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Discussing Hearing Aid Rehabilitation at the Hearing Clinic: Patient Involvement in Deciding upon the Use of a Hearing Aid

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Abstract

The quality of interaction between hearing health professionals and patients is one prominent, yet under-studied explanation for the low adherence in acquiring and using a hearing aid. This study describes two different ways of introducing hearing aid to the patients at their first visits at the hearing clinic: an inquiry asking patients opinion followed by offer, and an expert evaluation of the necessity of a hearing aid; and shows two different trajectories ensuing from these introductions. The trajectories represent two extreme ends of a continuum of practices of starting a discussion about hearing aid rehabilitation, in terms of how these practices affect patient participation in decision-making. The analysis shows how granting different degrees of deontic and epistemic rights to professionals and patients has different consequences with regard to the activity of reaching shared understanding on the treatment. The data consist of 17 video-recorded encounters at the hearing clinic. The method used is conversation analysis.

Keywords: decision-making, hearing aid, conversation analysis, offer, evaluation

The goal of medical encounters is to find solutions to the health-related problems of the patient—that is, to make a diagnosis and/or a treatment decision (e.g. Pendleton, Schofield, Tate, & Havelock, 1984). This task is complicated by the possible and often evident discrepancy in the

views and orientations of the participants concerning the feasibility of possible solutions. While professionals define patients' health-related problems in biomedical terms and treat them as an isolated entity that needs proper treatment, patients connect the problem to their everyday life and the ways in which it affects their normal functioning (Mishler, 1984; see also Kushida & Yuriko, 2015*)*. Thus, problems in communication at the encounter may easily lead to misunderstandings and to a poor outcome of the encounter.

Various review articles and meta-analyses indicate a significant association between physician–patient communication and patient adherence[1] (Zeber et al., 2013; Zolnierek & DiMatteo, 2009). The quality of doctor-patient interaction is presented as one prominent explanation for patient non-adherence (e.g. Stevenson, Cox, Britten & Dundar, 2004). Concordance between the professional and the patient about the nature of the patient's problem (Kerse et al., 2004), as well as the patient's ability to voice their expectations and preferences or respond to doctors' decisions and actions (Britten, Stevenson, Barry, Barber, & Bradley, 2000), have been suggested to be particularly important in this respect.

Research concerning the interaction process between professionals and patients in HA (hearing aid) rehabilitation is still scarce, but the few available studies point at the quality of interaction, especially at the early stages of HA rehabilitation, as a potential explanation for the low adherence in acquiring and using a HA (Egbert and Deppermann, 2012; Matthews & Heinemann, 2009; Skelt, 2006).

Hearing loss concerns 10–15% of the population in Europe (Pascolini & Smith, 2009). The compliance rate in using hearing aids is low, however; only 20–50% of those who would benefit from the use of hearing aids actually use them (Vuorialho, Karinen & Sorri, 2006). Research on patients' experiences in audiological rehabilitation encounters suggests that the reasons behind the problems of adherence to using HAs in everyday life are largely social (Hindhede, 2010; Knudsen, Öberg, Nielsen, Naylor, & Kramer, 2010).

Intertwined with the social reasons behind the low compliance rates are psychological and emotional concerns attached to the use of hearing aids. The method of conducting interactions in HA rehabilitation can enable or restrain the extent to which patients are able to discuss their concerns with regard to various aspects of starting to use a hearing aid. These include issues such as their need for hearing aid, possible stigma attached to using the hearing aid in social situations, the usability of the hearing aid, and the extent to which it will offer a remedy for the problems they experience (Hétu, 1996; Hindhede, 2010; see also Donovan & Blake, 1992; Goffman, 1963.)

We analyzed a key moment with regard to patients' hearing health care, when they move from general practice to special care at the hearing clinic to be tested for diagnosis and future treatment concerning their hearing problems. We specifically focused on the ways in which HA rehabilitation is introduced and the trajectories that ensue from different methods of introduction during the patients' first visits to the hearing clinic.

Decision-making between health care professionals and patients has previously been studied in the context of giving a diagnosis and deciding upon treatment in doctor-patient interactions (e.g. Heath, 1992; Peräkylä, 1998; Ijäs-Kallio, Peräkylä & Ruusuvuori, 2011; Stivers, 2005, Stivers et al. 2017). These conversation analytic (CA) studies have shown how the asymmetry between the institutional tasks and roles of doctors and patients is co-constructed by the participants, instead of just doctors imposing their medical authority on patients (cf. Mishler, 1984). The studies have described doctors' orientation toward taking into account the patients' views in giving a diagnosis (Maynard, 1992; Peräkylä, 1998) or in suggesting particular treatments (Ijäs-Kallio et al., 2011; Kushida & Yamakawa, 2015; Stivers, 2005; Toerien, Shaw & Reuber, 2013). On the other hand, they have also described patients' subtle ways of challenging the doctors' decisions (Ijäs-Kallio et al., 2011; Koenig, 2011; Lindström & Weatherall, 2015; Peräkylä, 1998).

A further development in CA studies on treatment discussion centers on the ways in which doctors can provide opportunities for patients to participate in decision-making. Kushida and

Yamakawa (2015) have drawn attention to the ways in which psychiatrists accommodate patients' perspectives into their treatment proposals by fitting their turn design to the patients' reports and self-diagnoses (see also Ijäs-Kallio et al., 2011). Toerian et al. (2013) showed how neurologists use the practices of *treatment recommendation* and *listing options* in initiating treatment discussions. Treatment recommendation limits the options available for the patient to respond to with acceptance or denial, whereas listing options guides the patient towards choosing an option. Stivers et al. (2017) further distinguished different action types in making treatment recommendations in primary care. The choice between *pronouncements, suggestions, proposals, offers,* and *assertions* shows professionals' orientation toward varying degrees of medical authority. This includes who is to decide upon the future action (deontic authority; see Stevanovic & Peräkylä, 2012), who is entitled to the knowledge concerning the grounds of the decision (epistemic authority; see Heritage, 2012), and what is the degree of optionality of the recommended treatment.

