Essential Emergency and Critical Care

A neglected area in child health

14 September, 2022

Co-hosted by the Quality of Care and Implementation Science subgroups

Image credit: MCSP

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Child Health Task Force

EECC
Essential Emergency and Critical Care

Quality of Care and Implementation Science subgroups

September 14 2022

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Essential Emergency and Critical Care

A neglected area in child health

1. Introduction – The care of critically ill children and adults and the EECC approach
2. The readiness of hospitals to provide care for critically ill patients
3. Country focus Tanzania: EECC initiatives and work ongoing in Tanzania

Introduction – The care of critically ill children and adults and the EECC approach

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Outline

1. Critical Care
2. Essentialness
3. Critical Care PLUS Essentialness = EECC
4. Evidence base around EECC

Case

2-year old girl

Fever and seizure at home. Arrives to hospital unconscious

Diagnosed as ”Malaria”

Receives IV antimalarials

Admitted to the ward

Dies on the ward overnight.

Case

Why did she die?

Context

HQSS

The Lancet Global Health Commission on **High Quality Health Systems** in the **SDG Era**

The Lancet Global Health Commission

High-quality health systems in the Sustainable Development Goals era: time for a revolution

Margaret E Kruk, Anna D Gage, Catherine Arsenault, Keely Jordan, Hannah H Leslie, Sanam Roder-DeWan, Olusoji Adeyi, Pierre Barker, Bernadette Daelmans, Svetlana V Doubova, Mike English, Ezequiel García Elorrio, Frederico Guanais, Oye Gureje, Lisa R Hirschhorn, Lixin Jiang, Edward Kelley, Ephrem Tekle Lemango, Jerker Liljestrand, Address Malata, Tanya Marchant, Malebona Precious Matsoso, John G Meara, Manoj Mohanan, Youssoupha Ndiaye, Ole F Norheim, K Srinath Reddy, Alexander K Rowe, Joshua A Salomon, Gagan Thapa, Nana A Y Twum-Danso, Muhammad Pate

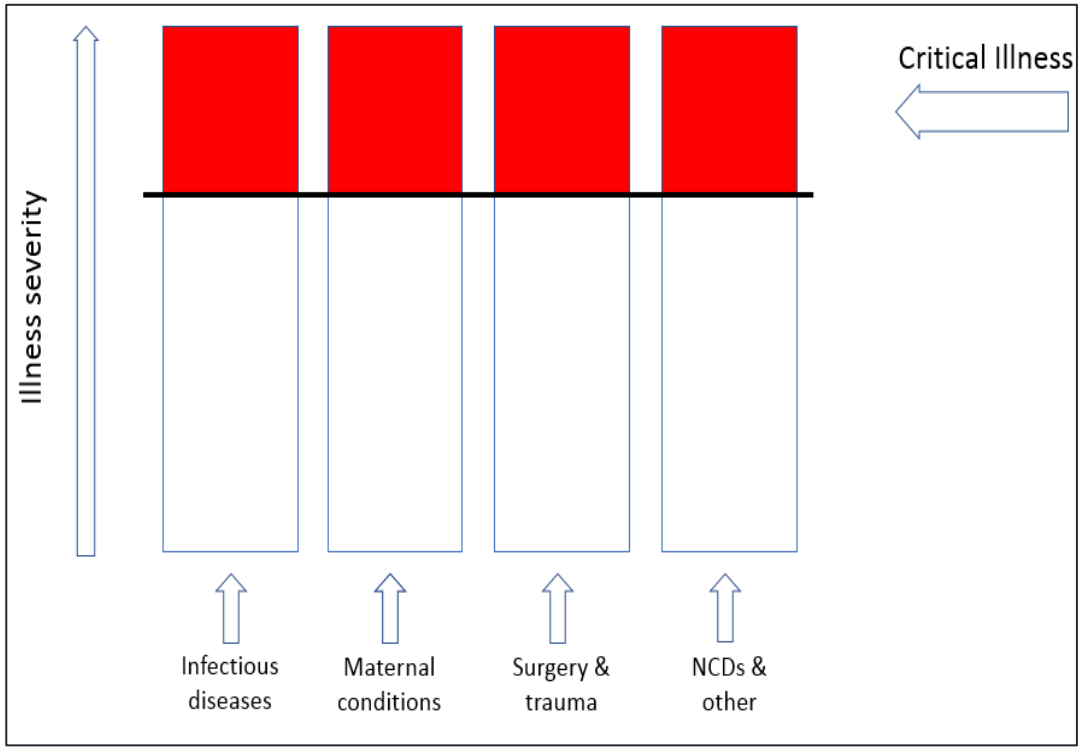
Lancet Glob Health 2018; 6: e1196–252
Published Online September 5, 2018

Executive summary

Although health outcomes have improved in low-income and middle-income countries (LMICs) in the past several decades, a new reality is at hand. Changing health needs, mothers and children receive less than half of recommended clinical actions in a typical preventive or curative visit, less than half of suspected cases of tuberculosis are correctly managed, and fewer than

- Poor or inadequate care is common across conditions and settings
- Today quality is a bigger problem than access
- High-quality health systems could save over 8 million lives each year in LMICs
- New research is crucial for transformation from low to high quality health systems

Critical illness = most severe

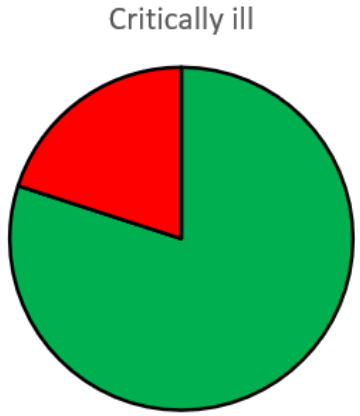


Critical illness is a state of ill health with vital organ dysfunction, a high risk of imminent death if care is not provided and a potential for reversibility[1]

1 Kayambankadzanja R, et al. Towards definitions of critical illness and critical care using concept analysis . BMJ open. 2022;12(9):e060972.

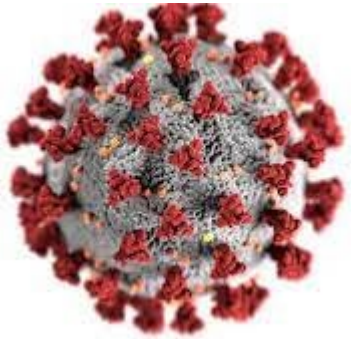
Burden of critical illness

- 11 million annual deaths due to sepsis [1]
- 45 million adult critical illness cases annually [2]
- 7 million children in LMICs each year need oxygen due to pneumonia[3]
- 1 in 10 patients in the Emergency Unit are critically ill [4]
- In-hospital prevalence of critical illness: 12-18% [5]
  - Mortality 15-30%

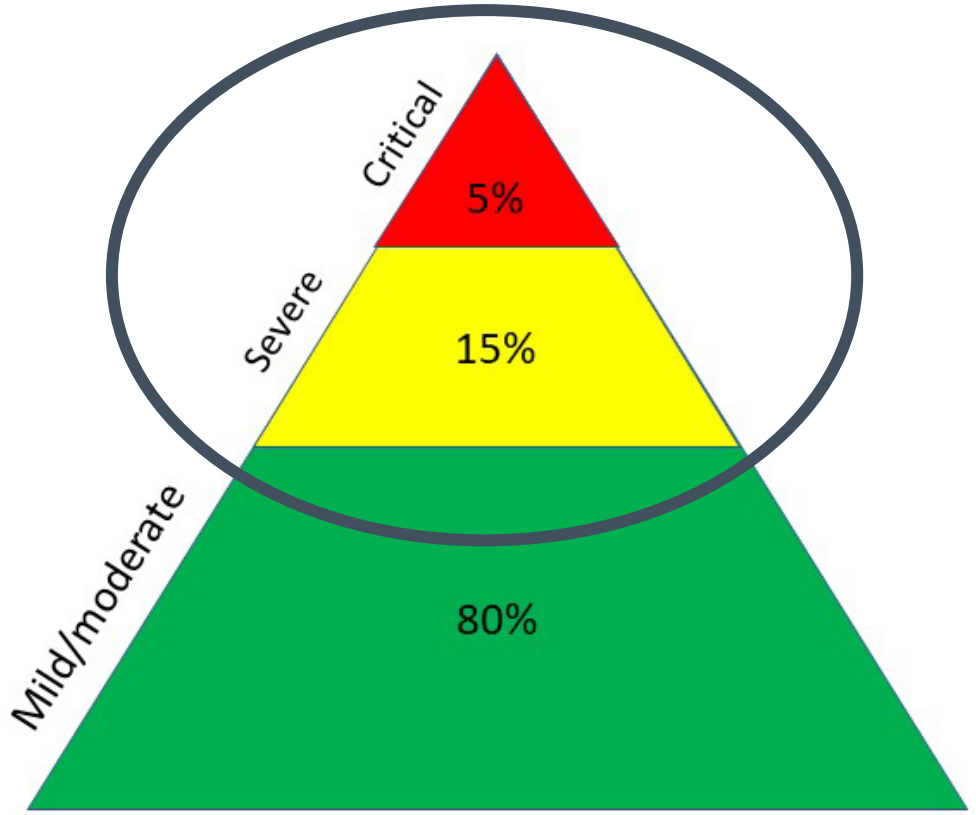


1. Rudd, K. E., et al. (2020). "Global, regional, and national sepsis incidence and mortality, 1990–2017: analysis for the Global Burden of Disease Study." The Lancet 395(10219): 200-211.
2. Adhikari, N. K., et al. (2010). "Critical care and the global burden of critical illness in adults." Lancet 376(9749): 1339-1346.
3. Rahman AE; et al Prevalence of hypoxaemia in children with pneumonia in low-income and middle-income countries: A systematic review and meta-analysis. The Lancet. Global Health. Retrieved May 1, 2022, from https://pubmed.ncbi.nlm.nih.gov/35180418/
4. Mboya et al 2022 (manuscript)
5. Schell et al 2022 Manuscript

