least microvascular complications will be delayed or diminished, since they are more closely related to hyperglycemia.

In light of the above, health care professionals should first actively counsel patients to maintain normal weight and exercise regularly (even before glucose intolerance occurs). Because of potential side effects and cost, there is insufficient evidence to support the use of drug therapy as a substitute for, or routinely used in addition to, lifestyle modification to prevent diabetes. Public health messages, health care professionals, and health care systems should all encourage behavior changes to achieve a healthy lifestyle. Further research is necessary to understand how to better facilitate effective and efficient programs for the primary prevention of type 2 diabetes.

An ADA consensus statement offering more comprehensive guidance on diabetes prevention will be published in 2007.

Table 5—*Components of the comprehensive diabetes evaluation*

- Medical history
  - Age and characteristics of onset of diabetes (e.g., DKA, routine laboratory evaluation)
  - Prior A1C records
  - Eating patterns, nutritional status, and weight history; growth and development in children and adolescents
  - Diabetes education history
  - Review of previous treatment programs
  - Current treatment of diabetes, including medications, meal plan, and results of glucose monitoring and patient's use of data
  - Exercise history
  - DKA frequency, severity, and cause
  - Hypoglycemic episodes
    - Any severe hypoglycemia: frequency, severity, and cause
  - History of diabetes-related complications
    - Microvascular: eye, kidney, nerve
    - Macrovascular: cardiac, CVD, PAD
    - Other: sexual dysfunction, gastroparesis
- Physical examination
  - Blood pressure determination, including orthostatic measurements when indicated
  - Fundoscopic examination
  - Thyroid palpation
  - Skin examination (for acanthosis nigricans and insulin injection sites)
  - Neurological/foot examination examination
  - Inspection
  - Palpation of DP and PT pulses
  - Presence/absence of patellar and Achilles reflexes
  - Determination of proprioception, vibration, and monofilament sensation
- Laboratory evaluation
  - A1C
  - Fasting lipid profile, including total LDL and HDL cholesterol and triglycerides
  - Liver function tests
  - Test for microalbuminuria
  - Serum creatinine and calculated GFR
  - Thyroid-stimulating hormone
  - Screen for celiac disease in type 1 diabetes and as indicated in type 2 diabetes
- Referrals
  - Eye exam, if indicated
  - Family planning for women of reproductive age
  - MNT
  - Diabetes educator if not provided by physician or practice staff

DP, dorsalis pedis; PT, posterior tibial; PAD, peripheral arterial disease.

V. DIABETES CARE

A. Initial evaluation

A complete medical evaluation should be performed to classify the patient, detect the presence or absence of diabetes complications, assist in formulating a management plan, and provide a basis for continuing care. If the diagnosis of diabetes has already been made, the evaluation should review the previous treatment and the past and present degrees of glycemic control. Laboratory tests appropriate to the evaluation of each patient's general medical condition should be performed. A focus on the components of comprehensive care (Table 5) will assist the health care team to ensure optimal management of the patient with diabetes.

B. Management

People with diabetes should receive medical care from a physician-coordinated team. Such teams may include, but are not limited to, physicians, nurse practitioners, physician's assistants, nurses, dietitians, pharmacists, and mental health professionals with expertise and a special interest in diabetes. It is essential in this collaborative and integrated team approach that individuals with diabetes assume an active role in their care.

The management plan should be formulated as an individualized therapeutic alliance among the patient and family, the

physician, and other members of the health care team. Any plan should recognize diabetes self-management education (DSME) as an integral component of care. In developing the plan, consideration should be given to the patient's age, school or work schedule and conditions, physical activity, eating patterns, social situation and personality, cultural factors, and presence of complications of diabetes or other medical conditions. A variety of strategies and techniques should be used to provide adequate education and development of problem-solving skills in the various aspects of diabetes management. Implementation of the management plan requires that each aspect is understood and agreed on by the patient and the care providers and that the goals and treatment plan are reasonable.

C. Glycemic control

1. Assessment of glycemic control. Techniques are available for health providers and patients to assess the effectiveness of the management plan on glycemic control.

a. *Self-monitoring of blood glucose*

Recommendations

- Clinical trials using insulin that have demonstrated the value of tight glycemic control have used self-monitoring of blood glucose (SMBG) as an integral part of the management strategy. (A)
- SMBG should be carried out three or more times daily for patients using multiple insulin injections. (A)
- For patients using less frequent insulin injections or oral agents or medical nutrition therapy (MNT) alone, SMBG is useful in achieving glycemic goals. (E)
- To achieve postprandial glucose targets, postprandial SMBG may be appropriate. (E)
- Instruct the patient in SMBG and routinely evaluate the patient's technique and ability to use data to adjust therapy. (E)

The ADA's consensus statements on SMBG provide a comprehensive review of the subject (19,20). Major clinical trials assessing the impact of glycemic control on diabetes complications have included SMBG as part of multifactorial interventions, suggesting that SMBG is a component of effective therapy. SMBG allows patients to evaluate their individual response to therapy and assess whether glycemic targets are being achieved. Results of SMBG can be useful in preventing hypoglycemia and adjusting medications, MNT, and physical activity.

The frequency and timing of SMBG should be dictated by the particular needs and goals of the patients. Daily SMBG is especially important for patients treated with insulin to monitor for and prevent asymptomatic hypoglycemia and hyperglycemia. For most patients with type 1 diabetes and pregnant women taking insulin, SMBG is recommended three or more times daily. The optimal frequency and timing of SMBG for patients with type 2 diabetes on oral agent therapy is not known but should be sufficient to facilitate reaching glucose goals. A recent meta-analysis of SMBG in non–insulin-treated patients with type 2 diabetes concluded that some regimen of monitoring was associated with a reduction in A1C of ~0.4%. However, many of the studies in this analysis also included patient education with diet and exercise counseling and, in some cases, pharmacologic intervention, making it very difficult to assess the contribution of SMBG alone to improved control (21). Patients with type 2 diabetes on insulin typically need to perform SMBG more frequently than those not using insulin. When adding to or modifying therapy, type 1 and type 2 diabetic patients should test more often than usual. The role of SMBG in stable diet–treated patients with type 2 diabetes is not known.

Because the accuracy of SMBG is instrument and user dependent (22), it is important for health care providers to evaluate each patient's monitoring technique, both initially and at regular intervals thereafter. In addition, optimal use of SMBG requires proper interpretation of the data. Patients should be taught how to use the data to adjust food intake, exercise, or pharmacological therapy to achieve specific glycemic goals. Health professionals should evaluate at regular intervals the patient's ability to use SMBG data to guide treatment.

b. *A1C*

Recommendations

- Perform the A1C test at least two times a year in patients who are meeting treatment goals (and who have stable glycemic control). (E)
- Perform the A1C test quarterly in patients whose therapy has changed or who are not meeting glycemic goals. (E)
- Use of point-of-care testing for A1C allows for timely decisions on therapy changes, when needed. (E)

By performing an A1C test, health providers can measure a patient's average glycemia over the preceding 2–3 months (22) and, thus, assess treatment efficacy. A1C testing should be performed routinely in all patients with diabetes, first to document the degree of glycemic control at initial assessment and then as part of continuing care. Since the A1C test reflects mean glycemia over the preceding 2–3 months, measurement approximately every 3 months is required to determine whether a patient's metabolic control has been reached and maintained within the target range. Thus, regular performance of the A1C test permits detection of departures from the target (Table 6) in a timely fashion. For any individual patient, the frequency of A1C testing should be dependent on the clinical situation, the treatment regimen used, and the judgment of the clinician.

The A1C test is subject to certain limitations. Conditions that affect erythrocyte turnover (hemolysis, blood loss) and hemoglobin variants must be considered, particularly when the A1C result does not correlate with the patient's clinical situation (22). The availability of the A1C result at the time that the patient is seen (point-of-care testing) has been reported to result in the frequency of intensification of therapy and improvement in glycemic control (23,24).

Glycemic control is best judged by the combination of the results of the patient's SMBG testing (as performed) and the current A1C result. The A1C should be used not only to assess the patient's control over the preceding 2–3 months, but also as a check on the accuracy of the meter (or the patient's self-reported results) and the adequacy of the SMBG testing schedule. Table 7 contains the correlation between A1C levels and mean plasma glucose levels based on data from the Diabetes Control and Complications Trial (DCCT) (25).

2. Glycemic goals

Recommendations

- Lowering A1C has been associated with a reduction of microvascular and neuropathic complications of diabetes (A) and possibly macrovascular disease (B).
- The A1C goal *for patients in general* is an A1C goal of <7%. (B)
- The A1C goal *for the individual patient* is

Table 6—*Summary of recommendations for adults with diabetes*

Glycemic control	
A1C	<7.0%*
Preprandial capillary plasma glucose	90–130 mg/dl (5.0–7.2 mmol/l)
Peak postprandial capillary plasma glucose†	<180 mg/dl (<10.0 mmol/l)
Blood pressure	<130/80 mmHg
Lipids‡	
LDL	<100 mg/dl (<2.6 mmol/l)
Triglycerides	<150 mg/dl (<1.7 mmol/l)
HDL	>40 mg/dl (>1.0 mmol/l)§
Key concepts in setting glycemic goals:	
• A1C is the primary target for glycemic control	
• Goals should be individualized	
• Certain populations (children, pregnant women, and elderly) require special considerations	
• More stringent glycemic goals (i.e., a normal A1C, <6%) may further reduce complications at the cost of increased risk of hypoglycemia	
• Less intensive glycemic goals may be indicated in patients with severe or frequent hypoglycemia	
• Postprandial glucose may be targeted if A1C goals are not met despite reaching preprandial glucose goals	

*Referenced to a nondiabetic range of 4.0–6.0% using a DCCT-based assay. †Postprandial glucose measurements should be made 1–2 h after the beginning of the meal, generally peak levels in patients with diabetes. ‡Current NCEP/ATP III guidelines suggest that in patients with triglycerides ≥200 mg/dl, the "non-HDL cholesterol" (total cholesterol minus HDL) be utilized. The goal is ≤130 mg/dl (121). §For women, it has been suggested that the HDL goal be increased by 10 mg/dl.

an A1C as close to normal (<6%) as possible without significant hypoglycemia. (E)

- Less stringent treatment goals may be appropriate for patients with a history of severe hypoglycemia, patients with limited life expectancies, very young children or older adults, and individuals with comorbid conditions. (E)
- Aggressive glycemic management with insulin may reduce morbidity in patients with severe acute illness, perioperatively, following myocardial infarction, and in pregnancy. (B)

Glycemic control is fundamental to the management of diabetes. The goal of therapy is to achieve an A1C as close to normal as possible (representing normal fasting and postprandial glucose concentrations) in the absence of hypoglycemia. However, this goal is difficult to achieve with present therapies (26). Prospective, randomized, clinical trials in type 1 diabetes such as the DCCT (27,28) have shown that improved glycemic control is associated with sustained decreased rates of microvascular (retinopathy and nephropathy), macrovascular, and neuropathic complications (28–31).

Table 7—*Correlation between A1C level and mean plasma glucose levels on multiple testing over 2–3 months (25)*

	Mean plasma glucose	
A1C (%)	mg/dl	mmol/l
6	135	7.5
7	170	9.5
8	205	11.5
9	240	13.5
10	275	15.5
11	310	17.5
12	345	19.5

In type 2 diabetes, the U.K. Prospective Diabetes Study (UKPDS) demonstrated significant reductions in microvascular and neuropathic complications with intensive therapy (32–34). The potential of intensive glycemic control to reduce CVD in type 2 diabetes is supported by epidemiological studies (32–34) and a recent meta-analysis (35), but this potential benefit on CVD events has not been demonstrated in a randomized clinical trial.

In each of these large randomized prospective clinical trials, treatment regimens that reduced average A1C to ~7% (~1% above the upper limits of normal) were associated with fewer long-term microvascular complications; however, intensive control was found to increase the risk of severe hypoglycemia and weight gain (31,34).

Recommended glycemic goals for nonpregnant individuals are shown in Table 6. A major limitation to the available data is that they do not identify the optimum level of control for particular patients, as there are individual differences in the risks of hypoglycemia, weight gain, and other adverse effects. Furthermore, with multifactorial interventions, it is unclear how different components (e.g., educational interventions, glycemic targets, lifestyle changes, pharmacological agents) contribute to the reduction of complications. There are no clinical trial data available for the effects of glycemic control in patients with advanced complications, the elderly (≥65 years of age), or young children (<13 years of age). Less stringent treatment goals may be appropriate for patients with limited life expectancies, in the very young or older adults, and in individuals with comorbid conditions. Severe or frequent hypoglycemia is an indication for the modification of treatment regimens, including setting higher glycemic goals.

More stringent goals (i.e., a normal A1C, <6%) should be considered in individual patients based on epidemiological analyses suggesting that there is no lower limit of A1C at which further lowering does not reduce the risk of complications, at the risk of increased hypoglycemia (particularly in those with type 1 diabetes). However, the absolute risks and benefits of lower targets are unknown. The risks and benefits of an A1C goal of <6% are currently being tested in an ongoing study (ACCORD [Action to Control Cardiovascular Risk in Diabetes]) of type 2 diabetes.

Elevated postchallenge (2-h OGTT) glucose values have been associated with increased cardiovascular risk independent of FPG in some epidemiological studies. Postprandial plasma glucose (PPG) levels >140 mg/dl are unusual in nondiabetic individuals, although large evening meals can be followed by plasma glucose values up to 180 mg/dl. There are now pharmacological agents that primarily modify PPG and thereby reduce A1C in parallel. Thus, in individuals who have premeal glucose values within target but are not meeting A1C targets, monitoring PPG 1–2 h after the start of the meal and treatment aimed at reducing PPG values <180 mg/dl may lower A1C. However, it should be noted that the effect of these approaches on micro- or macrovascular complications has not been studied (36).

As regards goals for glycemic control

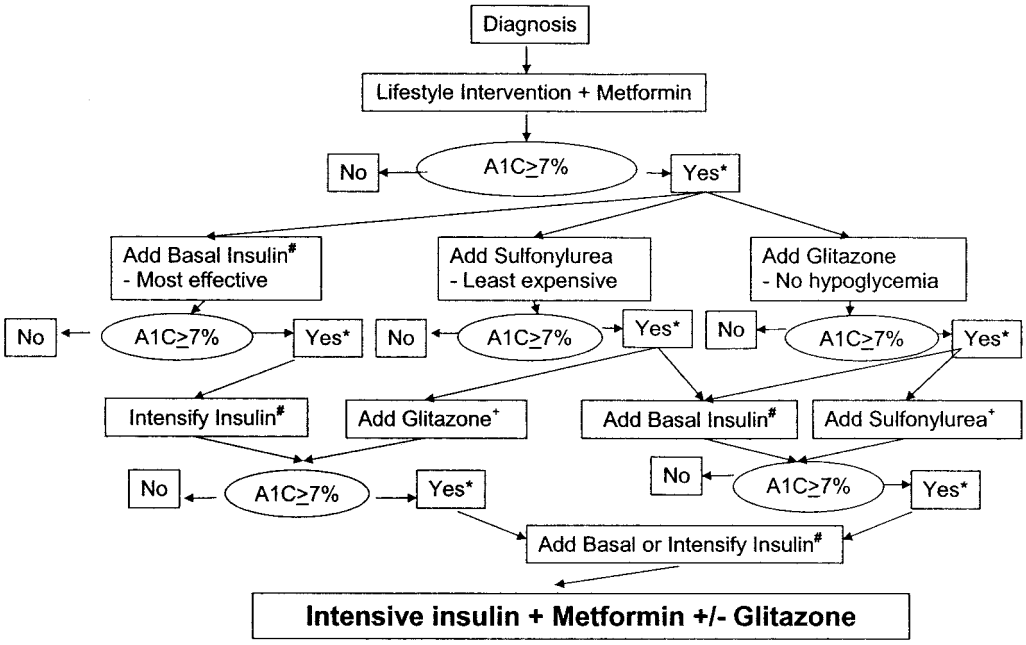

Figure 1—*Algorithm for the metabolic management of type 2 diabetes. Reinforce lifestyle intervention at every visit. *Check A1C every 3 months until <7% and then at least every 6 months. +Although three oral agents can be used, initiation and intensification of insulin therapy is preferred based on effectiveness and expense. #See Fig. 1 in ref. 39 for initiation and adjustment of insulin.*

for women with GDM, recommendations from the Fourth International Workshop-Conference on Gestational Diabetes suggest lowering maternal capillary blood glucose concentrations to ≤95 mg/dl (5.3 mmol/l) fasting, ≤140 mg/dl (7.8 mmol/l) at 1 h, and/or ≤120 mg/dl (6.7 mmol/l) at 2 h after the meal (37). For further information on GDM, refer to the ADA position statement (14). For information on glycemic control during pregnancy in women with preexisting diabetes, refer to ref. 38.

3. Approach to treatment. A consensus statement from the ADA and the European Association for the Study of Diabetes on the approach to management of hyperglycemia in individuals with type 2 diabetes has recently been published (39). Early intervention with metformin in combination with lifestyle changes (MNT and exercise) with continuing, timely augmentation therapy with additional agents (including early initiation of insulin therapy) as a means of achieving and maintaining recommended levels of glycemic control (i.e., A1C <7% for most patients) are highlights of this approach. See Fig. 1 for metabolic management of type 2 diabetes.

Early initiation of insulin would be a safer approach for individuals presenting with weight loss, more severe symptoms, and glucose values >250–300 mg/dl.

Insulin therapy, consisting of intermediate- or long-acting basal insulin in combination with premeal rapid- or short-acting insulin is recommended for all patients with type 1 diabetes. An algorithm for adjusting premeal insulin doses to correct for blood glucose values outside of target ranges is appropriate for most patients with type 1 diabetes and insulin-treated type 2 diabetes. There are excellent reviews available that guide the initiation and management of insulin therapy to achieve desired glycemic goals (40,41).

D. MNT (42)

Recommendations

Diabetes and obesity management

- Individuals who have pre-diabetes or diabetes should receive individualized MNT as needed to achieve treatment goals, preferably provided by a registered dietitian familiar with the components of diabetes MNT. (B)
- MNT should be covered by insurance and other payors. (E)
- In overweight and obese insulin-resistant individuals, modest weight loss has been shown to reduce insulin resistance. Thus, weight loss is recommended for all overweight or obese individuals who have or are at risk for diabetes. (A)
- Structured programs that emphasize lifestyle changes, including education, reduced energy and fat (~30% of total energy) intake, regular physical activity, and regular participant contact, can produce long-term weight loss on the order of 5–7% of starting weight. Thus, lifestyle change should be the primary approach to weight loss. (A)
- Physical activity and behavior modification are important components of weight loss programs and are most helpful in maintenance of weight loss. (B)

Fat intake

- Saturated fat intake should be <7% of total calories. (A)
- Intake of *trans* fat should be minimized. (E)

Carbohydrate intake

- Monitoring carbohydrate, whether by carbohydrate counting, exchanges, or experience-based estimation, remains a key strategy in achieving glycemic control. (A)
- For individuals with diabetes, the use of the glycemic index and glycemic load may provide a modest additional benefit for glycemic control over that observed when total carbohydrate is considered alone. (B)
- There is not sufficient evidence to recommend use of glycemic index or glycemic load for prevention of diabetes, although foods high in fiber are encouraged. (E)
- Low-carbohydrate diets (restricting total carbohydrate to <130 g/day) are not recommended in the treatment of overweight/obesity. The long-term effects of these diets are unknown, and although such diets produce short-term weight loss, maintenance of weight loss is sim-

ilar to that from low-fat diets and the impact on CVD risk profile is uncertain. (B)

Other nutrition recommendations

- Sugar alcohols and nonnutritive sweeteners are safe when consumed within the acceptable daily intake levels established by the Food and Drug Administration (FDA). (A)
- If adults with diabetes choose to use alcohol, daily intake should be limited to a moderate amount (one drink per day or less for adult women and two drinks per day or less for adult men). (E)
- Routine supplementation with antioxidants, such as vitamins E and C and carotene, is not advised because of lack of evidence of efficacy and concern related to long-term safety. (A)
- Benefit from chromium supplementation in people with diabetes or obesity has not been conclusively demonstrated and, therefore, cannot be recommended. (E)

MNT is an integral component of diabetes prevention, management, and self-management education. In addition to its role in preventing and controlling diabetes, ADA recognizes the importance of nutrition as an essential component of an overall healthy lifestyle. These recommendations are based on principles of good nutrition for the overall population from the 2005 Dietary Guidelines (43) and the recommended dietary allowances (RDAs) from the Institute of Medicine of the National Academies of Sciences (44). A review of the evidence regarding nutrition in preventing and controlling diabetes and its complications for the above nutrition recommendations and additional nutrition-related recommendations can be found elsewhere in this document. Achieving nutrition-related goals requires a coordinated team effort that includes the active involvement of the person with pre-diabetes or diabetes. Because of the complexity of nutrition issues, it is recommended that a registered dietitian who is knowledgeable and skilled in implementing nutrition therapy into diabetes management and education be the team member who provides MNT. However, it is essential that all team members are knowledgeable about nutrition therapy and are supportive of the person with diabetes.

For those individuals seeking guidance regarding macronutrient distribution, the DRIs may be helpful. The DRI report recommends that to meet the body's daily nutritional needs while minimizing risk for chronic diseases, adults (in general, not specifically those with diabetes) should consume 45–65% of total energy from carbohydrate, 20–35% from fat, and 10–35% from protein (44). The best mix of carbohydrate, protein, and fat appears to vary depending on individual circumstances.

E. DSME

Recommendations

- People with diabetes should receive DSME according to national standards when their diabetes is diagnosed and as needed thereafter. (B)
- DSME should be provided by health care providers who are qualified to provide that DSME based on their professional training and continuing education. (E)
- DSME should address psychosocial issues, since emotional well-being is strongly associated with positive diabetes outcomes. (C)
- DSME should be reimbursed by third-party payors. (E)

DSME is an essential element of diabetes care (45–51), and National Standards for DSME are based on evidence for its benefits. Education helps people with diabetes initiate effective self-care when they are first diagnosed. Ongoing DSME also helps people with diabetes maintain effective self-management as their diabetes presents new challenges and treatment advances become available. DSME helps patients optimize metabolic control, prevent and manage complications, and maximize quality of life, in a cost-effective manner.

Evidence for the benefits of DSME

Since the 1990s, there has been a shift from a didactic approach with DSME focusing on providing information to a skill-based approach that focuses on helping those with diabetes make informed self-management choices. Several studies have found that DSME is associated with improved diabetes knowledge (46), improved self-care behavior (46), improved clinical outcomes such as lower A1C (47,48,50,51), lower self-reported weight (46), and improved quality of life (49). Better outcomes were reported for DSME that were longer and included follow-up support (46), that were tailored to individual needs and preferences (45), and that addressed psychosocial issues (45,46,50).

The national standards for DSME

ADA-recognized DSME programs have staff that includes at least a registered nurse and a registered dietitian; these staff must be certified diabetes educators or have recent experience in diabetes education and management. The curriculum of ADA-recognized DSME programs must cover all areas of diabetes management, with the assessed needs of the individual determining which areas are addressed. All ADA-recognized DSME programs utilize a process of continuous quality improvement to evaluate the effectiveness of the DSME provided and to identify opportunities for improvement.

Reimbursement for DSME

DSME is reimbursed as part of the Medicare program as overseen by the Centers for Medicare and Medicaid Services (CMS) (www.cms.hhs.gov/DiabetesSelfManagement).

F. Physical activity

Recommendations

- To improve glycemic control, assist with weight maintenance, and reduce risk of CVD, at least 150 min/week of moderate-intensity aerobic physical activity (50–70% of maximum heart rate) and/or at least 90 min/week of vigorous aerobic exercise (>70% of maximum heart rate) is recommended. The physical activity should be distributed over at least 3 days/week and with no more than two 2 consecutive days without physical activity. (A)
- In the absence of contraindications, people with type 2 diabetes should be encouraged to perform resistance exercise three times a week, targeting all major muscle groups, progressing to three sets of 8–10 repetitions at a weight that cannot be lifted more than 8–10 times. (A)

Indications for graded exercise test with electrocardiogram monitoring

- A graded exercise test with electrocardiogram (ECG) monitoring should be seriously considered before undertaking aerobic physical activity with intensity exceeding the demands of everyday living (more intense than brisk walking) in previously sedentary diabetic

individuals whose 10-year risk of a coronary event is likely to be ≥10%. (E)

ADA technical reviews on exercise in patients with diabetes have summarized the value of exercise in the diabetes management plan (52,53). Regular exercise has been shown to improve blood glucose control, reduce cardiovascular risk factors, contribute to weight loss, and improve well-being. Furthermore, regular exercise may prevent type 2 diabetes in high-risk individuals (8–10).

Definitions

The following definitions are based on those outlined in *Physical Activity and Health*, the 1996 report of the Surgeon General (54). Physical activity is defined as bodily movement produced by the contraction of skeletal muscle that requires energy expenditure in excess of resting energy expenditure. Exercise is a subset of physical activity: planned, structured, and repetitive bodily movement performed to improve or maintain one or more component of physical fitness. Aerobic exercise consists of rhythmic, repeated, and continuous movements of the same large muscle groups for at least 10 min at a time. Examples include walking, bicycling, jogging, swimming, water aerobics, and many sports. Resistance exercise consists of activities that use muscular strength to move a weight or work against a resistive load. Examples include weight lifting and exercises using weight machines.

Effects of structured exercise interventions on glycemic control and body weight in type 2 diabetes

Boulé et al. (55) undertook a systematic review and meta-analysis on the effects of structured exercise interventions in clinical trials of duration ≥8 weeks on A1C and body mass in people with type 2 diabetes. Twelve aerobic training studies and two resistance training studies were included (totaling 504 subjects), and the results were pooled using standard meta-analytic statistical methods. Postintervention A1C was significantly lower in exercise than control groups. Metaregression confirmed that the beneficial effect of exercise on A1C was independent of any effect on body weight. Therefore, structured exercise programs had a statistically and clinically significant beneficial effect on glycemic control, and this effect was not mediated primarily by weight loss.

Boulé et al. (56) later undertook a meta-analysis of the interrelationships among exercise intensity, exercise volume, change in cardiorespiratory fitness, and change in A1C. This meta-analysis provides support for higher-intensity aerobic exercise in people with type 2 diabetes as a means of improving A1C. These results would provide support for encouraging type 2 diabetic individuals who are already exercising at moderate intensity to consider increasing the intensity of their exercise in order to obtain additional benefits in both aerobic fitness and glycemic control.

Frequency of exercise

The U.S. Surgeon General's report (54) recommended that most people accumulate ≥30 min of moderate-intensity activity on most, ideally all, days of the week. The American College of Sports Medicine now recommends including resistance training in fitness programs for adults with type 2 diabetes (57). Resistance exercise improves insulin sensitivity to about the same extent as aerobic exercise (58). Two clinical trials published in 2002 provided strong evidence for the value of resistance training in type 2 diabetes (59,60).

Evaluation of the diabetic patient before recommending an exercise program

Before beginning a program of physical activity more vigorous than brisk walking, people with diabetes should be assessed for conditions that might be associated with increased likelihood of CVD or that might contraindicate certain types of exercise or predispose to injury, such as uncontrolled hypertension, severe autonomic neuropathy, severe peripheral neuropathy, and preproliferative or proliferative retinopathy or macular edema. The patient's age and previous physical activity level should be considered.

A recent systematic review for the U.S. Preventive Services Task Force came to the conclusion that stress tests should usually not be recommended to detect ischemia in asymptomatic individuals at low CAD risk (<10% risk of a cardiac event over 10 years) because the risks of subsequent invasive testing triggered by false-positive tests outweighed the expected benefits from detection of previously unsuspected ischemia (61,62).

Exercise in the presence of nonoptimal glycemic control

Hyperglycemia. When people with type 1 diabetes are deprived of insulin for 12–48 h and are ketotic, exercise can worsen hyperglycemia and ketosis (63). Vigorous activity should probably be avoided in the presence of ketosis. However, provided the patient feels well and urine and/or blood ketones are negative, it is not necessary to postpone exercise based simply on hyperglycemia.

Hypoglycemia. In individuals taking insulin and/or insulin secretagogues, physical activity can cause hypoglycemia if medication dose or carbohydrate consumption is not altered. Hypoglycemia is rare in diabetic individuals who are not treated with insulin or insulin secretagogues. Added carbohydrate should be ingested if preexercise glucose levels are <100 mg/dl (5.6 mmol/l) (64). Supplementary carbohydrate is generally not necessary for individuals treated only with diet, metformin, α-glucosidase inhibitors, and/or TZDs without insulin or a secretagogue (65).

Exercise in the presence of specific long-term complications of diabetes

Retinopathy. In the presence of proliferative diabetic retinopathy (PDR) or severe non-PDR (NPDR), vigorous aerobic or resistance exercise may be contraindicated because of the risk of triggering vitreous hemorrhage or retinal detachment (66).

Peripheral neuropathy. Decreased pain sensation in the extremities results in increased risk of skin breakdown and infection and of Charcot joint destruction. Therefore, in the presence of severe peripheral neuropathy, it may be best to encourage non–weight-bearing activities such as swimming, bicycling, or arm exercises (67,68).

Autonomic neuropathy. Autonomic neuropathy can increase the risk of exercise-induced injury by decreasing cardiac responsiveness to exercise, postural hypotension, impaired thermoregulation due to impaired skin blood flow and sweating, impaired night vision due to impaired papillary reaction, impaired thirst increasing risk of dehydration, and gastroparesis with unpredictable food delivery (67). Autonomic neuropathy is also strongly associated with CVD in people with diabetes (69,70). People with diabetic autonomic neuropathy should definitely undergo cardiac investigation before beginning physical activity more

intense than that to which they are accustomed.

Microalbuminuria and nephropathy. Physical activity can acutely increase urinary protein excretion. There is no evidence from clinical trials or cohort studies demonstrating that vigorous exercise increases the rate of progression of diabetic kidney disease. There may be no need for any specific exercise restrictions for people with diabetic kidney disease (71).

G. Psychosocial assessment and care

Recommendations

- Preliminary assessment of psychological and social status should be included as part of the medical management of diabetes. (E)
- Psychosocial screening should include but is not limited to attitudes about the illness, expectations for medical management and outcomes, affect/mood, general and diabetes-related quality of life, resources (financial, social, and emotional), and psychiatric history. (E)
- Screening for psychosocial problems such as depression, eating disorders, and cognitive impairment is needed when adherence to the medical regimen is poor. (E)
- It is preferable to incorporate psychological treatment into routine care rather than wait for identification of a specific problem or deterioration in psychological status. (E)

Psychological and social state can impact the patient's ability to carry out diabetes care tasks (72–77). As a result, health status may be compromised. Family conflict around diabetes care tasks is also common and may interfere with treatment outcomes (78). There are opportunities for the clinician to assess psychosocial status in a timely and efficient manner so that referral for appropriate services can be accomplished (79).

Key opportunities for screening of psychosocial status occur at diagnosis, during regularly scheduled management visits, during hospitalizations, at discovery of complications, or at the discretion of the clinician when problems in glucose control, quality of life, or adherence are identified (80). Patients are likely to exhibit psychological vulnerability at diagnosis and when their medical status changes, i.e., the end of the honeymoon period, when the need for intensified treatment is evident, and when complications are discovered (75,77).

Psychosocial screening should include but is not limited to attitudes about the illness, expectations for medical management and outcomes, affect/mood, general and diabetes-related quality of life, resources (financial, social, and emotional) (76), and psychiatric history (77,80,81). Particular attention needs to be paid to gross noncompliance with medical regimen (due to self or others) (81), depression with the possibility of self-harm (73,74), indications of an eating disorder (82) or a problem that appears to be organic in origin, and cognitive functioning that significantly impairs judgment (74). In these cases, immediate referral for further evaluation by a mental health specialist familiar with diabetes management should occur. Behavioral assessment of management skills is also recommended.

It is preferable to incorporate psychological treatment into routine care rather than waiting for identification of a specific problem or deterioration in psychological status (79). Screening tools can facilitate this goal, and although the clinician may not feel qualified to treat psychological problems, utilizing the patient-provider relationship as a foundation for further treatment can increase the likelihood that the patient will accept referral for other services. It is important to establish that emotional well-being is part of diabetes management (80).

H. Referral for diabetes management

For a variety of reasons, some people with diabetes and their health care providers do not achieve the desired goals of treatment (Table 6). Intensification of the treatment regimen is suggested and includes identification (or assessment) of barriers to adherence, culturally appropriate and enhanced DSME, comanagement with a diabetes team, change in pharmacological therapy, initiation of or increase in SMBG, more frequent contact with the patient, and referral to an endocrinologist.

I. Intercurrent illness

The stress of illness, trauma, and/or surgery frequently aggravates glycemic control and may precipitate diabetic ketoacidosis (DKA) or nonketotic hyperosmolar state. Any condition leading to deterioration in glycemic control necessitates more frequent monitoring of blood glucose and urine or blood ketones. A vomiting illness accompanied by ketosis may indicate DKA, a life-threatening condition that requires immediate medical care to prevent complications and death; the possibility of DKA should always be considered (83). Marked hyperglycemia requires temporary adjustment of the treatment program and, if accompanied by ketosis, frequent interaction with the diabetes care team. The patient treated with oral glucose-lowering agents or MNT alone may temporarily require insulin. Adequate fluid and caloric intake must be assured. Infection or dehydration is more likely to necessitate hospitalization of the person with diabetes than the person without diabetes. The hospitalized patient should be treated by a physician with expertise in the management of diabetes, and recent studies suggest that achieving very stringent glycemic control may reduce mortality in the immediate postmyocardial infarction period (84). Aggressive glycemic management with insulin may reduce morbidity in patients with severe acute illness (85).

For further information on management of patients in the hospital with DKA or nonketotic hyperosmolar state, refer to the ADA position statement (83).

J. Hypoglycemia

Recommendations

- Glucose (15–20 g) is the preferred treatment for hypoglycemia, although any form of carbohydrate that contains glucose may be used, and treatment effects should be apparent in 15 min. (A)
- Treatment effects on hypoglycemia may only be temporarily corrected. Therefore, plasma glucose should be retested in ~15 min, as additional treatment may be necessary. (B)
- Glucagon should be prescribed for all patients at significant risk of severe hypoglycemia and does not require a health care professional for its administration. (E)

Hypoglycemia, especially in insulin-treated patients, is the leading limiting factor in the glycemic management of type 1 and type 2 diabetes (86). Treatment of hypoglycemia (plasma glucose <70 mg/dl) requires ingestion of glucose- or carbohydrate-containing foods. The acute glycemic response correlates better with the glucose content than with the carbohydrate content of the food. Although pure glucose may be the preferred treatment, any form of carbohydrate that contains glucose will raise blood glucose. Adding protein to carbohydrate does not

affect the glycemic response and does not prevent subsequent hypoglycemia. Adding fat, however, may retard and then prolong the acute glycemic response (87).

Rare situations of severe hypoglycemia (where the individual requires the assistance of another person and cannot be treated with oral carbohydrate) should be treated using emergency glucagon kits, which require a prescription. Those in close contact with, or having custodial care of, people with diabetes, such as family members, roommates, school personnel, child care providers, correctional institution staff, and coworkers, should be instructed in use of such kits. An individual does not need to be a health care professional to safely administer glucagon. Care should be taken to ensure that unexpired glucagon kits are available.

K. Immunization

Recommendations

- Annually provide an influenza vaccine to all diabetic patients ≥6 months of age. (C)
- Provide at least one lifetime pneumococcal vaccine for adults with diabetes. A one-time revaccination is recommended for individuals >64 years of age previously immunized when they were <65 years of age if the vaccine was administered >5 years ago. Other indications for repeat vaccination include nephrotic syndrome, chronic renal disease, and other immunocompromised states, such as after transplantation. (C)

Influenza and pneumonia are common, preventable infectious diseases associated with high mortality and morbidity in the elderly and in people with chronic diseases. There are limited studies reporting the morbidity and mortality of influenza and pneumococcal pneumonia specifically in people with diabetes. Observational studies of patients with a variety of chronic illnesses, including diabetes, show that these conditions are associated with an increase in hospitalizations for influenza and its complications. Based on a case-control series, influenza vaccine has been shown to reduce diabetes-related hospital admission by as much as 79% during flu epidemics (88). People with diabetes may be at increased risk of the bacteremic form of pneumococcal infection and have been reported to have a high risk of nosocomial bacteremia, which has a mortality rate as high as 50%.

Safe and effective vaccines are available that can greatly reduce the risk of serious complications from these diseases (88,89). There is sufficient evidence to support that people with diabetes have appropriate serologic and clinical responses to these vaccinations. The Centers for Disease Control and Prevention's Advisory Committee on Immunization Practices recommends influenza and pneumococcal vaccines for all individuals >65 years of age, as well as for all individuals of any age with diabetes.

For a complete discussion on the prevention of influenza and pneumococcal disease in people with diabetes, consult the technical review and position statement on this subject (90,91).

VI. PREVENTION AND MANAGEMENT OF DIABETES COMPLICATIONS

A. CVD

CVD is the major cause of mortality for individuals with diabetes. It is also a major contributor to morbidity and direct and indirect costs of diabetes. Type 2 diabetes is an independent risk factor for macrovascular disease, and its common coexisting conditions (e.g., hypertension and dyslipidemia) are also risk factors.

Studies have shown the efficacy of reducing cardiovascular risk factors in preventing or slowing CVD. Evidence is summarized in the following sections and reviewed in detail in the ADA technical reviews on hypertension (92), dyslipidemia (93), aspirin therapy (131), and smoking cessation (94) and the consensus statement on CHD in people with diabetes (95). Emphasis should be placed on reducing cardiovascular risk factors, when possible, and clinicians should be alert for signs and symptoms of atherosclerosis.

1. Hypertension/blood pressure control

Recommendations

Screening and diagnosis

- Blood pressure should be measured at every routine diabetes visit. Patients found to have systolic blood pressure ≥130 mmHg or diastolic blood pressure ≥80 mmHg should have blood pressure confirmed on a separate day. (C)

Goals

- Patients with diabetes should be treated to a systolic blood pressure <130 mmHg. (C)
- Patients with diabetes should be treated to a diastolic blood pressure <80 mmHg. (B)

Treatment

- Patients with hypertension (systolic blood pressure ≥140 or diastolic blood pressure ≥90 mmHg) should receive drug therapy in addition to lifestyle and behavioral therapy. (A)
- Multiple drug therapy (two or more agents at proper doses) is generally required to achieve blood pressure targets. (B)
- Patients with a systolic blood pressure of 130–139 mmHg or a diastolic blood pressure of 80–89 mmHg should be given lifestyle and behavioral therapy alone for a maximum of 3 months and then, if targets are not achieved, in addition, be treated with pharmacological agents that block the renin-angiotensin system. (E)
- Initial drug therapy for those with a blood pressure >140/90 mmHg should be with a drug class demonstrated to reduce CVD events in patients with diabetes (ACE inhibitors, angiotensin receptor blockers [ARBs], β-blockers, diuretics, and calcium channel blockers). (A)
- All patients with diabetes and hypertension should be treated with a regimen that includes either an ACE inhibitor or an ARB. If one class is not tolerated, the other should be substituted. If needed to achieve blood pressure targets, a thiazide diuretic should be added. (E)
- If ACE inhibitors, ARBs, or diuretics are used, monitor renal function and serum potassium levels. (E)
  - In patients with type 1 diabetes, with hypertension and any degree of albuminuria, ACE inhibitors have been shown to delay the progression of nephropathy. (A)
  - In patients with type 2 diabetes, hypertension, and microalbuminuria, ACE inhibitors and ARBs have been shown to delay the progression to macroalbuminuria. (A)
  - In those with type 2 diabetes, hypertension, macroalbuminuria, and renal insufficiency, ARBs have been shown to delay the progression of nephropathy. (A)

- In pregnant patients with diabetes and chronic hypertension, blood pressure target goals of 110–129/65–79 mmHg are suggested in the interest of long-term maternal health and minimizing impaired fetal growth. ACE inhibitors and ARBs are contraindicated during pregnancy. (E)
- In elderly hypertensive patients, blood pressure should be lowered gradually to avoid complications. (E)
- Patients not achieving target blood pressure despite multiple drug therapy should be referred to a physician experienced in the care of patients with hypertension. (E)
- Orthostatic measurement of blood pressure should be performed in people with diabetes and hypertension when clinically indicated. (E)

Hypertension (blood pressure ≥140/90 mmHg) is a common comorbidity of diabetes, affecting the majority of people with diabetes, depending on type of diabetes, age, obesity, and ethnicity. Hypertension is also a major risk factor for CVD and microvascular complications such as retinopathy and nephropathy. In type 1 diabetes, hypertension is often the result of underlying nephropathy. In type 2 diabetes, hypertension may be present as part of the metabolic syndrome (i.e., obesity, hyperglycemia, and dyslipidemia), which is accompanied by high rates of CVD.

Randomized clinical trials have demonstrated the benefit (reduction of CHD events, stroke, and nephropathy) of lowering blood pressure to <140 mmHg systolic and <80 mmHg diastolic in individuals with diabetes (96–99). Epidemiologic analyses show that blood pressure >115/75 mmHg are associated with increased cardiovascular event rates and mortality in individuals with diabetes (96,100,101). Therefore, a target blood pressure goal of <130/80 mmHg is reasonable if it can be safely achieved.

Although there are no well-controlled studies of diet and exercise in the treatment of hypertension in individuals with diabetes, reducing sodium intake and body weight (when indicated); increasing consumption of fruits, vegetables, and low-fat dairy products; avoiding excessive alcohol consumption; and increasing activity levels have been shown to be effective in reducing blood pressure in nondiabetic individuals (102). These nonpharmacological strategies may also positively affect glycemia and lipid control. Their effects on cardiovascular events have not been well measured.

Lowering of blood pressure with regimens based on antihypertensive drugs, including ACE inhibitors, ARBs, β-blockers, diuretics, and calcium channel blockers, has been shown to be effective in lowering cardiovascular events. Several studies suggest that ACE inhibitors may be superior to dihydropyridine calcium channel blockers (DCCBs) in reducing cardiovascular events (103,104). Additionally, in people with diabetic nephropathy, ARBs may be superior to DCCBs for reducing heart failure but not overall cardiovascular events (105). Conversely, in the recently completed INVEST (International Verapamil-Trandolapril Study) of >22,000 people with CAD and hypertension, the non-DCCB verapamil demonstrated a similar reduction in cardiovascular mortality to a β-blocker. Moreover, this relationship held true in the diabetic subgroup (106).

ACE inhibitors have been shown to improve cardiovascular outcomes in high–cardiovascular risk patients with or without hypertension (107,108). In patients with congestive heart failure (CHF), the addition of ARBs to either ACE inhibitors or other therapies reduces the risk of cardiovascular death or hospitalization for heart failure (109–111). In one study, an ARB was superior to a β-blocker as a therapy to improve cardiovascular outcomes in a subset of diabetic patients with hypertension and left ventricular hypertrophy (112). The compelling effect of ACE inhibitors or ARBs in patients with albuminuria or renal insufficiency provides additional rationale for use of these agents (see section VI, B below).

The ALLHAT (Antihypertensive and Lipid-Lowering Treatment to Prevent Heart Attack Trial), a large randomized trial of different initial blood pressure pharmacological therapies, found no large differences in initial therapy with chlorthalidone, amlodipine, or lisinopril. Diuretics appeared slightly more effective than other agents, particularly for reducing heart failure (113). The α-blocker arm of the ALLHAT was terminated after interim analysis showed that doxazosin was substantially less effective in reducing CHF than diuretic therapy (114).

Before beginning treatment, patients with elevated blood pressure should have their blood pressure reexamined within 1 month to confirm the presence of hypertension. Systolic blood pressure ≥160 mmHg or diastolic blood pressure ≥100 mmHg, however, mandates that immediate pharmacological therapy be initiated. Patients with hypertension should be seen as often as needed until the recommended blood pressure goal is obtained and then seen as necessary (96). In these patients, other cardiovascular risk factors, including obesity, hyperlipidemia, smoking, presence of microalbuminuria (assessed before initiation of treatment), and glycemic control, should be carefully assessed and treated. Many patients will require three or more drugs to reach target goals.

During pregnancy in diabetic women with chronic hypertension, target blood pressure goals of systolic blood pressure 110–129 mmHg and diastolic blood pressure 65–79 mmHg are reasonable, as they may contribute to long-term maternal health. Lower blood pressure levels may be associated with impaired fetal growth. During pregnancy, treatment with ACE inhibitors and ARBs is contraindicated, since they are likely to cause fetal damage. Antihypertensive drugs known to be effective and safe in pregnancy include methyldopa, labetalol, diltiazem, clonidine, and prazosin. Chronic diuretic use during pregnancy has been associated with restricted maternal plasma volume, which might reduce uteroplacental perfusion.

2. Dyslipidemia/lipid management

Recommendations

Screening

- In adult patients, test for lipid disorders at least annually and more often if needed to achieve goals. In adults with low-risk lipid values (LDL <100 mg/dl, HDL >50 mg/dl, and triglycerides <150 mg/dl), lipid assessments may be repeated every 2 years. (E)

Treatment recommendations and goals

- Lifestyle modification focusing on the reduction of saturated fat, *trans* fat, and cholesterol intake; weight loss (if indicated); and increased physical activity has been shown to improve the lipid profile in patients with diabetes. (A)

- In individuals without overt CVD
  - The primary goal is an LDL <100 mg/dl (2.6 mmol/l). (A)
  - For those over the age of 40 years, statin therapy to achieve an LDL reduction of 30–40% regardless of baseline LDL levels is recommended. (A)
  - For those under the age of 40 years but at increased risk due to other cardiovascular risk factors who do not achieve lipid goals with lifestyle modifications alone, the addition of pharmacological therapy is appropriate. (C)
- In individuals with overt CVD
  - All patients should be treated with a statin to achieve an LDL reduction of 30–40%. (A)
  - A lower LDL cholesterol goal of <70 mg/dl (1.8 mmol/l), using a high dose of a statin, is an option. (B)
- Lower triglycerides to <150 mg/dl (1.7 mmol/l) and raise HDL cholesterol to >40 mg/dl (1.0 mmol/l). In women, an HDL goal 10 mg/dl higher (>50 mg/dl) should be considered. (C)
- Lowering triglycerides and increasing HDL cholesterol with a fibrate is associated with a reduction in cardiovascular events in patients with clinical CVD, low HDL, and near-normal levels of LDL. (A)
- Combination therapy using statins and other lipid-lowering agents may be necessary to achieve lipid targets but has not been evaluated in outcomes studies for either CVD event reduction or safety. (E)
- Statin therapy is contraindicated in pregnancy. (E)

Patients with type 2 diabetes have an increased prevalence of lipid abnormalities, which contributes to higher rates of CVD. Lipid management aimed at lowering LDL cholesterol, raising HDL cholesterol, and lowering triglycerides has been shown to reduce macrovascular disease and mortality in patients with type 2 diabetes, particularly in those who have had prior cardiovascular events. In studies using HMG (hydroxymethylglutaryl)-CoA reductase inhibitors (statins), patients with diabetes achieved significant reductions in coronary and cerebrovascular events (115–118). In two studies using the fibric acid derivative gemfibrozil, reductions in cardiovascular end points were also achieved (119,120).

Target lipid levels are shown in Table 6. Lifestyle intervention, including MNT, increased physical activity, weight loss, and smoking cessation, should allow some patients to reach these lipid levels. Nutrition intervention should be tailored according to each patient's age, type of diabetes, pharmacological treatment, lipid levels, and other medical conditions and should focus on the reduction of saturated fat, cholesterol, and *trans* unsaturated fat intake. Glycemic control can also beneficially modify plasma lipid levels. Particularly in patients with very high triglycerides and poor glycemic control, glucose lowering may be necessary to control hypertriglyceridemia. Pharmacological treatment is indicated if there is an inadequate response to lifestyle modifications and improved glucose control. However, in patients with clinical CVD and LDL >100 mg/dl, pharmacological therapy should be initiated at the same time that lifestyle intervention is started. In patients with diabetes aged <40 years, similar consideration for LDL-lowering therapy should be given if they have increased cardiovascular risk (e.g., additional cardiovascular risk factors or long duration of diabetes). Very little clinical trial data exist for patients in this age-group.

The first priority of pharmacological therapy is to lower LDL cholesterol to a target goal of <100 mg/dl (2.60 mmol/l) or therapy to achieve a reduction in LDL of 30–40%. For LDL lowering, statins are the drugs of choice. Other drugs that lower LDL include nicotinic acid, ezetimbe, bile acid sequestrants, and fenofibrate (121,122).

The Heart Protection Study (118) demonstrated that in individuals with diabetes over the age of 40 years with a total cholesterol >135 mg/dl, LDL reduction of ~30% from baseline with the statin simvastatin was associated with an ~25% reduction in the first event rate for major coronary artery events independent of baseline LDL, preexisting vascular disease, type or duration of diabetes, or adequacy of glycemic control. Similarly, in the CARDS (Coronary Artery Diabetes Study) (124), patients with type 2 diabetes randomized to 10 mg atorvastatin daily had a significant reduction in cardiovascular events including stroke.

Recent clinical trials in high-risk patients, such as those with acute coronary syndromes or previous cardiovascular events (125–127), have demonstrated that more aggressive therapy with high doses of statins to achieve an LDL of <70 mg/dl led to a significant reduction in further events. The risk of side effects with high doses of statins is significantly outweighed by the benefits of such therapy in these high-risk patients. Therefore, a reduction in LDL to a goal of <70 mg/dl is an option in very-high-risk patients with overt CVD (122). The combination of statins with other lipid-lowering drugs such as ezetimibe may allow achievement of the LDL goal with a lower dose of a statin in such patients (128), but no data are available as to whether such combination therapy is more effective than a statin alone in preventing cardiovascular events.

Relatively little data are available on lipid-lowering therapy in subjects with type 1 diabetes. In the Heart Protection Study, ~600 patients with type 1 diabetes had a proportionately similar, but not statistically significant, reduction in risk compared with patients with type 2 diabetes. Although the data are not definitive, consideration should be given for similar lipid-lowering therapy in type 1 diabetic patients as in type 2 diabetic patients, particularly if they have other cardiovascular risk factors or features of the metabolic syndrome.

If the HDL is <40 mg/dl and the LDL between 100 and 129 mg/dl, a fibric acid derivative or niacin might be used. Niacin is the most effective drug for raising HDL but can significantly increase blood glucose at high doses. More recent studies demonstrate that at modest doses (750–2,000 mg/day), significant benefits to LDL, HDL, and triglyceride levels are accompanied by only modest changes in glucose that are generally amenable to adjustment of diabetes therapy (129,130).

Combination therapy, with a statin and a fibrate or statin and niacin, may be efficacious for patients needing treatment for all three lipid fractions, but this combination is associated with an increased risk for abnormal transaminase levels, myositis, or rhabdomyolysis. The risk of rhabdomyolysis seems to be lower when statins are combined with fenofibrate than gemfibrozil. There is also a risk of a rise in plasma creatinine, particularly with fenofibrate. It is important to note that clinical trials with fibrates and niacin have demonstrated benefits in patients who were not being treated with statins and that there are no data available on reduction of events with such combinations. The risks may be greater in patients who are treated with combinations of these drugs with high doses of statins.

3. Antiplatelet agents

Recommendations

- Use aspirin therapy (75–162 mg/day) as a secondary prevention strategy in those with diabetes with a history of CVD. (A)
- Use aspirin therapy (75–162 mg/day) as a primary prevention strategy in those with:
  - Type 2 diabetes at increased cardiovascular risk, including those who are >40 years of age or who have additional risk factors (family history of CVD, hypertension, smoking, dyslipidemia, or albuminuria). (A)
  - Type 1 diabetes at increased cardiovascular risk, including those who are >40 years of age or who have additional risk factors (family history of CVD, hypertension, smoking, dyslipidemia, or albuminuria). (C)
- Consider aspirin therapy in people between the age of 30 and 40 years, particularly in the presence of other cardiovascular risk factors. (E)
- Aspirin therapy should not be recommended for patients under the age of 21 years because of the increased risk of Reye's syndrome associated with aspirin use in this population. People <30 years have not been studied. (E)
- Combination therapy using other antiplatelet agents such as clopidrogel in addition to aspirin should be used in patients with severe and progressive CVD. (C)
- Other antiplatelet agents may be a reasonable alternative for high-risk patients with aspirin allergy, with bleeding tendency, who are receiving anticoagulant therapy, with recent gastrointestinal bleeding, and with clinically active hepatic disease who are not candidates for aspirin therapy. (E)

The use of aspirin in diabetes is reviewed in detail in the ADA technical review (131) and position statement (132) on aspirin therapy. Aspirin has been recommended as a primary (133,134) and secondary therapy to prevent cardiovascular events in diabetic and nondiabetic individuals. One large meta-analysis and several clinical trials demonstrate the efficacy of using aspirin as a preventive measure for cardiovascular events, including stroke and myocardial infarction. Many trials have shown an ~30% decrease in myocardial infarction and a 20% decrease in stroke in a wide range of patients, including young and middle-aged patients, patients with and without a history of CVD, males and females, and patients with hypertension.

Dosages used in most clinical trials ranged from 75 to 325 mg/day. There is no evidence to support any specific dose, but using the lowest possible dosage may help reduce side effects. There is no evidence for a specific age at which to start aspirin, but at ages <30 years, aspirin has not been studied.

Clopidogrel has been demonstrated to reduce CVD rates in diabetic individuals (135). Adjunctive therapy in very-high-risk patients or as alternative therapy in aspirin-intolerant patients should be considered.

4. Smoking cessation

Recommendations

- Advise all patients not to smoke. (A)
- Include smoking cessation counseling and other forms of treatment as a routine component of diabetes care. (B)

Issues of smoking in diabetes are reviewed in detail in the ADA technical review (94) and position statement (136) on smoking cessation. A large body of evidence from epidemiological, case-control, and cohort studies provides convincing documentation of the causal link between cigarette smoking and health risks. Cigarette smoking contributes to one of every five deaths in the U.S. and is the most important modifiable cause of premature death. Much of the prior work documenting the impact of smoking on health did not separately discuss results on subsets of individuals with diabetes, suggesting that the identified risks are at least equivalent to those found in the general population. Other studies of individuals with diabetes consistently found a heightened risk of morbidity and premature death associated with the development of macrovascular complications among smokers. Smoking is also related to the premature development of microvascular complications of diabetes and may have a role in the development of type 2 diabetes.

A number of large randomized clinical trials have demonstrated the efficacy and cost-effectiveness of counseling in changing smoking behavior. Such studies, combined with others specific to individuals with diabetes, suggest that smoking cessation counseling is effective in reducing tobacco use (137,138).

The routine and thorough assessment of tobacco use is important as a means of preventing smoking or encouraging cessation. Special considerations should include assessment of level of nicotine dependence, which is associated with difficulty in quitting and relapse.

5. CHD screening and treatment

Recommendations

- In patients >55 years of age, with or without hypertension but with another cardiovascular risk factor (history of CVD, dyslipidemia, microalbuminuria, or smoking), an ACE inhibitor (if not contraindicated) should be considered to reduce the risk of cardiovascular events. (A)
- In patients with a prior myocardial infarction or in patients undergoing major surgery, β-blockers, in addition, should be considered to reduce mortality. (A)
- In asymptomatic patients, consider a risk factor evaluation to stratify patients by 10-year risk and treat risk factors accordingly. (B)
- In patients with treated CHF, metformin use is contraindicated. TZDs are associated with fluid retention, and their use can be complicated by the development of CHF. Caution in prescribing TZDs in the setting of known CHF or other heart diseases, as well as in patients with preexisting edema or concurrent insulin therapy, is required. (C)

CHD screening and treatment are reviewed in detail in the ADA consensus statement on CHD in people with diabetes (95). To identify the presence of CHD in diabetic patients without clear or suggestive symptoms of CAD, a risk factor–based approach to the initial diagnostic evaluation and subsequent follow-up is recommended. However, a recent study concluded that using current guidelines fails to detect a significant percentage of patients with silent ischemia (69).

At least annually, cardiovascular risk factors should be assessed. These risk factors include dyslipidemia, hypertension, smoking, a positive family history of premature coronary disease, and the presence of micro- or macroalbuminuria. Abnormal risk factors should be treated as described elsewhere in these guidelines. Patients at increased CHD risk should receive aspirin and may warrant an ACE inhibitor.

Candidates for a diagnostic cardiac

stress test include those with *1*) typical or atypical cardiac symptoms and *2*) an abnormal resting ECG. The screening of asymptomatic patients remains controversial.

Studies have demonstrated that a significant percentage of patients with diabetes who have no symptoms of CAD have abnormal stress tests, either by ECG or echo and nuclear perfusion imaging. Some of these patients, though clearly not all, have significant coronary stenoses if they proceed to angiography. It has also been demonstrated that patients with silent myocardial ischemia have a poorer prognosis than those with normal stress tests. Their risk is further accentuated if cardiac autonomic neuropathy coexists. Candidates for a screening cardiac stress test include those with *1*) a history of peripheral or carotid occlusive disease and *2*) sedentary lifestyle, age >35 years, and plans to begin a vigorous exercise program. There are no data to suggest that patients who start to increase their physical activity by walking or similar exercise increase their risk of a CVD event and therefore are unlikely to need a stress test.

