

Report of the First 2023 Fellows Analytical Training Workshop for the Countdown to 2030 Fellowship Program

August 07-25, 2023

APHRC Campus, Nairobi-Kenya

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1. Overview of the first CD2030 Fellows Analytical Training (FAT1 2023)

1.1. Introduction

Launched by the Countdown 2030 in 2023, the CD2030 Fellowship Program aims to strengthen research and analytical capacities for monitoring and tracking the progress of life-saving interventions for Reproductive, Maternal, Newborn, Child and Adolescent Health and Nutrition (RMNCAH+N) in CD2030 collaborating African countries. To fulfil this aim, the CD2030 Fellowship Program proposed strengthening the fellows' capacities through two one-month-long residential analytical training workshops referred to as CD2030 Fellows Analytical Training Workshops (FAT1). The Countdown to 2030 (CD2030) FAT workshops are a critical component of the 12-month CD2030 Fellowship Program. These two workshops allow fellows to develop skills through engagements with global and regional CD2030 collaborators, participation in APHRC short courses, and interactions with other fellows. For the 2023 CD2030 Fellowship Program Cohort, the initial FAT1 took place from August 7 to 25, 2023, in Nairobi, Kenya.

The objectives of the FAT1 were:

- a. To provide fellows with analytical skills that allow them to undertake their research project, data analysis, and write-up of manuscripts on findings from their analyses.
- b. To allow fellows time to concentrate on their research projects, interact with their mentors to review their analytical plans and methods.
- c. To strengthen networking amongst fellows/facilitators for future collaborations across regional, national, and disciplinary boundaries.

1.2. Workshop Organization

a. Training content

To achieve its objectives, the FAT1 covered the following themes:

- **Week 1 (August 07-11, 2023):**
 - Introduction to Global Health
 - Equity in Health
 - Scientific Writing and Publishing
- **Week 2 (August 14-18, 2023):**
 - Systematic Review & Meta-Analysis
- **Week 3 (August 21-25, 2023):**
 - Effective coverage
 - Mortality analyses
 - Geospatial analyses.

The above thematic areas were broken into various training (See Annex 1: Timetable: CD2030 Fellows Analytical Training – FAT1 2023).

b. Participants

- All ten Fellows of the 2023 CD2030 Fellowship Program fellows attended the training:



- In week 2, five APHRC staff joined the CD2030 fellows and were trained on Systematic Review and Meta-Analysis.

c. Facilitators

Researchers from the African Population and Health Research Center (APHRC) and CD2030 Global Experts from CD2030 Data Analysis Centres and Collaborating Universities facilitated the workshop. They included:



Cheikh Mbacke Faye

APHRC



Ties Boerma

University of Manitoba, Canada



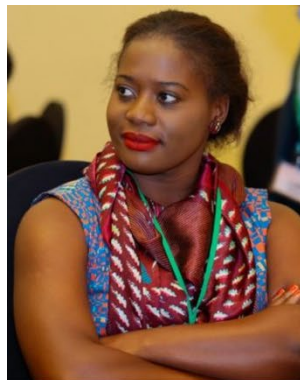
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John Hopkins University



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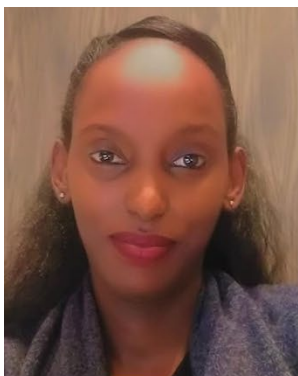
Winfred D. Gborgbortsi

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University of Southampton



Corretta Tira

APHRC



Diana Awuor

APHRC



Hesborn Wao

APHRC



Aypio Nyandwi

APHRC

d. Procedures

- The workshop was delivered in English and French with simultaneous translations. Presentations and other related training resources were also translated into both languages.
- Training sessions consisted of interactive presentations or lecture sessions facilitated by CD2030 Global Experts and APHRC Staff, group exercises for peer learning, and individual practices where fellows worked or applied the learnings to their research proposals.
- Fellows' presentations on their research projects (weeks 1 and 3) benefitted from peer fellows' and supervisors' reviews, inputs and comments.

2. Training proceedings

2.1. Opening remarks

The Deputy Executive Director of APHRC, Dr Joseph Gichuru, delivered the opening remarks. He welcomed Fellows and Facilitators to the training workshop and commended the partnership between APHRC and CD2030 Collaborating Institutions in the journey to strengthen research and analytical capacities for monitoring and tracking the progress of life-saving interventions for Reproductive, Maternal, Newborn, Child and Adolescent Health and Nutrition (RMNCAH+N) in CD2030 collaborating African countries. Dr. Gichuru reiterated APHRC's commitment to research and related capacity strengthening in Africa. He explained that the CD2030 Fellowship Program was another avenue for APHRC and its Partners to generate evidence; enhance research capacity and engage policy-makers to inform action on population health and wellbeing.

