Engaging community health workers, technology, and youth in the COVID-19 response with concurrent critical care capacity building: A protocol for an integrated community and health system intervention to reduce mortality related to COVID-19 infection in Western Kenya.

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Annex 6: Training curriculum:

Below is the proposed training package. Some components are novel and are based on current needs and the evolving pandemic. The process will be iterative of course. We will make necessary adjustments based on the evolution of the pandemic and based on the needs of those trained. Training will take place over 3 days remotely and in person using interactive methods.

Youth:

Youth Curriculum
Youth:
Introduction to COVID19: Case studies: China, South Korea & Italy
Case scenarios and vision for Western Kenya
Raising awareness & health Leadership
Protecting yourself as a health worker & how to use protective wear
Supporting the CHW in case detection using the application during household visits: signs and symptoms of COVID19, and indications for transfer
Supporting the CHW in data collection and reporting, using technology and the COVID19 application
Health leadership and mobilizing youth to transform health outcomes on the continent
Basic data analysis and reporting
Wellbeing and taking care of yourself during the crisis
Ethics in research and confidentiality
Tools to be used in the integrated COVID19 response in Western Kenya
Introduction to the health system in Western Kenya (from the community to JOOTRH & the community health strategy)

Community Health Worker Curriculum
CHWs:
Introduction to COVID19: Case studies: China, South Korea & Italy
Case scenarios and vision for Western Kenya
Raising awareness & health Leadership to educate organize and mobilize communities
Protecting yourself as a health worker & how to use protective wear

Screening, case detection/contact tracing, prevention, management and referral of COVID-19 cases with maintenance of essential health services
Handwashing, handwashing stations, and respiratory etiquette,
Data collection, reporting and fundamentals of disease surveillance, using technology and the COVID19 application
COVID 19 home case management and indications for transfer to higher level of care
Household visit during the COVID19 pandemic & maintaining coverage for the baseline essential health package, and safely collecting specimen for PCR/ELISA
CHW wellbeing & debriefing sessions

Health Worker Curriculum
Nurses, doctors, and clinical officers:
Introduction to COVID19: Case studies: China, South Korea & Italy (including lessons learned)
Case scenarios and vision for Kisumu & Siaya Counties Kenya
Introduction to critical care, respiratory failure, indications and criteria for intubation, basic vent management
Protecting yourself as a health worker & how to use protective wear & infection control
Introduction to COVID19: virology, signs & symptoms, labs, imaging, and natural disease progression, and treatment for mild, moderate & severe
Critical care of severe COVID cases
Airway management, respiratory care and support (nasal cannula, mask, CPAP, invasive mechanical ventilation, prone positioning)
Hemodynamic & respiratory monitoring & therapeutic goals
Sepsis
Acute Respiratory Distress Syndrome
Criteria for weaning & extubation
COVID19 Case management in ward and ICU
COVID19 in the pediatric population
COVID19 + other prevalent comorbidities
Nutrition
DVT prophylaxis
Pharmacotherapy: Antibiotic coverage and other therapeutics under investigation
Optimizing diagnostics (clinical, labs, and imaging)

Indications for transfer out of the ICU
Raising awareness & health Leadership
Data collection and reporting, using technology and the COVID19 & M&E platforms
Health Worker well-being, debriefing, quality improvement sessions

World Health Organization short course on the critical care management of Severe Acute Respiratory Infection (SARI). (https://openwho.org/courses/severe-acute-respiratory-infection)

- **Module 1: Introduction to COVID-19 and IPC:**
  This module covers a clinical update on COVID-19 as of 30.01.2020, and infection prevention and control (IPC) for patients with Severe Acute Respiratory Infections (SARI).
- **Module 2: Clinical Syndromes and Pathophysiology of Sepsis and ARDS:**
  This module covers clinical syndromes and the pathophysiology of Sepsis and ARDS.
- **Module 3: Triage:**
  This module covers triage and early recognition of patients with SARI. It includes two role-playing scenarios.
- **Module 4: Monitoring :**
  In this module, participants will learn about monitoring patients with SARI.
- **Module 5: Diagnostics:**
  In this module, participants will learn about differential diagnosis, specimen collection and diagnostic tests for SARI.
- **Module 6: Oxygen Therapy:**
  This module covers oxygen therapy.
- **Module 7: Antimicrobials:**
  This module covers antimicrobial therapy and its modification after diagnostic test interpretation.
- **Module 8: Sepsis:**
  In this module, participants will learn how to deliver targeted resuscitation for Sepsis and septic shock.
- **Module 9: Mechanical Ventilation (for the referral hospital only):**
  In this module, participants will learn how to deliver lung-protective ventilation for invasive mechanical ventilation for Acute Respiratory Distress Syndrome (ARDS).
- **Module 10: Sedation:**
  This module covers invasive mechanical ventilation for ARDS, managing pain, agitation and delirium.
- **Module 11: Best Practices to Prevent Complications:**
  This module covers the best practices to prevent complications.
- **Module 12: Liberation from Mechanical Ventilation (for the referral hospital only):**
  In this module, participants will learn about liberation from Mechanical Ventilation.
- **Module 13: Quality in Critical Care:**
  This module covers quality in critical care.
- **Module 14: Pandemic Preparedness and Ethical Considerations:**
  In this module, participants will learn about pandemic preparedness and ethical considerations.