



Algorithmic Approach to AHD: Results and Lessons from Homa Bay, Kenya

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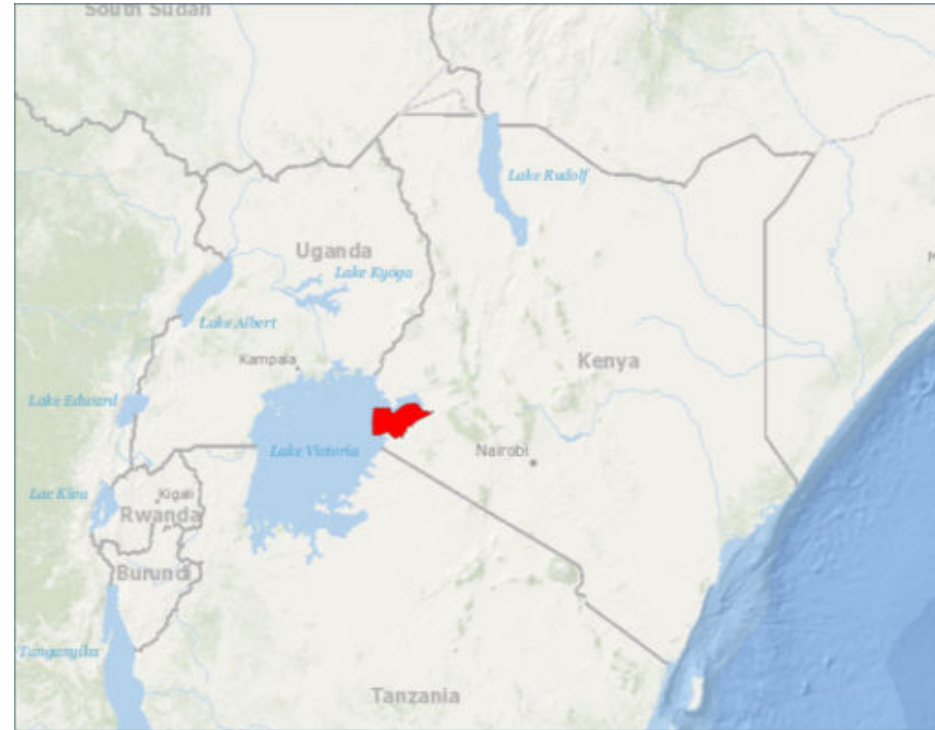
29th July 2020



HIV LEARNING NETWORK
The CQUIN Project for Differentiated Service Delivery

Background & Context

- Algorithms an essential part of scalable programs
- Setting: Homabay County Western Kenya
- Current focus for HIV activity
 - Advanced HIV
 - Adolescents & Paediatrics
 - Patients on 2nd line & 3rd line
 - Maintaining the 90-90-90 gains in Ndhiwa Sub-County



Our continuum of care Approach

Primary care:

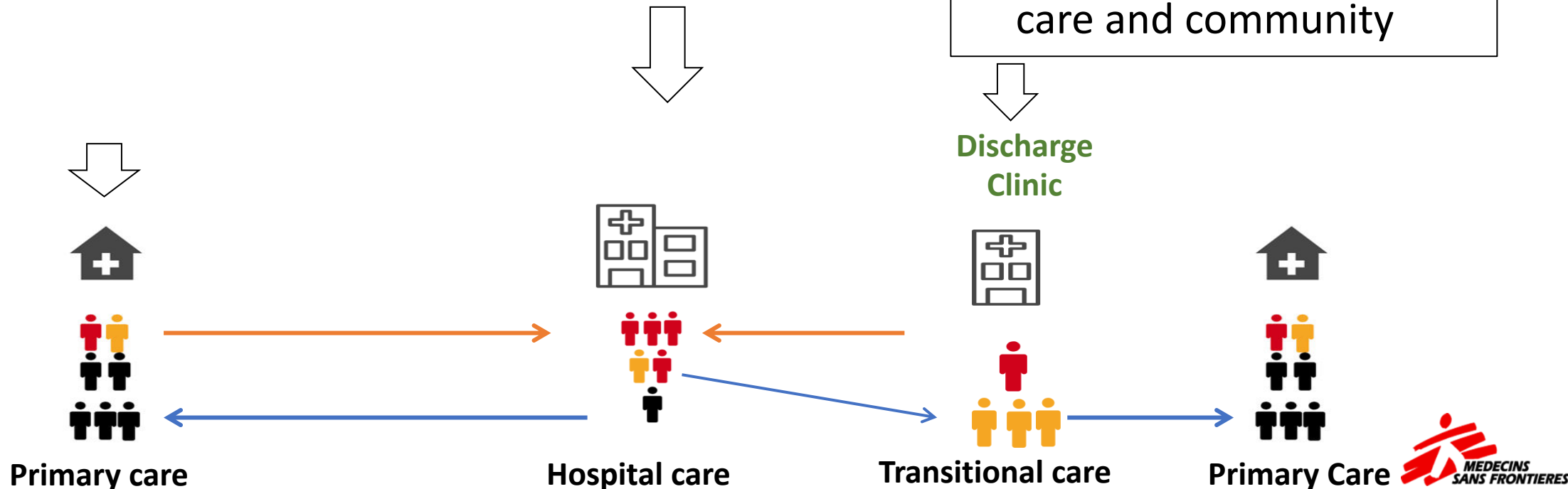
- Identify and increase follow-up for patients with serious diseases with risk of decompensation

