

# Welcome To

# The Way Forward for Audiology

## Lessons Learned from Optometry and Dentistry

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For technical questions or log-in information please contact Steven Le at 0437 622 596 [Steven\\_Le@Starkey.com](mailto:Steven_Le@Starkey.com)



Hear better. Live better.

**Welcome To**

**The Way Forward for Audiology  
Lessons Learned from Optometry and Dentistry**

**The webinar will start in.....**

**00:05:00**

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# The Way Forward for Audiology

## Lessons Learned from Optometry and Dentistry

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Presented by:

**DAVE FABRY, Ph.D.**

Chief Innovation Officer, Starkey US

Host:

Judy Grobstein, Au.D., MACAud

Manager of Education and Audiology



## TECHNICAL ISSUES

If not using speakers and you haven't already, please call into the call center number 02 8518 1923 and enter access code 2459 744 3387

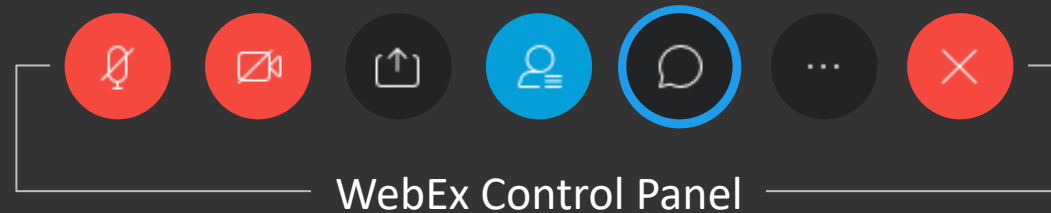
Please be sure to keep microphones muted

If you have any technical issues, please contact Steven Le at [Steven\\_Le@starkey.com](mailto:Steven_Le@starkey.com) or call him direct at 0437 622 596



## QUESTIONS?

Please share any questions you may have in the Chat Box directed to *All Panelists*. We will do our best to answer them throughout the training.



## ENDORSED SESSION

This Session is endorsed for ACAud, AudA and HAASA points

You must stay logged on for the full session

AudA members must complete a 10 questions quiz with a passing score of 70% as well as your CPD Reflections and Evaluations

ACAud and HAASA members must complete the quiz to receive full points.

# Learning Objectives

1

Participants will be able to define three elements necessary for “disruptive innovation” as defined by Christensen

2

Participants will be able to list three ways that Audiological practice has been “disrupted” in the past twenty years

3

Participants will be able to list three lessons learned from dentistry and optometry that may be applied to Audiology

# Disclosures

- **Full-time employee and executive team member, Starkey Hearing**
- **Board Member (unpaid), Envoy Medical**



# Green Bay Animal Hospital











# 10 Hidden-Gem Careers for 2013 and Beyond

Your dream job could be flying under the radar.

By [Marty Nemko](#)

Jan. 7, 2013 | 8:31 a.m. EST



+ More



Marty Nemko

Most people limit their career choices to the well-known: doctor, lawyer, teacher, etc. Here are 10 professions that are not only under-the-radar, but that offer advantages over their better-known counterparts.

Take, for example, the first three, which are all [healthcare careers](#). While they're less top-of-mind than doctor or nurse, they offer major advantages: high patient cure rate, regular hours, few emergencies, and thus, less stress.

**1. Orthodontist.** Unlike many other health care professions, an orthodontist gets to see their patients frequently over months or years, and so they build a relationship with them. Oh, and the average pay is more than \$200,000, according to the Bureau of Labor Statistics. One disadvantage is the amount of school required to become one: dental school followed by orthodontics school plus a residency. For more info, visit <http://www.recruiter.com/careers/orthodontists>.

**2. Audiologist.** The [aging boomers](#) are boosting the job market for these hearing specialists. And today's hearing aids are more effective and smaller, so more patients are likely to be delighted. You get to be called "doctor," although you won't have endured as many years of study associated with medicine stereotypically: If you have a bachelor's degree, the Doctor of Audiology degree requires only three or four years of study. For more information, visit <http://www.bls.gov/ooh/healthcare/audiologists.htm>.

**3. Optometrist.** Our aging population also ensures high demand for these eye experts. Two training options: a four-year post-bachelor's program or a seven-year B.S./O.D. program. For more info, visit <http://www.bls.gov/ooh/healthcare/optometrists.htm#tab-1>.

# US Medicare Coverage of Hearing Aids

**Medicare Coverage of hearing aids is included in the proposed House reconciliation package**

**Total funding: \$35 billion**

**Timeline: January 1, 2024**

## **If Medicare coverage of hearing is expanded, Congress must:**

- Classify hearing aids as prosthetic devices, exempt from competitive bidding.
- Give individuals the ability to upgrade (out-of-pocket) to technology that is above what is medically necessary and covered by Medicare.
- Authorize all licensed hearing health care professionals – including physicians, audiologists, and hearing aid specialists licensed under state law – to provide services and treatment to meet the future needs of our growing Medicare population.

# What's Medicare (in the US)?

Medicare is the federal health insurance program for:

- People who are 65 or older
- Certain younger people with disabilities
- People with End-Stage Renal Disease (permanent kidney failure requiring dialysis or a transplant, sometimes called ESRD)

# H.R.4311 - Medicare Dental, Vision, and Hearing Benefit Act of 2021

117th Congress (2021-2022) | [Get alerts](#)

**BILL**

Hide Overview ✕

**Sponsor:** [Rep. Doggett, Lloyd \[D-TX-35\]](#) (Introduced 07/01/2021)

**Committees:** House - Energy and Commerce; Ways and Means

**Latest Action:** House - 07/02/2021 Referred to the Subcommittee on Health. ([All Actions](#))

**Tracker:** 

Introduced

Passed House

Passed Senate

To President

Became Law

Figure 4

## Cost was a Barrier to Care for Medicare Beneficiaries who Reported in 2019 They Couldn't Get Dental, Vision, or Hearing Care in the Last Year

■ Percent reporting they couldn't get care in the last year ■ Among those who couldn't get care, percent reporting due to cost

### Dental, vision, or hearing care (combined)



### Dental care



### Vision care



### Hearing care



NOTE: Analysis includes community-dwelling beneficiaries in traditional Medicare and Medicare Advantage; excludes beneficiaries living in facilities.

SOURCE: KFF analysis of Centers for Medicare & Medicaid Services 2019 Medicare Current Beneficiary Survey data. • [PNG](#)

Figure 3

## Among Beneficiaries Who Used Services, Medicare Advantage Enrollees Spent Less Out of Pocket on Average for Dental and Vision Care than Beneficiaries in Traditional Medicare in 2018

*Average out-of-pocket costs by type of service among users of each service:*

Overall Medicare Advantage Traditional Medicare



NOTE: Asterisk (\*) indicates difference between Medicare Advantage and traditional Medicare is statistically significant ( $p < 0.05$ ).

SOURCE: KFF analysis of Centers for Medicare & Medicaid Services 2018 Medicare Current Beneficiary Survey Cost Supplement data. •

[PNG](#)

Figure 1

## On Average, Medicare Beneficiaries' Out-of-Pocket Costs Were Higher for Hearing and Dental Care than Vision Care in 2018

*Among Medicare beneficiaries utilizing hearing, dental, or vision services:*

Out-of-pocket spending on **hearing care** (used by **8%** / **4.6 million** Medicare beneficiaries in 2018)

\$914



Out-of-pocket spending on **dental care** (used by **53%** / **31.3 million** Medicare beneficiaries in 2018)

\$874



Out-of-pocket spending on **vision care** (used by **35%** / **20.3 million** Medicare beneficiaries in 2018)

\$230



NOTE: Analysis includes community-dwelling beneficiaries in traditional Medicare and Medicare Advantage; excludes beneficiaries living in facilities. Use of dental care reflects the share of beneficiaries with a dental event; use of hearing care and vision care reflects the share of beneficiaries with events related to a vision or hearing specialist or eyeglasses, a hearing/speech device, or hearing aids.

SOURCE: KFF analysis of Centers for Medicare & Medicaid Services 2018 Medicare Current Beneficiary Survey Cost Supplement data. •

PNG

**KFF**



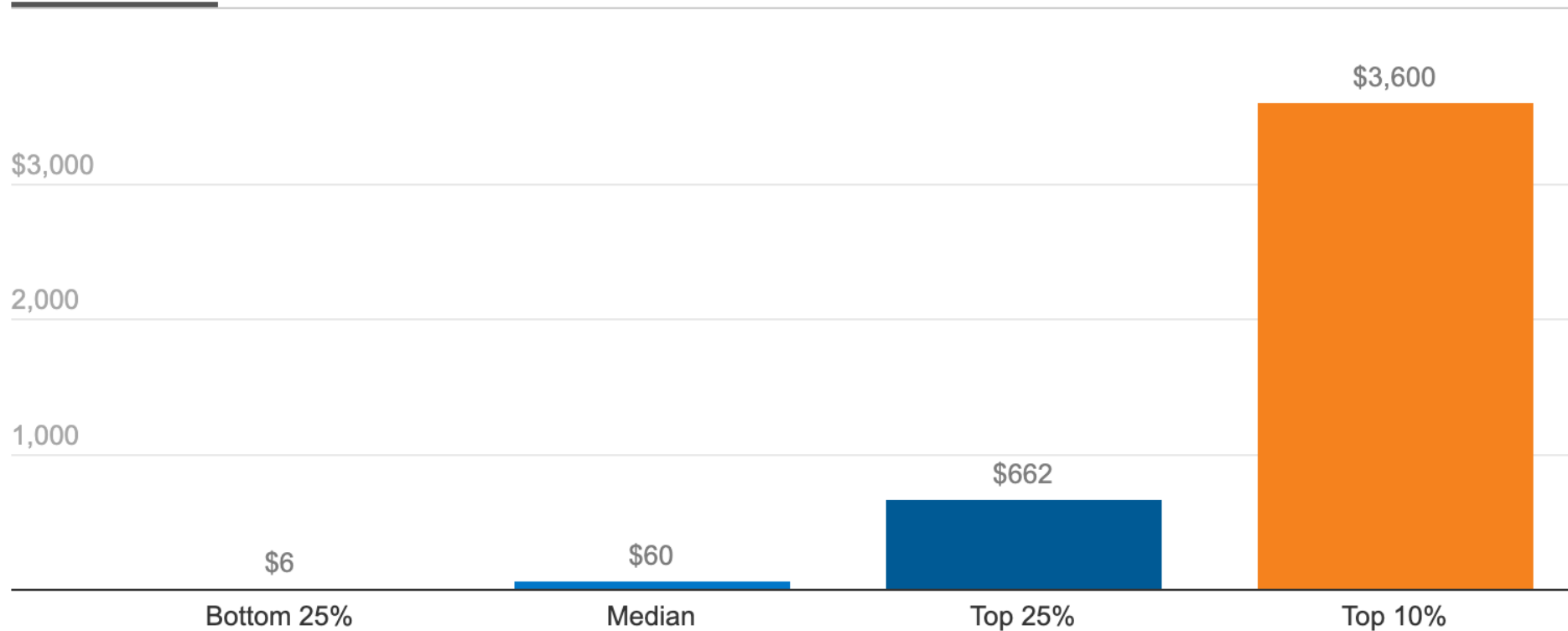
Figure 2

## A Small Share of Medicare Beneficiaries Incurred High Out-of-Pocket Costs for Hearing and Dental Care in 2018

*Among Medicare beneficiaries utilizing hearing, dental, or vision services:*

**Select type of service:**

**Hearing care**   Dental care   Vision care



NOTE: Analysis includes community-dwelling beneficiaries in traditional Medicare and Medicare Advantage; excludes beneficiaries living in facilities.

SOURCE: KFF analysis of Centers for Medicare & Medicaid Services 2018 Medicare Current Beneficiary Survey Cost Supplement data. •

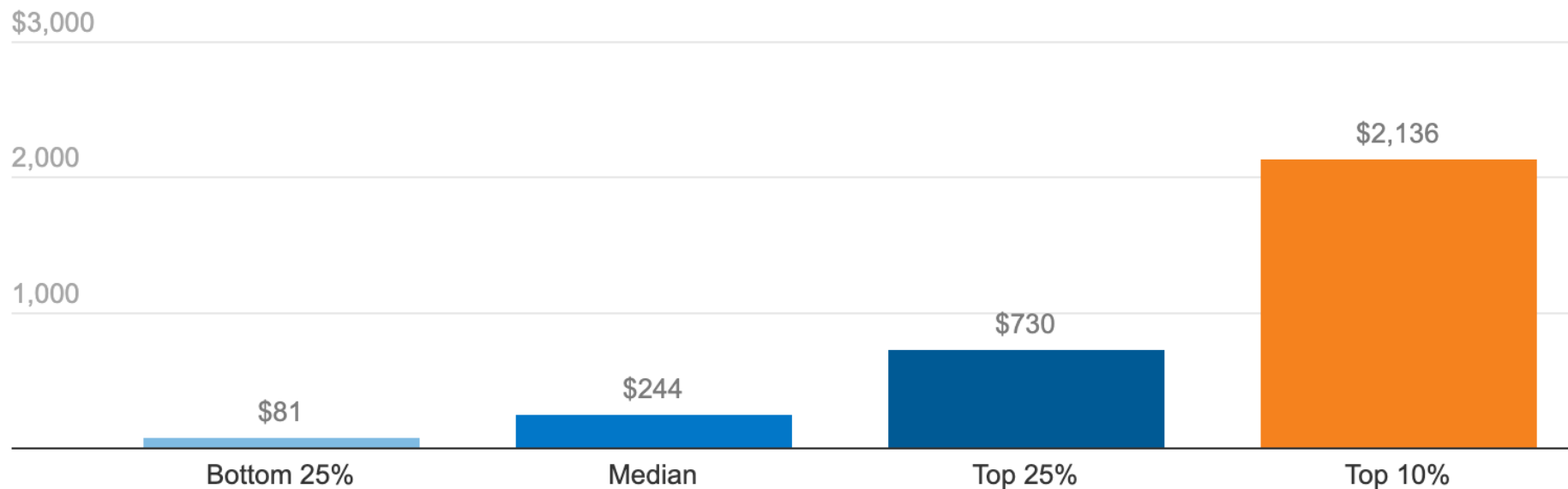
Figure 2

## A Small Share of Medicare Beneficiaries Incurred High Out-of-Pocket Costs for Hearing and Dental Care in 2018

*Among Medicare beneficiaries utilizing hearing, dental, or vision services:*

**Select type of service:**

Hearing care   **Dental care**   Vision care



NOTE: Analysis includes community-dwelling beneficiaries in traditional Medicare and Medicare Advantage; excludes beneficiaries living in facilities.

SOURCE: KFF analysis of Centers for Medicare & Medicaid Services 2018 Medicare Current Beneficiary Survey Cost Supplement data. •



Figure 2

## A Small Share of Medicare Beneficiaries Incurred High Out-of-Pocket Costs for Hearing and Dental Care in 2018

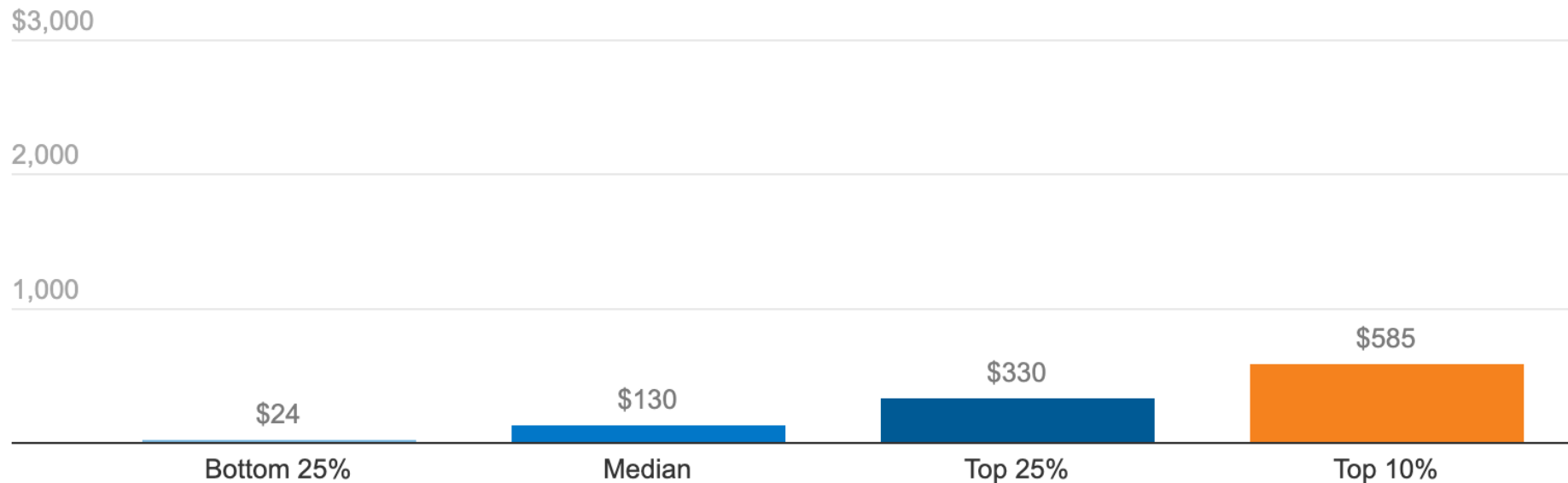
*Among Medicare beneficiaries utilizing hearing, dental, or vision services:*

**Select type of service:**

Hearing care

Dental care

**Vision care**



NOTE: Analysis includes community-dwelling beneficiaries in traditional Medicare and Medicare Advantage; excludes beneficiaries living in facilities.

