Cameroon Townhall for Healthcare Professionals

Meeting Minutes, October 9, 2021

Host: Cameroon Townhall for Healthcare Professionals

Date: October 9, 2021

Chair: Dr. Munoh Kenne Foma

Co-Moderators: Elvis Ndansi, Dr. Louisa Viban, Dr. Bryan Tegomoh, Dr. Christelle Jouego Tagne (French-language co-moderator)

Guest Speaker: Dr. Yauba Saidu, MD (University of Yaoundé I, 2007); Master's in Vaccinology and Drug Development (University of Siena), Acting Country Director, Clinton Health Access Initiative (CHAI) Cameroon; member of the oxygen task force of the Ministry of Public Health

Title: Access to Medical Oxygen in Cameroon: A Call to Action

---

Agenda Items:

1. Welcome and opening remarks by co-moderator Elvis Ndansi
2. Remarks by the Chair, Dr. Munoh Kenne Foma
3. Introduction of the guest speaker
4. Presentation by Dr. Yauba Saidu on "Access to Medical Oxygen in Cameroon: A Call to Action"
5. Discussion and Q&A
6. Summary, closing remarks and next steps

Opening Remarks:

- Elvis Ndansi reported about 1,200 registered participants from about 34 countries and recalled the previous session on diagnostic radiology with Dr. Kenedy Foryoung.
- The Chair said medical oxygen was a subject close to his heart, recalling the shortages he and a pulmonologist colleague had dealt with while supporting colleagues in Cameroon during the second wave of COVID-19, and thanked co-moderator Dr. Christelle Jouego Tagne for keeping the town hall bilingual.
- Elvis Ndansi introduced Dr. Yauba Saidu: MD from the University of Yaoundé I (2007), Master's in vaccinology and drug development at the University of Siena,

clinical research at Novartis Vaccines, four large vaccine trials coordinated in The Gambia, then CHAI Cameroon, where the vaccine programme helped move cold chain sufficiency from 3 percent in 2015 to about 78 percent. He was introduced as Acting Country Director of CHAI Cameroon and a member of the National Immunization Technical Advisory Group.

Presentation Points:

Presentation by Dr. Yauba Saidu: "Access to Medical Oxygen in Cameroon: A Call to Action"

1. Hypoxaemia and the COVID-19 oxygen surge:

Dr. Saidu described hypoxaemia as common in pneumonia, sepsis, malaria, meningitis and preterm birth, raising the risk of death up to seven times whatever the primary diagnosis. Cameroon could meet only about 25 to 35 percent of oxygen needs. WHO guidance of about 30 litres per minute for 14 days for a critical COVID-19 patient implies over 600,000 litres per patient. The assessment found slightly fewer than 500 oxygen cylinders in the whole country, and the oxygen molecule often had to be imported from France, Côte d'Ivoire or Gabon with a lead time of about three weeks.

2. National task force and situational analysis:

Facing a possible third wave, the Minister of Public Health set up an oxygen task force on May 11, with three objectives: a situational analysis, a five-year strategy, and resource mobilisation. Data were collected from roughly 130 facilities, from specialised COVID-19 treatment centres, general, central and all regional hospitals to a cross-section of public and private district hospitals. Facilities below district level were excluded because they generally had no equipment to diagnose or treat hypoxaemia.

3. Policy and financing gaps:

There was no policy on clinical use of medical oxygen, no norms or standards for importing and distributing oxygen commodities, no national budget line, and no pricing guidelines. Patients paid from 5,000 to 30,000 FCFA depending on the hospital, an estimated average of about US$18 per 24 hours, in a country where about 35 percent of people live below the international poverty line.

4. Availability of oxygen and equipment:

About 85 percent of reference hospitals had at least one oxygen source, but coverage fell at district level, and mapping showed most of the population living beyond reach of facilities with oxygen, especially in Adamawa, Centre, North West

and Far North. Not all intensive care units, emergency units or operating rooms had oxygen. Fewer than 50 percent of district hospitals had the necessary consumables. Only 7 to 11 percent of hospitals had an oxygen plant, and of the country's roughly nine PSA plants only about three were working. Pulse oximeters, monitors and blood gas analysis were scarce at district level, and only about 15 percent of facilities documented hypoxaemia data, without a standard format.

5. The five-year national strategy:

The strategy, validated under the chairmanship of the Minister of Public Health on September 22, sets a vision of zero hypoxaemia-related deaths in health facilities and a goal of reducing them by 30 percent by 2025. Its four objectives are: policy, governance and financing; availability of oxygen equipment and commodities; case management through clinical guidelines and training; and data systems for hypoxaemia. A decision tree assigns PSA plants to hospitals over 150 beds with reliable power and maintenance, backed by cylinders or concentrators, and concentrators or cylinders to smaller facilities depending on electricity. It foresees 11 small PSA plants, three large plants feeding a hub-and-spoke cylinder distribution, and liquid oxygen tanks at about seven new regional reference centres.

