

P1752 Sleep Schema Subgroup Meeting

Sponsored by IEEE Engineering in Medicine & Biology (EMB) Standards Committee

- 22 Oct 2019
- Teleconference

Attendance

- **Put your name and affiliation in the chat window for attendance today.**
- If you are joining only via phone, please email charlotte.chen@philips.com with “P1752 Sleep Schema Subgroup call” as subject
- The document shows attendance is under <https://ieeesa.imeetcentral.com/omh/folder/WzlwLDEwMjY4MDg1XQ/>.
 - If you attended the call, please verify that your name is listed
 - If you name is not listed, either edit the document above or email charlotte.chen@philips.com

Agenda

1. Attendance
2. Modified timelines
3. Update from the qualitative schema task group
4. Update from quantitative schema task group
6. Action Items
7. Q&A

Sleep Schema Subgroup Deliverables

- **Clinically important sleep attributes**
- **Common sleep attributes of the existing relevant devices and apps**
- **Standard Comparison Report (Review and mapping)**
- **Proposed sleep schemas (modified and new) and use cases (quantitative and qualitative)**
 - (1) Quantitative Measurement Schemas (including macrostructure, microstructure and etc.)
 - (2) Qualitative Measurement Schemas (including subjective sleep experience, other sleep related phenomena and etc.) --- Pivoted: Draft a set of sleep survey questions and schema(s) to cover various of survey question/answer types

Timeline for Stage2 Remaining Work

-Complete addressing comments for Quantitative Sleep Schemas by **May 12, 2019**
-Complete reviewing Qualitative Measure Schemas by **May 31, 2019**

-Validate Quantitative Schemas by **Oct 28, 2019**
-Draft Qualitative Measure Schemas by **Nov 5,**

-Review/Discuss/Address WG comments on 1st batch Quantitative Schemas by **Nov 26/Jan 7, 2020**
-Review/Modify Qualitative Measure Schemas by **Nov 15**

Qualitative Schema Task Group Updates (Banu)

Status

- Follow up of meeting held on September 17, 2019
 - Generic Sleep Questionnaire draft circulated to subgroup members with around 26 questions.
 - Members were asked to review and comment on the questionnaire.
 - Members were also asked to propose splitting the questionnaire into a few short surveys (given Simona's proposal as an example)

Updates on the Task

- Suggestions from Paul based on Simona's grouping
 - The edits/comments and the initial grouping of questions into categories
- Suggestion from Charlotte
 - Regrouping, completion of certain questions and addition of group titles/themes

Suggestions By Paul & Charlotte:

| | Reworked By Charlotte | Original Suggestions By Paul |
|----------|---|--|
| Survey 1 | <p>Survey #1 (Theme: Survey with some questions on poor sleep)</p> <p>6. How often in a week do you think your sleep is getting-disturbed? [1] 5 days or more, [2] 3-4 days, [3] 1-2 days, 4 Never</p> <p>8. In the last 7 days, on average, how many times did you get up from bed during your sleep? Ans: _____ [answer is an integer]</p> <p>9. Do you feel that you are getting adequate sleep? Strongly agree, Agree, Neither Agree nor Disagree, Disagree, Strongly disagree</p> <p>10. How long ago did you start finding your sleep was inadequate and or not refreshing? Ans: _____ months [answer is a number]</p> | <p>8. In the last 7 days, on average, how many times did you get up from bed during your sleep? Ans: _____ [answer is an integer]</p> <p>9. Do you feel that you are getting adequate sleep? Strongly agree, Agree, Neither Agree nor Disagree, Disagree, Strongly disagree</p> <p>10. How long ago did you start finding your sleep was inadequate or not refreshing? Ans: _____ months [answer is a number]</p> <p>17. Do you have difficulty participating in entertainment activities because you are too tired or feel sleepy? Very frequently, Frequently, Occasionally, Rarely, Never</p> <p>18. Do you have difficulty participating in sport activities because you are too tired or feel sleepy? Very frequently, Frequently, Occasionally, Rarely, Never</p> <p>19. Do you have difficulty engaging with family or friends because you are too tired or feel sleepy? Very frequently, Frequently, Occasionally, Rarely, Never</p> |

