MANAGING NON-COMMUNICABLE DISEASE (NCD) EMERGENCIES IN LOW-RESOURCE SETTINGS: *Proceedings & Outcomes of a two day conference (24-25 October 2024) in Yaoundé, Cameroon, organised by CamDocUK.*

(Gestion des situations d'urgence liées aux maladies non transmissibles, au Cameroun et dans d'autres milieux à faibles ressources: rapport de la conference de 24-25 Octobr,e 2025 a Yaounde, organisee par CamDocUK)

By

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NB:

- ***Conflict of Interest statement: no conflict of interest was declared.***
- ***DOCUMENT CONTENT:***
- ***PART-1: ABSTRACT***
- ***PART-2: ARTICLE (DETAILED REPORT)***
- ***PART-3.1 (Appendix-1): RECOMMENDED GUIDELINES***
- ***PART-3.2 A/B/C (Appendix-2): CONFERENCE PROGRAMME, FACULTY & ORGANISING COMMITTEE***

----------PART 1: ABSTRACT----------

Background: The CamDocUK Seminar was organized by the association of Cameroonian doctors resident in the UK in partnership with the University of Yaoundé I and endorsed by the Royal College of Physicians of London, to enhance the skills and knowledge of medical professionals. This seminar aimed to

- Share up-to-date knowledge on the management of Non-Communicable Disease (NCD) emergencies.
- Optimise expertise of local colleagues on the management of NCD emergencies in resource-poor settings.
- Develop practical strategies that can be applied in resource-poor settings.

Methodology
A stakeholder's conference was hosted at the Faculty of Medicine and Biomedical Sciences of the University of Yaoundé 1 Cameroon, (24-25 October 2024) with over 200 delegates attending on-site, with another 50 online. The targeted audience included: general practitioners, specialists, interns and residents, public health practitioners, clinical scientists, lab technicians, nurses, and senior medical students. Presentations and masterclasses were delivered by a range of experts orchestrated by a scientific committee. Evidence presented was mainly at standard level 3 or expert opinion.

Results and Conclusions

- Enriched Knowledge: Participants gained up-to-date knowledge on management of NCD-related emergencies.
- Practice Guidelines Framework: National NCD guidelines were recommended, through which evidence-based locality protocols could be implemented.
- CPD Certification: The conference obtained University approval and RCP-UK endorsements for Continuous Professional Development (CPD) with certifications.
- Long-Term Partnerships: The conference established a lasting partnership and programme with the Faculty of Medicine and Biomedical Sciences for scientific development and cooperation.

Key words: CamDocUK, Non-Communicable diseases, resource poor setting.

----------PART 2: DETAILED /CORE OF REPORT- PUBLICATION PAPER----------

2-1) INTRODUCTION

The conference focused on a pressing and often overlooked challenge: non-communicable disease emergencies in low-resource settings. The prevalence of non-communicable diseases, such as diabetes, cardiovascular disease, and cancer, is increasing especially in countries with limited healthcare infrastructure. Most of the knowledge available today is derived from evidence obtained from advanced economic societies. Some of these practices are difficult to deliver in low-resource settings for various reasons. The management of these conditions in resource-limited settings therefore demands innovative, practical approaches that leverage both local and international expertise. Hence, CamDocUK is passionate about fostering collaboration and exchange of information. By gathering medical professionals from diverse backgrounds, we create an opportunity to share insights, learn from each other, and build a stronger and more resilient healthcare system.

The CamDocUK seminar on Non-Communicable Disease Emergencies in Low- Resource Settings was designed to discuss the management of some of these emergencies in an advanced society and compare with the management in a resource-limited setting then come up with some suggestions of management that can be disseminated to the frontline personnel.

The 2-day conference was chaired by Prof Jean Claude Mbanya, a renowned endocrinologist based in Cameroon. The conference received high-level endorsements from The Prime Minister of the Republic of Cameroon, represented by the special Adviser Mme Aissa Fadajo; the Rector of the University of Yaoundé 1 represented by the Dean of the Faculty of Medicine and Biomedical Sciences, Prof Esther Juliette Ngo Um epse Meka; The Minister of Health of the Republic of Cameroon represented by the Director of Health Services Organisation, Prof Eugène Sobngwi; The Royal College of Physicians of the UK represented by the Associate Director for Sub-Saharan Africa and the Associate Director for International Medical Training and finally by The British High Commission to the Republic of Cameroon represented by the High Commissioner in person.

2-2) METHODOLOGY

To address non-communicable disease (NCD) emergencies in low-resource settings, a stakeholders' conference was held over 2 days at the Faculty of Medicine and Biomedical Sciences, University of Yaoundé 1, Cameroon (Appendix-2). This scientific conference provided mainly “expert opinion” Level 3 (minimum acceptable) evidence according to the hierarchy for evidence-based medicine, (CEBM 2009; Tidy 2020; CamDocUK, 2020), primarily comprising case reports, clinical experiences of thought leaders, and expert opinions with clinical examples. The conference methodology encompassed three key phases:

i. Planning Phase

This involved defining objectives for the conference, selection of speakers and their presentation and creating a preliminary programme for the two-day conference.

- Defining Objectives:
  - Clearly outlined the conference goals and target audience.
  - Established the conference theme and key topics to be addressed.

