

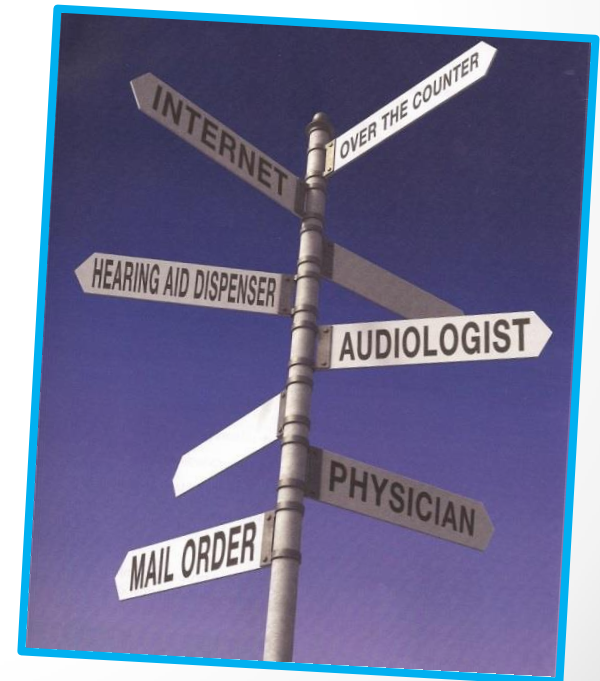
# Beyond the Audiology Clinic: Innovations and Possibilities of Connected Health



NCRAR, Portland  
September 20, 2013

# Changing Trends in Hearing Healthcare Delivery

**Jerry L. Northern, PhD**  
**Professor Emeritus**  
**University of Colorado**  
**School of Medicine**  
[jnorth1111@aol.com](mailto:jnorth1111@aol.com)



# The Disentanglement and Unraveling of Hearing Healthcare Delivery

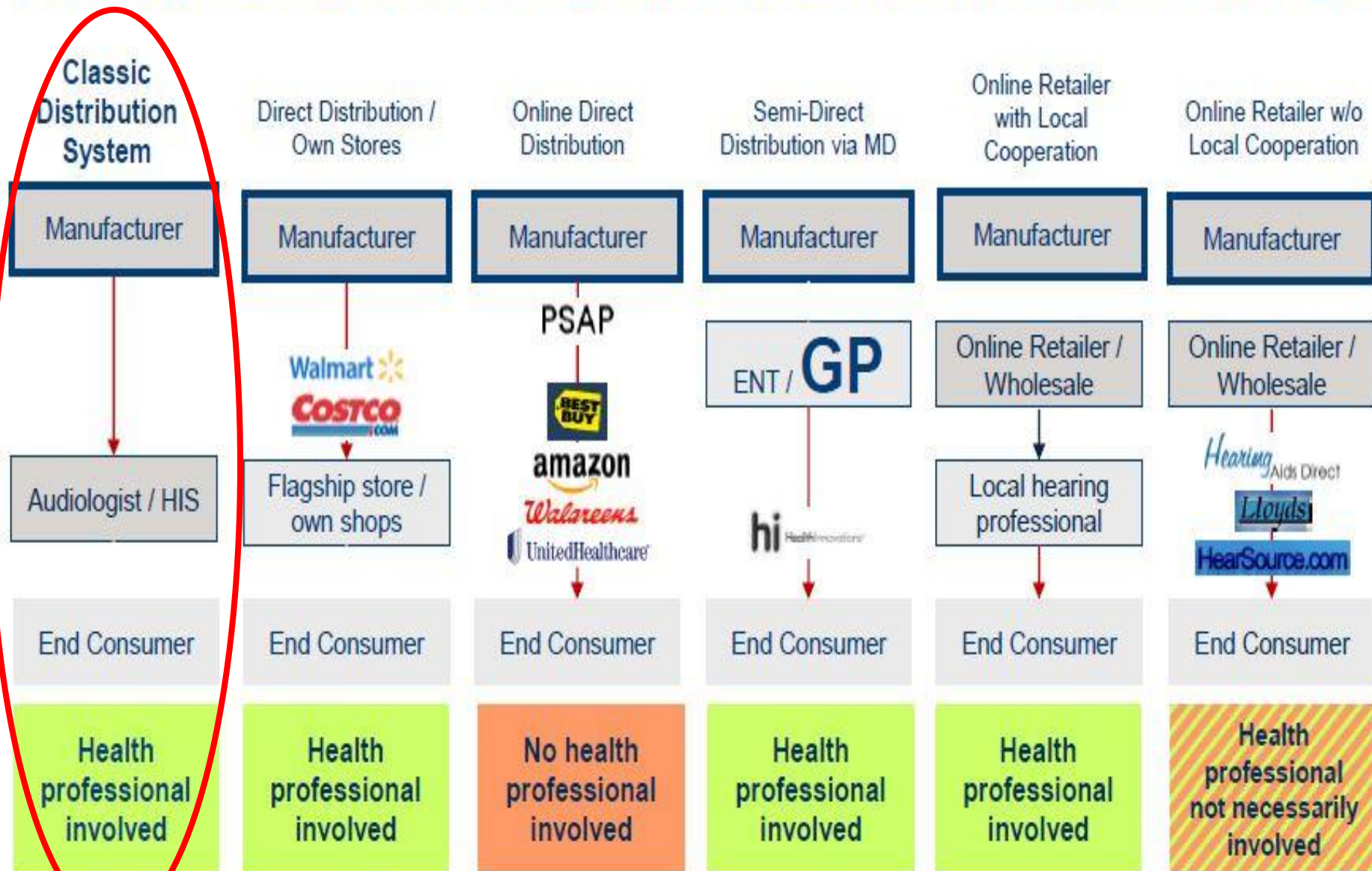
**Jerry L. Northern, PhD**  
**Professor Emeritus**  
**University of Colorado**  
**School of Medicine**  
[jnorth1111@aol.com](mailto:jnorth1111@aol.com)







# POSSIBLE ALTERNATIVE HEARING AID DISTRIBUTION SYSTEMS



# Converging Forces

- **The Manufacturer's Business**
- **Retail Network Expansion**
- **Co-op Growth**
- **Warehouse Invasion**
- **Internet Explosion**
- **PSAPs**
- **Savvy Consumers**



# The Business of Hearing Aid Manufacturing

# Hearing Aid Sales 2012

- **Net Total Sales in US: 2,852,535 units**
- **20% 'issued' through VA**
- **Annual Growth for 2002 - 2012: 2%- 3%**
- **Potential Market: 34 million** (Kotchkin, HIA)
  - Mild, S/N high frequency losses – not interested in HAs
- **Realistic Market: Estimated at 18 – 20 million**
  - (B. Edwards; A. Amlani)





*President Reagan and Nanette Fabray  
met with BHI Director Joe Rizzo  
in the White House in 1983.*

**After the President's  
acknowledgement of  
hearing aid use, unit sales  
soared by 30% in the 4<sup>th</sup>  
quarter of 1983.**

**In fact, 1983's year-on-year  
growth rate of 20.5%  
represents an all-time  
record in sales (HIA).**

# Full Service Vendors

- ☐ *Extensive hearing aid line*
- ☐ *Special instruments*
- ☐ *Ear care supplies - Batteries*
- ☐ *Marketing plans and programs*
- ☐ *Training support*
- ☐ *Software, Internet, Website*
- ☐ *Innovative buying discounts*
- ☐ *Line of credit available*