It has previously been proposed to screen those with two or more additional cardiac risk factors. However, this likely includes the vast majority of patients with type 2 diabetes (given that the risk factors frequently cluster). The DIAD (Detection of Silent Myocardial Ischemia in Asymptomatic Diabetic Subjects) study suggested that conventional cardiac risk factors did not help to identify those patients with abnormal perfusion imaging (69).

Current evidence suggests that noninvasive tests can improve assessment of future CHD risk. There is, however, no current evidence that such testing in asymptomatic patients with risk factors improves outcomes or leads to better utilization of treatments (62).

Approximately 1 in 5 will have an abnormal test, and ~1 in 15 will have a major abnormality. More information is needed concerning prognosis, and the value of early intervention (invasive or noninvasive) before widespread screening is recommended. All patients irrespective of their CAD status should have aggressive risk factor modification, including control of glucose, lipids, and blood pressure and prophylactic aspirin therapy.

Patients with abnormal exercise ECG and patients unable to perform an exercise ECG require additional or alternative testing. Currently, stress nuclear perfusion and stress echocardiography are valuable next-level diagnostic procedures. A consultation with a cardiologist is recommended regarding further workup.

When identified, the optimal therapeutic approach to the diabetic patient with silent myocardial ischemia is unknown. Certainly if major CAD is identified, aggressive intervention appears warranted. If minor stenoses are detected, however, it is unknown whether there is any benefit to further invasive evaluation and/or therapy. There are no well-conducted prospective trials with adequate control groups to shed light on this subject. Accordingly, there are no evidence-based guidelines for screening the asymptomatic diabetic patient for CAD.

B. Nephropathy screening and treatment

Recommendations

General recommendations

- To reduce the risk and/or slow the progression of nephropathy, optimize glucose control. (A)
- To reduce the risk and/or slow the progression of nephropathy, optimize blood pressure control. (A)

Screening

- Perform an annual test for the presence of microalbuminuria in type 1 diabetic patients with diabetes duration of ≥5 years and in all type 2 diabetic patients, starting at diagnosis and during pregnancy. (E)
- Serum creatinine should be measured at least annually for the estimation of glomerular filtration rate (GFR) in all adults with diabetes regardless of the degree of urine albumin excretion. The serum creatinine alone should not be used as a measure of kidney function but instead used to estimate GFR and stage the level of chronic kidney disease (CKD). (E)

Treatment

- In the treatment of both micro- and macroalbuminuria, either ACE inhibitors or ARBs should be used except during pregnancy. (A)
- While there are no adequate head-to-head comparisons of ACE inhibitors and ARBs, there is clinical trial support for each of the following statements:
  - In patients with type 1 diabetes, with hypertension and any degree of albuminuria, ACE inhibitors have been shown to delay the progression of nephropathy. (A)
  - In patients with type 2 diabetes, hypertension, and microalbuminuria, ACE inhibitors and ARBs have been shown to delay the progression to macroalbuminuria. (A)
  - In patients with type 2 diabetes, hypertension, macroalbuminuria, and renal insufficiency (serum creatinine >1.5 mg/dl), ARBs have been shown to delay the progression of nephropathy. (A)
  - If one class is not tolerated, the other should be substituted. (E)
- Reduction of protein intake to 0.8–1.0 g · kg body wt^{-1} · day^{-1} in individuals with diabetes and the earlier stages of CKD and to 0.8 g · kg body wt^{-1} · day^{-1} in the later stages of CKD may improve measures of renal function (urine albumin excretion rate, GFR) and is recommended (B)
- To slow the progression of nephropathy, the use of DCCBs as initial therapy is not more effective than placebo. Their use in nephropathy should be restricted to additional therapy to further lower blood pressure in patients already treated with ACE inhibitors or ARBs. (B)
- In the setting of albuminuria or nephropathy, in patients unable to tolerate ACE inhibitors and/or ARBs, consider the use of non-DCCBs, β-blockers, or diuretics for the management of blood pressure. Use of non-DCCBs may reduce albuminuria in diabetic patients, including during pregnancy. (E)
- If ACE inhibitors, ARBs, or diuretics are used, monitor serum potassium levels for the development of hyperkalemia. (B)
- Continued surveillance of microalbuminuria/proteinuria to assess both response to therapy and progression of disease is recommended. (E)
- Consider referral to a physician experienced in the care of diabetic renal disease when the estimated GFR has fallen to <60 ml/min per 1.73 m^2 or if difficulties occur in the management of hypertension or hyperkalemia. (B)

Diabetic nephropathy occurs in 20–40% of patients with diabetes and is the single leading cause of end-stage renal disease (ESRD). Persistent albuminuria in the

Table 8—*Definitions of abnormalities in albumin excretion*

Category	Spot collection (μg/mg creatinine)
Normal	<30
Microalbuminuria	30–299
Macro (clinical)-albuminuria	≥300

Because of variability in urinary albumin excretion, two of three specimens collected within a 3- to 6-month period should be abnormal before considering a patient to have crossed one of these diagnostic thresholds. Exercise within 24 h, infection, fever, CHF, marked hyperglycemia, and marked hypertension may elevate urinary albumin excretion over baseline values.

range of 30–299 mg/24 h (microalbuminuria) has been shown to be the earliest stage of diabetic nephropathy in type 1 diabetes and a marker for development of nephropathy in type 2 diabetes. Microalbuminuria is also a well-established marker of increased CVD risk (139,140).

Patients with microalbuminuria who progress to macroalbuminuria (≥300 mg/24 h) are likely to progress to ESRD over a period of years (141,142). Over the past several years, a number of interventions have been demonstrated to reduce the risk and slow the progression of renal disease.

Intensive diabetes management with the goal of achieving near normoglycemia has been shown in large prospective randomized studies to delay the onset of microalbuminuria and the progression of micro- to macroalbuminuria in patients with type 1 (143,144) and type 2 (32,33) diabetes. The UKPDS provided strong evidence that control of blood pressure can reduce the development of nephropathy (97). In addition, large prospective randomized studies in patients with type 1 diabetes have demonstrated that achievement of lower levels of systolic blood pressure (<140 mmHg) resulting from treatment using ACE inhibitors provides a selective benefit over other antihypertensive drug classes in delaying the progression from micro- to macroalbuminuria and can slow the decline in GFR in patients with macroalbuminuria (145–147).

In addition, ACE inhibitors have been shown to reduce severe CVD (i.e., myocardial infarction, stroke, death), thus further supporting the use of these agents in patients with microalbuminuria (107). ARBs have also been shown to reduce the rate of progression from micro- to macroalbuminuria as well as ESRD in patients with type 2 diabetes (148–150). Some evidence suggests that ARBs have a smaller magnitude of rise in potassium compared with ACE inhibitors in people with nephropathy (106). To slow the progression of nephropathy, the use of DCCBs as initial therapy is not more effective than placebo. Their use in nephropathy should be restricted to additional therapy to further lower blood pressure in patients already treated with ACE inhibitors or ARBs (105). In the setting of albuminuria or nephropathy, in patients unable to tolerate ACE inhibitors and/or ARBs, consider the use of non-DCCBs, β-blockers, or diuretics for the management of blood pressure (106,151).

Studies in patients with varying stages of nephropathy have shown that protein restriction helps slow the progression of albuminuria, GFR decline, and occurrence of ESRD (152–154). Protein restriction should be considered particularly in patients whose nephropathy seems to be progressing despite optimal glucose and blood pressure control and use of ACE inhibitor and/or ARBs (155).

Screening for microalbuminuria can be performed by three methods: *1*) measurement of the albumin-to-creatinine ratio in a random spot collection (preferred method); *2*) 24-h collection with creatinine, allowing the simultaneous measurement of creatinine clearance; and *3*) timed (e.g., 4-h or overnight) collection.

The analysis of a spot sample for the albumin-to-creatinine ratio is strongly recommended by most authorities (156,157). The other two alternatives (24-h collection and a timed specimen) are rarely necessary. Measurement of a spot urine for albumin only, whether by immunoassay or by using a dipstick test specific for microalbumin, without simultaneously measuring urine creatinine, is less expensive than the recommended methods but is susceptible to false-negative and -positive determinations as a result of variation in urine concentration due to hydration and other factors.

At least two of three tests measured within a 6-month period should show elevated levels before a patient is designated as having microalbuminuria. Abnormalities of albumin excretion are defined in Table 8.

Screening for microalbuminuria is indicated in pregnancies complicated by diabetes, since microalbuminuria in the absence of urinary tract infection is a strong predictor of superimposed preeclampsia. In the presence of macroalbuminuria or urine dipstick proteinuria, estimation of GFR by serum creatinine (see below) or 24-h urine creatinine clearance is indicated to stage the patient's renal disease, and other tests may be necessary to diagnose preeclampsia.

Information on presence of urine albumin excretion in addition to level of GFR may be used to stage CKD according to the National Kidney Foundation. The current National Kidney Foundation classification (Table 9) is primarily based on GFR levels and therefore differs from some earlier staging systems used by others, in which staging is based primarily on urinary albumin excretion (158). Studies have found decreased GFR in the absence of increase urine albumin excretion in a substantial percentage of adults with diabetes (159,160). Thus, these studies demonstrate that significant decline in GFR may be noted in adults with type 1 and type 2 diabetes in the absence of increased urine albumin excretion. It is now clear that stage 3 or higher CKD (GFR <60 ml/min per 1.73 m^2) occurs in the absence of urine albumin excretion in a sub-

Table 9—*Stages of CKD*

Stage	Description	GFR (ml/min per 1.73 m^2 body surface area)
1	Kidney damage* with normal or increased GFR	≥90
2	Kidney damage* with mildly decreased GFR	60–89
3	Moderately decreased GFR	30–59
4	Severely decreased GFR	15–29
5	Kidney failure	<15 or dialysis

*Kidney damage defined as abnormalities on pathologic, urine, blood, or imaging tests. Adapted from ref. 157a.

stantial proportion of adults with diabetes. Screening this population for increased urine albumin excretion alone, therefore, will miss a considerable number of CKD cases (158).

Serum creatinine should be measured at least annually for the estimation of GFR in all adults with diabetes regardless of the degree of urine albumin excretion. Serum creatinine alone should not be used as a measure of kidney function, but used to estimate GFR and stage the level of CKD. The GFR can be easily estimated using formulae like the Cockroft-Gault formula or a newer prediction formula developed by Levey et al. (161) using data collected from the MDRD (Modification of Diet and Renal Disease) study. Estimated GFR can easily be calculated by going to www.kidney.org/professionals/kdoqi/gfr_calculator.cfm.

The role of annual microalbumuria assessment is less clear after diagnosis of microalbuminuria and institution of ACE inhibitor or ARB therapy and blood pressure control. Most experts, however, recommend continued surveillance to assess both response to therapy and progression of disease. Some experts suggest that reducing urine microalbuminuria to the normal or near-normal range, if possible, may improve renal and cardiovascular prognosis. This approach has not been formally evaluated in prospective trials.

Consider referral to a physician experienced in the care of diabetic renal disease either when the GFR has fallen to $<$60 ml/min per 1.73 m^2 or if difficulties occur in the management of hypertension or hyperkalemia. It is suggested that consultation with a nephrologist be obtained when the GFR is $<$30 ml/min per 1.73 m^2. Early referral of such patients has been found to reduce cost and improve quality of care and keep people off dialysis longer (162,163).

C. Retinopathy screening and treatment

Recommendations

General recommendations

- Optimal glycemic control can substantially reduce the risk and progression of diabetic retinopathy. (A)
- Optimal blood pressure control can reduce the risk and progression of diabetic retinopathy. (A)
- Aspirin therapy does not prevent retinopathy or increase the risks of hemorrhage. (A)

Screening

- Adults and adolescents with type 1 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist within 3–5 years after the onset of diabetes. (B)
- Patients with type 2 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist shortly after the diagnosis of diabetes. (B)
- Subsequent examinations for type 1 and type 2 diabetic patients should be repeated annually by an ophthalmologist or optometrist. Less frequent exams (every 2–3 years) may be considered in the setting of a normal eye exam. Examinations will be required more frequently if retinopathy is progressing. (B)
- Women who are planning pregnancy or who have become pregnant should have a comprehensive eye examination and should be counseled on the risk of development and/or progression of diabetic retinopathy. Eye examination should occur in the first trimester with close follow-up throughout pregnancy and for 1 year postpartum. This guideline does not apply to women who develop GDM because such individuals are not at increased risk for diabetic retinopathy. (B)

Treatment

- Laser therapy can reduce the risk of vision loss in patients with high-risk characteristics (HRCs). (A)
- Promptly refer patients with any level of macular edema, severe NPDR, or any PDR to an ophthalmologist who is knowledgeable and experienced in the management and treatment of diabetic retinopathy. (A)

Diabetic retinopathy is a highly specific vascular complication of both type 1 and type 2 diabetes. The prevalence of retinopathy is strongly related to the duration of diabetes. Diabetic retinopathy is estimated to be the most frequent cause of new cases of blindness among adults aged 20–74 years. Glaucoma, cataracts, and other disorders of the eye may occur earlier in people with diabetes and should also be evaluated.

Intensive diabetes management with the goal of achieving near normoglycemia has been shown in large prospective randomized studies to prevent and/or delay the onset of diabetic retinopathy (27,32,33). In addition to glycemic control, several other factors seem to increase the risk of retinopathy. The presence of nephropathy is associated with retinopathy. High blood pressure is an established risk factor for the development of macular edema and is associated with the presence of PDR. Lowering blood pressure, as demonstrated by the UKPDS, has been shown to decrease the progression of retinopathy. Several case series and a controlled prospective study suggest that pregnancy in type 1 diabetic patients may aggravate retinopathy (164). During pregnancy and 1 year postpartum, retinopathy may be transiently aggravated; laser photocoagulation surgery can minimize this risk (165).

Patients with type 1 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist within 5 years after the onset of diabetes. Patients with type 2 diabetes should have an initial dilated and comprehensive eye examination by an ophthalmologist or optometrist shortly after the diagnosis of diabetes. Subsequent examinations for type 1 and type 2 diabetic patients should be repeated annually by an ophthalmologist or optometrist who is knowledgeable and experienced in diagnosing the presence of diabetic retinopathy and is aware of its management. Less frequent exams (every 2–3 years) may be considered with the advice of an eye care professional in the setting of a normal eye exam (166–168). Examinations will be required more frequently if retinopathy is progressing.

Examinations can also be done by the taking of retinal photographs (with or without dilation of the pupil) and having these read by experienced experts in this field. In-person exams are still necessary when the photos are unacceptable and for follow-up of abnormalities detected. This technology has it greatest potential in areas where qualified eye care professionals are not available. Results of eye examinations should be documented and transmitted to the referring health care professional.

One of the main motivations for screening for diabetic retinopathy is the established efficacy of laser photocoagulation surgery in preventing visual loss. Two large National Institutes of Health–sponsored trials, the Diabetic Retinopathy Study (DRS) and the Early Treatment Diabetic Retinopathy Study (ETDRS), provide the strongest support for the therapeutic benefit of photocoagulation surgery.

The DRS tested whether scatter (panretinal) photocoagulation surgery could reduce the risk of vision loss from PDR. Severe visual loss (i.e., best acuity of 5/200 or worse) was seen in 15.9% of untreated vs. 6.4% of treated eyes. The benefit was greatest among patients whose baseline evaluation revealed HRCs (chiefly disc neovascularization or vitreous hemorrhage with any retinal neovascularization). Of control eyes with HRCs, 26% progressed to severe visual loss vs. 11% of treated eyes. Given the risk of a modest loss of visual acuity and of contraction of visual field from panretinal laser surgery, such therapy has been primarily recommended for eyes approaching or reaching HRCs.

The ETDRS established the benefit of focal laser photocoagulation surgery in eyes with macular edema, particularly those with clinically significant macular edema. In patients with clinically significant macular edema after 2 years, 20% of untreated eyes had a doubling of the visual angle (e.g., 20/50 to 20/100) compared with 8% of treated eyes. Other results from the ETDRS indicate that, provided careful follow-up can be maintained, scatter photocoagulation surgery is not recommended for eyes with mild or moderate NPDR. When retinopathy is more severe, scatter photocoagulation surgery should be considered, and usually should not be delayed, if the eye has reached the high-risk proliferative stage. In older-onset patients with severe NPDR or less-than-high-risk PDR, the risk of severe visual loss and vitrectomy is reduced ~50% by laser photocoagulation surgery at these earlier stages.

Laser photocoagulation surgery in both the DRS and the ETDRS was beneficial in reducing the risk of further visual loss, but generally not beneficial in reversing already diminished acuity. This preventive effect and the fact that patients with PDR or macular edema may be asymptomatic provide strong support for a screening program to detect diabetic retinopathy.

For a detailed review of the evidence and further discussion, see the ADA's technical review and position statement on this subject (169,170).

D. Neuropathy screening and treatment (171,172)

Recommendations

- All patients should be screened for distal symmetric polyneuropathy (DPN) at diagnosis and at least annually thereafter, using simple clinical tests. (A)
- Electrophysiological testing is rarely ever needed, except in situations where the clinical features are atypical. (E)
- Once the diagnosis of DPN is established, special foot care is appropriate for insensate feet to decrease the risk of amputation. (B)
- Simple inspection of insensate feet should be performed at 3- to 6-month intervals. An abnormality should trigger referral for special footwear, preventive specialist, or podiatric care. (B)
- Screening for autonomic neuropathy should be instituted at diagnosis of type 2 diabetes and 5 years after the diagnosis of type 1 diabetes. Special electrophysiological testing for autonomic neuropathy is rarely needed and may not affect management and outcomes. (E)
- Education of patients about self-care of the feet and referral for special shoes/inserts are vital components of patient management. (B)
- A wide variety of medications is recommended for the relief of specific symptoms related to autonomic neuropathy and are recommended, as they improve the quality of life of the patient. (E)

The diabetic neuropathies are heterogeneous with diverse clinical manifestations. They may be focal or diffuse. Most common among the neuropathies are chronic sensorimotor DPN and autonomic neuropathy. Although DPN is a diagnosis of exclusion, complex investigations to exclude other conditions are rarely needed.

The early recognition and appropriate management of neuropathy in the patient with diabetes is important for a number of reasons: *1*) nondiabetic neuropathies may be present in patients with diabetes and may be treatable; *2*) a number of treatment options exist for symptomatic diabetic neuropathy; *3*) up to 50% of DPN may be asymptomatic and patients are at risk of insensate injury to their feet; *4*) autonomic neuropathy may involve every system in the body; and *5*) cardiovascular autonomic neuropathy causes substantial morbidity and mortality. Specific treatment for the underlying nerve damage is currently not available, other than improved glycemic control, which may slow progression but rarely reverses neuronal loss. Effective symptomatic treatments are available for the manifestations of DPN and autonomic neuropathy.

Diagnosis of neuropathy

Patients with diabetes should be screened annually for DPN using tests such as pinprick sensation, temperature and vibration perception (using a 128-Hz tuning fork), and 10-g monofilament pressure sensation at the distal plantar aspect of both great toes and ankle reflexes. Combinations of more than one test have >87% sensitivity in detecting DPN. Loss of 10-g monofilament perception and reduced vibration perception predict foot ulcers. A minimum of one clinical test should be carried out annually, and the use of two tests will increase diagnostic ability.

Focal and multifocal neuropathy assessment requires clinical examination in the area related to the neurological symptoms.

Diabetic autonomic neuropathy (173)

The symptoms of autonomic dysfunction should be elicited carefully during the history and review of systems, particularly since many of these symptoms are potentially treatable. Major clinical manifestations of diabetic autonomic neuropathy include resting tachycardia, exercise intolerance, orthostatic hypotension, constipation, gastroparesis, erectile dysfunction, sudomotor dysfunction, impaired neurovascular function, "brittle diabetes," and hypoglycemic autonomic failure.

Cardiovascular autonomic neuropathy is the most studied and clinically important form of diabetic autonomic neuropathy. Cardiac autonomic neuropathy may be indicated by resting tachycardia (>100 bpm), orthostasis (a fall in systolic blood pressure >20 mmHg upon standing), or other disturbances in autonomic nervous system function involving the skin, pupils, or gastrointestinal and genitourinary systems.

Gastrointestinal disturbances (e.g., esophageal enteropathy, gastroparesis, constipation, diarrhea, fecal incontinence) are common, and any section of the gastrointestinal tract may be affected. Gastroparesis should be suspected in individuals with erratic glucose control. Upper-gastrointestinal symptoms should lead to consideration of all possible causes, including autonomic dysfunction.

Evaluation of solid-phase gastric emptying using double-isotope scintigraphy may be done if symptoms are suggestive, but test results often correlate poorly with symptoms. Barium studies or referral for endoscopy may be required to rule out structural abnormalities. Constipation is the most common lower-gastrointestinal symptom but can alternate with episodes of diarrhea. Endoscopy may be required to rule out other causes.

Diabetic autonomic neuropathy is also associated with genitourinary tract disturbances, including bladder and/or sexual dysfunction. Evaluation of bladder dysfunction should be performed for individuals with diabetes who have recurrent urinary tract infections, pyelonephritis, incontinence, or a palpable bladder. In men, diabetic autonomic neuropathy may cause loss of penile erection and/or retrograde ejaculation.

Symptomatic treatments

DPN

The first step in management of patients with DPN should be to aim for stable and optimal glycemic control. Although controlled trial evidence is lacking, several observational studies suggest that neuropathic symptoms improve not only with optimization of control, but also with the avoidance of extreme blood glucose fluctuations. Most patients will require pharmacological treatment for painful symptoms: many agents have efficacy confirmed in published randomized controlled trials, though none are specifically licensed for the management of painful-DPN. See Table 10 for examples of agents to treat DPN pain.

Treatment of autonomic neuropathy

A wide variety of agents are used to treat the symptoms of autonomic neuropathy, including metoclopramide for gastroparesis and several medications for bladder and erectile dysfunction. These treatments are frequently used to provide symptomatic relief to patients. Although they do not change the underlying pathology and natural history of the disease process, their use is recommended due to the impact they may have on the quality of life of the patient.

Table 10—*Table of drugs to treat symptomatic DPN*

Class	Examples	Typical doses*
Tricyclic drugs	Amitriptyline	10–75 mg at bedtime
	Nortriptyline	25–75 mg at bedtime
	Imipramine	25–75 mg at bedtime
Anticonvulsants	Gabapentin	300–1,200 mg t.i.d.
	Carbamazepine	200–400 mg t.i.d.
	Pregabalin	100 mg t.i.d.
5-hydroxytryptamine and norepinephrine uptake inhibitor	Duloxitine	60–120 mg daily
Substance P inhibitor	Capsaicin cream	0.025–0.075% applied t.i.d.-q.i.d.

*Dose response may vary; initial doses need to be low and titrated up.

E. Foot care

Recommendations

- Perform a comprehensive foot examination and provide foot self-care education annually on patients with diabetes to identify risk factors predictive of ulcers and amputations. (B)
- The foot examination can be accomplished in a primary care setting and should include the use of a monofilament, tuning fork, palpation, and a visual examination. (B)
- A multidisciplinary approach is recommended for individuals with foot ulcers and high-risk feet, especially those with a history of prior ulcer or amputation. (B)
- Refer patients who smoke or with prior lower-extremity complications to foot care specialists for ongoing preventive care and life-long surveillance. (C)
- Initial screening for peripheral arterial disease (PAD) should include a history for claudication and an assessment of the pedal pulses. Consider obtaining an ankle-brachial index (ABI), as many patients with PAD are asymptomatic. (C)
- Refer patients with significant claudication or a positive ABI for further vascular assessment and consider exercise, medications, and surgical options. (C)

Amputation and foot ulceration are the most common consequences of diabetic neuropathy and major causes of morbidity and disability in people with diabetes. Early recognition and management of independent risk factors can prevent or delay adverse outcomes.

The risk of ulcers or amputations is increased in people who have had diabetes >10 years, are male, have poor glucose control, or have cardiovascular, retinal, or renal complications. The following foot-related risk conditions are associated with an increased risk of amputation:

- Peripheral neuropathy with loss of protective sensation
- Altered biomechanics (in the presence of neuropathy)
- Evidence of increased pressure (erythema, hemorrhage under a callus)
- Bony deformity
- Peripheral vascular disease (decreased or absent pedal pulses)
- A history of ulcers or amputation
- Severe nail pathology

All individuals with diabetes should receive an annual foot examination to identify high-risk foot conditions. This examination should include assessment of protective sensation, foot structure and biomechanics, vascular status, and skin integrity. People with one or more high-risk foot condition should be evaluated more frequently for the development of additional risk factors. People with neuropathy should have a visual inspection of their feet at every visit with a health care professional. Evaluation of neurological status in the low-risk foot should include a quantitative somatosensory threshold test, using the Semmes-Weinstein 5.07 (10-g) monofilament. The skin should be assessed for integrity, especially between the toes and under the metatarsal heads. The presence of erythema, warmth, or callus formation may indicate areas of tissue damage with impending breakdown. Bony deformities, limitation in joint mobility, and problems with gait and balance should be assessed.

People with neuropathy or evidence of increased plantar pressure may be ad-

equately managed with well-fitted walking shoes or athletic shoes. Patients should be educated on the implications of sensory loss and the ways to substitute other sensory modalities (hand palpation, visual inspection) for surveillance of early problems. People with evidence of increased plantar pressure (e.g., erythema, warmth, callus, or measured pressure) should use footwear that cushions and redistributes the pressure. Callus can be debrided with a scalpel by a foot care specialist or other health professional with experience and training in foot care. People with bony deformities (e.g., hammertoes, prominent metatarsal heads, bunions) may need extra-wide shoes or depth shoes. People with extreme bony deformities (e.g., Charcot foot) who cannot be accommodated with commercial therapeutic footwear may need custom-molded shoes.

Initial screening for PAD should include a history for claudication and an assessment of the pedal pulses. Consider obtaining an ABI, as many patients with PAD are asymptomatic. Refer patients with significant or a positive ABI for further vascular assessment and consider exercise, medications, and surgical options (174).

Patients with diabetes and high-risk foot conditions should be educated regarding their risk factors and appropriate management. Patients at risk should understand the implications of the loss of protective sensation, the importance of foot monitoring on a daily basis, the proper care of the foot, including nail and skin care, and the selection of appropriate footwear. The patient's understanding of these issues and their physical ability to conduct proper foot surveillance and care should be assessed. Patients with visual difficulties, physical constraints preventing movement, or cognitive problems that impair their ability to assess the condition of the foot and to institute appropriate responses will need other people, such as family members, to assist in their care. Patients at low risk may benefit from education on foot care and footwear.

For a detailed review of the evidence and further discussion, see the ADA's technical review and position statement on this subject (175,176).

Problems involving the feet, especially ulcers and wound care, may require care by a podiatrist, orthopedic surgeon, or rehabilitation specialist experienced in the management of individuals with diabetes. For a complete discussion on wound care, see the ADA's consensus statement on diabetic foot wound care (177).

VII. DIABETES CARE IN SPECIFIC POPULATIONS

A. Children and adolescents

1. Type 1 diabetes

Although approximately three-quarters of all cases of type 1 diabetes are diagnosed in individuals <18 years of age, historically ADA recommendations for management of type 1 diabetes have pertained most directly to adults with type 1 diabetes. Because children are not simply "small adults," it is appropriate to consider the unique aspects of care and management of children and adolescents with type 1 diabetes. Children with diabetes differ from adults in many respects, including insulin sensitivity related to sexual maturity, physical growth, ability to provide self-care, and unique neurologic vulnerability to hypoglycemia. Attention to such issues as family dynamics, developmental stages, and physiologic differences related to sexual maturity all are essential in developing and implementing an optimal diabetes regimen. Although current recommendations for children and adolescents are less likely to be based on evidence derived from rigorous research because of current and historical restraints placed on conducting research in children, expert opinion and a review of available and relevant experimental data are summarized in a recent ADA statement (178). The following represents a summary of recommendations and guidelines pertaining specifically to the care and management of children and adolescents that are included in that document.

Ideally, the care of a child or adolescent with type 1 diabetes should be provided by a multidisciplinary team of specialists trained in the care of children with pediatric diabetes, although this may not always be possible. At the very least, education of the child and family should be provided by health care providers trained and experienced in childhood diabetes and sensitive to the challenges posed by diabetes in this age-group. At the time of initial diagnosis, it is essential that diabetes education be provided in a timely fashion, with the expectation that the balance between adult supervision and self-care should be defined by, and will evolve according to, physical, psychological, and emotional maturity. MNT should be provided at diagnosis, and at least annually thereafter, by an individual experienced with the nutritional needs of the growing child and the behavioral issues that have an impact on adolescent diets.

a. Glycemic control. While current standards for diabetes management reflect the need to maintain glucose control as near to normal as safely possible, special consideration must be given to the unique risks of hypoglycemia in young children. Glycemic goals need to be modified to take into account the fact that most children <6 or 7 years of age have a form of "hypoglycemic unawareness," in that counterregulatory mechanisms are immature, and young children lack the cognitive capacity to recognize and respond to hypoglycemic symptoms, placing them at greater risk for hypoglycemia and its sequelae. In addition, extensive evidence indicates that near normalization of blood glucose levels is seldom attainable in children and adolescents after the honeymoon (remission) period. The A1C level achieved in the "intensive" adolescent cohort of the DCCT group was >1% higher than that achieved for older patients and current ADA recommendations for patients in general (179). However, the increased frequency of use of basal bolus regimens (including insulin pumps) in youth from infancy through adolescence has been associated with more children reaching ADA blood glucose targets (180,181).

In selecting glycemic goals, the benefits of achieving a lower A1C must be weighed against the unique risks of hypoglycemia and the disadvantages of targeting a higher, though more achievable, goal that may not promote optimal long-term health outcomes. Age-specific glycemic and A1C goals are presented in Table 11.

b. Screening and management of chronic complications in children and adolescents with type 1 diabetes.

i. *Nephropathy*

Recommendations

- Annual screening for microalbuminuria should be initiated once the child is 10 years of age and has had diabetes for 5 years. Screening may be done with a random spot urine sample analyzed for microalbumin-to-creatinine ratio. (E)
- Confirmed, persistently elevated microalbumin levels should be treated

Table 11—*Plasma blood glucose and A1C goals for type 1 diabetes by age-group*

Values by age (years)	Plasma blood glucose goal range (mg/dl)		A1C	Rationale
	Before meals	Bedtime/ overnight		
Toddlers and preschoolers (0–6)	100–180	110–200	<8.5% (but >7.5%)	High risk and vulnerability to hypoglycemia
School age (6–12)	90–180	100–180	<8%	Risks of hypoglycemia and relatively low risk of complications prior to puberty
Adolescents and young adults (13–19)	90–130	90–150	<7.5%	● Risk of severe hypoglycemia ● Developmental and psychological issues ● A lower goal (<7.0%) is reasonable if it can be achieved without excessive hypoglycemia

Key concepts in setting glycemic goals:
- Goals should be individualized and lower goals may be reasonable based on benefit-risk assessment.
- Blood glucose goals should be higher than those listed above in children with frequent hypoglycemia or hypoglycemia unawareness.
- Postprandial blood glucose values should be measured when there is a disparity between preprandial blood glucose values and A1C levels.

with an ACE inhibitor, titrated to normalization of microalbumin excretion (if possible). (E)

ii. *Hypertension*

Recommendations

- Treatment of high-normal blood pressure (systolic or diastolic blood pressure consistently above the 90th percentile for age, sex, and height) should include dietary intervention and exercise, aimed at weight control and increased physical activity, if appropriate. If target blood pressure is not reached within 3–6 months of lifestyle intervention, pharmacologic treatment should be initiated. (E)
- Pharmacologic treatment of hypertension (systolic or diastolic blood pressure consistently above the 95th percentile for age, sex, and height or consistently greater than 130/80 mmHg, if 95% exceeds that value) should be initiated as soon as the diagnosis is confirmed. (E)
- ACE inhibitors should be considered for the initial treatment of hypertension. (E)

Hypertension in childhood is defined as an average systolic or diastolic blood pressure ≥95th percentile for age, sex, and height percentile measured on at least three separate days. "High-normal" blood pressure is defined as an average systolic or diastolic blood pressure ≥90th but <95th percentile for age, sex, and height percentile measured on at least 3 separate days. Normal blood pressure levels for age, sex, and height and appropriate methods for determinations are available online at www.nhlbi.nih.gov/health/prof/heart/hbp/hbp_ped.pdf.

iii. *Dyslipidemia*

Recommendations

Screening

- Prepubertal children: a fasting lipid profile should be performed on all children >2 years of age at the time of diagnosis (after glucose control has been established) if there is a family history of hypercholesterolemia (total cholesterol >240 mg/dl), if there is a history of a cardiovascular event before age 55 years, or if family history is unknown. If family history is not of concern, then the first lipid screening should be performed at puberty (>12 years). If values are within the accepted risk levels (LDL <100 mg/dl [2.6 mmol/l]), a lipid profile should be repeated every 5 years. (E)
- Pubertal children (>12 years of age): a fasting lipid profile should be performed at the time of diagnosis (after glucose control has been established). If values fall within the accepted risk levels (LDL <100 mg/dl [2.6 mmol/l]), the measurement should be repeated every 5 years. (E)
- If lipids are abnormal, annual monitoring is recommended in both age-groups. (E)

Treatment

- Treatment should be based on fasting lipid levels (mainly LDL) obtained after glucose control is established. (E)
- Initial therapy should consist of optimization of glucose control and MNT aimed at a decrease in the amount of saturated fat in the diet. (E)
- The addition of a pharmacologic lipid-lowering agents is recommended for LDL >160 mg/dl (4.1 mmol/l), and is also recommended in patients who have LDL cholesterol values of 130–159 mg/dl (3.4–4.1 mmol/l) based on the patient's CVD risk profile, after failure of MNT and lifestyle changes. (E)
- The goal of therapy is an LDL value <100 mg/dl (2.6 mmol/l). (E)

iv. *Retinopathy*

Recommendations

- The first ophthalmologic examination should be obtained once the child is ≥10 years of age and has had diabetes for 3–5 years. (E)
- After the initial examination, annual routine follow-up is generally recommended. Less frequent examinations may be acceptable on the advice of an eye care professional. (E)

Although retinopathy most commonly occurs after the onset of puberty and after 5–10 years of diabetes duration, it has been reported in prepubertal children and with diabetes duration of only 1–2 years. Referrals should be made to eye

care professionals with expertise in diabetic retinopathy, an understanding of the risk for retinopathy in the pediatric population, and experience in counseling the pediatric patient and family on the importance of early prevention/intervention.

v. *Celiac disease*

Recommendations

- Children with positive antibodies should be referred to a gastroenterologist for evaluation. (E)
- Children with confirmed celiac disease should have consultation with a dietitian and placed on a gluten-free diet. (E)
- Patients with type 1 diabetes who are or who become symptomatic for celiac disease should be screened, using tTG antibodies, or anti-EMA, with documentation of normal serum IgA levels. (E)

Celiac disease is an immune-mediated disorder that occurs with increased frequency in patients with type 1 diabetes (1–16% of individuals compared with 0.3–1% in the general population) (182,183). Symptoms of celiac disease include diarrhea, weight loss or poor weight gain, growth failure, abdominal pain, chronic fatigue, malnutrition due to malabsorption, and other gastrointestinal problems.

c. Other issues. A major issue deserving emphasis in this age-group is that of "adherence." No matter how sound the medical regimen, it can only be as good as the ability of the family and/or individual to implement it. Family involvement in diabetes remains an important component of optimal diabetes management throughout childhood and into adolescence. Health care providers who care for children and adolescents, therefore, must be capable of evaluating the behavioral, emotional, and psychosocial factors that interfere with implementation and then must work with the individual and family to resolve problems that occur and/or to modify goals as appropriate.

Since a sizable portion of a child's day is spent in school, close communication with school or day care personnel is essential for optimal diabetes management. Information should be supplied to school personnel, so that they may be made aware of the diagnosis of diabetes in the student and of the signs, symptoms, and treatment of hypoglycemia. In most cases it is imperative that blood glucose testing be performed at the school or day care setting before lunch and when signs or symptoms of abnormal blood glucose levels are present. Many children may require support for insulin administration by either injection or continuous subcutaneous insulin infusion (CSII) before lunch (and often also before breakfast) at school or in day care. For further discussion, see the ADA position statement (184) and the report from the NDEP (185).

2. Type 2 diabetes

Finally, the incidence of type 2 diabetes in adolescents has been shown to be increasing, especially in ethnic minority populations (186,187). Distinction between type 1 and type 2 diabetes in children can be difficult, since autoantigens and ketosis may be present in a substantial number of patients with otherwise straightforward type 2 diabetes (including obesity and acanthosis nigricans). Such a distinction at the time of diagnosis is critical since treatment regimens, educational approaches, and dietary counsel will differ markedly between the two diagnoses. It is recommended that screening for the comorbidities and complications of diabetes, including fasting lipid profile, and urine for microalbumin, be obtained at the time of diagnosis of type 2 diabetes. An ophthalmologic examination should be considered. The ADA consensus statement (11) provides guidance on the prevention, screening, and treatment of type 2 diabetes, as well as its comorbidities, in young people.

B. Preconception care

Recommendations

- A1C levels should be normal or as close to normal as possible (<1% above the upper limits of normal) in an individual patient before conception is attempted. (B)
- All women with diabetes and childbearing potential should be educated about the need for good glucose control before pregnancy. They should participate in family planning. (E)
- Women with diabetes who are contemplating pregnancy should be evaluated and, if indicated, treated for diabetic retinopathy, nephropathy, neuropathy, and CVD. (E)
- Among the drugs commonly used in the treatment of patients with diabetes, statins are pregnancy category X and should be discontinued before conception if possible. Based on recent research, ACE inhibitors also should be discontinued before conception (187a). ARBs are category C in the first trimester (maternal benefit may outweigh fetal risk in certain situations), but category D in later pregnancy, and should generally be discontinued before pregnancy. Among the oral antidiabetic agents, metformin and acarbose are classified as category B and all others as category C; potential risks and benefits of oral antidiabetic agents in the preconception period must be carefully weighed, recognizing that sufficient data are not available to establish the safety of these agents in pregnancy. They should generally be discontinued in pregnancy. (E)

Major congenital malformations remain the leading cause of mortality and serious morbidity in infants of mothers with type 1 and type 2 diabetes. Observational studies indicate that the risk of malformations increases continuously with increasing maternal glycemia during the first 6–8 weeks of gestation, as defined by first-trimester A1C concentrations. There is no threshold for A1C values above which the risk begins or below which it disappears. However, malformation rates above the 1–2% background rate seen in nondiabetic pregnancies appear to be limited to pregnancies in which first-trimester A1C concentrations are >1% above the normal range for a nondiabetic pregnant woman.

Preconception care of diabetes appears to reduce the risk of congenital malformations. Five nonrandomized studies have compared rates of major malformations in infants between women who participated in preconception diabetes care programs and women who initiated intensive diabetes management after they were already pregnant. The preconception care programs were multidisciplinary and designed to train patients in diabetes self-management with diet, intensified insulin therapy, and SMBG. Goals were set to achieve normal blood glucose concentrations, and >80% of subjects achieved normal A1C concentrations before they became pregnant (188–192). In all five studies, the incidence of major congenital malformations in women who participated in preconception care (range 1.0–1.7% of infants) was much lower than the incidence in women

who did not participate (range 1.4–10.9% of infants). One limitation of these studies is that participation in preconception care was self-selected by patients rather than randomized. Thus, it is impossible to be certain that the lower malformation rates resulted fully from improved diabetes care. Nonetheless, the overwhelming evidence supports the concept that malformations can be reduced or prevented by careful management of diabetes before pregnancy.

Planned pregnancies greatly facilitate preconception diabetes care. Unfortunately, nearly two-thirds of pregnancies in women with diabetes are unplanned, leading to a persistent excess of malformations in infants of diabetic mothers. To minimize the occurrence of these devastating malformations, standard care for all women with diabetes who have childbearing potential should include *1*) education about the risk of malformations associated with unplanned pregnancies and poor metabolic control and *2*) use of effective contraception at all times, unless the patient is in good metabolic control and actively trying to conceive.

Women contemplating pregnancy need to be seen frequently by a multidisciplinary team experienced in the management of diabetes before and during pregnancy. Teams may vary but should include a diabetologist, an internist or a family physician, an obstetrician, a diabetes educator, a dietitian, a social worker, and other specialists as necessary. The goals of preconception care are to *1*) integrate the patient into the management of her diabetes, *2*) achieve the lowest A1C test results possible without excessive hypoglycemia, *3*) assure effective contraception until stable and acceptable glycemia is achieved, and *4*) identify, evaluate, and treat long-term diabetic complications such as retinopathy, nephropathy, neuropathy, hypertension, and CAD.

For further discussion, see the ADA's technical review (193) and position statement (194) on this subject.

C. Older individuals

Diabetes is an important health condition for the aging population; at least 20% of patients over the age of 65 years have diabetes. The number of older individuals with diabetes can be expected to grow rapidly in the coming decades. A recent publication (195) contains evidence-based guidelines produced in conjunction with the American Geriatric Society. This document contains an excellent discussion of this area, and specific guidelines and language from it have been incorporated below. Unfortunately, there are no long-term studies in individuals >65 years of age demonstrating the benefits of tight glycemic control, blood pressure, and lipid control. Older individuals with diabetes have higher rates of premature death, functional disability, and coexisting illnesses such as hypertension, CHD, and stroke than those without diabetes. Older adults with diabetes are also at greater risk than other older adults for several common geriatric syndromes, such as polypharmacy, depression, cognitive impairment, urinary incontinence, injurious falls, and persistent pain.

The care of older adults with diabetes is complicated by their clinical and functional heterogeneity. Some older individuals developed diabetes in middle age and face years of comorbidity; others who are newly diagnosed may have had years of undiagnosed comorbidity or few complications from the disease. Some older adults with diabetes are frail and have other underlying chronic conditions, substantial diabetes-related comorbidity, or limited physical or cognitive functioning, but other older individuals with diabetes have little comorbidity and are active. Life expectancies are also highly variable for this population. Clinicians caring for older adults with diabetes must take this heterogeneity into consideration when setting and prioritizing treatment goals.

All this having been said, patients who can be expected to live long enough to reap the benefits of long-term intensive diabetes management (~10 years) and who are active, cognitively intact, and willing to undertake the responsibility of self-management should be encouraged to do so and be treated using the stated goals for younger adults with diabetes.

There is good evidence from middle-aged and older adults suggesting that multidisciplinary interventions that provide education on medication use, monitoring, and recognizing hypo- and hyperglycemia can significantly improve glycemic control. Although control of hyperglycemia is important, in older individuals with diabetes, greater reductions in morbidity and mortality may result from control of all cardiovascular risk factors rather than from tight glycemic control alone. There is strong evidence from clinical trials of the value of treating hypertension in the elderly. There is less evidence for lipid-lowering and aspirin therapy, although as diabetic patients have such an elevated risk for CVD, aggressive management of lipids and aspirin use when not contraindicated are reasonable interventions.

As noted above, for patients with advanced diabetes complications, life-limiting comorbid illness, or cognitive or functional impairment, it is reasonable to set less intensive glycemic target goals. These patients are less likely to benefit from reducing the risk of microvascular complications and more likely to suffer serious adverse effects from hypoglycemia. Patients with poorly controlled diabetes may be subject to acute complications of diabetes, including hyperglycemic hyperosmolar coma. Older patients can be treated with the same drug regimens as younger patients, but special care is required in prescribing and monitoring drug therapy. Metformin is often contraindicated because of renal insufficiency or heart failure. Sulfonylureas and other insulin secretagogues can cause hypoglycemia. Insulin can also cause hypoglycemia as well as require good visual and motor skills and cognitive ability of the patient or a caregiver. TZDs should not be used in patients with CHF (New York Heart Association class III and IV). Drugs should be started at the lowest dose and titrated up gradually until targets are reached or side effects develop. As with blood pressure and lipid management, the potential benefits must always be weighed against potential risks.

VIII. DIABETES CARE IN SPECIFIC SETTINGS

A. Diabetes care in the hospital

Recommendations

- All patients with diabetes admitted to the hospital should be identified in the medical record as having diabetes. (E)
- All patients with diabetes should have an order for blood glucose monitoring, with results available to all members of the health care team. (E)
- Goals for blood glucose levels:
  - Critically ill patients: blood glucose levels should be kept as close to 110 mg/dl (6.1 mmol/l) as possible and generally <180 mg/dl (10 mmol/l). These patients will usually require intravenous insulin. (B)
  - Non–critically ill patients: premeal blood glucose levels should be kept as close to 90–130 mg/dl (5.0–7.2 mmol/l; midpoint of range 110 mg/

dl) as possible given the clinical situation and postprandial blood glucose levels <180 mg/dl. Insulin should be used as necessary. (E)
  - Due to concerns regarding the risk of hypoglycemia, some institutions may consider these blood glucose levels to be overly aggressive for initial targets. Through quality improvement, glycemic goals should systematically be reduced to the recommended levels. (E)
- Scheduled prandial insulin doses should be given in relation to meals and should be adjusted according to point-of-care glucose levels. The traditional sliding-scale insulin regimens are ineffective as monotherapy and are not recommended. (C)
- Using correction dose or "supplemental" insulin to correct premeal hyperglycemia in addition to scheduled prandial and basal insulin is recommended. (C)
- A plan for treating hypoglycemia should be established for each patient. Episodes of hypoglycemia in the hospital should be tracked. (E)
- All patients with diabetes admitted to the hospital should have an A1C obtained for discharge planning if the result of testing in the previous 2–3 months is not available. (E)
- A diabetes education plan including "survival skills education" and follow-up should be developed for each patient. (E)
- Patients with hyperglycemia in the hospital who do not have a diagnosis of diabetes should have appropriate plans for follow-up testing and care documented at discharge. (E)

The management of diabetes in the hospital is extensively reviewed in an ADA technical review by Clement et al. (196). This review forms the basis for these guidelines. In addition, the American Association of Clinical Endocrinologists held a conference on this topic (197), and the recommendations from this meeting (198) were also carefully reviewed and discussed in the formulation of the guidelines that follow. The management of diabetes in the hospital is generally considered secondary in importance compared with the condition that prompted admission (199).

Patients with hyperglycemia fall into three categories:

- Medical history of diabetes: diabetes has been previously diagnosed and acknowledged by the patient's treating physician.
- Unrecognized diabetes: hyperglycemia (fasting blood glucose 126 mg/dl or random blood glucose 200 mg/dl) occurring during hospitalization and confirmed as diabetes after hospitalization by standard diagnostic criteria but unrecognized as diabetes by the treating physician during hospitalization.
- Hospital-related hyperglycemia: hyperglycemia (fasting blood glucose 126 mg/dl or random blood glucose ≥200 mg/dl) occurring during the hospitalization that reverts to normal after hospital discharge.

The prevalence of diabetes in hospitalized adult patients is not precisely known. In the year 2000, 12.4% of hospital discharges in the U.S. listed diabetes as a diagnosis. The prevalence of diabetes in hospitalized adults is conservatively estimated at 12–25%, depending on the thoroughness used in identifying patients. Patients presenting to hospitals may have diabetes, unrecognized diabetes, or hospital-related hyperglycemia. Using the A1C test may be a valuable case-finding tool for identifying diabetes in hospitalized patients. In the year 2003, there were 5.1 million hospitalizations for diabetes as any-listed diagnosis. By way of comparison, in 1980 there were 2.2 million hospitalizations for those having diabetes (200).

A rapidly growing body of literature supports targeted glucose control in the hospital setting with potential for improved mortality, morbidity, and health care economic outcomes. Hyperglycemia in the hospital may result from stress, decompensation of type 1 diabetes, type 2 diabetes, or other forms of diabetes and/or may be iatrogenic due to administration or withholding of pharmacologic agents, including glucocorticoids, vasopressors, etc. Distinction between decompensated diabetes and stress hyperglycemia is often not made.

1. Blood glucose targets

a. General medicine and surgery. Observational studies suggest an association between hyperglycemia and increased mortality. General medical and surgical patients with a blood glucose value(s) >220 mg/dl (12.2 mmol/l) have higher infection rates (201).

When admissions on general medicine and surgery units were studied, patients with new hyperglycemia had significantly increased inhospital mortality, as did patients with known diabetes. In addition, length of stay was higher for the new hyperglycemic group, and both the patients with new hyperglycemia and those with known diabetes were more likely to require intensive care unit (ICU) care and transitional or nursing home care. Better outcomes were demonstrated in patients with fasting and admission blood glucose <126 mg/dl (7 mmol/l) and all random blood glucose levels <200 mg/dl (11.1 mmol/l) (202).

b. CVD and critical care. The relationship of blood glucose levels and mortality in the setting of acute myocardial infarction (AMI) has been reported. A meta-analysis of 15 previously published studies compared in-hospital mortality and CHF in both hyper- and normoglycemic patients with and without diabetes. In subjects without known diabetes whose admission blood glucose was 109.8 mg/dl (6.1 mmol/l), the relative risk for in-hospital mortality was increased significantly. When diabetes was present and admission glucose 180 mg/dl (10 mmol/l), risk of death was moderately increased compared with patients who had diabetes but no hyperglycemia on admission (203). In another study (204), admission blood glucose values were analyzed in consecutive patients with AMI. Analysis revealed an independent association of admission blood glucose and mortality. The 1-year mortality rate was significantly lower in subjects with admission plasma glucose <100.8 mg/dl (5.6 mmol/l) than in those with plasma glucose 199.8 mg/dl (11 mmol/l).

It is important to note that these studies focused more on admission blood glucose as a predictor of outcomes rather than inpatient diabetes or glycemic management per se. Higher admission plasma glucose levels in patients with a prior history of diabetes could reflect the degree of glycemic control experienced in the outpatient setting, thus linking attention to outpatient glycemic control to outcomes in the inpatient population. In patients without a prior history of diabetes, this could represent case finding of patients previously undiagnosed with diabetes who have the disease, an unmasking of risk in a population at high risk for diabetes, or possibly more severe illness at admission.

In the first DIGAMI (Diabetes and In-

sulin-Glucose Infusion in Acute Myocardial Infarction) study (84,205), insulin-glucose infusion followed by subcutaneous insulin treatment in diabetic patients with AMI was examined. Intensive subcutaneous insulin therapy for ≥3 months improved long-term survival (84). Mean blood glucose in the intensive insulin intervention arm was 172.8 mg/dl (9.6 mmol/l) (compared with 210.6 mg/dl [11.7 mmol/l] in the "conventional" group). The broad range of blood glucose levels within each arm limits the ability to define specific blood glucose target thresholds.

Finally, two more recent studies (206,207) using an insulin-glucose infusion did not show a reduction in mortality in the intervention groups. However, in both of these studies, blood glucose levels were positively correlated with mortality.

c. Cardiac surgery. Attainment of targeted glucose control in the setting of cardiac surgery is associated with reduced mortality and risk of deep sternal wound infections in cardiac surgery patients with diabetes (208,209) and supports the concept that perioperative hyperglycemia is an independent predictor of infection in patients with diabetes (210), with the lowest mortality in patients with blood glucose <150 mg/dl (8.3 mmol/l) (211).

d. Critical care. A mixed group of patients with and without diabetes admitted to a surgical ICU were randomized to receive intensive insulin therapy (target blood glucose 80–110 mg/dl [4.4–6.1 mmol/l]). The mean blood glucose of 103 mg/dl (5.7 mmol/l) had reduced mortality during the ICU stay and decreased overall in-hospital mortality (85). Hospital and ICU survival were linearly associated with ICU glucose levels, with the highest survival rates occurring in patients achieving an average blood glucose <110 mg/dl (6.1 mmol/l) (212).

The same group subsequently studied a similar population of patients in a medical ICU (213). As in the SICU (Surgical Intensive Care Unit) study, one group received intensive insulin therapy [mean blood glucose 110 mg/dl (6.1 mmol/l)] while the other received conventional therapy [mean blood glucose 161 mg/dl (8.9 mmol/l). The group receiving the intensive therapy had reduced morbidity but not mortality among all patients in the MICU. However, death was reduced for those patients who were treated for longer than 3 days. These patients could not be identified before therapy.

2. Treatment options

a. Noninsulin glucose-lowering agents. No large studies have investigated the potential roles of various oral agents on outcomes in hospitalized patients with diabetes. While the various classes of oral agents are commonly used in the outpatient setting with good response, their use in the inpatient setting presents some specific issues.

i. *Sulfonylureas and meglitinides*. The long action and predisposition to hypoglycemia in patients not consuming their normal nutrition serve as relative contraindications to routine use of sulfonylureas in the hospital for many patients (214). Sulfonylureas do not generally allow rapid dose adjustment to meet the changing inpatient needs. Sulfonylureas also vary in duration of action between individuals and likely vary in the frequency with which they induce hypoglycemia. While the two available meglitinides, repaglinide and neteglinide, theoretically would produce less hypoglycemia than sulfonylureas, lack of clinical trial data for these agents would preclude their use.

ii. *Metformin*. The major limitation to metformin use in the hospital is a number of specific contraindications to its use, many of which occur in the hospital. All of these contraindications relate to lactic acidosis, a potentially fatal complication of metformin therapy. The most common risk factors for lactic acidosis in metformin-treated patients are cardiac disease, including CHF, hypoperfusion, renal insufficiency, old age, and chronic pulmonary disease (215). Recent evidence continues to indicate lactic acidosis is a rare complication (216), despite the relative frequency of risk factors (217). However, in the hospital, where the risk for hypoxia, hypoperfusion, and renal insufficiency is much higher, it still seems prudent to avoid the use of metformin in most patients.

iii. *TZDs*. TZDs are not suitable for initiation in the hospital because of their delayed onset of effect. In addition, they do increase intravascular volume, a particular problem in those predisposed to CHF and potentially a problem for patients with hemodynamic changes related to admission diagnoses (e.g., acute coronary ischemia) or interventions common in hospitalized patients.

iv. *Pramlintide and exenatide*. These drugs work mainly by reducing postprandial hyperglycemia. Therefore, they would not be appropriate for patients not eating (NPO) or with reduced caloric consumption. Furthermore, it would generally be inappropriate to initiate these drugs in the inpatient setting due to all of the differences in normal food intake, in addition to the fact that both of these agents result in nausea as the most common side effect. In general, these agents should be initiated when the patient is not ill in the outpatient setting.

In summary, each of the major classes of oral agents has significant limitations for inpatient use. Additionally, they provide little flexibility or opportunity for titration in a setting where acute changes demand these characteristics. Therefore, insulin, when used properly, may have many advantages in the hospital setting.

b. Insulin. The inpatient insulin regimen must be matched or tailored to the specific clinical circumstance of the individual patient. A recent meta-analysis concluded that insulin therapy in critically ill patients had a beneficial effect on short-term mortality in different clinical settings (218).

i. *Subcutaneous insulin therapy*. Subcutaneous insulin therapy may be used to attain glucose control in most hospitalized patients with diabetes. The components of the daily insulin dose requirement can be met by a variety of insulins, depending on the particular hospital situation. Subcutaneous insulin therapy is subdivided into programmed or scheduled insulin and supplemental or correction-dose insulin. Correction-dose insulin therapy is an important adjunct to scheduled insulin, both as a dose-finding strategy and as a supplement when rapid changes in insulin requirements lead to hyperglycemia. If correction doses are frequently required, it is recommended that the appropriate scheduled insulin doses be increased the following day to accommodate the increased insulin needs (219). There are no studies comparing human regular insulin with rapid-acting analogs for use as correction-dose insulin. However, due to the longer duration with human regular insulin, there is a greater risk of "insulin stacking" when the usual next blood glucose measurement is performed 4–6 h later.

The traditional sliding-scale insulin regimens, usually consisting of regular insulin without any intermediate or long-acting insulins, have been shown to be ineffective when used as monotherapy in patients with an established insulin re-

quirement (219–221). Problems cited with sliding-scale insulin regimens are that the sliding-scale regimen prescribed on admission is likely to be used throughout the hospital stay without modification (219). Second, sliding-scale insulin therapy treats hyperglycemia after it has already occurred, instead of preventing the occurrence of hyperglycemia. This "reactive" approach can lead to rapid changes in blood glucose levels, exacerbating both hyper- and hypoglycemia.

ii. *Intravenous insulin infusion*. The only method of insulin delivery specifically developed for use in the hospital is continuous intravenous infusion, using regular crystalline insulin. There is no advantage to using insulin lispro or aspart in an intravenous insulin infusion. The medical literature supports the use of intravenous insulin infusion in preference to the subcutaneous route of insulin administration for several clinical indications among nonpregnant adults. These include DKA and nonketotic hyperosmolar state; general preoperative, intraoperative, and postoperative care; the postoperative period following heart surgery; following organ transplantation; with cardiogenic shock; exacerbated hyperglycemia during high-dose glucocorticoid therapy; patients who are NPO or in critical care illness in general; and as a dose-finding strategy in anticipation of initiation or reinitiation of subcutaneous insulin therapy in type 1 or type 2 diabetes.