Our focus was on the ways in which different practices of introducing HA to the patient for the first time offer different degrees of deontic and epistemic authority for the patients to take part in decision-making. We also paid attention to how different practices of introducing HA grant different positions of an agent and a beneficiary to the participants with regard to the future actions in question (Clayman & Heritage, 2015; Couper-Kühlen, 2014). According to Couper-Kuhlen (2014), certain social action types (requests, proposals, offers and invitations) are routinely associated with recurrent linguistic designs, where participants can make a distinction between the positions of an agent, that is, who is supposed to carry out the future action and a beneficiary, that is, who is supposed to benefit from it. We aimed to show how different formats that are used in introducing HA rehabilitation embed different constellations of patient agency and deontic, epistemic, and benefactive statuses, and furthermore, may have different consequences for reaching a shared understanding on the treatment. We did this with the help of two case studies depicting two different ways of introducing HA rehabilitation and two different trajectories ensuing from these

introductions. The trajectories described represent two extreme ends of a continuum of practices through which audiometricians introduce hearing aids to patients. The continuum reflects the extent to which the different practices encourage patient participation in decision-making.

Data and method

This study is a part of a research project, *Communication with the help of hearing aids: a comparative study of persons with acquired hearing impairment in their interactions in private settings and with hearing health practitioners,* funded by the Academy of Finland (Academy of Finland, Grant nr. 40317). The overall research objective was to map out and understand the social factors influencing HA rehabilitation processes and outcomes using mixed methods design and multiple data (video-recordings at the hearing clinic, home and work, standardized questionnaires, referrals to the clinic and interviews). This study focusses on the video recordings of the patients' first visit to the hearing center.

The participants for the study were recruited through hearing clinics in two large cities in Finland. While filling out the questionnaire, the participants could choose whether they also wanted to take part in the video recordings and interviews. The data for this study consisted of video recordings of the 12 individuals whose first visits to the hearing clinic were recorded. In these visits, the 12 participants interacted with an audiometrician, and five of them also interacted with a doctor.[2] Each encounter lasted approximately 30 minutes. The 12 participants were working-aged (48–63 years) individuals (8 male and 4 female). All participants had mild-to-moderate sensorineural hearing loss with a better ear hearing level (BEHL) of 23–45 dB.[3] The participants gave their informed consent to take part in the study before entering rehabilitation. All information enabling recognition of the participants was anonymized. The project was evaluated and approved by the ethical boards of the relevant hospital districts (nr. 419/13/03/02/2009).

Procedure in HA clinics

In Finland, HA rehabilitation is funded by the public health service system, and every patient has a right to a hearing aid when their hearing impairment is greater than 20 decibels averaged over a frequency range of 0.5–4 kH< in the better-hearing ear. In practice, the need for a hearing aid is usually evaluated individually, also depending on a speech discrimination score. General practices or occupational health care refer the patients to the specialist at the hearing clinic after possible indication of a need for HA rehabilitation has been detected in a basic hearing test. At the hearing clinic, an audiometrician tests the patient with more refined hearing tests and drafts a rehabilitation plan with the patient (choosing a suitable hearing aid, if necessary, drawing upon the audiogram and patient interview). The hearing tests at the clinic are indicative of the patients' eligibility for HA rehabilitation. The professionals are mostly audiometricians, i.e., medical treatment professionals who are specialized in hearing testing and rehabilitation. In some health districts, all patients also meet an ear, nose, and throat (ENT) doctor who examines their ears; in others, doctors are only consulted when the audiometricians find it necessary. The final decision on the diagnosis and public funding for the patient's HA is made by an ENT doctor based on the patient's encounter at the hearing clinic.

HA rehabilitation at the hearing clinic thus begins with a hearing testing and pre-fitting discussion visit. If HA rehabilitation is seen as appropriate, in the subsequent visit, the hearing aid is fitted and adjusted. The majority of patients attend only these two visits. The third, the control visit, is optional. We focused on pre-fitting encounters where, after the testing, the possibility of hearing aid rehabilitation is introduced to the patient. Our specific interest was on the ways in which the decision-making process concerning acquiring and using the HA unfolds in the discussion.

The method

The method used was conversation analysis (CA; Sacks, 1992; Schegloff, 2006), a method that allows for micro-analysis of the features of speech and non-vocal interaction through which HAs are introduced to the patient and through which patients receive these introductions. All sequences of conversation where HA or HA rehabilitation was introduced to the patients were collected for analysis. In the analysis, the sequences were examined for their linguistic design and for the kind of conversational actions the linguistic formulations enabled. One sequence could contain several references to starting the rehabilitation process. Both the speaking turns of the professional and the patient were examined. Mostly, the sequences were situated in the context of interpreting the results of the hearing test that was performed as the first activity of the encounter.

In studying decision-making, we paid attention to the patient's agency by examining orientations toward the deontic, epistemic, and benefactive rights that emerged in the participants' discussion (see Clayman & Heritage, 2015; Heritage, 2012; Stevanovic & Peräkylä, 2014) and the ways in which different constellations of these guided the possibility of arriving at a shared understanding on the necessity of HA rehabilitation. We examined how the linguistic design of the introduction of HA rehabilitation reflected who was to decide upon the future action (deontic authority), who was entitled to the knowledge concerning the grounds of the decision (epistemic authority), and who was presented as the agent and/or the beneficiary of the proposed future action. Furthermore, we examined what kind of trajectories of talk ensued from these introductions.

Professionals' ways of introducing HA rehabilitation

The ways in which the professionals introduce the use and qualities of the hearing aid vary from straight declaratives, stating that a hearing aid will be fitted, to interrogatives asking the patients' opinion about HA rehabilitation and offering this possibility to the patient. Each design of a speaking turn introducing the hearing aid includes specific presuppositions concerning the patients' readiness to adopt a hearing aid and affords different degrees of possibility for patients to voice

their own perspectives concerning the use of HA (cf. Toerian et al., 2013). In the following, we present two cases depicting two different ways of topicalizing HA use, followed by their intra-encounter consequences for the decision-making process. The first case shows the professional's inquiry asking the patient's opinion concerning the starting of HA rehabilitation, followed by an offer. In the second case, the professional introduced HA rehabilitation as her expert opinion, referring to test results as grounds for it. The cases represent two extreme ends of a continuum, granting different rights and responsibilities to the participants taking part in making the decision on starting HA rehabilitation, and further, taking different stances towards the relevance of medical vs. lay expertise in making the decision.