SOURCE: KFF analysis of Centers for Medicare & Medicaid Services 2018 Medicare Current Beneficiary Survey Cost Supplement data. •



# A Comparison of Three Professions (US)

	Dentistry	Optometry	Audiology
# of Doctoral Programs	65	23	79
Total Student Enrollment	20,171	6,289	2,400
<b>Av. Student Investment</b>	<b>\$151,000</b>	<b>\$108,000</b>	<b>\$101,000</b>
# of Active Practitioners	151,500	40,600	13,200
<b>% in Private Practice</b>	<b>93%</b>	<b>60%*</b>	<b>&lt;20%*</b>
<b>Mean Annual Income – all practice settings</b>	<b>\$158,300</b>	<b>\$103,900</b>	<b>\$74,890</b>

(Smriga 2006 Hearing Journal)

# A Comparison of Three Professions (Australia)

	Dentistry	Optometry	Audiology
# of Training Programs	24	7	7
Total Student Enrollment	650	360	150
<b>Av. Student Investment</b>	<b>\$131,000</b>	<b>\$136,401</b>	<b>\$51,000</b>
# of Active Practitioners	19,795	6,500	3,194
<b>% in Private Practice</b>	<b>83%</b>	<b>70%</b>	<b>&lt;50%</b>
<b>Mean Annual Income – all practice settings</b>	<b>\$180k (Aus)</b>	<b>\$113,000</b>	<b>\$93,000</b>

# Audiologist

Use expert knowledge of linguistics and communication to help people with communication impairments.

Overview

How to become

Salary

Key skills

< Explore careers

## Job opportunities

**105**

Jobs in AUS right now

## Job growth

▲ **34.7%**

Projected job growth in 5 years

## Salary

**\$93K**


Typical salary in AUS

## Job satisfaction

★ **4.4**

Based on 5 reviews

# Audiologists

PRINTER-FRIENDLY 

Summary

What They Do

Work Environment

How to Become One

Pay

Job Outlook

State & Area Data

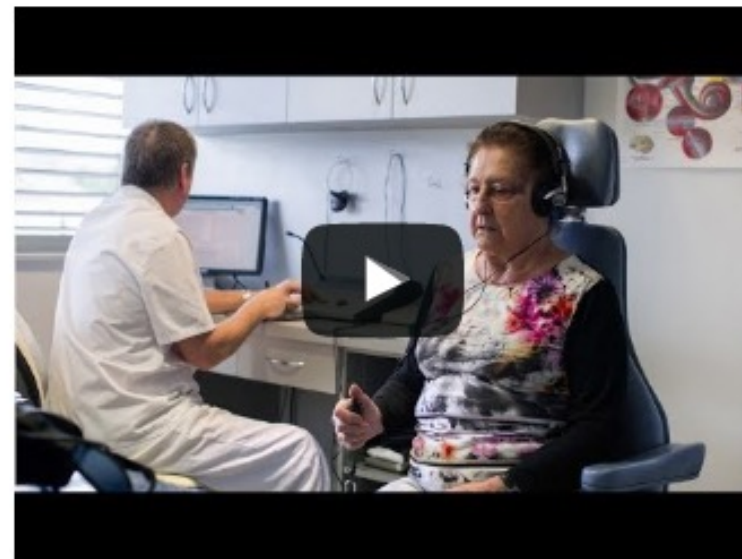
Similar Occupations

More Info

## Summary

### Quick Facts: Audiologists

2021 Median Pay 	\$78,950 per year \$37.96 per hour
Typical Entry-Level Education 	Doctoral or professional degree
Work Experience in a Related Occupation 	None
On-the-job Training 	None
Number of Jobs, 2021 	14,600
Job Outlook, 2021-31 	10% (Faster than average)
Employment Change, 2021-31 	1,500



### What Audiologists Do

Audiologists diagnose, manage, and treat patients who have hearing, balance, or related problems.

**Audiologists**

29-1181.00



# Dentist

Improve quality of life for patients by treating and helping to prevent diseases of the teeth, gums and mouth.

Overview

How to become

Salary

Key skills

< Explore careers

## Job opportunities

**2,032**

Jobs in AUS right now

## Job growth

▲ **27.8%**

Projected job growth in 5 years

## Salary

**\$180K**

Typical salary in AUS

## Job satisfaction

★ **3.9**

Based on 48 reviews

# Dentists

PRINTER-FRIENDLY 

Summary

What They Do

Work Environment

How to Become One

Pay

Job Outlook








State & Area Data

Similar Occupations

More Info

## Summary

### Quick Facts: Dentists

2021 Median Pay 	\$163,220 per year \$78.47 per hour
Typical Entry-Level Education 	Doctoral or professional degree
Work Experience in a Related Occupation 	None
On-the-job Training 	<a href="#">See How to Become One</a>
Number of Jobs, 2021 	146,200
Job Outlook, 2021-31 	6% (As fast as average)
Employment Change, 2021-31 	8,400



### [What Dentists Do](#)

Dentists diagnose and treat problems with patients' teeth, gums, and related parts of the mouth.

# Optometrist

Examine and treat eye conditions.

Overview

How to become

Salary

Key skills

< Explore careers

## Job opportunities

**166**

Jobs in AUS right now

## Job growth

▲ **15.1%**

Projected job growth in 5 years

## Salary

**\$113K**

Typical salary in AUS

## Job satisfaction

★ **4.2**

Based on 14 reviews

# Optometrists

PRINTER-FRIENDLY 

Summary

What They Do

Work Environment

How to Become One

Pay

Job Outlook








State & Area Data

Similar Occupations

More Info

## Summary

### Quick Facts: Optometrists

2021 Median Pay 	\$124,300 per year \$59.76 per hour
Typical Entry-Level Education 	Doctoral or professional degree
Work Experience in a Related Occupation 	None
On-the-job Training 	None
Number of Jobs, 2021 	41,400
Job Outlook, 2021-31 	10% (Faster than average)
Employment Change, 2021-31 	4,000



### What Optometrists Do

Optometrists diagnose and treat visual problems and manage diseases, injuries, and other disorders of the eyes.

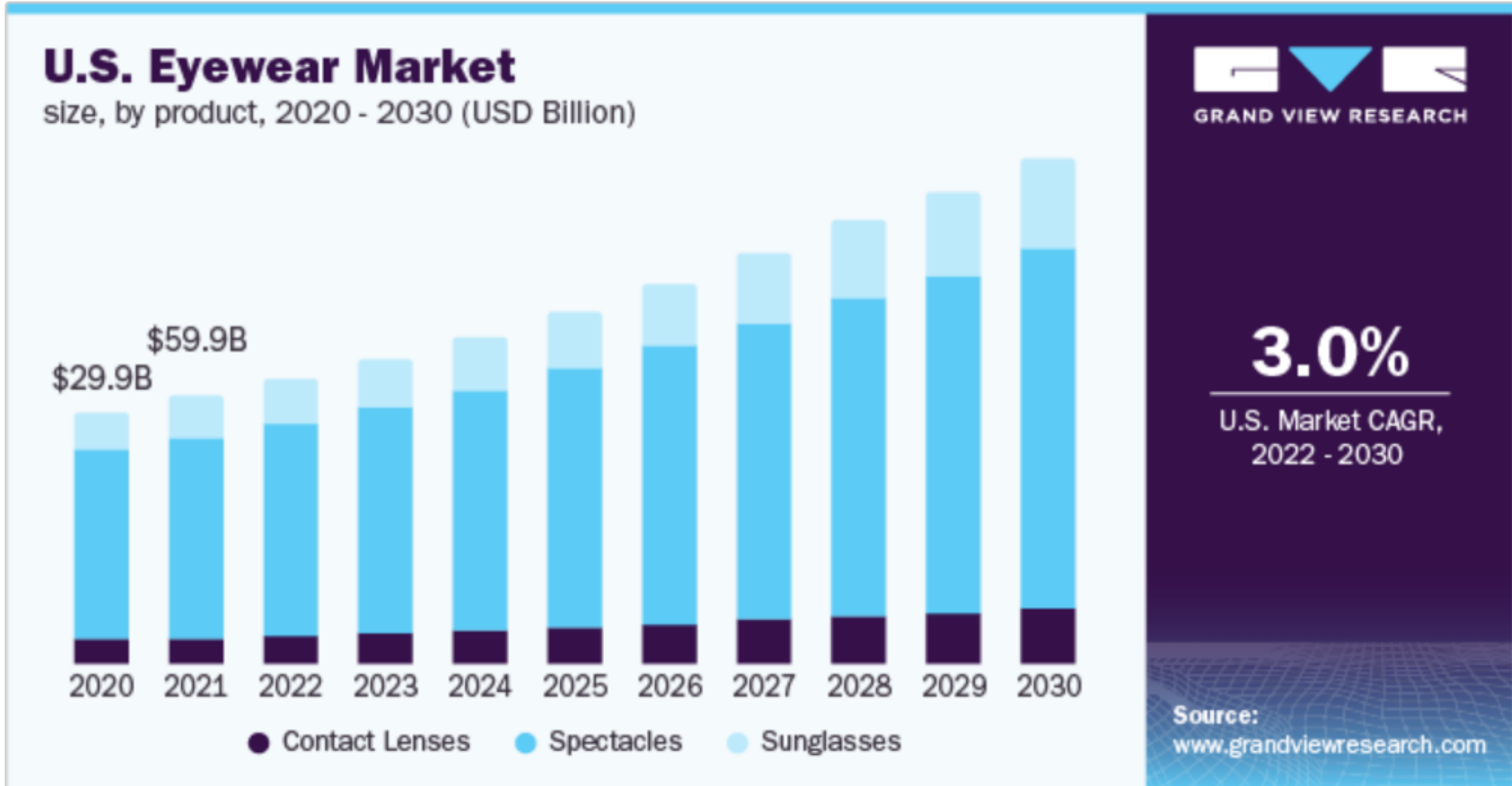


# US Dental Services Market Size USD \$Billion





# US eyewear Market >\$60B in 2022



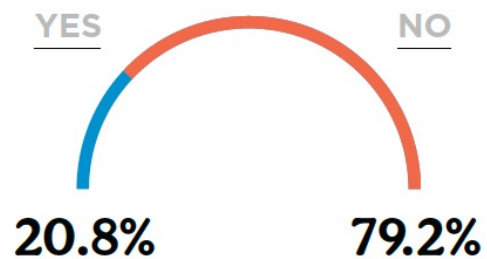
OPTOMETRISTS n = 604

## Which of the following best describes you:



OPTOMETRISTS n = 604

## Are you a practice owner?

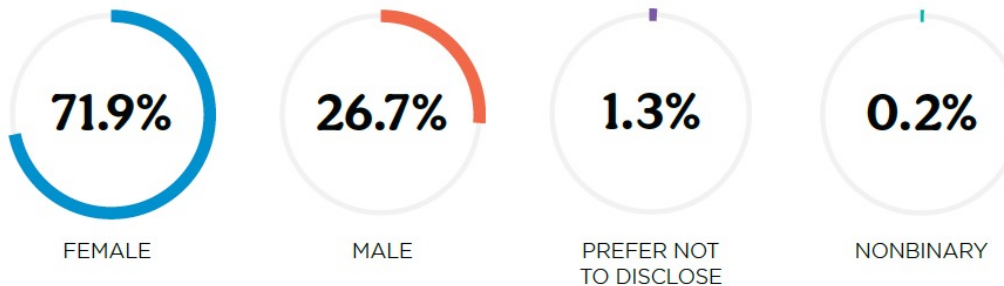


Eyes on Eyecare (2022)

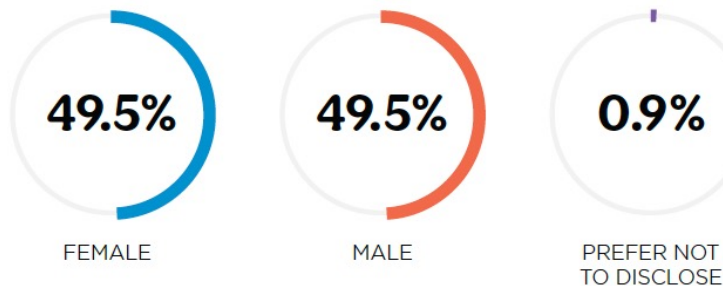
OPTOMETRISTS n = 604

## What is your gender?

ALL RESPONDENTS



PRACTICE OWNERS



OPTOMETRISTS n = 534

## How much outstanding student loan debt do you have?

**\$83.4K**  
2021 AVERAGE

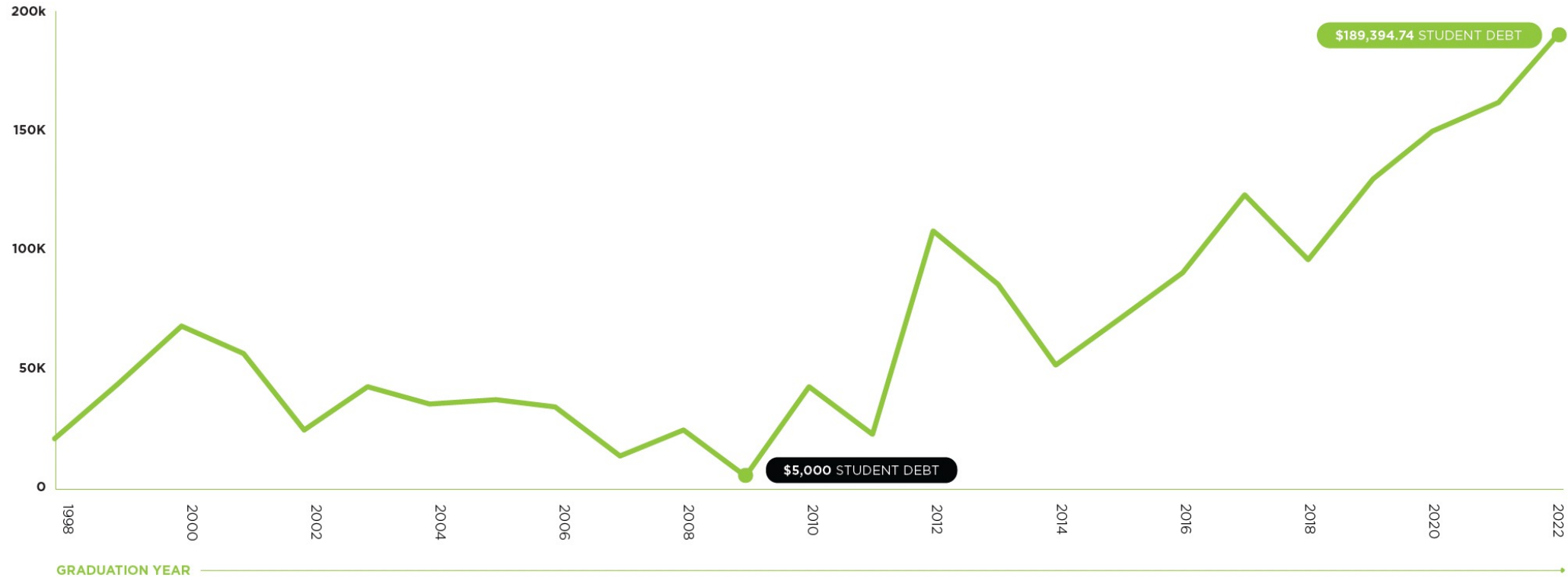


**\$87.8K**  
2022 AVERAGE

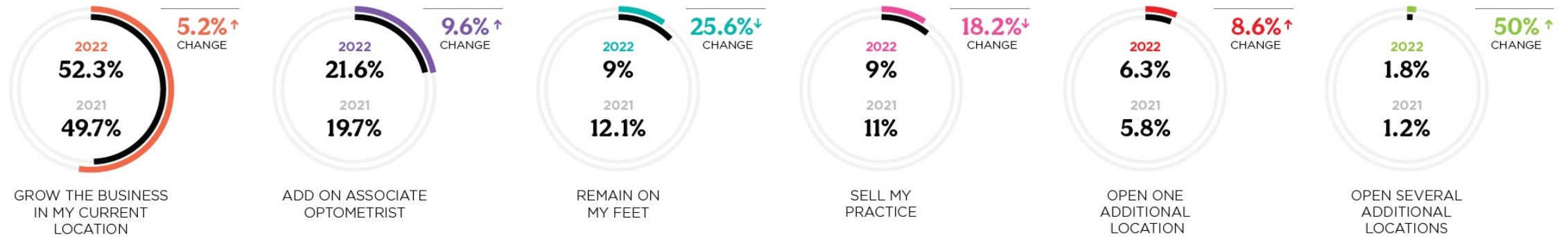
**5.3%**  
CHANGE

**\$95.6K**  
FEMALE OD  
AVERAGE

**\$66.0K**  
MALE OD  
AVERAGE



## What is your #1 practice goal in the next 3 years?



Are Hearing Aids Medical Devices or Consumer Electronics?