**Increased Revenues**

# Mergers

## Bigger, Stronger, Better

Economy of Scale

Reduce Expenses

Reduce Personnel

Share R & D

Pool Resources and Expertise

Share Marketing Programs

Ride Out Market Cycles

Increased Revenues

**Phonak - Unitron**

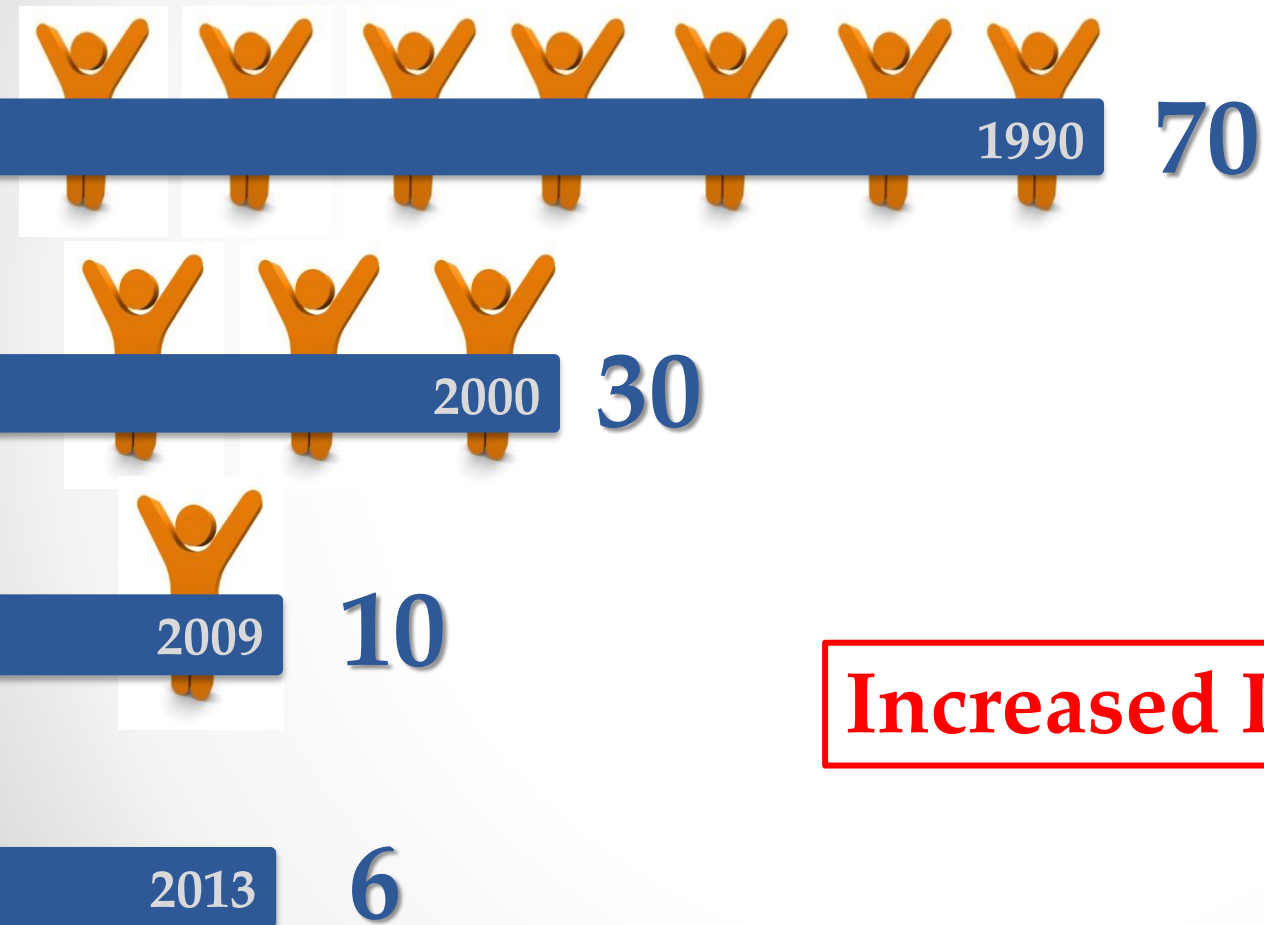
**Oticon - Bernafon**

**Starkey - Rastronics**



**Mergers:** Necessary for small companies to survive

# Manufacturer Consolidation



**Increased Revenues**

# 2013 “The Big 6”

Oticon

Phonak

Siemens

Starkey

GN Resound

Widex

90+% of total  
US market



# Hearing Aid Industry Consolidation by Brand

**Starkey  
(USA)**

Starkey  
Micro-Tech  
NuEar  
Audibel

**GN ReSound  
(DK)**

ReSound  
Beltone  
Danavox  
Philips  
Interton

**William  
Demant  
Holding  
(DK)**

Oticon  
Bernafon  
Sonic Innov

**Siemens  
(GER)**

Rexton  
A&M Hear

**Sonova  
(CH)**

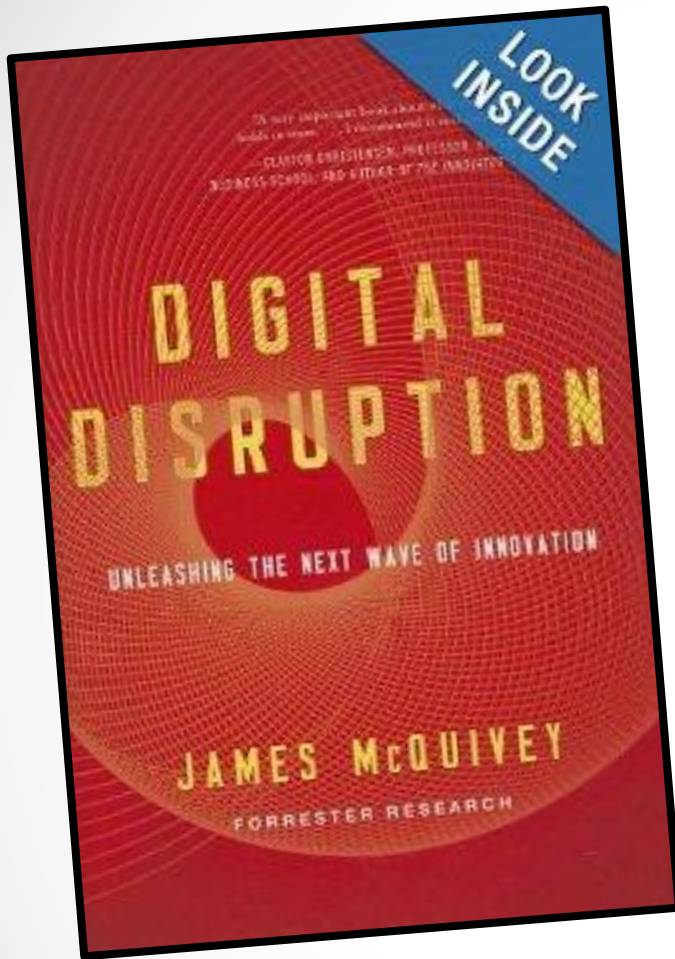
Phonak  
Unitron  
Argosy  
Lori Medical  
Newport Audiol  
Advance Bionics  
Lyric  
Hansatron  
Hearing Planet  
Novasa

**Amplifon (IT):** Sonus, Miracle Ear

# Manufacturer Competition



- **The Big Six control the chipsets with > 250 patents**
- **License their use to all others**
- **Controls production and price competition**
- **Limits new start-up players**



**“R & D teams have a tendency to confuse product features with customer benefits... assuming that more features equals more benefits”**

**“The overcrowding of benefits reduces the... marketing to mush”**

# Advanced H.A. Features

- Directional microphone
- Feedback suppression
- Digital Noise Reduction
- Low-battery indicator
- Power-on delay
- Wax guard
- Programmability
- Tinnitus masking
- First-fit algorithm
- Data logging
- AGC – Compression
- Direct Audio Input
- Bluetooth
- Telecoil
- Waterproof
- Multi-memory
- Extended battery life
- Color choices
- Automatic & seamless switching circuits

# COM-MOD-I-TY

A Product For Which There Is Demand, But  
Which Is Supplied Without Qualitative  
Differentiation Across A Market

...

