Agenda

1. Attendance
2. Review of action items
3. Review of tasks
4. Other business

Review of Tasks

Next steps

- Update Open mHealth blood glucose schema as needed

- Draft additional schemas

- Model data elements for possible addition to 1752.1 header schema

- Resources for volunteers
  - Existing IEEE 1752.1 schemas
  - Existing Open mHealth schemas

Data elements to model (I)

- Glucose (mg/dL)
- Time in range (%) [TIR] http://www.agpreport.org/agp/agpreports
- Time above range [TAR]
- Time below range [TBR]
- Mean glucose (average)±standard deviation

Data elements to model (II)

- Percentage coefficient of variation for glucose (%CV = [(SD of glucose)/(mean glucose)]

- Glucose Management Indicator (GMI)
  tells you the approximate A1C level based on the average glucose level from CGM readings for 14 or more days (eA1C → GMI)
  https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6196826/

- Number of hypo/hyper events / Timestamps of alarms
  [to be defined more precisely]

- Reference ranges (for hypo/hyperglycemia)

Additional measures

- Average daily carbs (g)
- Mean amplitude of glycemic excursions (MAGE): the arithmetic mean of differences between consecutive peaks and nadirs of differences greater than one SD of mean glycemia
- Mean of daily differences (MODD): the mean of absolute differences between glucose values at corresponding time points of consecutive days
- Rate of Increase
- Rate of Decrease

Additional measures (metadata)

- sensor usage (%)

- calibration status

- mean absolute relative difference (MARD) for accuracy (device-specific)

- number of scans (during a time period)

- sensor location, specimen source, sample location

- battery

Suggestion: amend header schema property *modality* value set to have the following items:
  - device generated
  - user reported

Temporal relationships

- Temporal relationship to meal*

- Temporal relationship to sleep*

- Temporal relationship to physical activity
  - e.g., before exercise, after exercise (see related OMH schema)

- Temporal relationship to doses of antihyperglycemic medications
    *These elements are present in the Open mHealth blood glucose schema

    Proposal to have a generic *temporal relationship to event* property requires additional discussion

Temporal relationship to medication

- DrugSituation: medicine information

- Name: the name of medicine

- Number: the number of medicine(mg)

- Name: the name of insulin

- Number: the number of insulin(unit)

- "DinnerSituation": "Before_breakfast",

- "DrugSituation": "After_taking_pills",

- [...]

- "Carbs": 100, <-- *does this refer to the breakfast about to be eaten?*

- "MedicineList": [

-     {

-         "Name": "Actoplus Met",

-         "Number": 1 <-- *1 what?*

-     }

-     ......

-],

- "InsulinList": [

Temporal relationship to medication

Example schema

- Name: the name of medicine
- Number: the number of medicine(mg)
- Name: the name of insulin
- Number: the number of insulin(unit)

Example instance:
"DrugSituation": "After_taking_pills",
[…]

```
"MedicineList": [
    {
        "Name": "Actoplus Met",
        "Number": 1
    }
    […]
],
"InsulinList": [
    {
        "Name": "Afrezza",
        "Number": 1
    }
    […]
],
```

Summary of Action Items

Open action items from previous call

- Add a ReadMe file in the iMeet schema folder DONE

- Develop a step-by-step how-to for schema development

- Analyze FHIR observation resource wrt concentration (to follow up on proposal to have a concentration unit-value schema)
  - https://build.fhir.org/observation.html
  - https://build.fhir.org/datatypes.html
  - OMH medication schemas (strength, dose)

Next Meeting

Upcoming Meeting

- Metabolic subgroup:
  - Tuesday, July ~~26~~ 19 at 8 am Pacific