



# Physician Decisions to Incorporate EHDI in their Practices: Findings for Outreach Design

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Early Hearing Detection and Intervention Conference

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## Overall purpose

Determine where to focus limited staff time and resources to increase the number of physicians properly referring/treating children and reporting according to your program guidelines

# Sources of information for this review

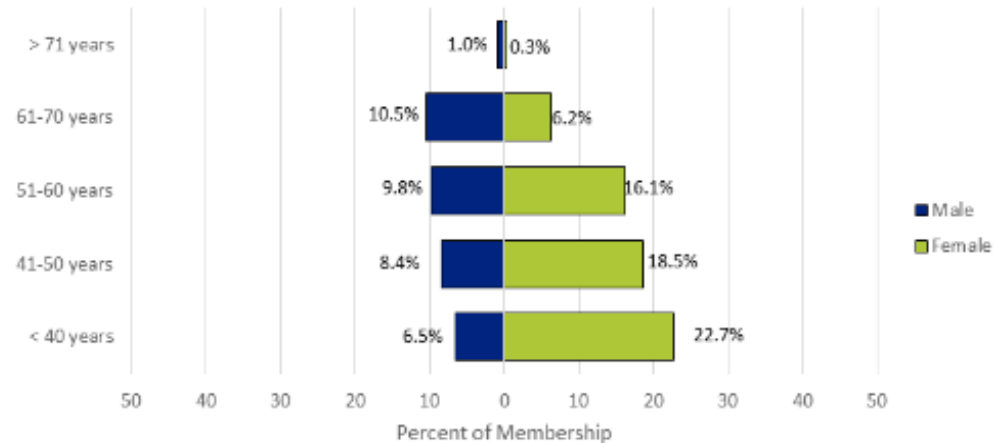
- No one definitive compendium
- Literature review to supplement experience
- Make inferences from related studies
- Examples from programs, including newborn hearing

# Demographics & Background

# The shift in pediatrics is to more female physicians

Many of them work part time.

**FIGURE 10. AGE AND GENDER DISTRIBUTION OF AAP U.S. MEMBERS (INCLUDING RESIDENTS)**



Source: American Academy of Pediatrics, Division of Health Services  
Research, Periodic Survey of Fellows #94 and 95; 2016

# Advocacy

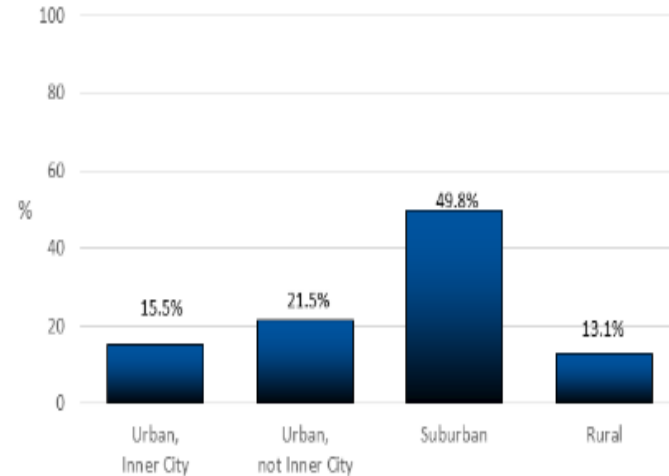
The younger generation has become extremely active and involved in advocacy.



