Improving Hearing Screening Rates in Primary Care Clinics: Challenges and Resources

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  • NIDCD
  • UCSF SON Research Committee

Objectives

• Provide a rationale for focusing on primary care as a critical component of the hearing healthcare system
• Explain how a simple screening and education program may promote access to and use of the hearing healthcare system.
• Discuss the barriers to implementing change in the primary care setting and possible solutions.
Hearing Healthcare System

Pre-entry → Entry → HHC

Consumer/Family → Primary Care Provider/ENT → Hearing Healthcare Specialist

Integrating a Hearing Loss Screening and Education Protocol into Primary Care to Promote HHC

Problems to Address

- Hearing loss is a significant problem for older adults
- Primary care practitioners rarely screen patients for possible hearing loss
Health Care Practitioner

- Between 40-86% admitted not screening routinely with barriers noted to include lack of time, perception that there are more pressing clinical issues, and lack of reimbursement (Chou, et al. 2011)
- Often discount hearing loss when the issue is raised by the individual and don’t refer

US Preventive Services Task Force

- “The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for hearing loss in asymptomatic adults aged 50 years or older”
- Additional research is needed to understand effects of screening compared with no screening on health outcomes, and to confirm benefits of treatment under conditions likely to be encountered in most primary care settings.


Problems to Address

- Hearing loss is a significant problem for older adults
- Primary care practitioners rarely screen patients for possible hearing loss
- Those who are screened and referred often do not take action or have incorrect or unrealistic expectations about HAs
Study Objectives/Goals for Intervention

- **Deal with Time:**
  - Document a simple, fast, but reliable (sensitive, specific) hearing screening strategy
  - Remove the practitioner from the screening protocol – other office personnel can perform a simple screen
- **Deal with myths related to HL and HAs:**
  - Provide concise, focused education to the individual who screens positive to remove myths about HL and inform regarding importance and options
- **Gather data supporting the positive impact of screening and hearing healthcare service use**

Screening Measures

- **Single Item question:** Do you feel you have any difficulty hearing?
- **Finger Rub Test**

Hearing Helps Us Stay Connected to Others Stay Safe Stay Engaged with Life

Brochure Content

1. Basic knowledge about hearing loss
2. Importance of doing something about hearing loss for safety, better communication with others and improving quality of life
3. Other changes besides or in addition to obtaining hearing aids that persons could make to improve hearing and communication

Hearing Loss Basics: A 5 Minute Overview

• What is age related hearing loss?
• Won’t I know if I misunderstand what is said?
• Isn’t hearing loss just my problem if I’m okay with what I hear?
• What can hearing aids do? I heard they don’t work well.
• I don’t think my hearing loss is that bad. Can’t I wait until it gets worse?
• Are hearing aids my only option?
• Why are hearing aids so expensive?
• What are the first steps?
Pilot Screening Study

- Tested 125 primary care patients age 60 or older for possible hearing loss
- Possible hearing loss was further verified by hand-held audiometry
- Findings shared with the practitioner
Participants

- 100 individuals tested positive for possible hearing loss
- 67 agreed to take part in the study and completed 3-month follow-ups
- Those who agreed to participate received the 5-minute educational intervention – brochure with review
- MDs were told the results of the screen

Participant Characteristics

- Age ranged from 60 to 93. Mean age was 73.
- 37% were men and 63% were women
- Minorities (Blacks, Hispanics, and Asians) made up 15%

Referral Results

MD did not discuss or refer 49%
MD discussed but did not refer 8%
MD referred for further testing 37%
Self referred for further testing 6%
Impact of Brochure

Knowledge
75% improved their knowledge of hearing loss based on a before and after test

Changes to Improve Hearing
70% made at least 1 change over the 3 month follow-up
Most Frequent Changes Made

<table>
<thead>
<tr>
<th>Change Description</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopting assistive devices for TV, phones, or theater</td>
<td>24%</td>
</tr>
<tr>
<td>Changing where sit in restaurants or other places</td>
<td>34%</td>
</tr>
<tr>
<td>Changing how one communicates with other persons</td>
<td>13%</td>
</tr>
</tbody>
</table>