*“Hearing aid technology has become quite similar over the last couple of years, and they all make basically the same product.”*



# Manufacturer's Economic Forecast

- Face a “slow growth” future
- Recognize changing distribution system
- Slowed a bit in chasing market share
- Promote direct sales
  - Proprietary retail outlets and internet
  - Eliminate the “middle men” in favor of consolidators

# Retail Network Expansion



***“...hearing aid manufacturers are accelerating their ‘forward integration’....in a race to exclude competitors from access to distribution.”***

Merrill – Lynch Analyst



CENTROS AUDITIVOS



# Retail Network Outlets

Hear USA	180 owned; 2000 netwk
Amplifon	5000 in “family” offices
Sonus	115
Miracle Ear	1200
HearPO	2500
Elite Hear Netwk	1600
Avada	280
Newport Audiology	2000+
Belton	1500
Wal-Mart (Sam’s Club)	200
Costco	380





# Co-Op Buying Networks

AHAA

AudNet

Audigy

Ear Q-Group

EPIC

Hear PO

National Ear Care Plan

Advantage Network

Elite

Hearing Planet



# Warehouse Invasion



- **68.2M members**
- **1.9 Billion TVs sold**
- **466M cameras**
- **103,000 carats of diamonds**
- **\$1.3B wine sales**
- **3.2M pairs of eyeglasses**
- **35M prescriptions filled**

Estimated sales: 2011

# STAFFING



- 20% Audiologists
- 80% Dispensers
- 2 year Hearing Aid Apprentice Program
- No Sales Commissions
- 75% Closure rate, 18% RHC
- On average, 3-4 patient visits per fitting
- REM used for every patient

**Best Practices!**

## Open Fit

\$899.99 to  
\$1,399.99 Each\*\*†

For Mild to  
Moderately Severe  
Hearing Loss

Worn behind the ear with a  
thin tube to the ear allowing  
for natural sounds.



## Behind The Ear

\$899.99 to  
\$1,399.99 Each\*\*†

For Mild to  
Profound  
Hearing Loss

Worn behind the ear and attached  
to a custom-fitted ear mold.



## Bluetooth® Capable

\$899.99 to  
\$1,399.99 Each\*\*†

For Mild to Severe  
Hearing Loss

Worn behind the ear  
with a thin tube  
to the ear allowing  
for natural sounds.



# COSTCO®

## WHOLESALE

## In The Ear

\$499.99 to  
\$1,499.99 Each\*\*†

For Mild to Severe  
Hearing Loss



## Canal

\$899.99 to  
\$1,499.99 Each\*\*†

For Mild to Moderate  
Hearing Loss



## Completely In The Canal

\$899.99 to  
\$1,399.99 Each\*\*†

For Mild to Moderate  
Hearing Loss



## Remote Microphone

\$899.99 to  
\$1,399.99 Each\*\*†

For Mild to Moderate  
Hearing Loss



MORE INFORMATION ABOUT COSTCO SUPPLIERS

**KIRKLAND**  
*Signature*

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**REXTON**

Get back in the game of  
life with a hearing aid  
from Rexton.

[CLICK HERE](#)

**ReSound**  
rediscover hearing

[CLICK HERE](#)

**bernafon®**  
Your hearing • Our passion

[CLICK HERE](#)





Costco Senior Vice President  
Richard Chavez  
Bloomberg Businessweek

*“The average person who needs a hearing aid waits about seven years before actually getting one. And then there is the sticker shock: hearing aids costs thousands of dollars and often aren’t covered by insurance. In other words, potential hearing-aid customers aren’t inclined to make a trip to their local audiologist. But a lot of them are going to Costco already, ...where all they have to do is walk by the sound booth.”*



- 620 SAM's Clubs in US; with 47 million members;
- About 200 of these stores offer hearing aids;
- No professional staff; no fitting program;
- Advertises that hearing aids can be purchased  
“average savings of 33% vs. traditional retailers.”

[See All Departments](#)

Search

[Go](#)

[My Cart \(0\)](#)

My Store:  
**Highlands Ranch**



Simplexity Smart Touch  
Hearing Aid Pair

**\$799.00**

★★★★★ (27)

- Free shipping with [home free](#)
- Free store pickup  
as soon as 9/13  
with [site to store](#)



Simplexity Smart Touch  
Hearing Aid, Right Ear

**\$399.00**

★★★★★ (7)

- Free shipping with [home free](#)
- Free store pickup  
as soon as 9/13  
with [site to store](#)



Simplexity Smart Touch Digital  
Over-the-Ear Hearing Aid,  
Left E...

**\$399.00**

★★★★★ (20)

- Free shipping with [home free](#)
- Free store pickup  
as soon as 9/13  
with [site to store](#)



Simplexity Smart Touch Digital  
Over-the-Ear Hearing Aid

**\$399.00**

★★★★★ (15)

- Free shipping with [home free](#)
- Free store pickup  
as soon as 9/13  
with [site to store](#)

# Big Box- Warehouse Model

- This model is very successful
- Sales growth far exceeds industry norm
- High volume, low margin focus
- Professional service and delivery model
- *Only going to grow - not going away!*

# The Internet Explosion

## 1. Internet Options

# Consumer – Lead Generation

- Web site refers to hearing professionals
- The professional registers (may require fee?)  
with web site in return for sales leads

[www.betterhearing.org](http://www.betterhearing.org)

[www.healthyhearing.org](http://www.healthyhearing.org)

[www.ahaanet.com](http://www.ahaanet.com)

[www.aud-net.com](http://www.aud-net.com)



## 2. Internet Options

# Marketing & Sale: Face-to-Face Fitting

- Aid purchased through web-based company
  - Fitting takes place at local office
  - Fitting fee paid to the dispenser

[www.hearingplanet.com](http://www.hearingplanet.com) (\$600 fitting fee)

[www.ahearingaid.com](http://www.ahearingaid.com) (\$700 fitting fee)

[www.aidright.com](http://www.aidright.com) (contracted fitting fee)

### 3. Internet Options

## Consumer Direct – Mail Order

- Web companies sell “one-size-fits-all”
- H.A.s supplied directly to consumer
- Consumer pays manufacturer directly

[www.americahears.com](http://www.americahears.com)

[www.precisehearing.com](http://www.precisehearing.com)

[www.myhearpod.com](http://www.myhearpod.com)

[www.songbird.com](http://www.songbird.com)

[www.hearingaids.pro](http://www.hearingaids.pro)

# Songbird Digital Hearing Flexfit - \$199.99

The Songbird Flexfit is the world's most convenient and affordable digital Hearing Device for those with mild to moderate hearing loss. At a fraction of the cost of a traditional Hearing Device, Songbird provides smooth amplification over a wide range of frequencies, while its discreet and comfortable behind-the-ear design minimizes the look of wearing a Hearing Device.



