eAudiology: Engagement, Ease, Empowerment

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DIGITAL TRANSFORMATION IN ALL INDUSTRIES
WHY

Digital Transformation in Health Care
Digital Transformation in Healthcare

- Self Diagnostics
- Health Coaching
- Self Adjustment
- Online Assistance
Change in consumer behavior

2016

25%
Modern, Self-reliant

2020

40%
Modern, Self-reliant
Meet Steve and his future eAudiology journey
3 min hearing screening, calibrated for iPad
Defining hearing goals is the baseline for whole journey.
Direct booking into the CRM
Day 1 – A new hearing system
Counseling starts
Adaptation starts today with his new hearing system...
eCoach App
Monitor & Engage

Sonova
hearing care platform
Self Adjustment for personalized hearing benefit
Virtual Assistance
if needed
HOW

Our solution portfolio
eSolutions - Coming to you in 2018

- eAssist
- eAftercare
- eAdjust
- eScreening
- eAssessment
- eCoach

HCP

CX
Users in study were ...

- **50** Participants
- **65** Age avg.
- **35** Minutes avg.
Users in a tele health study reported ...

- **88%** prefer tele sessions under difficult conditions.
- **92%** would recommend tele sessions to other users.
- **64%** would prefer tele sessions if offered a **choice**.
HCP reported ...

- Tele sessions had **stable connection** (86%)
- Tele sessions as **efficient as face-to-face** (80%)
- Tele sessions clinician was **satisfied** (82%)
How do HA users adjust their settings?

How does performance with personalized settings compare with performance with HCP settings?

Do users prefer their own settings?
N = 22
Average age = 66 y

5 New Users
17 Experienced Users

Consumer Segment:
Self-Reliant = 3
Traditional = 6
Modern = 13
Visit 1
- 1st fit
- Intro to app

1. Create custom pre-sets in real life settings
2. Complete survey

Visit 2
- A/B comparison between Auto and self-adjusted settings in 4 lab scenes
- Complete survey

Visit 3
- Repeat A/B comparison between Auto and self-adjust settings
- SPIN testing between Auto and self adjust settings
- REMs
eAdjust (Self Adjust)
Empower user to change some settings
Market Trial in 2017
Modifier Positions for Lab Speech in Quiet scene

Custom Presets Lab Speech in Quiet

Modifier position

Median
25%-75% range w/o outliers
Volume Bass Treble Noise Red. Speech Focus

Modifier Positions for Lab Speech in Quiet scene
Lab Comparisons: REM results Speech in Quiet
-Effects of modifier positions on real ear results

Deviation from AutoSense
Lab Speech in Quiet

Deviations from AutoSense
Lab Speech in Quiet
Modifier Positions for Lab Speech in Noise scene

Custom Presets Lab Speech in Noise

-4
-3
-2
-1
0
1
2
3
4

Modifier Position

Increase

Decrease

AutoSense Baseline

-4
-3
-2
-1
0
1
2
3
4

Volume Bass Treble Noise Red. Speech Focus

Median
25%-75% range w/o outliers

PHONAK
life is on
Lab Comparisons: REM results Speech in Noise
-Effect of modifier position on real ear results
Lab Comparisons: REM results TV scene
- Effects of modifier positions on real ear results

Deviations from AutoSense
Lab TV
Modifier Positions for Lab Pop Music scene

Custom Presets Lab Music

Volume  Bass  Treble  Noise Red.  Speech Focus

Modifier Position

Increase

Decrease

AutoSense Baseline

Median
25%-75% range w/o outlier

-4
-3
-2
-1
0
1
2
3
4

Median
25%-75% range w/o outlier

-4
-3
-2
-1
0
1
2
3
4

outlier

Median
25%-75% range w/o outlier

-4
-3
-2
-1
0
1
2
3
4

outlier
Lab Comparison: REM results Music Scene
- Effect of modifier positions on real ear results
Lab Comparisons: AutoSense vs. Custom Preset for Lab Scene