Many institutions use insulin infusion algorithms that can be implemented by nursing staff. Algorithms should incorporate the concept that maintenance requirements differ between patients and change over the course of treatment. Although numerous algorithms have been published, there have been no head-to-head comparisons, and thus no single algorithm can be recommended for an individual hospital. Ideally, intravenous insulin algorithms should consider both the current and previous glucose level, the rate of change of plasma glucose, and the current IV insulin infusion rate. For all algorithms, frequent bedside glucose testing is required but the ideal frequency is not known.

iii. *Transition from intravenous to subcutaneous insulin therapy*. There are no specific clinical trials examining how to best transition from intravenous to subcutaneous insulin or which patients with type 2 diabetes may be transitioned to oral agents. For those who will require subcutaneous insulin, it is necessary to administer short- or rapid-acting insulin subcutaneously 1–2 h before discontinuation of the intravenous insulin infusion. An intermediate- or long-acting insulin must be injected 2–3 h before discontinuing the insulin infusion. In transitioning from intravenous insulin infusion to subcutaneous therapy, the caregiver may order subcutaneous insulin with appropriate duration of action to be administered as a single dose or repeatedly to maintain basal effect until the time of day when the choice of insulin or analog preferred for basal effect normally would be provided.

3. Self-management in the hospital

Self-management in the hospital may be appropriate for competent adult patients who have a stable level of consciousness and reasonably stable known daily insulin requirements and successfully conduct self-management of diabetes at home, have physical skills appropriate to successfully self-administer insulin, perform SMBG, and have adequate oral intake. Appropriate patients are those already proficient in carbohydrate counting, use of multiple daily injections of insulin or insulin pump therapy, and sick-day management. The patient and physician in consultation with nursing staff must agree that patient self-management is appropriate under the conditions of hospitalization. For patients who are selected for self-management in the hospital, it is important that basal and bolus doses of insulin with results of bedside glucose monitoring be recorded as part of the patient's hospital medical record.

While many institutions allow patients on an insulin pump to continue these devices in the hospital, others express concern regarding use of a device that nurses are unfamiliar with, particularly in patients who are not able to manage their own pump therapy. If a patient is too ill to self-manage either multiple daily injections or CSII, then appropriate subcutaneous doses can be calculated on the basis of their basal and bolus insulin doses during hospitalization with adjustments for changes in nutritional or metabolic status.

4. Preventing hypoglycemia

Hypoglycemia, especially in insulin-treated patients, is the leading limiting factor in the glycemic management of type 1 and type 2 diabetes (86). In the hospital, multiple additional risk factors for hypoglycemia are present, even among patients who are neither "brittle" nor tightly controlled. Patients who do not have diabetes may experience hypoglycemia in the hospital, in association with factors such as altered nutritional state, heart failure, renal or liver disease, malignancy, infection, or sepsis (222). Patients having diabetes may develop hypoglycemia in association with the same conditions (223). Additional triggering events leading to iatrogenic hypoglycemia include sudden reduction of corticosteroid dose, altered ability of the patient to self-report symptoms, reduction of oral intake, emesis, new NPO status, reduction of rate of administration of intravenous dextrose, and unexpected interruption of enteral feedings or parenteral nutrition. Altered consciousness from anesthesia may also alter typical hypoglycemic symptoms.

Despite the preventable nature of many inpatient episodes of hypoglycemia, institutions are more likely to have nursing protocols for the treatment of hypoglycemia than for its prevention.

5. Diabetes care providers

Diabetes management may be effectively offered by primary care physicians or hospitalists, but involvement of appropriately trained specialists or specialty teams may reduce length of stay, improve glycemic control, and improve outcomes (224–227). In the care of diabetes, implementation of standardized order sets for scheduled and correction-dose insulin may reduce reliance on sliding-scale management. A team approach is needed to establish hospital pathways. To implement intravenous infusion of insulin for the majority of patients having prolonged NPO status, hospitals will need multidisciplinary support for using insulin infusion therapy outside of critical care units or will need to develop protocols for subcutaneous insulin therapy that achieve similar glycemic goals (228).

6. DSME

Teaching diabetes self-management to patients in hospitals is a difficult and challenging task. Patients are hospitalized because they are ill, are under increased stress related to their hospitalization and diagnosis, and are in an environment that is not conducive to learning. Ideally, people with diabetes should be taught at a time and place conducive to learning: as an outpatient in a nationally recognized program of diabetes education classes.

For the hospitalized patient, diabetes "survival skills" education is generally considered a feasible approach. Patients are taught sufficient information to enable them to go home safely. Those newly diagnosed with diabetes or who are new to insulin and or blood glucose monitoring need to be instructed before discharge to help ensure safe care upon returning home. Those patients hospitalized because of a crisis related to diabetes management or poor care at home need education to hopefully prevent subsequent episodes of hospitalization.

7. MNT

Even though hospital diets continue to be ordered by calorie levels based on the "ADA diet," it has been recommended that the term "ADA diet" no longer be used (229). Since 1994, the ADA has not endorsed any single meal plan or specified percentages of macronutrients. Current nutrition recommendations advise individualization based on treatment goals, physiologic parameters, and medication usage.

Because of the complexity of nutrition issues, it is recommended that a registered dietitian, knowledgeable and skilled in MNT, serve as the team member who provides MNT. The dietitian is responsible for integrating information about the patient's clinical condition, eating, and lifestyle habits and for establishing treatment goals in order to determine a realistic plan for nutrition therapy (229).

8. Bedside blood glucose monitoring

Implementing intensive diabetes therapy in the hospital setting requires frequent and accurate blood glucose data. This measure is analogous to an additional "vital sign" for hospitalized patients with diabetes. Bedside glucose monitoring using capillary blood has advantages over laboratory venous glucose testing because the results can be obtained rapidly at the "point of care," where therapeutic decisions are made. For this reason, the terms bedside and point-of-care glucose monitoring are used interchangeably.

For patients who are eating, commonly recommended testing frequencies are premeal and at bedtime. For patients not eating, testing every 4–6 h is usually sufficient for determining correction insulin doses. Patients controlled with continuous intravenous insulin typically require hourly blood glucose testing until the blood glucose levels are stable, then every 2 h.

Bedside blood glucose testing is usually performed with portable glucose devices that are identical or similar to devices for home SMBG. Ability to track the occurrence of hypo- and hyperglycemia is necessary.

9. Continuous blood glucose monitoring

The introduction of real-time blood glucose monitoring as a tool for outpatient diabetes management has potential benefit for the inpatient population (230). However, at this time, data are lacking examining this new technology in the acutely ill patient population. Until more studies are published, it is premature to use continuous blood glucose monitoring except in a research setting.

B. Diabetes care in the school and day care setting (184)

Recommendations

- An individualized diabetes medical management plan (DMMP) should be developed by the parent/guardian and the student's diabetes health care team. (E)
- A 504 plan should be developed and implemented by the family, school nurse, and diabetes health care team. (E)
- An adequate number of school personnel should be trained in the necessary diabetes procedures (including monitoring of blood glucose levels and administration of insulin and glucagon) and in the appropriate response to high and low blood glucose levels. These school personnel need not be health care professionals. (E)
- The student with diabetes should have immediate access to diabetes supplies at all times, with supervision as needed. (E)
- The student should be permitted to monitor his or her blood glucose level, as developmentally appropriate and determined by the family and diabetes health care team with input by the school nurse, and take appropriate action to treat hypoglycemia in the classroom or anywhere the student is in conjunction with a school activity if indicated in the student's DMMP. (E)

There are ~206,000 individuals <20 years of age with diabetes in the U.S., most of whom attend school and/or some type of day care and need knowledgeable staff to provide a safe environment. Despite legal protections, children in the school and day care setting still face discrimination. Parents and the health care team should provide school systems and day care providers with the information necessary by developing an individualized DMMP, including information necessary for children with diabetes to participate fully and safely in the school/day care experience. Appropriate diabetes care in the school and day care setting is necessary for the child's immediate safety, long-term well-being, and optimal academic performance.

An adequate number of school personnel should be trained in the necessary diabetes procedures (e.g., blood glucose monitoring and insulin and glucagon administration) and in the appropriate response to high and low blood glucose levels. This will ensure that at least one adult is present to perform these procedures in a timely manner while the student is at school, on field trips, and during extracurricular activities or other school-sponsored events. These school personnel need not be health care professionals.

The student with diabetes should have immediate access to diabetes supplies at all times, with supervision as needed. A student with diabetes should be able to obtain a blood glucose level and respond to the results as quickly and conveniently as possible, minimizing the need for missing instruction in the classroom. Accordingly, a student who is capable of doing so should be permitted to monitor his or her blood glucose level and take appropriate action to treat hypoglycemia in the classroom or designated area adjacent to the classroom or anywhere the student is in conjunction with a school activity. The student's desire for privacy during testing should also be accommodated.

C. Diabetes care at diabetes camps (231)

Recommendations

- Each camper should have a standardized medical form completed by his/her family and the physician managing the diabetes. (E)
- It is imperative that the medical staff is led by someone with expertise in managing type 1 and type 2 diabetes and includes a nursing staff (including diabetes educators and diabetes clinical nurse specialists) and registered dietitians with expertise in diabetes. (E)
- All camp staff, including medical, nurs-

ing, nutrition, and volunteer, should undergo background testing to ensure appropriateness in working with children. (E)

The concept of specialized residential and day camps for children with diabetes has become widespread throughout the U.S. and many other parts of the world. The mission of camps specialized for children and youth with diabetes is to allow for a camping experience in a safe environment. An equally important goal is to enable children with diabetes to meet and share their experiences with one another while they learn to be more personally responsible for their disease. For this to occur, a skilled medical and camping staff must be available to ensure optimal safety and an integrated camping/educational experience.

The diabetes camping experience is short term and is most often associated with increased physical activity relative to that experienced while at home. Thus, goals of glycemic control are more related to the avoidance of extremes in blood glucose levels than to the optimization of intensive glycemic control while away at camp.

Each camper should have a standardized medical form completed by his/her family and the physician managing the diabetes that details the camper's past medical history, immunization record, and diabetes regimen. The home insulin dosage should be recorded for each camper, including number and timing of injections or basal and bolus dosages given by CSII and type(s) of insulin used.

During camp, a daily record of the camper's progress should be made. All blood glucose levels and insulin dosages should be recorded. To ensure safety and optimal diabetes management, multiple blood glucose determinations should be made throughout each 24-h period: before meals, at bedtime, after or during prolonged and strenuous activity, and in the middle of the night when indicated for prior hypoglycemia. If major alterations of a camper's regimen appear to be indicated, it is important to discuss this with the camper and the family in addition to the child's local physician. The record of what transpired during camp should be discussed with the family when the camper is picked up.

A formal relationship with a nearby medical facility should be secured for each camp so that camp medical staff have the ability to refer to this facility for prompt treatment of medical emergencies. It is imperative that the medical staff is led by someone with expertise in managing type 1 and type 2 diabetes. Nursing staff should include diabetes educators and diabetes clinical nurse specialists. Registered dietitians with expertise in diabetes should also have input into the design of the menu and the education program. All camp staff, including medical, nursing, nutrition, and volunteer, should undergo background testing to ensure appropriateness in working with children.

D. Diabetes management in correctional institutions (232)

Recommendations

- Patients with a diagnosis of diabetes should have a complete medical history and undergo an intake physical examination by a licensed health professional in a timely manner. (E)
- Insulin-treated patients should have a capillary blood glucose (CBG) determination within 1–2 h of arrival. (E)
- Medications and MNT should be continued without interruption upon entry into the correctional environment. (E)
- Correctional staff should be trained in the recognition, treatment, and appropriate referral for hypo- and hyperglycemia. (E)
- Train staff to recognize symptoms and signs of serious metabolic decompensation and to immediately refer the patient for appropriate medical care. (E)
- Institutions should implement a policy requiring staff to notify a physician of all CBG results outside of a specified range, as determined by the treating physician. (E)
- Identify patients with type 1 diabetes who are at high risk for DKA. (E)
- In the correctional setting, policies and procedures need to be developed and implemented to enable CBG monitoring to occur at the frequency necessitated by the individual patient's glycemic control and diabetes regimen. (E)
- Include diabetes in correctional staff education programs. (E)
- For all interinstitutional transfers, complete a medical transfer summary to be transferred with the patient. (E)
- Diabetes supplies and medication should accompany the patient during transfer. (E)
- Begin discharge planning with adequate lead time to insure continuity of care and facilitate entry into community diabetes care. (E)

At any given time, >2 million people are incarcerated in prisons and jails in the U.S. It is estimated that nearly 80,000 of these inmates have diabetes. In addition, many more people with diabetes pass through the corrections system in a given year.

People with diabetes in correctional facilities should receive care that meets national standards. Correctional institutions have unique circumstances that need to be considered so that all standards of care may be achieved. Correctional institutions should have written policies and procedures for the management of diabetes and for training of medical and correctional staff in diabetes care practices.

Reception screening should emphasize patient safety. In particular, rapid identification of all insulin-treated individuals with diabetes is essential in order to identify those at highest risk for hypo- and hyperglycemia and DKA. All insulin-treated patients should have a CBG determination within 1–2 h of arrival. Patients with a diagnosis of diabetes should have a complete medical history and physical examination by a licensed health care provider with prescriptive authority in a timely manner. It is essential that medication and MNT be continued without interruption upon entry into the correctional system, as a hiatus in either medication or appropriate nutrition may lead to either severe hypo- or hyperglycemia.

All patients must have access to prompt treatment of hypo- and hyperglycemia. Correctional staff should be trained in the recognition and treatment of hypo- and hyperglycemia, and appropriate staff should be trained to administer glucagon. Institutions should implement a policy requiring staff to notify a physician of all CBG results outside of a specified range, as determined by the treating physician.

Correctional institutions should have systems in place to ensure that insulin administration and meals are coordinated to prevent hypo- and hyperglycemia, taking into consideration the transport of residents off site and the possibility of emergency schedule changes.

Monitoring of CBG is a strategy that allows caregivers and people with diabetes to evaluate diabetes management regimens. The frequency of monitoring will

vary by patients' glycemic control and diabetes regimens. Policies and procedures should be implemented to ensure that the health care staff has adequate knowledge and skills to direct the management and education of individuals with diabetes.

Patients in jails may be housed for a short period of time before being transferred or released, and it is not unusual for patients in prison to be transferred within the system several times during their incarceration. Transferring a patient with diabetes from one correctional facility to another requires a coordinated effort as does planning for discharge.

E. Emergency and disaster preparedness

People with diabetes should always be prepared for emergencies whether natural or otherwise, affecting the nation/state or just them and their families. Such preparedness will lessen the impact an emergency may have on their condition. It is recommended that people with diabetes keep a waterproof and insulated disaster kit ready with items critically important to their self-management. These include glucose testing strips, lancets, and a glucose-testing meter; medications including insulin in a cool bag; syringes; glucose tabs or gels; antibiotic ointments/creams for external use; and glucagon emergency kits. In addition, it may be important to carry a list of contacts for national organizations, such as the ADA, through their help lines or the Internet, and photocopies of relevant medical information, particularly medication lists, and recent lab tests/procedures if available. If possible, prescription numbers should be noted, since many chain pharmacies throughout the country may be able to refill medications based on the prescription number alone. This disaster kit should be reviewed and replenished at least twice yearly.

IX. HYPOGLYCEMIA AND EMPLOYMENT/LICENSURE

Recommendations

- People with diabetes should be individually considered for employment based on the requirements of the specific job and the individual's medical condition, treatment regimen, and medical history. (E)

Any person with diabetes, whether insulin treated or non–insulin treated, should be eligible for any employment for which he/she is otherwise qualified. Despite the significant medical and technological advances made in managing diabetes, discrimination in employment and licensure against people with diabetes still occurs. This discrimination is often based on apprehension that the person with diabetes may present a safety risk to the employer or the public, a fear sometimes based on misinformation or lack of up-to-date knowledge about diabetes. Perhaps the greatest concern is that hypoglycemia will cause sudden unexpected incapacitation. However, most people with diabetes can manage their condition in such a manner that there is minimal risk of incapacitation from hypoglycemia.

Because the effects of diabetes are unique to each individual, it is inappropriate to consider all people with diabetes the same. People with diabetes should be individually considered for employment based on the requirements of the specific job. Factors to be weighed in this decision include the individual's medical condition, treatment regimen (MNT, oral glucose-lowering agent, and/or insulin), and medical history, particularly in regard to the occurrence of incapacitating hypoglycemic episodes.

X. THIRD-PARTY REIMBURSEMENT FOR DIABETES CARE, SELF-MANAGEMENT EDUCATION, AND SUPPLIES (233)

Recommendations

- Patients and practitioners should have access to all classes of antidiabetic medications, equipment, and supplies without undue controls. (E)
- MNT and DSME should be covered by insurance and other payors. (E)

To achieve optimal glucose control, the person with diabetes must be able to access health care providers who have expertise in the field of diabetes. Treatments and therapies that improve glycemic control and reduce the complications of diabetes will also significantly reduce health care costs. Access to the integral components of diabetes care, such as health care visits, diabetes supplies and medications, and self-management education, is essential. All medications and supplies, such as syringes, strips, and meters, related to the daily care of diabetes must also be reimbursed by third-party payors.

It is recognized that the use of formularies, prior authorization, and related provisions, such as competitive bidding, can manage provider practices as well as costs to the potential benefit of payors and patients. However, any controls should ensure that all classes of antidiabetic agents with unique mechanisms of action and all classes of equipment and supplies designed for use with such equipment are available to facilitate achieving glycemic goals and to reduce the risk of complications. To reach diabetes treatment goals, practitioners should have access to all classes of antidiabetic medications, equipment, and supplies without undue controls. Without appropriate safeguards, these controls could constitute an obstruction of effective care.

Medicare and many other third-party payors cover DSME (diabetes self-management training [DSMT]) and MNT. The qualified beneficiary, who meets the diagnostic criteria and medical necessity, can receive an initial benefit of 10 h of DSMT and 3 h of MNT with a potential total of 13 h of initial education as long as the services are not provided on the same date. However, not all Medicare beneficiaries with a diagnosis of diabetes will qualify for both MNT and DSMT benefits. More information on Medicare policy, including follow-up benefits, is available at www.diabetes.org/for-health-professionals-and-scientists/recognition.jsp. Or visit CMS websites: DSME, www.cms.hhs.gov/DiabetesSelfManagement; and diabetes MNT, www.cms.hhs.gov/MedicalNutritionTherapy reimbursement.

XI. STRATEGIES FOR IMPROVING DIABETES CARE

The implementation of the standards of care for diabetes has been suboptimal in most clinical settings. A recent report (26) indicated that only 37% of adults with diagnosed diabetes achieved an A1C of $<7\%$, only 36% had a blood pressure $<130/80$ mmHg, and just 48% had a cholesterol <200 mg/dl. Most distressing was that only 7.3% of diabetes subjects achieved all three treatment goals.

While numerous interventions to improve adherence to the recommended standards have been implemented, the challenge of providing uniformly effective diabetes care has thus far defied a simple solution. A major contributor to suboptimal care is a delivery system that too often is fragmented, lacks clinical information capabilities, often duplicates services, and is poorly designed for the delivery of

chronic care. The Institute of Medicine has called for changes so that delivery systems provide care that is evidence based, patient centered, and systems oriented and takes advantage of information technologies that foster continuous quality improvement. Collaborative, multidisciplinary teams should be best suited to provide such care for people with chronic conditions like diabetes and to empower patients' performance of appropriate self-management. Alterations in reimbursement that reward the provision of quality care, as defined by the attainment of quality measures developed by such activities as the ADA/National Committee for Quality Assurance Diabetes Provider Recognition Program will also be required to achieve desired outcome goals.

The NDEP recently launched a new online resource to help health care professionals better organize their diabetes care. The www.betterdiabetescare.nih.gov website should help users design and implement more effective health care delivery systems for those with diabetes.

In recent years, numerous health care organizations, ranging from large health care systems such as the U.S. Veteran's Administration to small private practices, have implemented strategies to improve diabetes care. Successful programs have published results showing improvement in important outcomes such as A1C measurements and blood pressure and lipid determinations as well as process measures such as provision of eye exams. Successful interventions have been focused at the level of health care professionals, delivery systems, and patients. Features of successful programs reported in the literature include:

- Improving health care professional education regarding the standards of care through formal and informal education programs.
- Delivery of DSME, which has been shown to increase adherence to standard of care.
- Adoption of practice guidelines, with participation of health care professionals in the process. Guidelines should be readily accessible at the point of service, such as on patient charts, in examining rooms, in "wallet or pocket cards," on PDAs, or on office computer systems. Guidelines should begin with a summary of their major recommendations instructing health care professionals what to do and how to do it.
- Use of checklists that mirror guidelines have been successful at improving adherence to standards of care.
- Systems changes, such as provision of automated reminders to health care professionals and patients, reporting of process and outcome data to providers, and especially identification of patients at risk because of failure to achieve target values or a lack of reported values.
- Quality improvement programs combining continuous quality improvement or other cycles of analysis and intervention with provider performance data.
- Practice changes, such as clustering of dedicated diabetes visits into specific times within a primary care practice schedule and/or visits with multiple health care professionals on a single day and group visits.
- Tracking systems with either an electronic medical record or patient registry have been helpful at increasing adherence to standards of care by prospectively identifying those requiring assessments and/or treatment modifications. They likely could have greater efficacy if they suggested specific therapeutic interventions to be considered for a particular patient at a particular point in time (234).
- A variety of nonautomated systems, such as mailing reminders to patients, chart stickers, and flow sheets, have been useful to prompt both providers and patients.
- Availability of case or (preferably) care management services, usually by a nurse. Nurses, pharmacists, and other nonphysician health care professionals using detailed algorithms working under the supervision of physicians and/or nurse education calls have also been helpful. Similarly dietitians using MNT guidelines have been demonstrated to improve glycemic control.
- Availability and involvement of expert consultants, such as endocrinologists and diabetes educators.

Evidence suggests that these individual initiatives work best when provided as components of a multifactorial intervention. Therefore, it is difficult to assess the contribution of each component; however, it is clear that optimal diabetes management requires an organized, systematic approach and involvement of a coordinated team of health care professionals.

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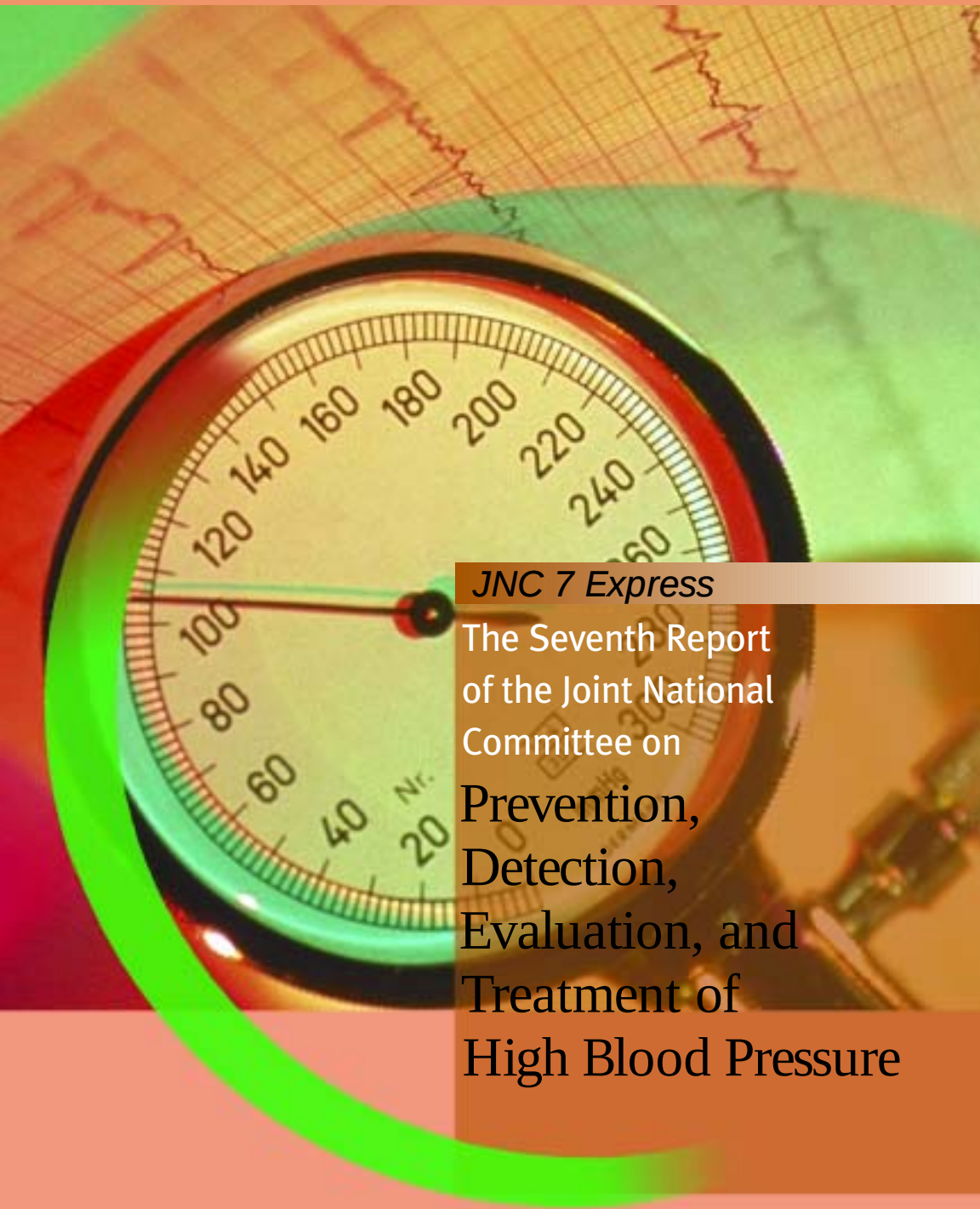

JNC 7 Express

The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health
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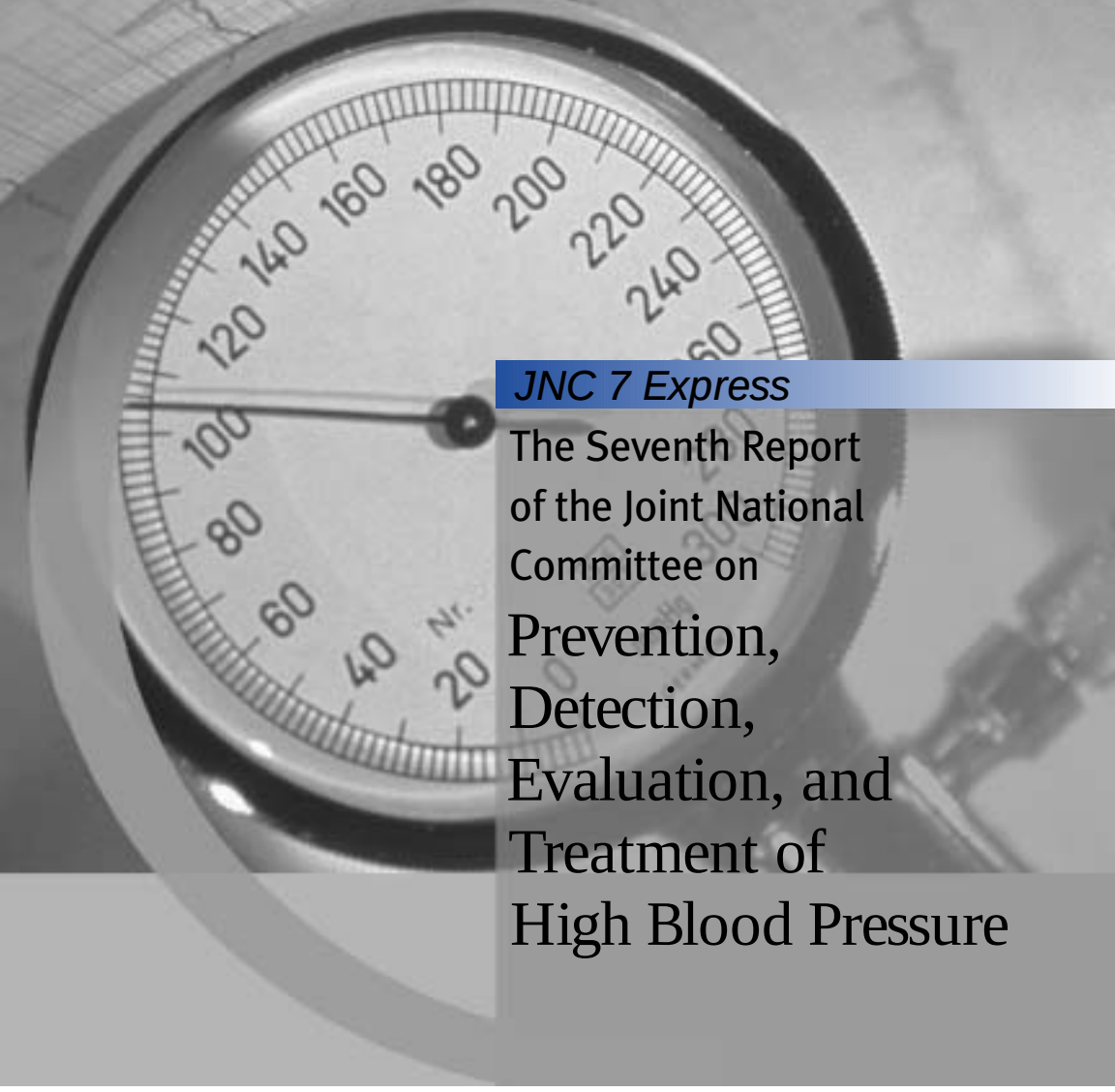

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
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National High Blood Pressure Education Program

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American Academy of Ophthalmology
American Academy of Physician Assistants
American Association of Occupational Health Nurses
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Department of Veterans Affairs
Health Resources and Services Administration
National Center for Health Statistics
National Heart, Lung, and Blood Institute
National Institute of Diabetes and Digestive and Kidney Diseases

CONTENTS

PREFACE

Since the "Sixth Report of the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 6)" was released in 1997, new knowledge has come to light from a variety of sources. The National High Blood Pressure Education Program Coordinating Committee (NHBPEP CC), which represents 46 professional, voluntary, and Federal organizations, has periodically reviewed the emerging findings during its biannual meetings. Eventually, a critical mass of information accumulated that generated much demand for a seventh report. My decision to appoint a JNC 7 Committee was predicated on four reasons: (1) publication of many new hypertension observational studies and clinical trials; (2) need for a new, clear, and concise guideline that would be useful for clinicians; (3) need to simplify the classification of blood pressure; and (4) clear recognition that the JNC reports were not being used to their maximum benefit.

Dr. Aram Chobanian was selected as the JNC 7 chair because, like his predecessors, he is well versed in hypertension, yet independent of these major studies. The JNC 7 Executive Committee and writing teams were selected entirely from the NHBPEP CC because they are recognized as experts in their disciplines by their peers. Dr. Chobanian and his colleagues set—and met—a goal of completing and publishing this work in 5 months because of the urgency of applying the new information to improve hypertension prevention and treatment.

This has been a remarkable accomplishment, but the task of NHBPEP CC numbers is far from over. They and many others are now charged with disseminating the JNC 7 report, because none of this—neither the research studies nor the recommendations—will matter, unless the JNC 7 is applied. To facilitate its application, the JNC 7 will be produced in two versions. A "JNC 7 Express" has been developed for busy clinicians. A longer version to be published later will provide for a broader and more detailed review of the recommendations. Additional professional and patient education tools will support implementation of the JNC 7 recommendations.

Dr. Chobanian has our deep appreciation for leading the JNC 7 Executive and Coordinating Committee members in developing this new report. I feel confident that this represents a landmark document and that its application will greatly improve our ability to address a very important public health problem.

Claude Lenfant, M.D.
Director
National Heart, Lung, and Blood Institute
Chair
National High Blood Pressure Education Program

ABSTRACT

The "Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure" provides a new guideline for hypertension prevention and management. The following are the report's key messages:

- In persons older than 50 years, systolic blood pressure greater than 140 mmHg is a much more important cardiovascular disease (CVD) risk factor than diastolic blood pressure.

- The risk of CVD beginning at 115/75 mmHg doubles with each increment of 20/10 mmHg; individuals who are normotensive at age 55 have a 90 percent lifetime risk for developing hypertension.

- Individuals with a systolic blood pressure of 120–139 mmHg or a diastolic blood pressure of 80–89 mmHg should be considered as prehypertensive and require health-promoting lifestyle modifications to prevent CVD.

- Thiazide-type diuretics should be used in drug treatment for most patients with uncomplicated hypertension, either alone or combined with drugs from other classes. Certain high-risk conditions are compelling indications for the initial use of other antihypertensive drug classes (angiotensin converting enzyme inhibitors, angiotensin receptor blockers, beta-blockers, calcium channel blockers).

- Most patients with hypertension will require two or more antihypertensive medications to achieve goal blood pressure (<140/90 mmHg, or <130/80 mmHg for patients with diabetes or chronic kidney disease).

- If blood pressure is >20/10 mmHg above goal blood pressure, consideration should be given to initiating therapy with two agents, one of which usually should be a thiazide-type diuretic.

- The most effective therapy prescribed by the most careful clinician will control hypertension only if patients are motivated. Motivation improves when patients have positive experiences with, and trust in, the clinician. Empathy builds trust and is a potent motivator.

- In presenting these guidelines, the committee recognizes that the responsible physician's judgment remains paramount.

INTRODUCTION

For more than three decades, the National Heart, Lung, and Blood Institute (NHLBI) has coordinated the National High Blood Pressure Education Program (NHBPEP), a coalition of 39 major professional, public, and voluntary organizations and seven Federal Agencies. One important function is to issue guidelines and advisories designed to increase awareness, prevention, treatment, and control of hypertension (high blood pressure (BP)). Since the publication of the "Sixth Report of the Joint National Committee on the Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 6)" released in 1997,[1] many large-scale clinical trials have been published. The decision to appoint a JNC 7 committee was based on four factors: (1) publication of many new hypertension observational studies and clinical trials; (2) need for a new, clear, and concise guideline that would be useful for clinicians; (3) need to simplify the classification of blood pressure; and (4) clear recognition that the JNC reports were not being used to their maximum benefit. This JNC report is presented in two separate publications: a current, succinct, practical guide and a more comprehensive report to be published separately, which will provide a broader discussion and justification for the current recommendations. In presenting these guidelines, the committee recognizes that the responsible physician's judgment is paramount in managing patients.

METHODOLOGY

Since the publication of the JNC 6 report, the NHBPEP Coordinating Committee (CC), chaired by the director of the NHLBI, has regularly reviewed and discussed the hypertension clinical trials at its biannual meetings. In many instances, the principal investigator of the larger studies has presented the information directly to the CC. The committee's presentations and reviews are summarized and posted on the NHLBI Web site.[2] In agreeing to commission a new report, the Director requested that the CC members provide in writing a detailed rationale explaining the necessity to update the guidelines and to describe the critical issues and concepts to be considered for a new report. The JNC 7 chair was selected, plus a nine-member Executive Committee appointed entirely from the NHBPEP CC membership. The NHBPEP CC served as members of five writing teams, each of which was cochaired by two Executive Committee members. The concepts identified by the NHBPEP CC membership were used to develop the report outline. A timeline was developed to complete and publish the work in 5 months. Based on the identified critical issues and concepts, the Executive Committee identified relevant Medical Subject Headings (MeSH) terms and keywords to further review the

scientific literature. These MeSH terms were used to generate MEDLINE searches that focused on English language peer-reviewed scientific literature from January 1997 through April 2003. Various systems of grading the evidence were considered, and the classification scheme used in the JNC 6 report and other NHBPEP clinical guidelines was selected[3,4] which classifies studies in a process adapted from Last and Abramson.[5] The Executive Committee met on six occasions, two of which included meetings with the entire NHBPEP CC. The writing teams also met by teleconference and used electronic communications to develop the report. Twenty-four drafts were created and reviewed in a reiterative fashion. At its meetings, the Executive Committee used a modified nominal group process to identify and resolve issues. The NHBPEP CC reviewed the penultimate draft and provided written comments to the Executive Committee. In addition, 33 national hypertension leaders reviewed and commented on the document. The NHBPEP CC approved the JNC 7 report.

CLASSIFICATION OF BLOOD PRESSURE

Table 1 provides a classification of BP for adults ages 18 and older. The classification is based on the average of two or more properly measured, seated BP readings on each of two or more office visits. In contrast to the classification provided in the JNC 6 report, a new category designated prehypertension has been added, and stages 2 and 3 hypertension have been combined. Patients with prehypertension are at increased risk for progression to hypertension; those in the 130–139/80–89 mmHg BP range are at twice the risk to develop hypertension as those with lower values.[6]

CARDIOVASCULAR DISEASE RISK

Hypertension affects approximately 50 million individuals in the United States and approximately 1 billion worldwide. As the population ages, the prevalence of hypertension will increase even further unless broad and effective preventive measures are implemented. Recent data from the Framingham Heart Study suggest that individuals who are normotensive at age 55 have a 90 percent lifetime risk for developing hypertension.[7]

The relationship between BP and risk of CVD events is continuous, consistent, and independent of other risk factors. The higher the BP, the greater is the chance of heart attack, heart failure, stroke, and kidney disease. For individu-

Table 1. Classification and management of blood pressure for adults*

BP Classification	SBP* mmHg	DBP* mmHg	Lifestyle Modification	Initial drug therapy	
				Without Compelling Indication	With Compelling Indications (See Table 8)
Normal	<120	and <80	Encourage		
Prehypertension	120–139	or 80–89	Yes	No antihypertensive drug indicated.	Drug(s) for compelling indications.‡
Stage 1 Hypertension	140–159	or 90–99	Yes	Thiazide-type diuretics for most. May consider ACEI, ARB, BB, CCB, or combination.	Drug(s) for the compelling indications.‡ Other antihypertensive drugs (diuretics, ACEI, ARB, BB, CCB) as needed.
Stage 2 Hypertension	≥160	or ≥100	Yes	Two-drug combination for most† (usually thiazide-type diuretic and ACEI or ARB or BB or CCB).	

DBP, diastolic blood pressure; SBP, systolic blood pressure.

Drug abbreviations: ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; BB, beta-blocker; CCB, calcium channel blocker.

* Treatment determined by highest BP category.

† Initial combined therapy should be used cautiously in those at risk for orthostatic hypotension.

‡ Treat patients with chronic kidney disease or diabetes to BP goal of <130/80 mmHg.

als 40–70 years of age, each increment of 20 mmHg in systolic BP (SBP) or 10 mmHg in diastolic BP (DBP) doubles the risk of CVD across the entire BP range from 115/75 to 185/115 mmHg.[8]

The classification "prehypertension," introduced in this report (table 1), recognizes this relationship and signals the need for increased education of health care professionals and the public to reduce BP levels and prevent the development of hypertension in the general population.[9] Hypertension prevention strategies are available to achieve this goal. (See "Lifestyle Modifications" section.)

BENEFITS OF LOWERING BLOOD PRESSURE

In clinical trials, antihypertensive therapy has been associated with reductions in stroke incidence averaging 35–40 percent; myocardial infarction, 20–25 percent; and heart failure, more than 50 percent.[10] It is estimated that in patients with stage 1 hypertension (SBP 140–159 mmHg and/or DBP 90–99 mmHg) and additional cardiovascular risk factors, achieving a sustained 12 mmHg reduction in SBP over 10 years will prevent 1 death for every 11 patients treated. In the presence of CVD or target organ damage, only 9 patients would require such BP reduction to prevent a death.[11]

Table 2. Trends in awareness, treatment, and control of high blood pressure in adults ages 18–74*

	National Health and Nutrition Examination Survey, Percent			
	II (1976–80)	III (Phase 1 1988–91)	III (Phase 2 1991–94)	1999–2000
Awareness	51	73	68	70
Treatment	31	55	54	59
Control†	10	29	27	34

* High blood pressure is systolic blood pressure (SBP) ≥140 mmHg or diastolic blood pressure (DBP) ≥90 mmHg or taking antihypertensive medication.

† SBP <140 mmHg and DBP <90 mmHg.

Sources: Unpublished data for 1999–2000 computed by M. Wolz, National Heart, Lung, and Blood Institute; JNC 6.[1]

BLOOD PRESSURE CONTROL RATES

Hypertension is the most common primary diagnosis in America (35 million office visits as the primary diagnosis).[12] Current control rates (SBP <140 mmHg and DBP <90 mmHg), though improved, are still far below the Healthy People 2010 goal of 50 percent; 30 percent are still unaware they have hypertension. (See table 2.) In the majority of patients, controlling systolic hypertension, which is a more important CVD risk factor than DBP except in patients younger than age 50[13] and occurs much more commonly in older persons, has been considerably more difficult than controlling diastolic hypertension. Recent clinical trials have demonstrated that effective BP control can be achieved in most patients who are hypertensive, but the majority will require two or more antihypertensive drugs.[14,15] When clinicians fail to prescribe lifestyle modifications, adequate antihypertensive drug doses, or appropriate drug combinations, inadequate BP control may result.

ACCURATE BLOOD PRESSURE MEASUREMENT IN THE OFFICE

The auscultatory method of BP measurement with a properly calibrated and validated instrument should be used.[16] Persons should be seated quietly for at least 5 minutes in a chair (rather than on an exam table), with feet on the floor, and arm supported at heart level. Measurement of BP in the standing position is indicated periodically, especially in those at risk for postural hypotension. An appropriate-sized cuff (cuff bladder encircling at least 80 percent of the arm) should be used to ensure accuracy. At least two measurements should be made. SBP is the point at which the first of two or more sounds is heard

(phase 1), and DBP is the point before the disappearance of sounds (phase 5). Clinicians should provide to patients, verbally and in writing, their specific BP numbers and BP goals.

AMBULATORY BLOOD PRESSURE MONITORING

Ambulatory blood pressure monitoring (ABPM)[17] provides information about BP during daily activities and sleep. ABPM is warranted for evaluation of "white-coat" hypertension in the absence of target organ injury. It is also helpful to assess patients with apparent drug resistance, hypotensive symptoms with antihypertensive medications, episodic hypertension, and autonomic dysfunction. The ambulatory BP values are usually lower than clinic readings. Awake, individuals with hypertension have an average BP of more than 135/85 mmHg and during sleep, more than 120/75 mmHg. The level of BP measurement by using ABPM correlates better than office measurements with target organ injury.[18] ABPM also provides a measure of the percentage of BP readings that are elevated, the overall BP load, and the extent of BP reduction during sleep. In most individuals, BP decreases by 10 to 20 percent during the night; those in whom such reductions are not present are at increased risk for cardiovascular events.

SELF-MEASUREMENT OF BLOOD PRESSURE

BP self measurements may benefit patients by providing information on response to antihypertensive medication, improving patient adherence with therapy,[19] and in evaluating white-coat hypertension. Persons with an average BP more than 135/85 mmHg measured at home are generally considered to be hypertensive. Home measurement devices should be checked regularly for accuracy.

PATIENT EVALUATION

Evaluation of patients with documented hypertension has three objectives: (1) to assess lifestyle and identify other cardiovascular risk factors or concomitant disorders that may affect prognosis and guide treatment (table 3); (2) to reveal identifiable causes of high BP (table 4); and (3) to assess the presence or absence of target organ damage and CVD. The data needed are acquired through medical history, physical examination, routine laboratory tests, and other diagnostic procedures. The physical examination should

Table 3. Cardiovascular risk factors

Major Risk Factors
Hypertension*
Cigarette smoking
Obesity* (body mass index ≥30 kg/m^2)
Physical inactivity
Dyslipidemia*
Diabetes mellitus*
Microalbuminuria or estimated GFR <60 mL/min
Age (older than 55 for men, 65 for women)
Family history of premature cardiovascular disease (men under age 55 or women under age 65)

Target Organ Damage
Heart • Left ventricular hypertrophy • Angina or prior myocardial infarction • Prior coronary revascularization • Heart failure
Brain • Stroke or transient ischemic attack
Chronic kidney disease
Peripheral arterial disease
Retinopathy

GFR, glomerular filtration rate.

* Components of the metabolic syndrome.

Table 4. Identifiable causes of hypertension

Sleep apnea
Drug-induced or related causes (see table 9)
Chronic kidney disease
Primary aldosteronism
Renovascular disease
Chronic steroid therapy and Cushing's syndrome
Pheochromocytoma
Coarctation of the aorta
Thyroid or parathyroid disease

include an appropriate measurement of BP, with verification in the contralateral arm; examination of the optic fundi; calculation of body mass index (BMI) (measurement of waist circumference also may be useful); auscultation for carotid, abdominal, and femoral bruits; palpation of the thyroid gland; thorough examination of the heart and lungs; examination of the abdomen for enlarged kidneys, masses, and abnormal aortic pulsation; palpation of the lower extremities for edema and pulses; and neurological assessment.

Laboratory Tests and Other Diagnostic Procedures

Routine laboratory tests recommended before initiating therapy include an electrocardiogram; urinalysis; blood glucose and hematocrit; serum potassium, creatinine (or the corresponding estimated glomerular filtration rate [GFR]), and calcium;[20] and a lipid profile, after 9- to 12-hour fast, that includes high-density lipoprotein cholesterol and low-density lipoprotein cholesterol, and triglycerides. Optional tests include measurement of urinary albumin excretion or albumin/creatinine ratio. More extensive testing for identifiable causes is not indicated generally unless BP control is not achieved.

Goals of Therapy

The ultimate public health goal of antihypertensive therapy is the reduction of cardiovascular and renal morbidity and mortality. Since most persons with hypertension, especially those age ≥50 years, will reach the DBP goal once SBP is at goal, the primary focus should be on achieving the SBP goal. Treating SBP and DBP to targets that are <140/90 mmHg is associated with a decrease in CVD complications. In patients with hypertension and diabetes or renal disease, the BP goal is <130/80 mmHg.[21,22]

Lifestyle Modifications

Adoption of healthy lifestyles by all persons is critical for the prevention of high BP and is an indispensable part of the management of those with hypertension. Major lifestyle modifications shown to lower BP include weight reduction in those individuals who are overweight or obese,[23,24] adoption of the Dietary Approaches to Stop Hypertension (DASH) eating plan[25] which is rich in potassium and calcium,[26] dietary sodium reduction,[25–27] physical activity,[28,29] and moderation of alcohol consumption. (See table 5.)[30] Lifestyle modifications reduce BP, enhance antihypertensive drug efficacy, and decrease cardiovascular risk. For example, a 1,600 mg sodium DASH eating plan has effects similar to single drug therapy.[25] Combinations of two (or more) lifestyle modifications can achieve even better results.

Pharmacologic Treatment

There are excellent clinical outcome trial data proving that lowering BP with several classes of drugs, including angiotensin converting enzyme inhibitors (ACEIs), angiotensin receptor blockers (ARBs), beta-blockers (BBs), calcium channel blockers (CCBs), and thiazide-type diuretics, will all reduce the complications of hypertension.[10,31–37] Tables 6 and 7 provide a list of commonly used antihypertensive agents.

Thiazide-type diuretics have been the basis of antihypertensive therapy in most outcome trials.[37] In these trials, including the recently published Antihypertensive and Lipid Lowering Treatment to Prevent Heart Attack Trial (ALLHAT),[33] diuretics have been virtually unsurpassed in preventing the cardiovascular complications of hypertension. The exception is the Second Australian National Blood Pressure trial which reported slightly better outcomes in White men with a regimen that began with an ACEI compared to one starting with a diuretic.[36] Diuretics enhance the antihypertensive efficacy

Table 5. Lifestyle modifications to manage hypertension*†

Modification	Recommendation	Approximate SBP Reduction (Range)
Weight reduction	Maintain normal body weight (body mass index 18.5–24.9 kg/m^2).	5–20 mmHg/10 kg weight loss[23,24]
Adopt DASH eating plan	Consume a diet rich in fruits, vegetables, and lowfat dairy products with a reduced content of saturated and total fat.	8–14 mmHg[25,26]
Dietary sodium reduction	Reduce dietary sodium intake to no more than 100 mmol per day (2.4 g sodium or 6 g sodium chloride).	2–8 mmHg[25–27]
Physical activity	Engage in regular aerobic physical activity such as brisk walking (at least 30 min per day, most days of the week).	4–9 mmHg[28,29]
Moderation of alcohol consumption	Limit consumption to no more than 2 drinks (1 oz or 30 mL ethanol; e.g., 24 oz beer, 10 oz wine, or 3 oz 80-proof whiskey) per day in most men and to no more than 1 drink per day in women and lighter weight persons.	2–4 mmHg[30]

DASH, Dietary Approaches to Stop Hypertension.

* For overall cardiovascular risk reduction, stop smoking.

† The effects of implementing these modifications are dose and time dependent, and could be greater for some individuals.

of multidrug regimens, can be useful in achieving BP control, and are more affordable than other antihypertensive agents. Despite these findings, diuretics remain underutilized.[39]

Thiazide-type diuretics should be used as initial therapy for most patients with hypertension, either alone or in combination with one of the other classes (ACEIs, ARBs, BBs, CCBs) demonstrated to be beneficial in randomized controlled outcome trials. The list of compelling indications requiring the use of other antihypertensive drugs as initial therapy are listed in table 8. If a drug is not tolerated or is contraindicated, then one of the other classes proven to reduce cardiovascular events should be used instead.

Table 6. Oral antihypertensive drugs*

Class	Drug (Trade Name)	Usual dose range in mg/day	Usual Daily Frequency
Thiazide diuretics	Chlorothiazide (Diuril)	125-500	1-2
	chlorthalidone (generic)	12.5-25	1
	hydrochlorothiazide (Microzide, HydroDIURIL†)	12.5-50	1
	polythiazide (Renese)	2-4	1
	indapamide (Lozol†)	1.25-2.5	1
	metolazone (Mykrox)	0.5-1.0	1
	metolazone (Zaroxolyn)	2.5-5	1
Loop diuretics	bumetanide (Bumex†)	0.5-2	2
	furosemide (Lasix†)	20-80	2
	torsemide (Demadex†)	2.5-10	1
Potassium-sparing diuretics	amiloride (Midamor†)	5-10	1-2
	triamterene (Dyrenium)	50-100	1-2
Aldosterone receptor blockers	eplerenone (Inspra)	50-100	1
	spironolactone (Aldactone†)	25-50	1
BBs	atenolol (Tenormin†)	25-100	1
	betaxolol (Kerlone†)	5-20	1
	bisoprolol (Zebeta†)	2.5-10	1
	metoprolol (Lopressor†)	50-100	1-2
	metoprolol extended release (Toprol XL)	50-100	1
	nadolol (Corgard†)	40-120	1
	propranolol (Inderal†)	40-160	2
	propranolol long-acting (Inderal LA†)	60-180	1
	timolol (Blocadren†)	20-40	2
BBs with intrinsic sympathomimetic activity	acebutolol (Sectral†)	200-800	2
	penbutolol (Levatol)	10-40	1
	pindolol (generic)	10-40	2
Combined alpha- and BBs	carvedilol (Coreg)	12.5-50	2
	labetalol (Normodyne, Trandate†)	200-800	2

Table 6. Oral antihypertensive drugs* (continued)

Class	Drug (Trade Name)	Usual dose range in mg/day	Usual Daily Frequency
ACEIs	benazepril (Lotensin†)	10-40	1
	captopril (Capoten†)	25-100	2
	enalapril (Vasotec†)	5-40	1-2
	fosinopril (Monopril)	10-40	1
	lisinopril (Prinivil, Zestril†)	10-40	1
	moexipril (Univasc)	7.5-30	1
	perindopril (Aceon)	4-8	1
	quinapril (Accupril)	10-80	1
	ramipril (Altace)	2.5-20	1
	trandolapril (Mavik)	1-4	1
Angiotensin II antagonists	candesartan (Atacand)	8-32	1
	eprosartan (Teveten)	400-800	1-2
	irbesartan (Avapro)	150-300	1
	losartan (Cozaar)	25-100	1-2
	olmesartan (Benicar)	20-40	1
	telmisartan (Micardis)	20-80	1
	valsartan (Diovan)	80-320	1-2
CCBs—non-Dihydropyridines	Diltiazem extended release (Cardizem CD, Dilacor XR, Tiazac†)	180-420	1
	diltiazem extended release (Cardizem LA)	120-540	1
	verapamil immediate release (Calan, Isoptin†)	80-320	2
	verapamil long acting (Calan SR, Isoptin SR†)	120-480	1-2
	verapamil—Coer, Covera HS, Verelan PM)	120-360	1
CCBs—Dihydropyridines	amlodipine (Norvasc)	2.5-10	1
	felodipine (Plendil)	2.5-20	1
	isradipine (Dynacirc CR)	2.5-10	2
	nicardipine sustained release (Cardene SR)	60-120	2
	nifedipine long-acting (Adalat CC, Procardia XL)	30-60	1
	nisoldipine (Sular)	10-40	1

Table 6. Oral antihypertensive drugs* (continued)

Class	Drug (Trade Name)	Usual dose range in mg/day	Usual Daily Frequency
Alpha-1 blockers	doxazosin (Cardura)	1-16	1
	prazosin (Minipress†)	2-20	2-3
	terazosin (Hytrin)	1-20	1-2
Central alpha-2 agonists and other centrally acting drugs	clonidine (Catapres†)	0.1-0.8	2
	clonidine patch (Catapres-TTS)	0.1-0.3	1 wkly
	methyldopa (Aldomet†)	250-1,000	2
	reserpine (generic)	0.1-0.25	1
	guanfacine (Tenex†)	0.5-2	1
Direct vasodilators	hydralazine (Apresoline†)	25-100	2
	minoxidil (Loniten†)	2.5-80	1-2

* In some patients treated once daily, the antihypertensive effect may diminish toward the end of the dosing interval (trough effect). BP should be measured just prior to dosing to determine if satisfactory BP control is obtained. Accordingly, an increase in dosage or frequency may need to be considered. These dosages may vary from those listed in the "Physicians Desk Reference, 57th ed."

† Available now or soon to become available in generic preparations.

Source: Physicians' Desk Reference. 57 ed. Montvale, NJ: Thomson PDR, 2003

Table 7. Combination drugs for hypertension

Combination Type*	Fixed-Dose Combination, mg†	Trade Name
ACEIs and CCBs	Amlodipine-benazepril hydrochloride (2.5/10, 5/10, 5/20, 10/20) Enalapril-felodipine (5/5) Trandolapril-verapamil (2/180, 1/240, 2/240, 4/240)	Lotrel Lexxel Tarka
ACEIs and diuretics	Benazepril-hydrochlorothiazide (5/6.25, 10/12.5, 20/12.5, 20/25) Captopril-hydrochlorothiazide (25/15, 25/25, 50/15, 50/25) Enalapril-hydrochlorothiazide (5/12.5, 10/25) Fosinopril-hydrochlorothiazide (10/12.5, 20/12.5) Lisinopril-hydrochlorothiazide (10/12.5, 20/12.5, 20/25) Moexipril-hydrochlorothiazide (7.5/12.5, 15/25) Quinapril-hydrochlorothiazide (10/12.5, 20/12.5, 20/25)	Lotensin HCT Capozide Vaseretic Monopril/HCT Prinzide, Zestoretic Uniretic Accuretic
ARBs and diuretics	Candesartan-hydrochlorothiazide (16/12.5, 32/12.5) Eprosartan-hydrochlorothiazide (600/12.5, 600/25) Irbesartan-hydrochlorothiazide (150/12.5, 300/12.5) Losartan-hydrochlorothiazide (50/12.5, 100/25) Olmesartan medoxomil-hydrochlorothiazide (20/12.5,40/12.5,40/25) Telmisartan-hydrochlorothiazide (40/12.5, 80/12.5) Valsartan-hydrochlorothiazide (80/12.5, 160/12.5, 160/25)	Atacand HCT Teveten-HCT Avalide Hyzaar Benicar HCT Micardis-HCT Diovan-HCT
BBs and diuretics	Atenolol-chlorthalidone (50/25, 100/25) Bisoprolol-hydrochlorothiazide (2.5/6.25, 5/6.25, 10/6.25) Metoprolol-hydrochlorothiazide (50/25, 100/25) Nadolol-bendroflumethiazide (40/5, 80/5) Propranolol LA-hydrochlorothiazide (40/25, 80/25) Timolol-hydrochlorothiazide (10/25)	Tenoretic Ziac Lopressor HCT Corzide Inderide LA Timolide
Centrally acting drug and diuretic	Methyldopa-hydrochlorothiazide (250/15, 250/25, 500/30, 500/50) Reserpine-chlothalidone (0.125/25, 0.25/50) Reserpine-chlorothiazide (0.125/250, 0.25/500) Reserpine-hydrochlorothiazide (0.125/25, 0.125/50)	Aldoril Demi-Regroton, Regroton Diupres Hydropres
Diuretic and diuretic	Amiloride-hydrochlorothiazide (5/50) Spironolactone-hydrochlorothiazide (25/25, 50/50) Triamterene-hydrochlorothiazide (37.5/25, 75/50)	Moduretic Aldactazide Dyazide, Maxzide

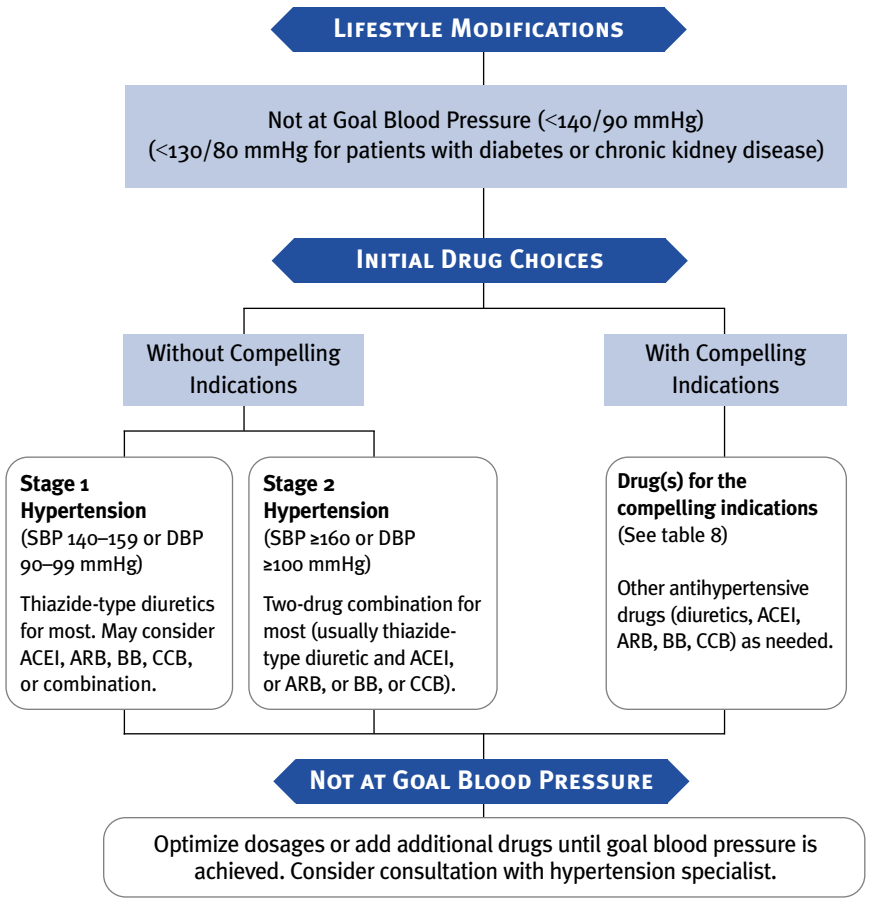
* Drug abbreviations: BB, beta-blocker; ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; CCB, calcium channel blocker.