Inquiry asking patient's opinion followed by offer

Extract 1 shows a case where the patient was provided the most extensive deontic rights and where the relevance of lay expertise in making the decision was emphasized. HA was topicalized in the form of a question concerning the patient's own opinion or thoughts on HA. Before the extract began, the patient took the hearing test, the audiometrician interpreted the test results to the patient, and the participants discussed the situations where the patient experienced problems with her hearing. The patient stated some problems when watching TV with a background noise. The audiometrician acknowledges this at the start of the extract (Extract 1a, lines 4–10). The transcription key is found in the appendix.

Extract 1a: (H047, Jenni ; AUD=audiometrician ; PAT=patient)

```
04 AUD:   sitte [se,
          then  [it,

05 PAT:         [sillon on ongelmia.
                [then there are problems.

06 AUD:   hankaloituu.
          gets difficult.
```

07 (.)

08 AUD: joo.
yes.

09 (1.0)

10 AUD: joo.
yes.

11 (1.0)

12 AUD: → .hh ootsä itse< itse ajatellu, (.) #kuulokojetta
have+you self self thought hearing-aid+about
.hh have you yourself< yourself thought, (.) about #a hearing aid

13 → tai kuulokojeen käyttöön, (.) ottamista#.
or hearing aid in use taking+about
or using (,) a hearing aid#.

14 (1.0) ((P gazing down, hand on chin))

15 PAT: .hh hh no oon [silleen et,
well yes+I [in-a-way that
.hh hh well yes I have [in a way that,

16 AUD: → [millä tavoin.
[what+in way
[in what way.

17 (.)

18 AUD: krrhhm krrhhm,

19 PAT: että tota,
that um,

20 (2.5)

21 PAT: mun kaksossiskol on ollu jo, (.) muutama-
my twin sister has had one already, (.) couple of-

22 en, [en tiedä kuin monta vuotta mutta vuosia.
I don't,[I don't know how many, but for years

23 AUD: [aha,
[I see,

((omitted 3 lines of patient's response where she tells about her twin sister's use of hearing aid))

26 PAT: ja, (.) ja tota hänen, (.) käyräänsä ku tossa
and, (.) and erm as we, (.) compared her curve to mine
27

28 PAT: verrattiin ni ihan samallaiset oikeestaan ollu
there so exactly similar they've been

29 sillon ku hän on sen saanu ekaa kertaa sen,

```
          when she has got it for the first time,

30        (.)

31 AUD:   ↑mm,

32        (0.5)

33 PAT:   ja hänel on ollu hirveesti apuja siitä.
          and it has been very helpful for her.

34 AUD:   ↑mm, mm,

35 AUD:   aivan.
          right.

36        (0.5)

37 AUD:   ihan, ihan  se on, #ö# mahdollista nyt
          quite quite it is   eh possible    now
      →   quite, quite it is, #eh# possible now

38        sullek[kin.
          you-ALL+too
      ➔   for you[ as well.

39 PAT:           [et ihan, (.) ihan tavallaan samallaisia
                  [like quite, (.) she had quite in a way similar

40        ongelmia.
          problems.

41 AUD:   joo-o,
          right,

42        (.)
```

The audiometrician asked a polar question about the patient's thoughts concerning HA and acquiring a HA (lines 12–13). The question made relevant a positive or a negative answer, grammatically preferring the prior (Hakulinen et al. 2004, § 1694), anticipating that the patient had been thinking about the option. The question is hearable as a topic opener, making relevant both a confirmation and a continuation; it brings up the issue of acquiring a HA and explicitly asks the patient's own view about it (Sorjonen 2001, 41–43) without displaying the professional's view. Through her use of a polar question, the audiometerician treated as relevant the patient's deontic right to display her own view concering the decision. After the decision, there was a gap (line 14),

during which the patient gazed down, after which she gave a type-conforming answer "no oon" *well yes*, where the particle *well* projects an extended telling (Sorjonen, 2001, 41–43).

The patient answered with a narrative about her twin sister having had a hearing aid for some time and having greatly benefitted from it (lines 19-34). The patient did not explicitly state her view toward HAs, but her narrative implies a positive attitude towards getting a HA. The audiometrician interpreted the narrative as such by offering the patient the possibility to get a HA, saying "*Quite quite, it is, #eh possible now for you as well."* (lines 37–38). The offer was made as a responsive action to the patient's information delivery, describing HAs as an option for the patient and orienting to her deontic right to accept or reject the offer (cf. Toerian et al., 2013). The professional, however, maintained her epistemic authority as a knowledgeable participant concerning the patient's possibilities to acquire a HA. By describing HAs as a possibility for the patient, the professional's turn design posits the patient as a beneficiary of the action.

The patient continued by adding a coda to her narrative, emphasizing the similarity of her and her twin sister's hearing tests, further adding to the impression of her positive stance towards getting a HA (lines 39–40). Thus, although she did not give a straight response to the professional's offer (on offers, see Couper-Kuhlen, 2014; Curl, 2006), her stance toward HAs is clearly observable. The audiometrician closed the sequence with "joo-o," (right), at line 41. This type of design resembles the *perspective display series* (PDS; Maynard, 1992), where the patient's own view on the situation is first asked about, after which it is integrated into the diagnosis.

Following the patient's implicated approval of starting HA rehabilitation, the audiometrician started a section where she gave information concerning issues that are relevant for successful rehabilitation (Extract 1b).