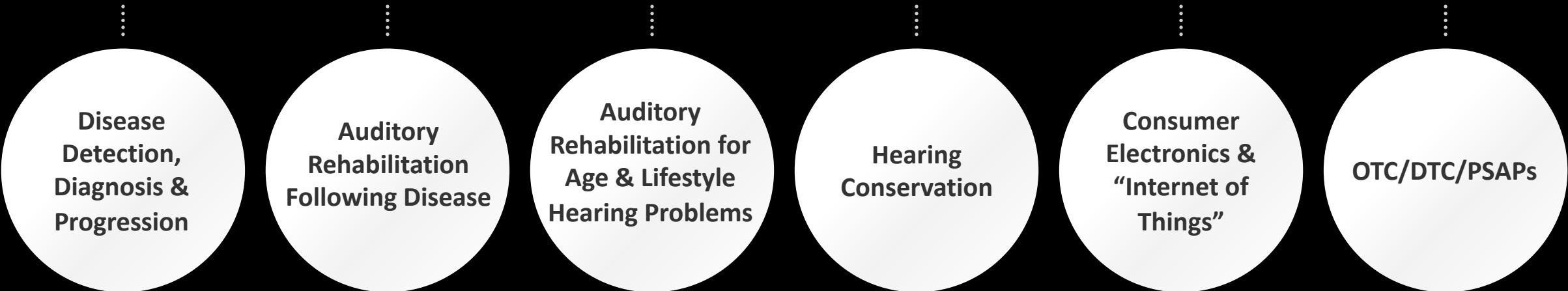
**HEARING CARE PROFESSIONAL**

**Healthcare**

Practitioner/Medical Model

**Wellness Care**

Consumer/Market Model



# PRESSURES

On Hearing Healthcare

Definition

**Disease Related**  
(Medical Model)

**Hearing devices as  
commodity items**  
(Consumerism/Market Model)

Personalized Care



# U.S. Optometry in 1980

**21,000**

optometrists in practice in the country

**90%**

either sole owners or partners in private practice



# During the '80's, Some Things Happened...

## **DRAMATIC IMPROVEMENTS IN TECHNOLOGY AND PRODUCTION**

**Cost of manufacturing vision care products dropped, improving  
wholesale and retail margins**

## **THE BABY-BOOMERS**

**Reached their late thirties and early forties, with their associated need  
for vision care, increasing demand (contact lenses, refractive surgery)**

**Increased demand prompted consolidation**



# 2023 (US)

PRACTICE OWNERS n = 111

What percentage of your practice revenue comes from your optical?



PRACTICE OWNERS n = 111

What percentage of your practice revenue comes from medical-based care?









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Reading Glasses

Modular Arms

Gift Cards



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With Code: Welcome50  
Ends 30th June.

Shop Now






## Recycled Money Blue Light Filter Glasses

Frame Colour, Denim Blue

- Green
- Denim Blue
- Red
- Yellow
- Gold
- Red
- Black
- Grey
- Yellow
- Pink
- Red
- Green
- Brown
- Purple
- Orange
- Pink
- Light Blue
- Grey
- Green
- Gold
- Dark Blue
- Blue

Lens Colour, Brown

- Black
- Brown

 Take a photo

Try me on

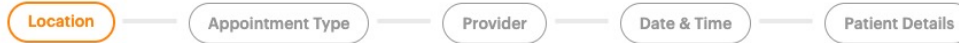
Try me on



# Book an Optometrist

All eye tests are bulk billed which means there will be no out-of-pocket expenses for Medicare card holders. If you need any assistance in making a booking, please call us at (02) 5300 3003 or send us an email at [hello@dresden.vision](mailto:hello@dresden.vision).

Dresden Vision > Book an optometrist



## Please select a location

### NSW

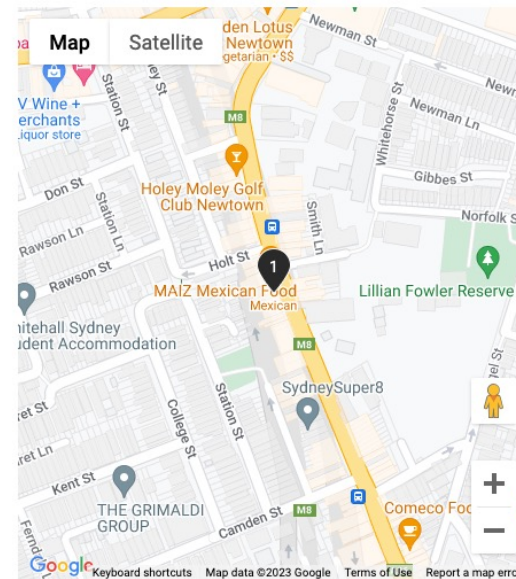
- 1 **Newtown, NSW**  
419 King Street (South of Newtown Train Station)
- 2 **Newtown North, NSW**  
278 King Street (across the road from Dendy Cinemas)
- 3 **Rozelle, NSW**  
2/625 Darling St

### QLD

- 4 **West End, QLD**  
4/173 Boundary St

### VIC

- 5 **Geelong, VIC**  
1/315 Pakington Street



OPTOMETRISTS n = 534

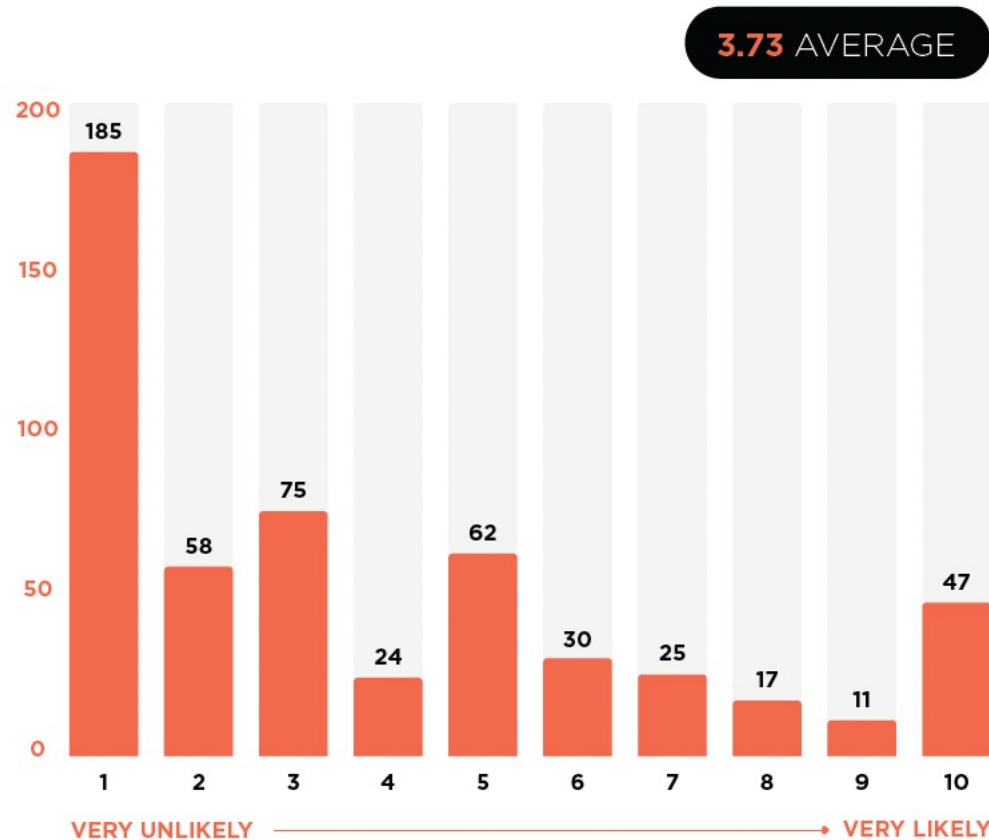
## Over the next 3 years, how likely is your practice to stop accepting vision plans?

**3.95**  
2021 AVERAGE



**3.73**  
2022 AVERAGE

**-5.60%**  
CHANGE



OPTOMETRISTS n = 534

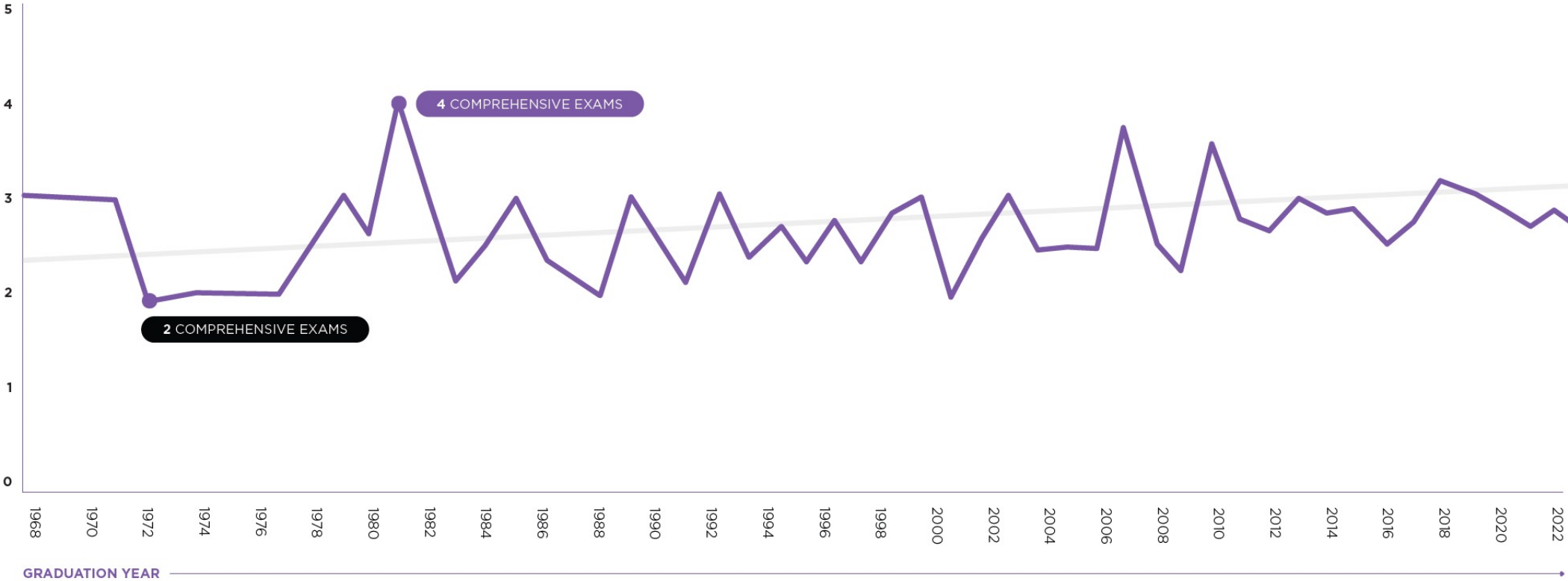
# How many comprehensive exams per hour are you comfortable performing?

