Audiology and Hearing Aids Post 2020!

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March, 2020

Our lives as we knew it CHANGED!

PRE-COVID …

• Disruptions to Audiology include:
  – Products
    • Hearables
    • Bluetooth connectivity and hearing applications
    • Blurring of what is what
  – Process
    • OTC Hearing Aid Act 2017
    • Consumer and internet reviews
    • Direct to consumer purchases
    • Self-fitting devices; testing

Besides COVID …

• Disruptions to Audiology include:
  – Organizational:
    • Third party contracts
    • Leasing contracts
    • Remote programming/Virtual visits
    • Delivery models

CHALLENGES ARE OPPORTUNITIES TO GROW

March, 2020

How we practice also changed!

Speaker Disclosure

• Financial:
  – Section Head: Allied Hearing, Speech and Balance Services, Cleveland Clinic, Cleveland, OH
  – Received financial compensation from ASHA
• Nonfinancial:
  – VP of Audiology Practice

Sharon A Sandridge, PhD, CCC/A
MarkeTrak 10: Hearing Aids in Era of Disruption and DTC/OTC Devices

Thomas Powers & Carol Rogin
Hearing Review, Aug 2019

N=3132 surveys returned
969 HA owners; 2163 non-owners

MarkeTrak 10 take home points:

1. Need to educate consumers about hearing loss and its impact on HRQoL
2. Providers need to be more informed about new realities of market!

50% of HA non-users open to purchasing OTCs rather than HA through HC provider!

Bad News
- OTC and PSAP threats
- Traditional audiologic services on decline
- Were we Chicken Little?

Good News
- Consumer perceived value in our services (MT 10)
- We have time now to change, to become proactive, to revisit our roots, to succeed in this new world – new market – and control our new threats!

Before COVID hit ..

Blessing of COVID

Learning Outcomes

- describe the differences among device-centered, patient-centered and family-centered care.
- discuss the importance of assessing beyond the audiogram in working with patients/consumers seeking amplification.
- explain the benefits of pre-education for improving the patient/consumer experience.

“If audiology is to remain relevant, the ability to address the needs of patients in a comprehensive context of their life and environment will be critical!”

Centered Care

<table>
<thead>
<tr>
<th>DCC</th>
<th>PCC</th>
<th>FCC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical model</td>
<td>Establish a therapeutic relationship between patient and clinician</td>
<td>Expands the circle to include family, friends who provide emotional, physical and economic support (Hanson, 2005)</td>
</tr>
</tbody>
</table>

Family-Centered Care (FCC)

If older couple work together when faced with a disability, more likely to work together in adapting to, and coping with that disability (Acitelli & Badr, 2005)

How can that apply to audiology?
- Encouraging use of devices
- Successful use of communication strategies
  - Not talking from another room
  - Getting attention before talking
  - Maintaining visual/eye contact to facilitate speechreading
  - Others?

Principles of FCC (Scarinci, N, 2020)

- Family is Unit of Attention
- Family Choice
- Family Strengths
- Family-Professional Relationship
- Individualized Family Services

Third party disability (WHO, 2001)

- **Auditory Impacts**
  - Tension over having to repeat (e.g., Scarinci et al., 2008)
  - Coping with volume of television (e.g., Scarinci et al, 2008)

- **Social Impacts**
  - Marriage difficulties (e.g., Scarinci et al 2009)
  - Reduced intimacy (e.g., Hallam et al., 2008)
  - Greater communication difficulties (e.g., Scarinci et al., 2008, 2009)

- **Self Impacts**
  - Increased feelings of frustration (e.g., Hallam, 2008)
  - Loneliness (Knutson et al., 2006)
  - Emotional reactions (e.g., Scarinci et al., 2009)
  - Worry & Anxiety (e.g., Scarinci et al., 2009)
  - Poor physical, mental and social health (Wallhagen et al., 2004)
  - Negative impacts on social life (e.g., Kelly & Atcherson, 2011)
  - Reduced quality of life (Kelly & Atcherson, 2011)
Support from the family is in no way meant to devalue the patient themselves nor take away their autonomy. ... FCC values both the patient and their family member equally, although family members support is strongly advocated, audiologists must ensure that nothing is taken away from the patient.