In-hospital:

- Package of care to reduce mortality

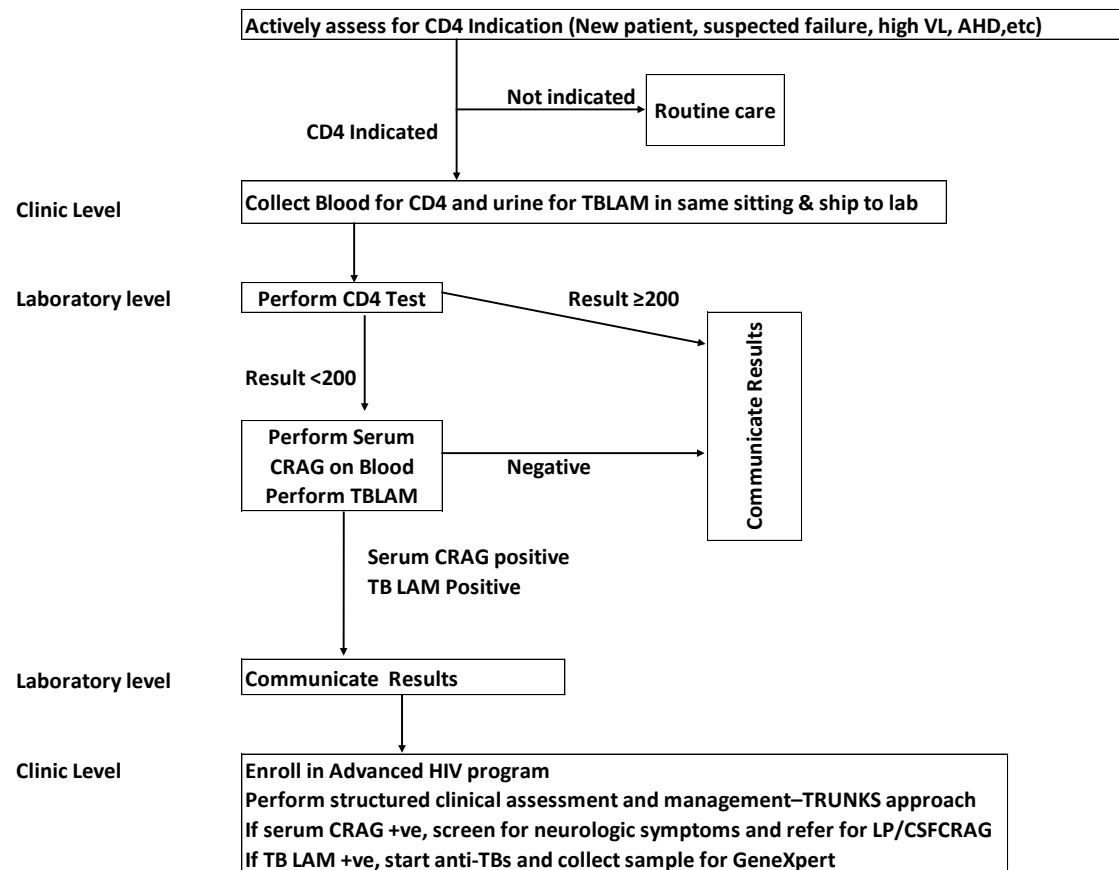
Post-hospital:

- Promote recovery, slow/stop post discharge deterioration and death
- Re-integrate to primary care and community



Reflex CRAG and TBLAM Algorithm

Algorithm for Reflex Serum CRAG and TBLAM Testing

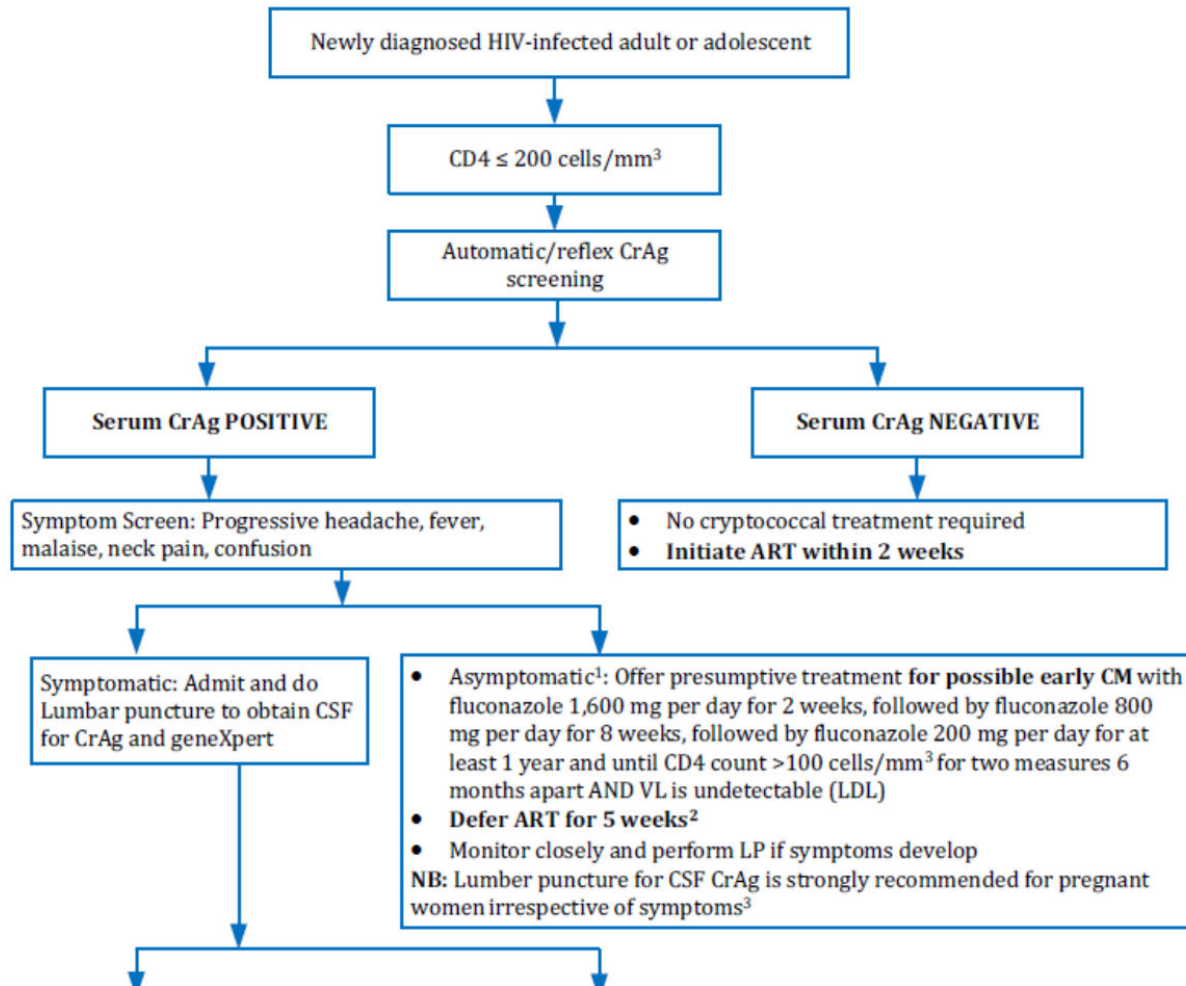


Version 3, March 2019

MSF-MoH Homabay

- **Source:** Adapted MoH version
- **Purpose:** Identify AHD patients and screen for cryptococcal disease and tuberculosis
- **Implementation period:** Since May 2016
- **Scale:** 36 decentralized facilities in Ndhiwa
- **Modifications:** updated Serum CRAG reflex thresholds to 200 in 2017