# Location of practices

- Suburban locations are most common
- Inner city and rural least common

**FIGURE 4A. PRACTICE LOCATION – PRIMARY CARE PEDIATRICIANS\*  
(EXCLUDING RESIDENTS)**



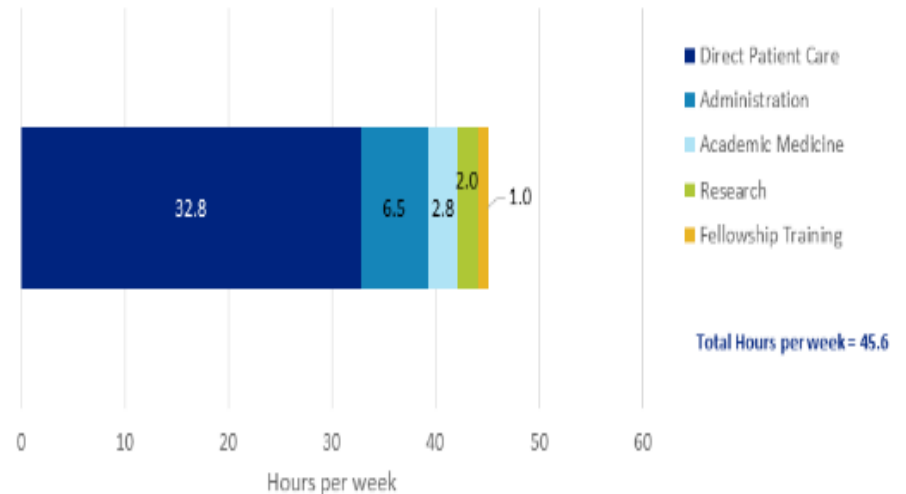
Source: American Academy of Pediatrics, Division of Health Services  
Research, Periodic Survey of Fellows #92 and 93; 2016

\*Excludes those sub-boarded in a subspecialty and limited to those who provide primary patient care

# How physician time is spent

About 70%  
of time  
spent in  
direct  
patient care

**FIGURE 1. AVERAGE NUMBER OF HOURS PER WEEK IN PROFESSIONAL ACTIVITY – ALL PEDIATRICIANS (EXCLUDING RESIDENTS)**

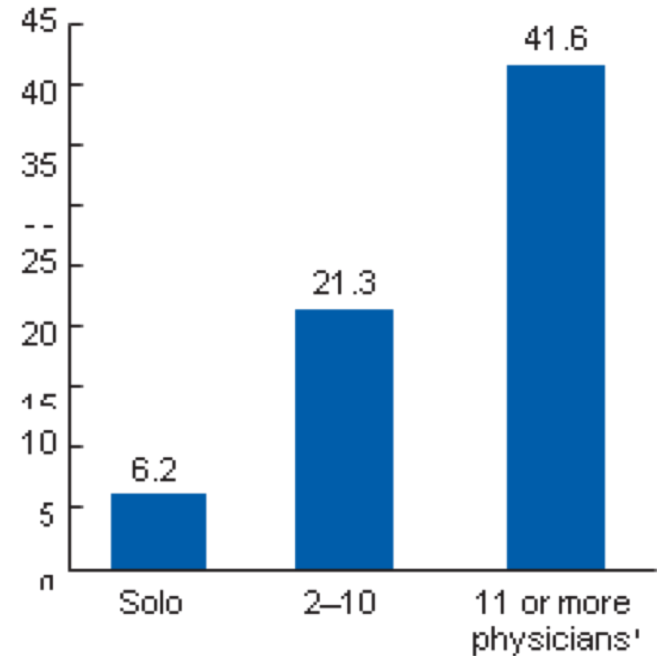


Source: American Academy of Pediatrics, Division of Health Services  
Research, Periodic Survey of Fellows #94 and 95; 2016



# Most PCPs work in group practices and many are in larger practices

The small community practice is slowly becoming a thing of the past



# Types of large practices

There are two basic large practices:

1. Doctor-organized and run
2. Hospital-based

Both have medical directors who help to set policy.



# Electronic Health Records are widely used

In 2015, the use of certified electronic health record (EHR) technology is widespread:

- 78% of physician offices
- 96% of hospitals.



# Patient Centered Medical Homes (PCMH)

All practices would like to be NCQA\* Level 3 Patient-Centered Medical Homes (PCMH) for two reasons:

1. Get incentive money for Medicaid patients
2. This may be a requirement in the near future.

Part of PCMH requirements include QI projects and management of chronic illness (e.g early referral of infants who do not pass hearing screen).

\* National Committee for Quality Assurance

# Cases of infant hearing loss are rare in any individual's practice

Survey respondents saw average of **3.3 children** with *mild-severe hearing loss* in **past three years**

Family Physicians reported seeing average of **1.3 children** with *SNHL* in previous **three years**

But...

## More cases of infant hearing loss in larger practices

Large multi-practice entities and hospital-based primary care practices will be seeing larger numbers of young children with hearing loss

- Includes large numbers of LBW and VLBW infants.