Current Study

- Compare Three Protocols
  - Screening Only
  - Screening with Brochure
  - Screening, Brochure, In-Person brief brochure review
- Screen by Intake Personnel (usually an MA)
- Practitioner informed of results

Study Design Basics

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Screening (MA – PC Clinic)</th>
<th>Baseline Research Nurse</th>
<th>Follow-up One 6-months Research Nurse</th>
<th>Follow-up Two 12-months Research Nurse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Screen Only</td>
<td>MD response to screen Hearing assessment If told by others they had hearing loss</td>
<td>What they did</td>
<td>Brochure &amp; Review</td>
<td>What they did</td>
</tr>
<tr>
<td>2 Screen + Brochure</td>
<td>MD response to screen Hearing assessment If told by others they had hearing loss</td>
<td>What they did</td>
<td>Brochure</td>
<td>What they did</td>
</tr>
<tr>
<td>3 Screen + Brochure + Review</td>
<td>MD response to screen Hearing assessment If told by others they had hearing loss</td>
<td>What they did</td>
<td>Helpfulness of brochure &amp; review</td>
<td>What they did</td>
</tr>
</tbody>
</table>
Results

Study & Participant Characteristics

- 10 Primary Care Clinics
  - (range of populations served – low to higher income)
- N (to date): 155
  - Protocol 1: 81
  - Protocol 2: 56
  - Protocol 3: 18
- Age: Range: 60-94; Mean: 71

Participant Characteristics (Cont’d)

- Gender:
  - Male: 41% (n=64); Female: 59% (n=91)
- Ethnicity:
  - White: 79% (n=122)
  - Black: 12% (n=18)
  - Hispanic: 6% (n=9)
  - Asian: 2.6% (n=4)
- Insurance
  - Medicare: 80.5% (n=125)
  - Medicaid: 26.5% (n=41) [Dual Eligible: 18.7% (n=29)]
HHIE vs. Self Report
Overall Mean HHIE Score: 13.6

<table>
<thead>
<tr>
<th>Group</th>
<th>Score</th>
<th>Score Meaning</th>
<th>Overall %</th>
<th>Say They Have Hearing Loss</th>
<th>Say Sometimes</th>
<th>Say Others Say I do</th>
<th>Say Don't Have Hearing Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-8</td>
<td>Little of No HL</td>
<td>40%  (n=62)</td>
<td>54.8% (n=34)</td>
<td>16% (n=10)</td>
<td>4.8% (n=3)</td>
<td>9.6% (n=15)</td>
</tr>
<tr>
<td>1</td>
<td>10-24</td>
<td>Mod HL</td>
<td>46.5% (n=72)</td>
<td>93% (n=67)</td>
<td>1.4% (n=1)</td>
<td>0</td>
<td>2.5% (n=4)</td>
</tr>
<tr>
<td>3</td>
<td>26-40</td>
<td>Severe HL</td>
<td>13.5% (n=21)</td>
<td>95% (n=20)</td>
<td>0</td>
<td>0</td>
<td>0.6% (n=1)</td>
</tr>
</tbody>
</table>

Self-Reported Difficulty vs. Finger Rub

<table>
<thead>
<tr>
<th>Any difficulty Hearing?</th>
<th>Heard Finger Rub</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Neither Ear</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
</tr>
<tr>
<td>Yes</td>
<td>70</td>
</tr>
<tr>
<td>Sometimes</td>
<td>3</td>
</tr>
<tr>
<td>Other Say I Do</td>
<td>1</td>
</tr>
</tbody>
</table>

Baseline:

- Were you told you had hearing loss?
  - Yes: 72% (n=112); No: 28% (n=43)
- Of those told, who told them?
  - Family: 71%:
    - usually spouse (37%), child (18%), multiple family (16%)
  - Friends: 17% (n=19)
  - "Everybody": 6% (n=7)
  - Co-worker: 2% (n=2)
  - Neighbors: 2% (n=2)
  - Other: 4% (n=4)
Baseline:
• Of those told, What did they do?
  • Nothing: 58% (n=65)
  • Doing nothing had no relationship with age or gender