**2.9**  
2021 AVERAGE



**3**  
2022 AVERAGE

**3.4%**  
CHANGE

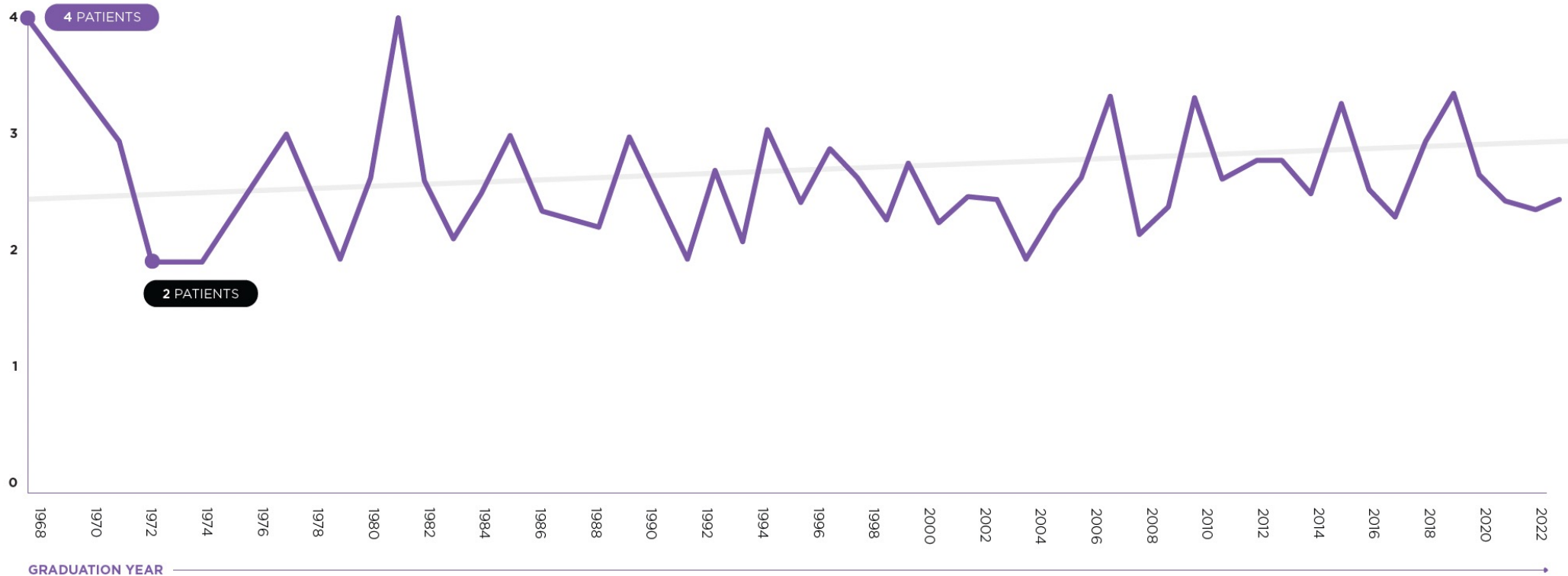


# What is the ideal number of patients you'd like to see per hour?

2.7  
2021 AVERAGE

➔

2.7  
2022 AVERAGE

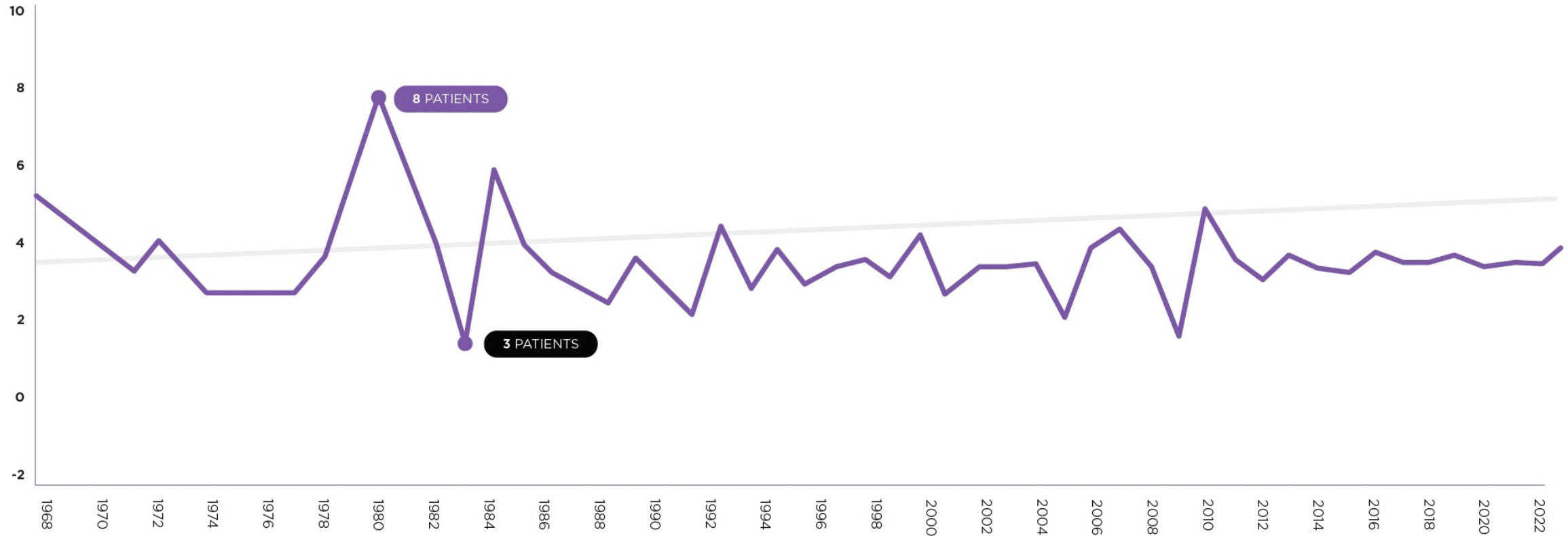


# How many patients per hour would cause you to want to leave your job?

**4.6**  
2021 AVERAGE

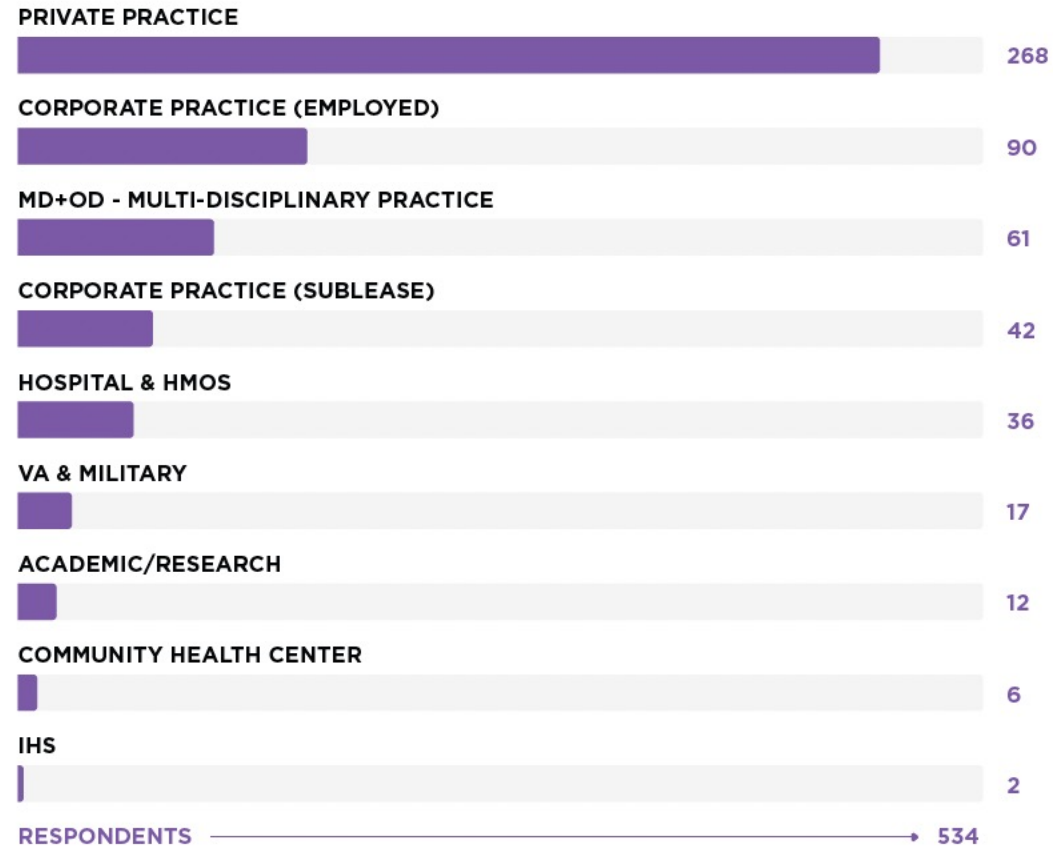
➔

**4.6**  
2022 AVERAGE



OPTOMETRISTS n = 534

## In what setting do you practice?



# What we can learn from optometry...

## **OVER 30 YEARS:**

- The population of practicing optometrists increased substantially from 21,000 to 40,600 with increasing demand
- Those earning a living 100% in private practice declined significantly from 90% to 20%
- At the end of this 30-year period, average compensation and job satisfaction have both declined

## **WHY?**

- Corporate consolidation & wage employment
- It's no different in 2023!



What about dentistry?

# Dentistry in 2023

**The Market is robust**

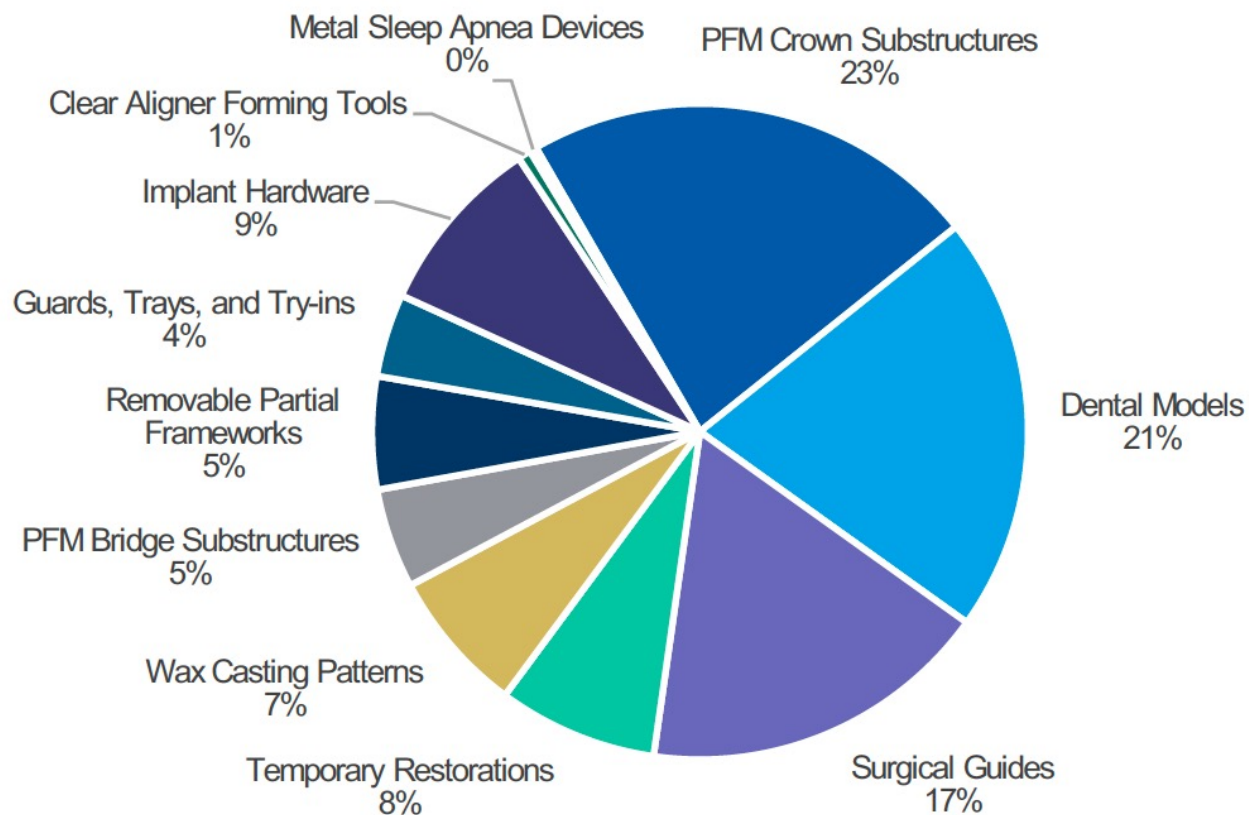
**Dental Support Organizations, a corporation of dental offices is increasing.**

**Private practice dentistry is reportedly “alive and well” (but has declined steadily for two decades)**

**Invisible aligners pose a disruptive threat....and opportunity**

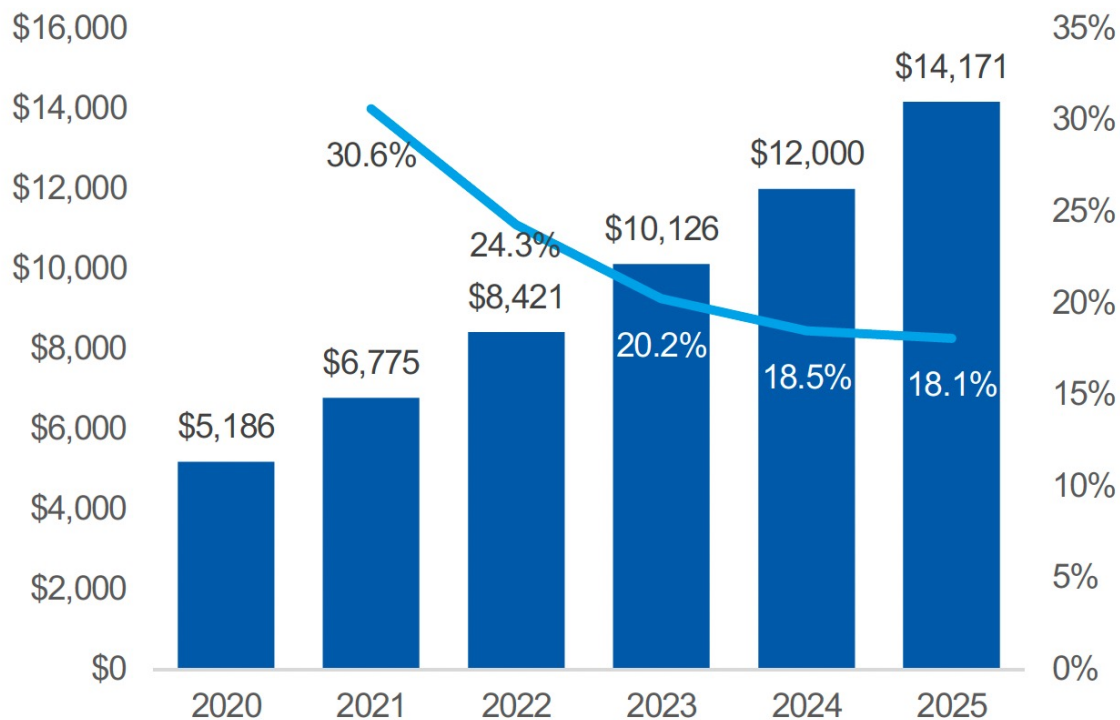


**Exhibit 30:** Total 2021 Dental 3D Printing Application Market Expected to be Worth ~\$3.5 Billion, Supporting a Broad Array of Treatments



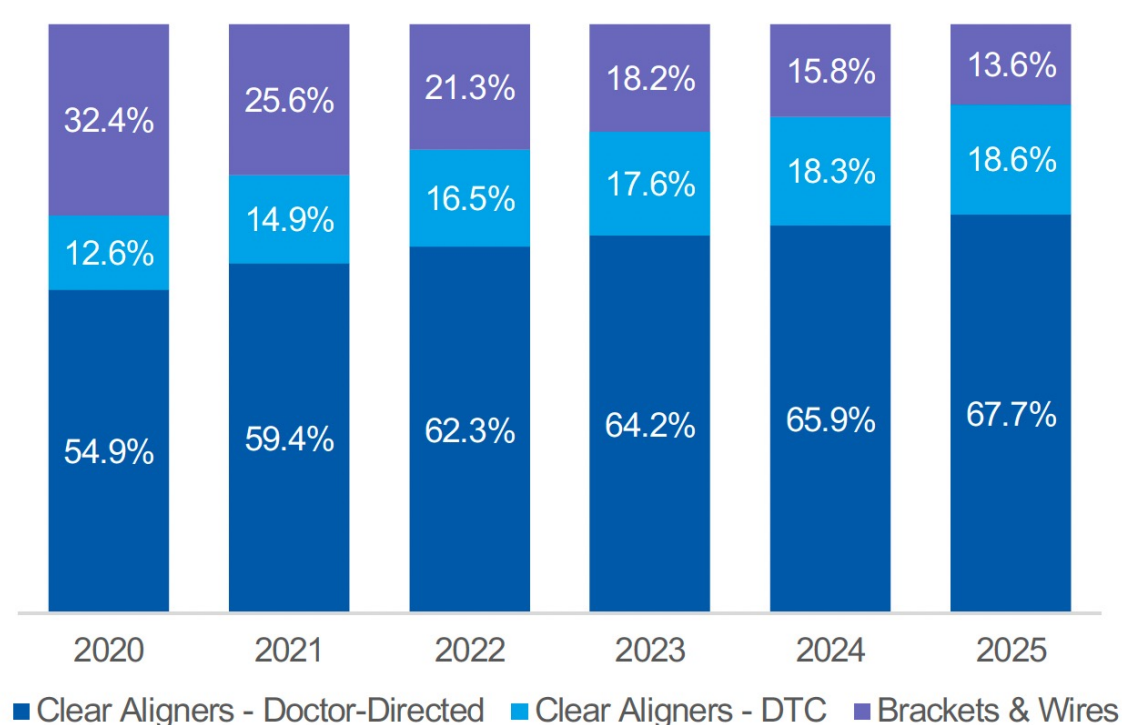
Source: SmarTech Analysis, Morgan Stanley Research

**Exhibit 92:** The Teeth-Straightening Market is Expected to Grow at a Robust +DD Rate Over At Least the Next Five Years, Largely Fueled by +DD Clear Aligner Growth and +LSD Brackets & Wires Growth

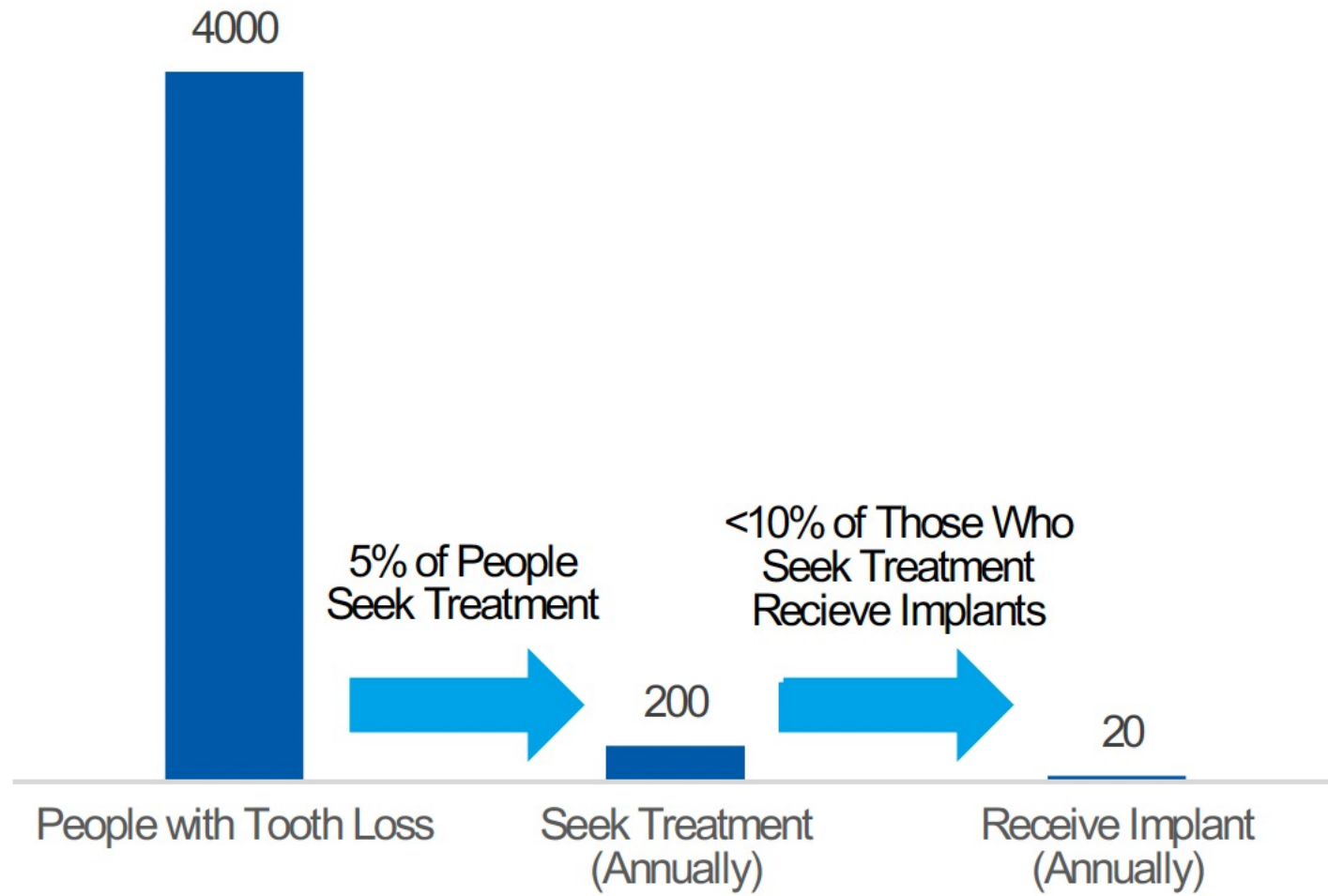


Source: Company data, Morgan Stanley Research Estimates; In \$Ms

**Exhibit 93:** Clear Aligner Share of the Teeth-Straightening Market is Expected to Expand Dramatically Over the Next Five Years Despite Expected Ongoing Brackets & Wires Growth



Source: Company data, Morgan Stanley Research Estimates



Source: Company data, Morgan Stanley Research; Units in millions

## Exhibit 16: Oral Health is Linked to a Person's Broader Health

Disease / Condition	Links to Oral Health
Cardiovascular Disease	Some research suggests heart disease, clogged arteries, and stroke might be linked to the inflammation and infections that oral bacteria can cause
Pneumonia	Certain bacteria in the mouth can be pulled into the lungs, causing pneumonia and other respiratory disease
Endocarditis	This infection occurs when bacteria or other germs from another part of the body (e.g. mouth) spread through the bloodstream and attach to the heart
Pregnancy & Birth Complications	Periodontitis has been linked to premature birth and low birth weight
HIV/AIDS	Oral problems are common in people who have HIV/AIDS
Osteoporosis	Linked with periodontal bone loss and tooth loss. Certain drugs used to treat it carry a small risk of damage to the jaw bones
Diabetes	Gum disease appears to be more frequent and severe among people who have diabetes
Alzheimer's Disease	Worsening oral health is seen as Alzheimer's disease progresses
Other Conditions	Include: eating disorders, rheumatoid arthritis, certain cancers, and an immune system disorder that causes dry mouth (Sjogren's syndrome)

Source: Mayo Clinic, Morgan Stanley Research



## **Did you know?**

**74% of adults have their vision examined every two years? (Glaucoma Research Foundation)**

**62% of adults see their dentist annually? (CDC & Prevention)**

**23% of adults receive hearing screenings during physical examination? (Better Hearing Institute)**

# Screening for Hearing Loss in Older Adults

## US Preventive Services Task Force Recommendation Statement

US Preventive Services Task Force

**IMPORTANCE** Age-related sensorineural hearing loss is a common health problem among adults. Nearly 16% of US adults 18 years or older report difficulty hearing. The prevalence of perceived hearing loss increases with age. Hearing loss can adversely affect an individual's quality of life and ability to function independently and has been associated with increased risk of falls, hospitalizations, social isolation, and cognitive decline.