- Selection of speakers and presentations:
  - Recruited a diverse committee with expertise in NCDs, public health, and broad healthcare expertise in Cameroon. Assigned roles and responsibilities to committee members.
  - Identified and invited key speakers, including local experts and international professionals.
- Programme Development:
  - Reviewed successful conference models and best practices for scientific meetings, applying 'GRADE'(Alfonso et al., 2015).
  - Created a preliminary agenda covering fundamental topics, recent advances, and other topics in NCD management.

ii. Stakeholder Meeting (Scientific Conference)

The two-day conference (24-25 October 2024, ref Appendix-2) featured 14 sessions, including:

- Two 30-minute keynote presentations on NCD emergencies overview
- Three 30-minute working sessions covering endocrine emergencies, neurological emergencies, and upper and lower GI bleeds
- Two 30-minute masterclasses on patient communication in emergencies and breaking bad news
- Three case presentations
- Oral presentations by final-year students from Cameroonian medical and paramedical schools

These sessions covered a wide array of topics, from clinical practice and NCD management to individual research studies and tools for effective clinical practice.

iii. Data Collection and Analysis

Data collection methods included session documentation, analysis of presentation content, documentation of participant feedback.
This approach facilitated a comprehensive examination of NCD emergencies in low-resource settings, promoting knowledge exchange among diverse healthcare professionals

2-3) RESULTS

The conference attracted over 200 on-site delegates and 50 online participants, including physicians (general practitioners, specialists, interns, residents), public health practitioners, clinical scientists, lab technicians, nurses, and senior medical students.
Key outcomes included:

I. Engagement of an expert faculty with distinguished professionals from Cameroon and the UK (Appendixes 2 & 3)

II. Enhanced Knowledge: Participant feedback indicated an improved understanding of NCD-related emergency management among attendees and the university community.

III. Practice Guidelines Framework: The conference recommended developing a national NCD guidelines framework to encourage evidence-based locality protocols (ref. Appendix 1).

IV. CPD Certification: The conference received University approval and Royal College of Physicians (UK) endorsement for Continuous Professional Development (CPD) with certifications

V. Long-Term Partnerships: A lasting partnership for ongoing scientific development and cooperation was established with the Faculty of Medicine and Biomedical Sciences, Yaoundé.

VI. Diverse Participation: The conference successfully brought together a wide range of healthcare professionals, fostering interdisciplinary knowledge exchange

VII. Focus on Low-Resource Settings: The conference specifically addressed the challenges of managing NCD emergencies in resource-limited environments, providing context-specific insights and solutions

This comprehensive approach, learning from Nkohkwo et al. (2016) ensured that the conference not only facilitated the sharing of cutting-edge research and best practices but also captured valuable insights for future initiatives in addressing NCD emergencies and other health improvement initiatives in low-resource settings.

2.4) DISCUSSION & CONCLUSIONS

I. The above findings of this conference, if owned by peers, should enable the wider stakeholders to ascertain service improvement nationwide, through periodic peer-review exercises & reports. Thus, established National Guidelines could enable locality adaptations to ensure ready protocols for addressing NCD emergencies at locality levels. Typical Guidelines are attached (Appendix-1). These arrangements could then be the object of periodic peer-review exercises and reports. And so, eventually.

II. A very Cameroonian model perhaps could emerge for wider public health improvement by peer review. A benchmark could be the UK NICE & NHS improvement Programmes, where the Donabedian applies a “hub & spoke” with peer review (Chakravorty et al, 2024). In the proposed Cameroonian model, the Regional Referral Hospitals could serve for Best Practice/ Leader “hubs”, then units across the Region satellite to the Hub serving as the “spokes”.

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---------- **APPENDIX-1**----------

Recommendations for the Management of Non-Communicable Diseases (NCD) Emergencies in Cameroon and similar resource-poor settings.

The following sample protocols were developed from the presentations at the seminar on NCDs (24-25 October 2024).

A. HYPERTENSION IN CAMEROON.

1. Non-pharmacological management
    - Salt reduction to less than 5g daily (two teaspoon)
    - Reduction of oil and fatty food consumption
    - Increase vegetable and fruits intake
    - Get physically active (more than 20 minutes daily aerobic activity)
    - Stop cigarette smoking
    - Stop using Maggi tablets in food
    - Reduce alcohol consumption
    - Bp control at least once monthly
2. Pharmacological management

i. Hypertension without comorbidities

Step 1: Calcium Channel Blockers (CCB) or Diuretics (D)
Step 2: CCB + D
Step 3: CCB + D + ACE inhibitor/ARA
Step 4: Refer to specialist

ii. Hypertension with comorbidities diabetes, CKD

Step 1: ACE inhibitors/ARA
Step 2: ACE inhibitors/ARA + CCB or D
Step 3: ACE inhibitors/ARA + CCB + D
Step 4: Refer to specialist

iii. Hypertension with HF or Cardiomyopathy

Step 1: ACE inhibitors/ARA
Step 2: ACE inhibitors/ARA + BB or CCB
Step 3: ACE inhibitors/ARA + BB or CCB + D
Step 4: Refer to specialist

N/B:

- Always begin with a low dose and step to maximum levels.