COVID-19



20% COVID-19 patients critically ill [1,2]



1 Baker, T., et al. (2020). "Essential care of critical illness must not be forgotten in the COVID-19 pandemic." The Lancet 395(10232): 1253-1254.
2 WHO Information Network for Epidemics Coronavirus disease (COVID19) Update #17 17.03.20

Critical Care

Critical Care = Care of critical illness

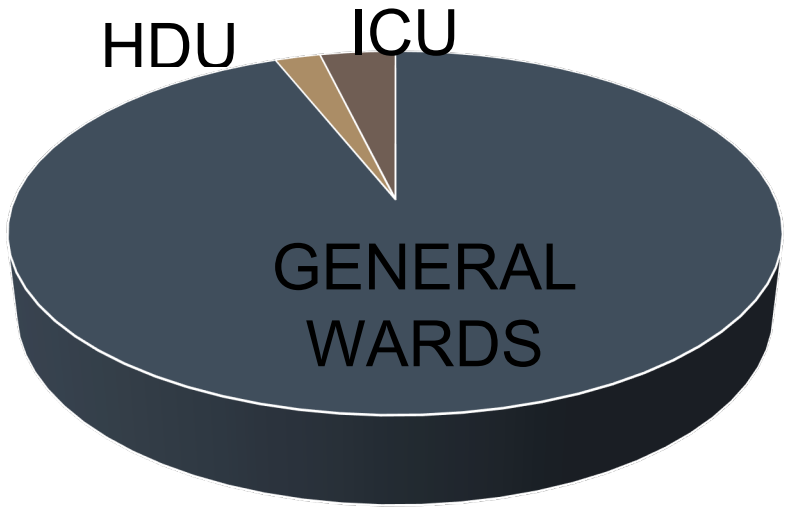
Critical care is the identification, monitoring and treatment of patients with critical illness through the initial and sustained support of vital organ functions[1]

1 Kayambankadzanja R, et al. Towards definitions of critical illness and critical care using concept analysis BMJ open. 2022;12(9):e060972

Where are the critically ill patients?

- Critical illness occurs throughout health systems
  - In emergency units, general wards, theatres, HDUs, ICUs and in the community

- Among in-patients, most critically ill patients are cared for in general wards[1,2]
  - 97 % of critically-ill in-patients in Malawi are in the general wards
  - 94% of critically-ill in-patients in Sweden are in the general wards



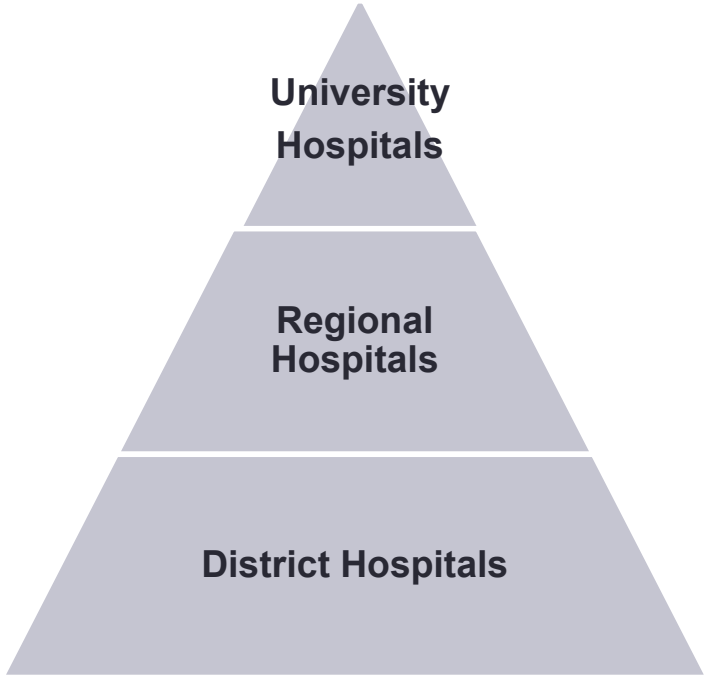
- Critically-ill patients = throughout the life-course:

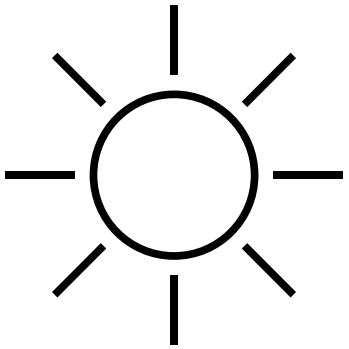
newborns, children, adolescents, mothers, adults, elderly

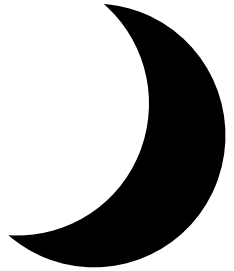
1. Rudd, K. E., et al. (2020). "Global, regional, and national sepsis incidence and mortality, 1990–2017: The Lancet 395(10219): 200-211.
2. Schell et al 2022 Manuscript