# Lloyds



4435 Manchester Drive Rockford, IL 61109 - Call: 1-800-323-4212 - Fax: (815) 964-8378

**Always a 45-Day Money Back Guarantee!**

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**Español**

## Hearing Aids

[How to Pick an Aid](#)  
[Find & Compare Hearing Aids](#)  
[Completely In Canal](#)  
[Canal / Mini Canal](#)  
[Half Shell / Full Shell](#)  
[Behind The Ear](#)  
[Open Fit \(BTE\)](#)  
[Receiver in Canal](#)  
[Body Aid](#)  
[Build Your Digital Aid](#)  
[Digital Hearing Aids](#)  
[Analog Hearing Aids](#)

## HOT DEALS

## Batteries

[Size 10 \(yellow\)](#)  
[Size 13 \(orange\)](#)  
[Size 312 \(brown\)](#)  
[Size 675 \(blue\)](#)  
[Battery Information](#)

## Accessories

[General](#)  
[Behind The Ear](#)  
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[Hearing Components](#)

[Try Our Free Hearing Test](#)

[Existing Member Login](#)

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[<<Back](#)

## Shipping Questions

- 1). [What is the shipping time?](#)
- 2). [Do you ship overseas? I have a current audiogram, would it help if I posted that to you for an assessment of the best aid for me?](#)
- 3). [Can you ship internationally?](#)
- 4). [Can I order one of your products from any where in the world? Can I have my product shipped to anywhere in the world? What are my limitations?](#)
- 5). [Do you ship to Australia?](#)
- 6). [Why can't I see your shipping rates before I order?](#)
- 7). [What are your shipping rates?](#)





Hearing Aids Direct  
*We're with you every step of the way.*

[Learn More](#)



## HEARING LOSS INFORMATION



[find out more](#)

## FIND A LOCAL PROVIDER

Or call (877) 828-HEAR  
for immediate assistance




## COMPARE HEARING AIDS



Compare hearing  
aid features,  
warranties, and  
more

[Compare Now](#)

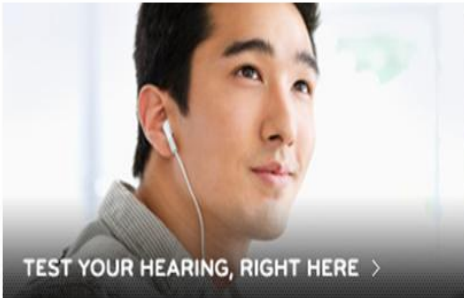





## Say hi to a new day in hearing health

We've made it easier for you to take control of  
your hearing health. Our solution? Make it  
convenient, affordable, and customized to you!  
Hearing better has never sounded so good.

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[Audicus](#) and [Embrace Hearing](#) have Web-based services that mail you a hearing aid that costs about \$600. You simply upload your audiogram; an **audiologist** reviews it and discusses options with you. As for the personal touch and the adjustments? “We offer people free adjustments and reprogramming,” says Patrick Freuler, founder and chief executive office of Audicus. “**Around 80 % of people don’t need additional programming.**”

Home

Where to Begin

How Can Hearing Aids Help?

Browse Hearing Aids

Who Are We?

Contact Us

Home » Browse Hearing Aids » Starkey » 3 Series Wireless

## 3 Series Wireless Hearing Aids



### Browse Hearing Aids

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► ReSound

► Siemens

#### ▼ Starkey

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3 Series Wireless

Ignite Series

SoundLens

Tour

Wi Series

Xino

X Series

Featured - On Sale Now!

► Most Popular

**ON SALE NOW!**



3 Series Model	Average Retail Price Each	Our Normal Discount Price	ON SALE NOW As Low As
i110	\$3,120	<del>\$2,695</del>	<b>\$1,899 ea.</b>
i90	\$2,920	<del>\$2,295</del>	<b>\$1,995 ea.</b>
i70	\$2,595	<del>\$1,895</del>	<b>\$1,795 ea.</b>

Call Free for Info & Orders! **(877) 344-7744**

★ Bookmark this Item  Print this Item  Email/Share this Item

## Overview

### 3 Series™ Wireless - Starkey's Most-Advanced Technology Fits With Your Wireless Lifestyle

The 3 Series™ Wireless hearing aids are Starkey's flagship model, designed to seamlessly integrate with wireless remote controls, cell-phones, MP3 players and other wireless devices with Bluetooth capability. 3 Series hearing aids come with all the features you would expect in a premium-technology instrument: noise reduction, wind noise protection, feedback elimination, binaural aid-to-aid communications and directional microphones. In addition,

com/hearing-aids/starkey/3-series-wireless?qclid=CMu1I4uD5LYCfc1DMqodqz0AIq#



**On Sale Today!**



Dear Sir/Madam

How are you?

We understand that you are in the market for hearing aid product. We would like to take this opportunity to introduce our company and products, with the hope that we may work with you in the future.

We are the real manufacturer for digital hearing aid, rechargeable hearing aid ,open fit, ric, itc, bte etc.

There are two analog type are on sale, very cheap!

Should any of these items be of interest to you, please let us know.

We will be happy to give you a quotation upon receipt of your detailed requirements.

We look forward to receiving your enquires soon.

Sincerely,  
Amy Xiong

guangzhou 510440, china

email: [helen@gzfeie.com](mailto:helen@gzfeie.com) [xxlovely panda@hotmail.com](mailto:xxlovely panda@hotmail.com)





## 新品展示



S-268

## 公司简介

飞鹅公司, 成立于2008年, 是一家专业生产助听器, 扩音机等产品的公司。具有多年的生产研发技术, 助听器产品机芯采用电脑全自动贴片技术生产。年产能力35万台以上。配备国际先进6500-CX助听器全自动分析仪器检测, 各项指标符合中国国家标准GB/T6657-86, 美国ANSI92标准, 及IEC-118-7/94标准。

公司注册《FEIE飞鹅》商标品牌。产品不仅在国内享有盛誉, 深受消费者喜爱, 而且远销到东南亚, 欧洲, 南美, 北美, 澳大利亚, 中东, 非洲等60多个国家与地区。在激烈竞争的市场中, 工厂《以质为...



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- 电话: 86 20 86299023
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# Personal Sound Amplifiers “PSAPs”

# NATIONAL

## The Invention of the Year is Great News for your Ears

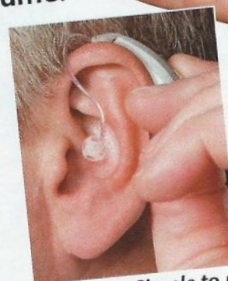
*Perfect Choice HD™ is simple to use, hard to see and easy to afford... it's like reading glasses for your ears™!*

**New Personal Sound Amplification Product is an affordable way to "turn up the volume!"**

Over the years, technology has made the way we live easier, safer and more convenient. In many cases, it's even made many products more affordable... (remember how much the first VCR used to cost?). Now, if you need some help in turning up the volume on the world around you, a new solution has been invented... it's called Perfect Choice HD™.

**Perfect Choice HD is NOT a hearing aid.** Hearing aids can only be sold by an audiologist or a licensed hearing instrument specialist following hearing tests and fitting appointments. Once they have you tested and fitted, you could pay as much as \$5000 for the product.

**Reading glasses for your ears.** While some people need hearing aids, many just need the extra boost in volume that a PSAP gives them. Now, thanks to the efforts of the doctor who leads a renowned hearing institute, there is Perfect Choice HD. It's a PSAP designed to accurately amplify sounds and deliver them to your ear. Because we've



*Affordable, Simple to use, Virtually impossible to see*

### Why Perfect Choice HD is the best choice!

Lightweight / Inconspicuous	✓	Less than 1 ounce
Sound Quality	✓	Excellent – up to 50 dB
Test and Fitting required	✓	No
Free Extra Hearing Tubes	✓	Yes 3 to choose from
One-on-One personal set up	✓	Free
Friendly Return Policy	✓	60 Days

We want you to be happy with Perfect Choice HD, so we're offering you a 60-day money-back guarantee. Let us know if you're not satisfied, and we'll refund your money.