- Achieve the maximum dose of each step before moving to the next step
- Non-pharmacological management steps should be implemented at every stage and in every case.

B. DIABETES

1. **Diabetic ketoacidosis**: Acute hyperglycaemic emergency consisting of:
    - Dehydration
    - Hyperglycaemia
    - Acidosis
    - Electrolyte imbalance
    - Others (infection, etc)

Clinical presentation: picture of severe dehydration (sunken eyes, poor skin turgor, dry lips, lethargy, history of vomiting or polyuria, confusion or unconsciousness). Usually, a history of diabetes is present.

Management

i. Addressing dehydration and electrolyte imbalance
    a. 1L of saline IV, within first hour of diagnosis
    b. 1L of saline + 1amp of 10% KCl within next 2Hrs from step 1 above
    c. 1L of saline within next 6hours from step 2.

ii. Addressing Hyperglycaemia
    a. If glycaemia > 400 mg/dl (22.2 mmols/L) give Actrapid 10 IU I.V
    b. Check glycaemia every hour
    c. Continue Actrapid 10 IU/hr I.V till glycaemia < 400mg/dl
    d. When glycaemia is 250mg-400mg, give Actrapid 5 IU/hr I.V
    e. when glycaemia < 250mg/dl give 3 IU I.V while monitoring for hypoglycaemia
    f. If < 80mg/dl, start glucose 5% at 30-60 drops/min depending on glucose level.

iii. Acidosis

Continue to monitor urine for ketones, pH and volume output.

2. **Hyperglycaemic hyperosmolar state**

Clinical features:

- Severe hyperglycaemia (blood glucose levels >600 mg/dl or 33.3 mmol/l)
- hyperosmolarity (serum osmolality > 320 mOsm/ kg)
- absence of significant ketoacidosis (blood pH > 7.3 and bicarbonate level > 18 mEq/l)
- Minimal or no ketonaemia/ketonuria

N/B: Osmolality can be estimated from 2(Na mEq/L) + (glucose mg/dl /18) +/- BUN

Clinical presentation:

- Sunken eyes, dry mouth and tongue,
- Delayed capillary refill, poor skin turgor
- Preserved diuresis or Oliguria
- Focal neurological deficit, lethargy or coma
- Ill-appearing, altered mental status, marked hypovolaemia: tachycardia, orthostatic hypotension, weak and thready pulse

Plan:

Aim of management

- ➢ Replace fluid losses and balance electrolytes by 24 h-48 h
- ➢ Minimise the risk of neurologic complications (gradual decline in osmolality and glycaemia)
- ➢ Identify and treat precipitants
- ➢ Manage comorbidities

Treatment goals:

Hyperosmolar hyperglycaemic state resolution criteria:

- Osmolality <300 mOsm/kg
- Hypovolemia corrected (urine output ≥ 0.5 ml/kg/h)
- Cognitive status returned to pre-morbid state
- Blood glucose <15 mmol/L

Protocol

i. Addressing dehydration and electrolyte imbalance

- 1L of saline within first hour of diagnosis
- 1L of saline + 1amp of 10% KCl within next 2Hrs from step 1 above
- 1L of saline within next 3hours from step 2.
- 1L of saline every 6 hours from step 3
- In total 6L of saline in 24hours

ii. Addressing Hyperglycaemia

- Actrapid 10 IU/hr I.V or 0.1 IU/kg/Hr I.V
- Check glycaemia every hour
- Continue Actrapid 10 IU/hr I.V till glycaemia < 4g/dl
- When glycaemia is 250mg-400mg, give actrapid 5 IU/hr I.V
- when glycaemia < 250mg/dl give 3 IU I.V while monitoring for hypoglycaemia

If < 80mg/dl, start glucose 5% 30-60 drops/min depending on glycemia level.

Be mindful of:

- Venous thromboembolic disease
- Fluid overload
- Careful fluid replacement in patients with cardiac impairment, CKD, low body weight
- Hypoglycaemia

3. Hypoglycaemia

Overview: Blood sugar level < 70 mg/dL for people with diabetes, and < 50 mg/dL for people without diabetes.
Based on severity:

Level 1: Glucose <70 mg/dL (<3.9 mmol/L) and ≥54 mg/dL (≥3.0 mmol/L)

Level 2: Glucose <54 mg/dL (<3.0 mmol/L)
Level 3: Glucose < 20mg/dl or/and a severe event characterized by altered mental and/or physical status requiring assistance for treatment of hypoglycaemia, irrespective of glucose level
Clinical features:

- Adrenergic: Tremors, Palpitations, Tachycardia, Sweating, Hunger, Fatigue, Irritability
- Neuroglucopenic: Headache, Mood change, Low attentiveness, Loss of consciousness, Seizure, Coma

Management:

- Non-severe hypoglycaemia (Blood glucose ≤ 70 mg/dL)
  - Ingestion of fast carbohydrate, 15g carbohydrate; 5 – 10g for patients using automated insulin delivery
  - Pure glucose preferred, but any other carbohydrate can be used
  - Check for blood glucose 15 min after ingestion of carbohydrate
- Level 2 and 3 hypoglycemia: Glucose IV (3 ml/kg of 10% glucose or 1ml/Kg of 30% glucose or 50mls of 50% glucose)
- Glucagon
  - Indicated for people unable/unwilling to consume carbohydrate by mouth
  - Close contacts (family members, roommates, school personnel…) should be instructed on the use glucagon
  - 1.0 mg for individuals ≥ 12 years; 0.5 mg individuals < 12 years

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C. GASTROINTESTINAL

1. Acute Upper GI bleeding

- Presentation: haematemesis, melaena, shock (in acute setting), haematochezia (bright red blood per rectum) may occur in patients with an extremely brisk upper GI bleeding.