2.2. Introduction to Global Health

The purpose of training CD2030 Fellows on the "Introduction to Global Health" was to help them better situate their research projects in the global context of Reproductive, Maternal, Newborn, and Child Health (RMNCH). The Introduction to Global Health consisted of the following six sessions:

- Introduction to global public health: Research challenges and new directions;
- Proximate determinants and related frameworks;
- Transition theories (fertility, mortality and causes of death, risk factors, coverage, health systems);

- Exploring and assessing the wealth of international databases on key health indicators;
- Reproductive, Maternal, Newborn, and Child Health (RMNCH) indicators (key indicators, definitions, issues, articulation in national plans);
- Critical review, cross country analyses and revision of the 10 country reports from 2023 CD2030 Annual Meeting.

All these sessions intended to help fellows put their research projects in the context of Global Health Research, focusing Reproductive, Maternal, Newborn, and Child Health Programs.

2.3. Equity in Health

Several fellows in the 2023 CD2030 Fellowship Program Cohort planned to conduct equity analyses in their research projects. In addition, all CD2030 Fellows are members of country collaborating teams, and equity is one of the analyses they examine in their respective countries. Thus, enhancing Fellows' capacities in equity analyses in health was deemed necessary. The "Equity Analyses in Health" training entailed three key sessions with practical group exercises:

- Introduction to Equity in Health.
- Equity analyses I
- Equity analyses II

2.4. Scientific Writing and Publishing

At the end of the Fellowship Program, each fellow is expected to develop and publish a manuscript in an open-access peer-reviewed Journal. Training on Scientific Writing and Publishing will enhance their skills and brief them on scientific writing and publishing requirements and processes. This training comprised the following sessions:

- Publication Process, including Peer Review;
- Plagiarism and other Research Values-Ethical writing ;
- Introduction to the research process : Components of a good study; Research questions (What makes a good question/hypothesis, problem identification, statement , and elaboration); the role of theory);
- Qualitative research – Overview;
- Mixed Methods Research;
- Review of literature;

- Conceptual frameworks;
- Inferential Statistics;
- Descriptive Statistics (including Tables & Figures);
- Quantitative research design.
- Writing Effectively.
- Writing INTRODUCTION section.
- Writing METHODS section (Quantitative, Qualitative, & Mixed Methods);
- Writing RESULTS and DISCUSSION sections.

2.5. Systematic Review & Meta-Analysis

Training CD2030 Fellows on systematic review and meta-analysis aimed to equip them with knowledge and skills to access evidence (if it exists) or prepare evidence (if it does not exist) based on a specified research question. The course consisted of the following sessions:

- Overview of Systematic Review and Meta-Analysis;
- Formulating Research Questions;
- Searching and Selection of Studies;
- Extracting Data from Selected Studies;
- Data Synthesis in RevMan;
- Assessing Quality of Extracted Data;
- Data Interpretation & Reporting;
- Introduction to Meta-Synthesis.

Each of the eight sessions was coupled with a group exercise where Fellows practised what they had learnt in that very session.

2.6. Effective coverage

As for equity, many fellows in the 2023 CD2030 Fellowship Program Cohort planned to conduct effective coverage analyses for their research projects, which justifies why they needed training on assessing effective coverage. In the course on Effective coverage, Fellows were trained on:

- Coverage of Interventions for Women and Children
- Definition of Intervention Coverage
- Characteristics of Intervention Coverage Measures

- Quality-adjusted coverage using clinical observation-based measure of quality of care
- Methods for measurement of quality of care and effective coverage
- Data Sources
- Combining readiness and provision of care items into an index
- Coverage cascades

Each of the eight sessions was coupled with a group exercise to allow fellows to practice what they had learned in that very session.

2.7.Mortality analyses

Training the 2023 CD2030 Fellows on mortality analyses was justified because there were three Fellows whose research projects were about mortality. In addition, those whose research projects were not related to mortality analyses needed these skills to support their country team in mortality analyses. The training on mortality analyses also aimed at making Fellows familiar with mortality measurement, identifying advantages and limitations of various mortality data sources, discussing determinants of mortality, and analysing levels, trends and disparities in mortality.