Reflex CRAG and TBLAM Algorithm

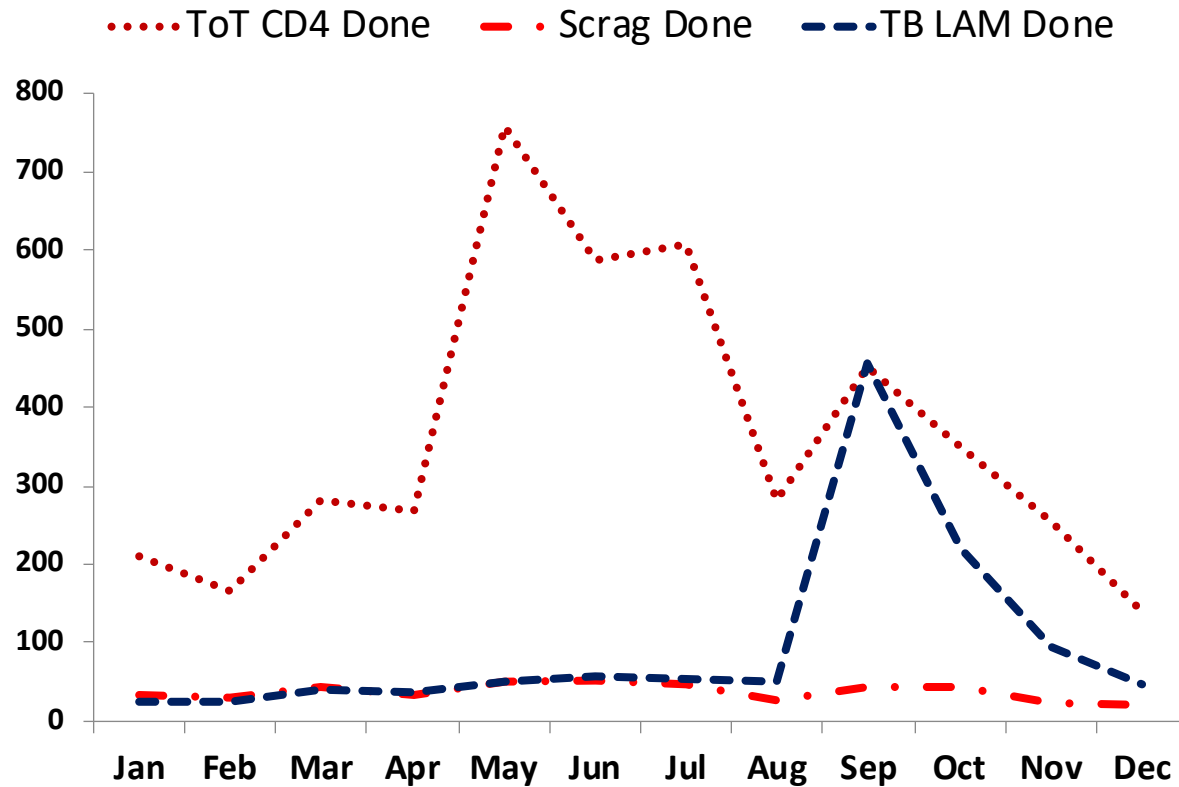


- Algorithm differs from National algorithm by adding TBLAM

Source: Ministry of Health, National AIDS & STI Control Program. Guidelines on Use of Antiretroviral Drugs for Treating and Preventing HIV Infection in Kenya 2018 Edition. Nairobi, Kenya: NASCOP, August 2018. Print

