Cameroon Townhall for Healthcare Professionals

Meeting Minutes, November 28, 2026

Host: Cameroon Townhall for Healthcare Professionals

Date: November 28, 2026

Time: Scheduled for 1:00 PM New York time (7:00 PM Cameroon time); held from about 12:55 PM to about 2:55 PM New York time (about 6:55 PM to 8:55 PM Cameroon time)

Session: No. 137

Chair: Dr. Munoh Kenne Foma

Co-Moderators: Elvis N. Ndansi (Lead Moderator; moderated this session), Dr. Bryan Tegomoh

Guest Speakers: Dr. Bryan Tegomoh, MD, MPH; physician-epidemiologist (public health, surveillance and One Health), Co-moderator, Cameroon Town Hall for Healthcare Professionals; Dr. Munoh Kenne Foma, MD, MPH, FACP; hematologist and medical oncologist, Presbyterian Healthcare Services, Albuquerque, New Mexico; Chair, Cameroon Town Hall for Healthcare Professionals

Distinguished Guests: Dr. Obadia Mfuh Kenji, clinical laboratory director, Stanford Health Care (laboratory perspective)

Title: Antimicrobial Resistance in Cameroon: When Antibiotics Stop Working

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Agenda Items:

1. Welcome and introduction of the topic by the Lead Moderator, Elvis N. Ndansi
2. Opening words by the Chair, Dr. Munoh Kenne Foma, and by Dr. Bryan Tegomoh and Dr. Obadia Mfuh Kenji
3. Presentation by Dr. Bryan Tegomoh: public health news and the evidence on antimicrobial resistance (AMR), including the role of artificial intelligence
4. Presentation by Dr. Munoh Kenne Foma: the clinical perspective
5. Remarks by Dr. Obadia Mfuh Kenji on the laboratory perspective
6. Discussion and Q&A
7. Closing remarks by the co-moderators and the Chair

Opening Remarks:

- Elvis Ndansi, Lead Moderator, welcomed participants and described the Town Hall as a free, open forum where health professionals in Cameroon and the diaspora share practical solutions, noting that since 2020 it had held about 136 sessions with more than 2,300 health professionals from 36 countries, and that the minutes and a short policy brief of each session are published on cameroontownhall.org so that the discussion reaches decision makers. He introduced the topic, recalling that the World Health Organization ranks AMR among the top global threats to public health and that resistant bacterial infections were responsible for more than one million deaths in 2019. He named the drivers seen every day in Cameroon (self-medication, antibiotics sold without prescription, incomplete treatment, heavy use in poultry and livestock, and gaps in laboratory diagnosis, surveillance and infection prevention) and set a One Health frame for the session.
- The Chair, Dr. Munoh Kenne Foma, thanked the moderators and members, said AMR is a One Health problem that concerns veterinarians and agriculture as much as clinicians, and recalled the "machine gun therapy" of his training years, when a positive Widal test led to treatment for typhoid and blood cultures were rare in adult medicine, while paediatrics and neonatology already used cultures and antibiograms. He said the aim was to reach reasonable and reliable recommendations for the Ministry of Public Health.
- Dr. Tegomoh noted a busy week in global health, including the close of the Conference on Public Health in Africa (CPHIA 2026) in Addis Ababa. Dr. Obadia Mfuh Kenji greeted participants. The Lead Moderator then introduced the two presenters: Dr. Foma, hematologist and medical oncologist in New Mexico, trained in clinical pathology in Cameroon, and Dr. Tegomoh, physician-epidemiologist working on public health, AI, genomic surveillance and biosecurity, and his co-moderator since 2020.

Presentation Points:

Presentation by Dr. Bryan Tegomoh: "Antimicrobial Resistance in Cameroon: When Antibiotics Stop Working"

1. Dr. Tegomoh: public health news from CPHIA 2026:

Dr. Tegomoh reported that CPHIA 2026, which closed in Addis Ababa on November 27, was described by Africa CDC as the largest such gathering: 29,000 people in person, 270,000 online, 135 countries, six heads of state and government and 63 ministers, with all seven candidates for WHO Director-General on an African platform for the first time. It met against a projected fall of about 70% in external health aid to Africa from 2021 to 2025 (Africa CDC data). The line of the week was that health

sovereignty must be budgeted, not declared, with a continental goal of 60% of health products made in Africa by 2040, when 99% of vaccines are imported today. For Cameroon, the Minister of Public Health, Dr. Manaouda Malachie, took a three-year seat on the Africa CDC Governing Board for Central Africa, a national cholera plan aims for at least 90% fewer cholera deaths by 2030, the Douala continental platform is 60% complete, and Prof. Rose Leke received a Distinguished Scientist Award.