Resources available for critical care

- Depend on setting, hospital level and time-of-day

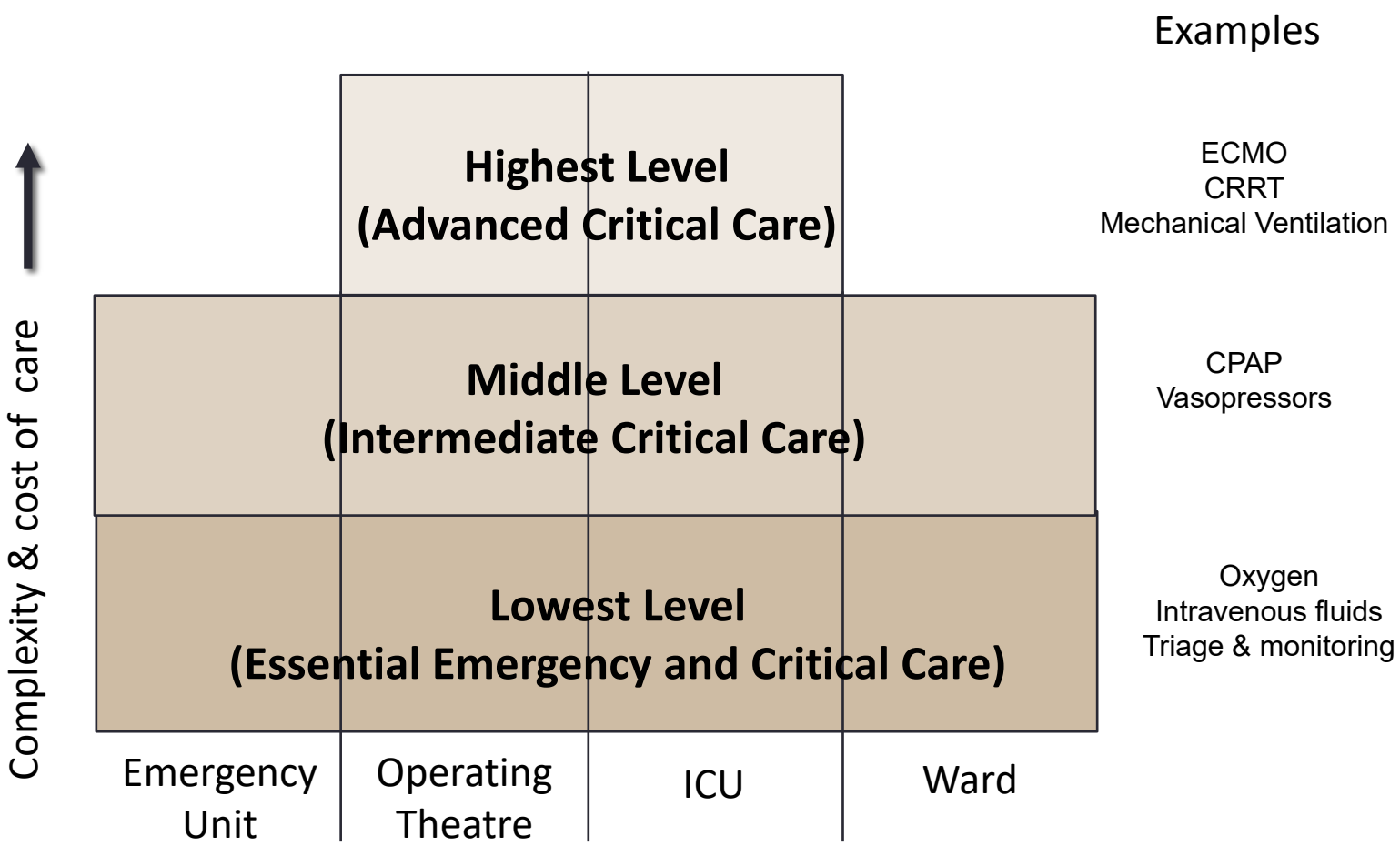






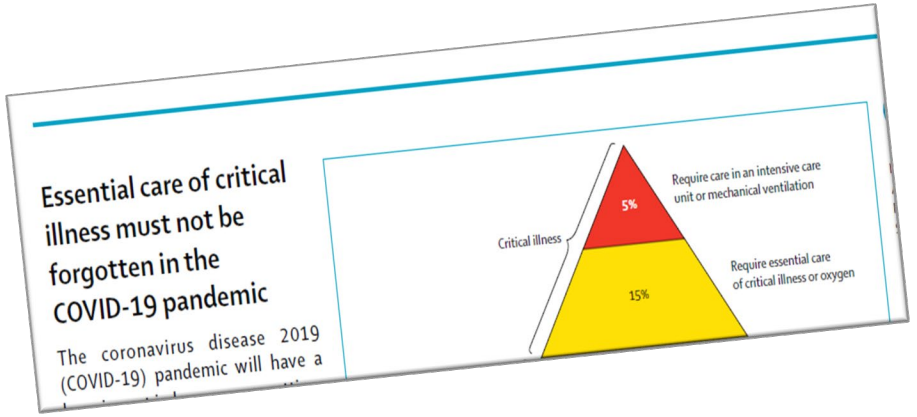
Critical Care ≠ ICU care

Critical care: levels of complexity and cost



Essential Emergency and Critical Care

- EECC is the most simple, first-line form of care for critically ill patients
- It is “the care that all critically ill patients should receive in all hospitals in the world”
- All patients = irrespective of age, gender, diagnosis or social status
- A concept and systems innovation

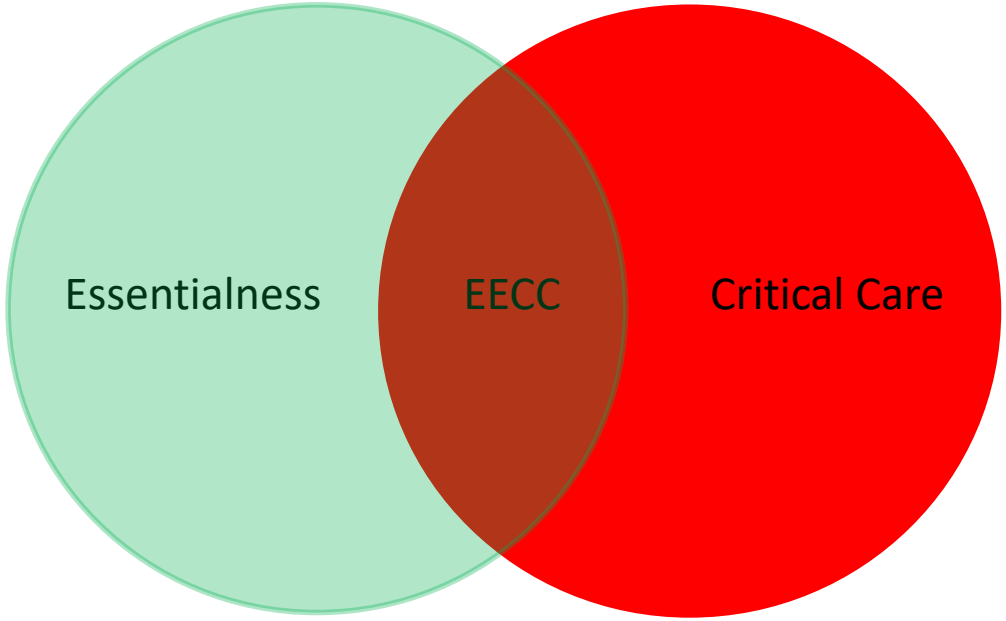


Essentialness in health care

EECC uses **essentialness** as in the original WHO Essential Medicines list:

A prioritized first tier standard of care that is low-cost, feasible to deliver, effectively addresses important health threats in the population and that should be delivered to everyone

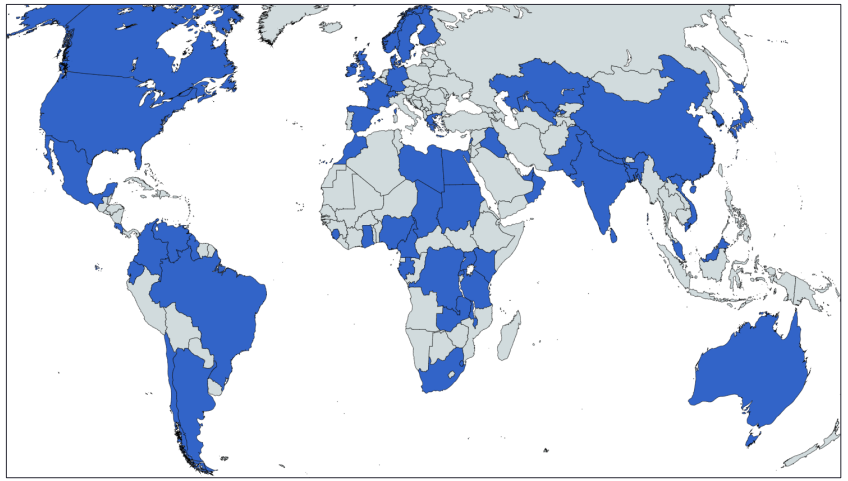
EECC is **essentialness** in critical care



Consensus around the content of EECC[1]

Delphi consensus

- 269 clinical experts from different acute care disciplines and resource settings
  - Clinical expertise from LIC (67%), MIC and HIC
  - Clinical expertise from emergency care, intensive care, medicine, surgery, paediatrics, obstetrics etc…



- Clinical processes
- Hospital readiness requirements

1 Schell CO, et al. BMJ Global Health 2021

EECC clinical processes

- 40 clinical processes
  - e.g. triage/identification emergency units and wards, oxygen treatment (but not blood transfusion or CPAP)

IDENTIFICATION OF CRITICAL ILLNESS

Critical illness is identified as soon as possible so timely care can be provided.

1. The hospital uses vital signs-based triage to identify critical illness

1.1 Triage/identification of critical illness includes the use of these vital signs
- 1.1.1 Pulse rate
- 1.1.2 Blood pressure
- 1.1.3 Respiratory rate
- 1.1.4 Oxygen saturation (SpO2)
- 1.1.5 Temperature
- 1.1.6 Level of consciousness (eg. "AVPU", "ACVPU" or Glasgow Coma Scale)
- 1.1.7 Presence of abnormal airway sounds heard from the bedside (eg. snoring, gurgling, stridor)
- 1.1.8 The overall condition of the patient (health worker's concern that the patient is critically ill)

1.2 Triage/identification of critical illness is conducted at these times
- 1.2.1 When a patient arrives at hospital seeking acute care
- 1.2.2 For hospital in-patients, at least every 24 hours, unless otherwise prescribed, with increased frequency for patients who are at risk of becoming critically ill or who are critically ill, and then less frequently again when patients are stabilising
- 1.2.3 When a health worker, or the patient or guardian, is concerned that a patient may be critically ill
- 1.2.4 During and after surgery or anaesthesia
- 1.2.5 During and after transport/transfer of a patient who is critically ill or at risk of becoming critically ill
- 1.2.6 Following a treatment or action (re-evaluation)

CARE OF CRITICAL ILLNESS

Essential care of critical illness is initiated as soon as critical illness is identified and involves these clinical processes when appropriate:

AIRWAY **Care for a blocked or threatened airway**	2. Placing the patient in the recovery position (lateral position) 3. Age-appropriate airway positioning (eg. chin lift or jaw thrust in adults, neutral position in young children) 4. Removal of any visible foreign body from the mouth or use of age-appropriate chest thrusts/ abdominal thrusts/ back blows in choking 5. Suction for secretions that are obstructing the airway 6. Insertion of an oro-pharyngeal (Guedel) airway
BREATHING **Care for hypoxia or respiratory distress**	7. Optimizing the patient's position (eg. sitting-up or prone) 8. Oxygen therapy using nasal prongs, facemask, or mask with a reservoir bag (non re-breathing mask) 9. Bag-valve-mask ventilation in threatened or manifest respiratory arrest
CIRCULATION **Care for a threatened circulation or shock**	10. Optimizing the patient position (eg. lying flat, head-down, raised-legs, lateral tilt in pregnancy) 11. Compression and elevation to stop bleeding 12. Appropriate bolus of intravenous fluid 13. Oral rehydration solution or other appropriate oral fluids for dehydration without shock 14. Intramuscular adrenaline for anaphylaxis 15. Uterine massage and/or oxytocin when indicated
REDUCED CONSCIOUS LEVEL **Care for a**	16. Treating an unconscious patient as having a threatened airway (eg. recovery position etc) 17. Dextrose (iv or buccal) in unconsciousness or seizures unless bedside blood glucose testing rules out hypoglycaemia or there is a clear alternative cause 18. Protecting patients with a seizure from harm 19. Quick-acting anti-seizure medication (eg. intravenous/rectal diazepam, or magnesium

EECC hospital readiness requirements

- 66 hospital readiness requirements
  - Equipment, consumables, HR, drugs, routines, guidelines, infrastructure
  - e.g. pulse-oximeters, iv-giving sets.