Management:

- Keep BP within range as soon as possible with fluids
- Ringers lactate/saline to keep BP within range, monitor BP continuously
- If Hb too low (< 8g/dl) with +/- clinical decompensation, transfuse as appropriate, monitoring Hb closely
- Omeprazole 80mg stat IV
- Terlipressin iv 1-2 mg/6 hrs till bleeding controlled in suspected variceal bleeding, max 48H.
- Stabilise and monitor patient closely
- Send for specialist review and possible endoscopy if available.

2. Lower Gastrointestinal bleeding:

Bleeding per rectum with source below the ligament of Treitz.
Common causes include diverticulitis, haemorrhoids, polyps, cancers, fissures, rectal prolapse, trauma, etc
Clinical presentation:

- Haematochezia
- Old blood per rectum
- Abdominal mass,
- Abdominal pain
- Diarrhoea
- Shock

Diagnosis
History (risks as diverticulosis, family history of bowel CA, drugs as warfarin, etc)
Clinical examination: Investigate shock, do a DRE
Management:

- Stabilise with iv fluids
- Follow up FBC
- Transfuse if Hb < 7g/dl and patient unstable

- Treat infection if present
- Control fever if present
- Diet adjustments (more fibers)
- Venotonics to control haemorrhoids
- Banding of haemorrhoids
- Gastroscopy/colonoscopy if needed
- Specialist review

3. Acute liver failure

Devastating clinical situation of sudden onset on a so far healthy individual evolving in 3 to 4 months or sudden deterioration of an underlying liver disease (acute on chronic liver failure)
The aetiologies may be different, but the pathophysiology and the management are similar
Aetiology:

- Notion of previous chronic liver disease
- History of medication intake (unprescribed, herbal, etc)

Clinical presentation:
Progressive asthenia, jaundice, drowsiness, haemorrhagic syndrome, disorientation, coma, ascites
Positive paraclinical diagnosis:

- Prothrombin time INR ≥ 1.5
- Elevated aminotransferases
- Hypoglycaemia
- Electrolyte imbalance (Hypokalaemia, hypophosphataemia)
- Elevated serum creatinine
- Hypoalbuminaemia
- Hyperbilirubinaemia
- Viral hepatitis markers - HAV; HBV; HEV; HSV
- Elevated paracetamol levels in serum

Management:
Depends on aetiology and clinical finding

- Supportive
- Stabilisation as required
- N-acetylcysteine
- Referral

D. STROKE MANAGEMENT IN CAMEROON.

Introduction:
stroke is a clinical syndrome typified by rapidly developing clinical signs of focal or global disturbance of cerebral function, lasting more than 24 hours with no apparent cause apart from vascular origin. Strokes are either ischaemic (52%), caused by blockage of blood supply to the affected brain area, or haemorrhagic (48%), where a brain blood vessel ruptures and impedes circulation. Both are often clinically indistinguishable.

Risk factors

Modifiable

- Hypertension/Diabetes
- Smoking/Alcohol
- Sedentary lifestyle/obesity
- Cardiac diseases
- Past history of stroke/TIA
- Stress
- Hypercholesterolemia

Non-modifiable

- Age
- Race – Black
- Sex/gender

Clinical presentation

- Facial deviation and drooling
- Paralysis of limbs
- Loss of consciousness
- Seizure
- Loss of speech
- Loss of reflexes as swallowing and parasympathetic sphincter control
- Respiratory distress
- Headache

Clinical examination

- Altered GCS
- Raised blood pressure
- Cranial nerve lesions
- Focal neurological signs (pyramidal, cerebellar, and spinothalamic signs, aphasia, problems
- Meningeal signs in rare cases
- Arrhythmia
- Carotid bruits

Paraclinical signs

- Evidence of ischaemia or haemorrhage on brain CT scan
- Hyperglycaemia
- Altered lipid profile
- Arrhythmia on ECG

- Abnormal cardiac or carotid echo
- Abnormal brain angiography
- Altered electrolyte pattern

Management of stroke

Acute Management

General measures

- Admit and place in semi fowler's position
- ABCDE
- Secure airway and breathing
- Maintain saturation
- Address aetiology (BP, glycaemia, embolus, etc)
- Address symptoms (headache, seizures, etc)
- Urgent brain CT scan
- Saline as maintenance fluid
- Continuous monitoring of parameters (urine output, BP, RR, Saturation, GCS, temperature, etc)
- Get specialist involved
- Counsel guardians and keep them informed

Confirmed Ischaemic stroke

- Anticoagulate within 4.5 hours of onset: alteplase, Tenecteplase
- Aspirin 100mg daily
- Lipid-lowering medication: atorvastatin 40, rosuvastatin 20mg daily
- Manage aetiologies as guidelines stipulate