2. Dr. Tegomoh: AMR at CPHIA and the outbreaks around us:

AMR appeared in one of 51 policy recommendations at CPHIA (responsible use and AMR surveillance in people and animals), and none of the 38 commitments in the conference register carries an AMR target, budget or owner. Useful for AMR, the commitments call for routine, budgeted genomic surveillance linked to laboratories, with One Health platforms now in 21 Member States. Still open: capitalising the African Epidemic Fund, and the Africa CDC board's Director General recommendation, due before December 15, 2026. The next test is the global AMR ministerial conference in Abuja, Nigeria, on December 6 to 8, 2026. At home, the slides showed cholera in the Far North (3,038 cases and 86 deaths, case fatality 2.8%, data to November 9), more than 9,800 confirmed measles cases and 18 deaths in 113 of 215 health districts, and 9 confirmed yellow fever cases with 1 death; he stressed that most watery diarrhoea needs oral rehydration salts, not antibiotics. In the DRC, the Bundibugyo Ebola outbreak had reached 12,021 confirmed cases and 5,904 deaths as of November 25 (ECDC).

3. Dr. Tegomoh: what AMR is and the global burden:

AMR means the microbe changes so that a medicine stops working; it is not the patient becoming resistant. It covers bacteria, viruses, fungi (including Candida auris) and parasites (including partial artemisinin resistance in Africa). Antibiotics kill susceptible bacteria and leave resistant ones to multiply, and resistance genes move between bacteria, people, animals and the environment. He defined susceptible and resistant, multidrug-resistant (resistant to at least three classes), attributable versus associated deaths, the antibiogram, the WHO AWaRe grouping and stewardship. The GRAM study (Lancet 2024) estimated 1.14 million deaths caused by and 4.71 million associated with AMR in 2021, rising to 1.91 million and 8.22 million a year by 2050, more than 39 million deaths caused by AMR from 2025 to 2050, while a separate scenario of better care and antibiotic access could avert 92 million deaths (modelled estimates).

4. Dr. Tegomoh: Africa and the laboratory gap:

Four common bacteria (Streptococcus pneumoniae, Klebsiella pneumoniae, E. coli and Staphylococcus aureus) drive most AMR deaths in the WHO African Region (Lancet Global Health 2024). In WHO surveillance for 2023, one in five laboratory-confirmed infections in the African Region was resistant, and resistance rose in more than 40% of the bug and drug pairs tracked, by 5 to 15% a year. Only 22% of countries report a funded and fully implemented national AMR plan, and 36% have a reference laboratory able to test selected bacteria and fungi, against targets of 60% and 80%. The UN declaration of September 2024 set targets for 2030 of 10% fewer AMR deaths, 70% of human antibiotic use from the Access group and basic water, sanitation and hygiene in all health facilities. The slide he asked participants to remember: across 14 African countries including Cameroon, only 1.3% of about 50,000 laboratories do bacteriology, 88% of resistance results had no clinical data, and 62% of S. aureus in Cameroon were MRSA in 2018 (MAAP; PLOS Medicine 2025).

5. Dr. Tegomoh: Cameroon's plan, laboratories and community drivers:

Cameroon has a costed One Health national action plan on AMR for 2024 to 2028 (about 2.5 billion FCFA), but in the plan's own words there is generally no specific budget line for AMR at sectoral level, and no formal coordination structure followed the 2018 to 2020 plan. Sentinel sites in six regions report monthly to the National Public Health Laboratory but do not work as a connected network. At sentinel sites, 89% of bloodstream E. coli resisted ceftriaxone, with high resistance also to amoxicillin-clavulanate, ciprofloxacin and ceftazidime (NAP-AMR); in the West region, 65% of urinary Enterobacterales produced ESBL enzymes and 82% of those were multidrug resistant (BMC Infectious Diseases 2025). In one Douala district, 47% of 402 antibiotic buyers had no prescription (PLoS One 2019), and 26.7% of informal vendors sold substandard or falsified ciprofloxacin or metronidazole against 2.6% of licensed pharmacies (Am J Trop Med Hyg 2023).

