Cameroon Townhall for Healthcare Professionals

Meeting Minutes, November 16, 2024

Host: Cameroon Townhall for Healthcare Professionals

Date: November 16, 2024

Session: No. 113

Chair: Dr. Munoh Kenne Foma

Co-Moderators: Dr. Bryan Tegomoh (lead moderator)

Guest Speaker: Data scientist, US healthcare startup, Data scientist since 2017; electrical engineering and computer science background, Healthcare startup, USA

Distinguished Guests: Dr. Marthe-Sandrine Mpollo, scientist based in Montreal, involved in a digital health platform in Cameroon, Dr. Obadia Mfuh Kenji, clinical pathology, Stanford, A participant with nutrition and DHIS2 implementation experience in Cameroon, A participant who reviewed AI tool terms of use, An epidemiologist

Title: Special Edition: AI and the Future of Health Care

Agenda Items:

1. Welcome to the 113th session by Dr. Munoh Kenne Foma and Dr. Bryan Tegomoh
2. Framing: AI and the fourth industrial revolution
3. Chair's remarks on AI in medicine
4. Open discussion
5. Video: TED talk by Dr. Eric Topol on AI and medical diagnosis
6. Contributions from participants, including a data scientist from a US healthcare startup
7. Closing remarks and next meeting

Opening Remarks:

- Dr. Tegomoh framed AI as the core of a fourth industrial revolution that will affect every sector, as steam, electricity and computing did, and noted that global competition has moved to GPUs and computing power.

- He said the session would be interactive rather than an expert lecture, aimed at hearing how participants use AI, which sectors are changing, and what Cameroon needs in digital infrastructure, along with ethical, data security and liability issues.

Presentation Points:

Presentation by Data scientist, US healthcare startup: "AI and the Future of Health Care: An Interactive Discussion"

1. Where AI already helps clinicians:

Dr. Foma described AI as a tool that could help developing countries close a 100 year gap in months. He cited uses already in practice: summarising years of patient records before a visit, ambient AI scribes that draft notes from the conversation, summarising new research from conferences such as ASCO for a specific patient, and image analysis in radiology, ECGs and retinal photographs. He said AI would not replace doctors but those who refuse to use it may be left behind.

2. Risks: bias, privacy, hallucination and dual use:

Dr. Foma warned that biased training data produces biased outputs, that entering patient data into tools such as ChatGPT raises privacy and HIPAA questions, and that models can 'confidently tell lies' (hallucinations). Asked by Dr. Tegomoh about open source protein structure tools such as AlphaFold, he agreed they could be misused to design harmful proteins or modified viruses, and said regulation is needed without stifling science, ideally through UN level principles signed by all countries, as with nuclear weapons.

3. Regulation, cost and Cameroon's starting point:

Dr. Mpollo noted that the UN adopted a resolution on safe AI in March 2024 and said tools to detect AI generated output are lagging. She asked who will pay for AI tools, noted that patients must be able to consent to and redact AI scribe transcripts, and warned that clinicians may lose note taking skills. For Cameroon, she suggested first using AI to digitise handwritten notes, and using prescription data to forecast and tender for medicines. Dr. Tegomoh cited a Nature paper warning that models trained recursively on AI generated content degrade.

4. Evidence from the Topol talk:

The TED talk by cardiologist Dr. Eric Topol of Scripps Research covered AlphaFold, the National Academy of Medicine's finding that everyone will experience a diagnostic error, a Johns Hopkins estimate of 800,000 Americans dead or seriously disabled each year from such errors, retinal and ECG models that detect conditions humans cannot see, and a retinal foundation model trained on 1.6 million images. He

described cases where ChatGPT suggested diagnoses missed by many doctors and 'keyboard liberation' through AI generated notes.

5. A data scientist's view:

The data scientist explained that many AI methods, such as linear regression, are long established but now run faster on modern computing. She urged that AI notes and decision support be checked by clinicians and validated locally, since a tool built for US conditions may fail for malaria in Cameroon. She said generative AI tools can be useful in Cameroon before a national electronic record exists, but information security, data sovereignty choices (local versus foreign servers) and enforcement of privacy laws are prerequisites for wider use.

6. Laboratory and pathology applications:

Dr. Kenji described AI enabled microbiology systems that plate, incubate and identify bacteria from images, and digital pathology work at Stanford that trains systems on slide images to support diagnosis. He said AI also helps summarise large documents, such as a 300 page meeting transcript.

Discussions and Q&A Session:

- **Dr. Tegomoh asked what digital infrastructure Cameroon needs for AI.** The data scientist cited information security, data protection law with enforcement, and a decision on local or foreign data hosting. A participant with DHIS2 implementation experience in Cameroon added reliable electricity and internet (noting reports of 2G and 3G networks), capacity building and involvement of policy makers, and investment in curated local data. Dr. Foma called for regional partnerships with countries such as Nigeria, Ghana and Central African neighbours to share data and computing costs, and engagement of the relevant ministries and the private sector.
- **A participant described reviewing the terms of over 100 AI tools and asked how far AI can be controlled.** He noted that all warn they can make errors, cited AI meeting assistants and the Cameroonian telemedicine app Waspito as examples, and said AI reduces time and cost but is hard to regulate. Dr. Tegomoh noted that AI is broader than large language models.
- **An epidemiologist asked where people with no AI experience should start, and what uses are acceptable.** The data scientist advised experimenting with free tools such as ChatGPT or Meta AI on WhatsApp, testing them on known topics to learn how they hallucinate, and keeping expert review of any clinical output. The participant who reviewed AI terms and Dr. Tegomoh said electronic medical

records are the foundation, noting that Cameroon uses DHIS2 but power cuts limit data capture in rural areas.

- **Dr. Mpollo described a WhatsApp based platform in Cameroon connected to a large language model through an API.** She said the main barriers were not technical but behavioural: providers' fear of replacement and questions about payment, which require education. She stressed local data and human review for culturally competent tools.
- **Dr. Tegomoh asked what children in school should focus on for the future.** Dr. Foma urged that young people use free AI tools now. Dr. Tegomoh countered that understanding the foundations, such as how predictive models are built, remains important.

Call to Action and Closing:

- The data scientist proposed non-clinical uses such as AI scheduling to cut waiting times in clinics, and support for patients at home, and urged controlled experiments with clear metrics before wide deployment.
- Dr. Mpollo pointed to medical specific models from Google and Microsoft, and to Mila in Montreal's work on AI misinformation, and called for small experiments and accountability.
- A participant with DHIS2 experience announced a planned session with a medical doctor experienced in AI to share best practices across professions.
- Dr. Foma closed with 'don't let perfection be the enemy of good', saying AI should reach young Africans early and will relieve doctors of routine tasks rather than replace them.
- Dr. Tegomoh announced that the next fortnightly session would be skipped because it fell on the US Thanksgiving weekend.

Next Meeting

Session of November 30, 2024 skipped (US Thanksgiving weekend); next session in four weeks (about December 14, 2024).

Recording: https://www.youtube.com/watch?v=QPDh66XS9Y4

Submitted by: Co-Moderators, Cameroon Townhall for Healthcare Professionals