Extract 1b: (H047, Jenni; the symbol 0 in the gloss lines 49–50 refers to zero person design)

```
43 AU:     joo, et kaikist tärkeintähän siin  on se   et se
           right, so the most important thing there is that the

44         kuulo on tietyissä, (.)   tietysti   rajois niin et
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```
           hearing is within certain, (.) of course limits so that

45         niitä ongelmia on    ja sitte että on oma
           there are those problems and then that one is

46         motivaatio,
           motivated,

47 PAT:    joo.
           yes.

48 AUD:    sen käyttöön ottoon koska se sitte vaiku- öö mm,
           to use it as it then affect- eh mm,

49         täytyy sitte tavallaan niinku, (.) totutella
           0+must then in-a-way   like       get used to
           one must then in a way like, (.) get used to

50         siihen et sit   saa   sen, kaiken mahdollisen hyödyn
           it    so  then 0+gets that, all  possible     benefit
           it that then one gets the, all possible benefit

51         irti sii[tä.
           out of  [it.

52 PAT:            [joo.
                   [yes.

53 PAT:    ja sit just sillei et ku ne ei oo enää nykyään
           and then exactly so that as they are nowadays not any more

54         niit semmosia kauheen isoja ruskeita möykkyjä
           the kind of terribly big brown lumps

55         t(h)uolla k(h)orv(h)an t(h)a[k(h)ana nihh.
           t(h)here b(h)ehin(h)d the   [e(h)ar sohh.

56 AUD:                                [£Niin.£
                                       [£Right.£
```

With her turn, the audiometrician suggested how to best benefit of HA use. She described the benefits using a so-called zero-person formulation, which depicts the activities talked about as concerning a "generic participant of rehabilitation" (43–51). In this formulation, the subject is left out but the verb is in third person singular (Hakulinen et al. 2004, § 1347). The professional thus depicted the information as applicable, shareable, and something to be used for the benefit of the generic user (50–51). This formulation allows both participants to locate themselves in place of the zero-person, that is, the agent of the action talked about.

The patient received the information with "Joo." Y*es.* (line 52), acknowledging that she registered the information given. At line 53, the patient continued to describe the potential situation

of HA use by referring to the modern appearance of HAs as not as discernible as before. She used a continuer *and*, connecting her upcoming turn with the audiometrician's preceding one, thus joining the common discussion on potential future use of HAs. She mentioned a positive aspect of modern HAs, that of their imperceptible appearance, displaying her positive stance towards starting HA use. Her colloquial choice of words and the laughter at the closure of her turn implicated a switch to a humorous stance (lines 54–55), which was affiliated with by the audiometrician by her *Right*, response that was uttered in a smiling voice (line 56). At this point, it seemed that the participants had reached an implicit agreement that HA rehabilitation would be an option for the patient. It is noteworthy that there was no explicit acceptance by the patient of the offer made by the audiometrician, but instead, we can see how the participants reached a shared, positive stance toward HA use at this point.

The participants continued talking about the size of HAs, referring to the patient's sister's existing HA. The patient spoke about having feared that the HA would be noticeable, and underlined how her sister's HA was very small. Following this, the audiometrician checked the patient's ears and informed her that acquiring a small HA was a possibility. That they had reached an agreement on the patient starting HA rehabilitation is evident in the next excerpt, where they agree about the next visit (Extract 1c).

Extract 1c: (H047, Jenni)

```
01 AU:    ja tota, nyt ennen ku me erotaan nin mä annan

          and erm, now before we part I'll give you

02        sulle sen jatkoajan, (.) jollon me jatketaan
          that next appointment, (.) when we continue

03        o- oli se koje ny mikä tahtojaan nin sillo-
          we- were that HA now whatever it is so then-

04        silloin mä sen sit sovitan sulle.
          then I'll fit that for you.

05 CL:    joo.
```

yes.

In introducing HA by using inquiry and offer, the patient is treated as an agent in making the decision, her view is brought to discussion, and the decision on the use of a HA is made in a shared fashion. This way of introducing HA preserves the professional's epistemic rights concerning the medical sphere while granting the patient expertise concerning her own experiences. Furthermore, it opens up possibilities for the patient to bring up potential other concerns, such as fear about the visibility of the HA.

Expert evaluation of necessity of HA

Extract 2 shows a case where the patient was provided with minimal deontic rights and where the medical expertise of the professional in making the decision was emphasized. In extract 2, the professional introduced HA rehabilitation by making an expert evaluation that was framed as a necessity for the patient (lines 12–17). The extract starts from a situation where the patient stepped out of the sound shelter, walked towards his seat, and commented upon his achievement in the hearing test while sitting down (Extract 2a; lines 2–3, 9).

Extract 2a: (H054, Vesa; the symbol 0 in the gloss lines 2 and 9 refers to zero person design)

```
01          (4.2) ((PAT walks to his seat))

02 PAT      joo, kyl   sen (0.3) huomaa että hh (0.4) putoaa kärryiltä
            yes  indeed that    0+ notices that      0+drops out
            yeah, one indeed (0.3) notices that hh (0.4) one drops out

03          tietyssä vaihees.
            at a certain point.

04          (0.3)

05 AUD      j:oo, (.) mä laitan tän oven nyt kiinni,=toi johto on tossa
            ye:s, (.) I'll close the door now,=the wire is there

06          nii, (0.3) siirretään tätä vähän, (0.4) ↑no:in,=voitte istua
            so, (0.3) let's move this a bit, (0.4) ↑righ:t,=you can sit

07          siihen,
            there,
```

08 (2.0) *PAT sits down*

09 PAT jossai vaihees on (0.3) melko varma sanasta mut sitte
some+in stage+in 0+is pretty sure word+of but then
at times one is (0.3) pretty sure of a word but then

10 häipyy jotkut kirjaimet.
some letters vanish.

11 (0.5) *AUD turns away from PAT to take the audiogram from printer*

[*AUD gazes at audiogram*
12 AUD → [nii, =on tää nyt sit sen verran pudonnu että kylhän
[yeah has this now then to-that-extent fallen that sure+CLI
[yeah,=this has now then lowered to the extent that indeed

13 → se kuulokoje tässä ihan kyl on,
it/the hearing-aid here quite sure is
the hearing aid here quite surely is,

14 (0.7) *AUD gazes at audiogram, stamps it*

15 PAT mm:hm?

16 (0.6) *AUD gazes at audiogram, stamps it*

[*AUD gazes at the documents and moves them on the desk*
17 AUD → [<on paikallaan,> hh. .mthh (0.3) tota:,
[<**is in order,> hh. .mthh (0.3) er:,**

18 (1.3) *AUD gazes at documents on desk*

19 PAT onks täs mitään mahollisuutta että siel on (.) niinkun
is there any possibility that there's (.) like

20 muuta vikaa että tuntuu että niinkun (0.3) .hhh ne on
something else wrong that it feels like (0.3) .hhh they are

21 niinkun (.) vähä (0.3) tukkeet,=>niinkun,< (0.4) nuha-
like (.) a bit (0.3) blocked,= >like< (0.4) snot-

