## FG-AI4H-006-A01 New Delhi, 13-15 November 2019 STATUS UPDATE | TG-CARDIO SUBTOPIC #1 | APPLICABILITY OF CARDIOVASCULAR DISEASE (CVD) RISK PREDICTION USING MACHINE LEARNING **ON ROUTINE PATIENT DATA ACROSS DIVERSE POPULATIONS:** A STANDARDS-SETTING APPROACH AN AI-FOR-HEALTH USE-CASE 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** Africa



## OBJECTIVES/PROBLEM TO BE ADDRESSED IN SUBTOPICS #1 & #2

Evaluating Accuracy of Al in CVD risk Prediction

- Risk Scoring Calculators (Gold standard) vs.
- Al Risk Estimation

Subiopic



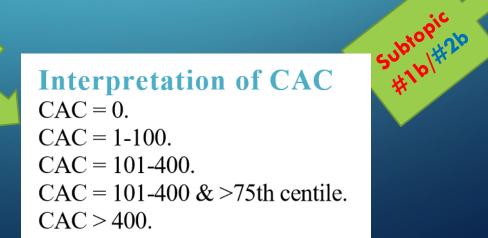
risk of death, <1% at 10 years.

Low risk, <10% Intermediate risk, 10-20% Moderately high risk, 15-20% High risk, >20%

Evaluating Accuracy of Al in Coronary CT Scan <u>Image</u> <u>Interpretation</u>

- Radiologist's Image Interpretation (Gold standard) vs.
- Al Image Interpretation





## TENTATIVE PROJECT MILESTONES

- Subtopic #1: Revised Use Case Proposal Presented & Accepted January 2019 (Lausanne)
- 1st Draft General Call for Participation Presented March 2019 (Shanghai)
- Current Version General Call for Participants Submitted/Issued May/June 2019 (Geneva)
- Subtopic #2: Use Case Proposal Presented & Accepted; ~10 technical participants recruited Sept. 2019 (Zanzibar)
- Draft Subtopic #1 Topic Description Document (TDD) Submitted; ~1 training & 8 replication study datasets id'd November 2019 (New Delhi)
- Draft Subtopic #2 Topic Description Document (TDD) Sections Due December 2019
- Reconciliation of Subtopics #1 & #2 ?viability of 1 TDD? & Call for Technical Participants–January 2020 (Brasilia)
- Topic/Subtopics TDD Finalization Implementation Version February 2020
- Study Approvals, Data Acquisition & Preparation: IRB Application & Approvals; Acquisition of Data & Documentation; Optimization & Selection of Predictors & End-Point Data; Data Management including Recoding and Labeling (Implementation Time Frame TBD - ?Months #1 – 4?)
- Analyses: R programming for exploratory/Preliminary Analyses using data in hand (Months 3 5); Algorithm Training Final Analyses (Implementation Time Frame TBD - ?Months #5 - 8?);
- Reporting: Summarizing of Result/Findings; Literature Review for Discussion of Findings; Report/Manuscript Writing; Internal & External Peer Review, & Publication of Findings (Implementation Time Frame TBD - ?Months #8 – 10 =>
  December 2020?).