Why They Did Nothing - Themes
• My hearing issues haven’t bothered me; I don’t feel it’s that big a deal at this point; I don’t think it’s that bad.
• I think it’s their voices, not my hearing; I think the problem was the way my husband speaks; I thought it was her (daughter’s) voice
• I have other health issues; I’ve had a lot of medical problems in the past 2 years – my hearing is not a priority; I’ve had lots of surgeries
• Cost too much; I can’t afford hearing aids; because of my finances; no health insurance

What They Did If They Did Something
• 10 got tested; 2 specifically mentioned not buying HAs because of the cost after getting tested
• A number noted the cost; not being able to afford HAs
• Several spoke with their physicians; one noted his physician told him he was “hearing but not listening”
• Most made changes in their situations – facing, being in the same room, positioning
• Some noted being in denial, faking it if they thought things were not important, and some noted audiologist did not recommend HAs at the time.
Physician Recommendation: Further Testing or Not - Baseline

- N = 155
  - Yes 26.6% (n=41)
  - No 71.6% (n=111)
  - Previously 1.3% (n=2)
  - Next visit 0.6% (n=1)

Usually a specific referral to get an evaluation

Went for a Hearing Evaluation by 4 Month Follow-up (n=120 out of 155)

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Screen Only)</td>
<td>15.6% (n=12)</td>
<td>84.4% (n=65)</td>
</tr>
<tr>
<td>2 (Screen Plus Brochure)</td>
<td>32.6% (n=14)</td>
<td>67.4% (n=29)</td>
</tr>
</tbody>
</table>

P=.028
### Baseline and 4 Month Follow-up: Mean HHIE Score

<table>
<thead>
<tr>
<th>Protocol</th>
<th>Baseline</th>
<th>4 Month</th>
<th>8 Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Screen Only (n=81)</td>
<td>14.96</td>
<td>14.54</td>
<td>NA</td>
</tr>
<tr>
<td>Range (2-40)</td>
<td></td>
<td>Range (0-40)</td>
<td></td>
</tr>
<tr>
<td>2. Screen Plus Brochure</td>
<td>11.64</td>
<td>9.77</td>
<td>10.10</td>
</tr>
<tr>
<td>(n=56)</td>
<td>(n=43)</td>
<td>(n=40)</td>
<td></td>
</tr>
<tr>
<td>(0-36)</td>
<td>(0-36)*</td>
<td>(0-38)</td>
<td></td>
</tr>
</tbody>
</table>

*Apparent shift in scores downward

### Level of Self-Reported HL Protocol 2 Baseline to 8 months

<table>
<thead>
<tr>
<th>HHIE</th>
<th>Baseline (n=56) (M=11.64)</th>
<th>4 Months (n=43) (M=9.77)</th>
<th>8 Months (n=40) (M=10.10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-8 No Handicap</td>
<td>48% (n=27)</td>
<td>62% (n=27)</td>
<td>58% (n=23)</td>
</tr>
<tr>
<td>10-24 Mild to Moderate</td>
<td>45% (n=25)</td>
<td>32% (n=14)</td>
<td>38% (n=15)</td>
</tr>
<tr>
<td>26-40 Severe</td>
<td>7% (n=4)</td>
<td>5% (n=2)</td>
<td>5% (n=2)</td>
</tr>
</tbody>
</table>

### Protocol One: Hearing Evaluation by 8 Month Follow-up After 4 Month Receipt and Review of the Brochure

Of the 65 who had not gone for follow-up at 4 months 61 have completed x3

7 had gone for a hearing evaluation
10 said they were going to go for a hearing evaluation.
1 said provider won’t refer

(17/61 = 28%)
Of Those who got Hearing Aids by 8 Month Follow-up

- Baseline Mean HHIE: 18.3
- 8 Month Mean HHIE: 12.0

3, Protocol 1
2, Protocol 2
1, Protocol 3

Is the Brochure Helpful?

- What stood out was "Is hearing loss just my problem?" I know I frustrate my brother because I often ask him to repeat himself
- It was comforting to know there are other things you can do besides hearing aids to help you hear better – they are so expensive
- It outlined problems and also gave resources to find out about things
- Get professional advice about my hearing
- It never occurred to me I might have a problem. The brochure made me aware of hearing overall and resources

Does the Review Help?