2.8.Geospatial analyses

The course on Geospatial Analyses was introduced to fellows as a supplement to equity and effective coverage analyses. Indeed, Geospatial analyses facilitate recognising and visualising hidden patterns of equity and coverage in health and their evolution over time.

- Introduction to QGIS
- QGIS Core functionality
- Geo-processing and Styles
- Map Production
- Creating Indicators using conditional statements
- Geographical Access Analysis
- Geographical Access Analysis
- Spatial Clustering

2.9. Workshop Evaluation

The entire training was concluded by an evaluation whereby Fellows shared feedback on the training. Fellows were asked to appreciate the extent to which the training objectives were met, cite training expectations that were not met, and mention what they liked most and least about the workshop. They were also asked to give recommendations, suggestions and comments on what to include or exclude in future training workshops. They appreciated the fact that the content and thematic areas included in the training matched perfectly with the Fellows' needs and would inform the preparations for the training of subsequent cohorts.

Most of the Fellows expressed their satisfaction with the attainment of training objectives. However, they also noted that the training sessions were very packed, resulting in minimal time to work on their research projects. They recommended that the next Fellows Analytical Training workshop should consider increasing more time for the training or reducing the number of training sessions.

More recommendations, suggestions and comments on what to include or exclude in future workshops can be found in Annex 2: Evaluation: CD2030 Fellows Analytical Training – FAT1 2023

3. Conclusion and next steps

The CD2030 Fellows Analytical Training Workshop held at the APHRC Campus, Nairobi-Kenya, on August 07-25, 2023, for the Countdown to 2030 program was the first analytical workshop organized by the CD2030 Fellowship Program.

As a way, Fellows will continue to engage with Facilitators of FAT1 sessions for more insights on how to apply their training learnings to their research projects. They will also continue to be supported by CD2030 experts in the implementations of their research projects. The next Fellows Analytical Training workshop for the 2030 CD2030 Fellowship Program Cohort w\will take place in the Second Quarter of 2024 in Dakar-Senegal.

Annexes

a. Annex 1: Agenda: CD2030 Fellows Analytical Training – FAT1 2023

Week 1 (August 07-11, 2023): Introduction to Global Health – Equity in Health – Scientific writing					
Time	Day 1 (Monday, August 07)	Day 2 (Tuesday, August 08)	Day 3 (Wednesday, August 09)	Day 4 (Thursday, August 10)	Day 5 (Friday, August 11)
08:00-09:00	- Welcome and Introductions - Overview and organization of the FAT1 (<i>Objectives, structure, expected outputs, and procedures</i>) - Alypio - Opening remarks – Joseph Gichuru	[SWP1] - Publication Process, including Peer Review (Estelle) - Plagiarism and other Research Values – Ethical writing (Estelle)	[SWP2] Introduction to the research process : Components of a good study; Research questions (What makes a good question / hypothesis, problem identification, statement , and elaboration); the role of theory) – Estelle & Amanuel	[SWP5] - Qualitative research - Overview – Eliud - Mixed Methods Research– Eliud	Practice: Fellows work / apply learning on own research proposals
9:00–10:30	[GH1] Introduction to global public health: Research challenges and new directions- Ties	[GH5] Proximate determinants and related frameworks - Ties	[SWP3] - Review of literature - Amanuel - Conceptual frameworks – Estelle/Amanuel	[SWP6] - Inferential Statistics- Martin - Descriptive Statistics (including Tables & Figures)- Martin	Fellows presentations - Fellow 1 - Fellow 2 - Fellow 3
10:30–11:00	Tea Break				
11:00–12:30	[GH2] Transition theories (fertility, mortality and causes of death, risk factors, coverage, health systems) - Ties	[GH6] Exploring and assessing the wealth of international databases on key health indicators- Ties	[SWP4] - Quantitative research design - Martin	[SWP7] - Writing Effectively- Cheikh - Writing INTRODUCTION section - (Amanuel)	Fellows presentations - Fellow 4 - Fellow 5 - Fellow 6
12:30–1:30	Lunch Break				
01:30-03:00	[GH3] RMNCAH indicators – Amanuel (key indicators, definitions, issues, articulation in national plans) [GH4] Critical review, cross country analyses and revision of the 10 country reports from CD CAM 2023- Cheikh	[EH1] Introduction to equity in health - Aluisio	[EH2] - Equity analyses II – Leonardo - Group exercise - Leonardo	[SWP8] - Writing METHODS section (Quantitative, Qualitative, & Mixed Methods)- Martin - Writing RESULTS and DISCUSSION sections- Amanuel	Fellows presentations - Fellow 7 - Fellow 8 - Fellow 9 - Fellow 10
03:00-03:30	Tea Break				
03:30 –05:00	- IT equipment issuance, Security Briefing and Administration (Laptop, software, etc.) - Paul	[EH3] Equity analyses I – Leonardo Group exercise - Leonardo	[EH4] Equity analyses : summary – wrap up and practical issues in analyses - (Leonardo & Aluisio)	Practice: Fellows work/apply learning on own research proposals.	- Week one wrap up - Welcome Dinner from 6pm