**However**

Even experience with hearing loss cases does not guarantee accuracy of physician knowledge

# HOW PHYSICIANS APPROACH CLINICAL QUESTIONS

# Observed frequency of clinical questions is much higher than clinicians' own estimate

Some physicians believe they need answers to clinical questions at least a few times per week

But

- Study observed them to have 3.2 questions for every 10 patients
- Roughly half to two-thirds of those questions are not pursued





# Common barriers to searching

- Lack of time  
(the most commonly cited reason)
- Doubt that answer exists
- Question not urgent
- Question not important
- Forgetting question

Clinicians spend a mean of under 2-3 minutes seeking information



# Barriers to applying information

- Lack of formal training on searching databases
  - Some databases are very confusing
- Physicians may not find relevant information, even when it exists online.
- If information is not located, it is often assumed not to exist.
- 22% of physicians in studies refer patient rather than undertake lit search

## Mobile apps are widely used

About 90% of physicians access drug information through a mobile app.

40% use a mobile app one to two times a day.

The increasing number of new apps makes it difficult for physicians to identify those that are relevant.



# Printed materials, meetings, and Web-based sources

- Three-fourths of pediatricians (76%) say they would look to **print media** for findings to integrate into their clinical decision-making.
- About 7 out of 10 pediatricians prefer getting such information from live meetings or courses (71%) or Websites (68%).



# Older pediatricians more likely than younger ones to use printed sources

Pediatricians over 55 years (82%) were more likely to prefer print media for CER\* findings ( $p = .01$ ).

Versus:

- those aged 40-55 years (75%) or
- those less than 40 years (71%)

\*Comparative Effectiveness Research



# Printed information alone shown to be ineffective in changing practice



Printed educational materials, used alone, have been found *not* effective in improving patient outcomes, knowledge or behavior of PCPs (family physicians)



# HOW PHYSICIANS ASSESS POTENTIAL CHANGES TO PRACTICE BEHAVIORS

# Criteria physicians use to assess resources for possible patient referral

- Convenient time and location for patients
- Low cost for patients
- Physician or patient knows about the program and staff
  - Reason why pediatricians refer to ENTs rather than audiologists
  - They have working relationships with ENT because of referrals for ear infections, sinus, etc.
- Easy-to-hand-out patient education materials
  - 82% like to give patient handouts
- “Not for profit” aspect



## Patients' needs count

- Most pediatricians say patients/families often or almost always ask their *opinion* on what test or treatment is best for them (67%)
- They ask the pediatrician to *decide* which treatment they should have (59%).



# Patients' needs count

The second-most frequently named barrier to incorporating new findings into clinical decision-making:

Family's **ability to pay** for resulting services

(Named by 42% of pediatricians)



# Are requirements and standards of practice enough to effect change?

- Nearly all pediatricians say evidence that is **linked to clinical practice guidelines** and/or **published in in a medical journal** (95%, 93%, respectively) is important in their decision to integrate a specific finding into their clinical decision-making.
- 89% report that **endorsement by their medical professional society/association** is important.



# Factors making clinician more likely to *use* guidelines:

- Influence of colleagues
- Physicians' confidence in their ability to use the guidelines

But...



# Physicians may not follow the guidelines

- In Georgia, only 26 percent of private healthcare providers are recording vaccinations in the state's immunization registry despite state law to do so. (*Atlanta Journal-Constitution*, Oct. 5, 2009)
- Such noncompliance is also true for otitis media guidelines
  - Despite significant publicity and awareness of the 2004 AOM guideline, evidence shows that clinicians are hesitant to follow the guideline recommendations.



# Personal approach to medical practices

- Physicians say they prefer very brief personal office visits rather than other channels to learn about new resources.
- Challenge of reaching all the physicians in a large practice. May need to get a “champion.”



