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://ieee-sa.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, 2019**

- **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
### Survey 1 (Theme: Survey with some questions on poor sleep)

6. How often in a week do you think your sleep is getting disturbed?

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]

9. Do you feel that you are getting adequate sleep?
   - Strongly agree, Agree, Neither Agree nor Disagree, Disagree, Strongly disagree

10. How long ago did you start finding your sleep was inadequate and not refreshing?
    - Ans: _____ months [answer is a number]

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

2. Indicate your level of sleepiness during the day time.
   - [ ] Extremely sleepy,
   - [ ] Very sleepy,
   - [ ] Moderately sleepy,
   - [ ] Slightly sleepy,
   - [ ] Not at all sleepy

3. Are you unable to focus on your tasks during daytime?
   - [ ] Very frequently,
   - [ ] Frequently,
   - [ ] Occasionally,
   - [ ] Rarely,
   - [ ] Never

5. Do you fall asleep in any of the following situations (please check all the ones applied to you)?
   - [ ] During short travel in a car
   - [ ] During short travel in public transport
   - [ ] During work at office
   - [ ] In a conversation with friends and family
   - [ ] Reading / Watching TV / quietly observing surroundings

17. Do you have difficulty participating in entertainment activities because you are too tired or feel sleepy?
   - [ ] Very frequently,
   - [ ] Frequently,
   - [ ] Occasionally,
   - [ ] Rarely,
   - [ ] Never

18. Do you have difficulty participating in sport activities because you are too tired or feel sleepy?

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Comment [CC1]: Modified so that this question would have more than one answer (i.e., "maximizes 5") for categorical answer.
### Survey #3 (Theme: Survey with questions on issues related to poor sleep)

12. Have other people around you noticed that you snore?  
   - Yes, No, Not sure

14. In the last 6 months, have you awakened at night gasping for breath?  
   - Very frequently, Frequently, Occasionally, Rarely, Never

15. Do you suffer from high blood pressure?  
   - Yes, No, Not sure

### Survey #4 (Theme: Survey with questions on better sleep solution)

22. Have you ever taken an over-the-counter medicine to help you sleep?  
   - Yes, No, Not sure

23. Do you keep track of your sleep patterns?  
   - Yes, No

25. Are you a night shift worker?  
   - Yes, regularly/Yes, often / Yes, occasionally / No, Never

   When did you start working nights?  
   **Ans:** _____ [a date that can be partial]

   If you started working nights in the last year, how many months ago was that?  
   **Ans:** _____ [a number with unit of measure months]

26. Do you use smart gadgets when having difficulty in falling sleep?  
   - Yes, regularly/Yes, often / Yes, occasionally / Never
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://ieee-sa.imeetcentral.com/omh/folder/WzIwLDExNDI3OTI4XQ
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