**OBJECTIVE** To update its 2012 recommendation, the US Preventive Services Task Force (USPSTF) commissioned a systematic review on screening for hearing loss in adults 50 years or older.

**POPULATION** Asymptomatic adults 50 years or older with age-related hearing loss.

**EVIDENCE ASSESSMENT** Because of a lack of evidence, the USPSTF concludes that the benefits and harms of screening for hearing loss in asymptomatic older adults are uncertain and that the balance of benefits and harms cannot be determined. More research is needed.

**RECOMMENDATION** The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of screening for hearing loss in older adults. (I statement)


JAMA. 2021;325(12):1196-1201. doi:10.1001/jama.2021.2566


 [Editorial page 1162](#)

 [Multimedia](#)

 [Related article page 1202 and JAMA Patient Page page 1234](#)

 [Supplemental content](#)

 [CME Quiz at jamacmelookup.com and CME Questions page 1218](#)

 [Related articles at jamaotolaryngology.com jamanetworkopen.com](#)

**Corresponding Author:** Alex H. Krist, MD, MPH, Virginia Commonwealth University, One Capitol Square, Sixth Floor, 830 E Main St, Richmond, VA 23219 (chair@uspstf.net).

## # 3 The Great Consolidation

**Over the past decade, the dental industry has seen a meaningful evolution from dentist-owned solo and group practices to a Dental Service Organization (DSO) affiliation model,** as practices seek more profitable and scalable offerings. With currently nearly 25% of dental school graduates joining DSOs<sup>1</sup> and older dentists increasingly preferring less administrative-intensive models, DSOs are becoming a more meaningful segment of the market, particularly in North America.

**While a consolidating customer base can drive an element of pricing pressure, it can also represent opportunities for larger, more innovative manufacturers (XRAY, NVST, and ALGN)** as DSOs can more meaningfully invest in new technology and solutions to support practicing dentists and drive topline growth. On the flip side, we see inherently **greater vulnerability for distributors Patterson Companies (PDCO) and HSIC** across a more consolidated industry, contributing to pricing pressure as well as potential volatility as contracts change hands.

# Preserving Independent Practice: Dentistry

- **Private practice allows dentists to practice autonomously and make independent patient care & practice decisions**

**Private practice has positively impacted income in dentistry**

- **By lack of participation with third party payers**
- **And increased reimbursement via private pay**

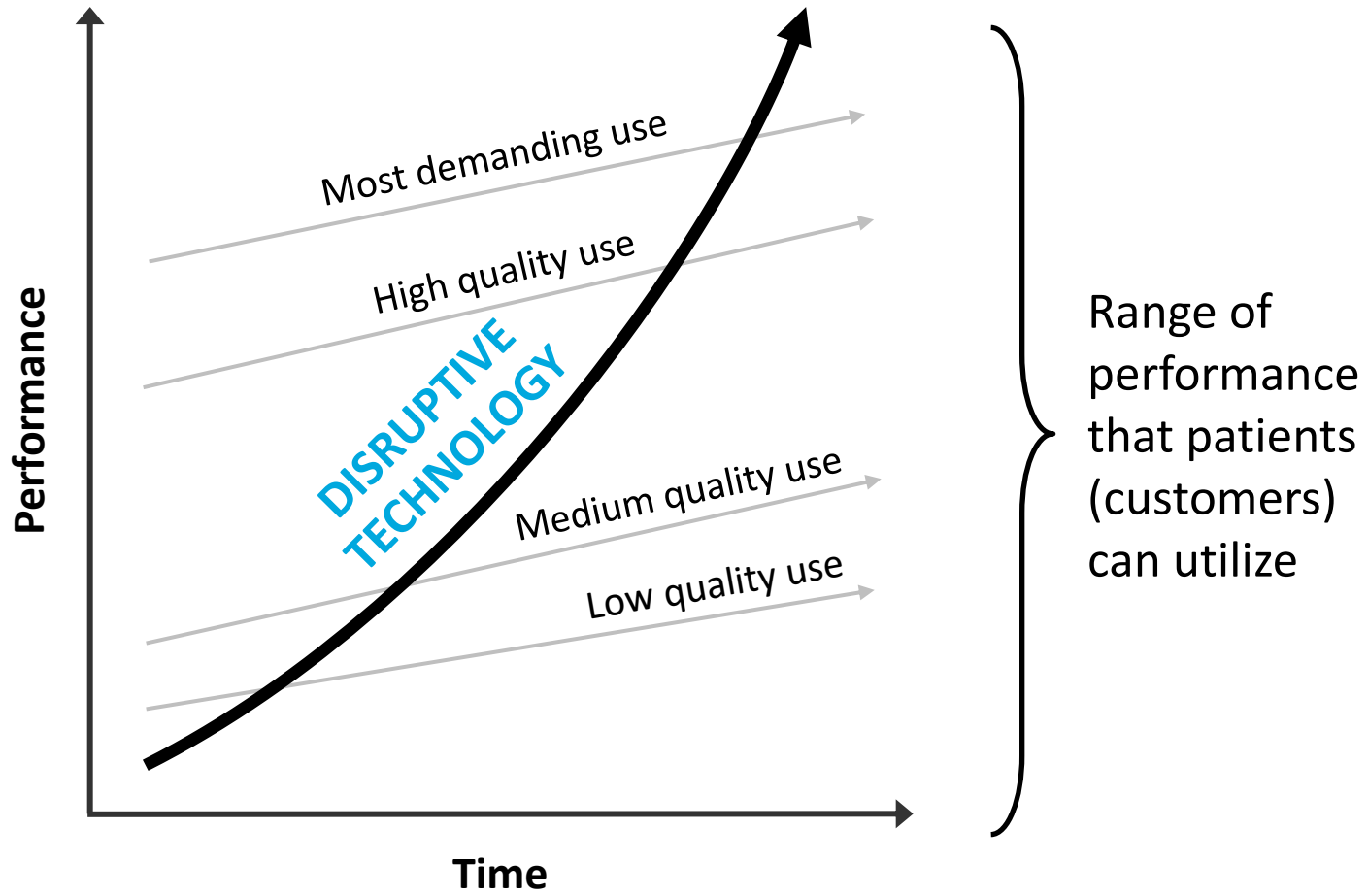
**The Baby-Boomer and increasingly Gen X and Millennials demand for highly lucrative cosmetic dentistry (e.g. braces, whitening, titanium implants) has boosted the earning potential of dentistry dramatically by expanding their scope of practice**

# Dentistry more independent than Physicians

**“In comparison to physicians, dentists work more independently, have a higher rate of solo practice, and in some cases, their earnings have surpassed the net income of physicians.”**

Elizabeth Mertz, MPA,  
Health Policy Researcher, UCSF

# DISRUPTIVE INNOVATION MODEL





Lessons Learned: How to  
“self-disrupt” using  
innovation?

# Increasing access to service can help attract customers

Offering multiple consumer journey paths to access products and services caters to a broader variety of consumer segments and further incentivizes them to engage with your brand.

## WARBY PARKER

### Telemedicine Adoption

- Prescription Check app
- Point-of-everything

### Creation of Consumer Journey Touchpoints

- DTC convenience
- Virtual try-on feature
- Brick & mortar stores

### Vertical Integration

- Targeted price sensitive consumers
- Avoid unnecessary markups

## LUXOTTICA®

### R&D Geared to Telehealth

- Retina 800 allows for automatic, digital retinal imaging → remote imaging

### Investment in Ecommerce Channels

- Incorporating online sales channel across their brands (Ray-Ban, Persol, etc.)
- Introduction of competing features
  - Ray-Ban Virtual Try-On
  - Ray-Ban Remix

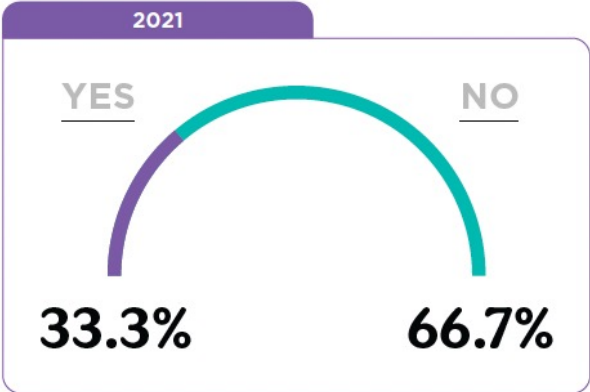
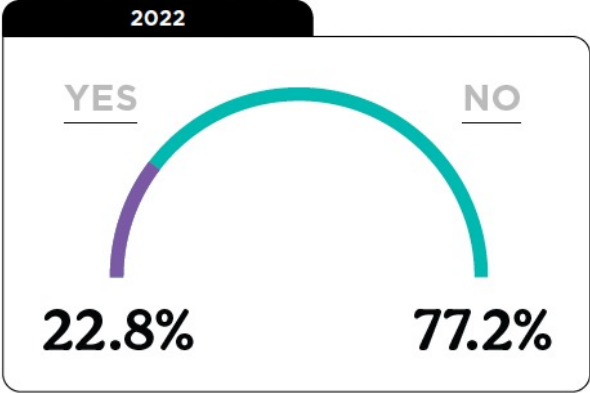
### Merging Offline & Online Touchpoints

- Testing virtual optical stores
  - Allows personalized discovery of Luxottica products at any optical store

OPTOMETRISTS n = 534

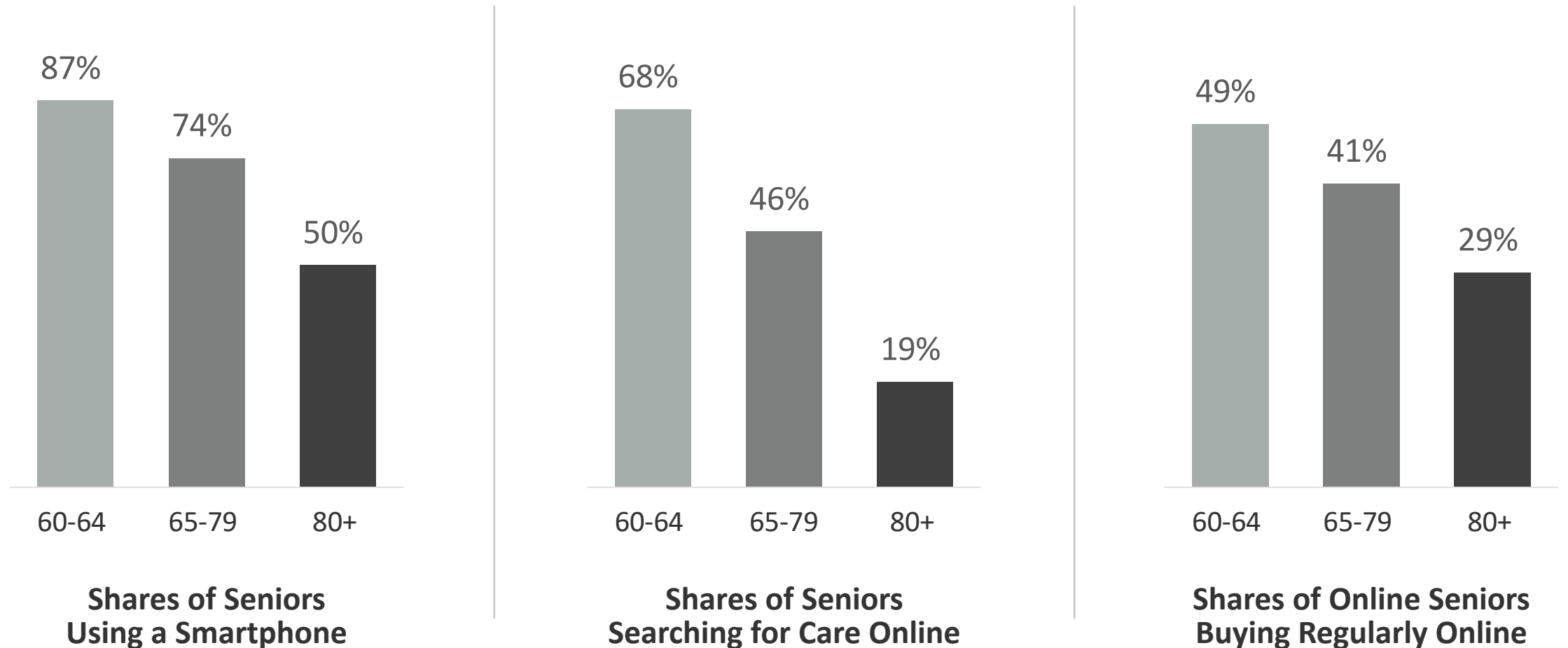
# Does your office offer telemedicine?

**-31.5%**  
CHANGE



# 60+ are Avid Users of Technology

**MATURE PATIENTS ARE NOT AFRAID OF TECHNOLOGY**



# Emphasize quality of service for online touchpoints

Companies should be cognizant not to sacrifice service quality because that will trump the convenience offered from multiple touchpoint options, primarily for online touchpoints. American Association of Orthodontists®



## Increased Access across Supply Chain

- Partnerships with insurers
  - Aetna Dental
  - UnitedHealthcare
- Captive financing options

## Vertical Integration via Telehealth

- Savings from remote treatment passed onto consumers
- Allows for increased access to new consumers

## Omni-channel distribution

- Ecommerce - DTC
  - Take home kit
- SmileShops
  - In-person impressions made
- Retail partnerships
  - CVS
  - Walgreens



## Personal Equity with Patients

- Utilizing ongoing relationships with patients to offer similar products through their own practice

## Improving Access to Similar Products

- Clear aligners offered at many dentist offices
  - Caters to the vanity aspect, but not convenience

## Significant Lobbying Efforts

- The AAO has lodged complaints against SDC with regulatory authorities in 36 states
  - Claims that SDC is creating medical risk due to low care from teledentistry

# Your smile. Your way.

SmileDirectClub helps you get a smile you love with convenient options designed to fit your life and schedule. All without costing you a fortune.

