About me: Amy Dara Hochberg

- **Profound hearing loss** since age 1 year – hearing aid (left ear)
- From New York – based in Barcelona
- PhD thesis: **written multilingual health communication** (UPF, TraDiLex)
- Research on **transcription apps and healthcare language accessibility**
- Designed accessible foreign-language learning methodology for the DHH (ACAPPS)
- Soon: **postdoctoral researcher** at GRIAL (UOC with ONCE-Investiga grant)

Language accessibility in healthcare: Bridging barriers to inclusive care

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Multilingual and sensory-accessible communication in healthcare

by

Amy Dara Hochberg

Why accessibility matters in healthcare

- Communication underpins safety, consent, and adherence
- Barriers produce unequal outcomes
- Accessibility is an equity issue

Flores, 2006; Meuter et al., 2015

Accessibility is multidimensional

- Not only physical access
- Linguistic, sensory, cognitive dimensions
- Language cuts across all care settings

Who is excluded by current practices?

- Deaf and hard-of-hearing patients
- Multilingual patients
- Patients with limited health literacy
- Users of inaccessible digital platforms

Existing forms of communication accessibility in healthcare

For deaf and hard-of-hearing patients

- Sign language interpreters (on-site / video remote)
- Real-time captioning (CART, ASR-based apps)
- Written summaries and discharge instructions
- Visual and text-based alerts

For patients who do not speak the local language

- Professional medical interpreters
- Telephone and video interpreting services
- Translated written materials
- Cultural mediators and bilingual staff

Common communication barriers

- Spoken-language dominance
- Ad hoc solutions
- Time pressure and automation

Why these solutions don’t always work in practice

- Not always available when needed
- Often treated as temporary or optional
- Quality affected by time pressure
- Digital tools focus on speed, not comprehension
- Patients adapt more than systems do

Rivas Velarde, et al., 2022; Tannenbaum-Baruchi et al., 2025

Digital health: promise and risk

- Telehealth and patient portals
- Increased reach and flexibility
- Accessibility often missing by design

Henni, et al., 2022; Higashi, et al., 2025; Valdez, et al., 2020

Why “accurate” is not enough

- Accuracy ≠ accessibility
- Segmentation, clarity, usability matter
- User-centred design is essential

Ahmed, et al., 2025; Leroy, et al., 2010

From access to understanding

- Access ≠ comprehension
- Structure, clarity, and cognitive load matter
- Language accessibility benefits many groups

Stableford & Mettger, 2007; McNamara & Magliano, 2009; Sheridan et al., 2011

When Real-Time Transcription Fails in Healthcare

- Long, unsegmented text streams
- Missing punctuation and turn-taking
- High density of medical terminology
- Loss of critical meaning (negation, condition, or dosage)

Hodgson & Coiera (2016); Miner, et al (2020)

Textual Accessibility as Patient Safety

- Misunderstanding affects consent
- Impacts adherence and follow-up
- Accessible text reduces clinical risk

Hodgson & Coiera, 2016; van Buchem et al., 2021

Multilingual Contexts Multiply the Risk

- ASR errors increase with non-native speech
- Literal translations reduce clarity
- Cultural expectations shape understanding

Koenecke et al., 2020; Nittas et al., 2024; Zolnoori et al., 2024

My postdoctoral research (brief)

- Evaluating speech-to-text tools in healthcare
- Focus on accessibility and user experience
- Multilingual contexts

Implications for inclusive healthcare

- Improved safety and trust
- Reduced inequalities
- Need for evidence-based guidelines

Towards inclusive systems

- Accessibility by design
- Interdisciplinary collaboration
- Patient perspectives central

Conclusion

- Language accessibility is core to equity
- Communication shapes outcomes

Thank you

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