† Some drug combinations are available in multiple fixed doses. Each drug dose is reported in milligrams.

Achieving Blood Pressure Control in Individual Patients

Most patients who are hypertensive will require two or more antihypertensive medications to achieve their BP goals.[14,15] Addition of a second drug from a different class should be initiated when use of a single drug in adequate doses fails to achieve the BP goal. When BP is more than 20/10 mmHg above goal, consideration should be given to initiating therapy with two drugs, either as separate prescriptions or in fixed-dose combinations. (See figure 1.) The initiation of drug therapy with more than one agent may increase the likelihood of achieving the BP goal in a more timely fashion, but particular caution is advised in those at risk for orthostatic hypotension, such as patients with diabetes, autonomic dysfunction, and some older persons. Use of generic drugs or combination drugs should be considered to reduce prescription costs.

Figure 1. Algorithm for treatment of hypertension



DBP, diastolic blood pressure; SBP, systolic blood pressure.
Drug abbreviations: ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; BB, beta-blocker; CCB, calcium channel blocker.

Followup and Monitoring

Once antihypertensive drug therapy is initiated, most patients should return for followup and adjustment of medications at approximately monthly intervals until the BP goal is reached. More frequent visits will be necessary for patients with stage 2 hypertension or with complicating comorbid conditions. Serum potassium and creatinine should be monitored at least 1–2 times/year.[60] After BP is at goal and stable, followup visits can usually be at 3- to 6-month intervals. Comorbidities, such as heart failure, associated diseases such as diabetes, and the need for laboratory tests influence the frequency of visits. Other cardiovascular risk factors should be treated to their respective goals, and tobacco avoidance should be promoted vigorously. Low-dose aspirin therapy should be considered only when BP is controlled, because the risk of hemorrhagic stroke is increased in patients with uncontrolled hypertension.[61]

SPECIAL CONSIDERATIONS

The patient with hypertension and certain comorbidities requires special attention and followup by the clinician.

Compelling Indications

Table 8 describes compelling indications that require certain antihypertensive drug classes for high-risk conditions. The drug selections for these compelling indications are based on favorable outcome data from clinical trials. A combination of agents may be required. Other management considerations include medications already in use, tolerability, and desired BP targets. In many cases, specialist consultation may be indicated.

Ischemic Heart Disease

Ischemic heart disease (IHD) is the most common form of target organ damage associated with hypertension. In patients with hypertension and stable angina pectoris, the first drug of choice is usually a BB; alternatively, long-acting CCBs can be used.[1] In patients with acute coronary syndromes (unstable angina or myocardial infarction), hypertension should be treated initially with BBs and ACEIs,[49] with addition of other drugs as needed for BP control. In patients with postmyocardial infarction, ACEIs, BBs, and aldosterone antagonists have proven to be most beneficial.[50,52,53,62] Intensive lipid management and aspirin therapy are also indicated.

Table 8. Clinical trial and guideline basis for compelling indications for individual drug classes

Compelling Indication*	Recommended Drugs†						Clinical Trial Basis‡
	Diuretic	BB	ACEI	ARB	CCB	Aldo ANT	
Heart failure	•	•	•	•		•	ACC/AHA Heart Failure Guideline,[40] MERIT-HF,[41] COPERNICUS,[42] CIBIS,[43] SOLVD,[44] AIRE,[45] TRACE,[46] ValHEFT,[47] RALES[48]
Postmyocardial infarction		•	•			•	ACC/AHA Post-MI Guideline,[49] BHAT,[50] SAVE,[51] Capricorn,[52] EPHESUS[53]
High coronary disease risk	•	•	•		•		ALLHAT,[33] HOPE,[34] ANBP2,[36] LIFE,[32] CONVINCE[31]
Diabetes	•	•	•	•	•		NKF-ADA Guideline,[21,22] UKPDS,[54] ALLHAT[33]
Chronic kidney disease			•	•			NFK Guideline,[22] Captopril Trial,[55] RENAAL,[56] IDNT,[57] REIN,[58] AASK[59]
Recurrent stroke prevention	•		•				PROGRESS[35]

* Compelling indications for antihypertensive drugs are based on benefits from outcome studies or existing clinical guidelines; the compelling indication is managed in parallel with the BP.

† Drug abbreviations: ACEI, angiotensin converting enzyme inhibitor; ARB, angiotensin receptor blocker; Aldo ANT, aldosterone antagonist; BB, beta-blocker; CCB, calcium channel blocker.

‡ Conditions for which clinical trials demonstrate benefit of specific classes of antihypertensive drugs.

Heart Failure

Heart failure (HF), in the form of systolic or diastolic ventricular dysfunction, results primarily from systolic hypertension and IHD. Fastidious BP and cholesterol control are the primary preventive measures for those at high risk for HF.[40] In asymptomatic individuals with demonstrable ventricular dysfunction, ACEIs and BBs are recommended.[52,62] For those with symptomatic ventricular dysfunction or end-stage heart disease, ACEIs, BBs, ARBs and aldosterone blockers are recommended along with loop diuretics.[40–48]

Diabetic Hypertension

Combinations of two or more drugs are usually needed to achieve the target goal of <130/80 mmHg.[21,22] Thiazide diuretics, BBs, ACEIs, ARBs, and CCBs are beneficial in reducing CVD and stroke incidence in patients with diabetes.[33,54,63] ACEI- or ARB-based treatments favorably affect the progression of diabetic nephropathy and reduce albuminuria,[55,56] and ARBs have been shown to reduce progression to macroalbuminuria.[56,57]

Chronic Kidney Disease

In people with chronic kidney disease (CKD), as defined by either (1) reduced excretory function with an estimated GFR below 60 ml/min per 1.73 m^2 (corresponding approximately to a creatinine of >1.5 mg/dL in men or >1.3 mg/dL in women),[20] or (2) the presence of albuminuria (>300 mg/day or 200 mg albumin/g creatinine), therapeutic goals are to slow deterioration of renal function and prevent CVD. Hypertension appears in the majority of these patients, and they should receive aggressive BP management, often with three or more drugs to reach target BP values of <130/80 mmHg.[59,64] ACEIs and ARBs have demonstrated favorable effects on the progression of diabetic and nondiabetic renal disease.[55–59,64] A limited rise in serum creatinine of as much as 35 percent above baseline with ACEIs or ARBs is acceptable and is not a reason to withhold treatment unless hyperkalemia develops.[65] With advanced renal disease (estimated GFR <30 ml/min 1.73 m^2, corresponding to a serum creatinine of 2.5–3 mg/dL), increasing doses of loop diuretics are usually needed in combination with other drug classes.

Cerebrovascular Disease

The risks and benefits of acute lowering of BP during an acute stroke are still unclear; control of BP at intermediate levels (approximately 160/100 mmHg) is appropriate until the condition has stabilized or improved. Recurrent stroke rates are lowered by the combination of an ACEI and thiazide-type diuretic.[35]

Other Special Situations

Minorities

BP control rates vary in minority populations and are lowest in Mexican Americans and Native Americans.[1] In general, the treatment of hypertension is similar for all demographic groups, but socioeconomic factors and lifestyle may be important barriers to BP control in some minority patients. The prevalence, severity, and impact of hypertension are increased in African Americans, who also demonstrate somewhat reduced BP responses to monotherapy with BBs, ACEIs, or ARBs compared to diuretics or CCBs. These differential responses are largely eliminated by drug combinations that include adequate doses of a diuretic. ACEI-induced angioedema occurs 2–4 times more frequently in African American patients with hypertension than in other groups.[33]

Obesity and the metabolic syndrome

Obesity (BMI ≥30 kg/m^2) is an increasingly prevalent risk factor for the development of hypertension and CVD. The Adult Treatment Panel III guideline

for cholesterol management defines the metabolic syndrome as the presence of three or more of the following conditions: abdominal obesity (waist circumference >40 inches in men or >35 inches in women), glucose intolerance (fasting glucose ≥110 mg/dL), BP ≥130/85 mmHg, high triglycerides (≥150 mg/dL), or low HDL (<40 mg/dL in men or <50 mg/dL in women).[66] Intensive lifestyle modification should be pursued in all individuals with the metabolic syndrome, and appropriate drug therapy should be instituted for each of its components as indicated.

Left ventricular hypertrophy

Left ventricular hypertrophy (LVH) is an independent risk factor that increases the risk of subsequent CVD. Regression of LVH occurs with aggressive BP management, including weight loss, sodium restriction, and treatment with all classes of antihypertensive agents except the direct vasodilators hydralazine, and minoxidil.[1,67]

Peripheral arterial disease

Peripheral arterial disease (PAD) is equivalent in risk to IHD. Any class of antihypertensive drugs can be used in most PAD patients. Other risk factors should be managed aggressively, and aspirin should be used.

Hypertension in older persons

Hypertension occurs in more than two-thirds of individuals after age 65.[1] This is also the population with the lowest rates of BP control.[68] Treatment recommendations for older people with hypertension, including those who have isolated systolic hypertension, should follow the same principles outlined for the general care of hypertension. In many individuals, lower initial drug doses may be indicated to avoid symptoms; however, standard doses and multiple drugs are needed in the majority of older people to reach appropriate BP targets.

Postural hypotension

A decrease in standing SBP >10 mmHg, when associated with dizziness or fainting, is more frequent in older patients with systolic hypertension, diabetes, and those taking diuretics, venodilators (e.g., nitrates, alpha-blockers, and sildenafil-like drugs), and some psychotropic drugs. BP in these individuals should also be monitored in the upright position. Caution should be used to avoid volume depletion and excessively rapid dose titration of antihypertensive drugs.

Dementia

Dementia and cognitive impairment occur more commonly in people with hypertension. Reduced progression of cognitive impairment may occur with effective antihypertensive therapy.[69,70]

Hypertension in women

Oral contraceptives may increase BP, and the risk of hypertension increases with duration of use. Women taking oral contraceptives should have their BP checked regularly. Development of hypertension is a reason to consider other forms of contraception. In contrast, menopausal hormone therapy does not raise BP.[71]

Women with hypertension who become pregnant should be followed carefully because of increased risks to mother and fetus. Methyldopa, BBs, and vasodilators are preferred medications for the safety of the fetus.[72] ACEI and ARBs should not be used during pregnancy because of the potential for fetal defects and should be avoided in women who are likely to become pregnant. Preeclampsia, which occurs after the 20th week of pregnancy, is characterized by new-onset or worsening hypertension, albuminuria, and hyperuricemia, sometimes with coagulation abnormalities. In some patients, preeclampsia may develop into a hypertensive urgency or emergency and may require hospitalization, intensive monitoring, early fetal delivery, and parenteral antihypertensive and anticonvulsant therapy.[72]

Hypertension in children and adolescents

In children and adolescents, hypertension is defined as BP that is, on repeated measurement, at the 95th percentile or greater adjusted for age, height, and gender.[73] The fifth Korotkoff sound is used to define DBP. Clinicians should be alert to the possibility of identifiable causes of hypertension in younger children (i.e., kidney disease, coarctation of the aorta). Lifestyle interventions are strongly recommended, with pharmacologic therapy instituted for higher levels of BP or if there is insufficient response to lifestyle modifications.[74] Choices of antihypertensive drugs are similar in children and adults, but effective doses for children are often smaller and should be adjusted carefully. ACEIs and ARBs should not be used in pregnant or sexually active girls. Uncomplicated hypertension should not be a reason to restrict children from participating in physical activities, particularly because long-term exercise may lower BP. Use of anabolic steroids should be strongly discouraged. Vigorous interventions also should be conducted for other existing modifiable risk factors (e.g., smoking).

Hypertensive urgencies and emergencies

Patients with marked BP elevations and acute target-organ damage (e.g., encephalopathy, myocardial infarction, unstable angina, pulmonary edema, eclampsia, stroke, head trauma, life-threatening arterial bleeding, or aortic dissection) require hospitalization and parenteral drug therapy.[1] Patients with markedly elevated BP but without acute target organ damage usually do not require hospitalization, but they should receive immediate combination oral

antihypertensive therapy. They should be carefully evaluated and monitored for hypertension-induced heart and kidney damage and for identifiable causes of hypertension. (See table 4.)

Additional Considerations in Antihypertensive Drug Choices

Antihypertensive drugs can have favorable or unfavorable effects on other comorbidities.

Potential favorable effects
Thiazide-type diuretics are useful in slowing demineralization in osteoporosis. BBs can be useful in the treatment of atrial tachyarrhythmias/fibrillation, migraine, thyrotoxicosis (short term), essential tremor, or perioperative hypertension. CCBs may be useful in Raynaud's syndrome and certain arrhythmias, and alpha-blockers may be useful in prostatism.

Potential unfavorable effects
Thiazide diuretics should be used cautiously in patients who have gout or who have a history of significant hyponatremia. BBs should generally be avoided in individuals who have asthma, reactive airways disease, or second or third degree heart block. ACEIs and ARBs should not be given to women likely to become pregnant and are contraindicated in those who are. ACEIs should not be used in individuals with a history of angioedema. Aldosterone antagonists and potassium-sparing diuretics can cause hyperkalemia and should generally be avoided in patients who have serum potassium values more than 5.0 mEq/L while not taking medications.

IMPROVING HYPERTENSION CONTROL

Adherence to Regimens

Behavioral models suggest that the most effective therapy prescribed by the most careful clinician will control hypertension only if the patient is motivated to take the prescribed medication and to establish and maintain a health-promoting lifestyle. Motivation improves when patients have positive experiences with and trust in their clinicians. Empathy both builds trust and is a potent motivator.[75]

Patient attitudes are greatly influenced by cultural differences, beliefs, and previous experiences with the health care system.[76] These attitudes must be understood if the clinician is to build trust and increase communication with patients and families.

Failure to titrate or combine medications, despite knowing the patient is not at goal BP, represents clinical inertia and must be overcome.[77] Decision support systems (i.e., electronic and paper), flow sheets, feedback reminders, and involvement of nurse clinicians and pharmacists can be helpful.[78]

The clinician and the patient must agree upon BP goals. A patient-centered strategy to achieve the goal and an estimation of the time needed to reach goal are important.[79] When BP is above goal, alterations in the plan should be documented. BP self-monitoring can also be useful.

Patients' nonadherence to therapy is increased by misunderstanding of the condition or treatment, denial of illness because of lack of symptoms or perception of drugs as symbols of ill health, lack of patient involvement in the care plan, or unexpected adverse effects of medications. The patient should be made to feel comfortable in telling the clinician all concerns and fears of unexpected or disturbing drug reactions.

The cost of medications and the complexity of care (i.e., transportation, patient difficulty with polypharmacy, difficulty in scheduling appointments, and life's competing demands) are additional barriers that must be overcome to achieve goal BP.

All members of the health care team (e.g., physicians, nurse case managers, and other nurses, physician assistants, pharmacists, dentists, registered dietitians, optometrists, and podiatrists) must work together to influence and reinforce instructions to improve patients' lifestyles and BP control.[80]

Resistant Hypertension

Resistant hypertension is the failure to reach goal BP in patients who are adhering to full doses of an appropriate three-drug regimen that includes a diuretic. After excluding potential identifiable hypertension (see table 4), clinicians should carefully explore reasons why the patient is not at goal BP. (See table 9.) Particular attention should be paid to diuretic type and dose in relation to renal function. (See "Chronic Kidney Disease" section.) Consultation with a hypertension specialist should be considered if goal BP cannot be achieved.

Table 9. Causes of resisitant hypertension

Improper BP Measurement
Volume Overload and Pseudotolerance • Excess sodium intake • Volume retention from kidney disease • Inadequate diuretic therapy
Drug-Induced or Other Causes • Nonadherence • Inadequate doses • Inappropriate combinations • Nonsteroidal anti-inflammatory drugs; cyclooxygenase 2 inhibitors • Cocaine, amphetamines, other illicit drugs • Sympathomimetics (decongestants, anorectics) • Oral contraceptives • Adrenal steroids • Cyclosporine and tacrolimus • Erythropoietin • Licorice (including some chewing tobacco) • Selected over-the-counter dietary supplements and medicines (e.g., ephedra, ma haung, bitter orange)
Associated Conditions • Obesity • Excess alcohol intake
Identifiable Causes of Hypertension. (See table 4.)

PUBLIC HEALTH CHALLENGES AND COMMUNITY PROGRAMS

Public health approaches, such as reducing calories, saturated fat, and salt in processed foods and increasing community/school opportunities for physical activity, can achieve a downward shift in the distribution of a population's BP, thus potentially reducing morbidity, mortality, and the lifetime risk of an individual's becoming hypertensive. This becomes especially critical as the increase in BMI of Americans has reached epidemic levels. Now, 122 million adults are overweight or obese, which contributes to the rise in BP and related conditions.[81] The JNC 7 endorses the American Public Health Association resolution that the food manufacturers and restaurants reduce sodium in the food supply by 50 percent over the next decade. When public health intervention strategies address the diversity of racial, ethnic, cultural, linguistic, religious, and social factors in the delivery of their services, the likelihood of their acceptance by the community increases. These public health approaches can provide an attractive opportunity to interrupt and prevent the continuing costly cycle of managing hypertension and its complications.

EVIDENCE CLASSIFICATION

The studies that provided evidence supporting the recommendations of this report were classified and reviewed by the staff and the Executive Committee. The classification scheme is from the JNC 6 report.[2]

M Meta-analysis; use of statistical methods to combine the results from clinical trials

RA Randomized controlled trials; also known as experimental studies

RE Retrospective analyses; also known as case-control studies

F Prospective study; also known as cohort studies, including historical or prospective followup studies.

X Cross-sectional survey; also known as prevalence studies

PR Previous review or position statements

C Clinical interventions (nonrandomized)

STUDY ABBREVIATIONS

AASK	African American Study of Kidney Disease and Hypertension
ACC/AHA	American College of Cardiology/American Heart Association
AIRE	Acute Infarction Ramipril Efficacy
ALLHAT	Antihypertensive and Lipid-Lowering Treatment To Prevent Heart Attack Trial
ANBP2	Second Australian National Blood Pressure Study
BHAT	β-Blocker Heart Attack Trial
CIBIS	Cardiac Insufficiency Bisoprolol Study
CONVINCE	Controlled Onset Verapamil Investigation of Cardiovascular End Points
COPERNICUS	Carvedilol Prospective Randomized Cumulative Survival Study
EPHESUS	Eplerenone Post-Acute Myocardial Infarction Heart Failure Efficacy and Survival Study
HOPE	Heart Outcomes Prevention Evaluation Study
IDNT	Irbesartan Diabetic Nephropathy Trial
LIFE	Losartan Intervention For Endpoint Reduction in Hypertension Study
MERIT-HF	Metoprolol CR/XL Randomized Intervention Trial in Congestive Heart Failure
NKF-ADA	National Kidney Foundation-American Diabetes Association
PROGRESS	Perindopril Protection Against Recurrent Stroke Study
RALES	Randomized Aldactone Evaluation Study
REIN	Ramipril Efficacy in Nephropathy Study
RENAAL	Reduction of Endpoints in Non Insulin Dependent Diabetes Mellitus With the Angiotensin II Antagonist Losartan Study
SAVE	Survival and Ventricular Enlargement Study
SOLVD	Studies of Left Ventricular Dysfunction
TRACE	Trandolapril Cardiac Evaluation Study
UKPDS	United Kingdom Prospective Diabetes Study
ValHEFT	Valsartan Heart Failure Trial

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For More Information

The NHLBI Health Information Center is a service of the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health. The NHLBI Health Information Center provides information to health professionals, patients, and the public about the treatment, diagnosis, and prevention of heart, lung, and blood diseases. For more information, contact:

NHLBI Health Information Center
P.O. Box 30105
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Phone: 301-592-8573
TTY: 240-629-3255
Fax: 301-592-8563
Web site: http://www.nhlbi.nih.gov

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
National Institutes of Health
National Heart, Lung, and Blood Institute
National High Blood Pressure Education Program

NIH Publication No. 03-5233
December 2003

Certificate Number: O002901

URAC

Promoting Quality Health Care

CERTIFICATE OF FULL ACCREDITATION

is awarded to

Innovative Resource Group, LLC
dba APS Healthcare
3010 Santa Fe Court, Missoula, MT 59808

for compliance with

Disease Management Accreditation Program

pursuant to the

DISEASE MANAGEMENT STANDARDS, version 2.0

Effective from the 1st day of November 2007 through the 1st day of November 2010

Alan P. Spielman
President & CEO

Annette Watson, RN, CCM, MBA
Chief Accreditation Officer

URAC ACCREDITED

Disease Management

The Disease Management accreditation covers the following disease management conditions:

- *Cardiac*
- *Congestive Heart Failure*
- *COPD*
- *Depression*
- *Diabetes*
- *Low Back Pain*

URAC accreditation is assigned to the organization and address named in this certificate and is not transferable to subcontractors or other affiliated entities not accredited by URAC.

URAC accreditation is subject to the representations contained in the organization's application for accreditation. URAC must be advised of any changes made after the granting of accreditation. Failure to report changes can affect accreditation status.

This certificate is the property of URAC and shall be returned upon request.

URAC

ACCREDITATION SUMMARY REPORT

for

Innovative Resource Group, LLC. dba APS Healthcare

Submitted August 7, 2007

A summary of the Accreditation review conducted by URAC pursuant to URAC's Disease Management accreditation program.

APPLICATION PROFILE	
Application	**D073902R**
Organization	**Innovative Resource Group, LLC. dba APS Healthcare**
Standards	**Disease Management version 2.0 COPD, Low Back Pain, Cardiac, Congestive Heart Failure, Diabetes, and Depression**

ACCREDITATION DECISION

FULL Disease Management Accreditation was granted to Innovative Resource Group, LLC. dba APS Healthcare on August 7, 2007, and is based upon the following requirements, where the Organization:

- Meets the intent of the standards based upon review of its formal program documentation as well as onsite verifications conducted on **July 24 and July 26, 2007**;
- Application scores within the range to achieve a full accreditation; and
- Complies with mandatory standard elements determined to have a direct and significant impact on the welfare and safety of consumers.

SCOPE OF THE ACCREDITATION – Books of Business

- None

[Note: If a book of business is not listed above, then it is included within the scope of this accreditation.]

SCOPE OF THE ACCREDITATION - Locations

- Atlanta, GA
- Missoula, MT
- Brookfield, WI

[Note: If a location is not listed above, then it is *not included* within the scope of this accreditation.]

SCOPE OF THE ACCREDITATION – Standards Not Applicable	
Core 7 g	The applicant does not delegate any portion of the disease management program.
Core 15	The applicant does not delegate any portion of the disease management program.
Core 16	The applicant does not delegate any portion of the disease management program.
Core 17	The applicant does not delegate any portion of the disease management program.
Core 18	The applicant does not delegate any portion of the disease management program.
Core 20	The applicant does not offer reimbursement, bonuses, or incentives to staff or health care providers based directly on consumer utilization of health care services.

PROGRAM DESCRIPTION

The applicant is requesting reaccreditation for their Disease Management program for COPD, Low Back Pain, Cardiac, Congestive Heart Failure, Diabetes, and Depression. This is a multi-site application. The applicant does not delegate any portion of the Disease Management program. The Disease Management services are provided telephonically.

COMPLIANCE VERIFICATION

The accreditation verification process occurs in two phases: (1) “Desktop Review” where formal program documentation is examined against the standards, and (2) “Onsite Review” activities occurring at the Organization’s business locations verifying implementation and compliance. Onsite Review covers a range of activities such as tours of the various departments conducting the functions coming under accreditation, as well as interviews with staff, operations management and clinical leadership. In addition, further document analysis is conducted with emphasis on those documents that illustrate program implementation including relevant file audits (e.g., personnel, contract, delegation, appeal, etc.)

COMPLIANCE WITH THE STANDARDS – Findings & Recommendations

<<Place cursor in the boxes below that you wish to delete, then go to top menu and select: Table -- Delete -- Row. Also delete this text by clicking on it, then pressing the Delete key.>>

The Organization demonstrates compliance as described above; therefore, there are no further recommendations regarding the standards.

The Organization did not meet certain standard elements identified below and may choose to come into compliance in the future. This can be accomplished by (1) examining barriers to

compliance, (2) modifying and implementing program structure and processes pursuant to the standard, (3) revising and approving program documentation and (4) establishing oversight and reporting mechanisms to ensure evidence of ongoing compliance.

Implementation efforts were non-compliant with the following standards:

- STD pre-fix #(ltr)
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The Organization chose not to comply with the following standards:

- STD pre-fix #(ltr)
- STD pre-fix #(ltr)
- STD pre-fix #(ltr)
- STD pre-fix #(ltr)

Certificate Number: O002902

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Promoting Quality Health Care

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Effective from the 1st day of November 2007 through the 1st day of November 2010

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Certificate Number: O002900

URAC

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Conference Report

European Neurology

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Disease Management in Multiple Sclerosis

International Workshop, Vienna, October 5, 2004

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During the last 15 years new immunomodulatory agents have been developed for the long-term treatment of patients with multiple sclerosis (MS). They have shown efficacy in several class I treatment trials [1] but the overall effect is modest and cost effectiveness is still under review.

A conference held in Vienna in October of 2004 gathered 15 international experts on MS and its treatment from the US, Canada, the UK, Italy, Switzerland, Spain and Germany to discuss relevant issues in the management of people with MS. The aim of the meeting was to consider controversial issues in therapy and prepare a platform for an international consensus on the treatment of people with MS.

In the past few years the medical advisory boards of several national MS societies and the 'American Academy of Neurology Task Force on MS Treatments' have published reports. The following key issues were discussed:

(1) The Goal

There was consensus that the goal of MS treatment should be defined: disease activity, as evidenced by exacerbations and progression, should be stopped to prevent irreversible disability; damaged tissue should be repaired and injured tissue protected to improve impaired function in the nervous system. It was recognised that none of these goals are yet achieved.

There was consensus that new disease activity demonstrated on magnetic resonance imaging (MRI), including active inflammatory lesions and the evolution of other possible indicators of disease progression, such as black holes, should be reduced or prevented by effective treatment, despite the lack of validation of such markers for long-term outcome. The extrapolation of available observations from multi-centre treatment studies, usually of 2–3 years' duration, with follow-up periods from 4 to 10 years, supports this hypothesis but the observations need to be extended. We recognise that there is no prospective long-term evaluation of the clinical impact of MRI changes in the individual patient, but accept that MRI is currently the best available marker for disease activity and consider it could be used in monitoring disease progression and assessing treatment efficacy provided that a standard protocol be used with scans performed at regular, frequent intervals.

It is hoped that the current early treatment trials with interferon-β-1b (BENEFIT) [2], glatiramer acetate (PRECISE) and statins will shed new light on the implication of MRI lesions in early MS for the clinical burden and disease evolution in the longer term. Currently we recognise that the treatment effect of immunomodulatory drugs in relatively early disease is to delay further MS exacerbation in people with early MS, but are less certain whether ultimate disease progression and permanent disability can be prevented by any of the licensed immunomodulatory treatments.

(2) Initiation of Therapy

There was consensus that long-term immunomodulatory treatment should probably be commenced early in the disease to delay, or hopefully prevent, further attacks as demonstrated by earlier clinical trials. There is as yet limited data to support the attractive concept that early treatment of clinically isolated syndromes will be more effective than delaying treatment until the patient satisfies the McDonald Criteria in preventing long-term disability.

(3) Choice of Treatment

If therapy is to be used early in the course of the disease it is likely that patients will only accept those treatments with a low-risk profile and few unpleasant side-effects. In contrast, once the patient has become disabled, a higher risk profile may be considered but treatment may be less effective. All participants agreed that the choice of the patient was the key issue in treatment decisions, taking into account medical factors such as the natural history of the type of MS, trial evidence and the views of the physician. Moreover, the influence of treatment on quality of life, recommendations from other people with MS, and the specific experience of the treating physician, or MS Specialist Nurse, will influence the decision making process.

There was no consensus within the expert group as to which drug should be used for initiation of therapy because there is little class I comparative trial evidence. The ongoing NIH-funded combi-Rx trial comparing interferon-β1a to glatiramer acetate and combination therapy in early MS should provide such class I evidence in due course.

Attendees: B. Arnason, USA; D. Arnold, CA; D. Bates, UK; P. Duquette, FR; L. Durelli, IT; G. Ebers, UK; M. Feedman, CA; D. Goodin, USA; H.-P. Hartung, DE; R. Hohlfeld, DE; L. Kappos, CH; X. Montalban, ES; S. Reingold, USA; K.V. Toyka, DE; J. Wolinsky, USA.

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(4) Cessation of Therapy

The experts agreed that when treatment was perceived to be ineffective or futile it should be discontinued, but found it difficult to define 'suboptimal response' and noted that none of the suggested definitions have been validated. All recognised a 'treatment responder' as a patient with multiple attacks whose exacerbations stopped or were at least reduced markedly after treatment, and who remained stable. Similarly they recognised as a 'non-responder' a patient with numerous disease exacerbations before treatment whose attacks continued at a similar or increased rate after commencing therapy and whose underlying condition progressively deteriorated.

'Partial' response, or 'suboptimal' response, is not defined and although there was consensus that clinical effects, after sufficient time has elapsed since initiating therapy, could be used to assess a 'suboptimal response' it was felt that a surrogate marker, when validated, would aid in this process. It was recognised that a better definition would help to establish a disease activity-dependent mode of treatment beginning with initial immunomodulatory therapy, followed by treatment escalation with cytotoxic drugs, plasma exchange, monoclonal antibodies when approved or, when sufficient data demonstrates the value, combination therapies, each of which might be added in a hierarchical way when suboptimal response was identified.

There was agreement that the MRI scan could be used as a marker to identify those people showing suboptimal responses, newly active lesions, total lesion load, reduction in brain volume, and the possible use of newly developed contrast-enhancing agents with molecular targets may all assist in a better definition of suboptimal therapy and allow consideration of the need for change or modification of treatment. The group recognised that presently available data about treatment failure are derived from clinical treatment trials with restricted entry criteria and their results may not apply to other treatments, or to the use of immunomodulatory therapy in people presenting the full range of MS in the clinic. It is suggested that analyses of treatment trial cohorts taking placebo reflecting the natural course of the disease compared with the large cohorts who were given treatment might help in defining 'suboptimal response'.

Other possible markers to identify responsiveness might, with additional study, eventually include antibodies such as those directed at myelin oligodendrocyte glycoprotein; the presence of circulating inflammatory mediators; the production of neopterine and MxA protein as indicators of effective immunomodulation, all potentially interesting, but there is not enough data presently available to assess their value.

Reviews of Treatment

The participants considered four current reviews:

(a) *The American Academy of Neurology Task Force* [1]. This comprehensive review only considered drugs licensed by the US Food and Drug Association (FDA), excluding agents that are not licensed in the US, even though they may be used. The focus of the review was to provide an assessment of the available therapeutics and establish the strength of evidence of effectiveness. Recommendations were to use interferon-β in people with relapsing-remitting MS (RRMS) and secondary progressive MS who were still experiencing relapses, glatiramer acetate in people with RRMS, and interferon-β in those with a 'clinically isolated syndrome' and at high risk to develop MS. The importance of neutralising antibodies to interferon-ß was considered but it was felt that more research was required before they should be used in clinical decision making.

(b) *The National Multiple Sclerosis Society* [3]. The Medical Advisory Board of the National Multiple Sclerosis Society in the United States produced a paper on changing therapy in relapsing MS. They reviewed possible markers of treatment failure, including relapses, acquired neurological deficits and MRI activity, making the point that a single attack whilst on therapy should not be regarded as indicative of treatment failure, nor should such failure be determined within a few months of initiating treatment; they warned of the problems in measuring changes in very low extended disability score (EDSS) ranges, which they considered too variable to be used in isolation to define treatment failure; though they thought that quantitative measures of lesion activity on MRI might prove useful to indicate the risk of future clinical treatment failure, they did not think that the MRI should be used as the sole surrogate indicator of treatment failure. They considered that continued frequent relapses, or non-relapse-associated MRI activity might justify change in therapy, the use of combination therapy or even the use of non-FDA-approved drugs, provided that the risks and indications were understood by the treating physician and patient. They recommended that such patients might be considered for enrolment into properly designed controlled clinical trials.

(c) *The Canadian MS Working Group* [4–6]. The Canadian MS Working Group defined clinical attacks and identified useful prognostic markers for exacerbations, assessing their long-term impact on disease progression and disability. They reviewed data implying that disease progression correlates to the number of relapses and identified that a 1-point progression on EDSS, measured at 6 months, was 80% sensitive and highly specific for sustained disease progression at 4 years. They provided a scheme – 'the three gauge model' – to define a level of concern on the part of a physician, raising consideration of treatment modification based on relapse rate, disability and MRI scan. The support for the model defining levels of concern is derived from observations in the published large clinical trials and may be better substantiated when larger cohorts are available.

(d) *The Multiple Sclerosis Treatment Consensus Group (MSTCG)* [7, 8]. The MSTCG originated in Germany, Switzerland and Austria and has now included 12 other European countries. Its premise is that there is value for patients, health providers and insurance companies to have disease activity-dependent recommendations both for compounds based on Class I evidence and licenced and for those that are widely used, but unlicensed, or are in the 'pipeline'. The MSTCG has devised a simple scheme to escalate therapy from initial and early treatment with the licensed compounds to cytotoxic drugs or experimental treatments including monoclonal antibodies and plasma exchange. By so doing the MSTCG goes further than previous attempts to reach a wider consensus of MS experts.

The workshop participants agreed that a more global consensus would be helpful but recognised that health systems, accessibility to agents and licence are different in different countries, making it unlikely that adaptation of the European recommendations would be practicable in the US or Canada. The workshop participants recognised that a more general consensus would be required if all areas of potential MS treatment were to be covered, or decisions on initiation, cessation, consideration of modification and escalation of therapy would remain variable and individualistic.

Despite recognising the major difficulties, the experts concluded that the medical advisory boards of the national MS societies might be able to modify the existing advice and to draft a statement in which consensus and controversy in the field of MS treatment is defined, thereby encouraging clinical research into the unanswered questions posed by this workshop.

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Provider Outreach Plan
2008

APS Healthcare
Georgia Medicaid Management Program

Executive Summary

APS Healthcare is a specialty healthcare company with national prominence in medical management. We operate successful programs in numerous states and have been a part of Georgia's Medicaid service delivery system since 1999. We hold some basic beliefs that have made our programs successful and we will embrace these beliefs in our implementation of the Georgia Medicaid Management Program (GAMMP).

- Community coordination and collaboration – APS Healthcare partners closely with community organization partners in both the planning and implementation process of our programs. In Georgia, we are proud to work with the National Center for Primary Care at Morehouse School of Medicine and the Georgia Association for Primary Care, among many others. These organizations have influenced our planning and will be included in our ongoing implementation process.

- Community placement of staff in key locations – APS Healthcare identifies high-volume providers of care to the Medicaid community. We then place staff members in those locations to be a part of the internal care team and support the treatment plan and health outcomes specific to each patient.

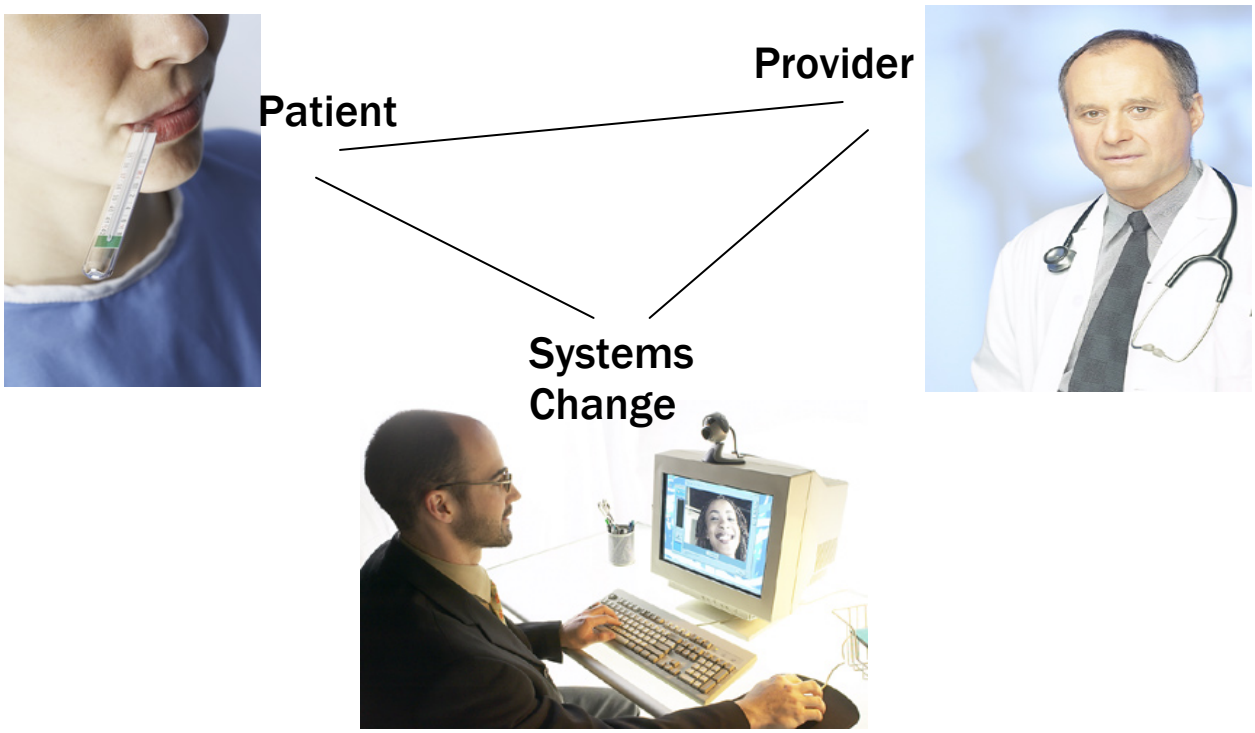
- Local operations with an understanding of cultural and linguistic needs of the Medicaid provider and client communities – APS Healthcare has served Atlanta and northern Georgia since 1999. Our long-standing connection to Georgia's Medicaid population and providers allows us to tailor services and support to the State's specific needs.

In 2005, the Georgia Department of Community Health awarded APS Healthcare a contract to serve metro Atlanta and Medicaid members in northern Georgia through the *Georgia Enhanced Care Program*. With the award of the Georgia Medicaid Management Program, APS Healthcare will expand our programs to serve approximately 250,000 additional Medicaid members and nearly 5,000 Medicaid providers and hospitals statewide.

The services provided to Georgia Medicaid members are all-encompassing. This model of total population health management includes traditional disease management and specialized case management. For example, members may have chronic medical illness—such as CHF, CAD, diabetes, COPD, asthma, depression, schizophrenia, sickle cell anemia and HIV—as well as a mental illness or developmental disability. Approximately 55-60% of the members served by APS Healthcare often have a complex behavioral/mental health illness in addition to a chronic health condition.

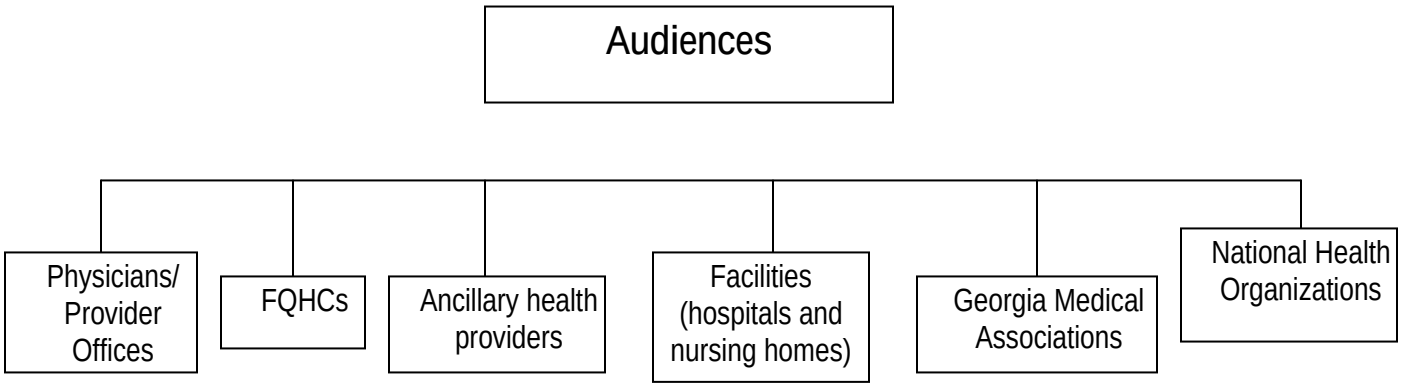
The overarching objectives of the APS Healthcare program are to:
1) Improve quality of care;
2) Improve health outcomes;
3) Reduce emergency room usage and inpatient hospitalizations;
4) Lower total costs; and
5) Better educate providers and members.

This document describes the many initiatives that APS Healthcare-Georgia will undertake to accomplish these overarching goals. There are several components to our operating model for provider and health system outreach. The following graphic depicts our model.



Provider Outreach Plan

APS Healthcare recognizes that marketing is crucial to engaging providers, advocates, and partners. Creating name recognition increases the likelihood that people will read mailings, attend meetings and partner with APS. Our marketing strategy will be specifically targeted at key groups, as well as toward the larger healthcare community. Our target audiences are:



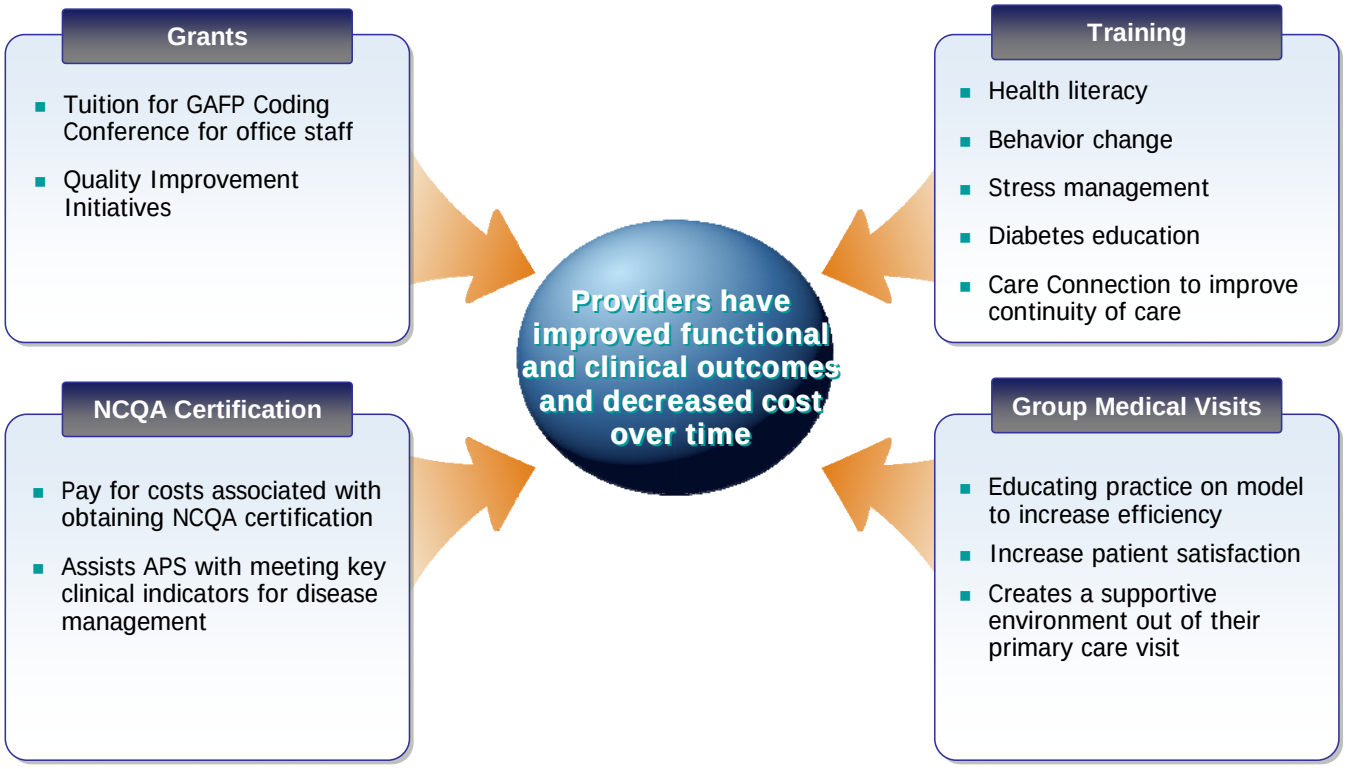
APS Healthcare believes that a focus on collaboration with community agencies and programs will deliver the best clinical and financial outcomes for our members. We will engage key stakeholders and partners who serve the Aged, Blind and Disabled (ABD) Medicaid population as a priority for our program.

Dr. Ed Wagner's *Chronic Care Model* [1] for community collaboration demonstrates the basis by which the APS Healthcare - Georgia will engage providers and community agencies. The Chronic Care Model is a population-based, evidence-based approach to developing a chronic care system within the provider office. The model relies on knowing which patients have specific illnesses, assuring that they receive evidence-based care, and actively enlisting them to participate in their own care. Each component works in concert with the other components to design a system of care that improves and sustains functional and clinical outcomes in chronic care.

APS' approach toward partnering with the provider community is one that will be viewed as a practice enhancer. APS will work with providers to provide solutions to address the chronic care needs of their patients.

[1] *Improving Chronic Illness Care, a national program of the Robert Wood Johnson Foundation, MacColl Institute, Seattle, WA"*

Practice Enhancement



Physicians/Providers

Contact and coordination with primary care physicians (PCP) and specialists who serve our members is critical to the improved health status of each member. This contact allows individual coordination of health care and resources but serves to support the larger vision of increasing the use of evidence based medicine for managing chronic conditions. In order to fulfill the objectives of the contract with the state of Georgia, APS' plan for physician/provider outreach includes:

1) Visits to physician and provider offices
    - Meet with physician, office staff, nurses, clinic office managers
    - Introduction of services offered by APS Healthcare
    - Deliver physician's member roster
    - Deliver disease kits, resource materials for use in practice
    - Deliver profiles to providers to reflect adherence to evidence based care of members (i.e. percentage of diabetic patients with two A1c tests annually, percentage of asthma patients on corticosteriods)
    - Develop referral process that aligns with practice workflow in order to request APS assistance with specific member issues
    - Develop a multi-level approach towards practice enhancement
2) Fax and mail material to physicians and providers, including:
    - Introductory Letters
    - Program Provider Manual outlining the services and benefits offered by APS Healthcare through GAMMP.
    - Provider newsletters
    - Posters for office (e.g. flu and pneumonia)
    - Notices on Medicaid benefits changes
    - Health Alerts on individual members
3) Make telephone contact with physicians/providers on:
    - Coordinating of member services/benefits
    - Sharing health information
    - Referring services and making PCP assignments
4) Provide continuing education opportunities
    - National speakers on current health topics
    - Online resources for CME
    - Offering continuing education sessions
5) Explore grant opportunities
    - Quality Improvement Initiatives within practice settings where providers implement changes to standard practices that result in improved adherence to evidence based guidelines (i.e. standing order for flu shot for patients with COPD and CHF).
    - NCQA Bridges to Excellence: reimbursement to physician who completes quality module demonstrating adherence to evidence based guidelines for specific conditions.

- Purchase of medical/biometric equipment for point of service testing
- Completion of assessments on members

6) Participate in provider association, i.e. medical society meetings
7) Develop educational tools, articles, information on continuing education, evidence based guidelines and web training via a dedicated program website.

Federally Qualified Healthcare Centers (FQHC)

The network of Federally Qualified Healthcare Centers (FQHC) is the nation's safety net for Medicaid, underinsured and uninsured patients. A large proportion of the members served through the Georgia Medicaid Management Program (GAMMP) are served at local FQHCs. These comprehensive health centers are attractive options for members seeking a primary medical home. The FQHCs are traditionally highly accessible because of ease of getting appointments and transportation to the centers. Additionally, the FQHC model often includes a variety of medical specialists as well as dental, pharmacy, and lab resources, in many cases, which can provide members with one-stop care.

Nationally, APS Healthcare has successfully partnered with FQHCs in many states to increase member enrollment and education, as well as provide resources to FQHC staff. In Georgia, our work with FQHCs has been successful through the *Georgia Enhanced Care Program.* We will extend our work with FQHCs throughout the state to coordinate healthcare and resources and support their ongoing use of evidence-based guidelines.

Our plans for work with FQHCs include:

1. Placement of staff in local FQHCs
    a. Nurses to serve as Health Coaches in providing assessment and education related to chronic diseases
    b. Coordination of AmeriCorp volunteers to serve as outreach workers
2. Coordination with physician and care team
    - Delivery of member roster
    - Meet with physician, office staff, nurses, clinic office managers for introduction of services
    - Develop process for referrals to APS staff for care coordination, education, resources
    - Develop and deliver educational sessions for members
    - Delivery of disease kits, resource materials for use in center. Refine materials and process related to existing initiatives.
    - Delivery of provider profiles on care to member

- Referrals for service/PCP assignment

3. Provide written materials
   - Provider Manual
   - Provider newsletters
   - Posters for office
   - Notice on Medicaid benefits changes
   - Health Alerts on individual members
4. Provide continuing education opportunities
   - National speaker on current health topic
   - Online resources for CME
   - Offering continuing education sessions

5. Develop grant opportunities
   - Quality Improvement Initiatives within practice setting
   - NCQA Bridges to Excellence
   - Purchase of medical equipment for point of service testing
   - Completion of assessments on members
6. Participate in Georgia Association of Primary Health Care meetings
7. Develop educational tools, articles, information on continuing education, evidence based guidelines and web training via a dedicated program website.

Ancillary Health Providers

The population of Medicaid members served through GAMMP is quite diverse in age, chronic condition and type of healthcare providers supporting the member. APS Healthcare has identified some key groups of healthcare providers who will be important conduits for contact with members. These groups include, but are not limited to:

- Georgia Community Care Providers
- SOURCE (Service Options Utilizing Resources in Community Environments)
- Area Agencies on Aging
- AIDS organizations
- Hospice providers

These organizations offer a variety of services that may overlap with services provided under GAMMP. APS Healthcare believes it is critical not to supplant existing resources and services but to augment them. To that end, we will coordinate closely with organizations that touch our members. Our plan for working with these groups includes:

1. Visits to organization/provider offices
   - Meet with staff to introduce services offered by APS Healthcare
   - Delivery of member roster

- Ascertain services provided by organization and determine needs for support, data or information from APS Healthcare
- Delivery of profiles on care to member
- Develop referral process to request APS assistance with specific member issues

2. Fax/Mail to physicians and providers
   - Introductory Letters
   - Provider newsletters
   - Notice on Medicaid benefits changes
   - Health Alerts on individual members, as appropriate
3. Telephone contact with providers
   - Coordination of member services/benefits
   - Sharing health information
   - Referrals for service/PCP assignment, as appropriate
4. Continuing education opportunities
   - Provision of training on health topics relevant to their member's needs
   - Support for staff to implement health behavior plans for members
   - Invitation to continuing education events, as appropriate
5. Grant opportunities
   - Quality Improvement Initiatives within practice setting
   - Completion of assessments on members
6. Participation in provider association/medical society meetings
7. Participation in Falls Prevention Program, based on members served
8. Website access with downloadable tools, articles, information on continuing education, evidence based guidelines and web training.

Facilities

A key component of any program to improve overall health outcomes is oversight and management of utilization within hospital settings. Further, given the scope of GAMMP, it is critical to work closely with nursing facilities since approximately 25% of the membership resides in these facilities. Our approach will vary based on the volume of members served by the hospital and who reside within the nursing facility. Our general plan follows:

1. Visits to facility
   - Meet with staff to introduce services offered by APS Healthcare
   - Provide utilization statistics such as ER usage, hospital admissions for members served in GAMMP
   - Identify opportunities to partner (i.e. placement of staff, review of admissions and coordination of discharges)

- Develop referral process to request APS assistance with specific member issues

2. Placement of staff in high volume, high cost hospitals
    a. Nurses to serve as Health Coaches to provide support to members in preventing inappropriate ER use, assessment and education related to chronic diseases
    b. Provision of community education sessions for members
3. Provide continuing education opportunities
    - National speaker on current health topic
    - Online resources for CME
    - Offering continuing education sessions
4. Develop grant opportunities
    - Quality Improvement Initiatives within practice setting
    - NCQA Bridges to Excellence
    - Purchase of medical equipment for point of service testing
    - Completion of assessments on members
5. Participate in Georgia Hospital Association and Georgia Nursing Home Association meetings
6. Participate in Falls Prevention Program, based on members served
7. Develop educational tools, articles, information on continuing education, evidence based guidelines and web training via a dedicated program website.

Georgia Medical Associations

One method for reaching a large number of providers and facilities is participation in settings and group to which they belong. APS Healthcare is already involved in a variety of "associations" in Georgia from our current work within the state. Given the population diversity of GAMMP, it is important to identify and develop new relationships with additional organizations. Some essential groups for contact include:

- Georgia Hospital Association (APS is a "participating" member for 2008)
- Georgia Academy of Family Physicians (APS is a member of their Advisory Board for 2008)
- Georgia Community Care Providers (APS is a member for 2008)
- Georgia Association of Primary Health Care
- American College of Physicians
- Georgia State Medical Society
- American Academy of Pediatrics – Georgia
- Georgia Pediatric Nurses
- Georgia Pharmacy Association
- Georgia Nursing Home Association
- American Geriatric Society -- Georgia Geriatric Society
- Medical Association of Georgia

- American Medical Association -- Atlanta Medical Association
- National Medical Association

APS Healthcare exhibits at organizational meetings throughout the year. A listing of exhibit opportunities planned for 2008 is found in Appendix A.

