

Working Group "Healthcare & Welfare" – Meeting 14

Summary of Meeting #14, August 16, 2023

Agenda

1. Presentation of Jeppe Lindegaard, new Program Manager at Danish Sound Cluster
2. Webinars & Physical events during 2023:
 - a. Follow-up on proposals and ideas from meeting # 12 including additional comments and proposals.
 - b. Proposals for possible speakers
 - c. New themes?
3. Collaborative projects, update of proposals, indication of possible project consortia.
4. News from DSC secretariate
5. A.O.B.

Ad 1: Presentation of Jeppe Lindegaard

Jeppe obtained a bachelor's degree from "Det Jyske Musikkonservatorium", followed by a master's degree in "Audio design" at "Information og Mediekendskab", Aarhus University. Jeppe subsequently worked at TV3 Sport", as sound technician.

In 2015 Jeppe established his own company providing assistance to companies and others in relation to Sound Signatures, e.g. in conjunction with Podcasts, Apps, company presentation etc. He continued to have a strong interest in R&D in sound. Parallel to this he operated as a consultant in sound counselling.

Now Jeppe has taken a position as Program Manager at Danish Sound Cluster.

Jeppe lives in the Copenhagen area with his family.

Ad 2: Webinars & Physical Events in 2023/2024

#	Subject	Background
7.a	Speech analysis, pathology, speech recognition	<p>Timing: October / November 2023</p> <p>Dan Sattrup Nielsen offers to participate and will help put together a webinar to be held around October/November 2023.</p> <p>On 15 March 2023, Dan Sattrup confirmed that the CoRal project would like to contribute with a webinar in the area at the end of 2023.</p> <p>Contribution from:</p> <ul style="list-style-type: none"> • Alexandra (Dan Sattrup and others) • Alvenier (Martin Carsten Nielsen) • Corti (perhaps Lars Maaløe) <p>The consortium behind CoRal is currently busy in data collection and envisages to have first results at the end of 2023.</p> <p>Timing: The event is planned for December 7, 2023.</p> <p>Jeppe will follow up.</p>
12.a	Practical use of sound in the healthcare system	<p>Postponed to mid-2023, when the Isobel project is expected to have results.</p> <p>Focus on constructive effects – also referred to as a more technical approach than an actual therapeutic approach (see also area 12.c) (relief, use of sound zones)</p> <p>Possible contributions:</p> <ol style="list-style-type: none"> 1. Isobel project: 'Development and testing of interactive and dynamic sound zone system'. Bang & Olufsen (Søren Bech), SoundFocus (Kim Rishøj) & Wavecare together with two departments at AAU (Jan Østergaard, Electronic Systems/ Computer Science), Christian Sejer Petersen. Christian Sejer Pedersen, AAU, has recently given a paper at AES on the subject. AAU 2. Helle Nystrup Lund, company "Music Star" regarding the use of an APP for therapy in the area. Kira offers to help contact Helle Nystrup Lund. <p>It was agreed to contact Jan Østergaard, AAU, og Søren Henning Nielsen, Sound Focus, on the possibility of making a webinar. Ther webinar should have a technical focus, building on results from the Isobel project, for example related to sound zone separation.</p> <p>It was also aired that Helle Nystrup Lund may be able to contribute in a webinar event on the theme, preferably on technical aspects related to APPs rather the psychoacoustic angle, she also pursue in her work.</p> <p>Birger will contact Jan Østergaard and Søren Henning Nielsen and include a thread to Jeppe Lindegaard aiming at introducing the subject and hoping for willingness of the Isobel consortium to help in setting up a webinar event.</p> <p>Dorthe will in parallel talk to Jan Østergaard.</p> <p>New situation: After the meeting, DSC has decided to include the 'Isobel project' and the work of Helle Nystrup Lund in the upcoming "SoundDay 2023" agenda, hence making a webinar superfluous.</p>