Confirmed haemorrhagic stroke

- Lower blood pressure
- Antioedema: mannitol, derivatives of glycerol
- Treat aetiology
- Inform neurosurgeon
- Decraniation surgery

Chronic management

- Physiotherapy
- Risk factor control
- Lifestyle and diet adjustments
- Rendezvous hospital visits for follow-up
- Specialist consultation
- Medication intake

E. CARDIOVASCULAR:

1. Hypertensive Emergency

Diagnosed as a BP >180/120 mmHg with end organ involvement, manifesting as

➢ Intense headache (which can point to intra-cranial hypertension)

- ➢ Sudden visual abnormalities (scotomas, blurred vision, etc)
- ➢ Chest pain (myocardial infarction/ angina)
- ➢ Stroke
- ➢ Loss of consciousness/ disorientation
- ➢ Nerve abnormalities
- ➢ Abnormal kidney function, etc
- ➢ Clinical presentation: as described above

Management:

Initial therapy is targeted at reducing Mean Arterial Pressure (MAP) by 25% within 1-2 hours, then, aim to lower SBP to 160 mmHg and DBP to 100 mmHg over the next 2-6 hours.

MAP = 1/3 (SBP) + 2/3 (DBP)

OR 1/3(pulse pressure) + DBP (Pulse pressure = SBP – DBP)

- Urgent hospitalisation
- Continuous monitoring of vitals (BP, Pulse, Saturation, respiratory rate, GCS, urine output, sugar level)
- Cardiovascular and Neurologic examination
- ECG, FBC, transaminases, renin, electrolytes)
- Depending on context: chest X ray, echocardiogram, CT scan, ultrasound doppler, etc

Medications: bring down the blood pressure slightly

i. Nicardipine 5-15mg/hour

- 1mg/min, SLOW IV every 10min, while continuously monitoring BP
- 50mg of Nicardipine in 450 mls glucose to make a 500mls volume OR 25mg in 225mls to make 250mls volume, then
  - Start at 16 drops/min (5mg/hour), this can also be 50 ml/hr.
  - Monitor BP closely
  - Increase by 8 drops every 15 minutes if no fall in BP (7.5mg/hour)
  - Never exceed 48 drops/min (15mg/hour)

ii. Furosemide (in case of Pulmonary oedema)

- 40-80mg iv (depending on severity)

iii. MgSO4 (in eclampsia)

- 4g bolus IV, then 5g on each buttock IM (14g/stat in total)
- 5g/4H IM till 24Hours

Long term control measures

- Calculation of overall cardiovascular event risk and initiation of Aspirin 75-150 mg/daily + clopidogrel for 3 months
- Statin if CVD risk > 7.5% or LDL >160 mg/dl
- Stop cigarettes smoking

- Decrease alcohol intake
- Low salt diet
- Increasing physical exercise
- Increased fiber diets (mediterranean diets, etc)
- Investing and proper handling of apnea

D. Patient care evaluation/monitoring scores:

Early warning score:

- A score to assess illness severity and risk of deterioration for patients.
- Simple to use algorithm made up of 6 Physiological Parameters; Respiratory rate, Oxygen saturation, Blood pressure, Pulse, Temperature, and Mental status
- Variation from normal physiology is identified by severity scores of 1-3

Chart 1: The NEWS scoring system

Physiological parameter	Score 3	2	1	0	1	2	3
Respiration rate (per minute)	≤8		9–11	12–20		21–24	≥25
SpO_2 Scale 1 (%)	≤91	92–93	94–95	≥96			
SpO_2 Scale 2 (%)	≤83	84–85	86–87	88–92 ≥93 on air	93–94 on oxygen	95–96 on oxygen	≥97 on oxygen
Air or oxygen?		Oxygen		Air			
Systolic blood pressure (mmHg)	≤90	91–100	101–110	111–219			≥220
Pulse (per minute)	≤40		41–50	51–90	91–110	111–130	≥131
Consciousness				Alert			CVPU
Temperature (°C)	≤35.0		35.1–36.0	36.1–38.0	38.1–39.0	≥39.1	

Wellington Early Warning Score Escalation Pathway

ZONE	Indicator	Mandatory Action	SCORE
YELLOW	Any vital sign in the yellow zone or total EWS 1-5	Manage pain, fever or distress. Increase frequency of vital sign monitoring	1
ORANGE	Any vital sign in the orange zone or total EWS 6-7 Acute illness or unstable chronic disease	**House officer review within 60 minutes.** Discuss with nurse in charge and inform PAR nurse. Increase frequency of vital signs monitoring.	2
RED	Any vital sign in the red zone or total EWS 8-9 Likely to deteriorate rapidly	**Registrar review within 20 minutes** & consider ICU referral. Inform PAR nurse, house officer and nurse in charge. Increase frequency of vital signs monitoring.	3
BLUE	Any vital sign in the blue zone or total EWS 10 or more Immediately life threatening critical illness	**Dial 777, state 'Medical Emergency Team' & give your location. Support Airway, Breathing & Circulation**	MET