22 nuhaset mut,
snotty but,

23 (0.8)

24 AUD .hhh no (.) lääkäri katsoo ne korvat vielä, #ee# (0.3)
.hhh well (.) the doctor will take a look at the ears, #eh#

25 tota v:oihan se,=o- onks tota semmosta (0.5)korvien
(0.3) er, it could,=d- do you have the kind of (0.5)

26 lukkosuutta noin [muuten et et,
locking of ears [otherwise so that,
[*AUD turns to gaze at PAT*

In lines 9–10, the patient evaluated his performance in the hearing test. He used a zero-person formulation, making his experience shareable (Hakulinen et al. 2004, §1347), and thus opening it up for comments. The audiometrician affiliated minimally with the evaluation by producing the particle *nii* (line 12), which recognized the patient's disclosure as shared knowledge (Sorjonen, 2001, 143–145). Thereafter, the audiometrician rushed to give her opinion based on the results of the hearing test (lines 12–13, 17). She thus gave only a minimal response to the patient's topicalization of his hearing issue, and changed the topic to the interpretation of test results. It is noteworthy that unlike in case 1, there was no discussion concerning the patient's own view about his level of hearing or HA rehabilitation even preceding the hearing test. Although the patient offered his hearing issue as a topic of discussion by commenting on it following the hearing test, here, the professional refrained from engaging in such discussion and asking about the patient's own perspective towards HA rehabilitation. Thus, the patient's viewpoint concerning HA rehabilitation remained unexamined.

In introducing the HA, the audiometrician referred to the hearing curve displayed on the audiogram with the pronoun *this*, saying that *this has lowered to the extent that indeed the hearing aid here quite surely is in order*. She grounded her evaluation in the audiometric test results without referring to the patient's own experience, which was available in the preceding comment, orienting only to the professional's epistemic rights as an expert. The continuation of the turn starting with "kyl-hän" (*sure*+CLITIC, corresponding approximately to *indeed*, lines 12–13), makes a presumption about the necessity of a HA. The clitic *-hän* in a declarative utterance implies that the knowledge is shared and self-evident (Hakulinen et al. 2004, §830), and the expressions "ihan" (*quite*) and "kyl" (*surely*) add reassurance and persuasion to the design of the turn. It is noteworthy that during, and at the end of her turn (starting from line 11), the audiometrician continuously gazed down at the documents on the desk, and stamped them (lines 14 and 16). She finished her turn at line 17 with a continuing intonation, gazed at the documents, took an inbreath, and started a new

turn with *er:*. Thus, she indicated that she was not waiting for the patient to comment on her evaluation. With her expert opinion that it was necessary for the patient to acquire a HA, and her focus on the documents on the table instead of the patient, the audiometrician treated herself as having deontic rights to issue a HA to the patient. Giving the treatment recommendation as an evaluation makes agreement or disagreement with the evaluation relevant (Pomerantz, 1984). In a situation where medical expertise is used to give grounds for the evaluation, from the lay perspective, disagreeing with it may not be an easy task.

However, after a gap of 1.3 seconds, the patient challenged the professional's view on the necessity of HA (lines 19–22). The patient asked whether the hearing problem could be caused by a cold or some temporary blockage rather than a hearing deficit that needed HA rehabilitation. Suggesting an alternative is a common way for patients to challenge doctors' diagnostic statements in general practice consultations (Peräkylä, 1998). As in Peräkylä's cases of doctor-patient interaction, the patient thus avoids confronting the professional's diagnosis directly, orienting to her epistemic authority in medical expertise, and resorting instead to his own experience of feelings of blockage from a temporary cause such as snot. The audiometrician first bypassed the patient's suggestion by referring to a medical expert checking the ears later (line 24), but then addressed the suggestion by stating that such a possibility may exist (line 25) and started to interview the patient on possible symptoms related to those mentioned by the patient. The patient responds by describing his symptoms, comparing them to two common conditions that cause blockages (Extract 2b, lines 27–29, 31–32).

Extract 2b: (H054, Vesa)

```
27 PAT     .hh #no# (1.4) sanotaan että (1.0) ei sillee niinku jos- (.)
           .hh #well# (1.4) let's say that (1.0) not the way like som- (.) it

28         joskus on    [(.) #mm# vaha- (.) vahasta menny tukkoo=sille- sillee
           sometimes has[ (.) #mm# got stuck due to wa- (.) wax.= lik- like
                        [AUD turns to gaze at computer
```

```
29          ei m[ut s- sillee kun (.) niinkun .hh kova       ] (.) n:uhah (.)
            no b[ut l- like when (.) like .hh  a bad         ] (.) head cold (.)

30 AUD          [no mut s- esimerkiks     [se, (.)    joo.   ]
                [well but t- for example  [that, (.) yes.    ]
                                          [AUD > PAT

31 PAT      niin, (.)        niel- [(.) nieleskelee niin ne (.) vähän niinku
            so then, (.) one swal- [(.) swallows so they (.) a bit like
                                   [AUD gazes away from PAT, scratches her wrist

32          paukkuu. [.hhh
            pop.     [.hhh

33 AUD              [nii et siel (.) siel voi olla vähä      alipainei[suutta
                    [so that there (.) there may be a bit negative pre[ssure
                                                                       [AUD > PAT

34          että se tekee sitä tukkosuuden tunnetta [mut .hh[hh ei se (.)
            so that makes it feel blocked           [but .hh[hh it doesn't (.)
                                                    [AUD gaze at documents

35 PAT                                                      [°joo.°
                                                            [°yes.° PAT nods twice

36 AU       ei se tohon kuulemiseen=tää on ihan
            it doesn't [effect] that hearing=this is caused by just


37          sisäkorva[peränen tää kuulonalenema
            the      [inner ear this decline in hearing
                     [PAT nods slightly

38          et kyl se [kuulo tuossa menee (.)
            so surely [the hearing goes there (.)
                      [PAT opens and closes mouth as if uttering yes
                      [AUD gazing at documents

39          .hh et ei (.) ei siinä niinku sillai oo mitään muuta tehtävissä
            .hh so there's not(.)there's nothing else to be done in that way

41 PAT      joo.
            yes.

42 AUD      ku se kuulo .hh laite.
            than that hearing .hh aid.

43          (0.4) PAT nods once
```

The patient described his experience as similar to having a bad head cold, explaining how swallowing caused popping in his ears (27–32). This was received by the audiometrician with a candidate understanding wherein she formulated the lay experience of the patient into a technical one of there being *negative pressure*, explaining the sensation of popping with technical vocabulary (33–34). The patient accepted this explanation by stating *yes* and nodding twice. Overlapping with

this, the audiometrician contradicted the patient's suggestion, explaining that this negative pressure does not affect hearing, that the patient's decline in hearing originates in the inner ear, and that there is no other remedy to that except the HA. During her turn, she gazed at the audiogram, using it as her reference point by referring to how *the hearing goes there* (line 37) and using it as evidence for her evaluation.