6. Dr. Tegomoh: One Health, the broken chain and the fixes:

Cameroon imported about 218 tonnes of veterinary antimicrobials from 2014 to 2019, and per kilogram of animal, poultry receive about fifty times more than cattle; on poultry farms in the Centre region, colistin resistance genes were found in 64% of samples and carbapenem resistance genes in 11%. He set out the chain from sample to decision and a fix for each gap: culture before the first dose when it causes no delay; fund sentinel laboratories, quality assurance and reagents; link laboratory results to patient records and report to WHO GLASS; test more of the WHO priority pathogens (only 5 of 15 are tested consistently) and send resistant isolates for sequencing; and produce a yearly antibiogram to update national guidelines. He acknowledged that each fix is hard, especially in rural areas.

7. Dr. Tegomoh: what AI can and cannot do:

He distinguished predictive models (for example, predicting resistance or treatment failure), large language models (useful for summaries, but they can be wrong with confidence) and biological design tools, which can propose candidate molecules for laboratories to test and may shorten the preclinical phase. A chatbot does not find antibiotics; design models propose and the laboratory decides. He was optimistic that AI will help, from clinical decision support to the design of new molecules, but said Africa first needs clean, longitudinal, verifiable data and local validation before such tools can be trusted.

8. Dr. Foma: cases from Cameroonian practice:

Dr. Foma presented situations he said reflect practice at home: a young adult with dysuria after antibiotics bought by the roadside, where local ciprofloxacin resistance argues for nitrofurantoin and a urinalysis; an asymptomatic diabetic patient with E. coli in the urine, raising the question of whether to treat at all; an intubated patient in an intensive care unit still febrile on day 6 with no culture, whose late culture grew multidrug-resistant Klebsiella pneumoniae; a patient with no neutrophils after chemotherapy for colon cancer, who needs cover for Pseudomonas; a febrile child with a negative malaria test and a positive Widal test, who should not be started on broad-spectrum antibiotics; and patients after clean, planned surgery such as caesarean section routinely given ceftriaxone, which he linked to the high ceftriaxone resistance seen in Cameroon.

9. Dr. Foma: choosing, timing and stopping antibiotics:

Acute bronchitis generally needs no antibiotic; WHO Access first choices remain amoxicillin for mild pneumonia and nitrofurantoin for lower urinary tract infection, both accessible in Cameroon. Septic shock is a time game: start broad-spectrum antibiotics guided by a national antibiogram that should be published yearly, usually a third-generation cephalosporin with gentamicin. Cameroon's antibiotic use in 2017 to 2019 was 76% Access and 0% Reserve (MAAP). He urged two blood culture sets before the first dose when this causes no delay, urine culture in pyelonephritis or treatment failure, reassessment when results return and stopping antibiotics on time. Cultures are available mostly in referral and regional hospitals, not district hospitals, and in his training paediatrics and neonatology had yearly antibiograms that adult medicine should now adopt.

10. Dr. Foma: fever, newborns and gonorrhoea:

A negative malaria test is not a reason to give an antibiotic: in a pooled analysis of six countries including Cameroon, 69% of patients with a negative malaria test received one (BMJ 2017). Typhoid is overdiagnosed with the Widal test; in Africa

64.5% of reported Salmonella Typhi isolates were multidrug resistant but none of 462 tested was extensively drug resistant, so blood or stool cultures are needed. In newborn sepsis, carbapenem resistance reached 32.6% in Klebsiella pneumoniae and 71.4% in Acinetobacter in a multi-country cohort (NeoOBS), and families are impoverished by the cost of antibiotics. By 2018, four in five gonorrhoea isolates in Yaoundé resisted ciprofloxacin (Centre Pasteur du Cameroun, 449 isolates, 2012 to 2018), so ceftriaxone 1 g IM as a single dose stays first line, with chlamydia cover for patients at risk. He noted the US threats from carbapenem-resistant organisms, Candida auris and drug-resistant gonorrhoea, and that new antibiotics are needed.