Outline Clinical Response to NEWS Triggers

NEWS SCORE	FREQUENCY OF MONITORING	CLINICAL RESPONSE
0	Minimum 12 hourly	• Continue routine NEWS monitoring with every set of observations
Total: 1-4	Minimum 4-6 hourly	• Inform registered nurse who must assess the patient; • Registered nurse to decide if increased frequency of monitoring and / or escalation of clinical care is required;
Total: 5 or more or 3 in one parameter	Increased frequency to a minimum of 1 hourly	• Registered nurse to urgently inform the medical team caring for the patient; • Urgent assessment by a clinician with core competencies to assess acutely ill patients; • Clinical care in an environment with monitoring facilities;
Total: 7 or more	Continuous monitoring of vital signs	• Registered nurse to **immediately** inform the medical team caring for the patient – this should be at least at Specialist Registrar level; • Emergency assessment by a clinical team with critical care competencies, which also includes a practitioner/s with advanced airway skills; • Consider transfer of Clinical care to a level 2 or 3 care facility, i.e. higher dependency or ITU;

--------APPENDIX-2 -----

- CONFERENCE PROGRAMME & EXPERT FACULTY:

DAY 1 - 24th October 2024		
Morning Sessions		
08:30 to 09:30	**Registration**	
09:30 to 10:00	**Conference Opening**	**Chair: Prof JC Mbanya** • Dean – FMBS/UY1: Prof Ngo Um Esther epse Meka • British High Commissioner to Cameroon - TBC • RCP UK Representative: Dr Phil Gothard (UK) • President CamDocUK: Dr Linda Bello (UK)
10:00 to 10:30	**Keynote Presentation**	**Chair: Prof Theodore Ngatchu** • An overview of emergencies in NCDs - Prof. SP Choukem (Cameroon).
10:30 to 10:45	**Coffee Break**	
10:45 to 12:15	**Working Session 1 Endocrine Emergencies**	**Chair: Prof Eugene Sobngwi (Cameroon)** - Diagnosing and managing all forms of hypoglycaemia: what every doctor must know. Dr. Mesmin Dehayem (Cameroon) - Managing diabetic ketoacidosis in a low-resource emergency setting. Dr. Francine Mendane (Cameroon) - Managing diabetic hyperosmolar hyperglycaemic state (HHS): Dr Boli Anne (Cameroon) - Diagnosis and management of a thyroid storm : Dr. Sandra Ndam (Cameroon) **Rapporteur : TBC**
12:30 to 13:30	**Lunch & Networking**	
13:30 to 14:00	**Masterclass Session**	**Chair: Prof Theodore Ngatchu (UK)** Acute liver failure and fatty liver disease in Cameroon. Prof. Oudou Njoya (Cameroon).
14:00 to 14:45	**Working Session 2: Upper and Lower GI Bleed**	**Chair: Prof Oudou Njoya (Cameroon)** Upper GI Bleed: Prof Theodore Ngatchu (UK) Lower GI Bleed: Dr. Isabelle Dang (UK) **Rapporteur: TBC**

14:45 to 15:00	**Coffee break**	
Afternoon Sessions		
15:00 to 15:20	**Meet the Expert (MTE) Session 1:**	**Chair: Dr Linda Bello (UK)** Case Presentation – Early Warning Score - Dr Begho Obale.
15:20 to 16:30	**Oral Presentations: OP1 - OP6**	**Chairs: Dr Manka Akumah (UK) & Dr Camille Mba (Cameroon)** **OP1: Presenter : Boniface Takwe Njecko** Know your numbers/ diabetes and hypertension units (KYN/D&H); a community-based strategy to prevent and manage NCDS within the Cameroon Baptist Convention Health Services (CBCHS). **OP2: Presenter: Mbange Germaine** Sleep disorders among stroke survivors at the Yaoundé Central Hospital: prevalence associated factors and impact on functional status. **OP3: Presenter: Ndangoh Peter** The importance of remote auto blood pressure measurement in the surveillance of cases of preeclampsia/eclampsia during the postpartum. **OP4: Presenter: Damien Langmia Musi** Investigating the effectiveness of hypertension screening and referral of suspected cases for diagnosis in people living with HIV (PLHIV) enrolled in differentiated service delivery (DSD) models of care in Garoua. **OP5: Presenter: Tomnyuy Shaidu** Prevalence of malnutrition and risk factors of dyslipidemia among HIV-infected adolescents in Cameroon. **OP6: Presenter: Ombede Abega Julienne** Psychological and social impact of induced abortion in post-abortal women: cross sectional study, Buea, South West Region, Cameroon.
16:30 to 17:00	**Closing Remarks**	