Nerina Scarinci, 2020, p 316

**Benefits FCC**
(Scarinci, 2020)

- Improved ability to enjoy life
- Reduced stress
- Improved QoL
- Reduced hearing disabilities
- Greater understanding of HI
- Patients, Family and Clinicians

**How to implement FCC**

- **Encourage** family members to attend when appointment is booked
- **Set up room** in triangle or crescent to facilitate communication
- Open the appointment explaining that all voices matter and all will be heard
- **Use tools** to establish goals of appointment
- **Write** the goals so all can see

**White board template**

<table>
<thead>
<tr>
<th>Your Audiologist’s Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>You are here today to discuss:</td>
<td></td>
</tr>
<tr>
<td>You are here with:</td>
<td></td>
</tr>
<tr>
<td>What do you want to accomplish today:</td>
<td>1.</td>
</tr>
<tr>
<td>Other items/comments</td>
<td></td>
</tr>
<tr>
<td>What is the next step:</td>
<td></td>
</tr>
</tbody>
</table>

**Patient Narratives**

- Encourage empathy
- Encourage a holistic approach – beyond the ears
- Establishes family-centered approach
- Intrinsically therapeutic
- Facilitate greater rapport, trust, compliance

Tell me about your journey with the devices since we last met

.. Journey with tinnitus
Change the questions ………

To the patient: Tell me where, in what situations, you are having the most difficulty hearing.

To the family member: Tell me where you feel your X is having the most difficulty hearing.

Change the questions ………

• Is this difficulty impacting your day-to-day activities (i.e. QoL)?
• Is this difficulty interfering with your personal relationships?
• Would you like to address those situations and if so, how?

Change the questions ………

• We know that there are a number of co-morbidities that are related to hearing loss. Do you have any other health issues, that I should be aware of or that we need to make your healthcare provider aware of such as diabetes, hypertension, fall risks, cardiovascular issues, kidney disease, memory issues?

Change the questions ………

Co-morbidities with HL

• Hearing loss in people with diabetes is 2x greater than non-diabetics.
• Approximately 2 out of 3 older adults who fall with hip fractures have a hearing loss
• Hearing impairment is a greater risk factor for cognitive decline and dementia than other individual mid-life risks

Audiologist’s role is to:

Assess impairment and its impact on HRQoL

Establish therapeutic relationship with patient & connection with support system

Ensure that patient is able to cope and overcome challenges the hearing impairment imposes on their life and relationship

Counseling most important professional skill

Device-Centered

Family-Centered

Informational counseling

Active listening to what they are REALLY saying!

Strategies to adjust

Tool to overcome hearing impairment

Time spent in appointment
“It is not that audiology ever explicitly abandoned A/R ... We just do not do it very much or manage to get it rewarded very well... If we want to keep in touch with our roots, and have a future as an independent, self-supervised profession, evaluating and managing the communicative and the psychosocial impact of hearing loss has to be our core purpose, our reason for being!

Mark Ross (1997, p.14)

Use of Questionnaires ..

- Case history – great starting point
- Global and disease specific self-assessment tools
- Let answers drive testing, discussions and decision making
- Counseling – abandon the audiogram ...

Health Literacy Level

- Low health literacy is stronger predictor of health outcomes than age, income, race.
- Low health literacy is statistically linked to poorer health and poorer QoL.
- Prioritizes health literacy (in all written material) empowers patients and helps ensure successful rehabilitation outcomes – thus higher QoL.


Limited Health Literacy and Hearing Loss Among Older Adults

Timothy S. Heff, PhD; Steven R. Bush, MA, LP; Lorraine D. Nickels, BSN, MS; Liset Wu, PhD; Ganesh R. Bhattacharjee, PhD, and Charlotte E. Voh, MD

- Limited health literacy associated with older age, male gender, lower income, health conditions, hearing loss and lack of HA use
- Yet, LHL can be improved through how we teach our patients
Successful audiologic management

3 cornerstones of successful management:
- **Knowledge**
  - Patients and families have knowledge about hearing loss and management options
- **Readiness**
  - Action to proceed
- **Self-efficacy**
  - Confidence to use, care for, manage