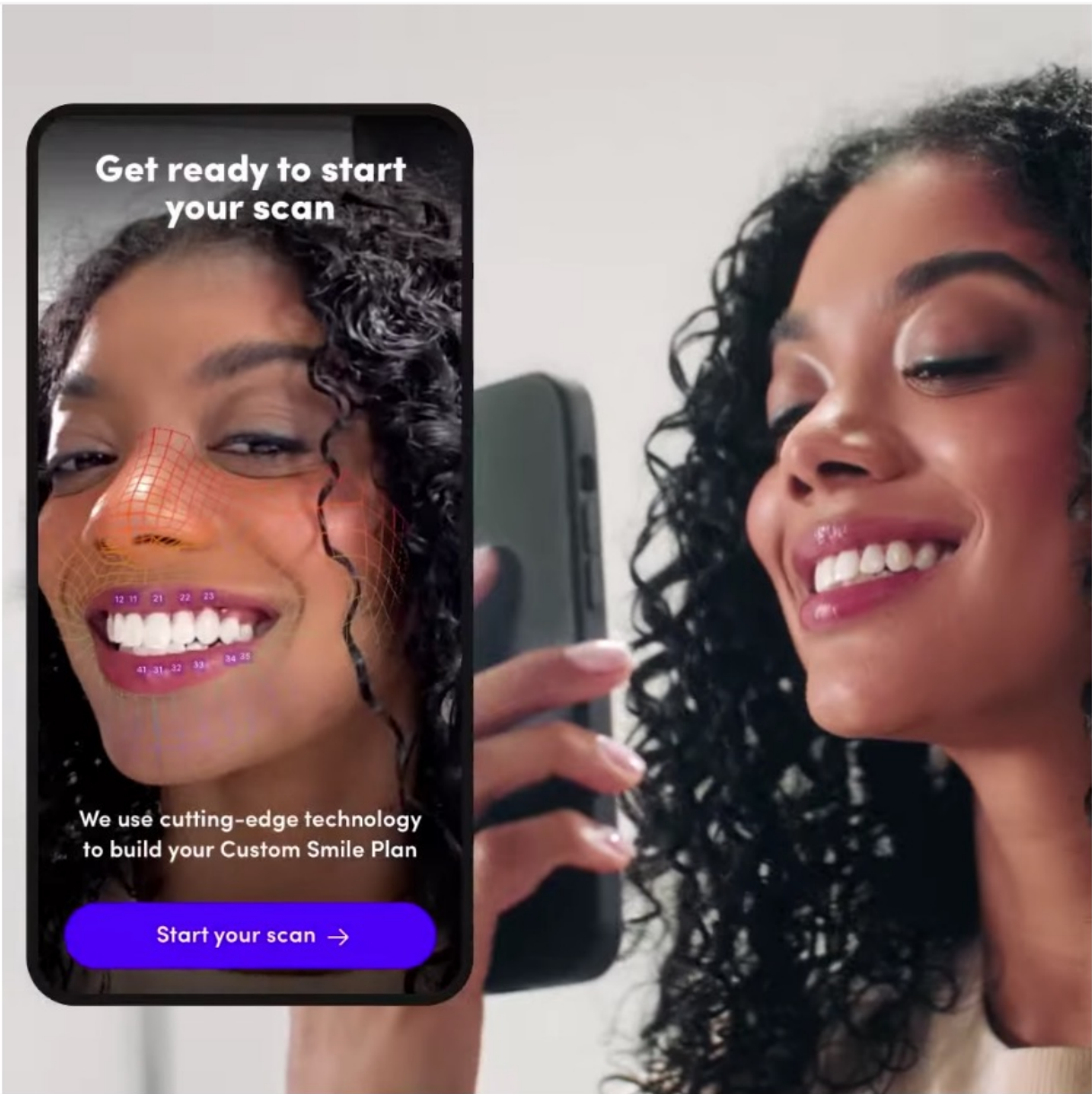
Want to see how our aligners can straighten your teeth? Download our free app and get your Custom Smile Plan in just minutes. (Available on iOS now. Android coming soon.)

(00) 0000 0000

[Text me the app](#)

*\*See your new smile within minutes*

By providing my phone number and clicking 'Text me the app' I agree to receive occasional automated or prerecorded marketing and transactional phone calls and text messages from SmileDirectClub to the phone number provided above. Message and data rates may apply. Consent is not a condition of purchase. Message frequency varies. I also agree to [SMS Terms](#). Text 'STOP' anytime to unsubscribe.





# Your complete Smile Journey™ cost.



GETTING STARTED

## Make a good impression

When you buy SmileDirectClub aligners, we'll send you a kit to capture HD impressions of your teeth. We then design your custom Smile Prescription™, which is reviewed and approved by an Australian registered dentist or orthodontist.



ALIGNER TREATMENT

## Two easy ways to pay

Use SmilePay™ to make easy monthly payments of \$125/month or less for 24 months with a \$299 deposit (\$3299 total).<sup>1</sup> Or pay even less with a simple, one-time payment of \$2965.



RETAINERS

## \$167/set

Retainers cost \$167 a set (upper and lower). Wear them at night when your treatment plan is complete to keep your new smile in place. Order a new set every 6 months to keep them fresh.



**Lifetime Smile  
Guarantee™**

Your smile is protected for life.

- Order your aligners with ZERO risk and if you aren't 100% satisfied, you can return your aligners for a full refund before your first monthly payment is due.
- If your dentist determines our aligners aren't a good fit for you, we'll refund the cost of your purchase.
- If your smile needs a touch-up, it's free.

See full details at [SmileDirectClub.com/en-au/guarantee](https://SmileDirectClub.com/en-au/guarantee).

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## Have questions?

### Can I use insurance to pay for SmileDirectClub clear aligners? —

At this time, SmileDirectClub is not covered by private health insurers. We are working hard to educate private health insurers about our mission and the services we enable Australian registered dentists and orthodontists to provide through our telehealth platform.

### Is there a money-back guarantee? —

If one of our Australian registered dentists or orthodontists determines that you are not eligible to undergo SmileDirectClub clear aligner treatment, we will refund the cost of your purchase. In addition, if within the first 30 days of your treatment plan you're dissatisfied for any reason, contact us to return your aligners and arrange a refund. Learn more on our [Returns](#) page.

### Does my purchase include free teeth whitening? —

It is included in the cost of your clear aligner therapy. All aligner kits include bright on™ teeth whitening so you can brighten your smile while you straighten it.

[View more FAQs](#)

**SDC's DTC model is both more convenient and more affordable for patients.** The direct-to-consumer clear aligner journey begins with an in-person digital impression (at a SmileShop or select practitioner offices) or an at-home impression kit. These start options for cases give patients greater flexibility and convenience in choosing their teeth-straightening path. Once the impression has been recorded, SDC's technicians in its Costa Rica facility develop a treatment plan. From there, an orthodontist or dentists in SDC's practitioner network will review the treatment plan and other patient information. Importantly, SDC typically targets completion of the treatment planning and quality assurance review process within 48 hours. If a patient is satisfied with the treatment plan, they may decide to purchase the clear aligner treatment, at which point the same doctor who reviewed the case initially will "prescribe" the aligner treatment. SDC will then manufacture and ship the clear aligner cases. Thereafter, treatment progress may be tracked via SDC's SmileCheck, a teledentistry solution.



**All in, this model (1) does not require any in-person visits with the practitioner and (2) limits the interaction time with any given practitioner in SDC's network.** These factors not only increase the convenience of SDC's model but also enable the company to offer a more affordable option. For reference, while Align Technology maintains a lower ASP at ~\$1,200 relative to SDC (>\$1,700), the cost of doctor-directed offerings ends up meaningfully more expensive for consumers (~\$6K for clear aligner treatment at an orthodontist, per our survey) due to the practitioner service component that justifies an incremental mark-up on teeth-straightening treatment in the practice. As such, **SDC's clear aligner treatment can typically cost up to 60% less than traditional orthodontic solutions, a key competitive advantage.**

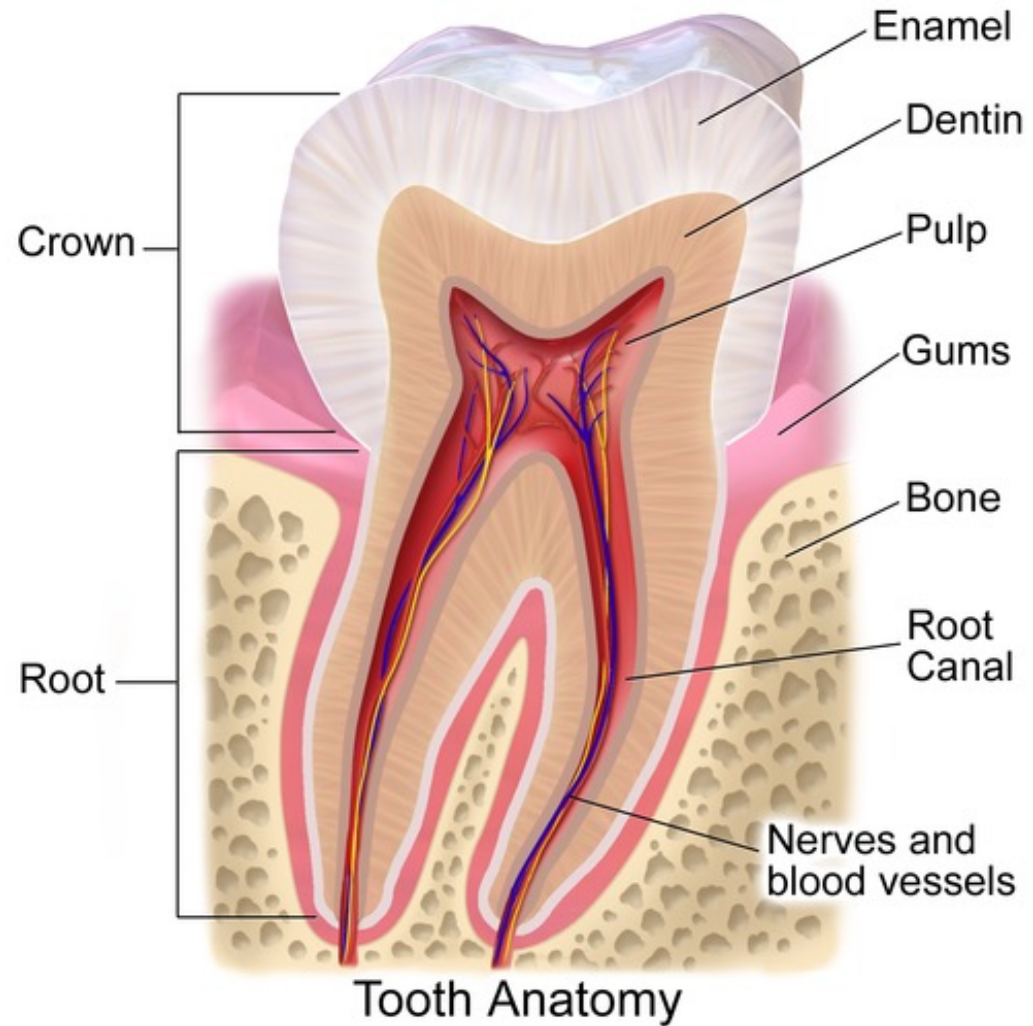
## **Key Debate: Unique DTC Opportunity Also Comes With Unique Risks**

The DTC market represents a significant opportunity, and some of the key defining value propositions associated with SDC's model (in convenience and affordability) are also clear. Moreover, we acknowledge that there has been similar disruption in healthcare historically, such as in the ophthalmology market with 1800CONTACTS, which offered an easy way for consumers to order contact refills (vs. conventional model where patients had to get contacts from the doctor's office). That said, we remain cautious around several risks associated with the direct to consumer clear aligner market and SDC's current model.

First, SDC has unsurprisingly seen notable pushback from practitioners. Moreover, we acknowledge that DTC providers are much more exposed to consumer sentiment and reviews than constituents across the doctor-directed clear aligner market, creating greater headline risk, which has historically driven notable share volatility for SDC. Moreover, SDC's current model largely targets consumers in the lower/mid- middle-class (median household income of customer base is ~\$65,000), which has more recently been pressured by the current inflationary environment as well as shifting preferences as it relates to spending disposable income, particularly as economies increasingly reopen.



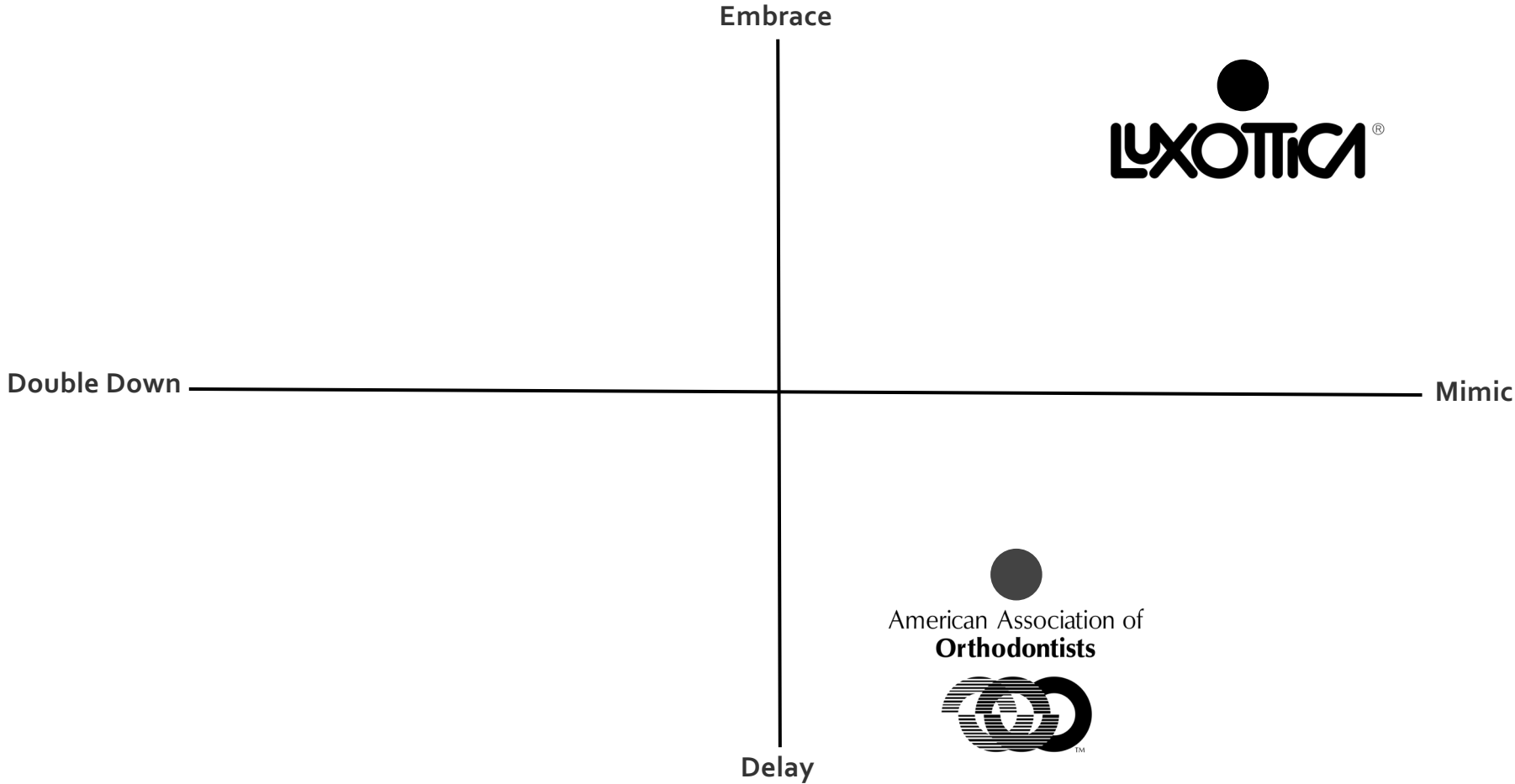
**Endodontics** is the dental specialty concerned with the study and treatment of the dental pulp. The **pulp** is the connective tissue, nerves, blood vessels, and odontoblasts that compose the innermost layer of a tooth. The pulp's activity and signaling processes regulate its behavior.





# There is no formula for success to compete with disruptors

Incumbents use a combination of different response strategies to compete in a disrupted industry. These strategies vary from market to market.



“Technology is taking over my life, and I’m worried that it will *reduce* engagement between me and my patients, and may eventually eliminate my role in the process”



# Reed et al (2017)

**Table. Accuracy in Speech Understanding in Noise From Unaided to Aided With PSAPs and a Hearing Aid Among 42 Older Adults With Mild to Moderate Hearing Loss<sup>a</sup>**

	Cost, US \$ <sup>b</sup>	Mean Accuracy, % (95% CI)	Change From Unaided Hearing, Percentage Points (95% CI)	Difference Between PSAP and Hearing Aid Change, Percentage Points (95% CI)
Unaided hearing		76.5 (72.7 to 80.3)		NA
Oticon Nera 2 hearing aid <sup>c</sup>	1910.00	88.4 (84.5 to 92.4)	11.9 (9.8 to 14.0)	
PSAP				
Sound World Solutions CS50+	349.99	87.4 (83.5 to 91.4)	11.0 (8.8 to 13.1)	-1.0 (-2.7 to 0.8)
Soundhawk	349.99	86.7 (82.7 to 90.6)	10.2 (8.0 to 12.3)	-1.8 (-3.5 to 0)
Etymotic BEAN	299.99	84.1 (80.2 to 88.1)	7.7 (5.5 to 9.8)	-4.3 (-6.1 to -2.5)
Tweak Focus	269.99	81.4 (77.4 to 85.3)	4.9 (2.8 to 7.0)	-7.0 (-8.8 to -5.3)
MSA 30X Sound Amplifier	29.99	65.3 (60.1 to 70.4)	-11.2 (-15.2 to -7.3)	-23.1 (-26.9 to -19.4)

Abbreviations: NA, not applicable; PSAP, personal sound amplification products.