Results - Reflex CRAG and TBLAM Algorithm

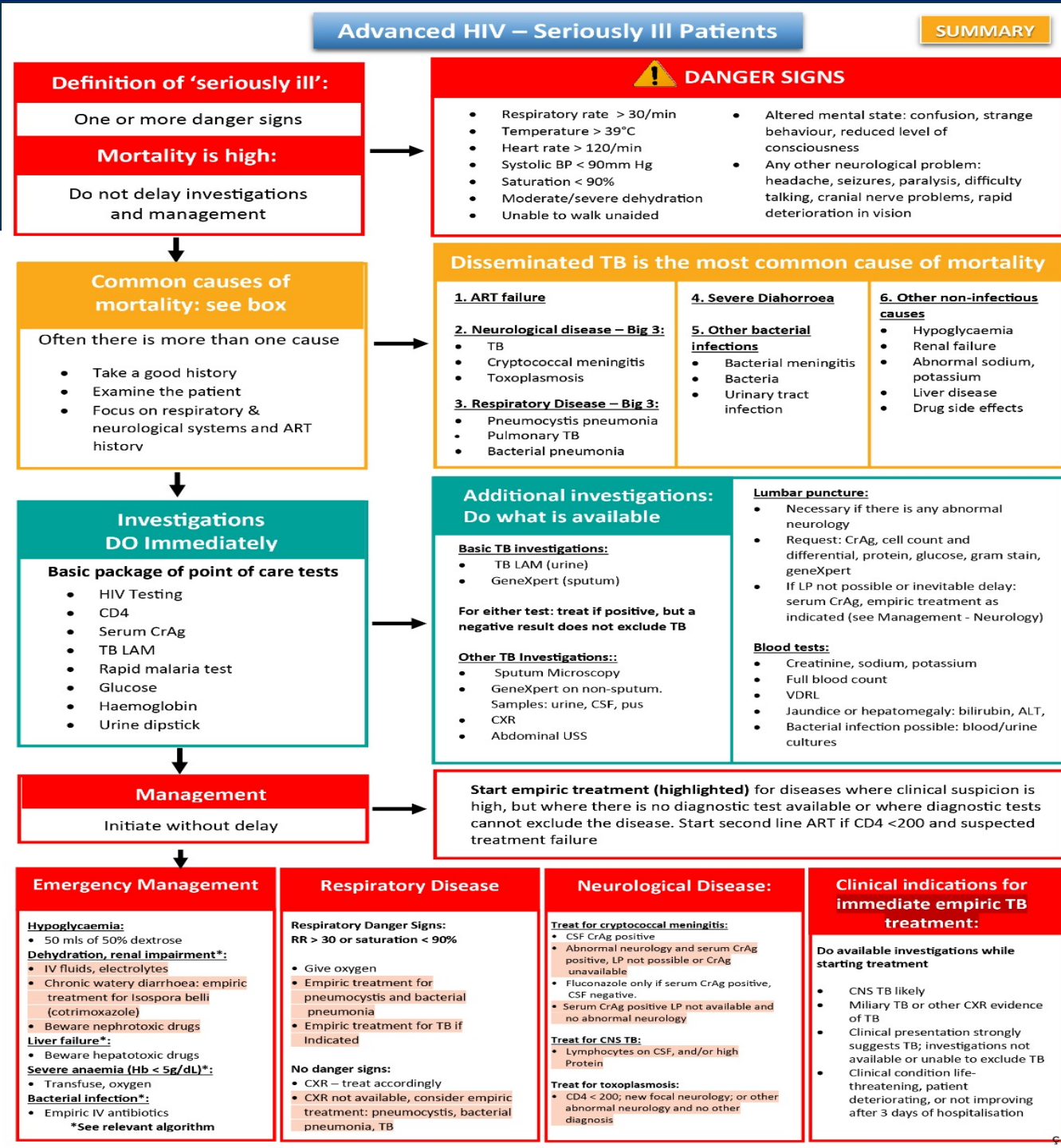
CD4 & Reflex TBLAM & CRAG Testing 2019



- 4,348 CD4s done
- 34% baseline
- 10% (429) <200 copies/ml
- 50% (215) of <200 came from baseline CD4 tests
- **100% SCRAG coverage in CD4<200**
- **92% TB LAM coverage in CD4<200**
- **5% SCRAG positivity**
- **13% TB LAM positivity**