#	Subject	Background
15	<p>Education in DK: 'Hearing care professionals' (HCP)"</p> <p>With a focus on "Continuing education"</p>	<p>Consensus that we should aim at a physical event for this topic area rather than a webinar. Networking is seen as essential.</p> <p>Focus:</p> <p>“Quality Requirements”</p> <p>New Danish national quality requirements for hearing aid treatment for adults are in the process of being instituted. There is a general need for a broader community in the sector to understand how that will impact traditional approaches and operating principles.</p> <p>Current requirements are not seen as strong requirements for speech and noise tests, but still the emerging ‘Quality Requirements’ are seen as a relatively radical game changer. Continuing education in context of Danish Sound Cluster should not aim at detailed instruction courses in the area, which could better be handled by universities (e.g. SDU) and continuing education organizations.</p> <p>Instead, the event should focus on the fact that Danish hearing-aid patients in future will be fitted in ways that should provide better reference for subsequent re-adjustments. Presentations should not just talk on the topic of e.g. Real Ear Measurements (REM), Speech in Noise Tests (SIN), or Questionnaires, but take ownership of the specifics of the new quality requirements (i.e. focus primarily on what the practical intentions of the new requirements rather than on negative effects of the requirements).</p> <p>It is not the ambition to be a deep R&D focused event (that may follow in another event) but keep focus on more practical issues.</p> <p>The event will have three focus areas:</p> <ol style="list-style-type: none"> 1. Real ear measurements’, REM 2. Speech-Noise tests 3. Questionnaires (based on international requirements) <p>Audience:</p> <p>A broader technical group, not restricted to the core technical group of hearing care professionals, who are possibly already aware of the challenges. Practitioners, hearing care professional, people supporting the hearing care professionals (e.g. supplying equipment, facilities, etc.), may also take an interest, but is to some degree well aware of the new requirements..</p> <p>Program</p> <ol style="list-style-type: none"> a) Moderator Tobias Neher, Professor, SDU. b) “New Danish quality requirements for HA treatment”: Gert Ravn, FORCE Technologies c) “Real-ear measurements: Background and added value wrt. HA treatment”: Ibrahim Almufarrij/Kevin Munro, Univ. of Manchester, UK d) “Speech audiometry: Background and added value wrt. HA treatment”: Jens Bo Nielsen (& possibly Tobias Neher) e) “Questionnaires: Background and added value wrt. HA treatment”: Jonas Brännström, Lund Universitet, SE (or Jesper Hvass Schmidt, OUH) f) Panel discussion, e.g., with a focus on comparing the UK, SE, and DK systems. <p>Event type:</p> <p>Physical event. We aim for a 3–4-hour event. Networking event.</p> <p>Options for hosting:</p> <ul style="list-style-type: none"> • A major Hearing aid manufacturer in Copenhagen Area. • Alternatively, run the event at SDU in Odense (aiming at a better geographical distribution of DSC events). <p>The event needs to be coordinated with SoundDay 2023, where there may also be a session on the topic.</p> <p>Timing:</p> <p>February or March 2024.</p> <p>Venue:</p> <p>Not yet decided whether event shall take place in Odense or Copenhagen area. Depends on a more detailed discussion.</p> <p>Jeppe will start planning the event.</p>

#	Subject	Background
16	Selvtest af behov for høreapparater, fjern-test	<p>As a supplement to On-line services, AAU under the BEAR project is currently working on at to produce solutions so that a potential user of hearing aids can sit in their own living room and decide whether there is a need for a hearing aid or not. Among other things. PhD student at Dorte.</p> <p>Suggestions for contributions from:</p> <ul style="list-style-type: none"> • Palle Rye, Ph.D. student at AAU • UAUD project at SDU, Jesper Hvass Schmidt, Teleaudiometry <p>WHO has, among other things, a self-test APP, "hearWHO", which can be downloaded to mobile phones. Its purpose is to achieve early identification of hearing loss with the aim of e.g. to be able to counter that exposed/predisposed persons are exposed to additional influences which intensify hearing loss. https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/hearwho</p> <p>Palle Rye's Ph.D. is delayed. New results from the UAUD project.</p> <p>UAUD project can deliver some content (Tobias Neher can help in contacting).</p> <p>Given limited content for the event at present, we postpone the subject until later.</p>
18. a	Approval of products, e.g. CE marking of products.	<p>Danish Standard (DS), Søren Storm, guest at the meeting, runs a course, 3 hours long, on CE approval of products. DS is considering whether to make a shorter presentation in a webinar about the challenge in connection with CE marking - and with a focus on SME companies.</p> <p>The DSC event should focus on SMEs, and what strategies to take in conjunction with CE-approval.</p> <p>Danish Standard offers a crash course on CE approval, and it is available for free.</p> <p>Large companies usually have a clear strategy and experience on CE-approval and the also have the financial muscle to include consultants, if required.</p> <p>SMEs are often not in the same 'luxurious situation'. Often, they need to take risks that larger companies would stay away from. However, it is difficult to supervise such strategies openly, given that we are in a grey zone in relation to formal requirements. Danish Standard are not comfortable to support such a strategy. It remains a "stomach based" decision on management in SMEs.</p> <p>"How can a company be prosecuted, if it fails to meet the requirements of CE". IT is a difficult question to answer.</p> <p>Danish Standard has started developing a more project management-oriented approach to CE approval where SMEs should consider what they can afford at a given point in time, balanced with the potential risks. Then, as a company evolves, more and more of the formal CE approval testing/consideration should be included. However, Danish Standard is not yet ready with such material.</p> <p>Birger and Søren Storm ('Dansk Standard') are in the process of preparing a proposal for a webinar event.</p>