# IMPLICATIONS FOR EHDI OUTREACH TO PHYSICIANS

# Make a personal visit

Find a champion

Make appointment in advance





# Your representative...

Physician champion is the ideal

Representative should be:

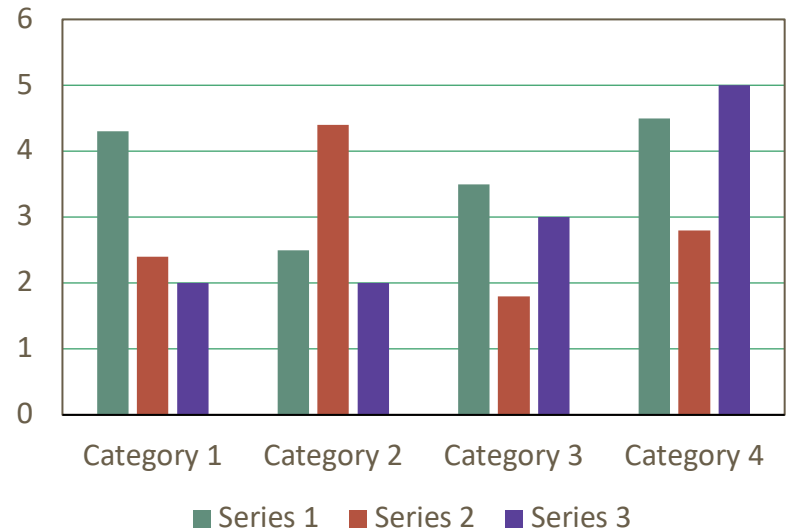
- Enthusiastic
- Able to speak to physician concerns



# Contact may be difficult to schedule

43% never get past receptionist

Chart Title



## Know whom to visit

Those who succeeded in obtaining an appointment visited:

- Office manager (41%)
- Physician directly (31%)



# Prepare a brief version of your presentation

Half of sales calls last less than 2 minutes



# Bring materials on your visit

80% say:

- Come to office with materials



# Some methods are less effective

Much less effective:

- Conferences/grand rounds (41% )
- Mail materials (36%)



# Make it easier for practice to comply with your proposed actions

- Offer easy access to “desktop” facilities with links to all the resources clinicians require to practice medicine and contain best-practice guidance.
- Particularly important with a “low incidence” occurrence like not passing the newborn screen.

The screenshot shows the CDC website page for "Hearing Loss in Children". At the top, the CDC logo and name are visible, along with a search bar and a "CDC A-Z INDEX" dropdown. The main heading is "Hearing Loss in Children". Below this, there is a navigation menu on the left with categories like "Hearing Loss Homepage", "Facts", "Screening & Diagnosis", "Types of Hearing Loss", "Treatment & Intervention Services", "Data & Statistics", "Articles & Key Findings", "Research & Tracking", "EHD State Programs", "Recommendations & Guidelines", "Free Materials", "Multimedia & Tools", "My Story", "Information for Specific Groups", "Families", "Health Care Providers", "Misc and Unilateral Conference", and "Partners". The main content area is titled "Information for Health Professionals" and includes social media icons (Facebook, Twitter, YouTube, and a plus sign). Below this, there is a section titled "What You Can Do" with sub-sections for "No Later Than 1 Month of Age" and "No Later Than 3 Months of Age". The "No Later Than 1 Month of Age" section contains bullet points: "Ensure hearing screening process is complete for all newborns. Refer to your state protocol.", "Review results & risk factors for late onset or progressive hearing loss with parent/guardian (refer to risk factors page).", and "Schedule audiologic diagnostic evaluation for all 'Refers' ('Fail', 'Did not pass').". A paragraph states: "A repeat hearing screening is recommended before discharge for all infants who are readmitted to a hospital within the first months of life for conditions associated with potential hearing loss." Below this is a link to a video: "Videos: Identify Hearing Loss in Newborns". The "No Later Than 3 Months of Age" section contains bullet points: "Note results of diagnostic audiologic evaluation for babies who do not pass the initial screen or re-screen and discuss results with parents.", "If a diagnosis is confirmed", "Schedule an otolaryngology and ophthalmology exam", "Offer the family a referral for a genetics consultation", "Counsel parents about amplification options (hearing aids, cochlear implants) and communication options", "Provide medical clearance as appropriate", and "Provide medical referrals, as indicated including neurology, developmental pediatrics, cardiology and". At the bottom right, there is an image of two healthcare professionals, a nurse and a doctor, standing together.

# Make it easier for practice to comply with your proposed actions

Provide a “signpost” on how to find person who can find/provide info needed.