DAY 2 - 25th October 2024		
Morning Sessions		
09:00 to 09:15	**Introduction To Day 2**	
09:15 to 09:45	**Keynote Lectures**	**Chair: Dr Phil Gothard** - The rising epidemic of obesity in Cameroon and sub-Saharan Africa. Prof SP Choukem (Cameroon) - Perspectives and challenges in diagnosing and managing NCD emergencies in Cameroon. Prof Alfred Njamnshi (Cameroon)
10:15 to 10:45	**Keynote Presentation**	**Chair: Prof Alfred Njamnshi** RCP London Representative: Medical Training Initiative (MTI): What Cameroonian Doctors should know. Dr Emma Mitchell (UK).
10:45 to 11:00	**Presentation of the Fellows of the Royal College of Physicians (RCP) London, UK** **British High Commissioner to Cameroon/ Dr Phil Gothard (UK)**	
11:00 to 11:30	**Coffee Break**	
11:30 to 12:30	**Working Session 3 Neurological Emergencies**	**Chair: Prof Alfred Njamnshi** - The challenges of acute stroke care in resource-limited settings. Dr Leonard Ngarka (Cameroon) - The emergence of immune diseases of the nervous system in sub-Saharan Africa. Dr Chokote Eric (Cameroon) - Principles of and management of epileptic emergencies in sub-Saharan Africa. Dr Mbonda Paul/Dr Bang Tatiana (Cameroon) **Rapporteur: TBC**
12:30 to 13:30	**Lunch and Networking**	
13:30 to 13:45	**Masterclass Session**	**Chair: Dr Begho Obale (UK)/ Dr Linda Bello (UK)** Communicating with patients in emergency situations & breaking bad news.
13:45 to 14:00	**Sponsor Session**	**Zenith Insurance: Insurance in Cameroon: What's new?**
14:45 to 15:00	**Coffee break**	
14:00 to 14:45	**Meet the Expert (MTE) Session 2:**	**Chair: Dr Linda Bello (UK)** Case Presentation: Oncological emergencies in primary care. Dr Manka Akumah (UK)
14:45 to 15:00	**Coffee break**	

Afternoon Sessions		
15:00 to 15:45	**MTE Session 3: Cardiovascular Emergencies**	**Chair: Prof Theodore Ngatchu (UK)** Topic: Medical Emergencies in Cardiology Dr. Mathilde Mbouck (UK)
15:45 to 17:00	**Oral Presentations: OP7 - OP11**	**Chair: Dr Linda Bello & Dr Nomo Arlette** **OP7: Presenter: Kongnyuy Solange Bongsuiru** Lifestyle practices in the prevention and control of non-communicable diseases amongst adults of Alakuma Health Area - Bamenda Health District. **OP8: Presenter: Nkotuh Emmanuel Shu** Diagnosis of Heart Failure with preserved ejection fraction in adults more than 65 years old in Yaoundé using the HFA-PEFF Score. **OP9: Presenter: Okoumokath Gretta** Salt intake and high blood pressure among adults of the Health District of Dschang in 2024. **OP10: Presenter: Walter Ebot Ojong** Effects of Chemotherapy on the Haematological Profile of Cervical Cancer Patients in the Littoral Region of Cameroon. **OP11: Presenter: Achidi Aduni Ufuan** Association between serum ferritin levels and glycemic control in type 2 diabetes mellitus patients attending the Buea Regional Hospital, South West Region, Cameroon.
17:00 to 17:35	**Closing Ceremony** **FMBS-UY1 & CamDocUK**	

EXPERT FACULTY (SPEAKERS & PANELISTS)

1) **Prof Mbanya Jean-Claude**, *Keynote speaker*

Prof. Jean Claude Mbanya is a distinguished professor of Medicine and Endocrinology at the University of Yaoundé I, Cameroon. He is the Postgraduate Dean of the Doctoral School of Life, Health, and Environmental Sciences and directs the National Obesity Centre at the Central Hospital in Yaoundé. With over 240 publications, he is a key figure in international diabetes advocacy, contributing to the UN Resolution on Diabetes and the UN Political Declaration on NCDs.

2) **Prof. Theodore Ngatchu,** *Conference Chair*

Prof. Theodore Ngatchu is a consultant internist, gastroenterologist, and hepatologist at The University Hospitals Birmingham and an Associate Professor at the University of Birmingham Medical School.

He specializes in liver diseases, bowel disease, gastrointestinal cancer, and therapeutic endoscopy. Prof. Ngatchu is known for his expertise in complex gastrointestinal conditions and his dedication to medical education and patient care.

3) **Prof. Alfred Kongnyu Njamnshi,** *Keynote speaker*

Prof. Alfred K. Njamnshi, MD, is a leading Neurology and Neuroscience professor at the University of Yaoundé I. He heads the Neuroscience Laboratory and the neurology and neuroscience residency programs, and serves as Chief of Neurology at Yaoundé Central Hospital.
Prof. Njamnshi has published over 180 peer-reviewed articles and founded the Brain Research Africa Initiative (BRAIN) to advance neuroscience research and brain health in Africa.

4) Prof. Oudou Njoya, *Keynote Speaker*

Prof. Oudou Njoya, MD, is a distinguished Hepato-Gastroenterologist. He has held key positions at the University of Yaoundé I, including Vice Dean for Research and Cooperation and head of the Department of Internal Medicine and Specialities. He leads the Cameroonian Network Against Viral Hepatitis and the Laboratory for Research on Viral Hepatitis and Health Communication. Additionally, he is the Technical Director of the University Hospital Center of Yaoundé. Prof. Njoya is dedicated to advancing medical research and education, especially in viral hepatitis.