#	Subject	Background
18.b	Approval of Ethics	<p>Discussions on the topic have revealed that there are challenges in connection with ethical approval, as there are no clear guidelines. There is a lack of transparency, and the requirements vary from region to region, sometimes even depending on the people involved, who must approve the ethical background in connection with experiments.</p> <p>There is a strong desire from universities and companies to have clearer guidelines, i.e. to clarify the requirements, not least for products in the audio area. Audio products, e.g. hearing aids do not always follow requirements that otherwise exist for medical products. Where the ethics committees for the latter usually have a strong knowledge of the product area and a secure tradition of ethical approval, the situation is often different for audio products.</p> <p>One strategy could be to try a panel discussion on the topic, where we get several people who have experienced the challenge themselves to talk about what they have seen as the big challenge - and preferably about how they have solved the challenge. It will be able to give the audience a clearer sense of what the challenge consists of, and how, at least in some cases, they have succeeded in finding a way through today's diffuse area of requirements.</p> <p>Consensus in the group that we can relatively easily point out problems and frustrations - but it is difficult to identify solutions. Hard to see if a webinar makes sense for our traditional target audience.</p> <p>In the discussion, it was pointed out that there are large regional differences and that decisions are often related to personal assessments, because the area of ethics is relatively loosely defined. Challenges intervene in many matters, the GDPR rules alone can be a challenge. The universities today have structures to guide them in the field (lawyers), although there can be challenges here too.</p> <p>There is a desire for more harmonized rules, and suggestions were made as to whether Danish Sound Cluster would be able to contribute to the process by putting pressure on the scientific ethics committees. It also was aired that at least the larger companies in the audio area have gradually found ways to navigate the challenges.</p> <p>Agree that the topic is important, but that it is not suitable for a webinar. We rest the subject for now, but do not forget it.</p>
18.c	<p>Approval of products that require medical approval.</p> <p>New subject</p>	<p>Products, e.g. hearing aids, in many cases require approval as medical products, e.g. in relation to FDA in the USA and European requirements, including DS/EN/ISO 13485.</p> <p>It is a jungle for companies, at least many SMEs and start-ups, to understand what the requirements are, where to get assistance, how to complete an approval and what the cost of such approvals typically is.</p> <p>The large companies in the area, not least the hearing aid companies, deal with this challenge as an integral part of the general quality organization. You have the experience of how to attack approval in the individual markets. For an SME, the challenge is often great, because you do not necessarily have the same experience and certainly not a quality organization that supports this.</p> <p>Consensus, that it would be a good strategy to find a person from one of the consulting companies that provide services in the area and get that person to talk about what and how.</p> <p>The challenge is to identify who, if necessary, can contribute - without it becoming a sales pitch.</p> <p>Agreement that the target group for an event is small and medium-sized businesses. The large companies in the sound area have solutions today and know how to handle the challenge. The idea is that we should try to find employees in the larger companies who can contribute knowledge to help the SME segment.</p> <p>Unfortunately, 3 out of 4 industrialists in the working group are absent from the meeting, so a detailed discussion is postponed until the next meeting.</p> <p>Birger will send a reminder email to the industry participant before the next meeting to try to identify people in their companies who will be able to contribute in a webinar.</p>