Hearing Aid?

PSAP?

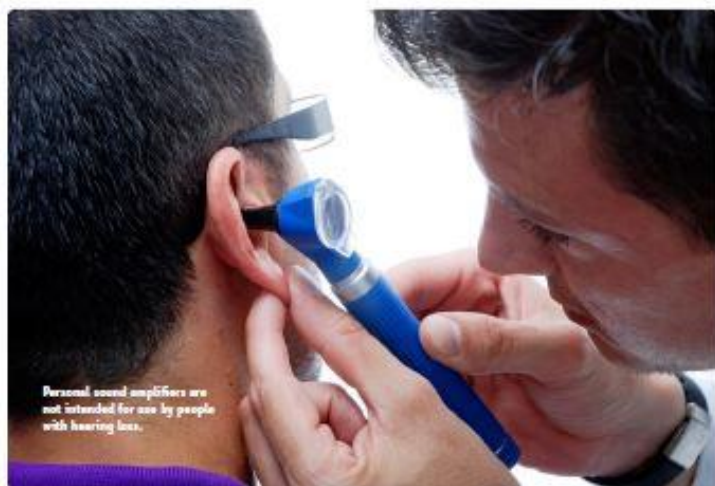
*Blurred Lines....?*

# The FDA and PSAPs

- **2001:** Mead Killion & Gail Gudmundsen meet at FDA to discuss the need for change to make low-cost OTC amplification devices available to persons with mild hearing loss.
- **2003:** Following several months of discussions with FDA, submitted 2 Citizen Petitions: Killion petitioned FDA to create a new device classification for OTC hearing aid devices; Gudmundsen's petition to remove medical clearance requirement.
- **2004:** Both Citizen Petitions were denied; FDA reason was “..in the best interest of consumers to see a physician prior to hearing aid purchase.”
- **2008:** A special FDA Working Group was convened to address issues pertaining to personal sound amplifiers. The outcome led to the establishment of a new device classification (*the original premise of Killion's 2003 Citizen Petition*).
- **2009:** FDA announced distinctions had been drawn between hearing aids and personal sound amplification products (PSAPs). FDA posted a guidance document for consumers:



# Hearing Aids and Personal Sound Amplifiers: Know the Difference



Personal sound amplifiers are not intended for use by people with hearing loss.

**Y**ou've likely seen them advertised on television—small electronic sound amplifiers that allow users to enjoy nighttime TV without disturbing sleepers, or to hear their toddlers from many yards away.

While these personal sound amplifiers may help people hear things that are at low volume or at a distance, the Food and Drug Administration (FDA) wants to ensure that consumers don't mistake them—or use them as substitutes—for approved hearing aids.

"Hearing aids and personal sound amplification products (PSAPs) can both improve our ability to hear

sound," says Eric Mann, M.D., Ph.D., deputy director of FDA's Division of Ophthalmic, Neurological, and Ear, Nose, and Throat Devices. "They are both wearable, and some of their technology and function is similar.

Mann notes, however, that the products are different in that only hearing aids are intended to make up for impaired hearing.



*PSAPs are intended for non-hearing-impaired consumers to amplify sounds in the environment for a number of reasons, such as for recreational activities.*

He says consumers should buy a personal sound amplifier only after ruling out hearing loss as a reason for getting one. "If you suspect hearing loss, get your hearing evaluated by a health care professional," he adds.

Choosing a PSAP as a substitute for a hearing aid can lead to more damage to your hearing, says Mann. "It can cause a delay in diagnosis of a potentially treatable condition. And that delay can allow the condition to get worse and lead to other complications," he says.

Treatments for impaired hearing can be as simple as removal of a wax plug in the doctor's office or, in rare cases, as serious as a major surgery to remove a tumor or growth in the middle or inner ear, says Mann.

## How They Differ

In March 2009, FDA issued guidance describing how hearing aids and personal sound amplifying devices differ.

The recently issued guidance defines a hearing aid as a sound-amplifying device intended to compensate for impaired hearing.

PSAPs are not intended to make up for impaired hearing. Instead, they are intended for non-hearing-impaired consumers to amplify sounds in the environment for a number of reasons, such as for recreational activities.

The difference between PSAPs and hearing aids are among the topics

covered in a new Web page devoted to hearing aids that FDA launched on October 20, 2009.

## Signs of Loss of Hearing

Mann says that consumers who suspect they suffer from hearing loss should obtain a thorough medical evaluation, preferably by an ear, nose, and throat specialist, to identify any medically or surgically treatable causes of hearing loss. Persons exhibiting symptoms of hearing loss should see a doctor or have their hearing tested.

You may have hearing loss if

- people say you are shouting when you talk to them
- you need the TV or radio turned up louder than other people do
- you often ask people to repeat themselves because you can't hear or understand them, especially in groups or when there is background noise
- you can hear better out of one ear than the other
- you have to strain to hear
- you can't hear a dripping faucet or a high note of a violin *well*

This article appears on FDA's Consumer Updates page ([www.fda.gov/ForConsumers/ConsumerUpdates](http://www.fda.gov/ForConsumers/ConsumerUpdates)), which features the latest on all FDA-regulated products.

## For More Information

Guidance for Industry and FDA Staff  
[www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/CollateralDocuments/ucm127086.htm](http://www.fda.gov/MedicalDevices/DeviceRegulationandGuidance/CollateralDocuments/ucm127086.htm)

FDA: Hearing Aids  
[www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/HumanHealthandConsumer/ConsumerProducts/HearingAids/default.htm](http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/HumanHealthandConsumer/ConsumerProducts/HearingAids/default.htm)

Hearing Aids Information from the National Institutes of Health  
[www.nidcd.nih.gov/health/hearing/hearingaid.asp](http://www.nidcd.nih.gov/health/hearing/hearingaid.asp)

# FDA about PSAPs

**“Hearing aids and personal sound amplification products (PSAPs) can both improve our ability to hear sound; both are wearable, and some of their technology and function is similar.”**

**“The products are different in that only hearing aids are intended to make up for impaired hearing.”**

**“PSAPs are intended for non-hearing-impaired consumers to amplify sounds in the environment for a number of reasons, such as for recreational activities”**

**Eric Mann, M.D., Ph.D., Deputy Director**



# Loud 'N Clear Personal Sound Amplifier \$9.99

Never miss another word at lectures, movies, shows or even church.

**Turn up the volume on what people around you are saying.**

Listen to TV and radio at the level you want without disturbing others.

You'll be able to hear a pin drop from across the room



**Disclaimer:** ATTENTION: This is NOT a hearing aid or a substitute or alternative to a hearing aid. If you have or believe you have impaired or defective hearing you should seek professional help from a physician, audiologist or other properly licensed professional. This device is not intended to improve impaired or defective hearing, nor is it intended to aid an individual who has impaired or defective hearing.



# Sonic Whisper: Amplifies Sounds Up To 125dB \$19.57

Make sure you're catching all the important details of that conversation. Amplifier boosts sounds up to 125dB and can be worn two different ways-- either in the ear or clipped to the frame of your glasses.

Speaker wire fits left or right ear.

No batteries needed - simply plug in to charge.

Includes amplifier, 2 silicone ear tips, clip, AC adapter, and carry case.



