Summary of Discussion
Technical Committee on Translational Engineering and Healthcare Innovation (TEHI)

Teleconference Meeting
July 22, 2016

Agenda

1. Welcome Remarks
2. Review of minutes and action items
3. GHCN update and next steps
4. Status of IEEE_NIH POC-HI Conference in Cancun and Keynote/Special Sessions
5. JTEHM Update
6. New Business
7. Adjourn

The teleconference meeting started with introductions and review of minutes from the last meeting.

Atam thanked technical committee members for their input on GHCN. Atam discussed the updated ppt slide of the schematic conceptual functional diagram of incorporating inter and intra-level iterative processes. Regional network and NIH initiatives on POCTRN network were discussed. Atam urged the committee members to connect to persons in-charge of regional networks.

Paolo Bonato suggested a framework to engage stakeholders groups though conferences and group meetings across IEEE EMBS, AMA and other related communities through organizing special panels at the conferences. Jie and Ki brought issues related to the scope of the GHCN. The following issues were discussed towards defining a clear scope of operations.

1. GHCN will focus on translational part of the technology development and validation to bring either new or the integration of available technologies to healthcare domain as the solutions of unmet needs and emerging clinical/healthcare problems including bursts of new virus infections, growing needs of home based monitoring in select areas, and personalized rehabilitation.
2. GHCN will not involve with the basic and applied research without a target healthcare issue that has been prioritized to effectively manage its enabling operations in bringing technology or solutions from early translational phase to healthcare domain.
3. Some specific areas for the use of POC technologies and its translation to clinical or healthcare use must be defined and prioritized to define the scope of GHCN.

Tiffani pointed out that POCTRN has a list of priority areas of POC technologies.

- Early detection of Pre-eclampsia
- Gestational age predictors
- Preterm birth predictors
- HIV viral load quantification
- Non Invasive detection of Malaria
- TB detection and treatment prognosis
- HPV and Cervical cancer screen, detection
- Non-invasively (i.e., without requiring a blood-sample) determining a reliable 'blood glucose' index for early screening

As the discussion on Atrial Fibrillation monitoring was discussed with home-based wearable devices, Ed Livingston pointed out the issue of clinical usefulness and significance of such monitoring. It is not clear to clinicians what they will do with the data collected from AFB monitoring devices.

The initial draft on identifying the five top priority areas to begin discussions on stakeholder groups and developing GHCN will be developed by Paolo. This is the potential list:
1. Stroke Rehabilitation
2. AFM
3. HIV and Infectious Diseases
4. Cervical Cancer
5. Early detection of Pre-eclampsia, Pre-Term Birth Detectors

Jie Chen suggested another area to add: "Portable inexpensive companion diagnosis devices for infection diseases and cancers at early stage".

Ed pointed out to be more specific: "Early detection of cancer is a complicated subject-one problem with current screening methodologies is that they overdiagnose cancers that will never cause significant disease. Take a look at the most recent USPSTF disease screening recommendations - in general they recommend less screening for cancers than they used to (e.g. they now recommend against screening for prostate cancer, less screening for breast cancer etc)".

Atam reported that he has started developing an initial prototype platform of GHCN using HUBZERO software. A student is working on developing preliminary interfaces to connect to regional databases towards developing a project schema for defining problems, specifications, and potential solution approaches. A preliminary report on the ongoing development will be presented at the ADCOM meeting.

JTEHM is publishing a special issue on the papers presented at the 2015 NIH-IEEE Strategic Conference on Point-of-Care Technologies for Precision Medicine held in Bethesda last year. 36 papers manuscripts were received for the special issue. 11 manuscripts have been accepted out

of which many are now published on the JTEHM special Issue website
http://health.embs.org/special-issues/

TC members were requested to promote JTEHM and submit translational research papers for publication.

Next TEHI TC in-person meeting is scheduled at the EMBC 2016 conference on August 18 at 12.30 PM. The tentative agenda is as follows:

Agenda
TEHI TC Meeting on August 18, 2016; 12.30 PM – 1.30 PM

1. Welcome Remarks
2. Review of minutes and action items
3. GHCN update and next steps: Update on Subzero software portal
4. Status of IEEE_NIH POC-HI Conference in Cancun paper review and program schedule
5. JTEHM Update
6. New Business
7. Adjourn