Typical delivery of message

- Verbally
- Demonstrate
- Manufacturer’s guide books
- Other written material

The Eight Practical Hearing Aid Skill Tasks on the PHAST

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Remove your hearing aid(s), a) grasping aid/silently b) removal of aid from ear</td>
</tr>
<tr>
<td>2.</td>
<td>Open the battery door, a) locate the door b) open the door</td>
</tr>
<tr>
<td>3.</td>
<td>Change your hearing aid battery, a) remove old battery b) insert new battery</td>
</tr>
<tr>
<td>4.</td>
<td>Show me how you clean your hearing aid, a) sound hole b) microphone c) vent</td>
</tr>
<tr>
<td>5.</td>
<td>Put your hearing aid(s) back in your ear(s), a) grasping aid/silently b) placement in ear</td>
</tr>
<tr>
<td>6.</td>
<td>Turn up the volume of your hearing aid(s), a) control use of program/mute switch b) placement of phone in relation to hearing aid</td>
</tr>
<tr>
<td>7.</td>
<td>Show me how you use the telephone with your hearing aid(s), a) hand phone to client b) placement of phone in relation to hearing aid</td>
</tr>
<tr>
<td>8.</td>
<td>Show me how you use your noise program/directional microphone</td>
</tr>
</tbody>
</table>

PHAST (2009)

*Only 18% scored EXCELLENT*

Older adults poorer performance

Summary

- New and experienced HA users can do the **basics**
  - insertion/removal
  - Changing battery
- Performance poorer with more **advanced** skills
  - Cleaning devices
  - Changing programs
  - Using telephone with devices
  - Overall expectations

Desjardins & Doherty, 2009; Doherty & Desjardins, 2012; Ferguson et al 2014; Saunders et al 2018; Gomez & Ferguson, 2019

Other studies:

- 25% of information provided at the HAF is forgotten 6 weeks later (Reese & Hnath-Chisolm, 2005)
- Retention of information of new users after 6 weeks (El-Molla et al. BAA, 2012 as cited in Ferguson, Phonak eAudiology Webinar, 2018)
  - Overall – 49%
  - Practical – 63%
  - Psychosocial – 34%
We know that …

- Better knowledge increases patient satisfaction and treatment compliance (Murray et al., 2005)
- HA users (new and existing) desired more information (Laplante Levesque, et al., 2013)
- One way delivery of information ≠ educating

So what are we to do?

Key findings

- Knowledge and self-efficacy directly associated with improved self-management
- Experience of hearing healthcare most predictor of hearing self-management
- Knowledge gained through experience is central to self-management
- Increased HA self-efficacy associated with increased action

Prepare for visit

Knowledge

Expectation

Outcome

Pre-education/Setting the stage

Virtual Pre-appointment Visit

• A virtual tour of house
  – Patient can point out areas of listening difficulties or areas for improved communication or hearing
  – Screen shots of living room; kitchen; areas of difficulty (with permission) for counseling purposes

Readiness Scale for Intervention

• IN-COME measure
• Create own – modify existing – use existing questionnaire
• Ask questions to ascertain:
  – Motivation for pursuing amplification
  – Full time or part time use
  – Expectation of performance
  – Knowledge levels
• Scale can point to OTC/PSAP or HAs

https://www.aan.com/Guidelines/home/GuidelineDetail/881
Partners in Health Scale – Audiology Version

<table>
<thead>
<tr>
<th>Item</th>
<th>Knowledge</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall, what I know about my hearing loss</td>
<td>Knowledge</td>
<td>Act on these changes</td>
</tr>
<tr>
<td>2. Overall, what I know about the management of my hearing loss</td>
<td>Knowledge</td>
<td>Act on these changes</td>
</tr>
<tr>
<td>3. I manage my hearing loss as asked by my hearing health professional</td>
<td>Actions</td>
<td>Item not included in assessment</td>
</tr>
<tr>
<td>4. I share in decisions made about my hearing loss with my hearing health professional</td>
<td>Actions</td>
<td>Item not included in assessment</td>
</tr>
<tr>
<td>5. I am able to deal with hearing health professionals to get the services I need that fit with my culture, values, and beliefs</td>
<td>Actions</td>
<td>Item not included in assessment</td>
</tr>
<tr>
<td>6. I attend appointments as asked by my hearing health professional</td>
<td>Actions</td>
<td>Item not included in assessment</td>
</tr>
<tr>
<td>7. I keep track of any changes in my hearing condition (e.g., sudden or gradual drop in hearing, pain, or infection in my ear, hearing aids stopped working, problems hearing, to replace my hearing aid)</td>
<td>Actions</td>
<td>Item not included in assessment</td>
</tr>
</tbody>
</table>