#	Subject	Background
20	Access to data from the hearing care service	<p>Researchers' access to the many hearing data that exists in DK, but to which no one, or only a few today, has access, is interesting. Either because systems do not talk to each other, or because of a lack of policy in the area, i.a. who owns the data.</p> <p>The topic is political, and it would be appropriate to secure participants from the established political establishment, from the Regions and others.</p> <p>It could be a contribution from DSC to also give SME companies better access to results that they could use in their development of products and services.</p> <p>Discussion:</p> <p>The situation surrounding hearing data is complex. In the "Bear project" it quickly became clear that the quality of hearing data from the various clinics is not at a level where it makes good sense to compare data. That situation led to the fact that there are now requirements for the quality of hearing data, see also point 15, Focus: "Quality Requirements". Development is well underway here, although no funds have really been allocated to the area yet by the Government.</p> <p>Challenges with data ownership have not been clarified, in addition there are requirements around GDPR, validity of data, etc. Danish legislation in the area is restrictive in an international context and makes it difficult to share data. There is also consideration that results must be un-biased, so that you can e.g. do not give trial participants access to their own previous answers in questionnaire surveys, as this will influence answers, etc.</p> <p>With regard to the interconnection of data, there is a development underway in e.g. the project "InHear", which runs at Aalborg University Hospital. Lene Dahl Siggaard will defend her Ph.D. in 2024. in the area, Supervisors are:</p> <ul style="list-style-type: none"> • Morten Høgsbro, MD, Ph.d., M.Sc., senior physician, clinical lecturer • Henrik Jacobsen, MD, mMBA, chief physician • Dan Dupont Hougaard, MD, senior physician, clinical associate professor <p>To get an update on the status, the Danish Health Data Agency should be contacted, as they are behind "InHear".</p> <p>https://www.inhear.dk/</p> <p>https://sundhedsdatastyrelsen.dk/da/strategier-og-projekter/hoeromraadet/ny_model_digital_visitation/inhear</p> <p>We need to contact Søren Jakobsen to learn more about progress in the area.</p>
21	Music in relation to dementia New subject	<p>Several projects underway or recently completed under DSC focus on the use of music in dementia. The working group agrees that the topic can make sense as a webinar topic.</p> <p>There is great interest in the subject, although research in the area still seems weak. See also previous topic proposal listed in Appendix 2</p> <p>Will be discussed at the next working group meeting</p>

Upcoming Events

Danish Sound Day, 7th November 2023 at 'The Center for Hearing & Balance'

Still in early stages of development, but the themes we are working with now include:

- Sound & Mental Health
- AI in the Clinical Environment
- Hearing Health

New this year, is that we will have a poster session. The event invite and more info will be coming in our next newsletter.

If someone in the group feels that they already know a fantastic topic/research/demo that should be part of our day, please get in touch with me.

Next Meeting

The next meeting in the Working Group will take place at:

- **Monday October 9, 2023, 13:00 – 14:00 hrs.**

Appendix 1: Attendees in the meeting on August 16, 2023

Abigail Kressner	Hearing Systems, Dept. Health Tech, DTU	Assistant professor
Dorte Hammershøj	Institut for Elektroniske Systemer, AAU	Professor
Kira Vibe Jespersen	AU, 'Music in the Brain'	PhD, MSc
Lars Bramsløw	Eriksholm research Centre	Senior Scientist
Tobias Neher	SDU, Sundhedsvidenskabelig Fakultet, Klinisk Institut	Professor
Birger Schneider	CHAMAJ Consult	Director
Torben Vilsgaard	Danish Sound Cluster	CEO
Jeppe Lindegaard	Danish Sound Cluster	Program Manager

Appendix 2: List of potential themes

Addressed or proposed in previous meetings but for now put on list of potential topics. Waiting for the topics to be better matured – or the need better identified.

#	Subject	Background	Proposers
11	APP and software	Target group: young people with an interest in sound.	Birger Schneider
12.c	Music therapy	<p>Therapeutic approach to the use of music. Relationship between music therapist and client, the use of music.</p> <ol style="list-style-type: none"> 1. Professor Hanne Mette Ridder, AAU (music therapy, among other things in connection with dementia)? 2. Artists who use music in therapy as a kind of "music medicine", rather than actual therapy (where there is a relationship between therapist and client), e.g. Niels Eje and Inge Mulvad Eje (CD series "Musicure" <p>Kira will consider proposals for concretization.</p>	Dorthe Hammershøj Kira Vibe Jespersen

Appendix 3: Events proposed and developed by the Working Group

Topics that the Working Group has initiated, or indirectly helped to initiate.

#	Title	Comments	Event type	Date
8 & 9	The new Bluetooth LE Audio standard		Webinar	22 June 2021
1	Make listening safe		Webinar	6 October, 2021
10	Online-tjenester til høre-rehabilitering mm.		Webinar	18 January 2022
12.b	Noise and its Effect on our Health”		Webinar	7 April 2022
13	Music interventions in HealthCare	Based upon DSC project updating older ”White paper” in the area	Webinar	14 September 2022
7.b.	Speaker Separation		Webinar	23 November 2022
14	” Assessing Real-life User Experience to Improve Hearing Technology”		Webinar	31 January 2023
14	”Sensors, Methods and Tools for Ecological Momentary Assessment”		Webinar	9 February 2023
	”Hearing restauration”			19 April 2023