IDENTIFICATION OF CRITICAL ILLNESS

The following items are required for a hospital to be ready for the identification of critically ill patients:

CATEGORY	ITEM
1.1. EQUIPMENT	1.1.1 Clock with second hand 1.1.2 Pulse oximeter & probe 1.1.3 Blood pressure measuring equipment (eg. sphygmomanometer with a stethoscope) 1.1.4 Blood pressure cuffs of different paediatric and adult sizes 1.1.5 Light source (lamp or flashlight) 1.1.6 Thermometer
1.2 CONSUMABLES	1.2.1 Soap or hand disinfectant 1.2.2 Examination gloves
1.3 DRUGS	None
1.4 HUMAN RESOURCES	1.4.1 Health workers with the ability to identify critical illness 24h/day
1.5 TRAINING	1.5.1 The health workers are trained in the identification of critical illness
1.6 ROUTINES	1.6.1 Routines for the identification of critical illness
1.7 GUIDELINES	1.7.1 Guidelines for the identification of critical illness
1.8 INFRASTRUCTURE	1.8.1 Designated triage area (area for the identification of critical illness) in the Out-Patient Department or Emergency Unit (area of the hospital where patients arrive) 1.8.2 Running water

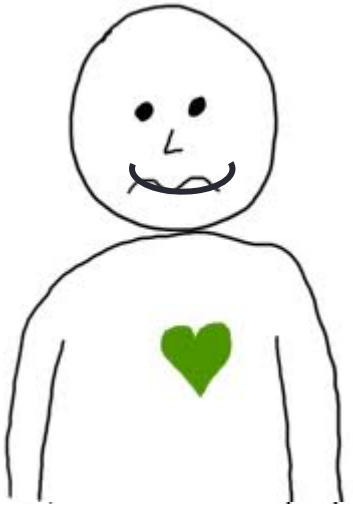
CARE OF CRITICAL ILLNESS

The following items are required for a hospital to be ready to provide the care of critically ill patients:

CATEGORY	ITEM
2.1 EQUIPMENT	2.1.1 Suction machine (electric or manual) 2.1.3 Oxygen supply 24h/day (cylinder, concentrator (with electricity supply) or piped oxygen) 2.1.4 Flow meter (if using cylinder or piped oxygen) 2.1.5 Leak-free connectors from oxygen source to tubing 2.1.6 Bag Valve Mask (resuscitator) – neonatal, paediatric and adult sizes 2.1.7 Sharps disposal container 2.1.8 External heat source
2.2 CONSUMABLES	2.2.1 Suction catheters of paediatric and adult sizes 2.2.2 Guedel airways of paediatric and adult sizes 2.2.3 Pillows 2.2.4 Oxygen tubing 2.2.5 Oxygen nasal prongs 2.2.6 Oxygen face masks of paediatric and adult sizes 2.2.7 Oxygen face masks with reservoir bags of paediatric and adult sizes 2.2.8 Masks for Bag Valve Mask (resuscitator) – neonatal, paediatric and adult sizes 2.2.9 Compression bandages 2.2.10 Plasters or tape 2.2.11 Gauze 2.2.12 Intravenous cannulas of paediatric and adult sizes 2.2.13 Intravenous giving sets 2.2.14 Skin disinfectant for cannulation 2.2.15 Syringes

Case

2-year old girl, malaria, unconscious.



Identified as ”critically ill”

Receives EECC

Survives!

Impact Modelling

If EECC was scaled-up so that it was provided to all patients who require it in every health facility in the world, how many deaths could be averted per year?

REQUIRED INPUTS FOR MODELLING (GLOBAL NUMBERS)

- C=Number of people who become critically ill each year
- M1=Average current mortality rate of those critically ill patients
- M2=Average mortality rate of the critically ill patients if they all received full EECC

CALCULATED ESTIMATES

- D1 = Annual number of deaths of critically ill patients given existing levels of EECC = C x M1
- D2 = Annual number of deaths of critically ill patients if all received full EECC = C x M2
- A = Averted deaths = D2-D1

C: Critically ill = 45million

- Adhikari et al. Lancet 2010. A likely underestimation

M1: Mortality now = 24.5% **D1: Annual deaths = 11.0 million**

- From CRISPOS study. 30 day mortality 20% in Malawi and 29% in Sweden

M2: Mortality with EECC = 22.1% **D2: Annual deaths = 9.95 million**

- From POETIC Nominal group estimate of relative mortality reduction of 22%

Averted deaths = 1 million

(uncertainty interval 0.5 million – 2.1 million)

Assumptions

- Average EECC provision in the higher-resource half of the world 80% and lower-resource half of the world 20%
- Linear dose-response of EECC and similar effect across settings
- Then mortality reduction in the higher-resource half would be 20% of 22% = 4.4% and in the lower-resource half would be 80% of 22% = 17.6%.
- So higher-resource mortality with full EECC would be 4.4% lower than 29% = 27.7%. And lower-resource mortality would be 17.6% lower than 20% = 16.5%. (27.7+16.5)/2=22.1%

Uncertainty interval using alternative assumptions:

- If EECC only averts half as many deaths, averted deaths = 500,000
- If only 30million cases, Averted deaths = 719.400
- If EECC averts twice as many deaths, averted deaths = 2.1million

EECC
Essential Emergency and Critical Care

Critical illness is common

Care can be provided at different levels of complexity/cost

For real-world impact, all hospitals should prioritize the provision of low-cost, low-complexity EECC

Large potential for averting deaths

The readiness of hospitals to provide care for critically ill patients

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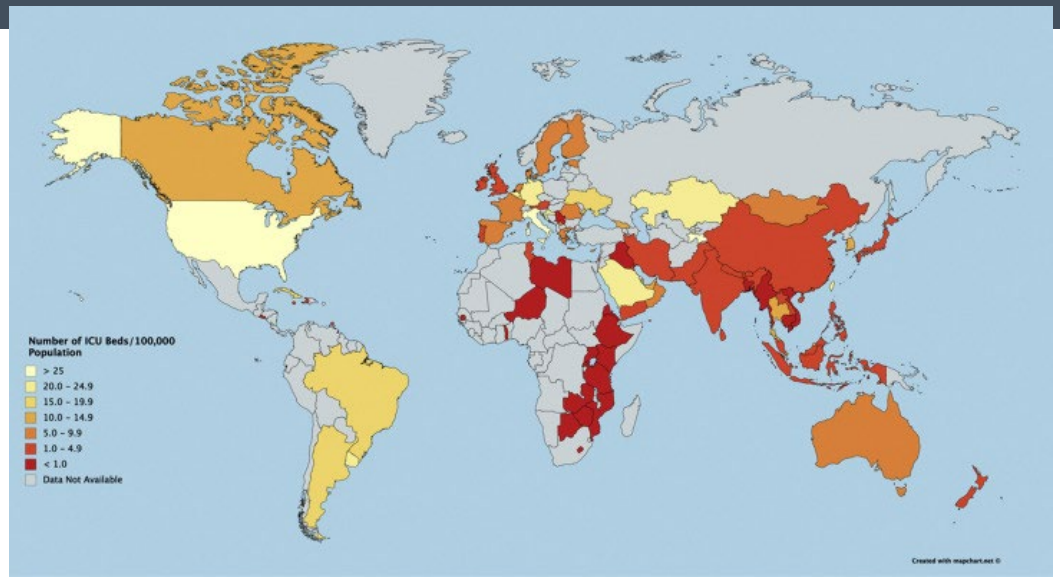
Outline

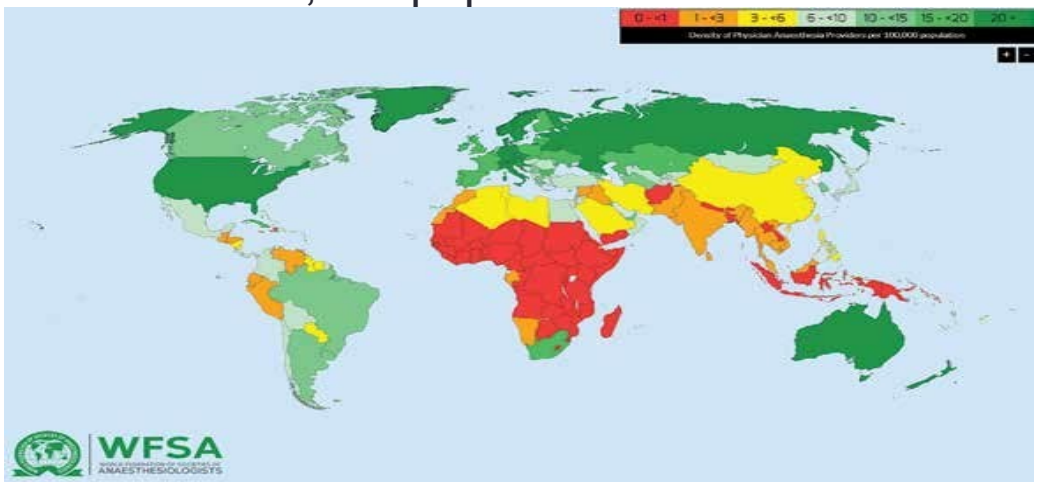
1. Overview of critical care
2. Readiness in Tanzanian hospitals
3. Underlying drivers