National Health Organizations

APS Healthcare recognizes the synergy between its mission in health management and the mission of many national health organizations such as American Diabetes Association and American Heart Association. To that end, APS Healthcare partners with local offices for national health organizations to offer Medicaid member opportunities to participate in national health events and gain access to free health information and health screens. Through our work in the *Georgia Enhanced Care Program,* APS has successfully partnered with various health organizations over the past year. Examples of partnership opportunities include:

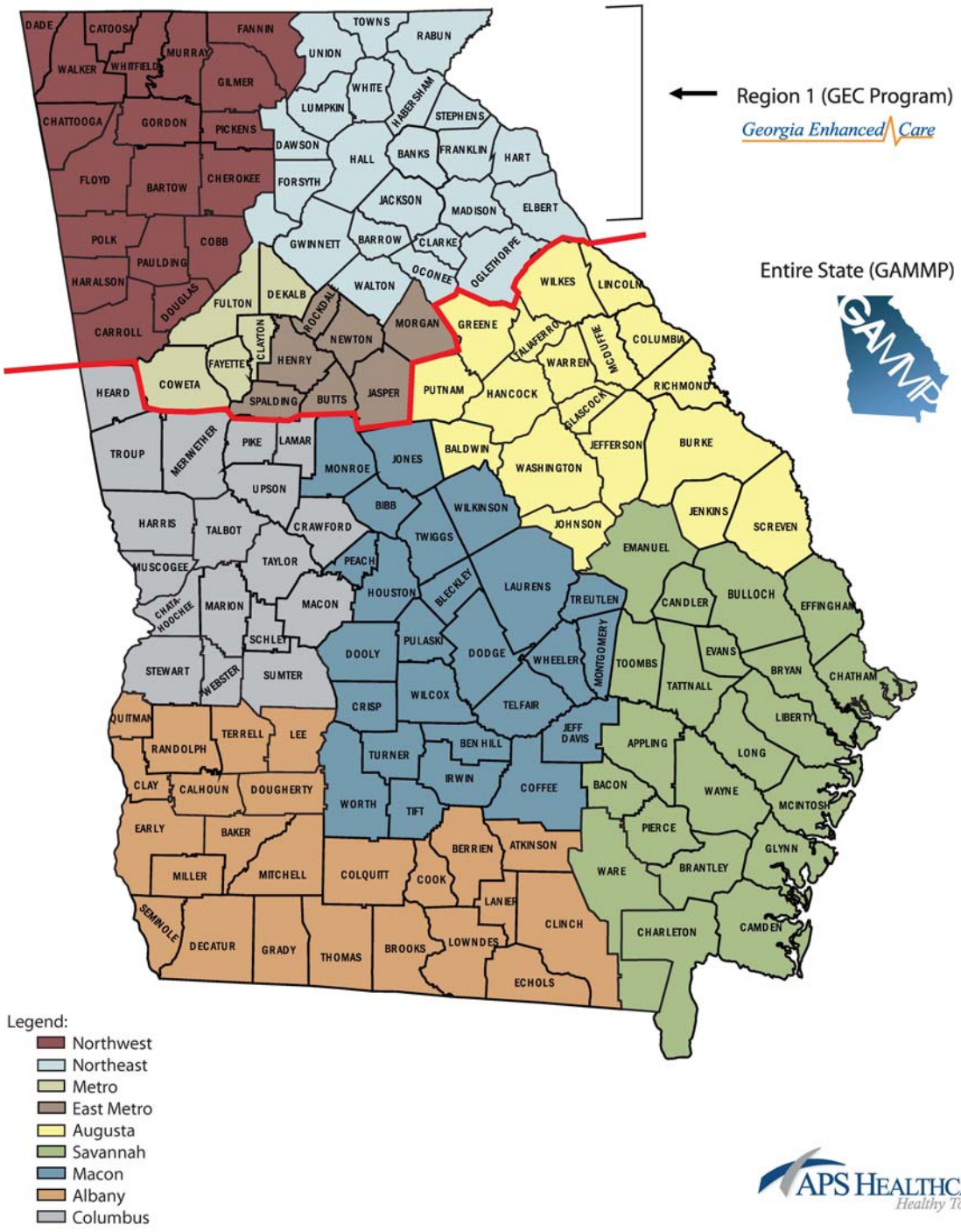
- Sponsorship of children with asthma to attend the American Lung Association's *Camp Breathe Easy* in the summer of 2008
- Partnership with the American Diabetes Association:
  - *Victory Over Diabetes* which targeted the African American community
  - *Diabetes EXPO*, a general health event
  - *Diabetes Day* in churches throughout metro Atlanta
- Partnership with the American Heart Association:
  - Promotion of *NCQA Bridges to Excellence*, opportunity for physicians to receive reimbursement for obtaining quality certification
  - Collaborate with AHA on Stroke and childhood obesity initiatives
  - Promotion of on-line provider resources, tools and training material

Outreach Goals

The following list of goals has been developed to measure the successfulness in reaching our target audiences. We will review the goals throughout the year to ensure that we are meeting specific timelines and tasks and identify whether goals need modification as a result of emerging information/trends.

I. Make second office visit to “high-volume” providers by September 30, 2008. High volume is defined as those providers who serve 50 or more members from the GAMMP.
II. Secondary visits to each FQHC in the state by December 31, 2008.
III. Visit Top 10 hospitals in the state by June 30, 2008. Top 10 is defined by highest costs for members in GAMMP.
IV. Identify key ancillary health groups/organizations and meet at least one (1) time with the leaders within the first year of operation.
V. Identify local offices of national health organizations and meet with local staff on at least a quarterly basis.
VI. Continue engaging thought leader participation on the APS Healthcare/GAMMP Clinical Advisory Panel
VII. Develop and mail quarterly Provider Newsletters Quarterly.
VIII. Develop brochures tailored to specific provider audiences such as flu shot and pneumonia shots,
IX. Exhibit at no less than three (3) events that target providers of services to Medicaid before December 31, 2008.
X. Sponsor national speaker on a relevant health topic on an annual basis.
XI. Provide continuing education opportunities for providers at least twice per year. These opportunities may take different forms including seminars, teleconference events or web-education.
XII. Provide educational materials (e.g. flu shot piece or action plans) to providers—at least 3 opportunities to access education.
XIII. Submit articles to key medical associations for newsletter consideration at least twice per year.
XIV. Submit articles to newspapers throughout the state at least twice per year.
XV. Develop a web site specific to providers that will include links to items such as:
    a. Current PDL
    b. Medicaid benefits information
    c. Web training

Marketing & Outreach Territories



Appendix

Provider Outreach Opportunities

Date	Organization	Activity
January 29-30, 2008	Annual Statewide Diabetes and cardiac disease Conference in Savannah	Exhibit and participant Dr. Mims
February 3-10, 2008	GAFP Conference	Present, Dr. Strothers
February 6, 2008	Documenting Disability Training Conference	Exhibit, participant Dr. Mims
February 7, 2008	Georgia Primary care Physician Council GAFP GAAAP, GOMA, GAACP doctors day at the capitol	Sponsor, attend
February 6-8 2008	GA Hospital Association	Participant
March 7-9 2008	American College of Physicians	Exhibit, Participant
June 6-8 2008	GA Academy of Family Physicians Savannah	Exhibit, Participant
June 4-7 2008	GA State Medical Society	Exhibit, Participant
June 1-3 2008	American Academy of Pediatrics	Participant
June 21-25, 2008	GPHA Convention	Exhibit, participant
July 21-25	Georgia medical directors Association LTC	Participant, Presenting
July 24-27, 2008	GMDA	Exhibit, participant
August 10-13, 2008	GMGMA, Office Mgrs, and Practice managers	Exhibit
September 2008	Primary Care Conference	Sponsor, Exhibit
September 2008	Community Svc Board Association	Participant
September 2008	GA Primary Healthcare Association	Speaker, Exhibit
September 2008	CSB Association	Participant, Exhibit
September 2008	GA Pediatric Nurses	Exhibit
October 14-15, 2008	GA Rural Health	Displaying, presenting
September 2008	GA Pediatric Nurses	Exhibit
October, 2008	GAPHC	Exhibit, Present
November 2007	American Academy of Pediatrics	Exhibit
November 2007	GA Academy of Family Physicians	Sponsor, Exhibit, presenting

Sample Provider Promotional Plan

Sample Plan Overview		
Month	**Theme**	**Promotional Activities**
October 2009		▪ Provider Know Your Numbers letters targeted towards patients not meeting indicators * ▪ PACHC Oct 7-9 ▪ Implement Phase I of Provider Outreach coordinator's focus on relationships and knowing APS and the product and services offered ▪ Get tools for enrollment out to providers ▪ Presentations to top high volume provider offices ▪ Provider Newsletter
November 2009		▪ Exhibit at PAAFP Meeting Oct 31-Nov 2 ▪ CME at PAAFP offered ▪ Exhibit Nov 3-7 PAPA
December 2009		▪
January 2010		▪ Provider Know Your Numbers letters ▪ Provider newsletter
February 2010		▪
March 2010		▪ PAAFP Meeting Exhibit
April 2010		▪ Provider Know Your Numbers letters ▪ Provider Newsletter
May 2010		▪ PAAFP Annual meeting
June 2010		▪
July 2010		▪ Provider Know Your Numbers letters
August 2010		▪
September 2010		▪ Flu campaign, get posters out to providers

Insert PA American Academy of Pediatrics functions or involvement
Know your numbers letters dissemination depends on measurement year e.g. if measurement year ends June 30, you would send out letters in July, October, January and April with the introductory letter to providers sent in July.

Co-brand letter with state agency logo and contact information

Name
Address
City, State Zip

Date

Re: <<Patient Name>>'s Medication Adherence

Dear Dr. <<Name>>:

The State of <<___>> <<Department of Health/Medicaid Agency>> and APS Healthcare (or DM program name) are leading an effort to improve the health of Medicaid clients with <<a behavioral health diagnosis>>. This is a multi-pronged effort which includes alerting providers to patients who have poor adherence with their <<<class of drug>> medication and outreaching to patients, themselves, to support their efforts to be compliant.

Our analysis of paid medical, behavioral and pharmacy claim files indicates that your patient, <<<**Patient's Name**>>, may not be regularly taking their medications as you have prescribed.

The attached ***Patient Health Brief****includes specific information about your patient's diagnoses, the medications they've been recently prescribed and their refilling patterns. We hope you can use this information to explore solutions to better adherence with your patient.

In addition to contacting you, we plan to have an APS nurse Health Coach call **<<Mr./Ms. Last Name>>** in the next few weeks to:

- Discuss their medication regime and why they have not been refilling their prescriptions;
- Educate them about the importance of taking their medications as prescribed;
- Coordinate services and tools to help improve their adherence; and
- Communicate back to you what the patient reports as the barrier to their medication adherence, i.e. side effects, problems getting transportation to the pharmacy, etc.

If you believe there are issues concerning <<Mr./Ms. Last Name's>> treatment that we need to be aware of before contacting <<him/her>>, please contact us via phone at 1-800-xxx-xxxx or fax 1-800-xxx-xxxx. Our outreach is meant to supplement your treatment plan and not to replace any advice you've given your patient.

If you have any questions or comments regarding this educational initiative, please contact <<<<State agency or APS Healthcare>>> at <<<xxxx>>>. Thank you for your care of Medicaid patients.

Sincerely,

Medicaid Medical Director
State Medicaid Agency

Medical Director
APS Healthcare DM Program

*This information is intended for educational purposes only. It is based on claims and point-of-sale pharmacy data; we acknowledge that we may not be aware of your patient's entire clinical picture.

Co-brand letter with state agency logo and contact information

APS HEALTHCARE
Healthy Together

PATIENT HEALTH BRIEF

PATIENT NAME: Doe, John PATIENT MEDICAID ID: 0011001100

DATE OF BIRTH: April 1, 1954 AGE: 52.7 yrs SEX: Male

This is confidential patient information and should be used by the patient's provider only

PHYSICAL AND MENTAL HEALTH DIAGNOSES

Major Diagnoses: *Top five diagnoses (based on hierarchy) derived from paid claims filed from 04/01/2007 – 06/30/2008*

- Diabetes
- Hypertension
- Bipolar disorder, manic
- Myocardial infarction, acute

ALERTS

There are three types of procedure and pharmacy-related alerts which can compromise a patient's health and quality of life. Those listed below are based on claims information and propriety algorithms which reflect current evidence-based guidelines. If these issues have been not been addressed, please review the need for testing.

1. Omission of procedure or drug therapy according to evidence based guidelines

According to claims information, this patient has a diagnosis for diabetes, but no claims have been received for an HbA1c in the past 12 months.

2. Medication prescribing areas of concern

A prescription for an antipsychotic was prescribed by more than one physician.

3. Non-adherence to medication regime

The patient's medication adherence was below the benchmark for the following behavioral health medications. The MPR score(s) fall below the "adherent" threshold (of 0.80).

Drug Name	MPR Score
Risperidone	0.65
Diazepam	0.22
Valproic Acid	0.55

MEDICATION DETAIL

Medications Prescribed in Last Three Months: ***Based on paid claims and point of sale pharmacy information filed from 04/01/2008 – 06/30/2008***

Drug Name	mg/day	Date Filled	Dosage Strength (mg)	Days Supply	Quantity Dispensed	Doses Per Day	Prescribing Physician
Atenolol	25	4-21-2008	25	30	30	1	Dr. Jones
Phenelzine	15	5-04-2008	15	30	30	1	Dr. Peterson
Metformin	2000	5-04-2008	1000	30	60	2	Dr. Jones
Diazepam	15	5-04-2008	2	15	45	3	Dr. Tuttle
Risperidone	2	6-04-2008	2	30	30	1	Dr. Peterson
Alprazolam	2	6-04-2008	0.5	25	100	4	Dr. Barnes
Risperidone	2	6-30-2008	2	30	30	1	Dr. Tuttle
Valproate	1500	6-30-2008	500	5	15	3	Dr. Tuttle

NOTE ABOUT MEDICATION ADHERENCE

Medication adherence is a critical aspect in the treatment of and recovery from a psychiatric disorder. A ***Medication Possession Ratio (MPR)*** is a measure of patient adherence using pharmacy claims information to determine the availability of medications to the patient over time. The ratio can be helpful to clinicians and case managers in determining the patient's consistency in refilling their prescribed medications.

Based on research findings and publications, the important benchmarks for MPR are as follows:

- A patient with ***an MPR of 0.80*** (80% of the time the drug is available) is MPR adherent (referred to as the "Gold Standard" of MPR adherence in the literature).
- A patient has ***an MPR range of 0.60 to 0.80*** is considered partially adherent.
- A patient who has ***an MPR below 0.60*** is considered non-adherent.

Those medications listed on page one of this Patient Health Brief reflect those which adherence is BELOW the benchmark of 0.80. We recommend that support and education be provided to this patient in order to improve adherence.

This report is intended to provide you with information that may help you in your care of this patient.
It is based on data provided by <<State Medicaid Agency Name>>.
The data may not be completely accurate, and we encourage you to report to us any inaccuracies you may find.

DIABETES CLINICAL ALERT
PHYSICIAN INFORMATION FORM

FACSIMILE TRANSMITTAL SHEET

To: [Physician Name]	From: [APS Health Coach Name]
FAX NUMBER:	Date:
PHONE NUMBER:	TOTAL NO. OF PAGES INCLUDING COVER:
Re:	

☐ **Urgent** ■ **For Review** ☐ **Please Comment** ■ **Please Reply**

Please see the following pages for information received during a recent telephone contact with one of your patients. Your timely response will enable us to better serve your patient and better assist you in your patient's care. Thank you.

APS Healthcare, Inc, is a specialty healthcare company serving more than 12 million individuals nationwide. APS has been retained by ***CMS*** *to offer our* ***Healthy Together…Taking Care Program****. These programs include outreach activities, delivered by clinicians (Health Coaches) focused on providing education and support to your patients, in order to assist them in achieving maximum control of their symptoms. Our* ***Healthy Together…Taking Care Programs*** *are not intended to replace or interrupt the services you are already rendering to your patients, but to complement them through educational reinforcement and support.*

DIABETES CLINICAL ALERT
PHYSICIAN INFORMATION FORM

Physician Name: _____

Physician Fax #: (_____) _____ - _____

Patient Name: _____ **APS ID#:** _____

Date of Birth: ___/___/___ **Date Enrolled:** ___/___/___

Group Name: _____

Health Coach Name: _____

Phone #: (_____) _____ - _____ **Fax #: (_____) _____ - _____**

During a Recent Telephone Contact, Your Patient Reported the Following:

- ❑ Recurrent Symptomatic Hypoglycemic Episodes
- ❑ Recurrent Symptomatic Hyperglycemic Episodes
- ❑ Inadequate Glycemic Control
  Blood Sugar Range: _____
- ❑ Inadequate Blood Pressure Control
  Blood Pressure Readings: _____
- ❑ Vision Changes
- ❑ Other Pertinent Symptoms: _____
  _____
- ❑ Paresthesia
- ❑ Open or Non-Healing Wounds
- ❑ Significant Weight Loss
- ❑ Chest Pain
- ❑ Shortness of Breath

The Patient Reports Taking the Following Medications:

- ❑ Oral Hypoglycemic Agents: _____
- ❑ Insulin: _____
- ❑ Ace Inhibitor: _____
- ❑ Lipid Lowering Agents: _____
- ❑ Other Pertinent Medications: _____
  _____

Other Pertinent Information: _____

_____

_____

Please Consider Providing the Patient with Orders for:

- ❑ Home Health Referral
- ❑ Nutritional Counseling
- ❑ Glucometer and Supplies
- ❑ Smoking Cessation Program
- ❑ Behavioral Health Counseling

APS Healthcare

DIABETES CLINICAL ALERT
PHYSICIAN INFORMATION FORM

PHYSICIAN RESPONSE FORM

RE: <PATIENT NAME>
APS ID#: <FROM CCMS>
DATE OF BIRTH: <PAT BDATE>
Date Enrolled: <ENROLL DATE>

APS Health Coach Name: _____

APS Health Coach Phone Number: _____

APS Health Coach Fax Number: _____

Physician Response *(Physician to Complete Section Below)*:

Most Recent Lab/Screening Results:

HbA1C: _____ Date Obtained: _____
Total Cholesterol: _____ Date Obtained: _____
LDL: _____ Date Obtained: _____
HDL: _____ Date Obtained: _____

- ❑ I have seen/talked with this person and reviewed the issues identified.
- ❑ I will address this at the next regular appointment scheduled for *(enter date)* _____
- ❑ I would like the Health Coach to reinforce the following:

  _____

  _____

  _____

- ❑ Other:

  _____

  _____

  _____

Signed: _____ Date: _____

PLEASE NOTE: *The APS Health Coach will reinforce the changes/clarifications documented but he/she cannot prescribe or initiate treatment changes.*

HEART FAILURE CLINICAL ALERT
PHYSICIAN INFORMATION FORM

FACSIMILE TRANSMITTAL SHEET

To: [Physician Name]	From: [APS Health Coach Name]
FAX NUMBER:	Date:
PHONE NUMBER:	TOTAL NO. OF PAGES INCLUDING COVER:
Re:	

☐ **Urgent** ■ **For Review** ☐ **Please Comment** ■ **Please Reply**

Please see the following pages for information received during a recent telephone contact with one of your patients. Your timely response will enable us to better serve your patient and better assist you in your patient's care. Thank you.

APS Healthcare, Inc, is a specialty healthcare company serving more than 12 million individuals nationwide. APS has been retained by ***CMS*** *to offer our* ***Healthy Together…Taking Care!*** *program. These programs include outreach activities, delivered by clinicians (Health Coaches) focused on providing education and support to your patients, in order to assist them in achieving maximum control of their symptoms. Our* ***Healthy Together…Taking Care! Programs*** *are not intended to replace or interrupt the services you are already rendering to your patients, but to complement them through educational reinforcement and support.*

HEART FAILURE CLINICAL ALERT
PHYSICIAN INFORMATION FORM

Physician Name: _____

Physician Fax#: (_____) _____ - _____

Patient Name: _____ **APS ID#:**_____

Date of Birth: ___/___/___ **Date Enrolled:** ___/___/___

Group Name: _____

Health Coach Name: _____

Phone #: (_____) _____ - _____ **Fax #: (_____) _____ - _____**

During a Recent Telephone Contact, Your Patient Reported the Following:

- ❑ Shortness of Breath
- ❑ Fatigue
- ❑ Activity Intolerance
- ❑ Edema
- ❑ Weight Gain
  - ___ ≥ 2lbs/day
  - ___ ≥ 5lbs/week
- ❑ Other Pertinent Symptoms: _____

_____

The Patient Reports Taking the Following Medications:

- ❑ Ace Inhibitor: _____
- ❑ Diuretic: _____
- ❑ Beta Blocker: _____
- ❑ Potassium Supplement: _____
- ❑ Nitrate: _____
- ❑ Digoxin: _____
- ❑ Other Pertinent Medications: _____

Other Pertinent Information: _____

_____

_____

Please Consider Providing the Patient with Orders for:

- ❑ Cardiac Rehabilitation
- ❑ Nutritional Counseling
- ❑ Home Health Referral
- ❑ Smoking Cessation Program
- ❑ Hospice
- ❑ Behavioral Health Counseling

HEART FAILURE CLINICAL ALERT
PHYSICIAN INFORMATION FORM

PHYSICIAN RESPONSE FORM
RE: <PATIENT NAME>
APS ID#: <FROM CCMS>
DATE OF BIRTH: <PAT BDATE>
Date Enrolled: <ENROLL DATE>

APS Health Coach Name: _____

APS Health Coach Phone Number: _____

APS Health Coach Fax Number: _____

Physician Response *(Physician to Complete Section Below)*:

Most Recent Lab/Screening Results:

Total Cholesterol: _____ Date Obtained: _____
LDL: _____ Date Obtained: _____
HDL: _____ Date Obtained: _____
Blood Pressure Reading: _____ Date Obtained: _____

- ❑ I have seen/talked with this person and reviewed the issues identified.
- ❑ I will address this at the next regular appointment scheduled for
  (enter date) _____
- ❑ I would like the Health Coach to reinforce the following:

  _____

  _____

  _____

- ❑ Other:

  _____

  _____

  _____

Signed: _____ Date: _____

PLEASE NOTE: *The APS Health Coach will reinforce the changes/clarifications documented but he/she cannot prescribe or initiate treatment changes.*

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Purpose of the document

The purpose of this document is to provide a block-by-block reference guide to assist the following provider types in successfully completing the CMS-1500 Claim Form:

- **Certified Nurse Midwife**
- **Certified Registered Nurse Practitioners**
- **Hospital Based Clinics**
- **Independent Medical/Surgical Clinics**
- **Physicians**

Document format

This document contains a table with four columns. Each column provides a specific piece of information as explained below:

- **Block Number** – Provides the block number as it appears on the claim.
- **Block Name** – Provides the block name as it appears on the claim.
- **Block Code** – Lists a code that denotes how the claim block should be treated. They are:

  M – Indicates that the claim block must be completed.

  A – Indicates that the claim block must be completed, if applicable.

  O – Indicates that the claim block is optional.

  LB – Indicates that the claim block should be left blank.

  * – Indicates special instruction for block completion.
- **Notes** – Provides important information specific to completing the claim block. In some instances, the Notes section will indicate provider specific block completion instructions.

Message for Hospitals

If hospitals bill for complete EPSDT screens on the UB-04 or in the 837I electronic format, **the MA fee for a complete EPSDT screening will not be received**.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

IMPORTANT INFORMATION FOR CMS-1500 CLAIM FORM COMPLETION

Note #1: If you are submitting handwritten claim forms you must use **blue** or **black** ink.

Note #2: **Font Sizes –** Because of limited field size, either of the following type faces and sizes are recommended for form completion:

- **Times New Roman, 10 point**
- **Arial, 10 Point**

Other fonts may be used, but ensure that all data will fit into the fields, or the claim may not process correctly.

Note #3: When completing the following blocks of the CMS-1500, **do not use decimal points and be sure to enter dollars and cents**:

1. Block 24f ($Charges)
2. Block 29 (Amount Paid)

If you fail to enter both dollars and cents, your claim may process incorrectly. For example, if your usual charge is sixty-five dollars and you enter 65, your usual charge may be read as .65 cents.

Example #1: When completing Block 24f, enter your usual charge to the general public, without a decimal point. You must include the dollars and cents. If your usual charge is fifteen dollars, enter:

24f	
$CHARGES	
15	00

Example #2: When completing Block 29, you are reporting patient pay assigned by the County Assistance Office (CAO). Enter patient pay as follows, including dollars and cents:

29	
Amount Paid	
50	00

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Complete EPSDT Screens

All providers billing for complete Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Screens must bill using the CMS-1500 Claim Form or electronically using the 837P format.

Providers choosing to bill for EPSDT Screens via the CMS-1500 Claim Form must bill using all of the individual age-appropriate procedure codes, including immunizations, for a complete screen. Please consult the **Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program Periodicity Schedule and Coding Matrix (Periodicity Schedule)** and the **Age Range Requirements for Screening Visits Desk Guide** as well as the **Recommended Childhood and Adolescent Immunization Schedules (Immunization Schedules)** for screening eligibility information and the services required to bill for a complete EPSDT Screen.

Note: The **Periodicity Schedule** and the **Immunization Schedules** are updated *periodically* and published in Medical Assistance Bulletins (MABs). Please use the most recent schedules when providing EPSDT Screens.

Please review the instructions in the billing guide for the following blocks when submitting a claim form for a complete EPSDT Screen:

- **Block 10d (Reserved for Local Use)** – This Block **MUST** be completed when a referral was made as a result of the screen, including where required according to the Periodicity Schedule. Use the appropriate EPSDT Referral Code(s) when you refer a child to another practitioner as a result of the EPSDT Screen.

Please note effective with dates of service on and after September 1, 2008, the YD referral code for Dental referrals will be required for all complete EPSDT screens delivered to children who are age 3 and older.

- **Block 21 (Diagnosis or Nature of Illness or Injury)** – The diagnosis (DX) code in block 21 must be either **V200**, **V201** or **V202** for an EPSDT Screen. When applicable, you may enter up to three additional diagnosis codes. Please note that you are **not required** to use immunization diagnosis codes.
- **Block 24h** – Enter Visit Code **03** to indicate that you are billing for an EPSDT service.

The EPSDT assessment code and modifier EP must be reported on the first claim line of Block 24d. Please list all of the required components of a EPSDT Screen, which were provided, in Block 24d on lines 02 through 06. If more than six claim lines are necessary to report the components of a complete EPSDT Screen, **please use two claim forms**. If a second CMS-1500 Claim Form is necessary, use the second CMS-1500 Claim Form to report any additional procedure codes (e.g., immunizations).

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Complete EPSDT Screens (cont'd)

The following provides an example of how to complete the CMS-1500 for a EPSDT Screen.

Example:

A 3-year old child comes into your office/hospital clinic for an EPSDT Screen. As per the Periodicity Schedule, the **required components** for a 3-year EPSDT Screen are:

- A periodic preventative medicine evaluation (new patient – Procedure Code 99382) or reevaluation (established patient – Procedure Code 99392);
- Visual acuity screen (Procedure Code 99173)
- Hearing – Audio Screen or Pure tone-air only (Procedure Codes 92551 or 92552)
- Referral to a dental home.

Enter the required components of the EPSDT Screen, which were performed.

For example:

- **Claim Line 1, Block 24d** – Enter **99392 EP**
- **Claim Line 2, Block 24d** – Enter **99173**
- **Claim Line 3, Block 24d** – Enter **92551**
- **Block 10d, YD referral code**

Utilize a second CMS-1500 Claim Form if more than six claim lines are required to report the components of the EPSDT Screen.

MA Fee for Complete/ Incomplete EPSDT Screen

The MA fees for complete EPSDT Screens are paid by the Department when a complete EPSDT Screen has been performed and billed according to the Pennsylvania's EPSDT Program Periodicity Schedule and Coding Matrix, with the appropriate use of modifiers, referral codes and diagnosis codes. Incomplete EPSDT Screens may be paid at the MA fee schedule rate for the assessment code (as represented by the MA Fee Schedule) and/or MA fee schedule rate for each component code reported. The combined MA fee for all required individual service components will not equal or exceed the MA fee for a complete EPSDT Screen which is assigned to the specific screening period.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Incomplete EPSDT Screens

Incomplete EPSDT Screens are office visits where the provider did not complete all of the required components listed on the Periodicity Schedule for the child's screening period. This includes use of applicable modifiers, diagnosis codes and required referral codes.

Independent Medical/Surgical Clinic providers who wish to bill for the office visit components/incomplete EPSDT Screen should bill the service as a clinic visit with procedure code T1015, with their pricing modifier U7 and informational modifier EP. This service should also be billed on the CMS 1500 / 837P.

Outpatient hospital clinics wishing to bill individual EPSDT components/incomplete screens should refer to the Medical Assistance Program Fee Schedule and the **UB-04 Billing Guide for PROMISe Hospitals** for instructions.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

You must follow these instructions to complete the CMS-1500 Claim Form when billing the Department of Public Welfare. **Do not imprint, type, or write any information on the upper right hand portion of the form.** This area is used to stamp the Internal Control Number (ICN), which is vital to the processing of your claim. Do not submit a photocopy of your claim to DPW.

Block No.	Block Name	Block Code	Notes
1	Type of Claim	M	Place an **X** in the Medicaid box.
1a	Insured's ID Number	M	Enter the 10-digit recipient number found on the ACCESS card. If the recipient number is not available, access the Eligibility Verification System (EVS) by using the recipient's Social Security Number (SSN) and date of birth (DOB). The EVS response will then provide the 10-digit recipient number to use for this block.
2	Patient's Name	A	It is recommended that this field be completed to enable Medical Assistance (MA) to research questions regarding a claim. ***This field is required when billing for newborns using the mother's patient number.** Enter the newborns name. If the first name is not available, you are permitted to use Baby Boy or Baby Girl.
3	Patient's Birthdate and Sex	A	Enter the patient's date of birth using an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 02151978) and indicate the patient's gender by placing an **X** in the appropriate box. ***Same as the special instruction for Block 2.** Enter the newborn's date of birth in an eight-digit format.
4	Insured's Name	A	If the patient has health insurance other than MA, list the name of the insured here. Enter the name of the insured except when the insured and the patient are the same - then the word **SAME** may be entered. If there is no other insurance other than MA, leave this block blank.
5	Patient's Address	O	Enter the patient's address.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
6	Patient's Relationship to the Insured	A	Check the appropriate box for the patient's relationship to the insured listed in Block 4.
7	Insured's Address	A	Enter the insured's address and telephone number except when the address is the same as the patient's, then enter the word **SAME**. Complete this block only when Block 4 is completed.
8	Patient Status	O	Place an **X** in the appropriate blocks to describe the patient's status.
9	Other Insured's Name	A	If the patient has another health insurance secondary to the insurance named in Block 11, enter the last name, first name, and middle initial of the insured if it is different from the patient named in Block 2. If the patient and the insured are the same, enter the word **SAME.** If the patient has MA coverage only, leave the block blank.
9a	Other Insured's Policy and Group Number	A	This block identifies a secondary insurance other than MA, **and** the primary insurance listed in 11a–d. Enter the policy number and the group number of any secondary insurance that is available. Only use Blocks 9a–d, if you have completed Blocks 11a–d, and a secondary policy is available. (For example, the patient may have both Blue Cross and Aetna benefits available.)
9b	Other Insured's Date of Birth and Sex	A	If a secondary insurance exists, enter the other insured's date of birth. Please make sure the date is in an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 03011978) and indicate the patient's gender by placing an **X** in the appropriate box.
9c	Employer's Name or School Name	A	Enter the name of the other insured's employer.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
9d	Insurance Plan Name or Group Name	A	Enter the other insured's insurance plan name or group name.
10a-10c	Is Patient's Condition Related To:	A	Complete the block by placing an **X** in the appropriate **YES** or **NO** box to indicate whether the patient's condition is related to employment, auto accident, or other accident (e.g., liability suit) as it applies to one or more of the services described in Block 24d. For auto accidents, enter the state's two-digit postal code for the state in which the accident occurred in the PLACE block (e.g., PA for Pennsylvania).
10d	Reserved For Local Use	A	**This Block MUST be completed** when a referral was made as a result of the screen, including where required according to the Periodicity Schedule. This block is used for Federal reporting purposes. **NOTE: Effective with dates of service on and after September 1, 2008, referral to a dental home is a required component of all EPSDT Screens beginning at 3 years of age.** Enter the applicable two-character EPSDT Referral Code for referrals made or needed as a result of the screen: **YM** – Medical Referral **YD** – Dental Referral **(a required component for all children 3 years of age and above)** **YV** – Vision Referral **YH** – Hearing Referral **YB** – Behavioral Health Referral **YO** – Other Referral For a complete listing and explanation of EPSDT Referral Codes, please refer to the *CMS-1500 Claim Form Desk Reference*, located in Appendix A of the handbook.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
11	Insured's Policy Group or FECA Number	A/A	Enter the policy number and group number of the primary insurance other than MA.
11a	Insured's Date of Birth and Sex	A/A	Enter the insured's date of birth in an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 03011978) and insured's gender if it is different than Block 3.
11b	Employer's Name or School Name	A	Enter the name of the other insured's employer for the primary insurance.
11c	Insurance Plan Name or Program Name	A	List the name and address of the primary insurance listed in Block 11.
11d	Is There Another Health Benefit Plan?	A	If the patient has another resource available to pay for the service, bill the other resource before billing MA. If the **YES** box is checked, Blocks 9a–d must be completed with the information on the additional resource.
12	Patient's or Authorized Person's Signature and Date	M/M	The patient's signature or the words **Signature Exception** must appear in this field. Also, enter the date of claim submission in an 8-digit MMDDCCYY format (e.g., 03012004) with no slashes, hyphens, or dashes. **Note:** Please refer to Section 6 of the PA PROMISe™ Provider Handbook for the 837 Professional/CMS-1500 Claim Form for additional information on obtaining patients signatures.
13	Insured's or Authorized Person's Signature	O	If completed, this block should contain the signature of the insured, if the insured is not the patient.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
14	Date of Current	O	If completed, enter the date of the current illness (first symptom), injury (accident date), or pregnancy in an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 03012004).
15	If Patient Has Had Same or Similar Illness	O	If the patient has had the same or similar illness, list the date of the first onset of the illness in an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 03012002).
16	Dates Patient Unable to Work in Current Occupation	O	If completed, enter the **FROM** and **TO** dates in an eight-digit MMDDCCYY (month, day, century, and year) format (e.g., 03012003), only if the patient is unable to work due to the current illness or injury. This block is only necessary for Worker's Compensation cases. It must be left blank for all other situations.
17	Name of Referring Physician or Other Source	A	Enter the name and degree of the referring or prescribing practitioner, when applicable.
17a	I.D. Number of Referring Physician	A	In the first portion of this block, enter a two-digit qualifier that indicates the type of ID: **0B** = License Number **1D** = 13-digit Provider ID number (Legacy Number) In the second portion, enter the **license number** of the referring or prescribing practitioner named in Block 17 (e.g., MD123456X). If the practitioner's license number was issued after June 29, 2001, enter the number in the new format (e.g., MD123456). If an out-of-state provider orders the service, enter the two-letter State abbreviation, followed by six "9"s, and an "X". For example, a prescribing practitioner from New Jersey would be entered as NJ999999X.
17b	NPI #	A	Enter the 10-digit National Provider Identifier number of the referring provider, ordering provider, or other source.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
18	Hospitalization Dates Related to Current Services	LB	Do not complete this block.
19	Reserved For Local Use	A/A	This field must be completed with attachment type codes, when applicable. Attachment type codes begin with the letters "**AT**" followed by a two-digit number (i.e., **AT05**). Enter up to four, 4-character alphanumeric attachment type codes. When entering more than one attachment type code, separate the codes with a comma (,). When using "**AT05**" indicating a Medicare payment, please remember to properly complete and **attach** the "Supplemental Medicare Attachment for Providers" form. When using "**AT10**" indicating a payment from a Commercial Insurance, please remember to properly complete and **attach** the "Supplemental Attachment for Commercial Insurance for Providers" form. Attachment Type Code "**AT99"** indicates that remarks are attached. Remarks must be placed on an 8-1/2" x 11" sheet of white paper clipped to your claim. Remember, when you have a remarks sheet attached, include your provider number and the recipient's number on the top left-hand corner of the page (i.e., Enter **AT26, AT99** if billing for newborns that have temporary eligibility under the mother's recipient number. On the remarks sheet, include the mother's full name, date of birth, and social security number.). If submitting an adjustment to a previously paid CMS-1500 claim (as referenced in Block 22), you must paper clip an 8-1/2" by 11" sheet of paper to the paper claim form containing an explanation as to why you are submitting the claim adjustment. For a complete listing and description of Attachment Type Codes, please refer to the *CMS-1500 Claim Form Desk Reference*, located in Appendix A of the handbook. *For additional information on completing CMS-1500 Claim Form adjustments, please refer to Section 2.10 – Claim Adjustments of the 837 Professional/CMS-1500 Claim Form Handbook.*

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
		A	**Qualified Small Businesses** Qualified small businesses must always enter the following message in Block 19 (Reserved for Local Use) of the CMS-1500, in addition to any applicable attachment type codes: "**(Name of Vendor) is a qualified small business concern as defined in 4 Pa Code §2.32.**"
Note: If the recipient has coverage through Medicare Part B and MA, this claim should automatically cross over to MA for payment of any applicable deductible or co-insurance. If the claim does not cross over from Medicare and you are submitting the claim directly to MA, enter **AT05** in Block 19 and attach a completed "Supplemental Medicare Attachment for Providers" form to the claim.			
20	Outside Lab?	LB	Do not complete this block.
21	Diagnosis or Nature of Illness or Injury	M/A	**When billing for EPSDT screens,** diagnosis (DX) code V200, V201 or V202 (Routine Infant or Child Health Check) must be used in this block. **EXCEPTION** when billing for newborns in an inpatient setting (Place of Service 21). Please use Diagnosis Code V3000 in the primary field with V200,V201 or V202 in the secondary field when submitting an EPSDT screen performed in an inpatient hospital setting. Additional diagnosis codes should be entered in fields 21.2, 21.3, and 21.4. An appropriate diagnosis code must be included for each referral. Immunization V-Codes are not required.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
22	Medicaid Resubmission	A/A	This block has two uses: 1) When resubmitting a rejected claim. If resubmitting a rejected claim, enter the 13-digit internal control number (ICN) of the **ORIGINAL** rejected claim in the right portion of this block (e.g., | 1103123523123). 2) When submitting a claim adjustment for a previously approved claim**.** If submitting a claim adjustment, enter ADJ in the left portion of the block and the **LAST APPROVED** 13-digit ICN, a space and the 2-digit line number from the RA Statement in the right portion of the block (e.g., ADJ | 1103123523123 01). **Note:** If your claim was submitted prior to the implementation of PROMISe™, enter the 10-digit claim reference number (CRN) in place of the ICN.
23	Prior Authorization Number	LB	Do not complete this block.
24a	Dates of Service	M/M	Enter the applicable date(s) of service.
24b	Place of Service	M	Enter the two-digit place of service code that indicates where the service was performed. **11** – Office **21** – Inpatient Hospital **22** – Outpatient Hospital **49** – Independent Clinic
24c	EMG	LB	Do not complete this block**.**

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
24d	Procedures, Services, or Supplies (CPT/HCPCS & Modifier)	M/A/A	Review the applicable CPT code(s) for all services provided. Refer to the Periodicity Schedule and Coding Matrix for all required components of a complete EPSDT Screen. List the procedure code(s) for the service(s) being rendered and any applicable modifier(s). In the first section of the block, enter the procedure code that describes the service provided. In the second and third sections of the block, enter up to four applicable modifiers. *If you were unable to provide a required service, please use the appropriate procedure code with modifier 52. Providers should make every effort possible to complete that service at the next screening opportunity.* *If you have referred a child to an outside laboratory, please use the appropriate procedure code with modifier 90.* *For compensable procedure code modifier combinations, please refer to the PA* PROMISe™ *fee schedule accessible via the DPW Internet site.*
24e	Diagnosis Pointer	M	This block may contain up to four digits. If the service was provided for the primary diagnosis (in Block 21), enter **1**. If provided for the secondary diagnosis, enter **2**. If provided for the third diagnosis, enter **3**, and for the fourth diagnosis, enter **4.**
24f	$Charges	M	Enter your usual charge to the general public for the service(s) provided. If billing for multiple units of service, multiply your usual charge by the number of units billed and enter that amount. For example, if your usual charge is sixty-five dollars, enter **6500**.
24g	Days or Units	M	Enter the number of units, services, provided.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
24h	EPSDT/Family Planning	A	**Enter Visit Code 03 when providing EPSDT screening services.**
24i	ID Qualifier	A	Enter the two-digit ID Qualifier: **1D** = 13-digit Provider ID Number (legacy #)
24j (a)	Rendering Provider ID #	A	Complete with the **Rendering Provider's** Provider ID number (nine-digit provider number and the applicable four-digit service location – 13-digits total). **Note**: Only one rendering provider per claim form.
24j (b)	NPI	A	Enter the 10-digit NPI number of the rendering provider.
25	Federal Tax I.D. Number	M	Enter the provider's Federal Tax Employer Identification Number (EIN) or SSN and place an **X** in the appropriate block.
26	Patient's Account Number	O	**Use of this block is strongly recommended**. It can contain up to ten alpha, numeric, or alphanumeric characters and can be used to enter the patient's account number or name. Information in this block will appear in the first column of the Detail Page in the RA Statement and will help identify claims if an incorrect patient number is listed.
27	Accept Assignment?	LB	Do not complete this block.
28	Total Charge	LB	Do not complete this block.
29	Amount Paid	LB	Do not complete this block.
30	Balance Due	LB	Do not complete this block.

CMS-1500 Billing Guide for PROMISe™ Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Services

Block No.	Block Name	Block Code	Notes
31	Signature of Physician or Supplier Including Degree or Credentials	M/M	This block must contain the signature of the provider rendering the service. A signature stamp is acceptable, except for abortions, if the provider authorizes its use and assumes responsibility for the information on the claim. If submitting by computer-generated claims, this block can be left blank; however, a Signature Transmittal Form (MA 307) must be sent with the claim(s). Enter the date the claim was submitted in this block in an eight-digit (MMDDCCYY) format (e.g. 03012004).
32	Service Facility Location Information	LB	Do not complete this block.
32a		LB	Do not complete this block.
32b		LB	Do not complete this block.
33	Billing Provider Info & Ph.#	A/A& M/M	Enter the billing provider's name, address, and telephone number **Do not use slashes, hyphens, or spaces.** **Note:** If services are rendered in the patient's home or facility, enter the service location of the provider's main office.
33a		A	Enter the 10-digit NPI number of the billing provider.
33b		M/A	Enter the 13-digit Group/Billing Provider ID number (Legacy #)

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DEPARTMENT OF PUBLIC WELFARE
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MEDICAL ASSISTANCE BULLETIN

ISSUE DATE	EFFECTIVE DATE	NUMBER
September 18, 2008	September 1, 2008	99-08-13

SUBJECT

Updates to the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program Periodicity Schedule

Michael Nardone, Deputy Secretary
Office of Medical Assistance Programs

PURPOSE:

The purpose of this Bulletin is to notify providers of updates to Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Periodicity Schedule and Coding Matrix (Periodicity Schedule) and billing instructions for EPSDT screens, effective September 1, 2008; and to announce associated fee increases for complete EPSDT screens.

SCOPE:

This bulletin applies to all providers enrolled in the Medical Assistance (MA) Program who provide EPSDT screens for MA recipients in the Fee-for-Service (FFS) (including ACCESS Plus) and managed care delivery systems, except that providers rendering services in the managed care delivery system should address any payment-related or coding questions to the appropriate MA Managed Care Organization (MCO).

BACKGROUND:

The Department of Public Welfare (Department) recognizes the EPSDT screening period as a unique opportunity to perform a comprehensive evaluation of a child's health and provide appropriate and timely follow-up diagnostic and treatment services. The Department emphasizes the importance of the EPSDT screening program and covers screening services at intervals which are based on the recommendations of the American Academy of Pediatrics (AAP), American Dental Association (ADA) and the American Academy of Pediatric Dentistry (AAPD). The most recent update to Pennsylvania's EPSDT Periodicity Schedule was issued with a MA Bulletin in October 2005 to support the early intervention and prevention of pediatric overweight and obesity.

COMMENTS AND QUESTIONS REGARDING THIS BULLETIN SHOULD BE DIRECTED TO:

The appropriate toll-fee number for your provider type.

Visit the Office of Medical Assistance Programs Web site at www.dpw.state.pa.us/omap

The AAP published its third edition of *Bright Futures: Guidelines for Health Supervision of Infants, Children and Adolescents* earlier this year. The 2008 Bright Futures Guidelines reflect the current recommendations of the AAP and the organizations, agencies and other members of the Bright Futures Project Advisory Committees for preventative pediatric screening and health supervision.

The 2008 Bright Futures Guidelines recommend that children receive structured developmental screening, not just developmental surveillance, and screening for Autism Spectrum Disorders (ASDs) as components of a complete EPSDT screen at certain periodicities. Developmental surveillance is the process of observing children to determine whether they may be at risk of developmental delays. Screening for developmental delays and ASDs is defined as the use of standardized screening tools to identify and refine that observed risk.

The 2008 Bright Futures Guidelines and the Centers for Medicare and Medicaid Services also recommend that the preventative oral health component of the screen include a referral to a dental home. According to the AAPD, a dental home is an ongoing relationship between a dentist and patient that includes all aspects of oral health care, including referral to dental specialists when appropriate, delivered in a comprehensive, continuously accessible, coordinated and family-centered way. Ideally, a dental home should be established no later than 12 months of age.

To encourage providers to perform complete EPDST screens and support the additional time needed to perform such screens and increase the number of screens performed, several years ago the MA Program established a higher fee of $65.00 for complete EPSDT screens. A complete EPSDT screen is one that includes all of the components listed on the Department's Periodicity Schedule.

DISCUSSION:

Effective September 1, 2008, the Department has updated the EPSDT Periodicity Schedule and billing instructions for EPSDT screens and has increased the fees for complete EPSDT screens.

EPSDT Periodicity Schedule

The key updates to the EPSDT Periodicity Schedule are the following:

- Addition of newborn metabolic and hemoglobinopathy screenings, performed according to State law, as a required component of the periodic screen for newborns;

- Addition of periodic screens at 30 months, seven years and nine years of age;

- Addition of developmental surveillance as a required component of all periodic screens, newborn through 20 years of age, except where structured developmental screenings are required;

- Addition of a structured developmental screening as a required component of the periodic screen at nine to 11 months, 18 months and 30 months of age;

- Addition of anemia screening as a required component of the periodic screen at 12 months of age, unless performed at an earlier periodic screen;

- Addition of a structured screen for Autism Spectrum Disorders as a required component of the periodic screens at 18 months and 24 months of age;

- Addition of the dental risk assessments or referral to a dental home as a required component of the periodic screens at 12 months, 18 months, 24 months and 30 months of age;

- Addition of referral to a dental home as a required component of every periodic screen, beginning at 3 years of age;

- Removal of urinalysis testing as a required component of the periodic screen at five years of age. If the provider determines a need for this screen at any periodic screen, the provider should order the test as a laboratory or diagnostic procedure;

- Addition of dyslipidemia screening as a required component of the periodic screen at 18 years of age or, if not performed then, dyslipidemia screening is a required component of the periodic screen at 19 or 20 years of age;

- Addition of psychosocial and behavioral assessment as a required component of all periodic screens, newborn through 20 years of age;

- Addition of alcohol and drug use risk assessment as a required component of every periodic screen beginning with the screen at 11 years of age.

MA fees for complete EPSDT screens:

The Department has increased the MA fees for complete EPSDT screens to support the additional time needed to perform a complete EPSDT screen due to the new screening components. Effective with dates of service on and after September 1, 2008, MA fees for complete EPSDT screens are as follows:

Screening Period	Description *	Current Fee For Complete Screen	Fee For Complete Screen Effective September 1, 2008
Newborn	Office Visit, developmental surveillance, psychosocial/behavioral	$65.00	$80.00

Screening Period	Description *	Current Fee For Complete Screen	Fee For Complete Screen Effective September 1, 2008
	assessment, oral health		
by 1 month of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
2-3 months of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
4-5 months of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
6-8 months of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
9-11 months of age	Office visit, structured developmental screen, psychosocial/behavioral assessment, lead screen, anemia screen, oral health	$65.00	$105.00
12 months of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
15 months of age	Office Visit, developmental surveillance, psychosocial/behavioral assessment, oral health	$65.00	$80.00
18 months of age	Office visit, structured developmental screen, structured autism screen, psychosocial/behavioral assessment, lead screen, oral health	$65.00	$125.00
24 months of age	Office Visit, structured autism screen, developmental surveillance, psychosocial/behavioral assessment, lead screen, oral health	$65.00	$105.00
30 months of age	Office Visit, structured developmental screen, psychosocial/behavioral assessment, lead screen, oral health	$65.00	$105.00
3 years of age and older	Office visit, oral health, age appropriate screens/surveillance	$65.00	$90.00

*****Descriptions do not include all activities associated with each periodic EPSDT screen.

A complete listing of all activities is included on the Periodicity Schedule.

These MA fees are paid for a complete EPSDT screen performed according to the Periodicity Schedule, including all component codes listed for the screening period and appropriate modifiers, referral codes and diagnosis codes. Incomplete EPSDT screens will be paid at the MA Program Fee Schedule rates for the assessment code and for each component procedure code reported. To encourage providers to perform a complete EPSDT screen at each interval on the Periodicity Schedule, the MA fees for the complete EPSDT screens are higher than the combined fees for each component of each periodic screen. The combined MA fee for all individual service components will not equal or exceed the MA fee for a complete EPSDT screen which is assigned to the specific screening period.

The Department has developed a new desk guide (attached) to assist providers in determining the appropriate screen to perform depending on the child's age, in order to receive the appropriate payment for the screening period.

PROCEDURE:

EPSDT Periodicity Schedule:

Effective September 1, 2008, providers should use the attached EPSDT Periodicity Schedule which details the appropriate EPSDT screening periodicities and screening services.

Screening Visits Desk Guide:

Providers in the FFS delivery system (including ACCESS Plus) should use this desk guide in conjunction with the Periodicity Schedule to determine the appropriate screen to perform based on the child's age in order to be paid the appropriate fee for that screen. Example: If the child is 3 years, 8 months of age, perform the screen for 4 year olds.

Providers in the managed care delivery system should contact the appropriate MCO for all billing or payment questions including the age ranges for which payment will be made for each periodic screen.

Dental Referral:

When the provider is conducting an EPSDT screen and the child requires a referral to a dental home according to the Periodicity Schedule, the provider must follow the procedures outlined below in order to be paid for a complete EPSDT screen:

- **Dental referrals for children in the FFS delivery system, including ACCESS Plus:**

  1) Advise the parent or guardian a dental referral is required according to the Periodicity Schedule.

  2) Notify the Department or ACCESS Plus that the child is due for a dental referral as part of a complete EPSDT screen. This notification constitutes the provider's referral to a dental home:

- If the child is enrolled in ACCESS Plus, call the following hotline to complete a referral to a dental home:
  ACCESS Plus Enrollee Hotline: 1-800-543-7633 option #2

- If the child is receiving services in the FFS delivery system but is not enrolled in ACCESS Plus, call the following to complete a referral to a dental home:
  Department's Intensive Case Management Unit: 1-866-588-9819

3) Place the YD referral code in block 10d of the CMS-1500 claim form to indicate referral to a dental home has been completed. Absence of the YD referral code during any required screening period will indicate an incomplete EPSDT screen and therefore will be paid at the MA Program Fee Schedule rates for the screen components, as stated above.

4) Document the referral to the dental home in the child's medical record.

The Department or the ACCESS Plus contractor will follow-up as appropriate with the parent or child, to confirm that the child completes the recommended visit to a participating dental provider.

- **Dental referrals for children enrolled in an MCO:**

1) Advise the parent or guardian a dental referral is required according to the Periodicity Schedule.

2) Notify the appropriate MCO that the child is due for a dental referral as part of a complete EPSDT screen. This notification constitutes the provider's referral to a dental home. Use the following MCO telephone numbers to complete a referral to a dental home:

MCO Name	Department to contact with Dental Referrals	Department telephone number	Alternate phone number (if available)
Gateway	Care Management	1-800-642-3550, option 4	
Unison	Provider Services	1-800-600-9007	
UPMC	Special Needs Unit	1-800-286-4242, option 2	
AmeriHealth Mercy	Member Services	1-888-991-7200	
Keystone Mercy	Member Services	1-800-521-6860	
AmeriChoice	Dental Department	(215) 832-4851	(215) 832-4532
Health Partners	EPSDT Outreach	(215) 991-4280	(215) 991-4135

3) Complete the electronic 837P or submit internet billing according to the billing procedures established by the MCO.

4) Document the referral to the dental home in the child's medical record.

The MCO will follow-up with the parent or child, as appropriate, to confirm that the child completes the recommended visit to a participating dental provider.

Use of modifier 52 for certain laboratory services:

Modifier 52 is used to identify that certain screening and laboratory services were not completed during the periodic screen, in which case the provider must complete the service at the next periodic screen. As listed on the Periodicity Schedule, certain laboratory services are to be provided at specified periodicities, unless done previously (see laboratory services 85013, 85018, 83655, and 80061, and #11 on the Periodicity Schedule Legend). For example, a provider should use the 52 modifier to indicate that hemoglobin screening (85018) was not completed for the periodic screen at 9-11 months of age. The provider must complete the hemoglobin screening during the next screening opportunity according to the Periodicity Schedule, in this case, the periodic screen at 12 months of age, for which the hemoglobin screen is also required unless done previously. If the provider also uses modifier 52 for the hemoglobin screening at the later periodic screen, that periodic screen will be considered an incomplete screen. Incomplete screens will be paid at the MA Program Fee Schedule rates for the screen components, as stated above.

If a provider is unable to perform a laboratory service in the office, the provider should make a referral to an outside lab and use modifier 90 in conjunction with the procedure code for the service to indicate the referral.

NOTE: This bulletin supersedes MA Bulletin 01-05-04, 08-05-07, 09-05-09, 31-05-10 and 33-05-03, Revisions to the Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Periodicity Schedule, issued October 25, 2005.

Reminder: Please refer to the CMS Billing Guide for PROMISe™ Early & Periodic Screening, Diagnosis and Treatment (EPSDT) Services, which may be found at http://www.dpw.state.pa.us/PartnersProviders/PROMISe/003675041.htm, for a complete listing of referral codes, modifiers and diagnosis codes that apply to the EPSDT Program.

ATTACHMENTS:

Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program Periodicity Schedule and Coding Matrix (Effective September 1, 2008)

Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program Age Range Requirements for Screening Visits Desk Guide (Effective September 1, 2008)

Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program
Periodicity Schedule and Coding Matrix
(Effective September 1, 2008)

Services	Newborn (Inpatient)	By 1 Mo	2-3 Mo	4-5 Mo	6-8 Mo	9-11 Mo	12 Mo	15 Mo	18 Mo	24 Mo	30 Mo	3 y	4 y
Assessment: [1]	**A completed screen requires a code from each service required for that age. Report only one CPT code if multiple CPT codes are listed per service, except for immunizations.**												
New Patient	99431 EP [9] / 99435 EP [10]	99381 EP	99381 EP	99381 EP	99381 EP	99381 EP	99382 EP	99382 EP	99382 EP	99382 EP	99382 EP	99382 EP	99382 EP
Established Patient		99391 EP	99391 EP	99391 EP	99391 EP	99391 EP	99392 EP	99392 EP	99392 EP	99392 EP	99392 EP	99392 EP	99392 EP
• Newborn Metabolic Hemoglobin Screening [2]	←----------	•----------	----------→										
• Developmental Surveillance [12]	•	•	•	•	•		•	•		•		•	•
• Psychosocial/Behavioral Assessment	•	•	•	•	•	•	•	•	•	•	•	•	•
• Alcohol and Drug Use Assessment													
• Developmental Screening						96110			96110		96110		
• Autism Screening									96110 U1	96110 U1			
Vision [3]	Assessed through observation or through health history/physical.												
• Visual acuity screen												99173	99173
Hearing [3]													
• Audio Screen												92551	92551
• Pure tone-air only												92552	92552
Dental [6, 13]							• or ★ [5]		• or ★ [5]	• or ★ [5]	• or ★ [5]	•[5]	•[5]
Anemia [3, 4]													
• Hematocrit (spun)						85013 [7]	85013[11]						
• Hemoglobin						85018 [7]	85018[11]						
Venous Lead [3, 4]						83655	83655[11]	83655[11]	83655[11]	83655	83655[11]	83655[11]	83655[11]
Tuberculin Test [3]	If indicated by history and/or symptoms.												
Sickle Cell													
Sexually Transmitted Infections [8]													
Dyslipidemia [3, 4]													
Immunizations	Administer immunizations according to the ACIP schedule. For children 18 years and younger, these immunization codes are collected for administration purposes to document antigens given. Because the PA Department of Health provides vaccines free of charge to providers through the Vaccines for Children Program (see MA Bulletins 01-00-10, 10-00-03, 11-00-05, 26-00-04), only a vaccine administration fee will be reimbursed.												

Please refer to the attached EPSDT Program Periodicity and Coding Matrix Legend.