Inpatient Algorithms

- **Source:** In-house, MSF South African Medical Unit (SAMU)
- **Purpose:** Identify AHD patients and investigate for most common OIs
- **Implementation period:** Since January 2015
- **Scale:** 90 bed inpatient medical ward
- **Modifications:** Several as evidence emerges

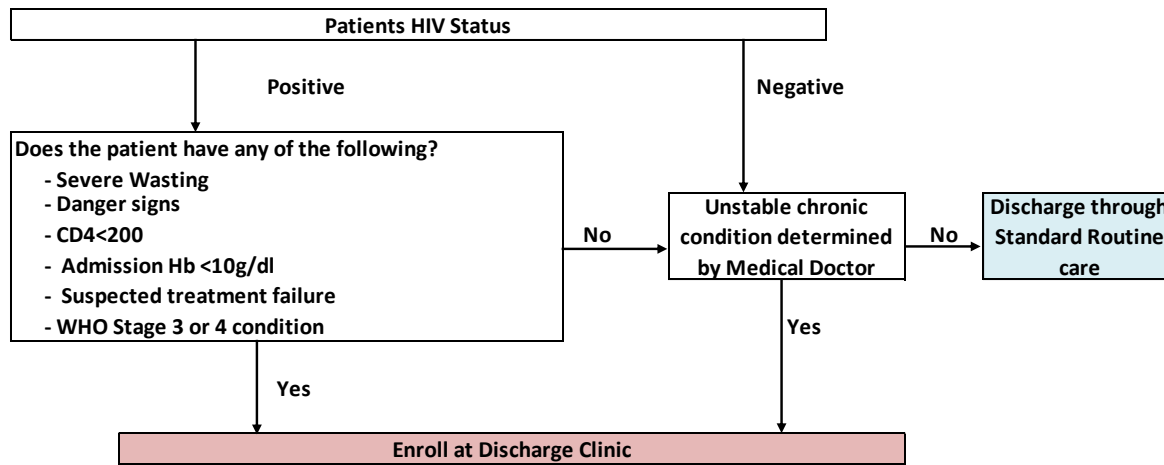


Results Inpatient Algorithms

- 2019 In-patient results
 - 3,057 admissions
 - 41% (1,261) HIV positive
 - **88% CD4 coverage**
 - Median CD4 198 (IQR, 60-447)
 - 50% <200 copies/ml
 - **88% SCRAG coverage**
 - 19% SCRAG positivity
 - 73% CSFCRAG coverage among SCRAG +ve
 - 68% CSFCRAG positivity
 - **66% TBLAM coverage** (among all HIV+ve)
 - 38% TBLAM positivity
- Better identification of most common lethal OIs (TB, cryptococcal disease)
- Prompt initiation of treatment
- Reduced mortality e.g. Cryptococcal meningitis case fatality equivalent to what was seen in clinical trials

Discharge Clinic Enrollment Algorithm

Algorithm for Enrolling Patients to Discharge Clinic



Criteria	Definition
Severe wasting	BMI ≤ 16 or wasted to the point of being unable to stand for weight measurement
Danger Signs	Danger signs including any one of the following: respiratory rate >30 per minute, temperature >39 °C, heart rate >120 beats per minute, or unable to walk unaided
Suspected treatment failure	Has been on ART for > than 6 months but presents with VL >1000 or AIDS defining opportunistic infection
WHO stage 3 or 4	Presents with a condition classified as such in the WHO guidelines