Critical Care
– lack of beds, staff and poor outcomes

- Very few anaesthesiologists, critical nurses and surgeons in many LMICs[3]
- Risk of death post surgery in Africa is 2 – 10 times as high as in other countries. Most deaths occur on hospital wards postoperatively. (ASOS & SAPSOS)
- Mortality in critically ill patients with COVID-19 was much higher in Africa. (ACCCOS)



Majority of African countries have <1 critical care bed/100,000 population[1]



Majority of African countries have <5 anaesthesia providers per 100,000[2]

1.Sen-Crowe B, Sutherland M, McKenney M, Elkbuli A. A Closer Look Into Global Hospital Beds Capacity and Resource Shortages During the COVID-19 Pandemic. J Surg Res. 2021
2. Kempthorne, Peter MBChB, FANZCA*†; Morriss, Wayne W. MBChB, FANZCA†‡; Mellin-Olsen, Jannicke MD, DPH†§; Gore-Booth, Julian MA†. The WFSA Global Anesthesia Workforce Survey. Anesthesia & Analgesia: September 2017
3. Meara JG, Leather AJ, Hagander L, Alkire BC, Alonso N, et al, Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development. Lancet. 2015

- Pre-COVID in Kenya only 58% of beds were in hospitals with an oxygen supply[1]
- Lack of staff, infrastructure, routines and training for basic emergency and critical care in hospitals in Tanzania[2] and Sierra Leone[3]
- DCP3: substantial deficiencies in emergency care in many parts of the world[4]

1. Barasa E Assessing the hospital surge capacity of the Kenyan health system in the face of the COVID-19 pandemic. PLoS One. 2020 Jul 20
2. Baker T, et al Emergency and critical care services in Tanzania: a survey of ten hospitals. BMC health services research. 2013
3. Coyle RM et al. Emergency care capacity in Freetown, Sierra Leone: A service evaluation. BMC Emergency Medicine. 2015;15(1).
4. Reynolds T, et al. Strengthening Health Systems to Provide Emergency Care: DCP3 Disease Control Priorities. World Bank. , 2018.

Among 1000 patients in two hospitals in Malawi [1]

- **Hypoxia**
  - 45 (4%) were hypoxic (sat<90%)
  - 5/45 (11%) were receiving oxygen. **89 % were not**

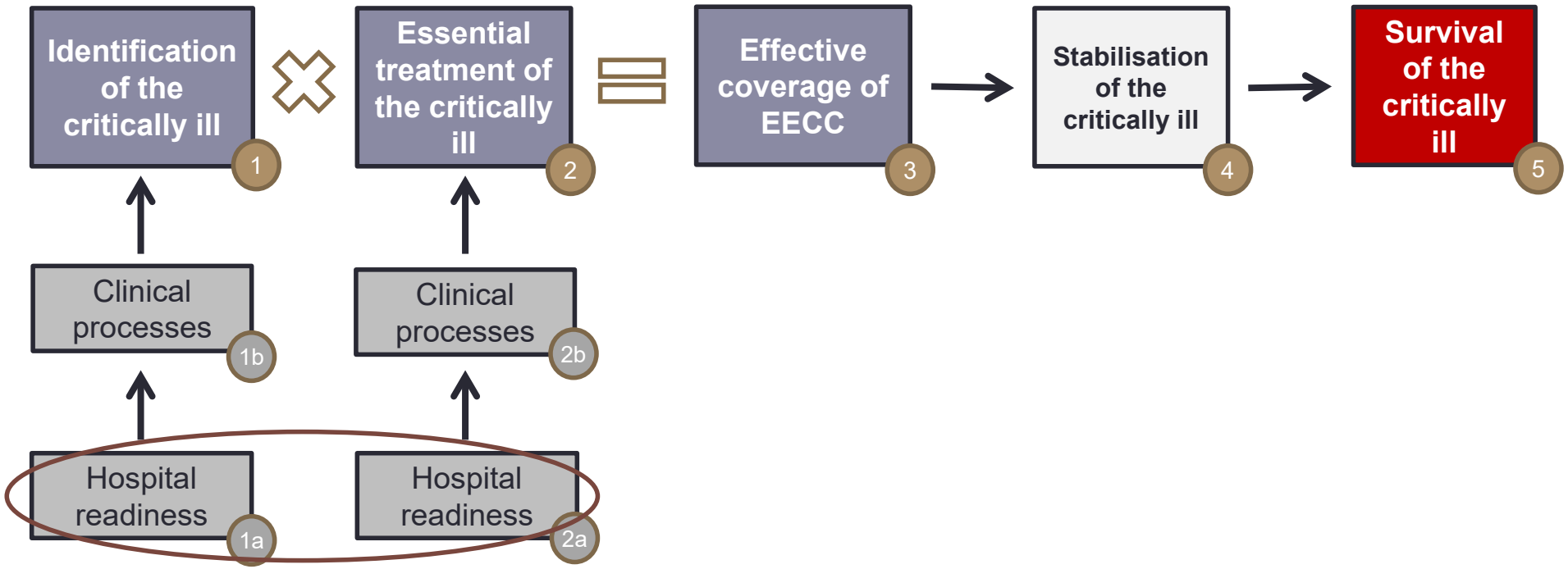
- **Hypotension**
  - 103 (9%) were hypotensive (sbp<90mmHg)
  - 9/103 (9%) were receiving iv fluids. **91 % were not**

- **Unconsciousness**
  - 17 (1.5%) were unconscious (GCS<9)
  - 8/17 (47%) either had a protected airway or were in the recovery position **53% were not**

= large unmet need of EECC

1. Kayambankadzanja R et al. Unmet need of essential treatments for critical illness in Malawi. Plos One. 2021

EECC conceptual framework



Our ongoing research

In Tanzanian hospitals:

- At a hospital-level, **85% of resources required for EECC are available**
- However, in the wards only **57% of resources required for EECC are ready for use** for a critically ill patient
- **Advanced critical care is not possible to adequately provide** – only 19% of resources are available at a hospital-level

- There are large **quality and safety challenges** in critical care provision
- In facility surveys, resources appear adequate, but **system strength for EECC** is not captured
- Training and procurement of equipment **are necessary but are not sufficient** as an overall solution
  - Training is sporadic and based on achieving short term goals (improving specific knowledge or skills) that **don't address the environment** staff work in
  - Additional equipment will not make a long-term difference due to the **lack of a system for maintaining functionality**: for example broken oxygen delivery tools prevent the effective use of new oxygen plants

- **The system of care** remains almost as vulnerable to the next public health emergency as it was found to be at the start of COVID
- **Coordinated care of critical illness** is needed throughout hospitals and in the health system

Cost & Cost-effectiveness

- Providing EECC to a critically ill patient **costs $17-21USD/day**[1]

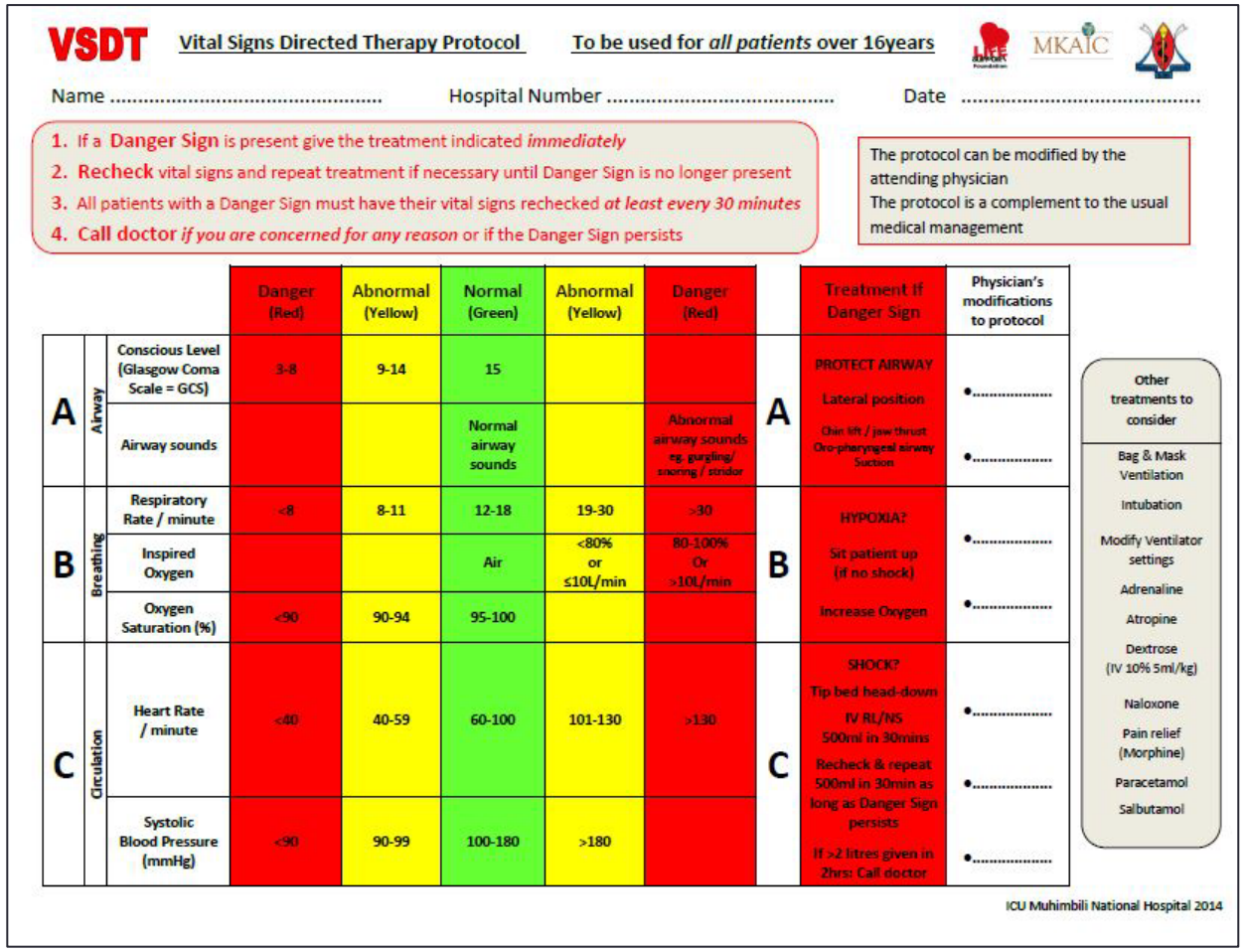
- **EECC is very cost-effective** ($23-28 USD per DALY averted)[2]
  - similar to malaria treatment or emergency obstetric care