| | | |
|----------|--|---|
| Survey 2 | <p>Survey #2 (Theme: Survey with some questions on impact from non-refreshed sleep)</p> <p>2. Indicate your level of sleepiness during the day time. [1] Extremely sleepy, [2]Very sleepy, [3] Moderately sleepy, [4]Slightly sleepy, [5]Not at all sleepy</p> <p>3. Are you unable to focus on your tasks during daytime? [1] Very frequently, [2] Frequently, [3] Occasionally, [4] Rarely, [5] Never</p> <p>5. Do you to fall asleep in any of the following situations (please check all the ones applied to you)?</p> <ul style="list-style-type: none"> a. During short travel in a car b. During short travel in public transport c. During work at office d. In a conversation with friends and family e. Reading / Watching TV / quietly observing surroundings <p>17. Do you have difficulty participating in entertainment activities because you are too tired or feel sleepy? Very frequently, Frequently, Occasionally, Rarely, Never</p> <p>18. Do you have difficulty participating in sport activities because you are too tired or feel sleepy?</p> | <p>2. Indicate your level of sleepiness during the day time. [1]Extremely sleepy, [2]Very sleepy, [3]Moderately sleepy, [4]Slightly sleepy, [5]Not at all sleepy</p> <p>3. Are you unable to focus on your tasks during daytime? [1]Very frequently, [2]Frequently, [3]Occasionally, [4]Rarely, [5]Never</p> <p>6. How often in a week do you think your sleep is disturbed? [1] 5 days or more, [2] 3-4 days, [3] 1-2 days, 4 Never</p> |
|----------|--|---|

Comment [CC1]: Modified so that this question would have more than one answer (i.e. "maxitems": 5) for categorical answer.

| | | |
|----------|---|--|
| Survey 3 | <p>Survey #3 (Theme: Survey with questions on issues related to poor sleep)</p> <p>12. Have other people around you noticed that you snore? Yes, No, Not sure</p> <p>14. In the last 6 months, have you awakened at night gasping for breath? Very frequently, Frequently, Occasionally, Rarely, Never</p> <p>15. Do you suffer from high blood pressure? Yes, No, Not sure</p> | <p>12. Have other people around you noticed that you snore? Yes, No, Not sure</p> <p>14. In the last 6 months, have you awakened at night gasping for breath? Very frequently, Frequently, Occasionally, Rarely, Never</p> <p>15. Do you suffer from high blood pressure? Yes, No, Not sure</p> |
| Survey 4 | <p>Survey #4 (Theme: Survey with questions on better sleep solution)</p> <p>22. Have you ever taken an over-the-counter medicine to <u>help you</u> sleep? Yes, No, Not sure</p> <p>23. Do you keep track of your sleep patterns? Yes, No</p> <p>25. Are you a night shift worker? Yes, regularly/Yes, often / Yes, occasionally / <u>No</u>, Never</p> <p>When did you start working nights? <u>Ans:</u> ____ [a date that can be partial]</p> <p>If you started working nights in the last year, how many months ago <u>was that?</u> <u>Ans:</u> ____ [a number with unit of measure months]</p> <p>26. Do you use smart gadgets when having difficulty in falling sleep? Yes, regularly/Yes, often / Yes, occasionally / Never</p> | <p>22. Have you ever taken an over-the-counter medicine to help you sleep? Yes, No, Not sure</p> <p>23. Do you keep track of your sleep patterns? Yes, No</p> <p>25. Are you a night shift worker? Yes, regularly/Yes, often / Yes, occasionally / No, Never</p> <p>When did you start working nights? <u>Ans:</u> ____ [a date that can be partial]</p> <p>If you started working nights in the last year, how many months ago was that? <u>Ans:</u> ____ [a number with unit of measure months]</p> <p>26. Do you use smart gadgets when having difficulty in falling sleep? Yes, regularly/Yes, often / Yes, occasionally / Never</p> |

Action Items

- On approval from subgroup, schema to be drafted for the questionnaire.

Quantitative Schema Task Group Updates

Status

- Decided both validation tools could be used:

<https://json-schema-validator.herokuapp.com/syntax.jsp>

<https://www.jsonschemavalidator.net/>

- Working on addressing the warnings from 1st round of validation of the schemas

Link to the validated quantitative schemas and validation results (review folder):

<https://iee-sa.imeetcentral.com/omh/folder/WzlwLDExNDI3OTI4XQ>

Next Steps

- Refine quantitative schema validation
 - Complete addressing the warning messages in the validation results;
- Prepare for WG review the 1st batch quantitative schemas (distribute on Oct 31)

Action Items

- Refine the quantitative schema validation (Oct 28)
- **Complete reviewing/commenting on P1752 standard document (Oct 31)**
- Draft schemas for the set of sleep survey questions (Nov 5)



Future Meetings

- Continue with Tuesdays at 8:30 AM Pacific / 11:30 AM Eastern
- Upcoming meetings
 - Nov 19, 2019

Adjournment