The audiometrician's statement was again an expert evaluation, making relevant an agreement with the treatment plan. It contained the extreme case formulation *there's nothing else to be done*, leaving no space for disagreement. Thus, it kept both the epistemic and the deontic authority with the professional. The patient responded to the closing statement of the audiometrician on a HA being the only remedy (line 42) with a slight nod (line 43). He thus acknowledged the audiometrician's expert statement but showed no explicit conformity with it. Thereafter, the audiometrician continues with a suggestion on acquiring HAs in both ears (Extract 2c).

Extract 2c: (H054, Vesa)

```
44 AUD     .hh kun näis ei oo puolieroakaan sillai et=.hh (.)
           .hh as there is no side-difference  so that=.hh (.)

45         ja (0.3) kun nää on näin symmetriset:kin nää korvat niin,
           and (0.3) as these are so symmetric even these ears so,

46         (1.2) niin niin,=mitäs (.) mieltä te olisitte kahdesta kuulokojeesta
           (1.2) so like,=what (.) would you think about two hearing aids

47         ku sillä saa sen suuntakuulonkin,
           as that way one also gets the directional hearing,

48         (0.6)

49 PAT     niin se on varmaan (.) niin ajateltava.
           so   it is probably    so  0+think+must
           so one must probably (.) think like that.

50 AUD     mm:.

51         (.)
```

The audiometrician started her utterance with an *as… so…* structure, as if giving grounds for an argument or evaluation with the *as* clause. The grounds given drew upon her expert knowledge as a hearing professional. However, before arriving at the actual *so* clause, she changed direction at line 46 and formulated the recommendation as a question to the patient, asking his opinion concerning acquiring HAs in both ears. By proposing two HAs, the audiometrician treated the decision on getting a HA as already made. She framed her question with three grounds for acquiring the two HAs. She used technical terms such as *side-difference*, *symmetric,* and *directional hearing*, thus displaying expert knowledge that was not shared by the patient. Thus, even if the patient was seemingly given a choice by asking his opinion, he was likely not competent to argue for an alternative solution concerning the benefits of two HAs. Following a gap of 0.6 seconds, the patient agreed with the recommendation, saying *so one must probably (.) think like that* (line 49). The patient's response showed hesitation, with the preceding gap and the word *probably*, and displayed a lack of choice with the choice of the modular verb construction *must think*. As the interaction continues (Extract 2d), the audiometrician treats the response as not sufficient agreement, as she gives more grounds for acquiring two HAs, this time from the lay point of view:

Extract 2d: (H054, Vesa; the symbol 0 in the gloss lines 52–53, 57 refers to zero person design)

```
52 AUD     koska sit joutuu kuitenkin, (0.3) kun on (.) paljon ihmisiä
           because then 0+must anyway        as there+are lots of people
           because then one must anyway, (0.3) as there are (.) lots of people

53         nii miettimään et missä    is[tuu et (.) kuulee sen äänen
           so think     that where   0+sits  that  0+hears that voice
           so think that where one is si[tting so that (.) one hears the voice

54 PAT                                   [joo.
                                         [yes.

55 AUD     #molemmilta puolilta# että se,
           #from both sides# so that it,

56         (0.8)

57 PAT     no nyt on (  ) yrittää oikeelle puolelle sitte kään°tää,° (.)
           well now it+is 0+tries right+to side+to then  turn
           well now it's (  ) one tries to turn towards the right °side then°
(.)
```

```
58          [kääntää°kun (  ) (  )° olevinaan,
            [to turn °as (   )(   )° as if it were,

59 AUD      [niih, nii.
            [yes, yes.

60 PAT       (.) pik- (.) tai ollu ainaki pikka°sen parempi.°
             (.) somewh- (.) or has been at least some°what better°.

61          (.)

62 AUD      joo:, .h n:äis ei sillä tavalla oikeestaan oo eroa,
            ye:s, .h th:ere is actually no difference between these in that way,

63          .mt .hhh (0.4) et kyl nää (.) ihan symmetriset on,=>se on vähän
            .mt .hhh (0.4) so indeed these (.) are quite symmetric, => it's a bit

64          semmonen tottumuskysymyskin tietysti<,   =.h[h mut mää
            the kind of question of habit of course<,=.h[h but I'll

65 PAT                                                  [joo.
                                                        [yes.

66 AUD      nyt <katon vähän noita kojeita täältä ett:ä::>,
            <check the equipment here a bit now so:>,

            (13.0)
```

The audiometrician described an everyday situation from the point of view of someone wearing a HA (lines 52–53, 55). She used a zero-person formulation, thus depicting the experience described as shareable, arguing for the two HAs. The patient thereafter made an argument based on his own experience, contrary to the audiometrician's view, stating that there is actually a difference in hearing between his ears and suggesting that his right ear is a bit better (lines 57–60). However, he qualified his utterance with *as if*, depicting his point of view as less than certain, and changed direction at line 60, where he self-repaired and situated his experience in the past rather than the present. This way, he marked his own experience as uncertain. Thereafter, the audiometrician corrected the patient's description, saying *there is actually no difference*. The certainty of her statement was emphasized by stressing the verb *is* and using the qualifier *actually*, which pointed at the audiometrician having the correct information. Following this, the audiometrician informed the patient that she would start to choose a HA for him (lines 64, 66).