# Listen Up Micro Personal Sound Amplifier

## \$26.99

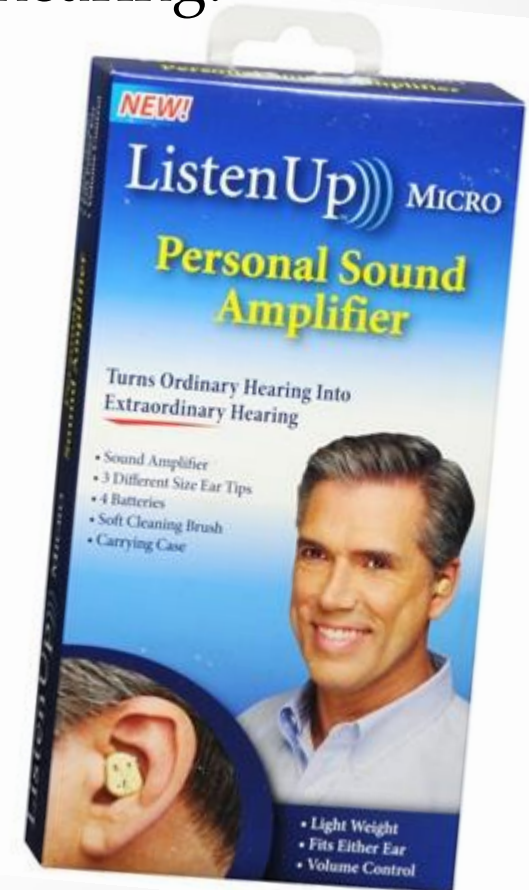
Turns ordinary hearing into extraordinary hearing.

Light weight  
Fits either ear  
Volume control  
Set includes:

Sound amplifier  
3 different size ear tips  
4 batteries  
Soft cleaning brush  
Carrying case

Made in China

This is NOT a hearing aid or a substitute or alternative to a hearing aid. If you have or believe you have impaired or defective hearing you should seek professional help from a physician, audiologist or other properly licensed professional. This device is not intended to improve impaired or defective hearing, nor is it intended to aid an individual who has impaired or defective hearing.





# Stealth Secret Sound Amplifier - \$27.10

Does a conventional hearing aid sound like an embarrassment to you? Try the Stealth Secret Sound Amplifier. It looks just like a cell phone ear adapter and works as a sound amplifier. You can join in on conversations. Hear soft voices. Enjoy the best of both worlds: a better appearance and better hearing.

This hearing amplifier comes with a charger (no batteries to replace) and three ear tips.



# Microtron Rechargeable Sound Amplifier - Barely Visible Hearing Device - \$39.98

So small it's barely visible!

With its clear tubing, this small amplifier fits discreetly in the left or right ear and helps amplify sound up to 30X. It's equipped with a rapid charger and rechargeable battery that lasts up to 8-10 hours of continuous use.

Includes 6 interchangeable silicone ear tips, charging dock, cleaning brush and wall adapter.

Weights only 0.3 ounces.



# Amplified Stereo Listener with 3-Band Equalizer \$39.99

Just add headphones and use this amplified listener to boost the sounds around you. It's ideal for places where you have difficulty hearing the speaker, such as large lecture halls and church. Or you can use it to watch TV without disturbing others. The three-position equalizer control lets you choose the amplification you need for your particular listening environment. Includes a convenient neck lanyard.

Includes stereo headphone jack, so you can add headphones to boost the sounds around you. Features a 3-position equalizer control so you can choose the amplification you need.

You'll also need  
Stereo headphones with 1/8" plug  
AAA battery (2)



**Specifications...**

# The MDHearingAid®

- OTC hearing aid; cost less than **\$200**
- 9 Subjects; mild-mod S/N loss;
- Unwilling to purchase hearing aids because of cost
- Used device for 30 days
- 2 self-surveys: IOI-HA and SADL
- All participants had normal user satisfaction scores
- Electroacoustically adequate
- Reasonable low-cost solution

S. Babu, MD, Michigan Ear Institute  
AAO-H&N Surg Meeting , 2012



# PSAP?

**“Focus Ear “**

**Personal Sound Amplifier –**

**Model: BTE1K      \$349**

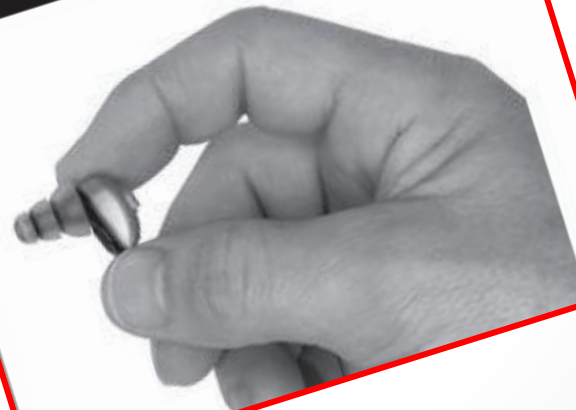
**100% digital processing  
High-definition technology  
Noise-reduction circuitry  
Anti-whistle technology  
14 bands and channels  
Manual VC with 20 settings**





**Over-the-Counter  
Quiet Sound Amplifier  
Etymotic Research, Ltd**

**BEAN™**  
Quiet Sound Amplifier®



**\$479 each; \$858 pair**



## SPECIFICATIONS

## HOW DOES THE QSA WORK?

Gain	LO (15 dB) - HI (23 dB)
Signal Processing	Analog
Compression Type	Wide Dynamic Range Adaptive Compression
Maximum Output [LO]	112.5 dB SPL
Maximum Output [HI]	114 dB SPL
Battery Type	10A zinc-air
Battery Life	2 weeks (16 hours/day)
Battery Current	425 $\mu$ A

**BEAN**™ Quiet Sound Amplifier®

ETYMOTIC



K-AMP®  
Technology

**LEARN MORE**



# Dispenser-Friendly PSAPs?

- Entry level sound amplifier
- High quality – good features
- Low cost option to hearing aids
- Easy fit – little time involved
- No audiogram required
- New lead for future marketing?

*“...some hearing help is better than no hearing help”*  
(Mark Ross, PhD)