- I HEARD the information. I get so much mail and such I probably wouldn’t have looked at the brochure
- It helped me to focus on my hearing and it was good to reinforce the materials. I would have just tossed the brochure
- Good to have someone review the info for you – helps to hear it as well as read it to get the message
- It made me more aware when I reviewed it myself later
- My eyes are getting worse so it’s harder to read
Barriers to Implementation

**Clinic Barriers**
- Time and space constraints in the clinic
- MAs already have to ask lots of questions (depression, pain, homelessness, fall risk, then Ebola)
- Some MAs seemed to hesitate asking, especially those with English as a second language
- Practitioners often only had one exam room decreasing time for MAs to do additional intake screening
- EHR – implementation disrupted clinics
- Noise/construction

**Practitioner Barriers**
- Not referring even with background on the research – Sometimes still believe study personnel are doing everything (referred back to the study)
- Focused on other health problems
- Still don’t fully value the need/see health implications of HL
- Time pressures to see patients in a very short time interval

**Study Barriers**
- CHR requirements within a clinical setting necessitated obtaining consent and asking recall and not obtaining records which involves additional HIPAA consents

Are There Other Strategies For Integration into Primary Care?
New Medicare Benefit
Initial Preventive Physical Examination (IPPE)/Welcome to Medicare

- Review functional ability and level of safety – using any appropriate screening questions or standardized questionnaires recognized by national professional medical organizations
- Includes hearing - not standardized
- No change in Audiology evaluation by referral
- No change in non-coverage for hearing aids or other hearing health care services.

New Medicare Benefit
Annual Wellness Visit (AWV)

Allowed/suggested approaches include:
- Direct observation or
- Appropriate screening questions or
- Screening questionnaire from various available screening questions or
- Standardized questionnaires recognized by national professional medical organizations
  Hearing impairment included in list

While CMS encourages health care providers to furnish the Initial Preventive Physical Exam (IPPE) or Annual Wellness Visit (AWV) services to Medicare beneficiaries, as appropriate, they are not required to furnish these services. Both the IPPE and AWV are statutorily defined benefits

Medicare's missed checkups: Few seniors get wellness exam

- "Welcome to Medicare" ....most doctors aren't taking the bait....Even though more than 2 million seniors become eligible for Medicare every year, only about 100,000 of these exams are billed to the federal government each year......

- The Annual Wellness Visit, which started in 2011, is designed to serve as a regular checkup for established Medicare patients. CMS reported that 298,000 beneficiaries received that service between Jan. 1 and March 23 ....puts Medicare on track to cover the visits for only about 1.3 million people -- well shy of the more than 46 million who are eligible to receive one.

Charles Pagel (HTTP://WWW.AMEDNEWS.COM/APPS/PBCS.DLL/PERSONALITYID=CFEG) — Posted May 2, 2011

Medicaid

- Individuals with low income or high health care costs
- State specific, unstandardized and unstable
- Most cover children (mandated)
- A few provide assistance to adults or the elderly but all with varying restrictions
- 18 States provide no coverage to adults
- Older adults may be "dual eligible (Medicare/Medicaid)

Conclusions

- A simple screening and education protocol in primary care can be effective in:
  - Promoting access to and use of hearing healthcare
  - Broadening use of alternatives to hearing aids
  - Enhancing awareness of hearing loss as a health condition & stimulate the process of acceptance & action
  - Potentially minimizing the negative impact of hearing loss
Conclusions

Future

• Practitioners need additional education about the health implications of HL, benefits of referral and incentives to refer
• Hearing screening needs to be part of the EHR
• Models are needed that facilitate the mandate to do multiple screens in primary care settings, especially with older adults
• Continued efforts are needed to obtain Medicare coverage and develop other creative payment options

With Appreciation

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• Jennifer Henderson-Sabes – Research Audiologist
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  • MAs, Practitioners, Staff
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    – 4R33DC011510
  • NINR – RO1
    – RO1NR008246

Questions