Figure 7.1 Interventions Costing Less than US$100 per DALY Averted for Adults

Horton S. et al (2017) Ranking 93 health interventions for low and middle-income countries by cost-effectiveness. PLoS ONE 12(8): e0182951. (Based on DCP3)

1. Guinness L et al. (2022). Essential Emergency and Critical Care as a health system response to critical illness and the COVID19 pandemic: What does it cost?: https://europepmc.org/article/PPR/PPR491226
2. Shah et al (2022) Manuscript

Can EECC interventions improve outcomes?



VSDT Vital Signs Directed Therapy Protocol — To be used for *all patients* over 16years

Name ..... Hospital Number ..... Date .....

1. If a **Danger Sign** is present give the treatment indicated *immediately*
2. **Recheck** vital signs and repeat treatment if necessary until Danger Sign is no longer present
3. All patients with a Danger Sign must have their vital signs rechecked *at least every 30 minutes*
4. **Call doctor** *if you are concerned for any reason* or if the Danger Sign persists

The protocol can be modified by the attending physician
The protocol is a complement to the usual medical management

			Danger (Red)	Abnormal (Yellow)	Normal (Green)	Abnormal (Yellow)	Danger (Red)		Treatment if Danger Sign	Physician's modifications to protocol
A	Airway	Conscious Level (Glasgow Coma Scale = GCS)	3-8	9-14	15			A	PROTECT AIRWAY Lateral position Chin lift / jaw thrust Oro-pharyngeal airway Suction	•..... •.....
		Airway sounds			Normal airway sounds		Abnormal airway sounds eg. gurgling/ snoring / stridor			
B	Breathing	Respiratory Rate / minute	<8	8-11	12-18	19-30	>30	B	HYPOXIA? Sit patient up (if no shock) Increase Oxygen	•..... •.....
		Inspired Oxygen			Air	<80% or ≤10L/min	80-100% Or >10L/min			
		Oxygen Saturation (%)	<90	90-94	95-100					
C	Circulation	Heart Rate / minute	<40	40-59	60-100	101-130	>130	C	SHOCK? Tip bed head-down IV RL/NS 500ml in 30mins Recheck & repeat 500ml in 30min as long as Danger Sign persists If >2 litres given in 2hrs: Call doctor	•..... •..... •.....
		Systolic Blood Pressure (mmHg)	<90	90-99	100-180	>180				

Other treatments to consider
Bag & Mask Ventilation
Intubation
Modify Ventilator settings
Adrenaline
Atropine
Dextrose (IV 10% 5ml/kg)
Naloxone
Pain relief (Morphine)
Paracetamol
Salbutamol

ICU Muhimbili National Hospital 2014

PLOS ONE

RESEARCH ARTICLE

Vital Signs Directed Therapy: Improving Care in an Intensive Care Unit in a Low-Income Country

Tim Baker[1,2,3]*, Carl Otto Schell[2,4,5], Edwin Lugazia[6], Jonas Blixt[1,3], Moses Mulungu[7], Markus Castegren[1,4], Jaran Eriksen[8], David Konrad[1,3]

- Acute treatment of danger signs increased from 23% to 73% (p<0.01)
- Mortality for hypotensive patients was reduced from 92% to 69% (p=0.02) NNT 4.3

Baker, T., et al. (2015). "Vital Signs Directed Therapy: Improving Care in an Intensive Care Unit in a Low-Income Country." PLoS One 10(12): e0144801. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0144801

Why is there such a large unmet need of critical care?

- Siloed care
- Critically ill patients fall in the gaps between initiatives (CeMoNC, IMCI, ETAT, Global Surgery, COVID-19 etc)
- Need for advocacy
- Unified approach needed for managing critical illness
- Lack of focus on the **essentials** in critical care

Ongoing and future work

- Established www.eeccnetwork.org
  - Growing global network
    - Majority of the 230 members are from LMICs
- POETIC-Africa project
  - Improved understanding of the burden of critical illness and effective coverage of EECC in African hospitals
  - Bottleneck analyses and underlying the drivers
- Context appropriate intervention studies
    - Patient outcomes, processes, system effects, economic analyses
- Advocacy and involvement in global and national COVID responses and pandemic preparedness
- Implementation of EECC

EECC
Essential Emergency and Critical Care

Critical Care is neglected

We should prioritise ensuring the essentials are always in-place = EECC

Large gaps in EECC coverage

EECC is low-cost and cost-effective with a large potential for averting deaths

www.eeccnetwork.org

EECC
Essential Emergency and Critical Care

unicef
for every child

Country focus Tanzania: EECC initiatives and work ongoing in Tanzania

September 14, 2022

Isihaka J Mwandalima
Health Specialist, UNICEF TCO

MUHAS

IFAKARA HEALTH INSTITUTE
research | training | services

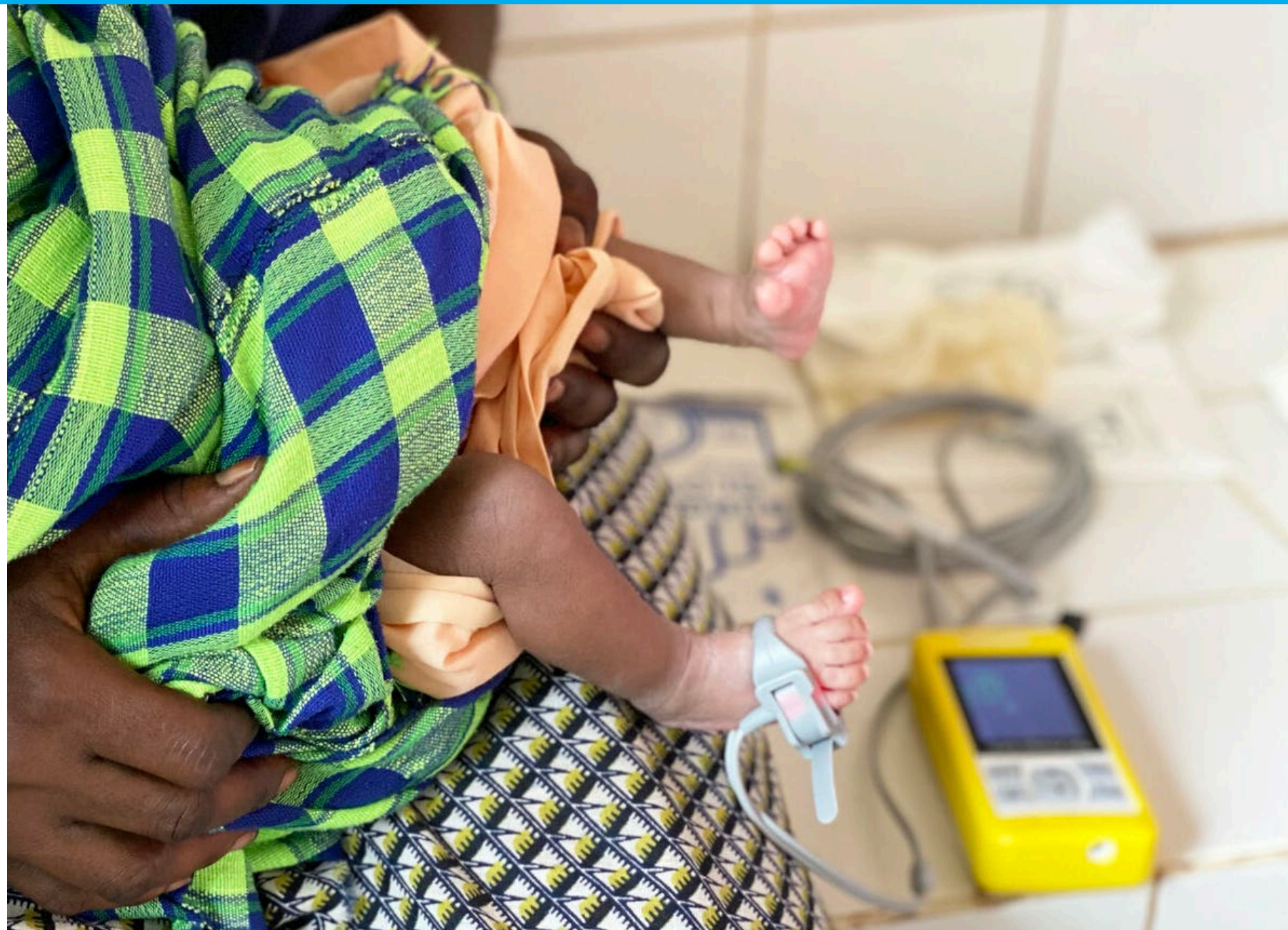
LONDON SCHOOL of HYGIENE &TROPICAL MEDICINE