# Shortage of Professionals

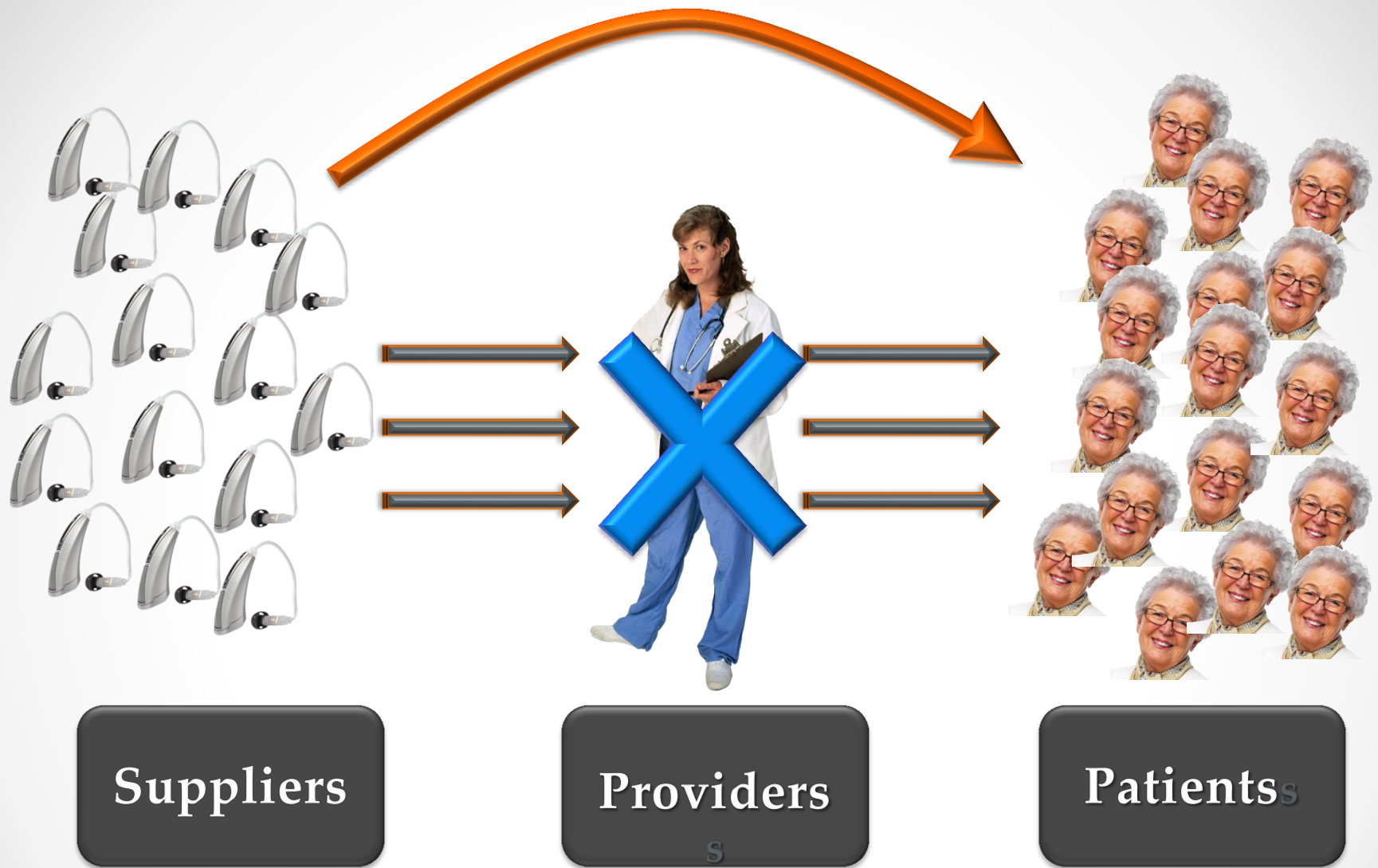
**Average Age of Hearing Aid Purchaser = 69 yrs**

**Baby Boomers: 1946 -1964**

**76,000,000 of 'em!**

**They will reach 69 years old in 2015 -2033**

**How many** audiologists  
do we need in the future?



# Current hearing aid delivery system

(From Windmill & Freeman, 2013)

# Professional Training

Profession	Programs	Students	Graduates per year	Mean # Students per class
Chiropractic	17	9,800	2,450	144
Optometry	19	5,800	1,450	76
Osteopathy	23	13,406	3,351	145
Dentistry	56	22,400	5,600	100
Audiology	75	2,400	629	8
Pharmacy	105	44,000	11,000	104
Medicine	125	69,600	17,400	139





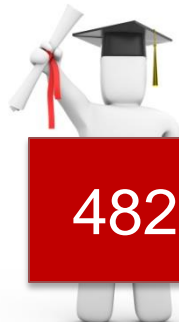
407

**2007**  
Graduates



512

**2008**  
Graduates



482

**2009**  
Graduates



582

**2010**  
Graduates



602

**2011**  
Graduates



629

**2012**  
Graduates

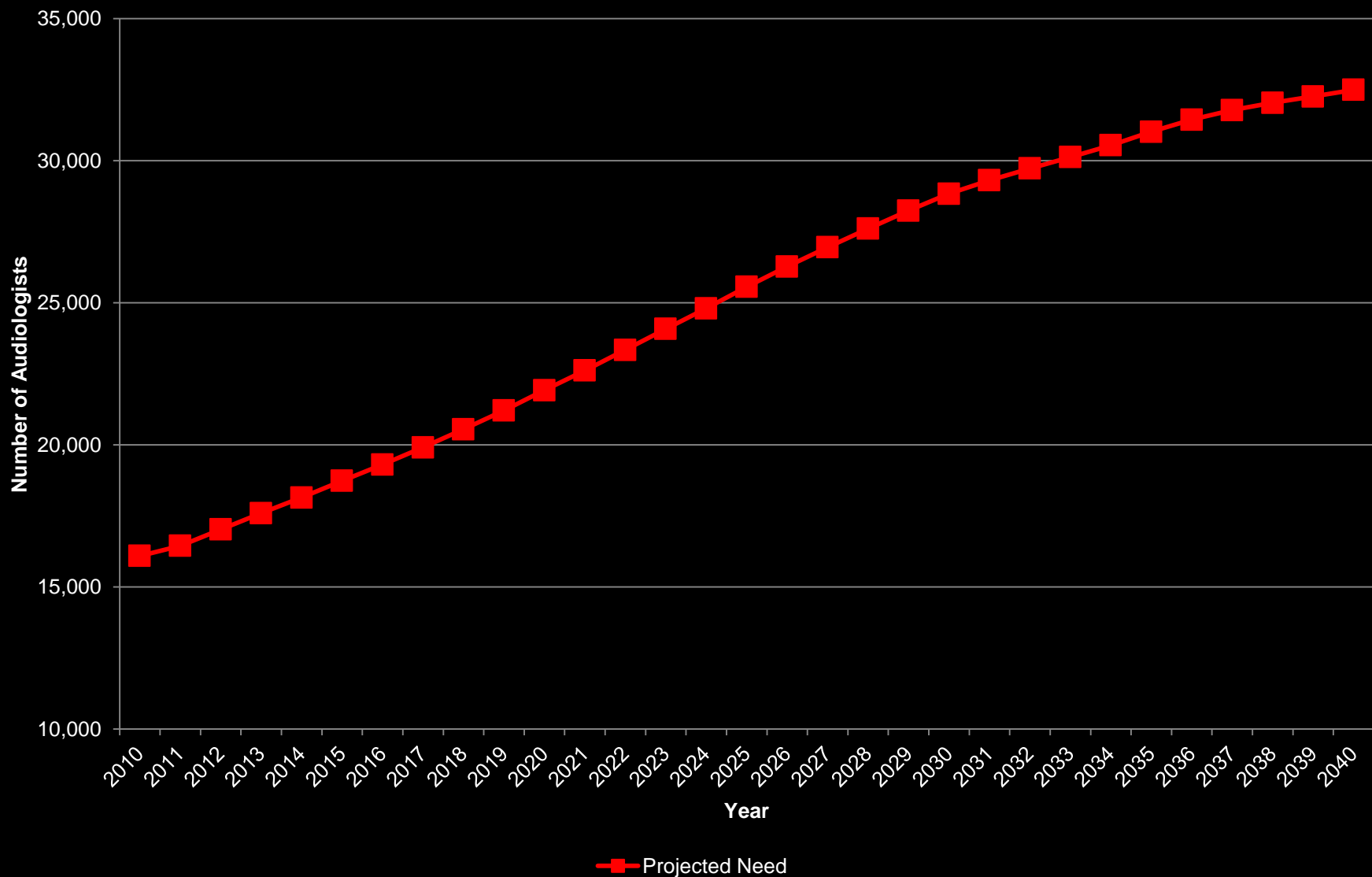
**Graduates** in Audiology

<b>Age Range</b>	<b>Percent*</b>	<b># Audiologists</b>
<b>&lt;30 years</b>	<b>11%</b>	<b>1770</b>
<b>31-40</b>	<b>26%</b>	<b>4185</b>
<b>41-50</b>	<b>25%</b>	<b>4024</b>
<b>51-60</b>	<b>26%</b>	<b>4185</b>
<b>&gt;60 years</b>	<b>12%</b>	<b>1931</b>