6. Budget and funding mobilised:

The budget was about US$228 million (the speaker gave about 114 billion FCFA), with over 94 percent going to equipment and commodities. Funds already mobilised included about US$4 million from the Central African development bank for 11 PSA plants (nine regional hospitals and two hospitals in Yaoundé), Islamic Development Bank funds for 10,000 cylinders, a Global Fund proposal of about US$25 million with preliminary approval, US$500,000 from CHAI (seeking a further US$10 million) and US$200,000 from UNICEF (mobilising about US$2 million). The plan was about 2.2 percent funded, and Dr. Saidu asked the diaspora to help mobilise funding.

Discussions and Q&A Session:

- **Dr. Louisa Viban asked whether the plan covered maintenance staff, case management training and the primary care facilities where most patients first present.** Dr. Saidu said concentrators previously distributed to rural facilities had failed for lack of electricity and training, which is why the strategy now matches equipment to each facility. A large 80 Nm3 plant costs about US$1 million and operating costs run at 30 to 60 percent of capital cost; plants are specified for local altitude and humidity (Douala air must be dried). The task force favoured public-private partnerships, to be discussed with GICAM, so that operators run plants and sell oxygen to hospitals. Hands-on training was funded for about 50 staff from

regional hospitals and about 500 from district hospitals, with pulse oximeters to be supplied, and a national budget line for medical oxygen had been created.

- **A pulmonologist and critical care physician in West Virginia described colleagues in the North West reducing oxygen for patients saturating at 30 to 55 percent for fear of toxicity, a regional hospital with an unused CPAP machine, and asked whether the budget included ABG machines, CPAP, BiPAP and high-flow devices.** Dr. Saidu said the Global Fund proposal included CPAP, BiPAP and wall oxygen outlets, with the main constraint being funding. He invited her to help develop training modules and a training of trainers with emergency physicians in Yaoundé. She later noted that high-flow, CPAP and ABG devices cost roughly US$3,000 to 12,000 each, small sums next to a plant.
- **An intensivist in Yaoundé (then on a paediatric anaesthesia fellowship in Cape Town), said families sometimes had to buy endotracheal tubes, there was no high-flow oxygen, and only two arterial blood gas machines served all of Yaoundé. He urged air compressors for oxygen blending, end-tidal CO2 monitors to allow low-flow anaesthesia, and blood gas analysers.** Dr. Saidu said investments follow the health pyramid: pulse oximetry, referral and data reporting at health centres, then progressively more at district, regional and tertiary level. He recalled ABG machines were budgeted but would check end-tidal CO2 and air compressors, and offered to share the commodity list with him. The Chair added that a blood gas machine at CHU Yaoundé had often sat unused because clinicians did not request tests.
- **The West Virginia pulmonologist asked how hypoxic patients are transferred between facilities.** Dr. Saidu said the strategy budgeted ambulances and 10-litre cylinders, but ambulances are few and most patients pay for private transport without oxygen. He had asked emergency physicians to collect data on patients who die during referral to support advocacy.
- **A surgeon in Yaoundé, asked whether oxygen had been included in the 2022 state budget to be voted by the National Assembly in November.** Dr. Saidu said the Ministry's director of finance, vice-chair of the task force, had told him a budget line for medical oxygen had been created at the Minister's insistence, but he could not yet confirm the amount.
- **Elvis Ndansi asked whether any data existed on mortality from lack of oxygen.** Dr. Saidu said he had seen no data or publication on hypoxaemia-related deaths in Cameroon; emergency physicians had promised to have students study it for their theses.
- **A nurse with a Doctor of Nursing Practice in the United States, asked whether training would include nurses and whether Cameroon trains respiratory therapists.** Dr. Saidu said the five-day hands-on training would include nurses as well as

doctors, since district hospitals often have three doctors or fewer. He doubted that pre-service curricula could easily be changed but was open to discussion with the University of Buea, and suggested online video modules. Elvis Ndansi suggested private schools could train respiratory therapists if the state signalled demand. The Yaoundé intensivist explained that in Cameroon, as in France, intensive care is practised by anaesthetist-intensivists, and the Chair said he knew of no respiratory therapists in the country.

- **A doctor in anaesthesia training in Jerusalem, asked about implementation timelines, hospitals where oxygen bottles must be fetched from downstairs during emergencies, and oxygen left running in empty theatres.** Dr. Saidu said implementation had started before adoption, with plants, cylinders and concentrators on the way, and funding was the limiting factor over the five-year horizon. Piping costs about US$1,800 per bed and about 1,200 beds had been budgeted. Training and hospital check systems would address oxygen wastage.

Call to Action and Closing:

- A physician with the Cameroon Baptist Convention HIV programme in the West Region and a public health physician and vaccinologist greeted the hall; the former noted that the West Region had recently received oxygen concentrators and cylinders.
- Dr. Saidu reported that the Minister of Public Health had welcomed the idea of presenting his transformation plan to the diaspora through the town hall, and invited participants to send recommendations through him to the Ministry.
- The West Virginia pulmonologist, the Yaoundé intensivist and the Jerusalem anaesthesia trainee volunteered to support training.
- Elvis Ndansi summarised the key findings and thanked the speaker, the Minister, and volunteers; the Chair invited members doing work in Cameroon to present at the town hall.

Recording: https://www.youtube.com/watch?v=sEnw8Zf7XOI

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