Pennsylvania's Early and Periodic Screening, Diagnosis and Treatment (EPSDT) Program
Periodicity Schedule and Coding Matrix
(Effective September 1, 2008)

Services	5 y	6 y	7 y	8 y	9 y	10 y	11 y	12 y	13 y	14 y	15 y	16 y	17 y	18 y	19 y	20 y
Assessment: [1]	**A completed screen requires a code from each service required for that age. Report only one CPT code if multiple CPT codes are listed per service, except for immunizations.**															
New Patient	99383 EP	99383 EP	99383 EP	99383 EP	99383 EP	99383 EP	99383 EP	99384 EP	99384 EP	99384 EP	99384 EP	99384 EP	99384 EP	99385 EP	99385 EP	99385 EP
Established Patient	99393 EP	99393 EP	99393 EP	99393 EP	99393 EP	99393 EP	99393 EP	99394 EP	99394 EP	99394 EP	99394 EP	99394 EP	99394 EP	99395 EP	99395 EP	99395 EP
• Developmental Surveillance[12]	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
• Psychosocial/Behavioral Assessment	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
• Alcohol and Drug Use Assessment							Through risk assessment									
• Developmental Screening • Autism Screening	If indicated by risk assessment and/or symptoms.															
Vision [3]																
• Visual acuity screen	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173	99173
Hearing [3]																
• Audio Screen	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551	92551
• Pure tone-air only	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552	92552
Dental [6, 13]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]	•[5]
Anemia [3, 4] • Hematocrit (spun) • Hemoglobin	If indicated by risk assessment and/or symptoms. See Recommendations to prevent and control iron deficiency in the United States. *MMWR*. 1998;47(RR-3):1-36. Beginning at 12 years of age for females, do once after onset of menses and if indicated by history and/or symptoms.															
Venous Lead [3, 4]	83655[11]	83655[11]														
Tuberculin Test [3] Sickle Cell Sexually Transmitted Infections [8]	If indicated by history and/or symptoms.															
Dyslipidemia [3, 4]														80061	80061[11]	80061[11]
Immunizations	Administer immunizations according to the ACIP schedule. For children 18 years and younger, these immunization codes are collected for administration purposes to document antigens given. Because the PA Department of Health provides vaccines free of charge to providers through the Vaccines for Children Program (see MA Bulletins 01-00-10, 10-00-03, 11-00-05, 26-00-04), only a vaccine administration fee will be reimbursed.															

Please refer to the attached EPSDT Program Periodicity and Coding Matrix Legend.

EPSDT Program Periodicity Schedule and Coding Matrix

LEGEND

[1] Included in the assessment: a comprehensive history and physical examination; counseling/anticipatory guidance/risk factor reduction interventions; age-appropriate nutritional counseling; the calculation of Body Mass Index (BMI); newborn metabolic/hemoglobin screening and follow-up; growth measurements and head circumference; an oral dental exam; blood lead (BL) risk assessment; blood pressure risk assessment; developmental and autism screenings; developmental surveillance; psychosocial/behavioral assessments; alcohol and drug use assessment; and the ordering of appropriate laboratory/diagnostic procedures as recommended by the current AAP guidelines.

[2] Newborn metabolic and hemoglobinopathy screenings should be done according to state law. According to AAP recommendations, Newborn metabolic and hemoglobinopathy screenings should take place between newborn and 2 months of age.

[3] Use CPT modifier -52 EPSDT Screening Services/Components Not Completed *plus* CPT code for standard testing method for objective vision/hearing testing, anemia, dyslipidemia, lead and tuberculin testing not completed. If a screening service/component is reported with modifier 52, the provider must complete the screening service/component during the next screening opportunity according to the Periodicity Schedule.

[4] Use CPT modifier -90 Reference Outside Lab *plus* CPT code when laboratory procedures are performed by a party other than the treating or reporting physician.

[5] • indicates referral to a dental home, ★indicates administer oral health risk assessment. Assess need for fluoride supplementation. Determine whether the patient has a dental home. If the patient does not have a dental home, a referral should be made to one.

[6] Dental Periodicity Schedule: Per the American Academy of Pediatric Dentistry, the first examination is recommended at the time of the eruption of the first tooth and no later than 12 months of age. Repeat every 6 months or as indicated by the child's risk status/susceptibility to disease. www.aapd.org/media/Policies_Guidelines/G_Periodicity.pdf

[7] Initial measurement of hemoglobin or hematocrit is recommended between 9 and 12 months of age.

[8] All sexually active patients should be screened for sexually transmitted infections (STI). All sexually active girls should have screening for cervical dysplasia as part of a pelvic examination beginning within 3 years of onset of sexual activity or age 21 (which ever comes first).

[9] Procedure code 99431 and modifier EP are to be used for a newborn screen performed in the hospital, but not on the same day as hospital discharge.

[10] Procedure code 99435 and modifier EP are to be used for a newborn screen performed in the hospital on the same day as hospital discharge.

[11] Provide at times noted, unless done previously.

[12] Developmental Surveillance is required for all periods, except when developmental screenings are required.

[13] All referrals to a dental home must be reported using the YD referral code.

Positive Parenting Tips for Healthy Child Development

Infants (0-1 year old)

Developmental Milestones

Cognitive development for your baby means the learning process of memory, language, thinking and reasoning. Your baby is learning to recognize the sound of your voice. She is also learning to focus her vision from the periphery or the corner of her eyes to the center. Language development is more than uttering sounds ("babble"), or mama/dada. Listening, understanding, and knowing the names of people and things are all components of language development. During this stage, your baby is also developing bonds of love and trust with you. The way you cuddle, hold, and play with your baby will set the basis for how he will interact with you and others.

For more information on developmental milestones and warning signs of possible developmental delays, visit Learn the Signs. Act Early. (http://www.cdc.gov/ncbddd/autism/ActEarly)

Positive Parenting

- Talk to your baby. It is soothing to hear your voice.
- When your baby makes sounds, answer him by repeating and adding words. This will help him learn to use language.
- Read to your baby. This helps her develop and understand language and sounds.
- Sing to your baby.
- Play music. This helps your baby develop a love for music and math.
- Praise your baby and give him lots of loving attention.
- Spend time cuddling and holding your baby. This helps her feel cared for and secure.
- The best time to play with your baby is when he's alert and relaxed. Watch your baby closely for signs of being tired or fussy so that you can take a break.
- Parenting can be hard work! Take care of yourself physically, mentally, and emotionally. It is easier to enjoy your new baby and be a positive, loving parent when you are feeling good yourself.

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Child Safety First

Now that your newborn is at home, it is time to make sure that your home is a safe place. Look around your home for household items that might present a possible danger to your baby. As a parent, it is your responsibility to ensure that you create a safe environment for your baby. It is also important that you take the necessary steps to make sure that you are mentally and emotionally ready for your new baby. Here are a few tips to keep your baby safe during her first year of life.

- It is important that you never shake your newborn baby. Newborn babies have very weak neck muscles that are not yet able to support their heads. If you shake your baby you can damage his brain and delay normal development.
- To prevent SIDS (Sudden Infant Death Syndrome), it is recommended that you always put your baby to sleep on her back. For more information on SIDS, visit National Institute of Child Health and Human Development (http://www.nichd.nih.gov/sids/sids.cfm).
- Place your baby in a car safety seat every time he rides in the car. The safest place for his safety seat is in the back seat of the car. Children who are less than one year OR are less than 20 pounds should be placed in a rear-facing care seat.
- To prevent your baby from choking, cut her food into small bites. Don't allow your baby to play with anything that may cover her face or is easy for her to swallow.
- Never carry hot liquids or food near your baby or while holding him.
- Immunizations (shots) are important to protect your child's health and safety. Because children are susceptible to many potentially serious diseases, it is important that your child receive the proper immunizations. Please consult your local health care provider to ensure that your child is up-to-date on her childhood immunizations. You may visit the CDC immunization website (http://www.cdc.gov/nip/recs/child-schedule.htm) to obtain a copy of the recommended immunization schedule for U.S. children

Positive Parenting Tips for Healthy Child Development

Toddlers (1-2 years old)

Developmental Milestones

During this time, your child is becoming increasingly more mobile, and aware of himself and his surroundings. Her desire to explore new objects and people is also increasing. During this stage, your toddler will show greater independence, begin to show defiant behavior, recognize himself in pictures or a mirror, and imitate the behavior of others, especially adults and older children. Your toddler will also be able to recognize names of familiar people and objects, form simple phrases and sentences, and follow simple instructions and directions.

For more information on developmental milestones and warning signs of possible developmental delays, visit Learn the Signs. Act Early. (http://www.cdc.gov/ncbddd/autism/ActEarly)

Positive Parenting

- Keep reading to your toddler daily.
- Ask her to find objects for you or name body parts and objects.
- Play matching games with your toddler.
- Encourage him to explore and try new things.
- Help to develop your toddler's language by talking with her.
- Encourage your toddler's curiosity and ability to recognize common objects by taking field trips together to the park or a bus ride.

Child Safety First

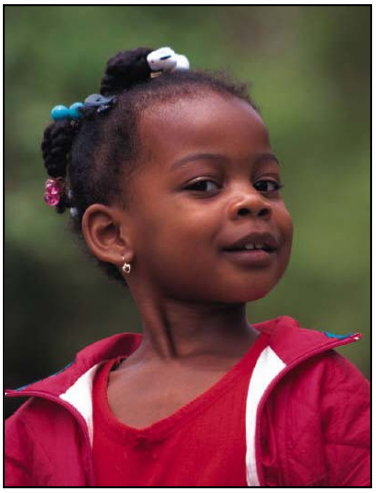
As your child is becoming increasingly mobile, his ability to encounter more dangers is increasing as well. Here are a few recommendations to help keep your growing toddler safe.

- Block off stairs with a small gate or fence. Lock doors to dangerous places such as the garage or basement.
- Toddler proof your home by placing plug covers on all unused electrical outlets.
- Keep kitchen appliances, irons, and heaters from the reach of your toddler. Turn pot handles toward the back of the stove.
- Keep sharp objects such as scissors and pens in a safe place.
- Lock up medicines, household cleaners and poisons.
- Never leave her alone in the car, even for a few moments.
- Store any guns in a safe place out of his reach.

Positive Parenting Tips for Healthy Child Development

Toddlers (2-3 years old)

Developmental Milestones



Because of your child's growing desire to assert her independence, this stage is often called the "terrible twos." However, this can be an exciting time for you and your toddler. He will experience huge intellectual, social, and emotional changes that will help him to explore his new world, and make sense of it. During this stage, your toddler will be able to follow two- or three-phrase commands, sort objects by shape and color, imitate the actions of adults and playmates, and express a wide range of emotions.

For more information on developmental milestones and warning signs of possible developmental delays, visit Learn the Signs. Act Early. (http://www.cdc.gov/ncbddd/autism/ActEarly)

Positive Parenting

- Set up a special time to read books with your toddler.
- Encourage your child to engage in pretend play.
- Play parade or follow the leader with your toddler.
- Help your child to explore her surroundings by taking her on a walk or wagon ride.
- Encourage your child to tell you his name and age.
- Teach your child simple songs like Itsy Bitsy Spider, or other cultural childhood rhymes.

Child Safety First

Encourage your toddler to sit when eating and to chew her food thoroughly.

- Check toys often for loose or broken parts.
- Encourage your toddler not to put pencils or crayons in his mouth when coloring or drawing.
- Never leave your toddler near or around water (that is, bathtubs, pools, ponds, lakes, whirlpools, or the ocean) without someone watching her.
- Never drink hot objects while your child is sitting on your lap. Sudden movements can cause a spill.

Positive Parenting Tips for Healthy Child Development

Preschoolers (3-5 years old)

Developmental Milestones

As your child grows into early childhood, his world will begin to open up. She will become more independent and begin to focus more on adults and children outside of the family. He will want to explore and ask about his surroundings even more. Her interactions with family and those around her will help to shape her personality and individual ways of thinking and moving. During this stage your child will be able to ride a tricycle, use safety scissors, show awareness of gender identity, help to dress and undress himself, play with other children, recall part of a story, and sing a song.

For more information on developmental milestones and warning signs of possible developmental delays, visit Learn the Signs. Act Early. (http://www.cdc.gov/ncbddd/autism/ActEarly)

Positive Parenting

- Continue to read to your child. Nurture her love for books by taking her to the library or bookstore.
- Let your child help with simple chores.
- Encourage your child to play with other children. This helps him to learn the value of sharing and friendship.
- Help your child's language by speaking to her in complete sentences and in "adult" language. Help her to use the correct words and phrases.
- Be clear and consistent when disciplining your child. Model the behavior that you expect from him.

Child Safety First

As your child becomes more independent and increases her interaction with the outside world, it is important that you and your child are aware of ways to stay safe. Here are a few ways to protect your child.

- Tell your child why it is important to stay out of traffic. Tell him not to play in the street or run after stray balls.
- Be cautious when letting your child ride her tricycle. Keep her on the sidewalk and away from the street.
- Check outdoor playground equipment. Make sure there are no loose parts or sharp edges.
- When your child is playing outside, keep watch over him at all times.
- Practice water safety. Teach your child to swim.
- Teach your child how to interact with strangers and how not to interact.

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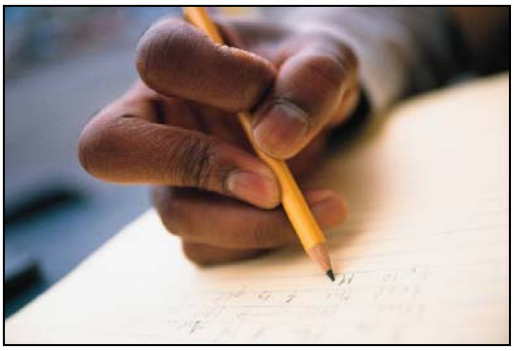
Positive Parenting Tips for Healthy Child Development

Middle Childhood (6-8 years old)

Developmental Milestones



Middle childhood brings many changes to a child's life. By this time, children can dress themselves, catch a ball more easily with only their hands, and tie their shoes. Developing independence from family becomes more important now. Events such as starting school bring children this age into regular contact with the larger world. Friendships become more and more important. Physical, social, and mental skills develop rapidly at this time. This is a critical time for children to develop confidence in all areas of life, such as through friends, schoolwork, and sports. Here are some changes your child may go through during middle childhood:

Emotional/Social Changes

- More independence from parents and family.
- Stronger sense of right and wrong.
- Beginning awareness of the future.
- Growing understanding about one's place in the world.
- More attention to friendships and teamwork.
- Growing desire to be liked and accepted by friends.

Mental/Cognitive Changes

- Rapid development of mental skills.
- Greater ability to describe experiences and talk about thoughts and feelings.
- Less focus on one's self and more concern for others.

(Adapted with permission from Bright Futures: Green M, Palfrey JS, editors. Bright Futures Family Tip Sheets: Middle childhood. Arlington (VA): National Center for Education in Maternal and Child Health; 2001.)

For more information, visit the American Academy of Pediatrics Developmental Stages website (http://aap.org/healthtopics/stages.cfm)

Positive Parenting

- Show affection for your child. Recognize her accomplishments.
- Help your child develop a sense of responsibility—ask him to help with household tasks, such as setting the table.
- Talk with your child about school, friends, and things she looks forward to in the future.
- Talk with your child about respecting others. Encourage him to help people in need.
- Help your child set her own achievable goals—she'll learn to take pride in herself and rely less on approval or reward from others.
- Make clear rules and stick to them, such as how long your child can watch TV or when he has to go to bed. Be clear about what behavior is okay and what is not okay.
- Help your child learn patience by letting others go first or by finishing a task before going out to play. Encourage him to think about possible consequences before acting.
- Do fun things together as a family, such as playing games, reading, and going to events in your community.
- Get involved with your child's school. Meet the teachers and staff to understand the learning goals and how you and the school can work together to help your child do well.
- Continue reading to your child. As your child learns to read, take turns reading to each other.
- Use discipline to guide and protect your child, rather than punishment to make her feel badly about herself.
- Support your child in taking on new challenges. Encourage him to solve problems, such as a disagreement with another child, on his own.

Child Safety First

More physical ability and more independence can put children at risk for injuries from falls and other accidents. Motor vehicle crashes are the most common cause of death from unintentional injury among children this age.

- Protect your child properly in the car. For detailed information, visit the American Academy of Pediatrics' Car Safety Seats: A Guide for Families (http://www.aap.org/family/carseatguide.htm)
- Teach your child to watch traffic and how to be safe when walking to school, riding a bike, and playing outside.
- Make sure your child understands water safety, and always supervise her when she's swimming or playing near water.
- Supervise your child when he's engaged in risky activities, such as climbing.
- Talk with your child about how to ask for help when she needs it.
- Keep potentially harmful household products, tools, equipment, and firearms out of your child's reach.

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Positive Parenting Tips for Healthy Child Development

Early Adolescence (12 - 14 years old)

Developmental Milestones

Early adolescence is a time of many physical, mental, emotional, and social changes. Hormones change as puberty begins. Boys grow facial and pubic hair and their voices deepen. Girls grow pubic hair and breasts, and start menstruating. They might be worried about these changes and how they are looked at by others. This will also be a time when your teenager might face peer pressure to use alcohol, tobacco products, and drugs, and to have sex. Other challenges can be eating disorders, depression, and family problems.

At this age, teens make more of their own choices about friends, sports, studying, and school. They become more independent, with their own personality and interests. Some changes younger teens go through are:

Emotional/Social Changes

- More concern about body image, looks, and clothes.
- Focus on self, going back and forth between high expectations and lack of confidence.
- Moodiness
- More interest in and influence by peer group.
- Less affection shown toward parents. May sometimes seem rude or short-tempered.
- Anxiety from more challenging school work.
- Eating problems sometimes start at this age. For information on healthy eating and exercise for children and teenagers, visit http://kidshealth.org/teen/food_fitness/.

Mental/Cognitive Changes

- More ability for complex thought.
- Better able to express feelings through talking.
- A stronger sense of right and wrong.
- Many teens sometimes feel sad or depressed. Depression can lead to poor grades at school, alcohol or drug use, unsafe sex, and other problems. For more information on adolescent mental health, visit http://www.nimh.nih.gov/healthinformation/depchildmenu.cfm.

(Adapted with permission from Bright Futures: Green M, Palfrey JS, editors. Bright Futures Family Tip Sheets: Early Adolescence. Arlington (VA): National Center for Education in Maternal and Child Health, 2001. Other sources: American Academy of Child and Family Psychiatry and the American Academy of Pediatrics)

Positive Parenting Tips for Healthy Child Development

Trust is important for teenagers. Even as she develops independence, she will need to know she has your support. At the same time, she will need you to respect her need for privacy.

- Be honest and direct with your teenager when talking about sensitive subjects such as drugs, drinking, smoking, and sex.
- Encourage your teenager to get exercise. He or she might join a team or take up an individual sport. Helping with household tasks such as mowing the lawn, walking the dog, or washing the car also keeps your teen active.
- Meal time is very important for families. Eating together helps teenagers make better choices about the foods they eat, promotes healthy weight, and gives your family time to talk to each other.
- Meet and get to know your teenager's friends.
- Show an interest in your teenager's school life.
- Help your teenager make healthy choices while encouraging him to make his own decisions.
- Respect your teenager's opinions and take into account her thoughts and feelings. It is important that she knows you are listening to her.

Safety First

Motor vehicle crashes are the leading cause of death among 12 to 14 year olds. Injuries from sports and other activities are also common.

- Make sure your teenager knows about the importance of wearing seatbelts. Visit the National Highway Traffic Safety Administration for more information.
- Encourage your teenager to wear a helmet when riding a bike, motorcycle, or all-terrain vehicle.
- Talk with your teenager about the dangers of drugs, drinking, smoking, and risky sexual activity. Ask him what he knows and thinks about these issues, and share your thoughts and feelings with him. Listen to what she says and answer her questions honestly and directly.
- Talk with your teenager about the importance of having friends who are interested in positive activities. Encourage him to avoid peers who pressure him to make unhealthy choices.
- Know where your teenager is and whether an adult is present. Make plans with her for when she will call you, where you can find her, and what time you expect her home.
- Set clear rules for your teenager when he is home alone. Talk about such issues as having friends at the house; how to handle unsafe situations (emergencies, fire, drugs, sex, etc.) and homework or household tasks to complete.

A pdf of this document for reprinting is available free of charge from http://www.cdc.gov/ncbddd/child/earlyadolescence.htm

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Know the Facts: You Can Cope with Grief

What is grief?

Grief is the feeling you may get when you experience the loss of a family member or friend. Grief can also happen for other reasons.

When you are diagnosed with a chronic illness, you may have feelings of grief. Here are some ways you might experience loss:

- *Loss of Health.* You may not have energy to do the things you want to do.
- *Loss of Independence.* You may not be able to drive or walk.
- *Loss of Control.* You may have new "rules" to follow such as a new diet, having to wear oxygen or use a walker.
- *Loss of Family Role.* Sometimes a chronic illness limits your ability to fill the role you did before getting sick.

How can I cope with chronic illness?

When you are diagnosed with a chronic disease, you may feel very strong emotions. These feelings are different for each person, but are a normal part of grieving and reaction to loss. Some emotions you may feel include shock, disbelief, denial, fear and anger.

How you handle other problems in your life will affect how you can cope with your chronic illness. People learn how to cope when they deal with a problem. Here are some tips to help you cope:

- Learn about your illness. Learn the signs and symptoms of your condition. Know what to look for and what to do if your symptoms get worse.
- Learn about your healthcare provider's "Treatment Plan" for you. Make sure you know about your medicines, what foods you should eat and what kind of activity you should do.
- Keep a positive attitude. Focus on what you CAN do, not on the things you can't do.
- Find a support system. Talk with family and friends about your condition. Join a local support group where you can learn how others are dealing with the same illness.
- Find an outlet for feelings of anger, denial or fear. Sitting quietly, take a few slow, deep breaths throughout the day. Try prayer. Learn a new hobby or craft, listen to music or write down your feelings in a notebook.
- Ask for help if you feel depressed. Talk to your healthcare provider or MO HealthNet Health and Wellness Nurse Health Coach.
- Accept what you cannot change. Try asking, "If this is my situation, what changes can I make so that I can live the best possible life?"

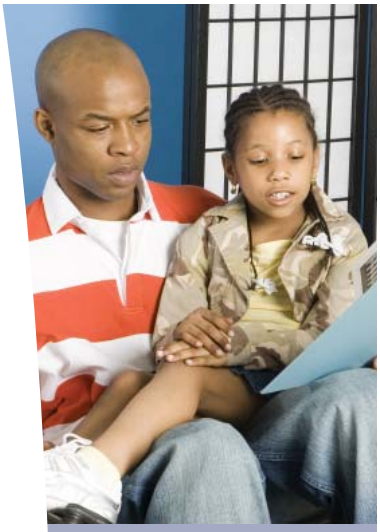
You might experience grief if you are diagnosed with a chronic illness. But you can learn to cope and accept what you cannot change.

Call **1-866-464-7147** to speak to a nurse 24-hours a day or visit www.MOHealthandWellness.com

Source: *Coping with Chronic Illness: National Institutes of Health*

Disclaimer: Information or education provided in this fact sheet is not intended to replace medical advice from your healthcare provider. The information provided on this fact sheet is not all-inclusive of this topic.

MO HealthNet Health and Wellness Program



The MO HealthNet *Health and Wellness Program* is FREE and VOLUNTARY and can help you with your health. The *Health and Wellness Program* is for most participants covered by MO HealthNet (Missouri Medicaid).

Who can join the *Health and Wellness Program*?

All MO HealthNet participants can get support from our dedicated health care team. This program sends health and wellness reminders, and also gives information about diabetes, asthma, heart disease, sickle cell disease and other conditions. The program is NOT available to participants enrolled in Managed Care.

What do I get?

- A healthcare team that will help you make healthy decisions
- Information on your illness
- Advice on important immunizations and health screenings
- Help finding resources in your community, including a doctor (health care home)
- Educational materials, including information on healthy meal planning, how to follow medication instructions, and how to stop smoking
- A nurse you can call 24-hours a day at 1-866-464-7147 to talk about your health

Is there someone special I can talk to?

Yes. A *Health and Wellness* Nurse Health Coach will share tips on how you can stay healthy and when you should visit your doctor.

How is it different from the regular MO HealthNet program?

The *Health and Wellness Program* is an extra benefit of MO HealthNet, along with those you already have. Our health care team will help you:

- Understand how to be as healthy as possible
- Know how to prevent problems that can affect your health
- Find a health care home to help you become and stay healthy

How much does it cost?

Nothing. The *Health and Wellness Program* is a FREE benefit to MO HealthNet participants.

How can I join?

Call 1-866-464-7147 to talk with a Nurse Health Coach who will ask you a few short questions. Or, you can ask your doctor or other provider to refer you.

Does this replace my doctor's care?

No. It is very important to keep going to your doctor as usual. The *Health and Wellness* staff will also work with your doctor to make sure you are receiving the care and resources you need.

The overall goal of the **MO HealthNet *Health and Wellness Program*** is to help keep participants healthy in order to improve their quality of life.

Call 1-866-464-7147 to speak to a nurse 24-hours a day
or visit www.MOHealthandWellness.com

APS HEALTHCARE
Healthy Together

MoHealthNet

Hey Kids! Here are some ways to get your heart pumping!

Find an activity that you enjoy doing each day and do this for at least 30 minutes. Be sure you work hard enough to get your heart pumping. Some ideas are:

- Walking the dog. The first week, walk at least one block. Each week add an extra block or two until you are briskly walking one mile or more (12 blocks = approximately one mile).
- Walking to one end of the mall and back. Don't stop to visit or window shop until you have done one complete lap.
- Taking the stairs instead of elevators.
- Doing jumping jacks, push-ups or sit-ups during the commercials while you watch television instead of heading to the kitchen for a snack.
- Turning on your favorite tunes and dancing.
- Helping plant a garden or mowing the grass.
- Joining a youth center, like the YMCA or Boys & Girls Club. Sign-up for basketball, dance lessons, or swimming.
- Challenging someone to a game of catch, basketball, or jumping rope every evening.
- Learning to master a new skill such as skate boarding or roller blading.
- Joining a sports team at school or meeting your friends after school for a game.

If you don't think you can exercise for 30 minutes all at once, exercise for 15 minutes twice a day or 10 minutes three times a day.

Work hard to stay in shape! Strong muscles will help you stay in shape and keep you from hurting yourself, even if you are just walking or picking up something off the floor. Be sure to lift weights only under the careful supervision of an adult who knows the right method for children and adolescents.

Activities that make your muscles strong are:
- Push-ups
- Pull-ups
- Stomach crunches or sit-ups

Any physical activity for 30 minutes a day can help you become fit, have more energy, lose weight, and feel better!

Call **1-866-464-7147** to speak to a nurse 24-hours a day or visit www.MOHealthandWellness.com

APS Healthcare
Healthy Together

Know the Facts: What are Sickle Cell Disease and Sickle Cell Trait?

Sickle cell disease is a blood disorder that affects red blood cells. People with sickle cell disease have red blood cells that contain mostly an abnormal type of hemoglobin - the main substance of the red blood cell. Sometimes these red blood cells become sickle-shaped (crescent shaped) and have difficulty passing through small blood vessels.

When sickle-shaped cells block small blood vessels, less blood can reach that part of the body. Tissue that does not receive a normal blood flow eventually becomes damaged. This is what causes the complications of sickle cell disease. There is currently no universal cure for sickle cell disease.

What is the difference between sickle cell disease, sickle cell trait and sickle cell anemia?

There are several types of sickle cell disease. The most common are: Sickle Cell Anemia, Sickle-Hemoglobin C Disease, Sickle Beta-Plus Thalassemia and Sickle Beta-Zero Thalassemia. All forms of sickle cell disease are inherited from one or both parents and marked by anemia (a low red blood cell count) and crescent-shaped red blood cells.

Sickle cell trait is a condition in which both regular and sickle cell hemoglobin are produced in the red blood cells, always more regular than sickle cell. People with sickle cell trait are generally healthy. Sickle cell trait is inherited from one or both parents and is not a type of sickle cell disease. **Sickle cell trait cannot develop into sickle cell disease.**

It's important for people with sickle cell disease to eat healthy, drink plenty of water, get enough rest, have regular checkups and stay current on needed shots such as flu shots.

How are sickle cell disease and sickle cell trait inherited:

One parent has sickle cell trait + one parent has regular hemoglobin:

- 1 in 2 (50%) chance the baby will have regular hemoglobin
- 1 in 2 (50%) chance the baby will have sickle cell trait

Both parents have sickle cell trait:

- 1 in 4 (25%) chance the baby will have regular hemoglobin
- 2 in 4 (50%) chance the baby will have sickle cell trait
- 1 in 4 (25%) chance the baby will have sickle cell disease

One parent has sickle cell disease + one parent has regular hemoglobin:

- All of their children will have sickle cell trait

One parent has sickle cell disease + one parent has sickle cell trait:

- 1 in 2 (50%) chance the baby will have sickle cell disease
- 1 in 2 (50%) chance the baby will have sickle cell trait

Health problems generally associated with sickle cell disease:

• Infections	• Leg ulcers
• Anemia	• Jaundice
• Organ Damage	• Stroke
• Vision Problems	• Gallstones
• Blood in the Urine	• Pneumonia
• Complications during pregnancy	• Pain & swelling of the hands and feet

Sickle cell disease can be controlled:

Medications

- Pain relievers and antibiotics, along with drugs to prevent dehydration (fluid loss) are commonly prescribed to help relieve some of the problems associated with sickle cell disease. Some people with sickle cell disease must take vitamin supplements.
- In some cases, special drugs may be prescribed. These drugs may help make the sickle cells less sticky. They can also help increase the cells' water content. Another medication for sickle cell increases the body's level of a type of hemoglobin that does not become sickle shaped.

Bone marrow transplants

- This therapy replaces a person's bone marrow - the part of the body that makes red blood cells. Bone marrow transplants are mostly reserved for severe cases of sickle cell disease.

Other treatment options

- IV (intravenous) therapy to prevent dehydration
- oxygen therapy
- blood transfusions

Learn the Facts:

Sickle cell is not restricted to one group. People in many ethnic groups can have sickle cell disease or trait. It is most common among African Americans, but can also affect Latino people; and people whose ancestry is from Greece, western Asia or India. Native Americans can also be affected.

Sickle cell disease is not contagious. A person cannot catch sickle cell disease through the air, water or their skin. The only way to get it is from your parents.

Sources:

National Heart, Lung and Blood Institute website <www.nhlbi.nih.gov> and Sickle Cell Disease Association of America, Inc. website <www.sicklecelldisease.org>

Call 1-866-464-7147 to speak to a nurse 24-hours a day
or visit www.MOHealthandWellness.com

APS HEALTHCARE
Healthy Together

Know the Facts: Smoking harms every organ in your body!

Smoking affects your:

- ✓ **...brain**, and is a major cause of strokes. Strokes are the third leading cause of death in the United States and about 30% of strokes related to smoking cause death.

- ✓ **...eyes**, and increases the risk of developing cataracts, a leading cause of blindness.

- ✓ **...mouth and throat**, causing gum disease and mouth and throat cancer. Smoking causes throat cancer and cancer of the esophagus, which is the seventh leading cause of cancer death in men.

- ✓ **...lungs**. Smoking low tar-cigarettes does not substantially reduce the risk of lung cancer.

  1. Smoking causes injury to the airways and air sacs of your lungs, which can lead to lung cancer, chronic obstructive pulmonary disease (COPD) and emphysema.

  2. Smoking is related to asthma among children and adolescents, due to secondhand smoke. Asthma is a disease that causes inflammation of the airways, causing them to become constricted and obstruct airflow in and out of the lungs.

  3. Smokers have more acute lower respiratory illnesses, such as pneumonia or acute bronchitis, than nonsmokers. These are usually diagnosed as infections of the lower respiratory tract (bronchial tubes and lung illnesses).

- ✓ **...heart**, and causes coronary heart disease. Cardiovascular disease includes high blood pressure, coronary heart disease, stroke, congestive heart failure, and other conditions. Cigarette smoking has been associated with all types of sudden cardiac death in both men and women.

- ✓ **...stomach**, and causes stomach cancers and peptic ulcers. Smoking also contributes to kidney cancer, bladder cancer, and pancreatic cancer.

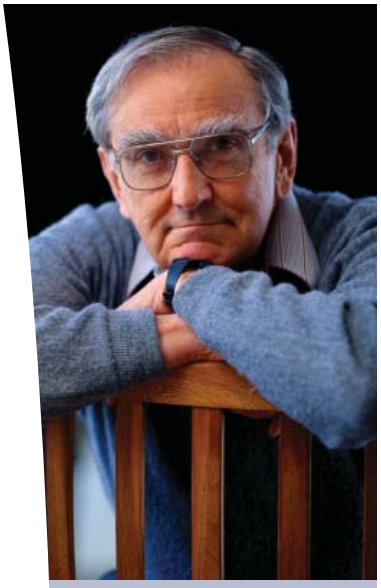
- ✓ **...body's ability to fight infections.** Smokers are more likely to have upper respiratory tract infections like colds and sore throats due to viral or bacterial infections.

Smoking harms every organ of your body, causing serious diseases and, many times, death.

To learn more about the damage smoking causes to the human body, or support on quitting smoking, contact your Nurse Health Coach toll-free 24 hours a day at 1-866-464-7147 or visit www.MOHealthandWellness.com.

MoHealthNet

Know the Facts: Stop smoking and improve your health!



If you smoke, you are risking your health and the health of your friends and loved ones who breathe your smoke. You are especially at-risk if you already have heart or lung disease, or if you are pregnant. Smoking increases the chances of you having a heart attack, stroke, lung disease and cancer.

The latest findings of the US Surgeon General show:

1. Smoking harms nearly every organ of your body.
2. More and more diseases have been found to be caused by smoking: cancers such as cervical, kidney, pancreas, and stomach; cataracts; pneumonia; and gum disease.
3. Quitting smoking has immediate AND long-term benefits. This includes reducing your risk for developing diseases and improving your health in general.
4. Smoking cigarettes with lower tar and nicotine provides no clear benefit to health.

Smoking harms your body by:

- Damaging your immune system and increasing your risk for getting infections.
- Making many illnesses last longer.
- Increasing the risk of complications and lowering the survival rate after surgery.
- Increasing the risk of lung infections, pneumonia and other respiratory complications.
- Lowering the bone density, compared to that of non-smokers, leading to a greater risk of hip fractures.
- Causing peripheral artery disease, which can affect the blood flow throughout the entire body. In peripheral artery disease, the arteries that supply blood to the legs are narrowed by atherosclerosis.
- Causing many types of cancer, the second leading cause of death among Americans.

Smokers are more likely to have upper respiratory tract infections like colds and sore throats due to viral or bacterial infections. Smoking harms your body's ability to fight infection.

What happens after I quit?

If you quit, good things will happen! You will:

• feel alive and full of energy • breathe much easier • save money by not using cigarettes • have your sense of smell and taste come back • lose your smoker's cough • digest food normally • climb stairs more easily • have fresh-smelling, clean clothes • reduce your chances of having heart disease, a stroke, lung disease and cancer

• **LIVE LONGER!**

To learn more about how to improve your health, and receive education and support to quit smoking, contact your Nurse Health Coach toll-free 24 hours a day at 1-866-464-7147 or visit www.MOHealthandWellness.com.

APS Healthcare
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NJ HealthyLiving DM

Volume I: Issue II

NJ HEALTHYLIVING DM IS A HEALTH MANAGEMENT PROGRAM FOR ELIGIBLE PARTICIPANTS PROVIDED AT NO COST TO YOU AND APPROVED BY THE NJ DEPARTMENT OF HUMAN SERVICES, DIVISION OF MEDICAL ASSISTANCE AND HEALTH SERVICES. TO SPEAK TO A HEALTH COACH ABOUT THIS PROGRAM OR OTHER HEALTH RELATED QUESTIONS PLEASE CALL **1.888.896.9912**

Importance of Immunizations

What are Immunizations?

Immunizations help protect you from diseases and help to reduce the spread of disease to others. Immunizations may also be called vaccines or vaccinations, and they are usually given as shots. Some vaccines are given only once. Others require several doses over time. Vaccines do not always completely prevent the disease, but it will make the disease much less serious if you do get it. **Talk with your doctor to find out if you are up to date on all of your immunizations.**

Why should I get immunized?

- They protect you from diseases.
- They help reduce the spread of diseases.
- The vaccine costs less than getting treated for the diseases they protect you from.
- They have very few serious side effects.
- They are often needed for entrance into school or daycare.

Possible side effects

These side effects are minor and do not happen with every vaccination. It is much more dangerous to get the disease then to have one of these side effects the vaccination may have.

- Redness, mild swelling, or soreness where the shot was given
- A slight fever
- Drowsiness, crankiness, and poor appetite in some babies.
- A mild rash
- Temporary join pain

Pneumonia

What is it?

Pneumonia is a lung infection that can make you very sick, you may get a cough, fever and/or have a hard time breathing. For most people this can be treated at home and it clears up in a few weeks. For older adults, babies, and people with diseases pneumonia can make you become very ill. Having a chronic disease like asthma, heart disease, diabetes or cancer can also make you more likely to get pneumonia.

Preventing Pneumonia

The pneumonia vaccine is generally given once, if you are older than 65 or have a heart or lung problem you should talk to your doctor to see that you've had the pneumonia vaccine! If you have had the vaccine once but it was over 6 years ago and you are considered a high risk adult, talk with your doctor to see if you need to be revaccinated. The flu virus can lead to pneumonia so it may be a good idea to get the flu vaccine as well.

The Flu

What is it?

An infection caused by a virus that affects the nose, throat, and lungs. Most people get better from the flu without any problems, but it can be deadly or lead to serious complications. The flu can lead to serious problems such as pneumonia or make other health conditions worse. Each year thousands of people end up in the hospital with serious complications from the flu.

The Flu Vaccine

The flu vaccine is a shot. You cannot get the flu from the flu vaccine!!! REMEMBER: The best time to get the flu vaccine is in October or November before the flu season starts!

Who should get it?

Anyone over 6 months of age can get the flu shot to reduce your chance of getting the flu. For those people that are at a high risk of complications it is even more important for you to get your flu vaccine. This includes:

- People older than 50, and those age 65 and older are at the highest risk.
- Those with long-term diseases such as: heart disease, lung disease, asthma, and kidney failure.
- People who live in long-term care centers or nursing homes.
- People with weak immune systems.
- All children 6 months to 5 years old.
- Children 6 months to 18 years old who use long-term aspirin treatment.

Who should NOT get it?

- People with allergies to eggs.
- People who have had a bad reaction to the vaccine in the past.
- Children under 6 months of age.
- People who are already sick. If you are sick and have a fever wait until you are better to get the vaccine.

Talk to your doctor about getting the flu and pneumonia vaccines!

References:
Healthwise, for every health decision. “Immunizations”. Updated February 23, 2007.
American Lung Association: http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=35692

APS HEALTHCARE
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NJ Vida Sana – Manejando su Salud

Volumen I: Edición II

NJ HEALTHYLIVING DM (NJ VIDA SANA PARA MANEJO DE SU SALUD) ES UN PROGRAMA DE MANEJO DE SALUD GRATIS OFRECIDO A PARTICIPANTES ELEGIBLES Y OFRECIDO A USTED POR LA DIVISIÓN DE ASISTENCIA MÉDICA Y EL DEPARTAMENTO DE SALUD DEL ESTADO DE NEW JERSEY**. SI DESEA HABLARLE A UN CONSEJERO DE SALUD SOBRE ESTE PROGRAMA O SOBRE ALGUN TEMA RELACIONADO A SU SALUD, POR FAVOR LLAME AL 1.888.896.9912**

Reconozca el Valor de Inmunizarse

¿Qué es y Para qué es la Inmunización?

Las inmunizaciones conocidas como vacunas son suministradas mayormente por medio de inyección. Estas ayudan a protegerle de enfermedades y a prevenir su diseminación. Algunas vacunas son necesarias solamente una vez y hay otras que requieren varias dosis en un periodo de tiempo. Las vacunas no siempre previenen la enfermedad, pero si la contrae, hacen que sea menos seria. **Hable con su médico para determinar si usted está al día con sus inmunizaciones.**

¿Por qué debo vacunarme?

- Para protegerse de enfermedades.
- Para ayudar a reducir la diseminación de enfermedades.
- Porque las vacunas cuestan menos que ser tratado de la enfermedad de la cual lo protege.
- Sus efectos y riesgos secundarios son leves.
- Porque son regularmente requeridas para entrar a las escuelas o a centros de cuidado.

Efectos secundarios posibles

Los efectos secundarios de las vacunas son mínimos y no ocurren en todos casos. Es más peligroso contagiarse con la enfermedad y tener síntomas, que vacunarse y tener síntomas menores como resultado.

- Enrojecimiento, hinchazón y dolor leve en el área de la vacuna
- Fiebre leve
- Adormecimiento, temperamento irritado, y pérdida de apetito en algunos bebés.
- Sarpullido leve
- Dolor temporero en las coyunturas

La Pulmonía

¿Qué es la Pulmonía?

La infección pulmonar de la pulmonía puede ser muy grave. Sus síntomas pueden incluir fiebre, tos y/o respiración dificultosa. En general, la pulmonía puede ser tratada en su casa y curarse en pocas semanas. Para adultos, bebes y personas con condiciones médicas complicadas, la pulmonía puede convertirse fácilmente en una enfermedad seria. Si usted tiene una enfermedad crónica como asma, condición del corazón, diabetes o cáncer, puede estar predispuesto a contraer pulmonía más fácilmente.

Prevención de Pulmonía

La inyección para la pulmonía generalmente se suministra una sola vez. Si usted es mayor de 65 años o tiene dificultad pulmonar, háblele a su médico para determinar si usted ya ha recibido la inyección para la pulmonía. Si usted recibió la vacuna hace más de 6 años y usted es considerado como adulto de alto riesgo, háblele a su médico para determinar si puede recibir una segunda vacuna. El virus del flu (catarro o gripe) puede convertirse en pulmonía, así que debe considerar vacunarse contra la influenza (flu).

La Gripe – El Flu

¿Qué es la Gripe o la Influenza?

Una gripe es una infección causada por el virus de la influenza (flu). Este es un virus que afecta la nariz, la garganta y los pulmones. La mayoría de las personas se recuperan fácilmente pero este virus puede ser difícil, puede causar complicaciones y hasta puede ser fatal. El virus del flu puede convertirse en pulmonía o causar complicaciones si usted tiene alguna condición de salud. Miles de personas son ingresadas en el hospital con complicaciones del flu.

La Vacuna del Flu

La vacuna del flu por medio de inyección no causa gripe. RECUERDE: El mes de octubre o noviembre es el mejor momento para vacunarse, pero también puede hacerlo en diciembre o más tarde. La temporada de la gripe puede comenzar en octubre y durar hasta finales de mayo.

Los que deben vacunarse

Por lo general, cualquiera que desee reducir las posibilidades de contraer gripe puede vacunarse – esto incluye bebes desde los 6 meses. Sin embargo, personas que están expuestas a un alto riesgo de complicaciones graves por la gripe o aquellas que viven con una persona propensa a complicaciones graves o que cuidan de ella.

Esto incluye:

- Personas de 65 años y mayores.
- Adultos y niños de 6 meses de edad en y mayores que tienen alguna afección cardiaca o pulmonar crónica, como asma, o enfermedad del riñón.
- Personas que viven en asilos o centros de cuidado.
- Personas con problemas del sistema inmunológico.
- Niños de 6 meses a 5 anos de edad.
- Niños de 6 meses a 18 años de edad que están en terapia prolongada con aspirina. (Los niños a quienes se les da aspirina mientras tienen gripe corren el riesgo de contraer el síndrome de Reye.

Los que no deben vacunarse

- Personas muy alérgicas a huevos de gallina.
- Personas han tenido una reacción fuerte a la vacuna contra la gripe.
- Niños menores de 6 meses.
- Personas que tienen una enfermedad moderada o grave con fiebre, deben esperar hasta que se alivien los síntomas para vacunarse.

¡Háblele a su doctor sobre recibir vacuna del flu o de pulmonía!

Referencias:
Healthwise, for every health decision. “Immunizations”. Updated February 23, 2007.
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1.888.896.9912

Portion Distortion

Estar alerta de la porción del tamaño correcto y comer porciones más chicas es una de las maneras más fáciles de bajar las calorías. Si usted tiene sobrepeso, lo mas seguro es que este comiendo mucho más de de la cantidad de comida que usted necesita. Establezca una meta para controlar el tamaño de sus porciones.

Comida	Tamaño de la porción recomendada	Cantidad necesaria
Carne	3 oz.	Menos de 6 oz/día
Vegetales	1 taza	2 ½ tazas/día
Fruta	1 taza	2 tazas/día
Leche	1taza	3 tazas/día
Pasta	½ taza o 4 onzas	6 onzas/día- al menos 3 onzas deberían ser integral

* Estas son recomendaciones basadas en una dieta de 2000 Calorías

Ejemplos del tamaño de la porción

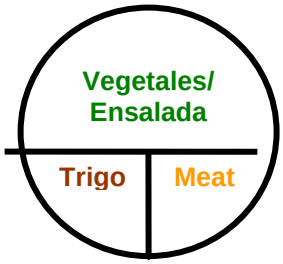
1 taza o 8 onzas = el tamaño de un balón de béisbol

½ taza o 4 onzas = ½ del tamaño de un balón de béisbol

3 onzas = del tamaño de una baraja de cartas

1 cuchara = del tamaño del dedo pulgar

1 cdta. = del tamaño de la punta del dedo pulgar



Su plato debe ser similar a estos tamaños de porciones

Como bajar el tamaño de porciones

- Compre porciones pequeñas de comida para que no consumir demasiado.
- Si usa mantequilla, crema, mayonesa o queso trate de cortar por la mitad la cantidad que usted usa. Puede también tratar las variedades de bajo en grasa.
- No coma de la bolsa de bocadillos directo. Tome pocas galletas, o chips, etc. en un plato para prevenir comer de más.

References:
American Cancer Society, "Controlling Portion Sizes." Revised 10-02-2006. http://www.cancer.org/docroot/PED/content/PED_3_2x_Portion_Control.asp
United States Department of Agriculture: MyPyramid.gov. http://www.mypyramid.gov/professionals/results_downld.html

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Portion Distortion

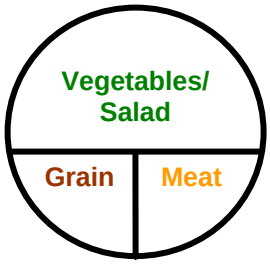
Being aware of correct portion sizes and eating smaller portions is one of the easiest ways to cut calories. If you are overweight, most likely you are eating much more than the amount of food that you need. Make it a goal to control your portion sizes.

Food	Recommended Portion Size	Amount Needed
Meat	3 oz.	Less than 6 oz/day
Vegetables	1 cup	2 ½ cups/day
Fruit	1 cup	2 cups/day
Milk	1 cup	3 cups/day
Pasta	½ cup or 4 ounces	6 ounces/day- at least 3 ounces should be *whole* grain

* These are recommendations based on a 2000 calorie diet

Examples of Portion Sizes

1 cup or 8 ounces = the size of a baseball
½ cup or 4 ounces = ½ of a baseball
3 ounces = the size of a deck of cards
1 Tbsp. = the size of your thumb
1 tsp. = the size of the tip of your thumb



Your plate should look similar to these portion sizes

How to cut down portion sizes

- Buy single portions of snack foods so that you don't eat too much.
- If you use butter, sour cream, mayonnaise or cheese try cutting the amount you use in half. You can also try lower-fat varieties.
- Don't eat from the bag when snacking. Place a few crackers, chips, etc on a plate to prevent overeating.

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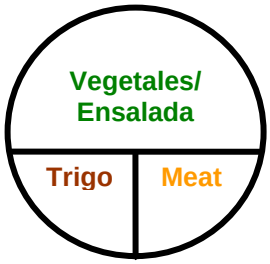

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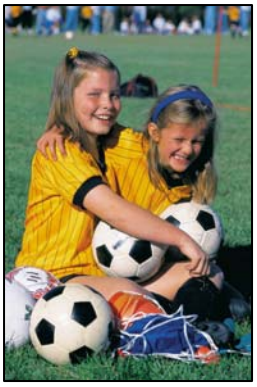
APS HEALTHCARE Healthy Together

Positive Parenting Tips for Healthy Child Development

Middle Childhood (9 - 11 years old)



Developmental Milestones

Your child's growing independence from the family and interest in friends might be obvious by now. Healthy friendships are very important to your child's development, but peer pressure can become strong during this time. Children who feel good about themselves are more able to resist negative peer pressure and make better choices for themselves. This is an important time for children to gain a sense of responsibility along with their growing independence. Also, physical changes of puberty might be showing by now, especially for girls. Another big change children need to prepare for during this time is starting middle or junior high school.

During this time, your child might:

- Form stronger, more complex friendships and peer relationships. It becomes more emotionally important to have friends, especially of the same sex.
- Experience more peer pressure.
- Become more independent from the family.
- Become more aware of his or her body as puberty approaches. Body image and eating problems sometimes start around this age. For information on healthy eating and exercise for children and teenagers, visit http://kidshealth.org/parent/nutrition_fit/index.html.
- Face more academic challenges at school.

(Adapted with permission from Bright Futures: Green M, Palfrey JS, editors. Bright Futures Family Tip Sheets: Middle childhood. Arlington (VA): National Center for Education in Maternal and Child Health; 2001.)

For more information, visit the American Academy of Pediatrics Developmental Stages website at http://aap.org/healthtopics/stages.cfm.

Positive Parenting

You can help your child become independent, while building his or her sense of responsibility and self-confidence at the same time. Here are some suggestions:

- Spend time with your child. Talk with her about her friends, her accomplishments, and what challenges she will face.
- Be involved with your child's school. Go to school events; meet your child's teachers.
- Encourage your child to join school and community groups, such as a team sport, or to take advantage of volunteer opportunities.
- Help your child develop his own sense of right and wrong. Talk with him about risky things friends may pressure him to do, like smoking or dangerous physical dares.

- Help your child develop a sense of responsibility—involve your child in household tasks. Talk to your child about saving and spending money wisely.
- Meet the families of your child's friends.
- Talk with your child about respecting others. Encourage your child to help people in need. Talk with him or her about what to do when others are not kind or are disrespectful.
- Help your child set his own goals. Encourage him to think about skills and abilities he would like to have and about how to develop them.
- Make clear rules and stick to them. Talk to your child about what you expect from her when no adults are supervising. If you provide reasons for rules, it will help your child to know what to do in those situations.
- Use discipline to guide and protect your child, instead of punishment to make him feel badly about himself.
- Talk with your child about the normal physical and emotional changes of puberty.
- Encourage your child to read every day. Talk with her about her homework.
- Be affectionate and honest with your child, and do things together as a family.

Child Safety First

More independence and less adult supervision can put children at risk for injuries from falls and other accidents. Motor vehicle crashes are the most common cause of death from unintentional injury among children of this age.

- Protect your child in the car. All children younger than 12 years of age should ride in the back seat with a seat belt properly fastened. Children should ride in a car seat or booster seat until they are 4 feet 9 inches tall (because adult seat belts do not fit people under this height). Visit the **National Highway Traffic Safety Administration** (http://www.nhtsa.dot.gov/people/injury/childps/newtips/index.htm) for more information.
- Know where your child is and whether an adult is present. Make plans with your child for when he will call you, where you can find him, and what time you expect him home.
- Many children get home from school before their parents get home from work. It is important to have clear rules and plans for your child when she is home alone. Visit **KidsHealth: When It's Just You After School** (http://kidshealth.org/kid/watch/house/homealone.html) for safety tips for your child at home when you can't be there.

Links for Parents

CDC's Healthy Youth! webpage (http://www.cdc.gov/HealthyYouth/healthtopics/index.htm) has information about six kinds of health behavior that contribute to the leading causes of death and disability for teenagers and adults. Other important issues affecting children and teenagers are also addressed.

KidsHealth (http://kidshealth.org/index.html) by the Nemours Foundation has very useful information for parents, teens, and kids.

Talk With Your Kids (http://www.talkwithkids.org/) is a national initiative by **Children Now** (http://www.childrennow.org/) and the **Kaiser Family Foundation** (http://www.kff.org/) to encourage parents to talk with their children early and often about tough issues like sex, HIV/AIDS, violence, and alcohol and drug abuse.

The National Highway Traffic Safety Administration (http://www.nhtsa.dot.gov/people/injury/childps/newtips/index.htm) has information on safety recalls, and safety tips for children riding in motor vehicles, walking, biking, playing outside, waiting at school bus stops, and more.

Consejos para ayudar al sano crecimiento de sus hijos

Niñez mediana (de 9 a 11 años de edad)

Indicadores del desarrollo

A esta edad, es probable que su hijo muestre ya claras señales de una creciente independencia de la familia y un mayor interés en los amigos. Tener relaciones amistosas sanas es muy importante para el desarrollo de su hijo; sin embargo, la presión de sus pares puede ser muy fuerte en este período. Los niños que se sienten bien consigo mismos pueden resistir más a las presiones negativas de sus pares y tomar mejores decisiones por sí solos. En este período de su vida, es importante que los niños adquieran el sentido de la responsabilidad a la vez que van desarrollando su independencia. También podrían comenzar a aparecer los signos de la pubertad, especialmente en las niñas. Otro cambio significativo para el cual los niños deben prepararse a esta edad es el comienzo del bachillerato (escuela media y preparatoria).

A está edad, es posible que su hijo:

- Establezca amistades y relaciones más fuertes y complejas con sus pares. Sienta cada vez más la importancia emocional de tener amigos, especialmente de su mismo sexo.
- Sienta más la presión de sus pares.
- Se independice cada vez más de la familia.
- Se haga más conciente de su cuerpo a medida que se acerca la pubertad. Comience a experimentar los problemas de imagen corporal y alimentación que algunas veces aparecen a esta edad. Para obtener información sobre alimentación sana y ejercicios para niños y adolescentes, visite http://kidshealth.org/parent/nutrition_fit/index.html.
- Enfrente mayores retos académicos en la escuela.

(Adaptado con la autorización de Bright Futures (http://brightfutures.aap.org/web/): Green M, Palfrey JS, editors. Bright Futures Family Tip Sheets: Middle childhood. Arlington (VA): National Center for Education in Maternal and Child Health; 2001.)

Para obtener más información, visite la página web de la Academia Americana de Pediatría sobre las etapas del desarrollo (*American Academy of Pediatrics Developmental Stages*) http://aap.org/healthtopics/stages.cfm.

Educación paternal positiva

Usted puede ayudar a su hijo a hacerse independiente a la vez que fortalece su sentido de la responsabilidad y la confianza en sí mismo. Algunas sugerencias:

- Dedique tiempo a su hijo. Hable con su hijo de sus amigos, sus logros y de los retos que habrá de enfrentar.
- Involúcrese en las actividades de la escuela de su hijo. Participe en los eventos escolares; reúnase con los maestros de su hijo.
- Motive a su hijo, tanto en la escuela como en la comunidad, a que participe en actividades de grupo como algún deporte, o a aprovechar las oportunidades de trabajo voluntario.

Promoting the health of babies, children, and adults,
and enhancing the potential for full, productive living

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Department of Health and Human Services
National Center on Birth Defects and Developmental Disabilities

- Ayude a su hijo a desarrollar su propio sentido de lo bueno y lo malo. Hable con él acerca de los riesgos de ciertas conductas, como fumar o involucrarse en actividades físicas peligrosas, a las cuales puedan conducirlo sus amigos.
- Ayude a su hijo a desarrollar el sentido de la responsabilidad (asígnele tareas en la casa, por ejemplo). Hable con su hijo sobre el ahorro y la necesidad de manejar el dinero con prudencia.
- Conozca a las familias de los amigos de su hijo.
- Hable con su hijo sobre el respeto a los demás. Anime a su hijo a ayudar a las personas necesitadas. Hable con él sobre qué hacer si alguien se comporta de manera descortés u ofensiva.
- Ayude a su hijo a establecer sus propias metas. Anímelo a hablar de las habilidades y destrezas que le gustaría tener y de cómo adquirirlas.
- Establezca reglas claras y respételas. Hable con su hijo de lo que usted espera de él cuando no está bajo la supervisión de personas adultas. Si usted le explica la razón de las reglas, ayudará a su hijo a entender qué hacer en esas situaciones.
- Use la disciplina para guiar y proteger a su hijo, en lugar de castigarlo y hacer que se sienta mal por lo que hizo.
- Hable con su hijo sobre los cambios físicos y emocionales normales de la pubertad.
- Anime a su hijo a leer todos los días. Hable con él sobre sus tareas.
- Sea afectuoso y honesto con su hijo y hagan cosas en familia.

La seguridad de los niños primero

Una mayor independencia y una menor supervisión por parte de los adultos puede exponer a los niños a lesiones por caídas y otros accidentes. Los accidentes vehiculares son la causa más común de muerte por lesión accidental entre los niños de esta edad.

- Proteja a su hijo en el automóvil. Todo niño menor de 12 años de edad debe sentarse en el asiento de atrás y sujetarse bien con el cinturón de seguridad. Los niños deben viajar sentados en una sillita de seguridad o sillita elevada hasta que alcancen la altura de 4 pies y 9 pulgadas (aprox. 1.5 m). Esta medida se debe a que los cinturones de seguridad para adultos no se ajustan a personas de menor estatura. Para obtener más información, visite National Highway Traffic Safety Administration (http://www.nhtsa.dot.gov/people/injury/childps/newtips/index.htm).
- Esté al tanto de dónde está su hijo y si está con un adulto. Haga planes con su hijo sobre qué hacer cuando él lo llame, dónde puede usted encontrarlo y a qué hora espera que esté de regreso a casa.
- Muchos niños llegan a casa de la escuela antes de que sus padres lleguen del trabajo. Es importante establecer reglas y planes claros que guíen a su hijo cuando esté solo en casa. Visite KidsHealth: When It's Just You After School (http://kidshealth.org/kid/watch/house/homealone.html), donde encontrará sugerencias (en inglés) en cuanto a la seguridad de su hijo cuando usted no está en casa.