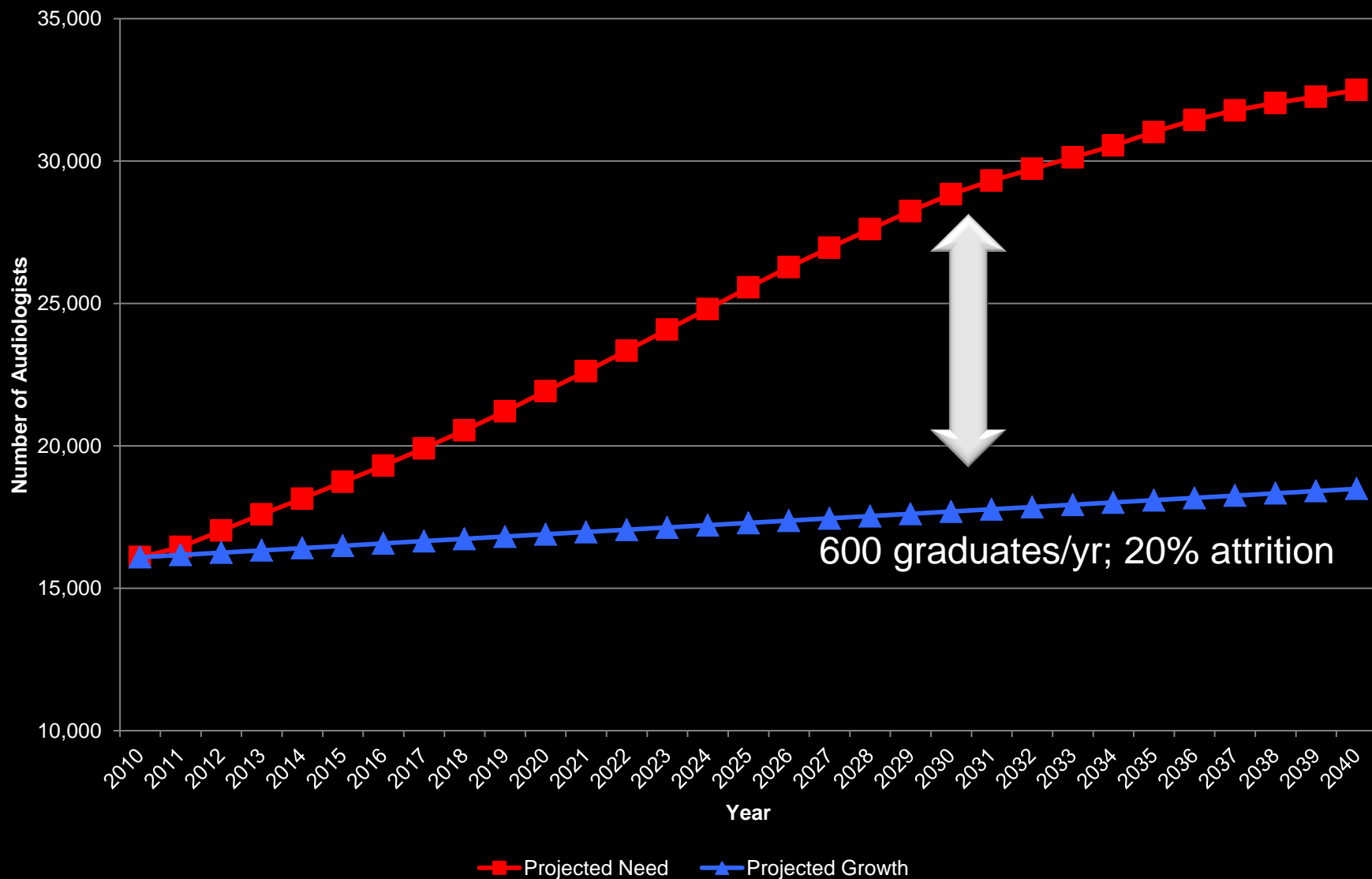
# **Age Distribution of Audiologists**

**\* Source: AAA 2011 Member Survey**

## Projected Need to Maintain Current Audiologist/Patient Ratio



## Projected Need versus Projected Growth of Audiologists





## H.A. Program Growth

- Key limiting factor in Costco's growth is the inability to recruit dispensing professionals
- Sales increased 26% in 2012
- Trains and promotes promising individuals within their company's ranks to become dispensers;
- Currently >125 employees in "H.A. training."



# Savvy Consumers

**Hearing Aid buyers typically  
don't follow traditional  
retail behaviors**



# Today's H.A. Buyers

- **More** inquisitive
- **More** educated
- **More** sophisticated
- **More** demanding
- **Higher** expectations
- **Want to be** involved in decisions
- **Not** spontaneous
- **Not** impulsive
- **Thorough**, thoughtful, careful
- **Respect** expertise
- **Want** product value
- **Seek** high quality services

# Searching OnLine\*

- 85% US adults use internet almost daily
  - 96% own Cellphones -- 56% own Smartphones
- 72% searched online for healthcare info in past year\*
  - diseases & conditions;
  - treatments & procedures;
  - doctors & health professionals;
  - 30% of adults ages 65+ years old searched online for health info in the past year (54% of ages 50-64)

**\*PewInternet – Pew Research Center 2012**

# Consumer Access to Hearing Aids

- Fuzzy Professional Roles
- Multiple Entry Points
  - Physician's offices
  - Audiology private practices
  - Clinics, hospitals and universities
  - Hearing aid retail specialists
  - Big Box stores
  - Direct web sales
  - Internet, Direct mail





# CONCLUSIONS



# EMERGING AND GROWING CHANNELS

RETAIL

BIG BOX

INTERNET

MANAGED  
CARE

AFFINITY  
PROGRAMS



**It is time...to reconsider both internal and external hearing care delivery systems**

# Meeting the Challenges of the Future

Become a 'Botique Professional

Concentrate on personal service

Personal communication counselor

Package rehabilitation packages

### ☐ Level 3 Premium Rehab Plan

- Bilateral Premium Devices
- 3 year warranty and supply of batteries
- 3 year comprehensive care plan – unlimited office visits
- 2 wireless accessories
- Dry and Store unit

### ☐ Level 2 Mid-level Rehab Plan

- Bilateral Business Class Devices
- 2 year warranty and supply of batteries
- 2 year comprehensive care plan – unlimited office visits
- 1 wireless accessories
- Dry and Store unit

### ☐ Level 1 Basic Rehab Plan

- Bilateral Economy Devices
- 1 year warranty and supply of batteries
- 1 year comprehensive care plan – unlimited office visits
- Dry and Store unit

Taylor, B. (2013, August). Strategy and design in your audiology clinic.  
*AudiologyOnline*, Article #11967. Retrieved from: <http://www.audiologyonline.com/>

# TELE-AUDIOLOGY

- Expand the number of providers
- Extend the efficiency of services
- Increase productivity of providers
- Make hearing care affordable

**“I think that the role of the hearing healthcare provider is too deeply tied to the devices and to the equipment that we use..”**

**“It is difficult these days to compete on technology. In the digital era where we all live, customers expect that technology will be incrementally evolving and also lowering in cost.”**

**“It is up to us (audiology) as a profession to adapt, and if we do not adapt and try to change our business model, we are at risk for becoming irrelevant or obsolete.”**

Taylor, B. (2013, August). Strategy and design in your audiology clinic. *AudiologyOnline*, Article #11967. Retrieved from: <http://www.audiologyonline.com/>







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hearing aids

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[More](#) ▼

[Consumer Electronics](#) (1,524)

All Listings

Auction

Buy It Now

7,716 results for hearing aids

★ Save s



# Acknowledgement & Thanks

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# Thank You for Listening!

