



Implementation Considerations for AHD in Resource-Limited Settings

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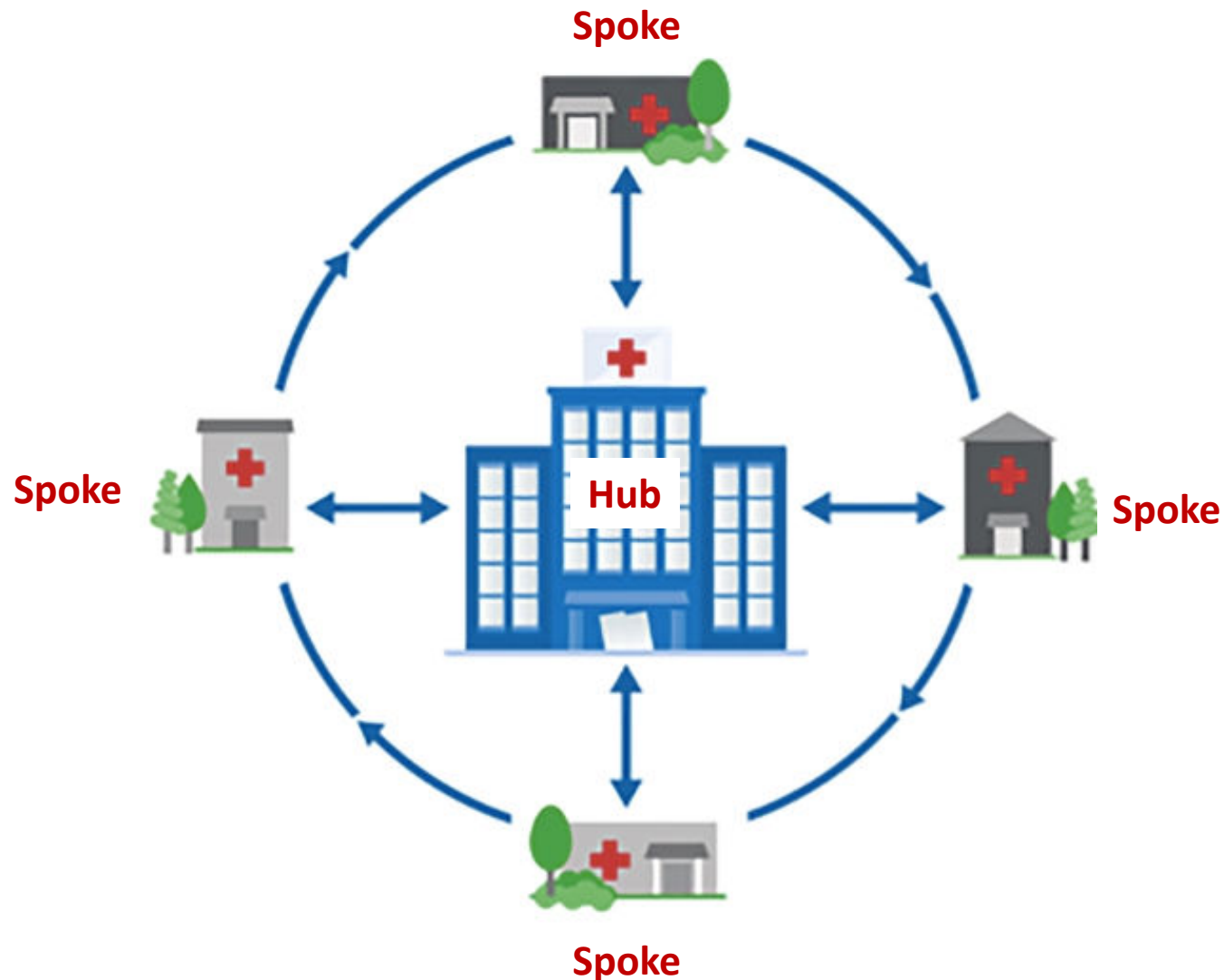
Chair CryptoMAG advocacy group

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HIV LEARNING NETWORK
The CQUIN Project for Differentiated Service Delivery

A “Hub & Spoke” model permits for access to appropriate AHD care based on the severity of illness (ambulatory, critically unwell)



A hub and spoke system:

Involves setting up local networks based on expertise and infrastructure of health facilities identified for AHD care (e.g. Cryptococcal Meningitis care in hub/regional referral hospitals & district hospitals).