Week 2 (August 14-18, 2023): Systematic Review & Meta-Analysis					
Time	Day 1 (Monday, August 14)	Day 2 (Tuesday, August 15)	Day 3 (Wednesday, August 16)	Day 4 (Thursday, August 17)	Day 5 (Friday, August 18)
8:00– 9:00	Welcome, Introduction, & Course Objective - Hesborn	Group Meeting & Updates	Group Meeting & Updates	Group Meeting & Updates	Finalize Group Presentations
9:00–10:30	[S1] Overview of Systematic Review and Meta-Analysis - Hesborn	[S3] Searching and Selection of Studies - Patrick	[S5] Assessing Quality of Extracted Data - Patrick	Data Interpretation & Reporting [S7] - Nelson	Final Group Presentations & Feedback - Hesborn, Nelson & Patrick
10:30–11:00	Tea Break				
11:00–12:30	[S2] Formulating Research Questions - Nelson	[S4] Extracting Data from Selected Studies - Nelson	[S6] Data Synthesis in RevMan - Nelson	[S8] Introduction to Meta-Synthesis - Hesborn	Final Group Presentations & Feedback - Hesborn, Nelson & Patrick
12:30–1:30	Lunch Break				
1:30 – 3:00	Group Exercise	Group Exercise	Group Exercise	Group Exercise	Course evaluation - Diana Closing remarks - Fellows (n = 2) - Facilitators (n = 2)
03:00-03:30	Tea Break				
3:30–4:30	Presentation & Feedback - S1: Overview of SRMA - S2: Formulating RQs Hesborn, Nelson & Patrick	Presentations & Feedback - S3: Searching for Studies - S4: Data Extraction Hesborn, Nelson & Patrick	Presentations & Feedback - S5: ROBA Assessment - S6: Data Synthesis- RevMan Hesborn, Nelson & Patrick	Presentations & Feedback - S7: Data Reporting - S8: Meta-Synthesis Hesborn, Nelson & Patrick	Field visit (TBD)
4:30 – 5:00	Appraisal & Feedback-Diana	Appraisal & Feedback-Diana	Appraisal & Feedback-Diana	Appraisal & Feedback-Diana	

Week 3 (August 21-25, 2023): Effective coverage - Geospatial analyses					
Time	Day 1 (Monday, August 21)	Day 2 (Tuesday, August 22)	Day 3 (Wednesday, August 23)	Day 4 (Thursday, August 24)	Day 5 (Friday, August 25)
08:00-09:00	Introduction to Effective coverage- Agbessi & Maiga	Mortality analysis- Agbessi & Maiga	General introduction to GIS & QGIS- Natalia & Winfred	Analysing geographic access to health services: availability & travel time - Natalia & Winfred	Fellows Individual presentations : research updates & next steps

09:00–10:30	Effective coverage- Agbessi & Maiga	Mortality analysis- Agbessi & Maiga	QGIS Core functionality and data symbology- Natalia & Winfred	Analysing geographic access to health services: Euclidian distance and referral - Natalia & Winfred	Fellows Individual presentations : research updates & next steps
10:30–11:00	Tea Break				
11:00–12:30	Effective coverage- Agbessi & Maiga	Mortality analysis- Agbessi & Maiga	QGIS Core functionality and thematic mapping- Natalia & Winfred	Mapping spatial clustering of health events using GeoDa – Natalia & Winfred	<ul style="list-style-type: none"> - Workshop appraisal & Feedback – Diana - Issuance of Certificates - Corretta - Closing remarks: facilitators - Alpio
12:30-01:30	Lunch Break				
01:30-03:00	Effective coverage- Agbessi & Maiga	Mortality analysis- Agbessi & Maiga	Analysing geographic access to health services: availability & travel time - Natalia & Winfred	Wrap up session - Natalia, Winfred & Fellows	
03:00-03:30	Tea Break				
03:30–05:00	Fellows work / apply learning on own research proposals	Fellows work / apply learning on own research proposals	Fellows work / apply learning on own research proposals	Consultation with Fellows anticipating applying Geospatial analyses - Natalia, Winfred & Fellows	

b. Annex 2: Evaluation: CD2030 Fellows Analytical Training – FAT1 2023