Enlaces para los padres (en inglés)

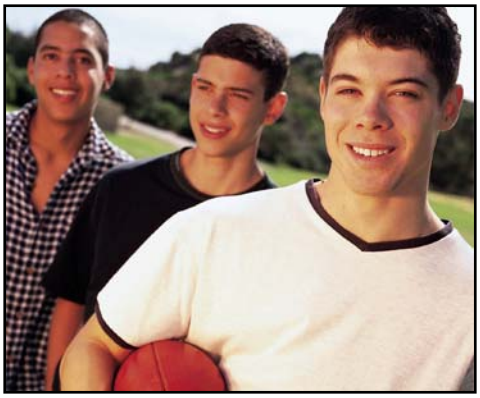
La página **CDC's Healthy Youth!** (http://www.cdc.gov/HealthyYouth/healthtopics/index.htm) contiene información sobre seis tipos de conductas de salud que están entre las primeras causas de muerte y discapacidad entre los adolescentes y los adultos. En dicha página también se abordan otros problemas que afectan a los niños y a los adolescentes.

- **KidsHealth** (http://kidshealth.org/index.html), de la *Nemours Foundation*, ofrece información muy útil para padres, niños y adolescentes.
- **Talk With Your Kids** (http://www.talkwithkids.org/) es una iniciativa nacional de las organizaciones **Children Now** (http://www.childrennow.org/) and **Kaiser Family Foundation** (http://www.kff.org/) que tiene como objetivo motivar a los padres a que hablen con sus hijos sobre sexo, VIH/SIDA, violencia, alcohol y drogadicción (sex, HIV/AIDS, violence, alcohol, drug abuse) a menudo y desde temprana edad.
- La oficina nacional de seguridad vial **National Highway Traffic Safety Administration** (http://www.nhtsa.dot.gov/people/injury/childps/newtips/index.htm**)** ofrece información sobre productos que se sacan del mercado por razones de seguridad, y hace sugerencias para mantener la seguridad de los niños mientras viajan en automóvil, andan en bicicleta, juegan al aire libre, esperan el trasporte escolar y más.

Positive Parenting Tips for Healthy Child Development

Middle Adolescence (15 - 17 years old)

Developmental Milestones



Middle adolescence is a time of physical, mental, cognitive, and sexual changes for your teenager. Most girls will be physically mature by now, and most will have completed puberty. Boys might still be maturing physically during this time. Your teenager might have concerns about her body size, shape, or weight. Eating disorders can also be common, especially among females. During this phase of development, your teenager is developing his unique personality and opinions. Peer relationships are still important, yet your teenager will have other interests as he develops a more clear sense of identity. Middle adolescence is also an important time to prepare for more independence and responsibility; many teenagers start working, and many will be leaving home soon after high school.
Other changes you might notice in your teenager include:

Emotional/Social Changes

- Increased interest in the opposite sex
- Decreased conflict with parents
- Increased independence from parents
- Deeper capacity for caring and sharing and the development of more intimate relationships
- Decreased time spent with parents and more time spent with peers

Mental/Cognitive Changes

- More defined work habits
- More concern about future educational and vocational plans
- Greater ability to sense right and wrong
- Sadness or depression, which can lead to poor grades at school, alcohol or drug use, unsafe sex, thoughts of suicide, and other problems (Note: Problems at school, alcohol and drug use, and other disorders can also lead to feelings of sadness or hopelessness.)

(Adapted with permission from Bright Futures: Green M, Palfrey JS, editors. Bright Futures Family Tip Sheets: Early Adolescence. Arlington (VA): National Center for Education in Maternal and Child Health, 2001. Other sources: American Academy of Child and Family Psychiatry and the American Academy of Pediatrics)

Positive Parenting Tips for Healthy Child Development

- Talk to your teenager about her concerns and pay attention to any changes in her behavior. Ask her if she has had suicidal thoughts, particularly if she seems sad or depressed. Asking about suicidal thoughts will not cause her to have these thoughts, but it will let her know that you care about how she feels. Seek professional help if necessary.
- Show interest in your teenager's school and extracurricular interests and activities and encourage him to become involved in activities such as sports, music, theater, and art.
- Compliment your teenager and celebrate her efforts and accomplishments.
- Show affection for your teenager. Spend time together doing things you enjoy.
- Respect your teenager's opinion. Listen to him without playing down his concerns.
- Encourage your teenager to volunteer and become involved in civic activities in her community.
- Encourage your teenager to develop solutions to problems or conflicts. Help your teenager learn to make good decisions. Create opportunities for him to use his own judgment, and be available for advice and support.
- If your teenager engages in interactive Internet media such as games, chat rooms, and instant messaging, encourage him to be disciplined and respectful about the amount of time she is involved with it.
- If your teenager works, use the opportunity to talk about expectations, responsibility, and other aspects of behaving respectfully in a public setting.
- Talk with your teenager and help him plan ahead for difficult or uncomfortable situations. Discuss what he can do if he is in a group and someone is using drugs, under pressure to have sex, or offered a ride from someone who has been drinking.
- Respect your teenager's need for privacy.
- Encourage your teenager to get enough sleep and exercise, and to eat healthy, balanced meals.
- Encourage your teenager to have meals with the family. Eating together will help your teenager make better choices about the foods she eats, promote healthy weight, and give family members time to talk with each other. In addition, a teenager who eats meals with the family is more likely to have better grades and less likely to smoke, drink, or use drugs. She is also less likely to get into fights, think about suicide, or engage in sexual activity.

Safety First

Motor vehicle accidents are the leading cause of death from unintentional injury among teenagers, yet few teenagers take measures to reduce their risk of injury. Unintentional injuries resulting from participation in sports and other activities are also common.

- Talk with your teenager about the importance of wearing a seatbelt while driving. Insist that she obey speed limits and traffic lights, and strongly advise her not to drink and drive. Set clear rules for when and where she can use the car, and who can ride with her.
- Encourage your teenager to wear a helmet when riding a bike, motorcycle, or all-terrain vehicle.
- Suicide is the third leading cause of death among youth 15 through 24 years of age. Talk with your teenager about suicide and pay attention to warning signs.

- Talk with your teenager about the dangers of drugs, drinking, smoking, and risky sexual activity. Ask him what he knows and thinks about these issues, and share with him your feelings. Listen to what he says and answer his questions honestly and directly.
- Discuss with your teenager the importance of choosing friends who do not act in dangerous or unhealthy ways.
- Know where your teenager is and whether an adult is present. Make plans with her for when she will call you, where you can find her, and what time you expect her home.

Links For Parents

The American Academy of Pediatrics has brochures, fact sheets, and other information on various health topics for parents with children of all ages.
CDC's Division of Adolescent and School Health has a Healthy Youth! webpage that addresses six critical types of adolescent health behavior that contribute to the leading causes of death and disability among adults and youth. The website's A to Z list addresses other issues that affect children and adolescents.
The National Center on Injury Prevention and Control at CDC has a website that contains information like youth violence, suicide, teen drivers, sexual violence, and other injury-related topics.
KidsHealth by the Nemours Foundation has practical information for parents, teens, and kids.
The American Academy of Child & Adolescent Psychiatry has fact sheets for parents on various issues related to child and adolescent development.
Talk With Your Kids is a national initiative by Children Now and the Kaiser Family Foundation to encourage parents to talk with their children early and often about tough issues like sex, HIV/AIDS, violence, and alcohol and drug abuse.
The National Institute of Mental Health and the Substance Abuse and Mental Health Services Administration have information and resources on child and adolescent mental health.
The National Highway Traffic Safety Administration has information on safety recalls, and safety tips for children riding in motor vehicles, walking, biking, playing outside, waiting at school bus stops, and more.

NJ HealthyLiving DM

NJ HEALTHYLIVING DM IS A HEALTH MANAGEMENT PROGRAM FOR ELIGIBLE PARTICIPANTS PROVIDED AT NO COST TO YOU AND APPROVED BY THE NJ DEPARTMENT OF HUMAN SERVICES, DIVISION OF MEDICAL ASSISTANCE AND HEALTH SERVICES.

TO SPEAK TO A HEALTH COACH ABOUT THIS PROGRAM OR OTHER HEALTH RELATED QUESTIONS PLEASE CALL 1.888.896.9912

Volume II: Issue I

SCREENINGS & VACCINES

Are you up to date on health screens?

It is important to visit your doctor once a year to have your yearly check up. These visits allow you to talk with your doctor about any health conditions that you have. This also allows time to review any medications you take and ask other health related questions you may have. Yearly visits are also a good time to have health screens done. Keep track on your calendar of your appointments as well as when you are due for screenings. View the lists below to see if you are up-to-date with your health screens.

Females

- In your 20's start doing breast self exams each month to screen for breast cancer.
- Over age 40 you should have a mammogram each year to screen for breast cancer.
- Starting at age 18 or when you become sexually active get a pap smear every 1-3 years by your doctor to check for cervical cancer.
- Age 50 and older have a colorectal cancer screen every 5-10 years.
- Over age 45 get screened each year for diabetes.
- Over the age of 65 get screened each year for glaucoma.

Males

- At age 15 start doing self testicular exams each month to check for testicular cancer.
- Age 50 and older have a colorectal cancer screen every 5-10 years.
- Over age 45 get screened each year for diabetes.
- Over the age of 65 get screened each year for glaucoma.

If you have questions about how to do self exams and what these screenings involve please speak to your doctor or health coach.

New Jersey HealthyLiving DM

What are Vaccines?

Vaccines help protect you from diseases and help to reduce the spread of disease to others. Vaccines may also be called immunizations or vaccinations, and they are usually given as shots. Some vaccines are given only once. Others require several doses over time. Vaccines do not always completely prevent the disease, but it will make the disease much less serious if you do get it. View the attached page of the Center for Disease Control and Prevention's (CDC) recommendations on immunizations for adults. **Talk with your doctor to find out if you are up to date on all of your vaccinations.**

Recommended Adult Immunization Schedule

Vaccine	Age group		
	19-49 years	50-64 years	≥ 65 years
Tetanus, diphtheria, pertussis	1-dose and booster every 10 yrs		
Measles, mumps, rubella (MMR)*	1 or 2 doses	1 dose	
Varicella*	2 doses	2 doses	
Influenza	1 dose annually	1 dose annually	
Pneumococcal	1-2 doses		1 dose
Hepatitis A	2 doses		
Hepatitis B	3 doses		
Meningococcal	1 or more doses		

* These vaccines may be contraindicated if certain conditions exist, please check with your doctor about whether these are appropriate for you.

Recommended for all in this age group

May be recommended if other risk factor is present

These are general recommendations for immunizations. Please talk with your doctor about which vaccinations are right for you.

References:
Healthwise, for every health decision. "Immunizations." Updated June 1, 2007.
Healthwise, for every health decision. "Testicular Examination and Testicular Self-Examination (TSE)." Updated February 20, 2007.
American Cancer Society: http://www.cancer.org/docroot/home/index.asp
Centers for Disease Control and Prevention: http://www.cdc.gov/vaccines/recs/schedules/default.htm

NJ HealthyLiving DM

NJ HEALTHYLIVING DM ES UN PROGRAMA DE LA GERENCIA DE LA SALUD PARA LOS PARTICIPANTES ELEGIBLES PROPORCIONADOS A NINGÚN COSTO PARA USTED Y APROBADOS POR LA DIVISIÓN DE NJ DE LA AYUDA MÉDICA Y LOS SERVICIOS MÉDICOS, DEPARTAMENTO DE SERVICIOS HUMANOS. PARA HABLAR CON UN CONSEJERO DE LA SALUD SOBRE ESTE PROGRAMA U OTRAS PREGUNTAS RELACIONADOS CON LA SALUD FAVOR DE LLAMAR AL 1.888.896.9912

Volume II: Issue I

EVALUACIONES Y VACUNAS

Está usted actualizado con las evaluaciones de salud?

Es importante visitar a su doctor una vez al año para una evaluación anual. Estas visitas le permiten hablar con su doctor acerca de cualquier condición de salud que usted tenga. Esto también permite un tiempo para revisar cualquier medicamento que este tomando y hacer otras preguntas relacionadas con la salud que usted pueda tener. Visitas anuales también es un buen tiempo para hacer las evaluaciones de salud. Anote en su calendario de sus citas como también de cuándo es tiempo de hacerse la evaluación. Revise las listas a continuación para ver si usted está actualizado con sus evaluaciones de salud.

Mujeres

- En sus 20's comience a hacer exámenes de seno personales.
- Después de los 40 usted debería hacerse un examen de mamograma cada año para evaluar el cáncer de seno.
- Empezando la edad 18 o cuando comience a ser activa sexualmente obtenga un examen de papanicolao cada 1-3 años por su doctor para examinar por el cáncer cervical.
- En los años 50 o más obtenga una evaluación del cáncer colorectal cada 5-10 años.
- Después de los años 45 obtenga una evaluación cada año para diabetes.
- Después de los 65 obtenga una evaluación cada año para glaucoma.

Hombres

- A los 15 años comience un examen testicular personal cada mes para examinar por el cáncer testicular.
- A los 50 o más obtenga una evaluación de cáncer cada 5-10 años.
- Después de los 45 años obtenga una evaluación cada año para diabetes.
- Después de los años 65 obtenga una evaluación cada año para glaucoma.

Si usted tiene preguntas acerca de cómo hacerse un examen personal y que implican estas evaluaciones por favor hable con su doctor o enfermera.

Qué son las vacunas?

Las vacunas pueden protegerlo de enfermedades y le ayuda a reducir el riesgo de contaminar a otros. Las vacunas pueden también ser llamados inmunización o vacunaciones, y usualmente son dadas por medio de inyecciones. Algunas vacunas pueden ser dadas solo una vez. Otras requieren más dosis cada cierto tiempo. Las vacunas no son siempre completamente preventivas para las enfermedades, pero puede hacer la enfermedad menos seria si la adquiere. Revise la tabla siguiente del Centro de Control y Prevención de Enfermedades (CDC-por sus siglas en inglés) recomendaciones en inmunizaciones para adultos. **Hable con su doctor para saber si está usted actualizado con todas sus vacunas.**

Horario Recomendado para la Inmunización Adulta

Vacuna	Grupo de edades		
	19-49 años	50-64 años	≥ 65 años
Tétano, difteria, pertusis	1-dosis y vacuna cada 10 años		
Sarampión, paperas, rubéola	1 o 2 dosis	1 dosis	
Varicela*	2 dosis	2 dosis	
Influenza	1 dosis anual	1 dosis anual	
Neumocócica	1-2 dosis		1 dosis
Hepatitis A	2 dosis		
Hepatitis B	3 dosis		
Meningitis	1 o más dosis		

* Éstas vacunas pueden contrariarse si ciertas condiciones existen, por favor consulte con su doctor para informarse si éstos son adecuados para usted.

Recomendados para todos en este grupo de edad

Puede ser recomendado si otro factor de riesgo se presenta

Éstos son recomendaciones en general para vacunaciones. Por favor hable con su doctor acerca de cuáles vacunas son las adecuadas para usted.

Referencias:
Healthwise, for every health decision. "Immunizations." Updated June 1, 2007.
Healthwise, for every health decision. "Testicular Examination and Testicular Self-Examination (TSE)." Updated February 20, 2007.
American Cancer Society: http://www.cancer.org/docroot/home/index.asp
Centers for Disease Control and Prevention: http://www.cdc.gov/vaccines/recs/schedules/default.htm

Consejos para ayudar al sano crecimiento de sus hijos

Lactantes (de 0 a 1 año de edad)

Indicadores del desarrollo

El desarrollo cognoscitivo de su bebé abarca el proceso de aprendizaje de las destrezas de memoria, lenguaje y capacidad para pensar y razonar. En este período, el bebé aprende a reconocer el sonido de la voz de la madre. También aprende a enfocar la mirada al mover los ojos de la periferia, o esquina de los ojos, hacia el centro. La adquisición del lenguaje es más que la emisión de sonidos ("balbuceo"), o la repetición de "mama/dada". Escuchar, entender y saber los nombres de personas y cosas son todos elementos de la adquisición del lenguaje. En este período, el bebé también establece lazos de amor y confianza con usted. La manera como usted abraza, carga y juega con su bebé definirá la manera como el niño se relacionará con usted y con los demás.

Para más información sobre los indicadores del desarrollo y las señales de posibles retrasos en el desarrollo, visite el sitio Aprenda los signos (http://www.cdc.gov/ncbddd/autism/ActEarly). Reaccione pronto.

Educación paternal positive

- Háblele al bebé. La voz de la mamá calma al bebé.
- Cuando su hijo emite sonidos, respóndale repitiendo lo que dice y añadiendo más palabras. Esto lo ayudará a aprender a usar el lenguaje.
- Léale al bebé. Esto lo ayudará a adquirir y a entender los sonidos y el lenguaje.
- Cántele al bebé.
- Ponga música. Esto ayudará a su bebé a desarrollar el gusto por la música y las matemáticas.
- Elogie al bebé y muéstrele mucho afecto y amor.
- Abrace y cargue a su bebé con frecuencia. Esto hace que el bebé se sienta seguro y atendido.
- El mejor momento para jugar con su bebé es cuando esté alerto y relajado. Observe cuidadosamente a su bebé para detectar señales de cansancio y nerviosismo de manera que usted pueda descansar.
- ¡Ser padres puede ser difícil! Cuídese tanto en el aspecto físico como mental y emocional. Es más fácil disfrutar de su nuevo bebé y ser padres positivos y amorosos si se sienten bien consigo mismos.

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La seguridad de los niños primero

Ahora que su bebé recién nacido está en casa, es hora de asegurarse de que la casa sea un lugar seguro. Asegúrese de que no haya en la casa ningún objeto que pueda representar un peligro para su bebé. Como padres, ustedes tienen la responsabilidad de crear un ambiente seguro para el bebé. También es importante tomar las medidas necesarias para asegurarse de que ustedes como padres estén mental y emocionalmente preparados para atender a su nuevo bebé. Sugerencias para mantener su bebé a salvo durante el primer año de vida:

- Es importante que no zarandee nunca al bebé recién nacido. Los músculos del cuello en los recién nacidos son muy débiles y no están en capacidad de sostener la cabeza. Si usted zarandea al bebé, puede afectar su cerebro y retrasar su desarrollo normal.
- Para prevenir el síndrome de muerte súbita (SMS, o SIDS por sus siglas en inglés), se recomienda que ponga el bebé a dormir boca arriba. Para más información sobre el SMS, visite el sitio web del Instituto Nacional de Salud Infantil y Desarrollo Humano National Institute of Child Health and Human Development (http://www.nichd.nih.gov/sids/sids.cfm).
- Coloque al bebé en la sillita de seguridad cuando viaje con él en carro. El sitio más seguro para colocar la sillita de seguridad es el asiento de atrás. Los niños de menos de un año de edad O que pesen menos de 20 libras, deben estar sentados en una sillita de seguridad mirando hacia atrás.
- Para evitar que su hijo se ahogue, pique sus alimentos en pedacitos pequeños. No permita que su hijo juegue con nada que le cubra la cara o sea fácil de tragar.
- Nunca cargue al bebé ni se le acerque con líquidos o alimentos calientes.
- Las vacunas son importantes para proteger la salud del bebé y velar por su seguridad. Dado que los niños son susceptibles a contraer enfermedades potencialmente serias, es importante que su hijo reciba las vacunas recomendadas. Consulte a su proveedor de atención de salud local para asegurarse de que su hijo esté al día con las vacunas infantiles. Puede visitar la página en Internet de los CDC sobre vacunas (http://www.cdc.gov/nip/recs/child-schedule.htm) y descargar el “Calendario de vacunas recomendado para los niños en los EE.UU”.

Consejos para ayudar al sano crecimiento de sus hijos

Niños que comienzan a caminar (de 1 a 2 años)

Indicadores del desarrollo

A esta edad, su hijo comienza a adquirir cada vez más movilidad y a estar cada vez más conciente de sí mismo y de su entorno. También aumenta su deseo de explorar nuevos objetos y otras personas. En esta etapa, su hijo mostrará mayor independencia, comenzará a tener conductas desafiantes, se reconocerá a sí mismo en las fotos y en el espejo e imitará las conductas de los demás, especialmente de los adultos y niños de más edad. Su hijo también sabrá reconocer los nombres de personas conocidas y de objetos que ve con frecuencia, componer frases e ideas sencillas, y seguir instrucciones y órdenes sencillas.

Para más información sobre los indicadores del desarrollo y las señales de posibles retrasos en el desarrollo, visite el sitio Aprenda los signos. Reaccione pronto.

Educación paternal positiva

- Léale a diario a su hijo
- Pídale que le busque objetos o que le nombre las partes del cuerpo y los objetos.
- Jueguen a ordenar las cartas por figuras.
- Anímelo a explorar y a intentar cosas nuevas.
- Háblele a su hijo para ayudarlo a desarrollar su lenguaje.
- Vayan juntos al parque o en autobús para fomentar en el niño la curiosidad y la habilidad de reconocer objetos comunes.

La seguridad de los niños primero

A medida que aumenta la movilidad de su hijo, también aumentan las situaciones peligrosas. Recomendaciones para ayudar a su hijo a crecer sin riesgos.

- Bloquee las escaleras con pequeñas puertas o cercas. Cierre con llave las puertas que conduzcan a sitios peligrosos, como el garaje y el sótano.
- Coloque tapas de seguridad en todas las tomas de corrientes de la casa.
- Mantenga los artefactos eléctricos de la cocina, la plancha y los calentadores lejos del alcance del niño. Posicione las asas de las ollas en la cocina de tal manera que el niño no pueda alcanzarlas.
- Guarde objetos filosos como tijeras y bolígrafos en un lugar seguro.
- Guarde bajo llave las medicinas, los detergentes y los venenos.
- No deje nunca a su hijo solo en el carro, ni siquiera por unos minutos.
- Guarde todas las armas en un lugar seguro, lejos del alcance del niño.

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Consejos para ayudar al sano crecimiento de sus hijos

Niños de 2 a 3 años de edad

Indicadores del desarrollo

Debido al deseo creciente de su hijo de reafirmar su independencia, a este período se le conoce como la etapa de los "terribles dos". Sin embargo, puede ser un período emocionante para usted y para su hijo. El niño experimentará grandes cambios intelectuales, sociales y emocionales que lo ayudarán a explorar y a entender su nuevo mundo. En esta etapa, su hijo estará en capacidad de seguir instrucciones de dos o tres frases, ordenar objetos según la forma y el color, imitar las acciones de los adultos y amigos de juego, y expresar una amplia variedad de emociones.

Para más información sobre los indicadores del desarrollo y las señales de posibles retrasos en el desarrollo, visite el sitio Aprenda los signos. Reaccione pronto.

Educación paternal positiva

- Fije una hora especialmente para leer libros con su hijo.
- Anime a su hijo a ser creativo en sus juegos, como por ejemplo imitar a los adultos.
- Juegue al trencito con su hijo.
- Salga a pasear con su hijo, ya sea caminando o jalándolo en un vagoncito para ayudarlo a explorar el ambiente que lo rodea.
- Anime a su hijo a que le diga su nombre y su edad.
- Enséñele canciones infantiles como “El barquito chiquitico” u otras canciones tradicionales de la infancia.

La seguridad del niño es lo primero

Enséñele al niño a sentarse cuando esté comiendo y a masticar bien los alimentos.

- Asegúrese constantemente de que los juguetes del niño no estén rotos ni tengan ninguna pieza floja.
- Enséñele que no debe ponerse los lápices y creyones en la boca cuando esté dibujando o coloreando.
- Nunca deje a su hijo solo cerca del agua (p. ej. bañera, estanques, lagos, pozos y playa) sin supervisión.
- No tome nunca bebidas calientes cuando cargue a su hijo. Cualquier movimiento brusco podría hacer derramar la bebida.

Promoting the health of babies, children, and adults,
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Department of Health and Human Services
National Center on Birth Defects and Developmental Disabilities

Consejos para ayudar al sano crecimiento de sus hijos

Preescolares (de 3 a 5 años de edad)

Indicadores del desarrollo

A medida que su hijo se acerca a la primera infancia, su mundo comienza a abrirse ante él. Se hará más independiente y comenzará a prestar más atención a los adultos y niños que están fuera de la familia. Comenzará a explorar y cada vez más preguntará sobre las cosas que lo rodean. Su relación con la familia y aquellos que lo rodean lo ayudarán a formar su personalidad y a definir sus propias maneras de pensar y moverse. En esta etapa, su hijo estará en capacidad de andar en bicicleta, cortar con tijeras de seguridad, mostrar interés por la identidad de género, comenzará a vestirse y desvestirse solo, jugará con otros niños, recordará parte de los cuentos y cantará canciones.

Para más información sobre los indicadores del desarrollo y las señales de posibles retrasos en el desarrollo, visite el sitio Aprenda los signos. Reaccione pronto.

Educación paternal positiva

- No deje de leerle a su hijo. Llévelo a las bibliotecas y librerías para inculcarle el amor por los libros.
- Permítale que ayude con tareas sencillas.
- Anime a su hijo a que juegue con otros niños. Esto lo ayudará a entender el valor de compartir y de la amistad.
- Háblele con oraciones completas y con un lenguaje "adulto" para que aprenda a hablar bien. Ayúdelo a usar las palabras y las frases correctas.
- Sea clara y consecuente a la hora de disciplinar a su hijo. Sea modelo de la conducta que espera de él.

La seguridad de los niños primero

A medida que el niño adquiera más independencia y aumente su interacción con el mundo exterior, es importante que usted y su hijo sepan cómo estar a salvo. Maneras de proteger a su hijo:

- Explíquele a su hijo por qué es importante alejarse del tráfico. Pídale que no juegue en la calle ni corra tras las pelotas que se van a la calle.
- Actúe con cautela cuando le permita a su hijo andar en bicicleta. Indíquele que debe andar en la acera y lejos de la calle.
- Inspeccione los equipos de los parques infantiles. Asegúrese de que no tengan partes flojas ni bordes filosos.
- Cuando su hijo esté jugando afuera, esté pendiente de él en todo momento.
- Enséñele medidas de seguridad para jugar con agua. Enséñele a nadar.
- Enséñele cómo debe comportarse con personas extrañas.

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Consejos para ayudar al sano crecimiento de sus hijos

Niñez mediana (de 6 a 8 años de edad)

Indicadores del desarrollo

La niñez mediana es un período de muchos cambios en la vida de un niño. A esta edad, los niños ya pueden vestirse por sí solos, atrapar una pelota más fácilmente solo con las manos y amarrarse los zapatos. Lograr independizarse de la familia es ahora más importante. Acontecimientos como comenzar a ir a la escuela hacen que estos niños entren en contacto permanente con el mundo exterior. La amistad se hace cada vez más importante. En este período se adquieren rápidamente habilidades físicas, sociales y mentales. Es fundamental que en este período el niño aprenda a desenvolverse en todas las áreas de la vida, a través de los amigos, el trabajo en la escuela y el deporte, entre otras cosas. Éstos son algunos de los cambios que puede que experimente el niño en la niñez mediana:

Cambios emocionales y sociales

- Se independiza más de los padres y la familia.
- Aprende a tener una noción más clara de lo bueno y lo malo.
- Comienza a entender el concepto de futuro.
- Entiende cada vez más su lugar en el mundo.
- Presta más atención a la amistad y al trabajo en grupo.
- Desea cada vez más encajar entre los amigos y ser aceptado por ellos.

Cambios mentales y cognoscitivos

- Adquiere rápidamente habilidades mentales.
- Tiene mayor capacidad para describir sus experiencias y hablar acerca de sus ideas y sentimientos.
- Muestra menos atención a sí mismo y más interés en los demás.

(Adaptado con la autorización de Bright Futures: Green M, Palfrey JS, editors. Bright Futures Family Tip Sheets: Middle childhood. Arlington (VA): National Center for Education in Maternal and Child Health; 2001.)

Para más información, visite la página web de la Academia Americana de Pediatría (en inglés) Developmental Stages (Etapas del desarrollo).

Educación paternal positive

- Demuéstrele afecto a su hijo Reconozca sus logros.
- Ayude a su hijo a desarrollar el sentido de la responsabilidad; por ejemplo, pídale que lo ayude con las tareas del hogar, como poner la mesa.
- Hable con su hijo sobre la escuela, los amigos y las cosas que desearía hacer en el futuro.
- Hable con su hijo sobre el respeto por los demás. Anímelo a ayudar a las personas necesitadas.
- Ayude a su hijo a establecer metas alcanzables; de esta manera, aprenderá a sentirse orgulloso de sus logros y a necesitar menos de la aprobación y el reconocimiento de los demás.
- Establezca reglas claras y haga que se cumplan; por ejemplo, establezca por cuánto tiempo puede ver la televisión y a qué hora tiene que acostarse. Sea claro acerca de lo que es y no es aceptable respecto a su conducta.
- Ayude a su hijo a tener paciencia; por ejemplo, enséñele a esperar su turno y a terminar una tarea antes de ir a jugar. Anímelo a que piense en las posibles consecuencias de sus actos.
- Hagan cosas divertidas en familia, como jugar, leer y asistir a eventos en la comunidad.
- Involúcrese en las actividades de la escuela de su hijo. Reúnase con los maestros y el personal de la escuela para entender las metas de aprendizaje y buscar la manera de trabajar con la escuela para ayudar a su hijo a lograr dichas metas.
- No deje de leerle a su hijo. A medida que su hijo vaya aprendiendo a leer, tomen turnos en la lectura.
- Use la disciplina para guiar y proteger a su hijo, en lugar de castigarlo y hacer que se sienta mal por lo que hizo.
- Ayude a su hijo a enfrentar nuevos retos. Anímelo a resolver por sí solo los problemas, como los conflictos con otro niño.

La seguridad de los niños primero

Al tener más independencia y aptitudes físicas, los niños están en un mayor peligro de lesiones por caídas y otros accidentes. Los accidentes vehiculares son la causa más común de muerte por lesión accidental entre los niños de esta edad.

- Proteja a su hijo adecuadamente cuando viaja en automóvil. Para más información, visite el sitio de la Academia Americana de Pediatría sobre las sillas de seguridad en Car Safety Seats: A Guide for Families (http://www.aap.org/family/carseatguide.htm)
- Enséñele a su hijo a estar atento al tráfico y a seguir medidas de seguridad cuando se va caminando a la escuela, monta su bicicleta o juega afuera.
- Asegúrese de que su hijo entienda las medidas de seguridad relacionadas con el agua, y supervíselo siempre que esté nadando o jugando cerca del agua.
- Supervise a su hijo cuando esté realizando actividades peligrosas, como trepar.
- Hable con su hijo sobre cómo pedir ayuda cuando la necesite.
- Mantenga fuera del alcance del niño productos del hogar potencialmente peligrosos, como herramientas, equipos, y armas de fuego.

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Consejos para ayudar al sano crecimiento de sus hijos

Primera adolescencia (12 a 14 años de edad)

Indicadores del desarrollo

La primera adolescencia es un período marcado por muchos cambios físicos, mentales, emocionales y sociales. Las hormonas van cambiando a medida que se inicia la pubertad. En los niños comienza a aparecer el vello facial y púbico, y su voz se vuelve grave. En las niñas aparece el vello púbico, les crecen los senos y comienzan a menstruar. Estos cambios y la manera como los perciben los demás podrían ser factores de preocupación para los adolescentes. También es un período en el cual el adolescente podría enfrentarse a la presión que ejercen sus amigos para que consuma alcohol y drogas, fume y tenga relaciones sexuales. Otros retos a los cuales se enfrentan los adolescentes pueden ser los trastornos de la alimentación, la depresión, y los problemas familiares.

A esta edad, los adolescentes toman por sí mismos más decisiones sobre sus amigos, los deportes, los estudios y la escuela, se hacen más independientes, definen su personalidad y desarrollan sus propios intereses. Estos son algunos de los cambios que experimentan los adolescentes:

Cambios emocionales y sociales

- Se preocupan más por su imagen física, la manera como se ven y por su ropa.
- Se centran más en su persona y pasan por períodos de muchas expectativas y períodos de falta de confianza en sí mismos.
- Cambian de humor
- Se interesan más por los jóvenes de su misma edad (pares) y sienten más su presión.
- Muestran menos afecto hacia sus padres. Puede que en ocasiones se muestren rudos y con mal genio.
- Sienten ansiedad debido a los retos que les impone el trabajo escolar.
- Puede que enfrenten problemas de alimentación, un trastorno que puede comenzar a esta edad. Para obtener información sobre alimentación sana y ejercicios para niños y adolescentes, visite http://kidshealth.org/teen/food_fitness/.

Cambios mentales y cognoscitivos

- Tienen más habilidad para el razonamiento complejo.
- Tienen más capacidad de expresar sus sentimientos con palabras.
- Tienen una noción más clara de lo bueno y lo malo.
- En ocasiones, muchos adolescentes se sienten tristes y deprimidos. La depresión puede afectar su rendimiento escolar y hacer que consuman alcohol y drogas, tengan relaciones sexuales sin protección y enfrenten otros problemas. Para obtener más información sobre la salud mental de los adolescentes, visite http://www.nimh.nih.gov/healthinformation/depchildmenu.cfm.

Adaptado con la autorización de Bright Futures: Green M, Palfrey JS, editors. *Bright Futures Family Tip Sheets: Early Adolescence*. Arlington, VA: National Center for Education in Maternal and Child Health, 2001. Otras fuentes: American Academy of Child and Family Psychiatry y American Academy of Pediatrics.

Educación y crianza positiva

La confianza es importante para los adolescentes. Aun cuando cada vez se haga más independiente, el adolescente necesita saber que tiene el apoyo de sus padres. Al mismo tiempo, necesita que sus padres respeten su necesidad de privacidad.

- Sea honesto y directo con su hijo adolescente cuando le hable de temas delicados como las drogas, el hábito de beber, el hábito de fumar y las relaciones sexuales.
- Anime a su hijo adolescente a hacer ejercicio. Podría formar parte de un equipo o practicar un deporte individual. Las tareas domésticas como cortar el pasto, sacar el perro y lavar el carro también sirven para mantener a su hijo adolescente activo.
- La hora de la comida es muy importante para las familias. Comer juntos en familia ayuda a los adolescentes a tomar mejores decisiones en cuanto a los alimentos que consumen, promueve un peso saludable y permite el diálogo entre los miembros de la familia.
- Conozca a los amigos de su hijo adolescente.
- Muestre interés en las actividades escolares de su hijo adolescente.
- Ayúdelo a tomar decisiones sanas y anímelo a tomar sus propias decisiones.
- Respete las opiniones de su hijo adolescente y tome en cuenta sus ideas y sentimientos. Es importante que sepa que usted lo escucha.

La seguridad primero que todo

Los accidentes automovilísticos son la primera causa de muerte entre jóvenes de 12 a 14 años de edad. También ocurren con frecuencia lesiones provocadas por actividades deportivas y de otra índole.

- Asegúrese de que su hijo adolescente esté al tanto de la importancia de abrocharse el cinturón de seguridad. Para obtener más información, visite la National Highway Traffic Safety Administration.
- Anime a su hijo adolescente a usar el casco de seguridad cuando salga en bicicleta, en moto o en un vehículo todo terreno.
- Hable con su hijo adolescente sobre el peligro de las drogas, el alcohol, el cigarrillo y las relaciones sexuales sin protección. Pregúntele qué sabe y qué piensa de estos temas, y comparta con él sus ideas y sentimientos. Escuche lo que tiene que decir y responda a sus preguntas de manera honesta y directa.
- Hable con su hijo adolescente sobre la importancia de tener amigos interesados en actividades positivas.
- Anímelo a evitar a aquellos jóvenes que lo presionan a tomar decisiones peligrosas.
- Esté al tanto de dónde está su hijo adolescente y si está con un adulto. Haga planes con su hijo sobre qué hacer cuando él lo llame a usted, dónde puede usted encontrarlo y a qué hora espera que esté de regreso en casa.
- Establezca reglas claras que su hijo adolescente debe seguir mientras esté en casa. Háblele de temas como traer a sus amigos a la casa, cómo manejar situaciones peligrosas (emergencias, incendios, drogas, relaciones sexuales, etc.), de sus tareas escolares y de las actividades domésticas que puede realizar.

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Enlaces para los padres (en inglés)

CDC's Healthy Youth! (http://www.cdc.gov/HealthyYouth/healthtopics/index.htm) explica seis conductas de salud importantes que están entre las primeras causas de muerte y discapacidad entre los jóvenes. También aborda otros problemas que afectan a los niños y a los adolescentes.

KidsHealth (http://kidshealth.org/index.html) de la *Nemours Foundation*, ofrece una amplia información para padres, niños y adolescentes.

La **American Academy of Child & Adolescent Psychiatry** (http://www.aacap.org/index.ww) tiene muchas hojas informativas para padres sobre la salud y el desarrollo del niño y del adolescente.

Talk With Your Kids (http://www.talkwithkids.org/) es una iniciativa nacional de las organizaciones **Children Now** (http://www.childrennow.org/) y **Kaiser Family Foundation** (http://www.kff.org/) que tiene como objetivo motivar a los padres a que hablen a menudo con sus hijos sobre temas como relaciones sexuales, VIH/SIDA, violencia, alcohol y drogadicción y desde temprana edad.

El **National Institute of Mental Health** (http://www.nimh.nih.gov/healthinformation/childmenu.cfm) de los Institutos Nacionales de la Salud, ofrece información sobre trastornos mentales que afectan a niños y adolescentes.

La **National Highway Traffic Safety Administration** (http://www.nhtsa.dot.gov/people/injury/childps/newtips/index.htm) ofrece información sobre seguridad automovilística y sugerencias sobre cómo mantener la seguridad de su hijo menor y adolescente en los carros, al caminar, andar en bicicleta, jugar afuera, esperar el trasporte escolar y al realizar otras actividades.

Consejos para ayudar al sano crecimiento de sus hijos

Adolescencia mediana (de 15 a 17 años de edad)

Indicadores del desarrollo

La adolescencia mediana es un período en el cual los adolescentes experimentan cambios físicos, mentales, emocionales y sexuales. La mayoría de las niñas ya habrá llegado a su madurez física, y gran parte de ellas habrá llegado al final de la pubertad. Los niños todavía podrían estar desarrollándose físicamente durante esta época. A su hija adolescente podría preocuparle su peso o el tamaño o la forma de su cuerpo. Los trastornos alimentarios también pueden ser comunes, especialmente entre las niñas. Durante esta fase, el adolescente está desarrollando sus propias opiniones y personalidad. Las relaciones con los amigos todavía son importantes, pero también irá adquiriendo otros intereses a medida que establezca un sentido de identidad más definido. La adolescencia mediana también es un momento importante de preparación para asumir mayor independencia y responsabilidad; la mayoría de los adolescentes empieza a trabajar y muchos se irán de la casa una vez acaben la escuela secundaria. Otros cambios que podría notar en su hijo adolescente incluyen:

Cambios sociales y emocionales

- Aumento del interés en el sexo opuesto
- Disminución del conflicto con los padres
- Más independencia de los padres
- Mayor capacidad para compartir y ser generoso y para establecer relaciones de pareja
- Disminución del tiempo que pasa con los padres y aumento del tiempo que pasa con los amigos

Cambios mentales y cognitivos

- Hábitos de trabajo más definidos
- Mayor preocupación sobre el futuro educativo y los planes vocacionales
- Mayor capacidad para distinguir entre lo que es correcto e incorrecto
- Tristeza o depresión, que pueden afectar el rendimiento escolar de los adolescentes y hacer que consuman alcohol y drogas, tengan relaciones sexuales sin protección, consideren el suicidio y enfrenten otros problemas (Nota: los problemas en la escuela, el uso de drogas y alcohol y la presencia de otros trastornos también pueden causar sentimientos de tristeza y desesperanza).

(Adaptado con la autorización de Bright Futures: Green M, Palfrey JS, editors. Bright Futures Family Tip Sheets: Adolescence. Arlington (VA): National Center for Education in Maternal and Child Health, 2001. Otras fuentes: American Academy of Child and Family Psychiatry; y la American Academy of Pediatrics).

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Educación y crianza positiva

- Hable con su hijo adolescente sobre qué le preocupa y preste atención a cualquier cambio en su conducta. Pregúntele si ha tenido pensamientos suicidas, en particular si lo ve triste o deprimido. Hacer preguntas sobre el suicidio no le meterá a su hijo ideas raras en la cabeza, pero sí le dejará saber que a usted le importa lo que está sintiendo. Busque ayuda profesional si es necesario.
- Demuestre interés en las actividades escolares de su hijo adolescente y en los intereses y actividades extracurriculares y anímelo a participar en actividades como deportes, música, teatro y arte.
- Elogie a su hijo adolescente y celebre sus esfuerzos y logros.
- Demuéstrele afecto y pasen tiempo juntos haciendo cosas que usted disfrute.
- Respete la opinión de su hijo adolescente. Escúchelo sin restar importancia a sus preocupaciones.
- Anímelo a que participe de voluntario y se involucre en actividades de la comunidad.
- Anímelo a que busque soluciones a problemas o conflictos. Ayúdele a saber cómo tomar buenas decisiones. Cree las oportunidades para que use su propio criterio, y esté disponible para proporcionar consejo y apoyo.
- Si su hijo adolescente participa en medios interactivos en Internet, como juegos, salones de chat y mensajería instantánea, ínstelo a que sea disciplinado y respetuoso con el tiempo que dedica a esas actividades.
- Si su hijo adolescente trabaja, aproveche la oportunidad para hablar sobre expectativas, responsabilidad y otros aspectos relacionados con el comportamiento respetuoso en ambientes públicos.
- Hable con su hijo adolescente y ayúdele a planear con anticipación cómo enfrentar situaciones difíciles o incómodas. Hablen de lo que puede hacer si está en un grupo y alguien están usando drogas, si recibe presiones para tener relaciones sexuales o si alguien que ha estado bebiendo le ofrece llevarlo en el carro.
- Respete la necesidad de privacidad que tiene su hijo adolescente.
- Motívelo a que duerma lo necesario y haga suficiente ejercicio y a que se alimente en forma saludable y balanceada.
- Anímelo a que coma con la familia. Comer juntos en familia ayuda a los adolescentes a tomar mejores decisiones en cuanto a los alimentos que consumen, promueve un peso saludable y permite el diálogo entre los miembros de la familia. Además, es más probable que un adolescente que come con la familia tenga mejores calificaciones y sea menos propenso a fumar, beber o usar drogas. También es menos probable que se meta en peleas, piense en el suicidio y tenga relaciones sexuales.

La seguridad primero que todo

Los accidentes vehiculares son la causa más común de muerte por lesión accidental entre los adolescentes, sin embargo, pocos adolescentes toman medidas para reducir el riesgo de lesión. La lesiones generadas por la participación en deportes y otras actividades también son comunes.

- Hable con su hijo adolescente sobre la importancia de usar el cinturón de seguridad mientras conduce. Insista en que respete los límites de velocidad y los semáforos y sea enfático al decirle que no debe conducir si ha bebido. Establezca reglas claras sobre cuándo y dónde debe usar el carro y sobre quién debe viajar con él.
- Inste a su hijo adolescente a usar el casco de seguridad cuando salga en bicicleta, en moto o en un vehículo todo terreno.
- El suicidio es la tercera causa principal de muerte entre los jóvenes de 15 a 24 años de edad. Hable con su hijo adolescente sobre el suicidio y preste atención a los signos de advertencia.
- Hable con su hijo adolescente sobre el peligro de las drogas, el alcohol, el cigarrillo y las relaciones sexuales sin protección. Pregúntele qué sabe y qué piensa de estos temas, y comparta con él sus ideas y sentimientos. Escuche lo que tiene que decir y responda a sus preguntas de manera honesta y directa.
- Explíquele la importancia de escoger amigos que no actúen en forma peligrosa o dañina.

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- Esté al tanto de dónde está su hijo adolescente y si está con un adulto. Haga planes con su hijo sobre qué hacer cuando él lo llame a usted, dónde puede usted encontrarlo y a qué hora espera que esté de regreso a casa.
- Establezca reglas claras que su hijo adolescente debe seguir mientras esté en casa. Entre las cosas que puede hablar con su hijo adolescente están las reglas para amigos y personas que vayan a la casa, las situaciones potencialmente riesgosas (p. ej., emergencias, incendios, drogas y sexo) y las responsabilidades que debe asumir cuando está solo en casa.

Enlaces para los padres (en inglés)

La Academia Americana de Pediatría tiene folletos, hojas informativas y otra información sobre diversos temas de salud para padres de niños de todas las edades.

La División de Salud de Adolescentes y Salud Escolar de los CDC tiene una página web sobre Juventud Saludable (Healthy Youth!) que explica los seis tipos críticos de conductas de salud que son causa principal de muerte y discapacidad entre jóvenes y adolescentes. Este sitio web tiene una lista alfabética de otros temas que afectan a los niños y a los adolescentes.

El Centro Nacional para el Control y la Prevención de Lesiones de los CDC tiene un sitio web que contiene información sobre temas tales como violencia juvenil, suicidio, conductores adolescentes, violencia sexual y otros temas relacionados con lesiones.

El sitio web KidsHealth de la Nemours Foundation ofrece información práctica para padres, adolescentes y niños.

La Academia Americana de Psiquiatría Infantil y del Adolescente tiene hojas informativas para padres sobre diversos temas relacionados con el desarrollo del niño y del adolescente.

La campaña Talk With Your Kids es una iniciativa nacional de las organizaciones Children Now y Kaiser Family Foundation que tiene como objetivo motivar a los padres a que hablen con sus hijos a menudo y lo más pronto posible sobre temas difíciles como sexo, VIH/SIDA, violencia, alcohol y drogadicción.

El Instituto Nacional de Salud Mental y la Administración de Servicios de Salud Mental y Abuso de Sustancias ofrecen información y recursos sobre la salud mental de niños y adolescentes.

La Administración Nacional de Seguridad Vial ofrece información sobre productos que se sacan del mercado por razones de seguridad, y hace sugerencias para mantener la seguridad de los niños mientras viajan en automóvil, andan en bicicleta, juegan al aire libre, esperan el trasporte escolar y otras cosas más.

Persons with Disabilities Rural Shared-Ride Transportation Program (PwD) Fact Sheet

What is it?

The Persons with Disabilities Rural Shared Ride Transportation Program creates affordable, accessible transportation on shared-ride vehicles. PennDOT provides grants to local transportation operators to provide door-to-door advanced reservation transportation in specific counties. Passengers pay at least 15% of the regular shared-ride fare.

Who doesn't have it?

People with disabilities in **16** eligible counties: **Warren, Forest, Clarion, Butler, Armstrong, Indiana, Westmoreland, Cambria, Somerset, Susquehanna, Wyoming, Lackawanna, Luzerne, Montour, Wayne and Delaware**

Why not?

PwD shared-ride started as a pilot program in 8 counties in 2001. Over the last 7 years additional funding has been provided that enabled the program to gradually expand to cover 75% of the state. However, additional funding is needed to make the program available in the remaining 25%. (see back for map of counties).

What is the real issue?

Equity: There should not be *have and have nots* when it comes to people with disabilities getting to work, school, church, grocery stores, doctor offices and many other destinations necessary to live independently.

How is the program improving the lives of people with disabilities?

- 76% of passengers are able to live in their own home because of available transportation
- 46% are able to get and keep jobs

How does the Commonwealth benefit?

- More people are working and paying taxes
- More people are purchasing goods and services, and participating in their communities

What needs to happen for statewide coverage?

An additional investment of $2.25 million (bringing the total line item for the PwD program in the PennDOT budget to $7.55 million), so that PwD can be available to people in all 65 eligible counties.

The Transportation Commission recommended the program be expanded statewide.

Contact John Tassone, Chair of the Transportation Alliance at xxx.xxx.xxxx

~Company Logo~

February 13, 2009

«Member_First_Name» «Member_Last_Name»
«Member_Address1»
«Member_Address2»
«Member_City» «Member_State» «Member_Zip»

Dear «Member_First_Name»:

This letter is to inform you that Healthy Additions is a maternity education program available, at no cost to you, through <ACCOUNT NAME>. Because the health of employees and their families benefits everyone, this program is intended to help you understand the active role you can take in planning for a healthy pregnancy and a healthy baby. The program is not intended to replace the care of your doctor or other provider, but rather to provide you with support, services and information. Our goal is to help you learn and be able to make informed choices that will give your baby the greatest chance of being born strong and healthy.

The Healthy Additions program includes:

- Three scheduled health interviews over the phone
- The resource guides: *Planning a Healthy Pregnancy* and *Caring for Your Baby*
- Access to pregnancy education line during regular business hours

Each pregnancy is unique. Whether this is your first pregnancy, or you have already experienced a pregnancy, the Healthy Additions program has something for you. You may reach me through the Healthy Additions program by calling <ACCOUNT SPECIFIC TOLL FREE NUMBER> between 8:00 AM and 5:00 PM, Monday through Friday (CST).

I look forward to speaking with you again soon!

<<Health Coach>>
Healthy Additions
Prenatal Educator

Enc.

<DATE>

<FIRST NAME LAST NAME>
<ADDRESS>
<CITY, ST ZIP>

Dear <FIRST NAME>,

Welcome to the **NJ HealthyLiving DM** program! As we discussed on the phone, enclosed is a welcome kit that includes the following:

- Learning to Live with Heart Failure: A self-care handbook
- Rights and Responsibility: *A document that lists your rights and responsibility in the program*
- Healthwise Knowledgebase: An overview of a web-based educational program that can be found by using the following link and password:

  Link: *http://www.apshealthcare.com/member/Member_Knowledgebase.htm.*

  Password: NJ DHS

If you have any questions about **NJ HealthyLiving DM**, please call us at 1-888-896-9912.

Our goal is to help you enjoy a healthy lifestyle!

Sincerely,

Signature

Enclosure (s)

<DATE>

<FIRST NAME LAST NAME>
<ADDRESS>
<CITY, ST ZIP>

Dear <FIRST NAME>,

Welcome to the NJ HealthyLiving DM program! As we discussed on the phone, enclosed is a welcome kit that includes the following:

- Learning To {Name of Book}: *a self-care handbook .*
- Rights and Responsibility: *A document that lists your rights and responsibility in the program*
- Healthwise Knowledgebase: an overview of a web-based educational program that can be found by using the following link and password:

  Link: *http://www.apshealthcare.com/member/Member_Knowledgebase.htm.*

  Password: NJ DHS

If you have any questions about NJ HealthyLiving DM, please call us at 1-888-896-9912.

Our goal is to help you enjoy a healthy lifestyle.

Sincerely,

Signature

Enclosure (s)

<DATE> 20 de marzo de 2007 [example]

<FIRST NAME LAST NAME>
<ADDRESS>
<CITY, ST ZIP>

Estimado Miembro:

Bienvenido al NJ HealthyLiving DM (Programa para Manejo de Salud Vida Sana de NJ). Según nuestra conversación telefónica, le adjuntamos sus materiales de bienvenida:

- Learning To {Name of Book}: *(Publicación que trata sobre su cuidado individual y personal.)*
- Rights and Responsibility (Derechos y Responsabilidades: *Documento que detalla sus derechos y responsabilidades en el programa*
- Healthwise Knowledgebase – una biblioteca de salud basada en la Web donde puede encontrar información detallada de una multitud de temas sobre la salud. Puede encontrarla usando el siguiente enlace y palabra clave:

  Enlace: *http://www.apshealthcare.com/member/Member_Knowledgebase.htm*.

  Palabra clave: NJDHS

Si tiene preguntas acerca de HealthyLiving DM, por favor llámenos al 1-888-896-9912.

Nuestra meta es ayudarle a disfrutar de una vida sana.

Atentamente,

(Firma)

Materiales adjuntos

Georgia Enhanced Care

APS Healthcare Inc

Helping People Lead Healthier Lives

Noviembre 2005

1680 Phoenix Blvd
Suite 200
Atlanta, GA 30349

Guía de miembro

Georgia Enhanced Care

APS Healthcare Inc

Helping People Lead Healthier Lives

Los puntos culminantes:

- Programe Vista General
- Contacte Información
- Derechos de miembro y Responsabilidades
- Recursos

Noviembre 2005

Estimado miembro de Seguro Medicaid,

El Seguro Medicaid de Georgia le da un gran servicio nuevo a ayudarlo a entender su enfermedad y cómo tomar mejor cuidado de su salud. Este servicio es libre par usted. El Departamento de la Salud de la Comunidad ha preguntado a nuestra compañía, APS Healthcare, para trabajar con usted porque usted vive en el metro Atlanta y la área del norte de Georgia.

El Seguro Medicaid Programa Aumentó del Cuidado le ofrece un enfermero que trabajará con usted proporcionar la educación de su salud, discute la enfermedad y las maneras que usted puede sentirse mejor cada día. Su enfermero le dirá maneras de hablar con su médico acerca del tratamiento para enfermedades y nuestro enfermero hablará con usted y con su médico acerca de cómo él/ella puede sostener su plan del cuidado del doctor.

Nosotros le hemos proporcionado información acerca de sus Derechos y Responsabilidades dentro este programa y la a hablar con usted pronto por teléfono o en-persona. Mandaremos a usted de vez en cuando información acerca de enfermedades, las maneras de hablar con su médico y maneras de cuidar ser.

Usted puede alcanzar APS Healthcare llamando 1-866-220-1747 o si usted es sordo usa TTY en 1-866-779-3869. Los traductores están disponibles ayudarle. Nuestro personal estaría contento compartir más acerca del programa. Usted puede leer también acerca de nuestros servicios visitando nuestro sitio web en www.gaenhancedcare.apshealthcare.com.

RECURSOS

Hay muchos recursos a través de su comunidad que le puede proporcionar con apoyo para mejorar su salud. Su Entrenador de la Salud le proporcionará con recursos basados en sus necesidades. Si hay un recurso que usted necesita, haremos nuestro mejor para ayudarlo a encontrarlo.

Visite nuestro sitio web para una lista repleta de recursos: www.gaenhancedcare.apshealthcare.com

El apoyo Agrupa

Am Diabetes Association: 404-320-7100

Cardiac Support: 1-866-900-4321

Stroke: 1-866-900-4321

Anxiety: 770-392-0107

Transporte

Para-Transit: 404-848-5389

I Care of DeKalb: 404-377-2273

Logisticare: 1-800-486-7647

Apoyos sociales

Estos recursos proporcionan ayuda con alimento, la ropa y ayuda financiera con utilidades, el alquiler y el teléfono.

Salvation Army: 404-352-3597

Jars of Clay: 404-586-9794

Midtown Assistance Center: 404-681-5777

Los Programas libres o Bajos de la Medicina del Costo
Son concentrados en drogas específicas inclusive Abilify, Paxil, Prozac, y Risperdal.

La Ayuda paciente de la Droga Programa
Muchas compañías farmacéuticas ofrecen ayuda con cubrir los costos de la medicina. Algunos ejemplos son Bristol-Myers, Eli Lilly, Abott, Wyeth y Roche.

Nosotros le alentamos a hablar con usted el Entrenador de la Salud de APS acerca de estos recursos y otros.

ESCOGER a UN MEDICO

Cuando un recipiente de Seguro Medicaid, usted ha sido dado la oportunidad de escoger a un médico para su cuidado primario. Si usted no hace una elección, el Seguro Medicaid le asignará a un

Es importante que usted escoja a un médico. Su Entrenador de la Salud de APS quiere ayudarlo a escoger a un médico usted se sentirá hablar cómodo con acerca de sus asuntos de la salud.

VISITAR a SU MEDICO

Su Entrenador de la Salud de APS hablará con usted y le alenta a visitar a su médico en vez de hacer los viajes al la emergencia la hospital para el cuidado.

El cuidado y la investigación rutinarios pueden prevenir muchos acontecimientos de la emergencia. Su Entrenador de la Salud le aconsejará acerca de las pruebas rutinarias que deben ocurrir y la frecuencia.

VIVIR SANO

Hay muchas maneras que usted puede sentirse mejor y mejorar su salud

El ejercicio, tal como andando, es importante para muchas razones. El ejercicio lo puede ayudar a mantener su peso así como reduce el énfasis.

El alimento - Comiendo una dieta sana también lo ayudará a sentirse mejor. Su médico y el Entrenador de la Salud de APS lo pueden ayudar a decidir qué tipo de alimentos trabaja mejor para usted.

Las actividades sociales - es importante permanecer en contacto con amigos y familia que pueden proporcionar el ánimo y el apoyo. Una risa buena siempre marca que usted se siente mejor.

Deje de fumar - uno de las cosas más importantes usted puede hacer para su salud deberá dejar de fumar. Su Entrenador de la Salud puede recomendar que las maneras ayudenlo a dejar.

Programe Vista General

El Programa Aumentado del Cuidado se proporciona libre a miembros de Seguro médico que están en el Viejo, Ciegan e Incapacitados (ABD) la categoría. Los servicios se significan para ayudarlo a cuidar de su salud y para mantenerle sano. Trabajaremos con su médico y usted encontrar que las mejores maneras de cuidar de sus condiciones de la salud en casa. Nuestra meta lo deberá ayudar a evitar el espacio de la emergencia y el hospital.