In the trajectory of introducing HA as an expert evaluation, the evaluation was made before the patient's view was clarified, grounding it in the test results. The HA was presented as a necessity rather than a possibility for the patient, undermining the patients' deontic rights to decide about starting rehabilitation. The evaluation was grounded on expert knowledge about how to interpret the audiogram, implying that the professional possesses the necessary knowledge–the epistemic rights– to make the decision. It is noteworthy that the patient challenged the professional's expert evaluation of the necessity of a HA, which implied a negative stance towards accepting the recommendation. The patient's hesitation in agreeing with the audiometrician was also observable in the way he formulated his compliant turn at line 49, and in the way he received the audiometrician's further recommendation of acquiring two HAs. The patient's resistance arose in a situation where the professional did not consider the patient's deontic right to participate in the decision-making process regarding his hearing rehabilitation. In this kind of interactional trajectory, the professional does not treat the patient as an agent in his own therapy process, and there is no space to openly discuss the potential concerns the patient may have regarding the use of HAs.

Discussion

The analysis showed two cases with opposite ways of introducing HA rehabilitation in Finnish hearing clinics, followed by two different trajectories of decision-making. The trajectories illustrate two ends of a continuum of practices used by hearing professionals in terms of patient involvement. The following table shows the trajectories in each case.

	Case 1:	Case 2:
Sequential location	Following PAT interview on experiences of hearing decline in everyday life	Following hearing test
AUD's Topicalization of HA	Topic proffered in the form of a polar question on PAT's own view concerning HA rehabilitation	Expert evaluation

PAT response	Implying positive stance with a narrative on twin sister's successful HA rehabilitation	Challenging expert evaluation with alternative derived from own experience
AUD	Offer displaying HA as a possibility	Interviewing PAT on the alternative
PAT	Implied acceptance of offer by reference to similarities with twin sister's hearing problems	Providing knowledge on own experience
AUD	Gave information on prerequisites for successful HA rehabilitation (importance of motivation)	Expert evaluation on PATs described problems as not causing hearing decline + statement of HA being the only remedy
PAT	Agreement with HA rehabilitation	Minimal acknowledgement
AUD	Suggesting next visit	Expert evaluation on starting rehabilitation with two HAs
PAT		Hesitant agreement displaying reluctance to HA rehabilitation as obligatory
AUD		Giving grounds from viewpoint of HA user
PAT		Arguing against two HAs drawing upon own experience but changing direction
AUD		Correcting PATs experience drawing upon medical expertise + starting to choose HA for PAT
Epistemic authority	PAT & AUD	AUD
Deontic authority	PAT & AUD	AUD
Agency	PAT	AUD

Table 1: Two Trajectories of Decision-Making on Starting HA Rehabilitation

The trajectory of *inquiry and offer* depicted the patient as an active agent having a choice in the decision about starting HA rehabilitation and benefitting from the service offered. The patient's epistemic rights were respected in that her everyday experiences with hearing issues were inquired about. In this case, the patient also showed a positive stance towards HA rehabilitation. In the trajectory starting with *expert evaluation*, the professional held both deontic and epistemic authority, correcting the patient's everyday experience with expert knowledge based on test results and thus treating the patient's agency as unnecessary for making the decision. In this case, the

patient's stance towards HA rehabilitation was negative at first, and his agreement to start HA rehabilitation was hesitant.

The two trajectories describe the extreme ends of a spectrum of decision-making patterns in HA rehabilitation within our data. The case studies bring to the fore the ways in which the process of decision-making regarding HA rehabilitation may be built as more or less patient- or professional-driven. In the cases studied, the *inquiry with offer* type of topicalization resulted in affiliative stance and alignment, while the *expert evaluation* type was followed by a negotiation between conflicting perspectives. Single cases do not enable conclusions concerning the outcome of pre-fitting consultations in general, but considering the distribution of agency, and epistemic and deontic rights evident in these two trajectories, similar consequences of these kinds of introductions seem possible also in a larger collection of cases. The personal and social consequences of a treatment have been shown to be crucial with regard to adopting it in use (Donovan & Blake, 1992; Hétu, 1996; Hindhede, 2010). Thus, it seems feasible to suggest that inquiring about the patients' own perspective about the use of HA and their experiences concerning the consequences of hearing issues in everyday life and supporting their own agency in deciding about HA use would be beneficial in terms of acquiring an optimal outcome in consultations concerning hearing health.

What then, explains the use of expert evaluations in the context of hearing health consultations? One possible explanation is provided by Pomerantz et al. (2009) who refer to the over-reliance on test results in delivering diagnoses in contexts where the professionals may be less secure with regard to their position as medical experts. Audiometricians in Finland are nurses who receive a short additional training course in audiometry. Their trust in their level of medical expertise may thus be comparable with that of medical students that were observed in Pomerantz et al.'s study.

A further explanation for resorting to the expert evaluations in introducing HA rehabilitation may lie in institutional factors. The way in which the service is organized may have an influence on participants' divergent orientations concerning the stage of the rehabilitation process. In Finland,

patients are referred to the hearing center from occupational health care or a general practice. The professionals' method of introducing HA rehabilitation as somewhat self-evident, provided that the patients' hearing impairment is severe enough to fulfil the criteria, implies a presupposition that the patients have already been discussing their options regarding getting a hearing aid within the general practice and have made a decision to start HA rehabilitation. That is, professionals may presume that merely by attending the pre-fitting encounter, the patients show a positive stance toward HA rehabilitation. Patients, on the other hand, may not have a clear idea of what the rehabilitation process entails, and may expect an opportunity to go through their hearing problems and discuss their thoughts concerning the use of HAs with an expert.

In addition, the professionals' unilateral manner of announcing the start of HA rehabilitation may partly stem from the municipal funding of the service. In Finland, the first hearing aid is free-of-charge for the patients if they fulfil the medical criteria. This allows professionals to position themselves as having the deontic authority to decide upon providing a free-of-charge remedy for the patients' weakened hearing, and the patients as requesting a free service for themselves rather than having deontic rights concerning the decision. The patients' status as service recipients may thus seem self-evident to the professionals.