<sup>a</sup> The pure-tone average was 500-4000 Hz; the mean dB HL was 34.7 in the right ear and 36.1 in the left ear.

<sup>b</sup> The cost of the hearing aid was the wholesale price paid by the Johns Hopkins University Audiology Clinic. PSAPs were purchased online (Sound World

Solutions CS50+, Soundhawk, Etymotic BEAN, Tweak Focus) and storefront retail (MSA 30X Sound Amplifier). All devices were purchased between January 2016 and April 2016.

<sup>c</sup> Oticon Nera 2 is a US Food and Drug Administration-regulated hearing aid, whereas all other devices are PSAPs.



# Clinical Performance Evaluation of a Personal Sound Amplification Product vs a Basic Hearing Aid and a Premium Hearing Aid

Young Sang Cho, MD; Su Yeon Park, BS; Hye Yoon Seol, AuD; Ji Hyun Lim, BS; Yang-Sun Cho, MD, PhD;  
Sung Hwa Hong, MD, PhD; Il Joon Moon, MD, PhD

**CONCLUSIONS AND RELEVANCE** The results indicate that basic and premium HAs were not superior to the PSAP in patients with mild to moderate hearing impairment, which suggests that PSAPs might be used as an alternative to HAs in these patient populations. However, if hearing loss is more severe, then HAs, especially premium HAs, should be considered as an option to manage hearing loss.

*JAMA Otolaryngol Head Neck Surg.* doi:[10.1001/jamaoto.2019.0667](https://doi.org/10.1001/jamaoto.2019.0667)

Published online May 16, 2019.

**Table 2. Speech Intelligibility in Noise Test**

Test	Group	Test Result, Median (IQR)				Effect Size (95% CI) <sup>a</sup>		
		Unaided	PSAP	Basic HA	Premium HA	PSAP vs Premium HA	PSAP vs Basic HA	Premium HA vs Basic HA
K-HINT, <sup>b</sup> dB HL	MHL	37.6 (28.2 to 38.9)	30.1 (26.8 to 33.4)	30.7 (26.1 to 34.5)	30.7 (25.9 to 34.8)	0.1 (-0.2 to 0.4)	0.1 (-0.3 to 0.4)	0.1 (-0.2 to 0.3)
	MDHL	50.15 (43.2 to 58.1)	40.45 (35.75 to 43.05)	39.7 (36.6 to 43.5)	39.2 (34.75 to 42.25)	0.8 (0.4 to 1.2)	0.6 (0.4 to 0.9)	0.4 (0.1 to 0.7)
	MSHL	68.1 (50.3 to 71.4)	60.4 (49.6 to 66.2)	54.7 (46.9 to 60.3)	46.6 (42.1 to 51.3)	1.6 (0.9 to 2.2)	1.2 (0.7 to 1.6)	1.2 (0.7 to 1.8)
K-HINT, SNR, dB HL <sup>c</sup>	MHL	-1.3 (-1.9 to -0.4)	-1.1 (-1.9 to -0.4)	-1.4 (-2.8 to 0.2)	-1.7 (-2.5 to -0.5)	0.4 (-0.2 to 1.0)	0.1 (-0.3 to 0.5)	0.5 (0.1 to 0.9)
	MDHL	0.95 (-0.2 to 2.3)	0.4 (-0.8 to 1.7)	1.15 (-0.35 to 2.9)	-0.1 (-0.7 to 0.65)	0.5 (0.2 to 0.8)	0.9 (0.5 to 1.3)	1.0 (0.6 to 1.5)
	MSHL	5.5 (4.7 to 7.5)	4.3 (2.4 to 5.0)	4.9 (2.8 to 6.7)	1.6 (0.8 to 3.1)	1.0 (0.4 to 1.6)	0.8 (0.3 to 1.2)	1.2 (0.6 to 1.8)
SIBN, <sup>d</sup> word score	MHL	32 (27 to 38)	35 (31 to 38)	34 (28 to 38)	34 (30 to 39)	0.1 (-0.2 to 0.3)	0.1 (-0.2 to 0.5)	0.4 (0.0 to 0.7)
	MDHL	0 (0 to 15)	16.5 (0.5 to 25.5)	16.5 (8 to 27.5)	20.5 (10.5 to 30)	0.4 (-0.1 to 0.9)	0.3 (-0.2 to 0.7)	0.5 (0.1 to 0.8)
	MSHL	0 (0 to 0)	0 (0 to 0)	0 (0 to 2)	3 (0 to 7)	1.2 (0.7 to 1.8)	0.6 (0.2 to 1.0)	0.9 (0.4 to 1.4)
SIBN, <sup>d</sup> sentence score	MHL	6 (3 to 9)	8 (6 to 9)	6 (5 to 8)	7 (5 to 9)	0.1 (-0.3 to 0.5)	0.5 (0.1 to 1.0)	0.4 (0.0 to 0.9)
	MDHL	0 (0 to 1)	1.5 (0.0 to 4.0)	2.0 (0.5 to 4.5)	3.5 (1.5 to 5.0)	0.4 (-0.2 to 1.0)	0.1 (-0.3 to 0.6)	0.4 (0.0 to 0.8)
	MSHL	0 (0 to 0)	0 (0 to 0)	0 (0 to 0)	0 (0 to 1)	0.9 (0.3 to 1.5)	0.3 (-0.1 to 0.8)	0.6 (0.2 to 1.0)

Abbreviations: HA, hearing aid; HL, hearing loss; K-HINT, Korean hearing in noise test; IQR, interquartile range; MDHL, moderate hearing loss; MHL, mild hearing loss; MSHL, moderately severe hearing loss; PSAP, personal sound amplification product; SIBN, speech intelligibility in babble noise test; SNR, signal-to-noise ratio; SPL, sound pressure level.

<sup>a</sup> The comparison result of each device was corrected by the Bonferroni correction method for type I error increase by multiple comparisons and effect sizes calculated with Cohen *d*.

<sup>b</sup> In a quiet environment, the K-HINT sentence was presented from the front, and the reception threshold was measured.

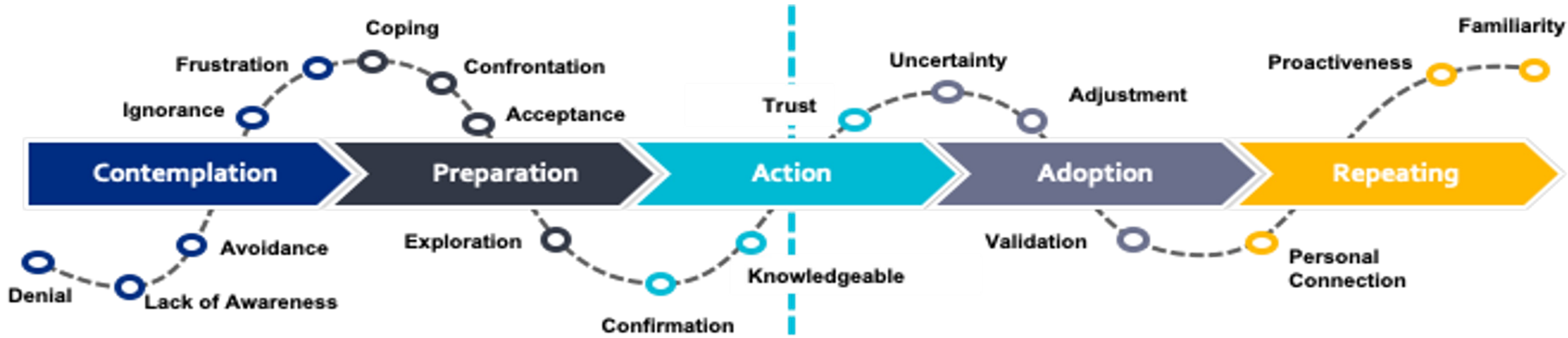
<sup>c</sup> Speech signal was applied from the front; white noise was presented at an intensity of 65 dB SPL in 4 directions, and SNR was measured.

<sup>d</sup> The frontal speech signal was fixed at 40 dB SPL and measured at a 0-dB SNR condition.



# Consumer hearing journey is complex

Barrier to action offers opportunities for the OTC channel



### Ignore Signs

I've made do just turning up the TV or guessing what people are saying, but it is **exhausting**  
 - *Self Diagnosed Non-User*

### Trigger Experiences

I could hear my daughter just fine, but not my wife. I wanted, well, **needed to be able to hear my wife** better  
 ~HA User

### Talk with a Professional

Hearing aids are complicated... **you have to work with the audiology folks**  
 ~HA User

### Try Hearing Aid

My husband left without buying one, but not a week after our visit we found ourselves back in their office to get one because he **knew there was a solution to his frustration.**  
 ~HA Supporter

### Become a Regular User

I love my audiologist! You've **gotta go back** and say 'this is what I like, this is what I don't like' ... there are so many complicated variables  
 ~HA User



# Consumer Journey Map

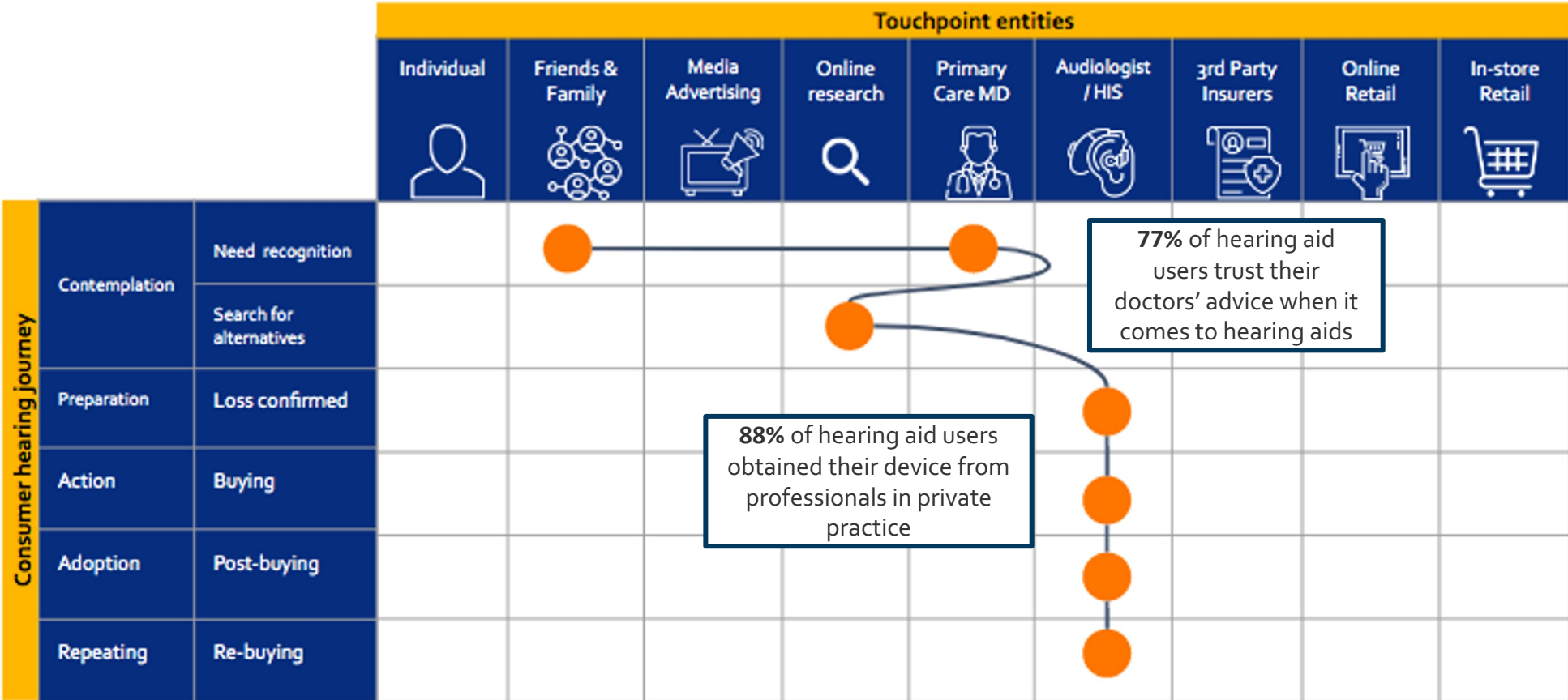
OTC introduces several new touchpoints across all stages of the complex consumer journey

		Touchpoint entities								
		Individual	Friends & Family	Media Advertising	Online research	Primary Care MD	Audiologist / HIS	3rd Party Insurers	Online Retail	In-store Retail
Consumer hearing journey	Contemplation	Need recognition	●	●	●		●			
		Search for alternatives	●	●	●	●				
	Preparation	Loss confirmed				●	●		●	●
	Action	Buying					●	●	●	●
	Adoption	Post-buying					●		●	●
	Repeating	Re-buying	●	●	●			●	●	●

- Current touchpoint
- Touchpoint introduced by OTC

# Current path of an HA user is linear

There are fewer touchpoints but most interactions happen with audiologists



77% of hearing aid users trust their doctors' advice when it comes to hearing aids

88% of hearing aid users obtained their device from professionals in private practice

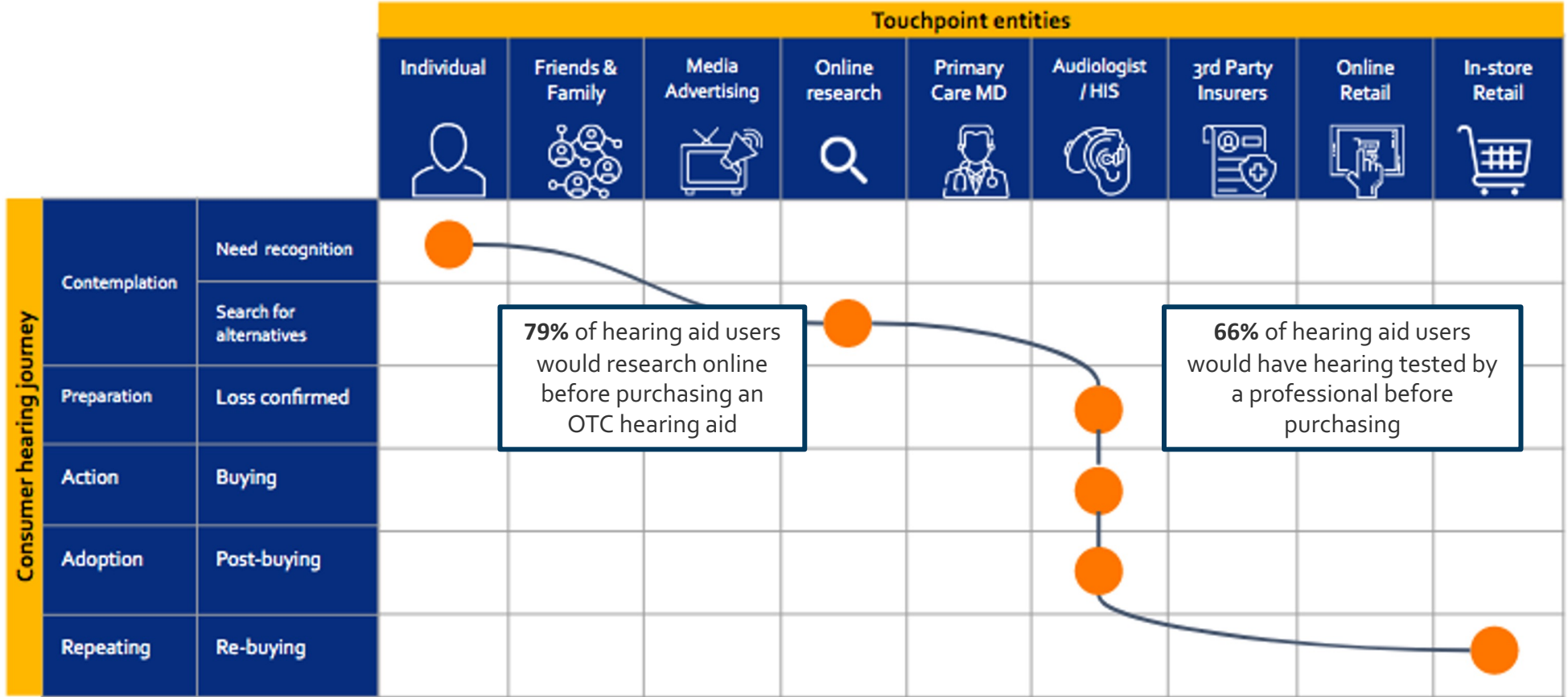
My husband urged me to get **diagnosed after many years.**  
~HA user