However... Web information *alone* is not enough  
In spite of the incorporation of EHDl information into the NYS Immunization website – many pediatricians may not be using it.



# Reinforce to the physician why physician recommendation is important

- About 50% of patients getting physician recommendation followed through on it.
- Patients may believe resource does not exist or otherwise physician would have mentioned it.



# Stress quality and accessibility

Show that:

- Services are of proven quality  
and
- Patients can afford them



# Guidelines and endorsements can strengthen the case for change

Emphasize recommendations by professional organizations

- For clinical practice guidelines to be effective, more must be done to improve their dissemination and implementation.

May not be sufficient alone, but can multiply the impact



# Do not concentrate all outreach only on passive or generalized channels

## Channels like:

- Website information
- Generic promotional blasts to large groups (email, social media, mailings)



The screenshot shows the CDC website page for "Hearing Loss in Children". The page features a header with the CDC logo and navigation options. A search bar is located in the top right corner. Below the header, there is a main content area with a large image of a woman and a child. The text below the image reads: "Early Hearing Detection and Vocabulary of Children with Hearing Loss". There are social media icons for Facebook, Twitter, and YouTube. A language dropdown menu is set to "English (US)". The main text states: "Hearing loss can affect a child's ability to develop communication, language, and social skills. The earlier children with hearing loss start getting services, the more likely they are to reach their full potential. If you are a parent and you suspect your child has hearing loss, trust your instincts and speak with your child's doctor. Don't wait!". Below this text are four navigation tabs: "BASICS" (Facts, causes, and prevention), "SCREENING AND DIAGNOSIS" (Hearing screening and full hearing test), "TREATMENTS", and "DATA AND STATISTICS". A "Parent's Guide to Hearing Loss" section is also visible, featuring a small image of a child.

# Social media can be effective

## Twitter forums seem to be effective

- A special time is set aside
- A number of specific questions are asked and people tweet their responses
- Has been very effective with other topics

AAP has done this in collaboration with other organizations. Possible collaboration with NCHAM?



# Strategy to increase EHDI knowledge among physicians

- Work to get EHDI included as a subject area for physician continuing education credit.
- Encourage EHDI issues to be taught in medical school and residency.



# Tap physician interest groups as advocates

Consider physician or trainee interest groups as advocates

- The Section on Pediatric Trainees (SOPT) is extremely active and could be an excellent resource to advocate for the EHDI program and early identification



*<https://www.aap.org/en-us/about-the-aap/Committees-Councils-Sections/pediatric-trainees/Pages/SOPT-Advocacy.aspx>*

## Additional future-looking strategy...

It could be useful to create templates:

- for a QI project on EHDI issues (identification, follow-up, referral) to be used for PCMH, meaningful use and Maintenance of Certification
- on how to manage early hearing loss as a chronic illness.

This ties in very nicely to the EHR information.

Patient Centered Medical Home (PCMH) as well as meaningful use are basically EHR constructs.



# Acknowledgments

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### American Academy of Pediatrics

- Nkem Chineme, MPH  
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- William Cull, PhD  
Director  
Division of Health  
Services Research

# References

# Quick contact/source for information and assistance

## NCHAM EHDI eBook

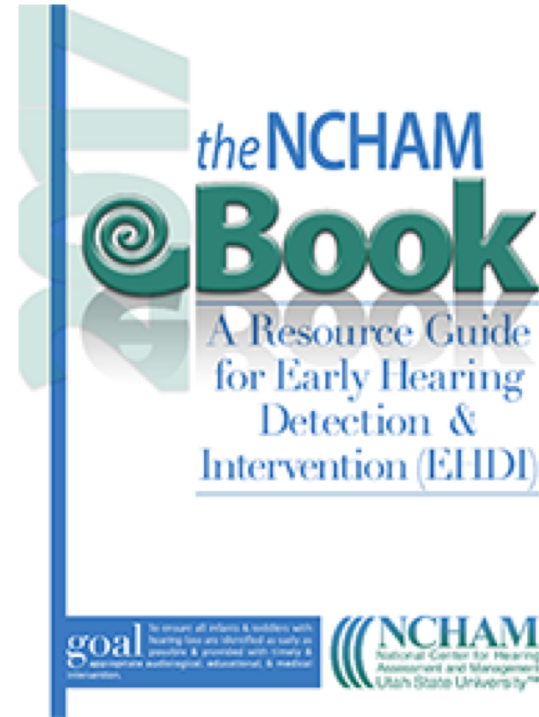
[http://infanthearing.org/ehdi-ebook/2017\\_ebook/28%20Chapter28MarketingEHDI2017.pdf](http://infanthearing.org/ehdi-ebook/2017_ebook/28%20Chapter28MarketingEHDI2017.pdf)