Karolinska Institutet

LIFE SUPPORT Foundation

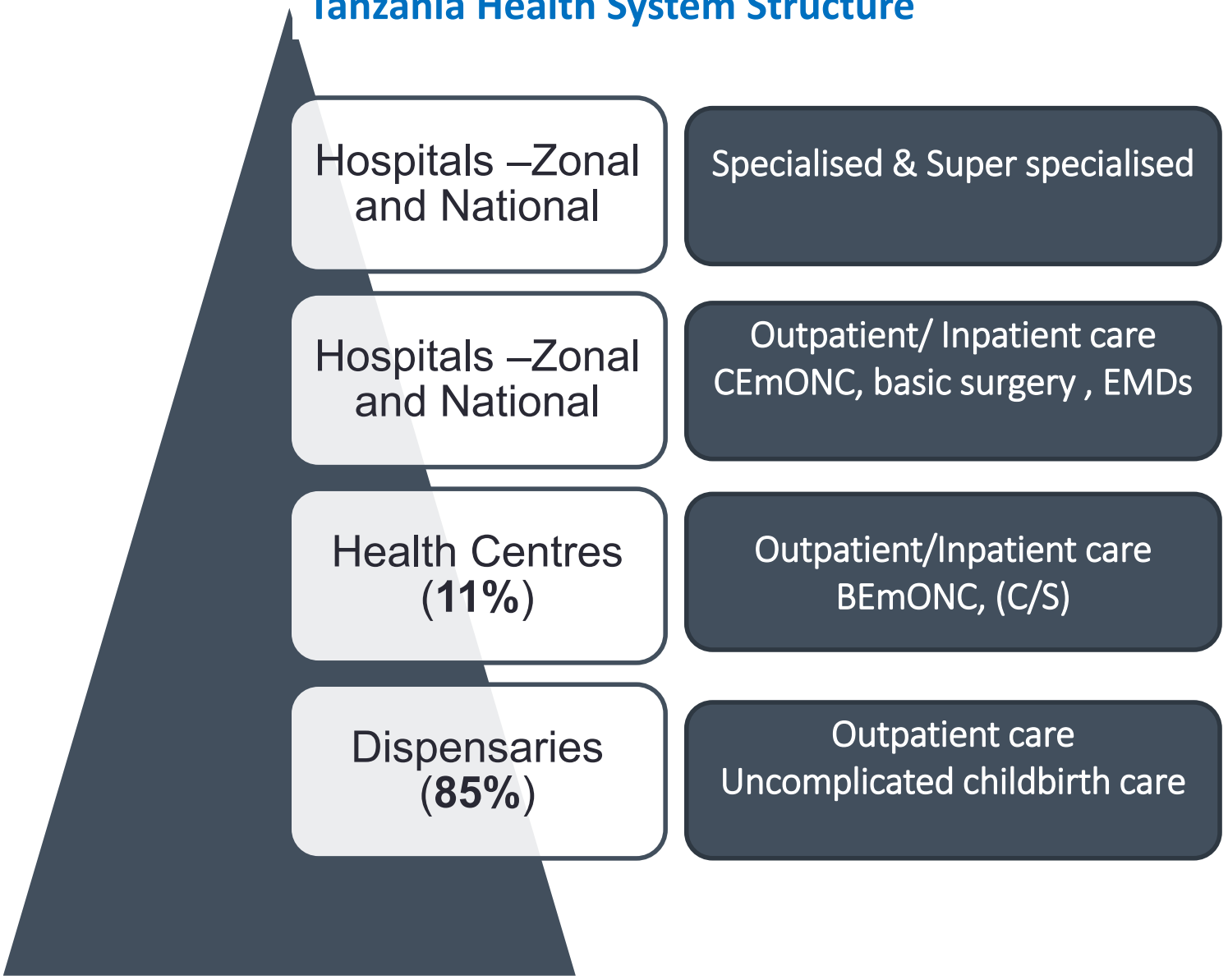
Outline

1. Background and Context
2. UNICEF's work in Tanzania
3. The Government of Tanzania's plans
4. Implementation plans



Overview and Context

Tanzania Health System Structure



Burden

- Pneumonia and diarrhea are the leading causes of deaths for under five children after neonatal period.
- Preterm births, birth asphyxia & sepsis cause 74% of neonatal deaths in Tanzania.
- Coverage of lifesaving emergency care generally low, especially at lower primary health care facilities
- Increasing number of patients with NCDs and injuries
- Majority of the population are seen at lower levels of care
- Majority of deaths are happening at hospital level (e.g., 64 % of maternal deaths in 2021)

UNICEF Tanzania Country plan

1. Improve RMNCAH outcomes and to ensure that no one is left behind

2. Building resilient primary health care systems

- Quality of care standards are applied at all levels
- Effective referrals from communities to health facilities and between levels of health facilities
- Strong social accountability mechanisms in place e.g. Mama na Mwana Platform
- Building capacity in emergency response and preparedness in PHE
- Strengthening medical oxygen ecosystem

Government of Tanzania's Plans

1. **Improving the quality of care** for child health services e.g. mentoring & coaching
   - EECC's role - Improving care and outcomes of patients in general wards
   - Improving outcomes after emergency admission, surgery, infectious diseases, NCDs, maternal conditions, neonatal conditions
   - Mitigating health-worker rotations

2. **Oxygen Scale-up**
   - Massive scale-up on-going; 55 oxygen plants (7 pre-pandemic), cylinders, pulse oximeters
   - EECC's role; EECC includes oxygen therapy; It is an "Oxygen-Plus" – ensuring other life-saving care provided to patients needing oxygen

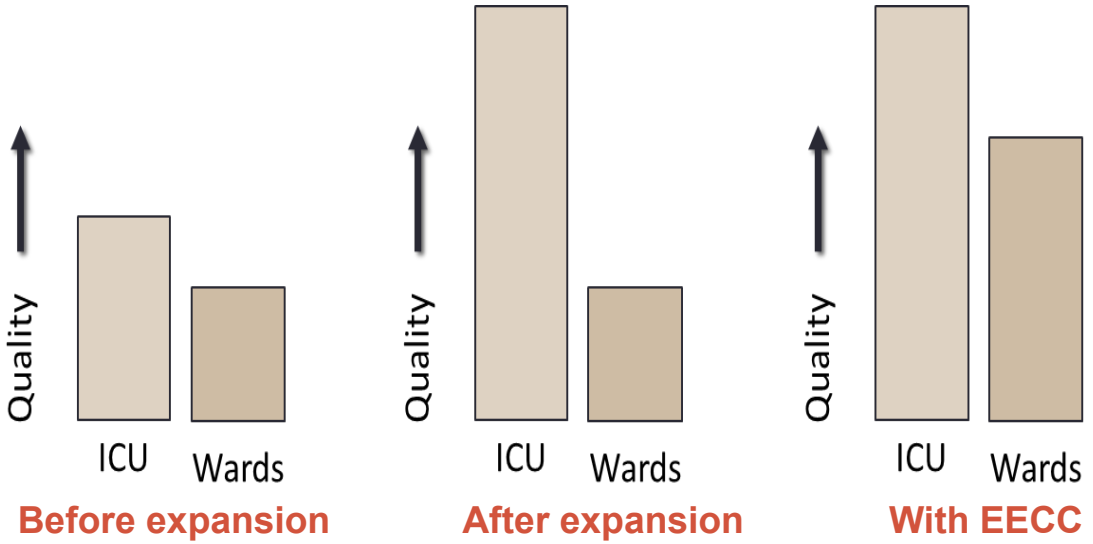
Government of Tanzania's Plans

3. ICU and Emergency Unit Expansion

- 37 ICUs planned & Emergency Units to be established in all hospitals
- By June 2021, 159 (45.4%) hospitals had a Neonatal Care Unit and 39 health centres had a Stabilization Unit

EECC's role – reducing the "critical care quality gap" between wards and ICUs

- Identifying critically ill early to optimize selection to ICU
- Stabilising some of the critically ill so they don't require ICU
- Stabilising others so they arrive to ICU in less severe state
- Providing quality step-down care to improve post-ICU outcomes