Un Entrenador de la Salud le estará llamando a hablar acerca de su cuidado médico. Esto es un Enfermero Registrado que proporcionará la educación acerca de la enfermedad y maneras de sentirse mejor. Su enfermero lo ayudará a entender su plan del cuidado de doctor y le sostiene a seguir las órdenes de doctor. Su enfermero le puede mandar información por el correo para usted leer y discutir en una cita posterior. Hablaremos también con su médico y le le proporcionamos información al médico acerca de nuestro trabaja juntos. **Si usted no tiene a un médico, su enfermero lo ayudará a encontrar uno que es cercano a usted.**

Otras características del programa incluyen:

- 24 hora de acceso a nuestra línea del consejo del enfermero, inclusive una biblioteca de la audiofrecuencia en una variedad de condiciones de salud.
- Los Recursos de información de folletos
- boletines para sostenerle
- alcance/salud de Comunidad Justo

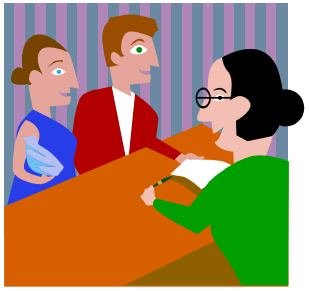
Qué esperar:

Usted está encargado - Nuestra meta le deberá proporcionar con información para ayudarlo a ser mejor capaz de manejar su salud concierne.

Usted recibirá una carta y el imán bienvenidos con información básica acerca del programa. Nuestro personal le llamará a cerciorarse que tenemos su dirección y el número de teléfono correctos. Planificaremos una cita con usted para su enfermero para completar una evaluación de la salud para que podamos estar enterados de sus condiciones de la salud. Usted y su enfermero desarrollará las metas para mejorar su salud. Usted decidirá que esl mejor tiempo para nosotros llamar y estableceremos un horario para futuras llamadas.

Derechos/Responsabilidades de miembro

Derechos



Tengo un derecho a:

1. Obtenga información acerca de servicios de APS Healthcare y el Programa Aumentado de Cuidado
2. Obtenga los nombres y contacte información del personal de APS con quien hablo. Puedo pedir también hablar con sus supervisores.
3. La intimidad de mi información de la salud. APS hace sólo utiliza mis registros para este programa. APS puede sólo libera mi información como permitido por el Estado y leyes Federales.
4. Sea tratado con el respeto.
5. Sea tratado como un individuo.
6. Sea implicado a hacer las decisiones acerca de mi salud. Cuando permitido por la ley, un miembro de la familia o el guardián me pueden representar.
7. Hable con APS en mi propio idioma. Si la necesidad, APS me obtendrá un traductor libre.
8. Sea dicho las reglas para tomar parte en el Programa Aumentado del Cuidado.
9. Escoja no estar en este Programa. Si participando, puedo dejar en tiempo.
10. Sea informado de subsidios de enfermedad futuros del Programa Aumentado del Cuidado
11. Sobre el pedido, obtiene un coppy escrito de mis metas.
12. Quéjese acerca de APS' las políticas y para indicar mi opinión sin el temor del castigo.

Responsabilidades de participante

Tengo la responsabilidad a:

1. Dé APS y a mi médico la información que ellos necesitan proporcionarme con servicios
2. Siga mi plan Aumentado del cuidado del Programa del Cuidado
3. Trabaje con APS y mi médico para encontrar mis metas de la salud
4. Entienda mis problemas de la salud tanto como yo puedo
5. Notifique a mi médico de mi participación en el programa de APS

COMO CONTACTAR EEUU:

El peaje liberta en 1-866-220-1747
Intérpretes están disponibles si esta necesitado.

Para miembros que oye dañado, la llamada 1-866-779-3869 o llama 711 Para utilizar el servicio del Relevo de Georgia.

Las horas de la Operación:

El lunes el viernes 8:00 am to 7:30 pm

Después de horas de operacion: La línea del consejo del enfermero está disponible las 24 horas del día, 7 días una semana. Usted puede escuchar nuestra biblioteca de la audiofrecuencia o para hablar con un

VISITE NUESTRO SITIO WEB:

APS Healthcare ha establecido un sitio web para proporcionar información adicional a miembros que tienen acceso al internet. Usted puede buscar en una variedad de temas de salud así como ve una lista del recurso y acontecimientos próximos.

Visite el sitio web en www.gaenhancedcare.apshealthcare.com.

Helping a child with asthma starts with a plan.

An Asthma Action Plan may save your child's life.

A plan helps your child's teacher, school nurse or daycare provider know what to do if your son or daughter has an asthma attack.

Talk to your child's health care provider about preparing an Asthma Action Plan today!

If you have EqualityCare,
enroll in ***Healthy Together***,
a free program to help you lead a healthier life

Call 1.888.545.1710

HEALTHY TOGETHER℠
Helping people lead healthier lives

equalitycare

FOR IMMEDIATE RELEASE

CONTACTS:
Megan Cormier, R.N.
Outreach Coordinator
APS Healthcare-Wyoming
307-433-0970
mcormier@apshealthcare.com

Ross Doman
Public Information Officer
Wyoming Department of Health
307-777-6420
rdoman@state.wy.us

11% OF WYOMING ADULTS, 7% OF SCHOOL CHILDREN SUFFER FROM ASTHMA

—Respiratory Disease Imparts Economic, Physical Toll on its Victims;
Doctors Encourage using Asthma Action Plan and Eliminating Triggers--

(Cheyenne, WY – Dec. 09, 2004) – An estimated 11.1 percent of Wyoming's adults report at some point in their life suffering from asthma **–** a condition which can render them unable to breathe and plagued by wheezing and chronic coughing **–** according to the 2002 Behavioral Risk Factor Surveillance System (BRFSS). Nationwide, an estimated 11.8 percent of adults (25.2 million) reported having lifetime asthma. The BRFSS is an ongoing data collection program administered and supported by the Centers for Disease Control and Prevention (CDC).

The National Health Interview Survey (NHIS) conducted by the CDC's National Center for Health Statistics estimated an even higher prevalence. In 2002, the NHIS reported that more than 30 million adults were diagnosed with asthma and that the disease costs the nation $14 billion in direct and indirect expenses.

The NIHS survey also indicated that between 1997 and 2002, the prevalence of asthma in children, ages 5-17, was higher than in adults. Concern over the growing number of child asthmatics is echoed in the 2003 School Nurse Survey of Asthma Prevalence in Wyoming Public School Children. This study reveals that the overall prevalence of the chronic respiratory disease in Wyoming public school children is 6.92 percent.

Asthma is caused by inflammation in the bronchial tubes, which carry air to the lungs. When a person's airways become sufficiently blocked or narrowed, it becomes difficult to breathe. This is known as an acute asthma attack, which often leads to emergency room visits, hospitalizations, missed days of work and school, physical activity limitations, sleepless nights and in some cases death, if not properly managed.

In 2002, the National Hospital Ambulatory Medical Care Survey reported that asthma accounted for 12.6 million visits to the doctor and 1.9 million emergency room visits.

Recognizing that the physical and economic toll of asthma can be devastating to a patient and his/her family, APS Healthcare and the Wyoming Department of Health's State Office of Medicaid have developed an educational campaign aimed to reach the more than 2,000 Medicaid clients diagnosed with the disease. The **DID YOU KNOW: SMALL STEPS TO WELLNESS** educational campaign advocates that by following six steps, asthma sufferers can reduce their risk of attacks.

Dr. Gary Melinkovich, Wyoming Department of Health Staff Physician and pediatrician explains, "Currently, there is no cure for asthma; however, adults and children who have asthma can still lead quality, productive lives if they learn to control it." He adds that by adhering to the simple cues below, patients can help prevent attacks, as well as improve their quality of life.

DID YOU KNOW: SMALL STEPS TO WELLNESS for asthma sufferers:

1. **Stay away from triggers that can start an asthma attack**. Triggers may include pet hair and fur, cigarette smoke, dust, and pollen.
2. **Learn to recognize when symptoms are getting worse**. Symptoms that can signal an attack include a tight chest, coughing, wheezing, waking at night and a low peak flow reading.
3. **Take asthma medications as directed by a doctor or healthcare provider**. Most people with asthma need at least two kinds of medicine: a quick-relief medicine to stop attacks, and a preventive medication taken every day to protect the lungs and keep attacks from occurring.
4. **Prepare an Asthma Action Plan with their doctor or healthcare provider**. Share the plan with school nurses, day care providers and coaches so they know how they can help with the child's asthma management. An Asthma Action Plan clearly spells out what quick-relief medicines to take when the patient has an attack, what medication should be taken on a daily basis to prevent and control airway inflammation, and what medications the patient should take just before sports or working hard.
5. **Use a peak flow meter and peak flow meter chart at home everyday**. A peak flow meter measures how well a person is breathing and can help a patient decide if they need more medicine. Charting trend information helps a doctor see how well the asthma is controlled over time.
6. **See a doctor or healthcare provider 2-3 times a year for check-ups**, even if the patient is feeling well, to see how the asthma medicine is working.

The **DID YOU KNOW** educational campaign will include radio public service announcements and educational material sent to EqualityCare clients diagnosed with asthma.

APS Healthcare was recently contracted by the State to provide specific health management services to the clients of EqualityCare. APS is a provider of specialty healthcare solutions to more than 900 clients, principally corporate employers, commercial health plans and public sector programs, servicing approximately 13 million covered lives in the United States and Puerto Rico. APS' portfolio of products encompasses the full range of healthcare services, including disease management programs, behavioral and medical management, employee assistance programs, work/life services, absence and disability management, physical medicine review and informatics consultation. All of APS' programs combine the company's core competencies in behavioral, disease and medical management into a holistic patient-centric approach, which improves clinical outcomes and creates a superior return on investment for customers. APS is committed to ***"Helping People Lead Healthier Lives℠"*** *through the implementation of customized programs that meet each customer's unique needs.*

##

Resources:

CDC: Adult Self-Reported Lifetime Asthma Prevalence Rate
http://www.cdc.gov/asthma/brfss/02/lifetime/lifetime.pdf

The School Nurse Survey of Asthma Prevalence in Wyoming Public School Children
http://wdh.state.wy.us/asthma/pdf/SchoolNurse%20SurveyReport.pdf

Wyoming Department of Health Asthma Resources
http://wdh.state.wy.us/asthma/index.asp

American Lung Association
http://www.lungusa.org/site/pp.asp?c=dvLUK9O0E&b=22542

American Academy of Family Physicians Patient Information Website: FamilyDoctor.org
http://familydoctor.org/

Asthma and Allergy Foundation of America: The Costs of Asthma in Wyoming
http://www.aafa.org/states/display.cfm?State=wy

Are You *Feeling Down?*

Circle the answers that are true for you.

1) **Have you been feeling down, hopeless or do you have a deep sense of sadness, guilt or worthlessness? yes no**
2) **Have you been feeling little interest or pleasure in doing things that normally make you feel good/happy? yes no**

If you answered "yes" to either of the above questions, please answer the following questions:

3) **Have you felt sad, anxious, uneasy, hopeless or experienced an "empty" mood? yes no**
4) **Has your usual sleep pattern changed? (for example, sleep too much, too little, waking up during the night or earlier than usual) yes no**
5) **Has your appetite changed? (for example: poor appetite/weight loss or increased appetite/weight gain) yes no**
6) **Are you restless, irritable or easily angered? yes no**
7) **Do you have difficulty concentrating, remembering or making decisions? yes no**
8) **Are you tired, feeling less energy? yes no**
9) **Have you thought of suicide or death? yes no**
10) **Do you have unexplained headaches, stomach aches or sexual problems? yes no**

~~~

Answers:

A "yes" answer to either of the first two questions indicates the need for further screening for depression.

At least one "yes" answer to the additional questions indicates a need for a qualified health professional evaluation for clinical depression.

Regardless of how you answer these questions, we invite you to call 1.888.545.1710 and ask about the ***Healthy Together...A Healthy Perspective!*** program. Depression is a medical condition that affects behavior, feelings, thoughts and your body — and you can get help!

HEALTHY TOGETHER℠
Helping people lead healthier lives

APS Healthcare

Healthy Together services are provided by APS Healthcare and are available free to EqualityCare clients. These services assist individuals in managing their depression. Call ***Healthy Together*** at:

1.888.545.1710
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NJ HealthyLiving Disease Management Program

ENROLLEE RIGHTS AND RESPONSIBILITIES

MY RIGHTS
As an enrollee in the NJ HealthyLiving DM program, I have rights and responsibilities.

I have the right to:

1. Be treated with dignity and respect.
2. Be treated as an individual.
3. Get services regardless of my:
   - Race
   - Ethnicity
   - National origin
   - Religion
   - Gender
   - Marital status
   - Sexual preference
   - Age
   - Disability
   - Or any other legally protected status
4. Be involved in making decisions about my health and have a family member or guardian represent me if I wish.
5. Have the privacy of my healthcare information protected and released only in accordance with State and Federal laws and used by APS only for DM.
6. Choose not to be in the NJ HealthyLiving DM program.
7. Quit the NJ HealthyLiving DM program at any time.
8. Be told the rules, limits and reasons for participating in the NJ HealthyLiving program.
9. Get the names and contact information of staff that I talked with and to talk with their supervisors.
10. Speak with APS in my own language and if I need a translator, APS will get me a translator for free.
11. Have honest talk about all disease management services that might help me.

12. Complain about APS' policies, including my rights and responsibilities, and to state my opinions without fear of punishment.
13. Get a written copy of my NJ HealthyLiving DM goals.
14. Be informed of the process used to select people for the program including all clinical and non-clinical decisions.
15. Be informed about preventative health programs.
16. Be informed of future health benefits from disease management programs.
17. Get information about APS services and programs.
18. Know if this program changes or ends.

MY RESPONSIBILITIES

I have the responsibility to:

1. Give my health coach and my treating provider(s) the information they need to provide me with the NJ HealthyLiving DM Program.
2. Follow my self-care plan based on my treating provider(s)' orders.
3. Work with my health coach and my treating provider(s) to meet my health goals.
4. Understand my health problems as much as I can.
5. Notify my treating provider(s) of my involvement in NJ HealthyLiving DM Program.

Programa de la gerencia de la enfermedad de NJ HealthyLiving

LOS DERECHOS Y RESPONSABILIDADES DEL ENROLLEE

MI SUSTANTIVO CIVIL
Como un enrollee en el programa de NJ HealthyLiving DM, yo tengo derechos y responsabilidades. Yo tengo el derecho que:

1. Me traten con dignidad y respecto.
2. Me traten como individuo.
3. Me con siguen los servicios sin importar mi:
   - Raza
   - Pertenencia étnica
   - Origen nacional
   - Religión
   - Género
   - Estado civil
   - Preferencia sexual
   - Edad
   - Inhabilidad
   - O cualquier otro estado legalmente protegido
4. Esté implicado en tomar decisiones sobre mi salud y haga que un miembro o un guarda de la familia me represente si deseo.
5. Tenga la aislamiento de mi información del healthcare protegida y lanzada solamente de acuerdo con estado y leyes federales y usada por el APS solamente para el DM.
6. Elija no estar en el programa de NJ HealthyLiving DM.
7. Parar el programa de NJ HealthyLiving DM en cualquier momento.
8. Dígase las reglas, los límites y las razones de participar en el programa de NJ HealthyLiving.
9. Conseguir los nombres y entre en contacto con la información del personal con la cual hablé y hablar con sus supervisores.
10. Hablar con APS en mi propia lengua y si necesito un interprete, APS me conseguirá un interprete libre.
11. Hablar honestamentede todos los servicios de la gerencia de la enfermedad que puedan ayudarme.

12. Se quejan por políticas del APS las', incluyendo mis derechos y responsabilidades, y indicar mis opiniones sin el miedo del castigo.
13. Consiga una copia escrita de mis metas de NJ HealthyLiving DM.
14. Sea informado del proceso usado para seleccionar gente para el programa incluyendo todas las decisiones clínicas y no-clínicas.
15. Infórmese sobre programas preventivos de la salud.
16. Sea informado de las subsidios por enfermedad futuras de programas de la gerencia de la enfermedad.
17. Consiga la información sobre servicios y programas del APS
18. Sepa si este programa cambia o termina.

MIS RESPONSABILIDADES

Tengo la responsabilidad:

1. Dé a mi coche de la salud y a mis abastecedores que tratan la información que necesitan proveer de mí el programa de NJ HealthyLiving DM.
2. Seguir mi plan del uno mismo-cuidado basado en órdenes de mis abastecedores que tratan.
3. Trabajar con mi coche de la salud y mis abastecedores para resolver mis metas de la salud.
4. Entienda mis problemas de salud tanto como puedo.
5. Notificar mis abastecedores que tratan de mi implicación en programa de NJ HealthyLiving DM.

HEALTHY TOGETHER

www.apshealthcare.com

Fall 2008

APS HEALTHCARE
Healthy Together

Banish Back Pain

Eight out of 10 adults will have low back pain at some point in their life. The good news is that many cases of back pain can be prevented.

ARE YOU AT RISK?

Being overweight or inactive is bad for your back. Having poor posture and wearing shoes with heels higher than 1½ inches are, too. Even an old mattress can lead to back problems. If you spend a large part of your day sitting, standing, or lifting heavy loads, your risk may be even higher.

PRACTICE PREVENTION

Try these tips:

- **Exercise.** Aerobic exercise may help you lose weight, which may reduce the strain on your back. And stretching may improve your flexibility. Working your stomach muscles is a good way to start making your core muscles stronger. This may help limit strain while supporting your back. If you already have back pain, talk with your healthcare provider before starting an exercise program.
- **Don't be a slouch.** When standing, hold your head up straight. Keep your shoulders back and your chest forward. If standing for a long time, prop one leg on a low stool for five to 15 minutes and then switch legs.
- **Sit smart.** Keep your shoulders back and use a chair that supports your lower back. Keep your knees a little higher than your hips.
- **Learn to lift.** Remember to keep your back straight and bend your knees. Carry objects close to your body and try not to raise them above your waist.
- **Adjust your work space.** Arrange your desk or work surface so that you don't have to twist to do a task. Adjust the height of your chair to help you reach things easily without having to tense your shoulders.

8 rules for managing chronic conditions

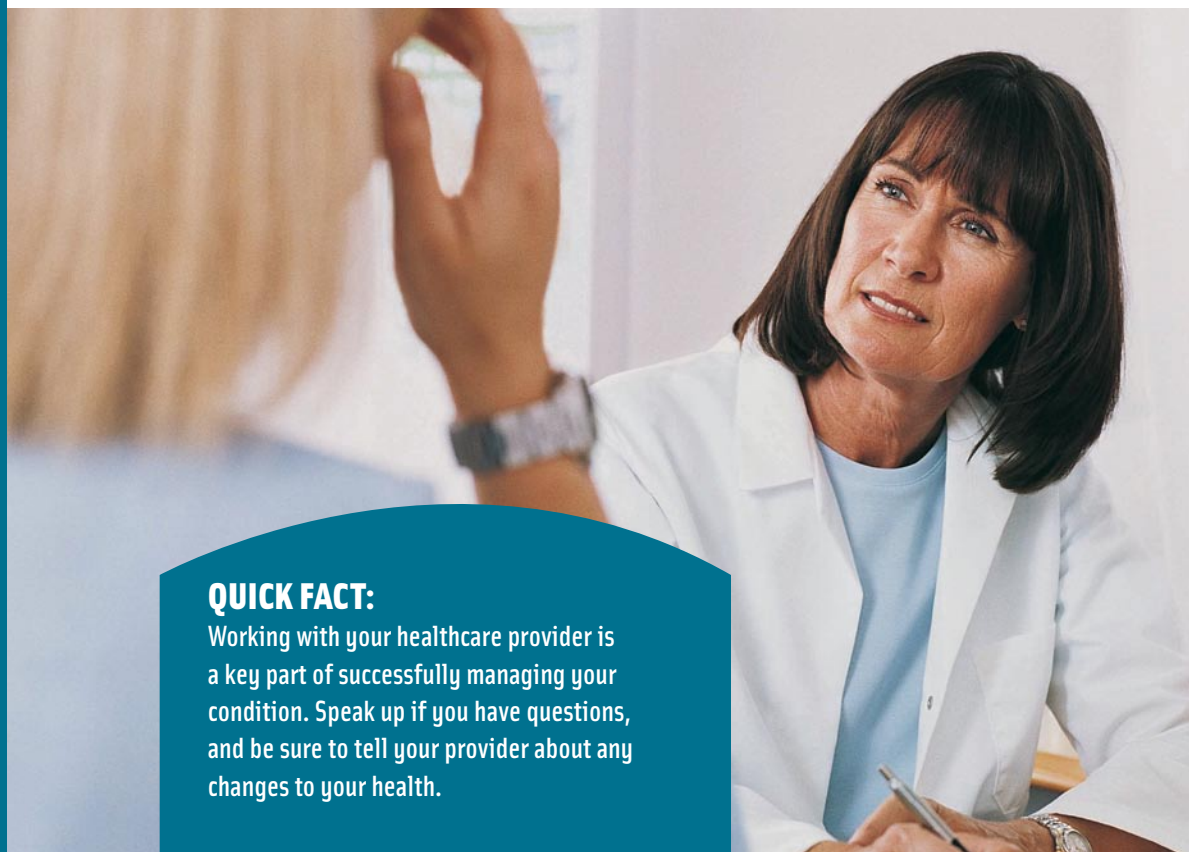
Being diagnosed with a chronic illness such as asthma, heart disease, or diabetes can be frightening. However, being proactive regarding your care can help you manage your health.

Here are some smart strategies for living with a chronic condition:

- **Realize that your condition is serious.** Ignoring or denying it won't make it go away. When you take responsibility for managing it, your battle is half won.
- **Don't wait for the next doctor visit to take action.** Think of your healthcare provider as a consultant in your care and you as the most important person in managing it.
- **Ask about your options** regarding the treatment plan offered by your provider.
- **Give yourself time to learn** how to cope and change your behaviors. With practice, over time you'll learn that you are capable of self-management.
- **Acknowledge how you feel.** It's common for people coping with chronic conditions to feel sad, frustrated, depressed, or stressed. Admitting these feelings and talking about them is an important part of managing your overall health. Talk with your provider, join a support group, or speak with empathetic friends or family members.
- **Learn about your condition.** The more you know, the more control you'll have and the less fearful you'll be.
- **Follow your provider's advice.** Follow through if your provider suggests that you change your diet, start exercising, or stop smoking.
- **Set specific goals.** For example, instead of saying to yourself, "I'm going to start eating better," make a plan for what meals to fix, what restaurant choices to make, and what to do if you do not stick to the plan.

Keep leading a normal life. Ask your provider how to make adaptations that can allow you to keep doing the things you love. ⌘

For more advice on how to manage your health, call your Health Coach. The phone number is on page 8. Learn more about APS Healthcare at www.apshealthcare.com.



QUICK FACT:

Working with your healthcare provider is a key part of successfully managing your condition. Speak up if you have questions, and be sure to tell your provider about any changes to your health.

turn the lights out on insomnia

You may know how frustrating it can be to spend a night tossing and turning. Studies show that about 30 to 40 percent of American adults experience insomnia, or get too little or poor-quality sleep, at least occasionally. The good news is that lifestyle changes can often make the difference between lying awake and sleeping soundly.

Why Sleep Is Important

Sleep occurs in different stages that promote mental health in various ways. Some stages help you feel rested and alert. Others are important for learning or making memories because your brain stays active while you're sleeping.

Rest also improves physical health. During sleep, your body makes hormones that help repair cells and fight infection.

What's Keeping You Awake?

People with insomnia may have a hard time falling asleep, awaken too early, or wake up frequently during the night and have trouble getting back to sleep. Common causes include the use of alcohol, caffeine, or nicotine; stress, anxiety, change in work shifts, or depression; and conditions such as arthritis, asthma, or sleep apnea.

Good Night, Sleep Tight

If you're having trouble getting the rest you need, the following recommendations may help:

- Unwind before bedtime. For example, take a warm bath or listen to soothing music.
- Try to go to bed and get up at about the same time every day.
- Avoid caffeine, tobacco, and alcohol late in the day.
- Exercise regularly, according to your healthcare provider's instructions. Active people tend to sleep better—as long as they don't exercise too late in the day. Aim to work out at least five or six hours before bedtime.

If lifestyle changes don't work, talk with your provider. Prescription and over-the-counter medications for insomnia are available. But they can cause side effects and are best used only for short periods. ⌘

There's Help and Hope for Depression

Many people do not consider depression to be a health problem. They think they can simply get over it. This may be why depression often goes undiagnosed and untreated. That's unfortunate because depression can be treated successfully—if it's diagnosed.

There's more to depression than just feeling a little down or sad now and then. Healthcare providers diagnose depression based on the presence of certain persistent symptoms, including:

- Feeling sad, anxious, or empty
- Feeling hopeless or pessimistic
- Feeling guilty, worthless, or helpless
- Loss of interest in activities once enjoyed
- Decreased energy
- Difficulty concentrating, remembering, or making decisions
- Trouble sleeping or sleeping too much
- Change in appetite or weight
- Thoughts of death or suicide
- Feeling restless and irritable
- Physical symptoms that do not respond to treatment, such as headaches, digestive disorders, and chronic pain

If you have experienced some of these symptoms for at least two weeks, talk with your provider. You don't need to suffer. Depression can be treated successfully.

Breathe Easy with an Asthma Action Plan

Do you know what to do during an asthma flare-up? An asthma action plan can help you decide what medicines to take, when to take them, and when to get help. Most plans have three sections based on symptom severity. The colors red, yellow, and green are used to represent how you feel and your peak flow values.

GREEN ZONE (NO SYMPTOMS)
You are breathing well during the day and night. You can do your usual activities. Your peak flow values are normal or within 80 percent of your personal best. Take your long-term preventive medicine as usual.

YELLOW ZONE (FLARE-UP)
You have coughing, wheezing, chest tightness, or shortness of breath. Your symptoms may wake you at night. You can do some but not all of your usual activities. Your peak flow meter may be below 80 percent of your personal best. Take a quick-relief medicine according to your asthma action plan.

RED ZONE (SERIOUS FLARE-UP)
You are very short of breath. You cannot do your usual activities and your peak flow is less than half of expected. Yellow-zone medicines have not helped. Take the medicines indicated on your action plan. If your breathing does not improve after 15 minutes, go to the hospital or call for an ambulance.

If you don't have an asthma action plan, work with your healthcare provider to develop one. Review it every three to six months. Also share the plan with people who may need to help you if you have a flare-up.

you can have a healthy pregnancy

Learning how to take care of yourself when you're pregnant is one of the most important things you can do for yourself and your baby.

Taking good care of yourself has never been more important than when you're pregnant. It requires regular visits with your doctor, who can monitor your baby's development and discover any health issues you or your child may have when they're easiest to treat. Following your doctor's orders and these guidelines can help.

Eat a Healthy Diet
Aside from eating healthy foods, be sure to get enough folic acid, a B vitamin that helps guard against certain birth defects.

Because it's hard to get all the folic acid you need from food alone, your doctor will likely recommend a prenatal vitamin supplement that contains the nutrient.

Exercise Regularly
Staying fit while you're pregnant will help you deal with the demands pregnancy places on your body and may make labor and delivery a little easier. But don't overdo it. Working out too hard and getting overheated can cause dehydration and problems during pregnancy. Discuss your exercise plan with your doctor before you begin.

Don't Smoke
Smoking retards the growth of the fetus and can affect your child's ability to learn. Mothers who smoke also have an increased rate of premature birth and miscarriage.

If you live with someone who smokes, steer clear of secondhand smoke, which can also affect your baby. If possible, make your home a smoke-free zone.

Abstain from Alcohol
The best strategy is not to drink any alcohol while pregnant. Drinking can cause fetal alcohol syndrome, which causes facial deformities and severe behavioral and learning difficulties.

Visit Your Doctor Early
Make an appointment with your doctor as soon as you think you might be pregnant. You and your provider can discuss any special pregnancy risk factors you may have so that you can make changes that will benefit your health and your baby's. ⌘

Call your Health Coach for more helpful advice on how to have a healthy pregnancy. See page 8 for the phone number. Learn more about APS Healthcare at www.apshealthcare.com.

fall for fitness this autumn

Autumn usually brings a welcome cooldown from summer weather. That makes it a great time to begin a new exercise program.

Exercise for Your Good Health

Regular exercise is one of the most powerful tools you have to reduce your health risks. Staying active can help prevent and control high cholesterol, high blood pressure, and diabetes. It can also help strengthen bones and joints and may help protect you against cancer. And it's vital to shedding unwanted pounds and maintaining a healthy weight.

An active lifestyle also offers mental health benefits. You may have more energy, feel less stressed, and sleep better.

Tips for Autumn Activities

The best exercises for you are activities that you enjoy—and will keep doing. Aim for 30 minutes a day on most days of the week. These ideas can help you get started:

- Walk everywhere. Walk around your neighborhood to enjoy the fall colors and weather. Just a 10-minute walk after every meal adds up to 30 minutes a day. Walk the dog, walk with a friend, or walk to the store from the farthest parking space in the lot.
- Get out and garden. Rake leaves, prune your plants, and trim the hedges. It all counts as exercise.
- Put the "work" into your workout. Who says spring cleaning can't happen in the fall? Wash the windows, wash and wax your car, and sweep the sidewalk.

Reduce Your Risk for Stroke

Strokes are more common in people with heart disease and heart failure. However, even if you have heart problems, there are steps you can take to lower your chance of having a stroke. Controlling risk factors and changing certain behaviors, such as smoking, can help you prevent stroke.

WHAT IS A STROKE?

A stroke is sometimes referred to as a brain attack because it's similar to a heart attack—only instead of the heart, the brain is damaged. A stroke occurs when the blood supply to the brain is suddenly cut off. Without blood and oxygen, brain cells start to die. Circulation can be cut off by a blood clot that gets lodged in a blood vessel in or near the brain. This is known as an ischemic stroke. Or a blood vessel can burst, letting blood leak out. This is a hemorrhagic stroke. Fewer than 20 percent of strokes are hemorrhagic strokes.

PROTECT AGAINST STROKE

The key to lowering your risk for stroke is controlling your risk factors. Talk with your healthcare provider about:

- Managing high blood pressure and cholesterol
- Controlling diabetes
- Eating a healthy diet
- Getting exercise every day
- Quitting smoking

GET HELP FAST

It's important to know how to recognize the signs of a stroke. The acronym **FAST** combines three common stroke warning signs with a plan of rapid action.

F = **Face** numbness or weakness, especially on one side

A = **Arm** numbness or weakness, especially on one side of the body

S = **Speech** slurring or difficulty speaking or understanding

T = **Time** to call 911 if these symptoms occur suddenly or accompany vision problems; loss of balance; dizziness; or a sudden, severe headache

Treat these symptoms as an emergency, even if they disappear after a few minutes. Call 911 immediately.

the skinny on fats

It's possible to control your weight by cutting back on fat. But not all fats are bad for you. Some types of fat can help your heart and lower cholesterol—two important benefits for people with health conditions. As you set out to eat less fat, here's how to tell the difference between the good, the bad, and the ugly fats.

The good fat. Monounsaturated fats are heart-healthy fats found in certain vegetable oils, especially canola, olive, and peanut oils.

Polyunsaturated fats are also found in vegetable oils, including canola, corn, and safflower oils, as well as seafood. The body needs polyunsaturated fats to make cell membranes and hormones. Eating omega-3 polyunsaturated fats, found in flaxseed, salmon, tuna, and mackerel, may help prevent heart disease and inflammation. In addition, fish oil supplements may be beneficial for some people. Talk with your healthcare provider to see if they're a good option for you.

Most of the fat in your diet should come from these two types of fat. When used in place of saturated fat, they can help lower cholesterol.

The bad fat. Saturated fat is found mainly in animal foods, such as meat, butter, cheese, and whole and low-fat milk and other dairy products. Coconut and palm oils also contain saturated fat.
This fat is solid at room temperature. Saturated fat raises cholesterol and increases the risk for heart disease.

The ugly fat. When vegetable oils are hydrogenated, trans fat is created. This type of fat raises cholesterol—perhaps more so than saturated fat. Check labels and avoid foods containing vegetable shortening and hydrogenated or partially hydrogenated oils.

Diabetes and Dental Care

Keeping your teeth and gums healthy is especially important if you have diabetes. That's because people with diabetes are at increased risk for oral health complications, including gum diseases such as gingivitis and periodontitis. These conditions can damage the gums and bone around your teeth.

MAKE THE CONNECTION

Gum disease may make it harder for you to manage your blood sugar. And poorly controlled diabetes can in turn lead to even worse tooth and gum problems. Studies suggest that gum disease may also be linked to other serious health problems, such as heart disease and stroke.

WHAT YOU CAN DO

How can you help keep your teeth and gums healthy? In addition to managing your blood sugar, here are some strategies:

- Brush your teeth twice a day with fluoride toothpaste and a soft-bristle brush. Be sure to replace your toothbrush every three months.
- Floss your teeth once a day. Ask your dentist about the proper way to floss.
- Be sure to get a checkup every six months. Tell your dentist that you have diabetes.
- Smoking can also increase your risk for gum disease and serious diabetic complications, such as nerve damage and heart disease. So if you smoke, quit.

Keeping your teeth and gums healthy is a team effort. But with daily care and regular dental checkups, you can have a bright smile–and keep your diabetes under control.

QUICK FACT:
Most smokers slip up several times before quitting for good. The key to long-term success is pinpointing your setback trigger and trying again with renewed resolve.

don't get derailed by setbacks

Managing a chronic condition takes diligence and hard work. But everyone slips up once in a while. It's important to get back on track and stay positive. Here are some tips to help you recover from a setback.

Rebound Right Away
Don't let a moment of weakness turn into a week of overeating or an excuse to finish that pack of cigarettes. Acknowledge your lapse and resolve to get back on track right away.

Find Inspiration
It's easy to forget the benefits of staying on your diet when a doughnut beckons or of heading out for a walk when the weather is blustery. Make your refrigerator door "inspiration central." Post an ongoing list of why it's worth the effort to make healthy lifestyle changes. Include photos of your grandchildren or perhaps that island in Greece you want to visit when you're healthier—whatever works to keep you on the right track.

Stay Positive
Don't beat yourself up over a setback. Do what you can today, and get support from family and friends, other people who've won the health battle you're fighting, and your healthcare provider.

Plan to Do Better Next Time
There are lots of ways to keep yourself motivated the next time you're tempted. Find an exercise buddy to share your workouts. Make a pact to buy that sweater you love after you lose another 2 pounds. Keep a no-smoking jar and save the money you would have spent on cigarettes for a fun night on the town.

Call your Health Coach if you would like help with managing your condition. See page 8 for the phone number. Learn more about APS Healthcare at www.apshealthcare.com.

Be Prepared for Flu Season

Fall is upon us, and that means flu season is approaching. Prepare yourself by getting a vaccine–it's the best way to protect yourself from the flu virus.

FLU VACCINE BENEFITS
Every year, millions of Americans get the flu. Most healthy people recover at home, but more than 200,000 people end up in the hospital. People in these high-risk groups should be sure to get a shot:
- Children between ages 6 months and 18 years
- Anyone with a chronic condition such as heart, lung, or kidney disease; diabetes; or a weakened immune system
- Adults ages 50 and older
- Nursing home or long-term-care facility residents
- Women who will be pregnant during flu season
- Those who care for at-risk populations

WHEN TO GET A VACCINE
Flu season can peak anytime between late December and March. Plan on getting your flu shot in October or November. Flu season can begin as early as October and last as late as May. You can get the vaccine at your doctor's office, a clinic, or even some pharmacies.

IF YOU DO GET THE FLU
Even with a flu shot, you may still get the flu, but your symptoms won't be as bad and you'll recover more quickly. Follow these steps if you get sick:
- Get plenty of rest.
- Drink a lot of fluids and avoid alcohol and tobacco.
- Cover your nose and mouth with a tissue when you cough or sneeze to prevent passing on the flu to others. It's also important to wash your hands often with soap and hot water.

If you have signs of pneumonia, such as fever, difficulty breathing, chest pain, and severe chills, call your healthcare provider right away

APS HEALTHCARE
Healthy Together

CALL YOUR HEALTH COACH

Your Health Coach is available to help you with all your health needs. You can reach him or her at

Learn more about APS Healthcare at **www.apshealthcare.com.**

potatoes and leeks with chicken

Preparation time: 30 minutes
Serves eight
Cups of fruits and vegetables per person: 1

ingredients

2 tbsp. olive oil
3 cloves garlic, minced
2 tbsp. chopped fresh ginger root
2 tsp. curry powder or to taste
½ tsp. crushed dried chilies
¼ tsp. allspice
¼ tsp. cinnamon
3 leeks, trimmed and chopped
3 potatoes, peeled and cut in 1-inch chunks
1 cup low-sodium tomato sauce
2 cups low-sodium chicken broth
3 cups peeled and cubed butternut squash
2 red peppers, diced
4 chicken breasts, deboned
Fresh cilantro to taste

directions

Heat oil in large saucepan or Dutch oven. Add garlic, ginger, dry spices, and leeks. Cook a few minutes until tender. Add potatoes, tomato sauce, and chicken broth. Cook 10 minutes. Add squash and peppers. Cook 15 minutes or until vegetables are tender. Lightly brush chicken breasts with oil. Grill approximately 10 minutes on each side or until juices run clear. Cut each chicken breast into three or four large pieces and add to sauce. Reheat just before serving. Sprinkle with cilantro.

nutrition facts

Calories 250
Calories from fat 45

% Daily Value*
Total fat 5 g—8%
Saturated fat 1 g—5%
Cholesterol 35 mg—12%
Sodium 75 mg—3%
Total carbohydrate—36 g 12%
Dietary fiber 6 g—24%
Sugars 6 g
Protein 19 g
Vitamin A 240%
Vitamin C 200%
Calcium 10%
Iron 15%

** Percent Daily Values are based on a 2,000-calorie diet.*

Source: Centers for Disease Control and Prevention, "Fruits and Veggies: More Matters"

GEORGIA DEPARTMENT OF COMMUNITY HEALTH

APS HEALTHCARE
Healthy Together

April 11, 2007

Dear Medicaid Member:

Georgia Medicaid is giving you a great new service to help you understand your illness and how to take better care of your health. **This service is free to you.** The Department of Community Health (Medicaid) has asked our company, APS Healthcare ,to work with you to offer the Georgia Medicaid Management Program (GAMMP).

The Program offers you a nurse who will work with you to provide education on your overall health and ways you can feel better every day. Your nurse will assist you in talking to your doctor about your treatment. The nurse can also talk with you and your doctor about how he/she can support your doctor's care plan.

Attached to this letter is information about your Rights and Responsibilities within the Program and we look forward to talking with you soon by telephone or in-person. We will send you mail in the future with information about your illness, ways to talk with your doctor, and ways to take care of your health. We have also included a magnet for your quick reference to our phone number.

You may reach APS Healthcare by calling toll free at **1-866-269-7291**. If you are hearing impaired, call using TTY at 1-866-779-3869. Our staff would be glad to share more about the Program. You may also read about our services by visiting our website at www.gammp.com.

Sincerely,

Jerry Kiplinger, MBA
Executive Director
APS Healthcare

Mark Trail
Director of the Division of Medical Assistance,
Dept of Community Health

APS HEALTHCARE
Healthy Together

Georgia Medicaid
Management Program

The Medicaid Management Program:

- Works with people with specific illnesses
- Helps you take control of your health
- Reminds you to take care of your health
- Supports your relationship with your doctor

When you agree to work with an APS Health Coach, you have certain rights and responsibilities.

Rights

I have a right to:

1. Get information about APS services and the Medicaid Management Program.
2. Get the names and contact information of APS staff with whom I talk. I can also ask to talk with their supervisors.
3. Privacy of my health information. APS will only use my records for this program. APS can only release my information as permitted by State and Federal laws.
4. Be treated with respect.
5. Be treated as an individual.
6. Be involved in making decisions about my health. As allowed by law, a family member or guardian can represent me.
7. Speak with APS in my own language. If need be, APS will get me a translator for free.
8. Be told the rules for participating in the Medicaid Management Program.
9. Choose not to be in this Program. If participating, I can quit at any time.
10. Be informed of future health benefits from the Medical Management Program.
11. Upon request, get a written copy of my goals.
12. Complain about APS' policies and to state my opinion without fear of punishment.

Participant Responsibilities

I have the responsibility to:

1. Give APS and my doctor the information they need to provide me with services.
2. Follow my Medicaid Management Program care plan.
3. Work with APS and my doctor to meet my health goals.
4. Understand my health problems as much as I can.
5. Notify my doctor of my involvement in the APS program.

APS HEALTHCARE
Healthy Together

2007 GAMMP Member Handbook

GAMMP

Highlights:

- Program Overview
- Contact Information
- Member Rights and Responsibilites
- Resources

La informacion en espanol esta disponible llamando 1-866-220-1747. Interpretes estan disponibles si esta necesitado.

Georgia Department of Community Health

APS Healthcare
Healthy Together

Dear Medicaid Member:

Georgia Medicaid is giving you a great new service to help you understand your illness and how to take better care of your health. This service is free to you. The Department of Community Health (Medicaid) has asked our company, APS Healthcare, to work with you to offer the Georgia Medicaid Management Program (GAMMP).

The Program offers you a nurse who will work with you to provide education on your overall health and ways you can feel better every day. Your nurse will assist you in talking to your doctor about your treatment. The nurse can also talk with you and your doctor about how he/she can support your doctor's care plan.

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You may reach APS Healthcare by calling toll free at 1-866-269-7291. If you are hearing impaired, call APS Healthcare using TTY at 1-866-779-3869. Our staff would be glad to share more about the Program. You may also read about our services by visiting our website at www.georgiammp.com.

Sincerely,

Jerry Kiplinger, MBA
Executive Director
APS Healthcare

Mark Trail
Director of the Division of Medical Assistance,
Dept of Community Health

Program Overview

Base Services are free to all members. These services include a 24 hour a day, 7 day a week Nurse Advice Line where you may ask questions about your health and services that may be able to help you. We will work with you to use local services and programs that may help you and your family. We will mail you information about healthy living and how to take better care of yourself.

You may choose to be in Disease Management if you are in CCSP, MRWP, CHSS, ICWP, Georgia Pediatric Program (GAPP), Targeted Case Management or on the Deeming waiver. You will have a nurse who will call you or see you face-to-face. The nurse will talk with you about how you feel and help you understand your health issues. We will talk with you about your medicine and ways to feel better. We may talk with your doctor to know what he/she has told you to do at home. We will mail you information about healthy living and how to take better care of yourself.

You may choose to be in Case Management if you are in GAPP, Deeming waiver or other services. You will have a case manager who is a nurse. She/He will talk with you about the many health and life issues you may have. The case manager will help you find programs that will help you in your home or that will work with your doctor. We will talk with your doctor to know what he/she has told you to do at home. We will make sure that if you see other doctors, they also know what is going on in your life. We will give you information about healthy living and how to take better care of yourself.

Other program features include:

- 24 hour access to our nurse advice line, including an audio library on a variety of health conditions.
- Informational booklets and newsletters.
- Resources to support you
- Community outreach and Health Fairs

What To Expect:

YOU ARE IN CHARGE! - Our goal is to provide you with information to help you be better able to handle your health concerns.

You have received this information with our welcome letter. Our staff will call you to make sure that we have your correct contact information. You may call us at anytime by calling the toll free number provided in this book or on the magnet.

We will schedule an appointment with you for our nurse to complete a health assessment on the phone so we can be aware of your health conditions. You and your nurse will develop goals for improving your health. You will decide the best time for us to call and we will set up a schedule for future calls.

Member Rights & Responsibilities

When you agree to work with an APS Nurse, you have certain rights and responsibilities.

I have a right to:

- Get information about APS services and the Georgia Medicaid Management Program (GAMMP).
- Get the names and contact information of APS staff with whom I talk. I can also ask to talk with their supervisors.
- Privacy of my health information. APS will only use my records for this program. APS can only release my information as permitted by State and Federal laws.
- Be treated with respect.
- Be treated as an individual.
- Be involved in making decisions about my health. As allowed by law, a family member or guardian can represent me.
- Speak with APS in my own language. If need be, APS will get me a translator for free.
- Be told the rules for participating in GAMMP.
- Choose not to be in the disease or case management service. If participating, I can quit at any time.
- Be informed of future health benefits from GAMMP.
- Upon request, get a written copy of my goals.
- Complain about APS' policies and to state my opinion without fear of punishment.

I have the responsibility to:

- Give APS and my doctor the information they need to provide me with GAMMP services.
- Follow my GAMMP care plan.
- Work with APS and my doctor to meet my health goals.
- Understand my health problems as much as I can.
- Notify my doctor of my involvement in the APS program.

Working With Your Healthcare Provider

Choosing A Doctor:

As a Medicaid member, you have been given the chance to choose a doctor for your primary care. If you do not make a choice, Medicaid will assign you to a doctor. We hope you will choose a doctor with whom you can share your thoughts and health questions. It is important to feel comfortable talking with your doctor.

Visiting Your Doctor:

We will encourage you to visit your doctor regularly instead of making trips to the emergency room for care. Routine care and screening can prevent many emergency events. Your APS Healthcare nurse will help you understand what tests to expect and why you should have them. He/she will talk with you about ways to improve your health and following the care plan given to you by your doctor.

Ask your APS Healthcare nurse about resources that can help you manage your health at home. This may include social supports for food and clothing or programs to help with the cost of medications. We know about support groups and transportation resources.

How To Contact Us

By Phone:

Toll free at **1-866-269-7291**.

Interpreters are available for non-English speakers. Intérpretes están disponibles si esta necesitado.

For members who are hearing impaired, call 1-866-779-3869 or dial 711 to use the Georgia Relay Service.

Hours of Operation:

Monday – Friday 8:00 a.m. to 8:00 p.m.

AFTER HOURS: You may call our Nurse Advice Line. It is available 24 hours a day, 7 days a week. You may listen to our audio library or speak with a nurse.

Visit our website:
APS Healthcare has set up a website to provide additional information to members who have access to the internet. You may search on a variety of health topics as well as view a resource list and upcoming community events.

Visit the website at www.georgiammp.com.

My Information

My Doctor(s):

Primary Care Provider (PCP):_____

Phone #:_____

Specialist 1:_____

Phone #:_____

Specialist 2:_____

Phone #:_____

My APS Healthcare Nurse:

Name:_____

Phone #:_____

Other Important Numbers:

1 _____

2 _____

3 _____

4 _____

APS HEALTHCARE
Healthy Together

APS Healthcare
1680 Phoenix Blvd., Suite 200
Atlanta, GA 30349

Return Service Requested

Healthy Together … Take Heart!

Volumen I: Edición: I

PARA HABLAR A UN HEALTHY *TOGETHER…TAKE HEART!*
COCHE DE LA SALUD LLAMA POR FAVOR 1-888-892-9912

Extremidades Sanas El Comer

Grasas saturadas

- Empeore estas condiciones: Enfermedad cardíaca, colesterol alto, y derame cerebral.
- Alimentos de evitar:
    1. leche entera
    2. queso
    3. helado
    4. mantequilla
    5. piel del pollo y carne roja

Ácidos trans grasosos (también llamados trans grasas)

- Evite el producto de los ácidos trans grasosos
- Alimentos a evitar:
    1. tortas, galletas, y bocados empaquetados
    2. margarinas del palillo y abreviaciones vegetales

Sodio

- Empeora estas condiciones: Paro cardíaco congestivo, tensión arterial alta, enfermedad del riñón.
- Alimentos a evitar:
    1. Alimentos de frasco que son, curados, fumados, salados, o conservados en vinagre
    2. Salsa de soja y salsa del teriyaki
    3. Salsa de tomate y mostaza

Azúcar Agregada

- Empeora estas condiciones: Problemas y diabetes dentales
- Alimentos a evitar
    1. Miel
    2. Azúcar marrón

Etiqueta del alimento de la nutrición

Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container 2

Amount Per Serving

Calories 250	Calories from Fat 110
	% Daily Value*
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Potassium 700mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

←

Comienza Aquí: Compruebe el tamaño de la porción y el número de porciones en el envase. Por ejemplo: Si usted come esta caja entera, usted está comiendo 2

}

Para ayudar más bajo a su riesgo de enfermedad cardíaca, lea las etiquetas del alimento para seleccionar los alimentos que son los más bajos de grasa, de colesterol, y de sodio saturados.

}

Las dietas de fibra altas ayudan a prevenir problemas de la enfermedad cardíaca. El producto dietético diario recomendado de la fibra es el magnesio 25-30.

Referencias:
American Heart Association. "Make Healthy Food Choices" http://www.americanheart.org/presenter.jhtml?identifier=537
U.S. Food and Drug Administration. How to Understand and Use the Nutritional Facts Label. *http://www.cfsan.fda.gov/~dms/foodlab.html* Updated July 2003 and November 2004.

NJ HealthyLiving DM

Volume I: Issue I

NJ HEALTHYLIVING DM IS A HEALTH MANAGEMENT PROGRAM FOR ELIGIBLE PARTICIPANTS PROVIDED AT NO COST TO YOU AND APPROVED BY THE NJ DIVISION OF MEDICAL ASSISTANCE AND HEALTH SERVICES, DEPARTMENT OF HUMAN SERVICES.

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Healthy Eating Tips

Saturated fats

- Worsen these conditions: Heart Disease, High Cholesterol, and Stroke.
- Foods to avoid:
    1. whole milk
    2. cheese
    3. ice-cream
    4. butter
    5. chicken skin and red meat

Trans fatty acids (also called trans fats)

- Avoid intake of Trans Fatty Acids
- Foods to avoid:
    1. packaged cakes, cookies, and snacks
    2. stick margarines and vegetable shortenings

Sodium

- Worsens these conditions: Congestive Heart Failure, High Blood Pressure, Kidney disease.
- Foods to avoid:
    1. Foods that are canned, cured, smoked, corned, or pickled
    2. Soy sauce and teriyaki sauce
    3. Ketchup and mustard

Added Sugar

- Worsens these conditions: Dental problems and Diabetes.
- Foods to avoid:
    1. Honey
    2. Brown sugar
    3. High fructose corn syrup

Nutrition food label

Nutrition Facts

Serving Size 1 cup (228g)
Servings Per Container 2

Amount Per Serving

Calories 250	Calories from Fat 110
	% Daily Value*
Total Fat 12g	18%
Saturated Fat 3g	15%
Trans Fat 3g	
Cholesterol 30mg	10%
Sodium 470mg	20%
Potassium 700mg	20%
Total Carbohydrate 31g	10%
Dietary Fiber 0g	0%
Sugars 5g	
Protein 5g	
Vitamin A	4%
Vitamin C	2%
Calcium	20%
Iron	4%

* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Start Here: Check the serving size and number of servings in the container. Example: If you eat this whole box, you are eating 2 servings.

To help lower your risk of heart disease, read food labels to select foods that are lowest in saturated fat, cholesterol, and sodium.

High fiber diets help to prevent problems of heart disease. Recommended daily dietary fiber intake is 25-30 mg.

References:
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Volumen I: Edición: I

NJ HEALTHYLIVING DM ES UN PROGRAMA DE LA GERENCIA DE LA SALUD PARA LOS PARTICIPANTES ELEGIBLES PROPORCIONADOS EN NINGÚN COSTE A USTED Y APROBADOS POR LA DIVISIÓN DE NJ DE LA AYUDA MÉDICA Y LOS SERVICIOS MÉDICOS, DEPARTAMENTO DE SERVICIOS HUMANOS. PARA HABLAR A UN COCHE DE LA SALUD SOBRE ESTE PROGRAMA O OTRAS PREGUNTAS RELACIONADO DE LA SALUD FAVOR DE LLAMAR 1.888.896.9912

Extremidades Sanas El Comer

Grasas saturadas

- Empeore estas condiciones: Enfermedad cardíaca, colesterol alto, y derame cerebral.
- Alimentos de evitar:
    6. leche entera
    7. queso
    8. helado
    9. mantequilla
    10. piel del pollo y carne roja

Ácidos trans grasosos (también llamados trans grasas)

- Evite el producto de los ácidos trans grasosos
- Alimentos a evitar:
    1. tortas, galletas, y bocados empaquetados
    2. margarinas del palillo y abreviaciones vegetales

Sodio

- Empeora estas condiciones: Paro cardíaco congestivo, tensión arterial alta, enfermedad del riñón.
- Alimentos a evitar:
    1. Alimentos de frasco que son, curados, fumados, salados, o conservados en vinagre
    2. Salsa de soja y salsa del teriyaki
    3. Salsa de tomate y mostaza

Azúcar Agregada

- Empeora estas condiciones: Problemas y diabetes dentales
- Alimentos a evitar
    4. Miel
    5. Azúcar marrón
    6. Jarabe de maíz de fructosa alta

Etiqueta del alimento de la nutrición

Nutrition Facts

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Servings Per Container 2

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Comienza Aquí: Compruebe el tamaño de la porción y el número de porciones en el envase. Por ejemplo: Si usted come esta caja entera, usted está comiendo 2

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Know Your Blood Pressure

What is it?

Blood pressure is the force of your blood against the artery walls. This is a measure of how hard your blood is pushing as it goes through your body. Your blood pressure goes up and down during the day. It may drop when you are relaxed or sleeping and rise when you are upset or being active. High blood pressure is also called hypertension. Hypertension makes your heart work harder than it should. Constant high blood pressure is unhealthy. **If you notice that your blood pressure seems too high or too low please talk to your doctor!**

Guide

	Systolic (top #)	Diastolic (bottom #)
Normal Blood Pressure	Less than 120 MMHG	Less than 80 MMHG
Pre-High Blood Pressure (Pre-Hypertension)	120-139 MMHG	80-89 MMHG
Stage 1 High Blood Pressure (Hypertension)	140-159 MMHG	90-99 MMHG
Stage 2 High Blood Pressure (Hypertension)	Greater than 160 MMHG	Greater than 100 MMHG

Risks

The risk factors for developing high blood pressure include:

- Family history- it may run in your family
- Poor diet- salty and fatty foods raise blood pressure
- Being Overweight
- Lack of regular physical activity
- Age- with increasing age blood vessels become less elastic, this can raise blood pressure
- Race- high blood pressure is more common in African Americans than other ethnic groups

Concerns

It is important to control your blood pressure, because high blood pressure can lead to:

- Heart attack
- Stroke (brain attack)
- Blindness
- Kidney failure

Lifestyle changes to control your blood pressure

- Quit Smoking
- Lose weight (if overweight)
- Increase physical activity
- Limit salt in your diet
- Limit alcohol intake
- Take mediations prescribed by your doctor

References:
The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7)
http://www.nhlbi.nih.gov/guidelines/hypertension/
Healthwise, for every health decision. "High Blood Pressure (Hypertension)." Updated April 24, 2007.

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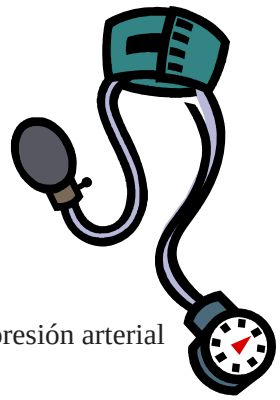
1.888.896.9912

Conozca su nivel de presión



¿Qué es eso?

Es la fuerza que ejerce la sangre que circula contra las paredes de las arterias. Ésta es una medida de que tan fuerte su sangre está empujando mientras que pasa a través de su cuerpo. Su presión arterial sube y baja durante el día. También puede bajar cuando esta relajado o durmiendo y subir cuando este enojado o activo físicamente. La presión arterial alta también se conoce como hipertensión. La hipertensión hace que su corazón trabaje más duro de lo usual. La presión arterial alta no es saludable. **Si usted observa que su presión arterial es muy alta o muy baja por favor hable con su doctor!**

Guía

	Sistólica (# Arriba)	**diastólica (# Abajo)**
Presión Arterial Alta	Menos de 120 MMHG	Menos de 80 MMHG
Presión Arterial Pre-Alta (Hipertensión)	120-139 MMHG	80-89 MMHG
Presión Arterial Alta Fase 1 (Hipertensión)	140-159 MMHG	90-99 MMHG
Presión Arterial Alta Fase 2 (Hipertensión)	Mas alto de 160 MMHG	Mas alto de 100 MMHG

Riesgos

Los factores de riesgo que desarrollan la presión arterial alta incluye:

- Historia familiar- puede correr en la familia
- Falta de dieta- comida salada o con grasa sube la presión arterial
- Tener sobrepeso
- No tener actividad física regular
- La edad-con el crecimiento de vasos sanguíneos llegan a ser menos elásticos, eso puede incrementar la presión arterial
- La presión arterial es mas común en Afro-Americanos que en otros grupos de razas

Preocupaciones

Es importante que controle su presión arterial, porque la presión arterial alta puede llevarlo a:

- Tener ataques del corazón
- Tener derrame cerebral (ataque al cerebro)
- Perder la vista
- Problemas del riñón

Cambios de estilo de vida para controlar la presión arterial

- Deje de fumar
- Pierda peso (si lo necesita)
- Aumente la actividad fisica
- Limite la sal en su dieta
- Limite tomar alcohol
- Tome los medicamentos como se lo pide su doctor

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