### *Chapter 28* Marketing EHDI

Carrie Balian; & Rachel St. John, MD, FAAP

In thinking about what makes a successful Early Hearing Detection and Intervention (EHDI) program, marketing is probably not the first thing

Understanding the Provider Perspective



# For more information (cont.)

## CDC EHDl Guidance Manual

Chapter 4: EHDl Information System: Data Use and Dissemination

<https://www.cdc.gov/ncbddd/hearingloss/guidancemanual/chapter4.html>

The screenshot shows the CDC website interface for the EHDl Guidance Manual. At the top, the CDC logo and name are visible, along with a search bar and a 'CDC A-Z INDEX' dropdown. The main heading is 'Hearing Loss in Children'. A left sidebar contains a navigation menu with items like 'Facts', 'Screening & Diagnosis', 'Types of Hearing Loss', 'Treatment & Intervention Services', 'Data & Statistics', 'EHDl Annual Data', 'EHDl Guidance Manual', 'Chapter 1', 'Chapter 2', 'Chapter 3', 'Chapter 4', 'Chapter 5', 'Chapter 6', 'EHDl-IS Functional Standards', 'EHDl Electronic Health Records', 'EHDl Data Analysis and Statistical Hub (DASH)', and 'Articles & Key Findings'. The main content area is titled 'EHDl Guidance Manual Chapters' and features a list of six chapters. Chapter 4, 'Chapter 4: EHDl Information System: Data Use and Dissemination', is highlighted. Below the list, the chapter title is repeated, followed by 'Chapter Objectives' and a list of four bullet points: 'Use data to support and confirm the delivery of EHDl services...', 'Understand the levels of analysis (e.g., data analysis plan, analysis file, available statistical software) and how to use these to report findings:', 'Understand the possible questions EHDl data can answer:', and 'Understand the need for standardizing data reporting; and'. An 'Overview' section is also visible at the bottom.

CDC Centers for Disease Control and Prevention  
CDC 24/7. Saving Lives. Protecting People™

SEARCH

CDC A-Z INDEX

### Hearing Loss in Children

Hearing Loss Homepage

Facts +  
Screening & Diagnosis  
Types of Hearing Loss +  
Treatment & Intervention Services +  
Data & Statistics -  
EHDl Annual Data +  
EHDl Guidance Manual -

Chapter 1  
Chapter 2  
Chapter 3  
**Chapter 4**  
Chapter 5  
Chapter 6

EHDl-IS Functional Standards  
EHDl Electronic Health Records  
EHDl Data Analysis and Statistical Hub (DASH)  
Articles & Key Findings

Hearing Loss Homepage • Data & Statistics • EHDl Guidance Manual

### EHDl Guidance Manual Chapters

f t +

#### Chapters

- Chapter 1: The EHDl Information System: Overview and Key Considerations
- Chapter 2: The EHDl Information System: Data Collection and Reporting
- Chapter 3: Updating and Using Your EHDl-IS for Tracking, Surveillance and Program Improvement
- Chapter 4: EHDl Information System: Data Use and Dissemination**
- Chapter 5: Privacy, Confidentiality and Security of the EHDl-IS
- Chapter 6: Monitoring and Evaluation

### Chapter 4: EHDl Information System: Data Use and Dissemination

#### Chapter Objectives

This chapter will help you to

- Use data to support and confirm the delivery of EHDl services, to present program status/ performance to stakeholders, and to inform providers about their performance;
- Understand the levels of analysis (e.g., data analysis plan, analysis file, available statistical software) and how to use these to report findings;
- Understand the possible questions EHDl data can answer;
- Understand the need for standardizing data reporting; and
- Understand the importance of and audience for data dissemination.

#### Overview

**Contacts**

# Questions?

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TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