Provides reliable linkage to appropriate AHD services, including timely referral where need be e.g. Referral from spokes to Hubs of critically unwell recipients of care.

Streamlines and permits easier coordination and communication by implementing partners and national programs to monitor uptake of AHD services, and to ensure quality.

1 AHD care for critically unwell patient hospitalized patients (Hub)

Hubs:

- ❑ **Definition:** Hospital level facilities where comprehensive packages of AHD care can be implemented with;
 - Clinical expertise in management of critically unwell AHD patients
 - Appropriate storage facilities
 - Laboratory capacity (timely and reliable laboratory monitoring e.g. renal function monitoring; basic microbiology including CSF culture)
- ❑ Will serve as referral sites for spokes and will manage patients in need of hospitalization and regular monitoring e.g. in treatment of cryptococcal meningitis



2

Spokes - provide AHD care package for ambulatory patients

Spokes:

- ❑ **Definition:** Include primary health care facilities and hospitals with;
 - limited clinical expertise and diagnostic capacity (including creatinine) for AHD care.
 - limited to no storage capacity (including cold chain) for AHD commodities.
- ❑ The spokes will;
 - Offer outpatient and routine care to stable AHD patients.
 - Refer critically unwell AHD patients in need of in-patient care and patients with suspected cryptococcal meningitis to hubs within proximity.





HIV-related meningoencephalitis in African LMICs

- Up to 1/3 of deaths from AHD are due to meningoencephalitis
- Cryptococcal meningitis: leading cause of HIV-related meningoencephalitis
 - 15-20% HIV-related deaths/135,900 deaths annually in African LMICs
 - >70% mortality @ 10 weeks in resource limited settings
 - Empirical treatments often prescribed e.g. fluconazole monotherapy
- Most people living with HIV (PLHIV) presenting with meningoencephalitis are ART experienced
- Confirmed diagnosis of meningoencephalitis rarely made in resource limited settings.