11. Dr. Foma: stewardship without a budget, and prevention:

He proposed a Cameroon version of the seven core elements of stewardship: the hospital director signs a page launching the programme, a named physician lead, the pharmacy as partner (patients are often sent to buy antibiotics such as ceftriaxone outside the hospital, from unknown sources), review of every antibiotic at 48 to 72 hours (for example after clean caesarean section, appendectomy or hysterectomy), counting antibiotic days on each ward, a monthly one-page summary to staff, and continuous education. Prevention means hand hygiene, isolation, basic water and sanitation in every facility by 2030, and vaccination, including measles and pneumococcal vaccines. His three messages: prescribe Access antibiotics first for common infections, culture sick patients, and report treatment failures and send isolates to sentinel laboratories.

Discussions and Q&A Session:

- **Remarks by Dr. Obadia Mfuh Kenji, clinical laboratory director, on the laboratory perspective.** Dr. Kenji said the laboratory identifies the pathogen, gives early warning, monitors trends, helps investigate transmission and evaluates interventions. Phenotypic susceptibility testing, growing the organism in the presence of the antibiotic, remains the gold standard; genotypic tests such as PCR detect resistance genes, but a gene does not always mean clinical failure, except for well-characterised genes as in tuberculosis testing. In the United States, multiplex PCR panels for urinary tract infection now test the pathogen and about 12 resistance markers in about two hours instead of about three days, but in non-sterile samples such as urine a detection does not always mean treatment is needed, and most of these assays are qualitative. In reply to Dr. Foma's question, he confirmed that resistance can be detected without culture, using multiplex real-time PCR (for example on rectal swabs), digital droplet PCR, targeted next-generation sequencing and metagenomic sequencing, although linking a resistance gene to its organism in metagenomic data is difficult. Lateral flow and colour-change

assays exist, and automated systems such as VITEK now give minimum inhibitory concentrations where laboratories once relied on disk diffusion.

- **Charles Dohvoma (chat): empirical treatment before culture is normal in severe cases; the real problem is antibiotic use without prescription. Is anything being done at national level to limit it?** Dr. Foma said antibiotics are sold openly in the streets and markets (he cited Mélen opposite the CHU in Yaoundé and Bamenda's central market), where some stores earn far more than pharmacies, so policy must address how counterfeit and other drugs enter the country and reach the market. Anyone can buy any antibiotic in a pharmacy, often from staff who are not pharmacists, including third-generation cephalosporins. He called for rules on who may prescribe which antibiotics (in the United States some require infectious diseases approval), constant public education, dialogue with pharmacists, a study of the drug supply chain, a nationwide surveillance study drawing on the yearly antibiograms that he said Hôpital Laquintinie and Hôpital Général already publish and on Centre Pasteur, continuing medical education for general practitioners, buy-in from laboratories, pharmacies and civil society, a larger health budget, training of infectious diseases specialists alongside clinical pathologists, and a stewardship programme in every regional and district hospital. On cost, he said a culture in a septic patient can save money compared with long, failing courses of antibiotics. The Lead Moderator added that the National Order of Pharmacists is powerful, that the Ministry's control over private pharmacies needs enforcement, and that customs and the Ministry of Finance must be part of an intersectoral response, as seized illegal drugs are sometimes burned publicly.
- **Charles Dohvoma (follow-up, spoken and in the chat): does Cameroon have a health protection agency that brings expertise together to recommend treatment and monitor resistance in the population?** Dr. Tegomoh said Cameroon has no central body comparable to the UK Health Security Agency. Sentinel laboratories report to the National Public Health Laboratory in Yaoundé but do not talk to each other, and the national AMR plan exists but is underfunded. He called for more sentinel sites, shared expertise between laboratories, a yearly national antibiogram showing which antibiotics still work, and links between laboratory results and the clinical and epidemiological context. Centre Pasteur du Cameroun in Yaoundé serves as a national reference laboratory, and public health emergency operations work is under way in Yaoundé, but enforcement and funding remain the obstacles.
- **Dr. Franklin Maloba on poverty, hygiene and workload.** Dr. Maloba said poverty underlies the problem, with, as he put it, more than 10 million Cameroonians living on less than $2 a day, so tests are unaffordable and roadside medicines are cheaper. Litter and open sanitation expose people to the same bacteria daily, so patients are reinfected after treatment. Physicians see very large numbers of

patients a day, leaving little time for tests and follow-up, and physicians, laboratories and nurses work in isolation without meeting to harmonise care. Asked by the Lead Moderator what one thing he would do as Minister, he proposed strengthening district hospitals, where testing is weakest, with training, capacity building and quality control; subsidies for tests; work with other ministries on hygiene, including in poultry; and public education. The Lead Moderator linked this to the finding that only 1.3% of laboratories can do bacteriology.