The patients, however, may not see themselves as straightforward beneficiaries of the service, and may not be ready for the change of auditory environment that the HA would bring. Many patients who attend a hearing clinic for the first time are considering HA rehabilitation due to external pressure by people close to them (Hindhede, 2010). They may not feel the need to augment their hearing with a HA themselves; they have no internal motivation (see Deci & Ryan, 2002), and may be afraid of stigma related to the visibility of HAs (e.g. Goffman, 1963; Hétu, 1996). In theories of inducing behavioral changes, the first necessary step is often recognition of the problem (Prohacska & DiClemente, 2013). Before that, there appears to be a phase where the patient does not see a need for change and is thus not motivated to strive towards it. Helping patients to explicate

their thoughts concerning the possibility of change may thus be an efficient way to alleviate the process of adapting to the upcoming change (cf. Rollnick & Miller, 1995). Exploration of the patients' motivations and aspirations has been shown to be more effective than persuasion in this process (Rollnick et al., 2005). The analyses presented here show that patients orient to the possibility of talking about their experiences concerning the need for HA rehabilitation, and that professionals can enable such talk by simply inquiring about their opinions.

Patient involvement in decision-making in HA rehabilitation encounters

Patient involvement in decision-making, as well as patient affiliation with and resistance to diagnosis or treatment, has mostly been examined in the context of general practice consultations on acute ailments. There are obvious similarities between these and HA rehabilitation encounters in terms of the patients respecting the medical authority of the professional while also resisting their diagnostic or treatment proposals (cf. Peräkylä, 1998). There are also similarities with regard to the professional's methods of delivering the diagnoses and treatment proposals. In our data there are examples similar to the ways of delivering treatment recommendations in medical consultations, as referred to by Stivers et al. (2017). The format of delivering a diagnosis depicted in case two seems to be a common one in GP consultations (see Peräkylä 1998), while the format shown in case one resembles the so-called perspective display series where the doctors co-implicate the patient's perspective in delivering a more severe diagnosis (see Maynard, 1992).

The difference between acute ailments requiring a course of antibiotics or another kind of temporary medication and chronic illnesses affecting the rest of the patient's life should be highlighted here. Usually the only remedy for chronic hearing problems, such as those in our focus, is a HA. Adopting the HA means a radical change with regard to the present sound climate of the patient, and a readiness to manage the possible self- or other-imposed stigma still attached to the use of HAs. This study raises a question whether the manner of consultation that may bring good

results in treating acute health problems is actually suited for consulting patients with chronic problems.

In terms of practical implications, this study highlights the importance of considering the patient's viewpoint in discussing the start of HA rehabilitation. It also shows a simple procedure through which this can be achieved: inquiring about the patient's own ideas concerning HA rehabilitation before offering the HA to the patient. Furthermore, discussion on the patient's viewpoint could be facilitated by the professionals by observing and making use of potential cues given by the patient for starting such a discussion (see extract 2, for instance, where the patient topicalized his hearing problems while stepping out of the testing cubicle). Such procedures would help treat patients as active agents with epistemic and deontic rights to make decisions about their own health issues (see also Maynard, 1992).

Limitations and future research

Our data are rather small, with only 12 patients and 17 encounters. Based on these data, we cannot make general claims concerning the style of decision-making in HA rehabilitation. However, we have shown in detail how two extreme formats of introducing and discussing HA rehabilitation induce different trajectories of decision-making, offering very different opportunities for patients to take part in the process (cf. Stivers et al., 2017). Within the medical institution, it is essential for the medical professionals to retain a degree of medical authority. However, a differentiation can be made between functional and dysfunctional asymmetry (Pilnick & Dingwall, 2011). In the context of HA pre-fitting encounters within our data, the unilateral way of introducing HA rehabilitation undermined the need of the patients to express their own views concerning the matter, resulting in them having to compete for their epistemic and deontic rights concerning the decision.

Starting HA rehabilitation is a lifelong decision, which has long-term effects on the patients' everyday lives and social relations. Thus, in treating chronic illnesses such as hearing loss, hearing

the patients' viewpoints concerning the decision to acquire a HA is essential. Our analysis described two interactional practices that granted very different deontic and epistemic rights to the patients, affecting their status as agents in making the decision. Whether this difference is consequential in terms of adopting HAs for long-term use could be assessed in future studies with larger datasets and a longitudinal analysis of the rehabilitation outcome. Furthermore, HA rehabilitation practices could benefit from an experimental study focusing on different styles of introducing HAs, and their effect on the motivation of the patients.

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Appendix

The examples are transcribed on two lines: 1) the original Finnish version, 2) a free translation in English. In focal turns, and when grammatically relevant, a middle line is used, showing the word order, and language-specific constructions. The analysis is based on the Finnish utterances.

Transcription symbols:

AUD: Speaker identification: audiometrician (AUD), doctor (DOC), patient (PAT)

[ ] Brackets: onset and offset of overlapping talk

= Equals sign: no gap between two utterances

(0.0) Timed pause: silence measured in seconds and tenths of seconds

(.) A pause of less than 0.2 second

. Period: falling or terminal intonation

, Comma: level intonation

? Question mark: rising intonation

↑ Rise in pitch

↓ Fall in pitch

- A dash at the end of a word: an abrupt cut-off

< The talk immediately following is 'jump started': that is it begins with a rush.

> < Faster-paced talk than the surrounding talk

< > Slower-paced talk than the surrounding talk

____ Underlining: some form of stress, audible in pitch or amplitude

: Colon(s): prolongation of the immediately preceding sound

° ° Degree signs surrounding a passage of talk: talk at a lower volume than the surrounding talk

.hh A row of hs preceded by a dot: an in-breath

hh A row of hs without a dot: an out-breath

Number signs surrounding a passage of talk: spoken in a 'creaky' voice

£ Smiley voice

@ Animated voice

[*text in italics* non-vocal action, starting at the bracket

[1] The terms *compliance* and *adherence* refer to a unilateral process where the patient follows the professional's orders, with *adherence* placing more emphasis on the patient's informed choice of action than *compliance*. The third term used in this context is *concordance*, which refers to decision-making as a shared activity (De las Cuevas, 2011). Here we will use the terms compliance and adherence interchangeably, and concordance when referring to shared decision making.

[2] Audiometricians are healthcare professionals (usually nurses) who have received supplementary audiological training at the university of applied sciences. They are specialized in taking hearing measurements such as auditory thresholds, speech audiometry and balance.

[3] Eu-criteria for getting a HA is 20-70 dB, WHO 26-60 dB.