I heavily rely on online reviews to get a better idea of what I want. I would weight reviews but **prefer to listen to a professional.**  
~ HA user

I wouldn't buy something over the counter for something as serious as hearing, I would **always have it recommended.**  
~HA user

# Current HA user downgrades to OTC

Current HA users moving OTC want the convenience and lower price but still value professional advice



79% of hearing aid users would research online before purchasing an OTC hearing aid

66% of hearing aid users would have hearing tested by a professional before purchasing

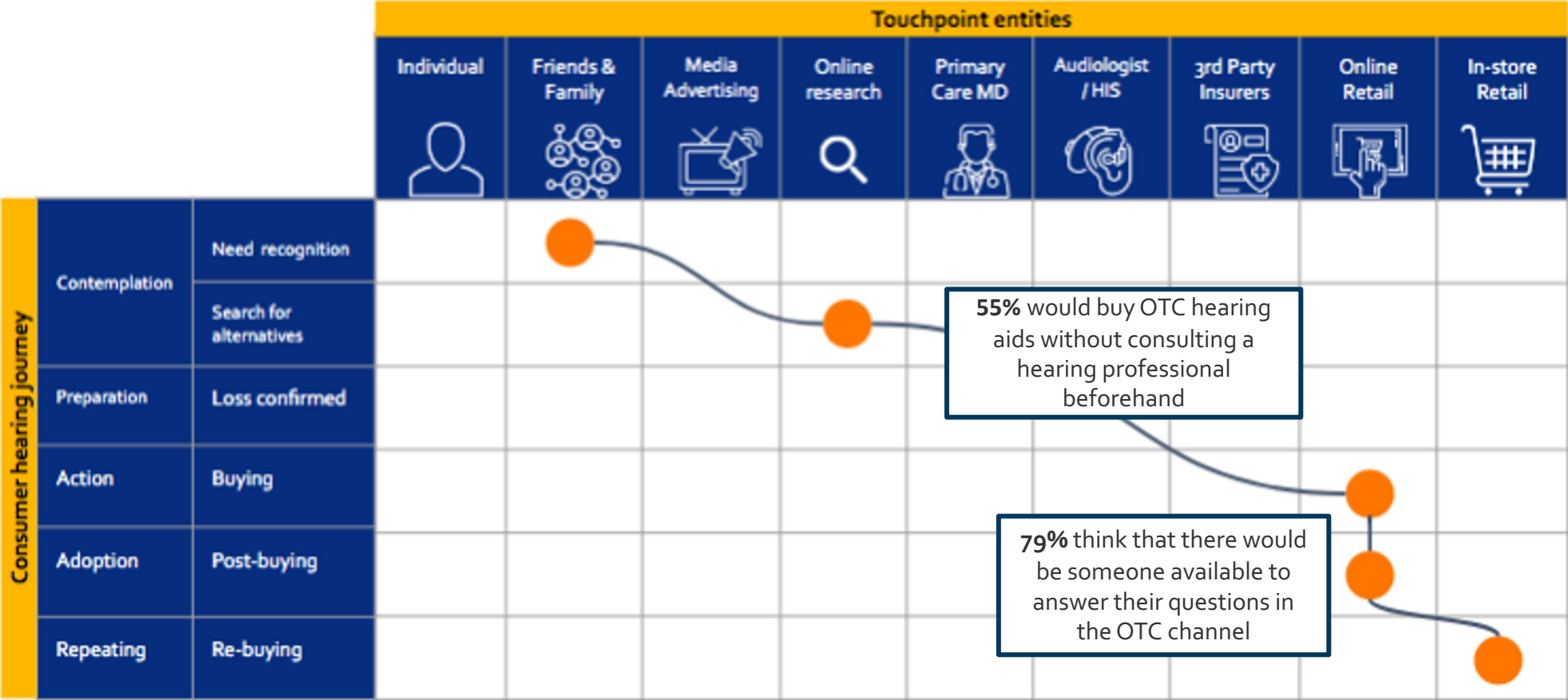
I am concerned about the validity of the fit test - it won't work the way that it should and consumers will become frustrated.  
~ Audiologist

It's a **great lower cost alternative** that will allow me to compete with cheaper big box products. I want to help these patients and OTC will allow me to do so.  
~ Audiologist

I can see myself **skipping the audiologist if there were internet instructions** to make the device work better for my hearing.  
~ Current hearing aid user

# Self-diagnosed non-user moving to OTC

OTC will be a foot in the door to get non-users to try out hearing aids



A cool device positioned in a unique or fashionable way is really important to me.  
 ~ Self-diagnosed non-user

I think it's going to help increase access to younger, more price-sensitive consumers.  
 ~ Audiologist

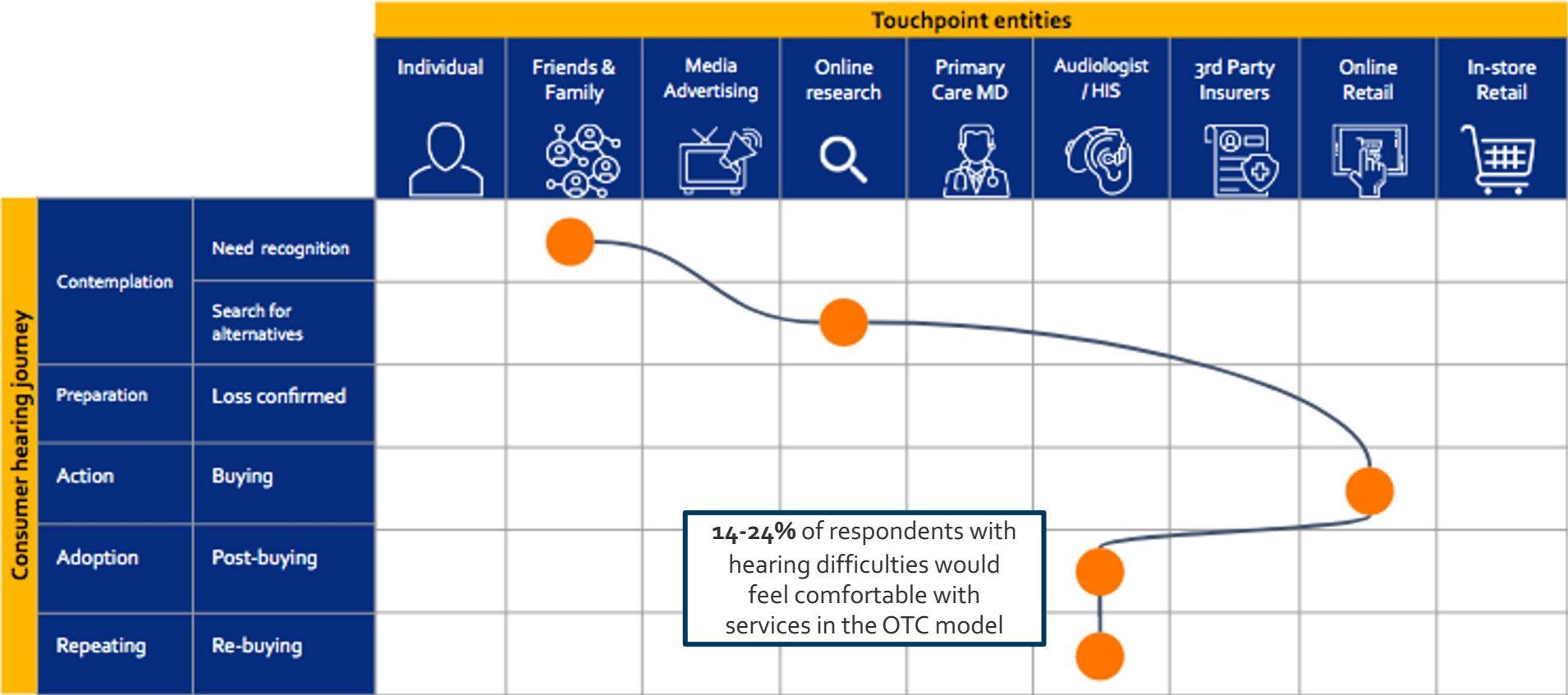
I think that's definitely a concern, but also a good opportunity, again, hitting a younger demographic or letting someone try a device that they couldn't before.  
 ~Audiologist

55% would buy OTC hearing aids without consulting a hearing professional beforehand

79% think that there would be someone available to answer their questions in the OTC channel

# OTC user seeks professional help after initial trial

OTC users may reach out to hearing professionals to get the help that they need



Repair or small malfunctions are going to be a problem because they will need to come in to see us instead of calling a 1-888 number.  
~ Audiologist

Everyone will try it because it's going to be a simple, cheap fix - but it won't work because it **won't provide the customization that they need.**  
~Audiologist

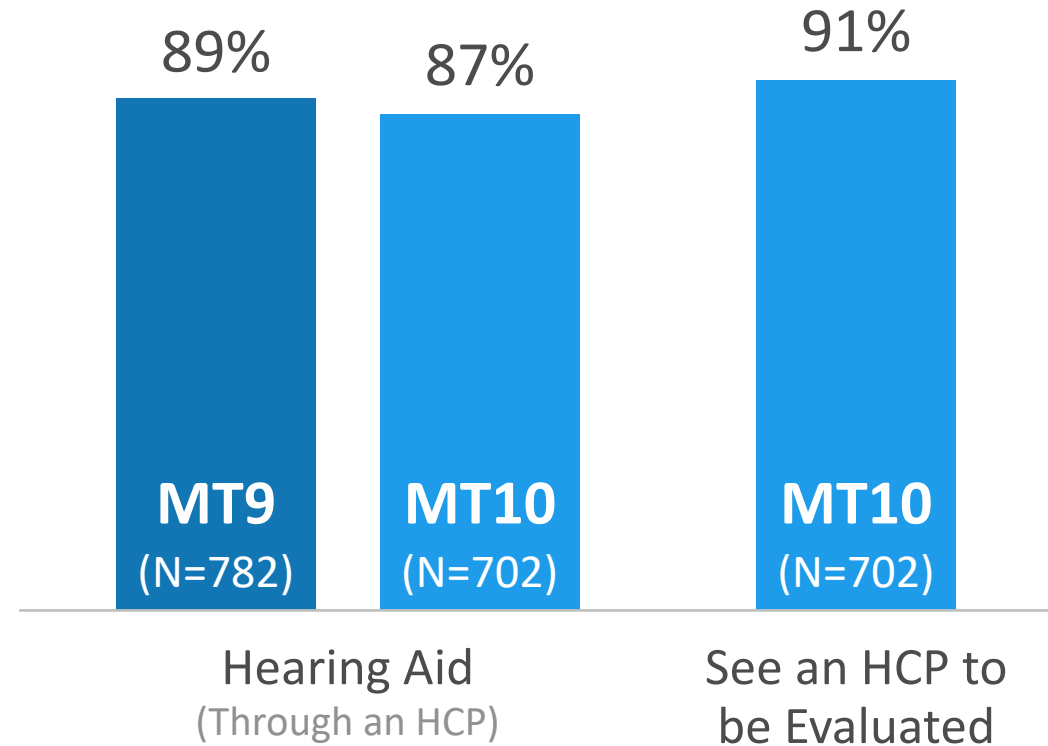
It's going to be frustrating for the patients because it won't come with local support - they're still going to need minor repairs and ports cleaned on a regular basis.  
~ Audiologist

# 9 out of 10

## Hearing Aid Owners

Who bought in the last 5 years  
would recommend hearing aids  
and HCP's for evaluation

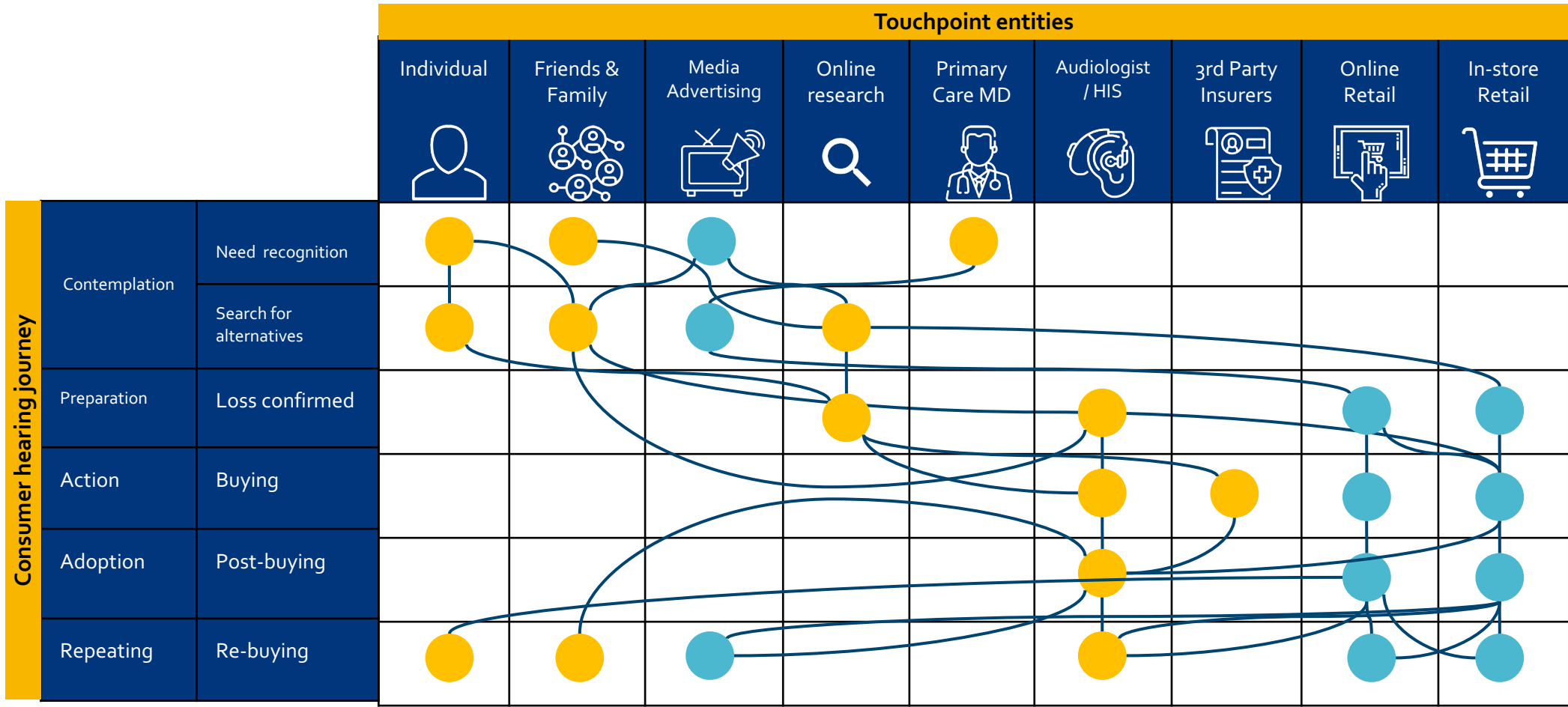
(Purchased through an HCP)





# More touchpoints offer opportunity to address value gaps

OTC introduces several new touchpoints across purchase stages of the complex consumer journey





**Non-Revenue  
Generating**



**Revenue Generating**





# Green Bay Animal Hospital



1519 W Mason St

1519 W Mason St

Green Bay, Wisconsin

Street View - Sep 2016

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Green Bay  
Animal Hospital

GOODYEAR



< > Hide imagery





# Summary

**Other professions, including dentistry and optometry, provide evidence for successful private practice models**

**Benchmarking “revenue per hour” is essential to knowing how (and if) success is possible**

**Focus on professional service – not just hearing aids (CI mapping, Balance)**

**There are numerous strategies that may be used to improve clinical efficiency without compromising patient satisfaction and benefit**

**TeleAudiology and use of support personnel are two key components for the future**

**Audiology practice is different and complicated by our historical attitudes about ethical and best practices**



# evolv<sup>AI</sup>



# Questions

**Dave Fabry, Ph.D.**

*Dave\_Fabry@Starkey.com*



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- Effortless Fitting for Professionals
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Product Specialist

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Vincent Santana  
NSW (N)/SA



Connie Lu  
VIC/TAS



Phil Nelson  
QLD/NT



Jenelle Davis  
NSW (S)/ACT/WA

# Thank You.

## Endorsement Numbers

ACAud Endorsed: 2023122 (2 CEP points with passing quiz)

AudA Endorsed: CPD2223 105 (Category 1.2) (1 CPD Point)

HAASA Endorsed: CPED2021-2023 (2023-116) (1.5 CPED points with passing quiz)