4) **Prof. Simeon Pierre Choukem**

Prof. Simeon Pierre Choukem, MD, MBA, FCAS, FRCP, is a renowned endocrinologist and professor of Internal Medicine and Endocrinology at the Faculty of Medicine and Pharmaceutical Sciences, University of Dschang, Cameroon. He is the inaugural Dean of this faculty, appointed in 2018. Prof. Choukem has a distinguished academic and clinical career. His research focuses on diabetes, cardiovascular diseases, and other non-communicable diseases, with numerous publications in these areas

5) **Dr. Linda Bello**

Dr. Linda Bello, BSc (Hons), MBBS, MRCGP, GP Trainer RCPathME, is a distinguished GP at Colchester Medical Practice. She has a robust academic background and extensive experience in general practice. Dr. Bello trains GPs, serves on the RCGP board in Essex, and is involved in medical education, research, and healthcare policy.
Dr. Bello has chaired CamdocUK for the past four years. She successfully led the 2020 PPE project, providing essential PPE to Cameroon. Under her leadership, CamdocUK has received three awards.

6) **Dr. Emma Mitchell**

Dr. Emma Mitchell is a renowned geriatrician at Southmead Hospital, specializing in Parkinson's disease. She has conducted groundbreaking research on aging and frailty, leading to significant advancements in diagnosis and treatment.
As the Associate Global Director for International Medical Graduates at the Royal College of Physicians in London, she supports international doctors in integrating into the UK healthcare system.

7) **Dr Philip Gothard**

Dr. Philip Gothard is the Associate Global Director for Sub Saharan Africa at the Royal College of Physicians, London. He is a consultant in infectious diseases and general medicine at the University College Hospital, London, and the Hospital for Tropical Diseases.

He was director of the East African Diploma in Tropical Medicine & Hygiene, in Tanzania and Uganda from 2011 to 2024, and sits on the education and training committee of the Royal Society of Tropical Medicine and Hygiene. He is the London regional training programme director for infectious diseases and chair of the national recruitment panel.

8) Dr Begho Obale	9) Dr Mathilde Mbouck MD
Locum Consultant Physician Acute Internal Medicine Tameside General Hospital Greater Manchester, United Kingdom.	Associate Specialist in Cardiology Senior Lecturer at St. Georges University Hospital, London, United Kingdom.

-----APPENDIX-3------

- **CONFERENCE ORGANISING COMMITTEE:**

GENERAL CO-ORDINATION

Dr Linda Y N Bello President, CamDocUK *Family Physician (GP)* *Colchester Medical Practice* *GP Trainer & Medical Examiner* *Board Member RCGP Essex Faculty*	**Prof Ngatchu Theodore** Conference Chair *Chairperson, Cameroon Medical Council Committee* *Consultant in Gastroenterology* *University Hospitals Birmingham*

SECRETARIAT

Dr Andrew Mbencho Secretary-General, CamDocUK *Clinical Fellow, Clatterbridge Cancer Centre, Liverpool.* (secretary-general@camdocuk.org)	**Dr Anna Mbene** Treasurer & Communications Secretary, CamDocUK *Specialty Doctor in Chemical Pathology* *Pinderfields Hospital, Wakefield, Yorks.* (camdocuk20@gmail.com)
Dr Judwin Ndzo *Immediate Past Secretary-General, CamDocUK* *Paediatric Resident* *Birmingham Children's Hospital*	**Dr Manka Akumah Timi** Financial Secretary CamDocUK *Family Physician Bosmere Medical Practice , Havant, UK* *Locum GP, Hampshire & West Sussex* *Board member WASPITO Inc.*
Ms Velma Munka *Conference Event Planner,* *Velvet Events, Yaoundé, Cameroon.* *(velvetevents6@gmail.com)*	

SCIENTIFIC COMMITTEE

Dr Camille Mba, MD, PGDip (Harvard), PhD (Cantab) *Senior Lecturer of Epidemiology and Public Health Nutrition, Faculty of Medicine and Biomedical*	**Chief Dr Asaah Nkohkwo** Chairperson, International Committee; *Clinical Scientist & Public Health Consultant;* *Managing Director of Team Carita DCS*

Sciences, UY1 *Consultant Yaoundé Central Hospital* *Research Associate at Health of Populations in Transition Research group* *Visiting Researcher, MRC Epidemiology Unit, University of Cambridge, UK*	*Kingston-Upon-Thames;* *Email: international@camdocuk.org*
Dr Jean Claude Katte *Public Health Medicine Specialist & Research Consultant with Changing Diabetes in Children Programme in Cameroon. NIHR Translational Research Fellow at the University of Exeter, UK.*	**Dr Leonard Ngarka** *Consultant Neurologist at Yaounde Central Hospital. Senior Lecturer, Department of Medicine and Specialities, Faculty of Medicine and Biomedical Sciences, UY1, Cameroon.*

COMMITTEE MEMBERS

Dr Begho Obale *Locum Consultant Physician* *Acute Internal Medicine* *Tameside General Hospital* *Greater Manchester, United Kingdom.*	**Dr Mathilde Mbouck MD** *Associate Specialist in Cardiology* *Senior Lecturer at St. Georges University Hospital, London, United Kingdom*

CONFERENCE RAPPORTEURS

- Dr Ejedepang Ranibelsoft Mekang Koge, Yaoundé
- Dr Tchaptchet Paul, Yaoundé
- Bakia Junior, Yaoundé
- Lady Natacha, Yaoundé
- Arrey Danielle, Yaoundé
- Dr Cedric Lepasha, CamDocUK, London
- Dr Collins Asongazie, CamDocUK, London