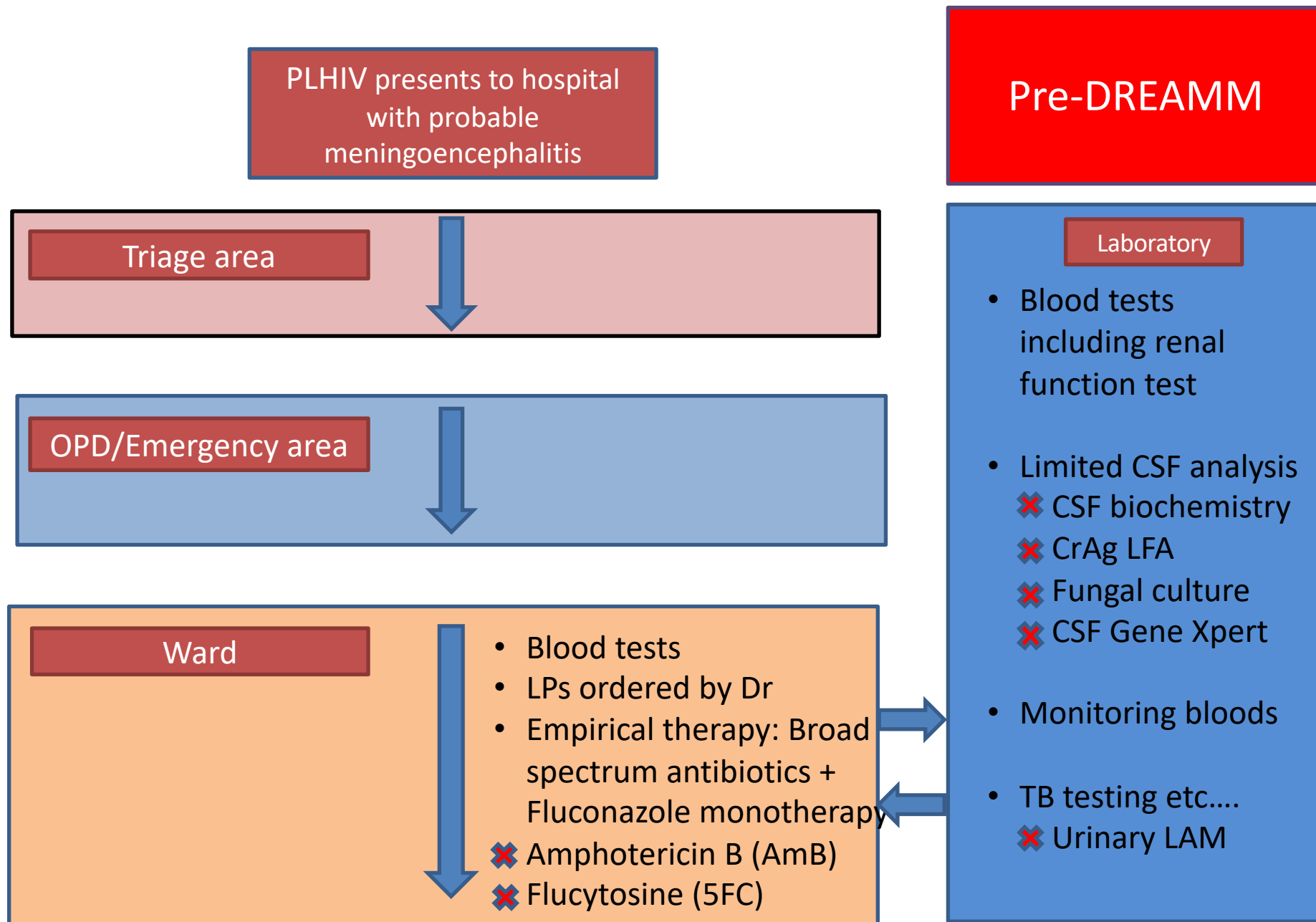


How to DREAMM

- Led and driven by local African leadership-
- Key triad: Hospital director-Research/Implementation lead-MoH