- Participant Preferences visits 1 and 3

Preferences for Lab Scenes, n = 22

- AutoSense A/S
- Own Preset
- Inconsistent both visits

n = 22
*Sin, Music and TV each had one participant who said A/S and own were
IEEE scores

- Participants created their own program to use for IEEE testing at the final visit.
- Simulated IEEE in noise through Adobe Audition scene to create program.
- IEEE in noise presented in ListPlayer for actual test.
- SNR was determined in AutoSense with two practice lists for a score between 30-70%, and then testing was done blindly between A/S and own/created program.
IEEE Score Differences
Differences between AutoSense score and Own setting score
Deviations from AutoSense, IEEE Testing
Custom Settings Distribution: Environments in which app was used

- **Quiet**: quiet conversation, quiet office setting, “everyday”
- **Music**: choir rehearsals, piano playing, band practice, concert
- **Distant Speech**: lectures, presentations, church, play/live theater
- **SiN**: restaurants, parties, family gatherings, work, exercise class

- Created during 2nd Home Trial
- Average number of created settings = 5/participant
From SurveyMonkey survey:

What modifier did you like most?

- Volume: 16
- Bass: 2
- Treble: 8
- Noise reduction: 18
- Speech focus: 6

N = 24
multiple answers possible
Lab Comparisons

• Speech in Quiet
  – Preference was for whichever program they felt they could hear the voice clearer
  – ¾ who preferred AutoSense stated the bird chirping was less noticeable

• Speech in Noise
  – Those that preferred their own setting stated voice was clearer, more prominent, and less background noise
  – Those that preferred AutoSense stated less background noise and clearer speech

• Music
  – Those that preferred their own setting stated they could hear the lyrics better, more pronounced, was sharper or brighter
  – Those that preferred AutoSense stated it was more mellow, more comfortable and easier to listen

• TV
  – Those that preferred own setting stated dialogue was clearer and louder
  – Six participants said the two were very close and was difficult to choose a better setting
Subjective Comments
I like being able to program and have the ability to make as many adjustments as necessary when in a situation in which automatic is not enough.

I left in automatic most of the time, unless I was in a unique situation.

I found myself in certain situations and going right to that app to see if I could increase the experience and make it better.

The longer I had the app, the less I used it, but I still see it as a long term solution. I would re-adjust the few presets that I had already created.

I’m not anxious anymore when I walk into a new situation.

I loved the flexibility of changing it.

It’s a life changer.
Conclusions

• AutoSense does its job and does it well
  – Participants tended to stay in AS the majority of the time and loved it
  – Liked the security of having the app available to adjust in unique environment if needed
  – One size does not fit all: The same environment is a different experience for each person

• Average number of custom settings created = 5
  – Tendency to re-adjust created settings depending on current environment, but did not save as a new custom setting.

• Viewed app as a long term solution, i.e. would go back and ‘tweek’ custom created settings if needed.

• Noise Reduction and Speech Focus mentioned as the most useful modifiers, especially in created noise settings.
Conclusions, continued

- Median modifier positions:
  - SiN: centered mainly on increased NR and SF
  - Music: close to AutoSense
  - TV: varied slightly more than for music

- 59% of participants performed either equal or better with their own setting compared to AutoSense.
  - These participants had a tendency to increase the HF and decrease the LF.
  - The nine participants who performed worse with their own setting had a tendency to decrease the HF (this may be resolved with additional training or counseling)
Engage access
Empower Optimize
Ease Satisfaction
Digitalization is a big part of our daily lives - and now, the healthcare industry. In our webinar series on eAudiology we guide hearing care professionals through the digital transformation in audiology. To join a webinar or view recording please visit Phonak Learning.

Top tips for successful hearing care providers, by Dr. Gurjit Singh

A review of perceptions and report on findings

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Digital transformation in hearing healthcare

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Using eAudiology to improve hearing-related knowledge

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Consensus statement on eAudiology

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