- **Dr. Ivo Ditah on whether stewardship can work in the current system.** Dr. Ditah questioned whether the discussion could change practice. He estimated the chance of implementing antibiotic stewardship in the present system at under 5%, because public and private hospitals are not linked, no one controls quality, and the drive for profit reaches government hospitals too. He could recall only one pharmacy in Yaoundé that had asked for a prescription, pointed to porous borders, neighbourhood medicine stores that may not know whether their stock has expired, and noted that roadside and bus sales of medicines continue although they are banned; he described reporting a bus vendor who told passengers to stop their blood pressure and diabetes medicines, without any known result. In the United States, he said, stewardship is also driven by reimbursement. Asked for one recommendation, he said he had none under the current arrangement, and doubted that a Ministry policy would be followed in practice.
- **Brian Ngokwe (chat): culture is good but relatively expensive for the average patient; the local economy drives self-medication; access to antibiotics should be strictly tightened. He also asked what a yearly antibiogram means.** Dr. Tegomoh explained that a yearly antibiogram compiles the resistance patterns observed over the year so that national clinical guidelines can be updated regularly, as resistance keeps shifting. On cost, Dr. Foma and Dr. Tegomoh both acknowledged that many patients cannot pay for a culture, and Dr. Tegomoh called poverty a fundamental barrier.
- **Junior Fogueng, a sixth-year medical student (chat): can phage therapy be an alternative in Cameroon? Are there scholarships for infectious diseases training?** Dr. Tegomoh said phage therapy is promising but that Cameroon is far from implementing it while basic culture capacity and supply chains remain weak. The question on scholarships was not answered during the session.
- **Samuel Fodop (chat): what mechanisms explain AMR, and can bacteria become resistant to bactericidal as well as bacteriostatic antibiotics?** The question was not answered directly during the session; Dr. Tegomoh's presentation had described selection of resistant bacteria and the transfer of resistance genes between bacteria.

- **Franklin Mboligong (chat): several years of public sensitisation are needed, because most Cameroonians do not know about AMR; policy alone will not be enough.** Dr. Tegomoh signalled agreement, and the closing remarks returned to awareness and education as the first step.

Call to Action and Closing:

- Dr. Tegomoh thanked participants, agreed that political will must be converted into funding, and singled out Dr. Maloba's points on poverty, hygiene and building testing capacity at district hospitals, the first level patients reach. He said profit motives and poverty make implementation hard and that he had no easy answers.
- The Lead Moderator said raising awareness is part of solving the problem: changing the behaviour of even a few people is an impact.
- The Chair said talking about a problem is the first step, and that a policy brief that defines problems and solutions gives governments a framework to build on; he cited breast cancer, discussed at the Town Hall, where he said a national policy is being prepared that includes receptor (immunohistochemistry) testing and a screening approach. He said street vendors mix antibiotics into remedies, that much antimicrobial use and resistance comes from animals, mostly poultry, then pigs and cattle, and that the Town Hall should educate, run continuing medical education in hospitals, advocate stewardship in every district hospital, bring the private sector into any policy and make referral laboratories the cornerstone. He recalled that about 90% of cultures in his hospital laboratory during training came from neonatology and only about 10% from adult medicine, and asked whether doctors are now trained to culture septic adults. He regretted that the laboratory directors he had invited (including from Hôpital Général and Hôpital Laquintinie) had not been able to join.
- The Lead Moderator closed the session: antibiotics are a shared resource, and protecting them is a shared duty at the bedside, in the pharmacy, in the laboratory and on the farm. He thanked the Chair, Dr. Tegomoh and participants, and the Ministry of Public Health.

Next Meeting

No date was announced. The Lead Moderator said the Town Hall would meet again in about a month.

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