

FGAI4H-J-006-A03

E-meeting, 30 September – 2 October 2020

Source: TG-Cardio Topic Driver

Title: Att.3 - Presentation (TG-Cardio)

Purpose: Discussion

Contact: Benjamin Muthambi E-mail: brm5@columbia.edu

Abstract: This PPT summarizes the status of work within TG-Cardio, for presentation and discussion during the meeting.

STATUS UPDATE | **TG-CARDIO** | OCT-2-2020

TOPIC GROUP | TG-CARDIO

AI USE IN CARDIOVASCULAR DISEASE (CVD) MANAGEMENT



UPDATE SUBMITTED BY

DR. BENJAMIN MUTHAMBI

WWW.LINKEDIN.COM/IN/BMUTHAMBI

SNR SCHOLAR-IN-RESIDENCE/MANAGING DIRECTOR
IEPH/INSTITUTES OF EPIDEMIOLOGY & PUBLIC HEALTH

IN PARTNERSHIP WITH WATIF HEALTH



Diabetes Care AfricaTM



TG-CARDIO | MULTIPLE SUBTOPICS IN EXPANDED SCOPE

- SUBTOPIC #1 – CLINICAL PREDICTIONS | **CVD Risk Prediction using AI**
- SUBTOPIC #2 – CARDIAC IMAGE ANALYSIS | **AI-assisted Coronary CT Image Processing/Recognition for Coronary Artery Disease (CAD) Diagnosis in Coronary Computed Tomography Angiography (CCTA)**
- SUBTOPIC #3 – INTELLIGENT ROBOTS | e.g. Surgical Robot Technologies incl. AI-assisted Minimally Invasive Cardiac Surgery
- SUBTOPIC #4 – PRECISION MEDICINE | e.g. AI-assisted Individualized Medicine and healthcare customized for each patient

TG-CARDIO | MULTIPLE SUBTOPICS IN EXPANDED SCOPE



TG-Cardio

Topic Group on Use of AI in Cardiovascular Disease Management

- **Subtopic 1 - Clinical Predictions | CVD Risk Prediction using AI:**
 - Status: Activated
 - Initial use case proposal
 - How to join this subtopic group
- **Subtopic 2 - Cardiac Image Analysis | AI-assisted Coronary CT Image Processing/Recognition for Coronary Artery Disease (CAD) Diagnostic System in Coronary Computed Tomography Angiography (CCTA)**
 - Status: Activated but not yet active.
 - Initial use case proposal (pending update following this => guidance)
 - Call for subtopic group participation (TBD/Pending)
 - Subtopic description & status report (TBD/Pending)
- **Subtopic 3 - Intelligent Robots | Surgical Robot Technologies incl. AI-assisted Minimally Invasive Cardiac Surgery**
 - Status: Not activated
 - Initial use case proposal (guidance)
 - Call for subtopic group participation (TBD/Pending)
 - Subtopic description & status report (TBD/Pending)
- **Subtopic 4 - Precision Medicine | AI-assisted Individualized Medicine and healthcare customized for each patient**
 - Status: Not activated
 - Initial use case proposal (guidance)
 - Call for subtopic group participation (TBD/Pending)
 - Subtopic description & status report (TBD/Pending)

TG-CARDIO | MULTIPLE SUBTOPICS IN EXPANDED SCOPE



TG-Cardio

Topic Group on Use of AI in Cardiovascular Disease Management

PLEASE NOTE - FOR NEW TG-CARDIO MEMBERS: Invitation of "Initial use case proposals" for (sub)topics listed as "Status: Not activated" as indicated in (sub)topics listed below: To advance the broadening of the scope of TG-Cardio, new topic group members are encouraged to browse through the documents below, identify and volunteer to adopt one of the subtopics listed below which have not yet been activated and follow guidance provided in this document ([=<click here>](#)) to develop an "Initial use case proposal" for the chosen (sub)topic under TG-Cardio.

Thereafter, the individual leading the subtopic (Subtopic Driver) shall submit the "Initial use case proposal" document for the subtopic via email to Dr. Benjamin Muthambi c/o the FGAI4H secretariat email address at the bottom of this TG-Cardio page.

July 2020:

-Call for use case proposals for the 2-3 other subtopics not yet activated under TG-CARDIO (call distributed internally to TG-Cardio list subscribers and posted on TG-CARDIO main page);

-No use case proposals received to-date;

TENTATIVE PROJECT MILESTONES UPDATE | OCT-1-2020

Activities Towards TDD, TDD Implementation Demonstration Project, Replication & Real World Devices Standardization	Timeline 1	Activities Towards TDD, TDD Implementation Demonstration Project, Replication & Real World Devices Standardization	Timeline 2 (Parallel)
Inaugural Use Case Proposal for Subtopic	Jan 2019	Inaugural Use Case & TDD Draft	Q1-Q3, '19
Call for Participants		Call for Participants (Additional Subtopics)	
General Call for Participants	March 2019	Call for Additional Subtopic Use Cases	July 2020
Call for Technical Participants	Jan 2020	Call for Technical Participants - Subtopics	Oct 2020
Call for Data-Contributing Participants	TBD	Call for Data-Contributing Participants	TBD
TDD (Topic Description Document)		TDD (Additional Sub-Topic Description Documents)	
Initial/Preliminary TDD Draft	Nov 2019	Additional Subtopic TDD Draft & Refinement	Q1 2021
Refine & Re-Align w/2020 TDD Template	Pending New TDD Template	Call & Implementation of AI Algo Training & Exploratory Accuracy Studies (thru IEPH)	Q4-2020-> Q2-2021
TDD Implementation Demonstration Project	TBD	TDD Implementation Demonstration Project	TBD
Replication Studies	TBD	Standardization Through Replication Studies	TBD
Real World Application-Device Standards	TBD	Real World Application-Device Standards	TBD



STATUS UPDATE | TG-CARDIO | OCT-1-2020

TOPIC GROUP | TG-CARDIO

AI USE IN CARDIOVASCULAR DISEASE (CVD) MANAGEMENT

Questions & Discussion

- Timeline towards use of new TDD template for refinement of prior TDD drafts &/or new topics/subtopics?
- Can you share a timeline of anticipated FG AI4H milestones to sync with topic group timelines?
- What's the FG position on engagement in workgroup activities for topic group technical participants during the apparent 'holding pattern' for topic groups while workgroups are undertaking refinement of guidances which will later be devolved to topic group level, viz. new TDD template under development?