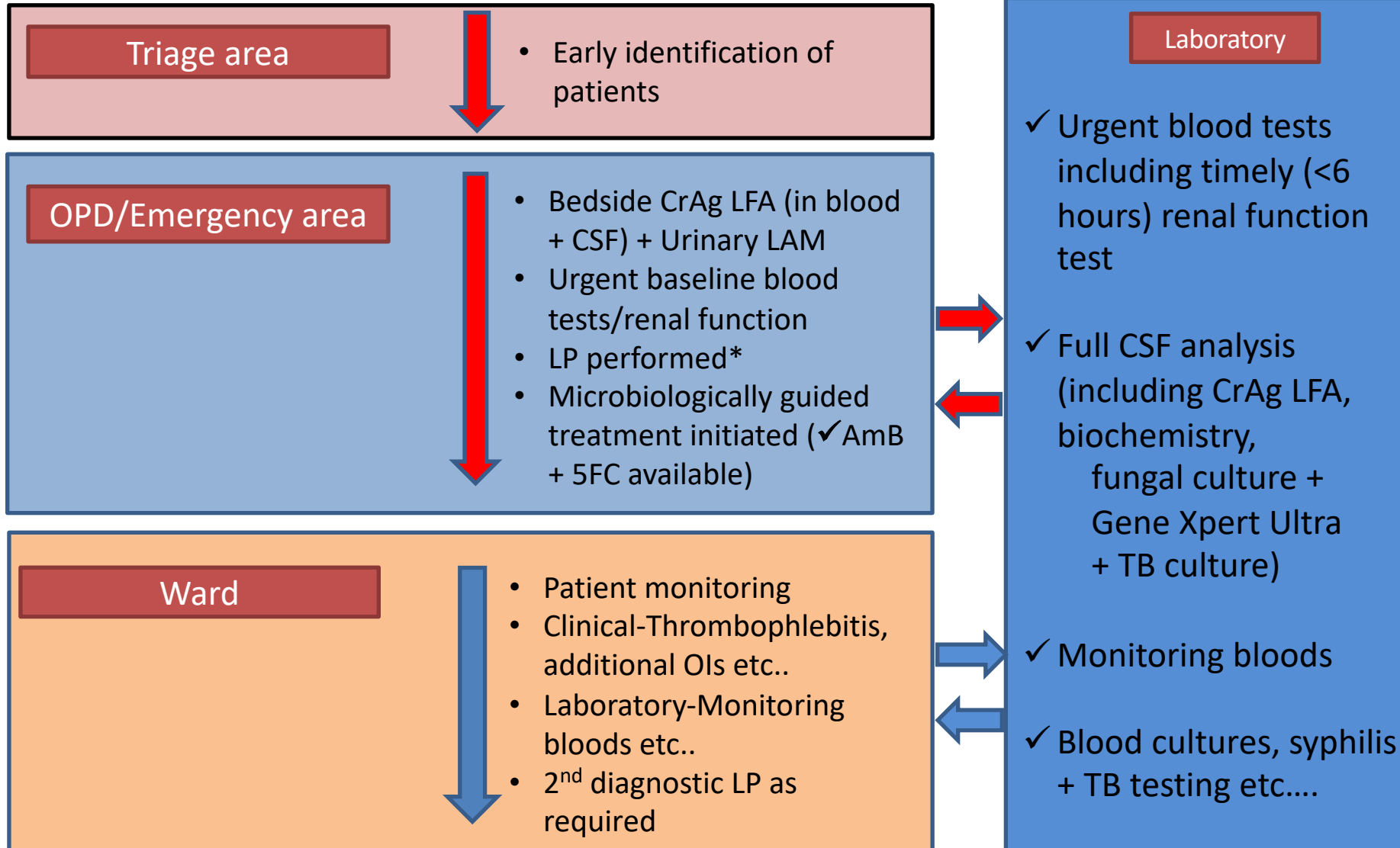
DREAMM interventions:

- 1) Health system strengthening (including mapping and optimising of clinical and laboratory pathways, and increased physician-laboratory communication).
- 2) Delivery of a co-designed education program for frontline HCWs focused on mortality-reducing interventions.
- 3) Implementation of an algorithm for diagnosis (using bedside RDTs alongside standard microbiology) and treatment, according to latest WHO guidance on AHD and cryptococcal meningitis.
- 4) Infectious diseases/AHD mentorship and laboratory capacity building.



LP: Lumbar puncture; CSF: Cerebrospinal fluid; CrAg LFA: Cryptococcal antigen lateral flow assay, LAM: Lipoarabinomannan

PLHIV presents to hospital
with probable
meningoencephalitis





Implementation of AHD models of care. Key lessons learnt from the DREAMM project



Rapid diagnostic tests in the Meningitis Room at Amana Hospital, Dar es Salaam, Tanzania, August 2017
(Photo courtesy of EDCTP)



Meningitis care tools

CLINICAL

- Spinal needles
- Sterile LP packs
- Manometers
- CrAg LFA + Urinary LAM tests
- Amphotericin B + Flucytosine
- Brain imaging facilities

LABORATORY

- CD4 + VL tests
- CrAg LFA + Urinary LAM tests
- CSF White cell count (WCC) quantification
- CSF biochemistry reagents + machine calibration
- Additional incubator (set at 30C) + reagents for CSF fungal culture
- Calibration of Gene Xpert platforms for analysis of CSF samples

Optimised patient and laboratory pathways that:
Enhance clinician-laboratory technician communication +
Include test reporting mechanisms + agreements on test turn around times



AHD educational resources

- Global AHD toolkit:

<http://www.differentiatedcare.org/Resources/Resource-Library/Global-Advanced-HIV-DiseaseToolkit>

- DREAMM co-designed education program between African hospital directors, researchers from Malawi, Tanzania and Cameroon tailored to frontline HCWs in collaboration with SGUL and Institut Pasteur:

<https://www.sgul.ac.uk/about/our-institutes/infection-and-immunity/research-themes/working-internationally/dreamms-of-implementation>



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