Interactive multimedia videos to pre-educate

http://c2hearonline.com/

C2Hear Hearing well, together

- Based on educational principals that learning requires more than giving information
- Learning occurs when an active role is taken
- Knowledge forms meaning and understanding from information
- Information is factual

Developed series of Re-useable Learning Objectives (RLOs) – video tutorials

Each RLO

- Learning outcome
- Subtitles
- Reinforcements and consequences
- Variety of images
- Interactive quizzes
- Directives to return to audiology if needed further assistance
Comparison on MARS-HA between C2Hear and Booklet

If you always do what you always did, you will always get what you always got!

Key Take-Aways

- Include family members to engage in decision making in patient care
- Set up clinic space to be inclusive
- Change how we ask the questions
- Use white board to record goals and revisit them at end of appointment
- Pre-educate
- Be aware of health (and reading) literacy
- Verify that they learned – you just didn’t teach.

Telepractice
Telehealth
Teleaudiology
Connected Health

Booth-less Hearing Screening/Testing

If you screen they will come!

You supply the equipment – they supply the referrals...
- Medical offices
- Hospital waiting areas
- Surgical center lobbies
- Private practice offices
- Retirement Centers
- Community Centers
**Benefits:**

- Opportunities for wellness checks across lifespan
- Enhancing awareness of hearing loss on HR-QoL
- Opportunity to promote hearing loss prevention
- Facilitate referral to audiology earlier than later
- Asynchronous testing

Can’t bill for this technology
- Office personal
- Medical Assistants
- Audiology Assistants

**Children:**

- Found highest diagnostic values for the tablet-based screening method compared to gold standard pure tone audiometry

92% of patients who took online screening test reported that it assisted them in seeking hearing healthcare

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**Remote Programming**

**Hearing Aids**

**Cochlear Implants**

**Digital Proficiency?**

Do you ever assess — or do you just assume that your patients do or do not have skills to manipulate the digital world?
Digital Proficiency

Computer Proficiency Questionnaire: Assessing Low and High Computer Proficient Seniors
Walter P. Boot, PhD, L. Nell Storeman, PhD, Sara J. Cox, PhD, Joseph Sheehy, PhD, Wendy A. Roggen, PhD, Arthur D. Fish, Ph.D., Tracy Mijares, Ph.D., Chiay-Chin Lin, MEd, MDPQ, and Sunakhran Rao, MIF
Department of Psychology, Florida State University. E-mail: Walter P. Boot, PhD, Florida State University. Florida State University, Tallahassee, Florida. The Journal of Gerontological Nursing, 2018.

A New Tool for Assessing Mobile Device Proficiency in Older Adults: The Mobile Device Proficiency Questionnaire
Hedman & Roque, 2018

MDPQ - 16
(Roque & Boot, 2018)

- Mobile device basics
- Communication
- Data & file storage
- Internet
- Calendar
- Entertainment
- Privacy
- Troubleshooting/Software Management

- 8 domains/2 question each
- 5 point Likert Scale
  - Never tried (1)
  - Not at all (2)
  - Not very easily (3)
  - Somewhat easily (4)
  - Very easily (5)
- Validity & reliability short term
- Group into training
- Direct areas for concentration
  - Mobile device basics
  - Communication
  - Data & file storage
  - Internet
  - Calendar
  - Entertainment
  - Privacy
  - Troubleshooting/Software Management

Tech literacy

Ensure Access
- OA have lower access
- 53% of OA have smartphone
- 51% have access to high-speed internet

Assess Ability
- 1/3 OA report little to no confidence in ability to use electronic devices
- 48% OA would need someone to assist in setting up a new device or how to use it

Facilitate Accessibility
- In the virtual world--opportunities for communication breakdowns
- Speech to text
- Closed Caption
- Digital Communication Strategies

Also offer or provide direction ...

- Remote microphone technology
- Alerting devices
  - Doorbell alerts, security systems, monitors
- Captioning phones

The pandemic will end!
Audiology will be stronger and better!
Thank you!

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