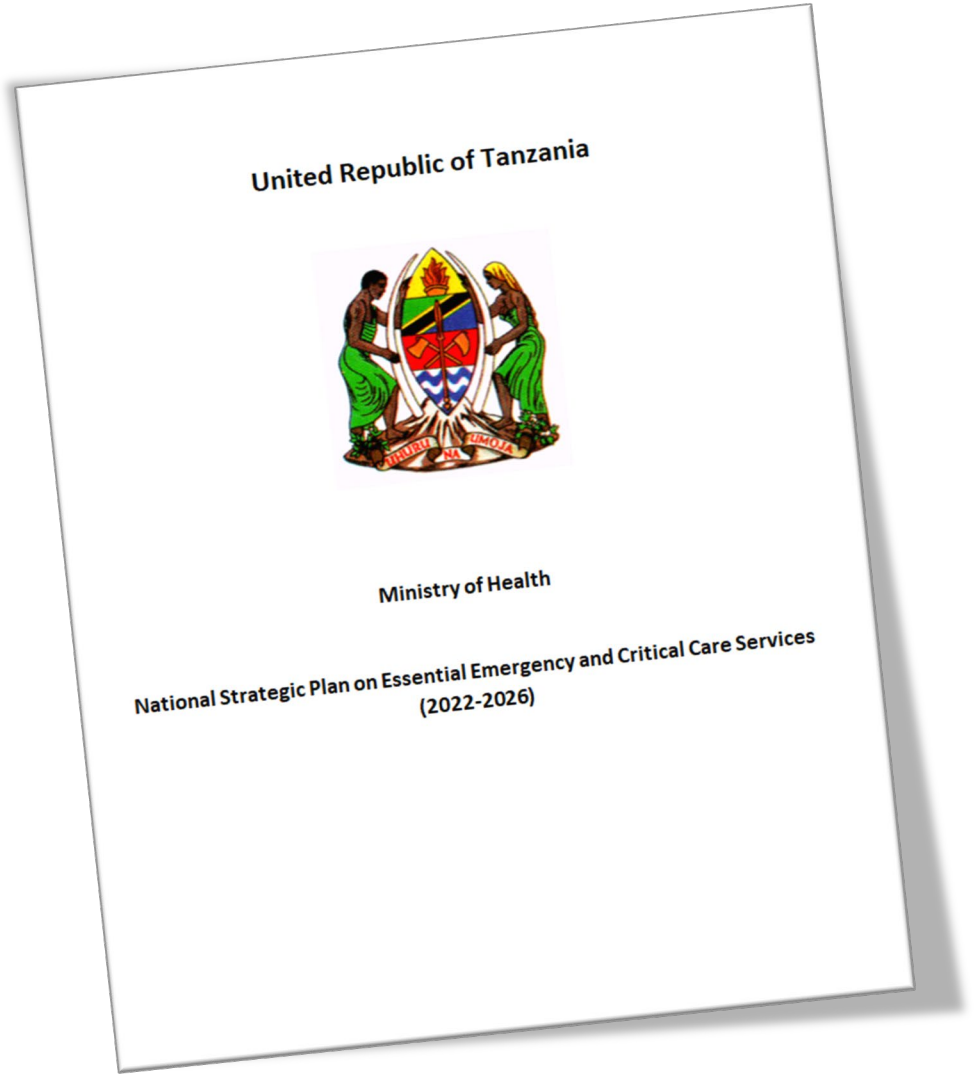


Government of Tanzania's Plans

National Strategic Plan for EECC (draft)

- Ministry of Health held the initial workshop in Sep 2022
- 25 participants from government departments and key stakeholders
- Draft in preparation

- "*All critical ill patients should receive high quality essential emergency and critical care services in all health facilities in Tanzania*"

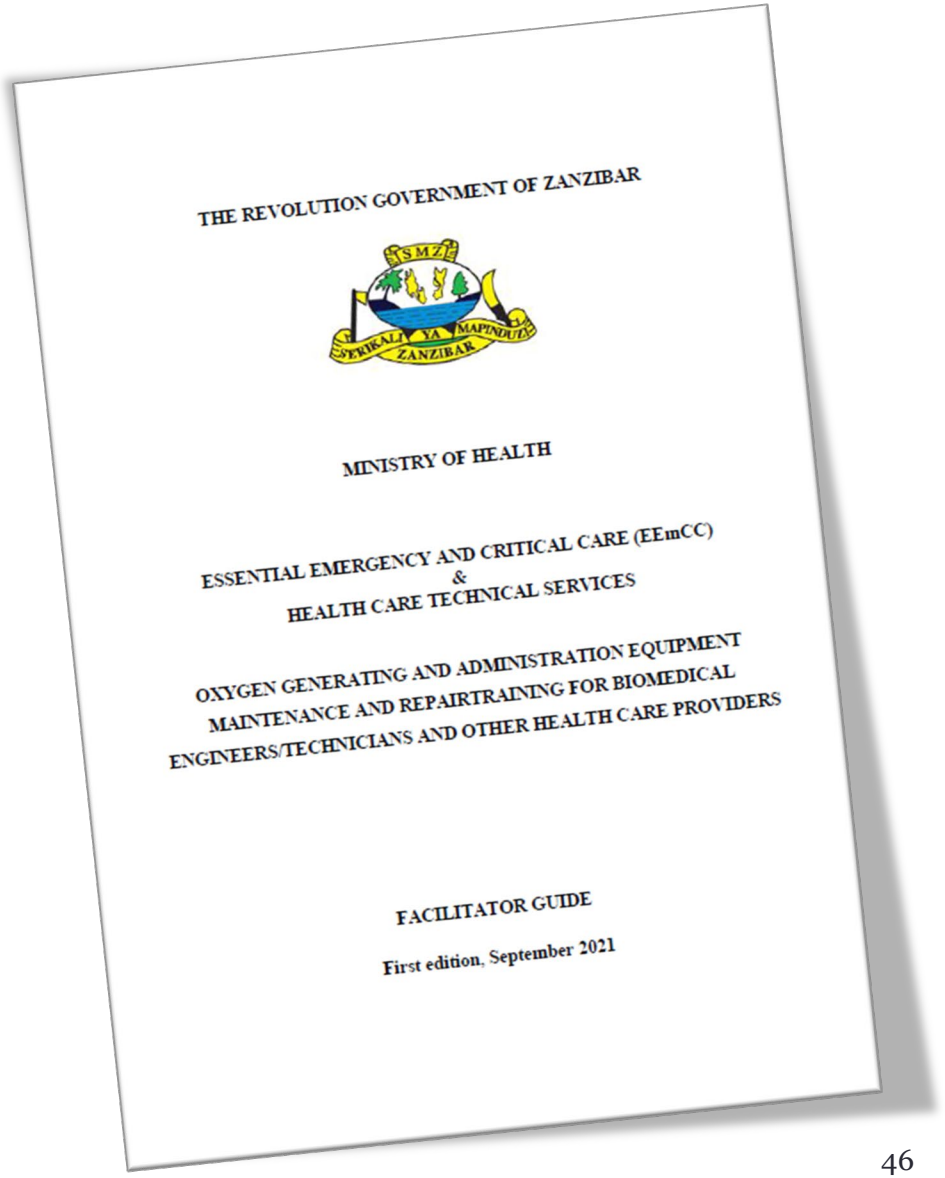


Government of Tanzania's Plans

Zanzibar plan for EECC

- Comprehensive plan for scale-up of oxygen and EECC in Zanzibar
- 2020-2022

- *"The Ministry would like to instruct all key stakeholders and health system administrators in private and public institutions to ensure that EECC standard guide and procedures are adhered to by all health workers in order to reduce morbidity, mortality and cost of advanced care."*


THE REVOLUTION GOVERNMENT OF ZANZIBAR

MINISTRY OF HEALTH

ESSENTIAL EMERGENCY AND CRITICAL CARE (EEmCC)
&
HEALTH CARE TECHNICAL SERVICES

OXYGEN GENERATING AND ADMINISTRATION EQUIPMENT
MAINTENANCE AND REPAIRTRAINING FOR BIOMEDICAL
ENGINEERS/TECHNICIANS AND OTHER HEALTH CARE PROVIDERS

FACILITATOR GUIDE

First edition, September 2021

Implementation plans

1. Finalize National Strategic Plan for EECC
2. National Clinical Guidelines for EECC and oxygen therapy manual
3. Health care providers capacity building in EECC: training, supervision and mentoring in Zanzibar and mainland
4. Procurement of oxygen concentrators, pulse oximeter and oxygen analyzers
5. M&E, impact evaluations and Implementation Research to understand the optimal strategies for increasing coverage of EECC and improving outcomes

EECC
Essential Emergency and Critical Care

UNICEF is supporting the government of Tanzania's efforts to improve quality of care

EECC is crucial for quality of care, optimizing the impact of other initiatives

System-wide implementation of EECC requires policy, guidelines, training, more…

Impact and implementation research are vital

unicef
for every child

Country focus Tanzania: EECC initiatives and work ongoing in Tanzania

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Connect with the us

Engage with the **QoC subgroup co-chairs**:

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Subgroup information, recordings and presentations from previous meetings and webinars are available on the subgroup page of the Child Health Task Force website: www.childhealthtaskforce.org/subgroups/qoc and www.childhealthtaskforce.org/subgroups/implementation-science

**The recording and presentations from this webinar will be available on this page in a couple days*

Join the Child Health Task Force here: https://bit.ly/joinchtf & follow us on LinkedIn: www.linkedin.com/company/child-health-task-force

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