Version 2, August 2018

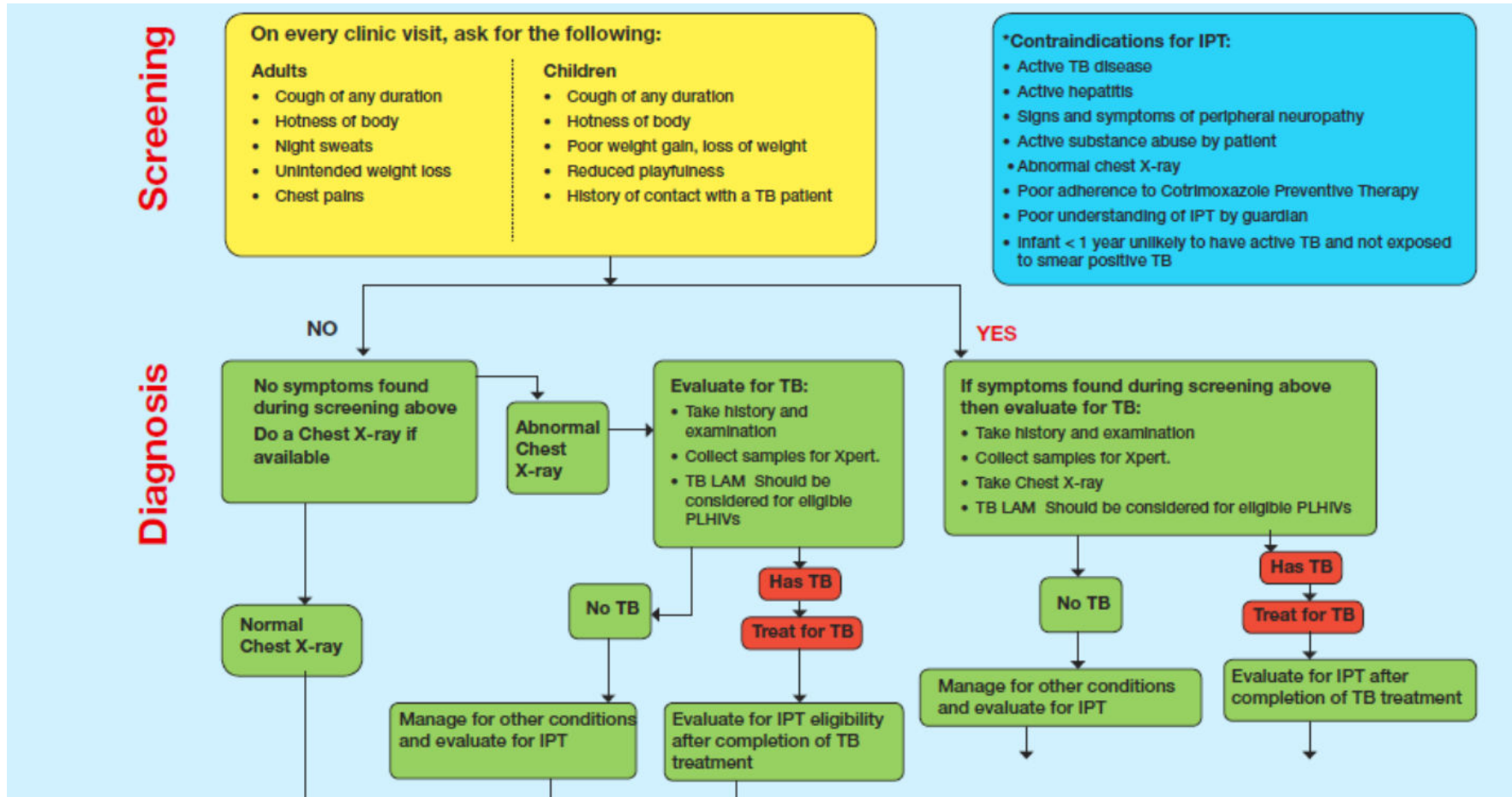
MSF France Homabay Project

- **Source:** In-house, MSF Kenya Mission
- **Purpose:** Identify those at increased risk of post-discharge mortality
- **Implementation period:** Since June 2018
- **Scale:** 90 bed inpatient medial ward
- **Modifications:** review underway

Results – Discharge Clinic Algorithm

- 570 patients enrolled between Jun 2018 and Dec 2019
- 54% female
- Median age 35 yrs. (IQR 29 – 43)
- 97% HIV positive with AHD, 3% HIV negative with unstable chronic disease
- Median CD4 91 (IQR 27 – 255)
- Median duration of follow-up 56 days (IQR 27 -72) – longest follow ups with Cryptococcal Meningitis patients up 9 months
- 52 (9%) died by time we stopped their follow up
- Median time to death 20 days (IQR 13-29)
- 5% (29/570) lost to follow-up at 4 weeks

TB ICF Algorithm



- **Source:** MoH Kenya
- **Purpose:** clinical screening for TB
- **Implementation period:** Longstanding
- **Scale:** 36 decentralized facilities
- **Modifications:** None

TRUNKS – Structured Clinical Assessment

TB

T R U N K S

Resp

Useless/**U**NUSED ART

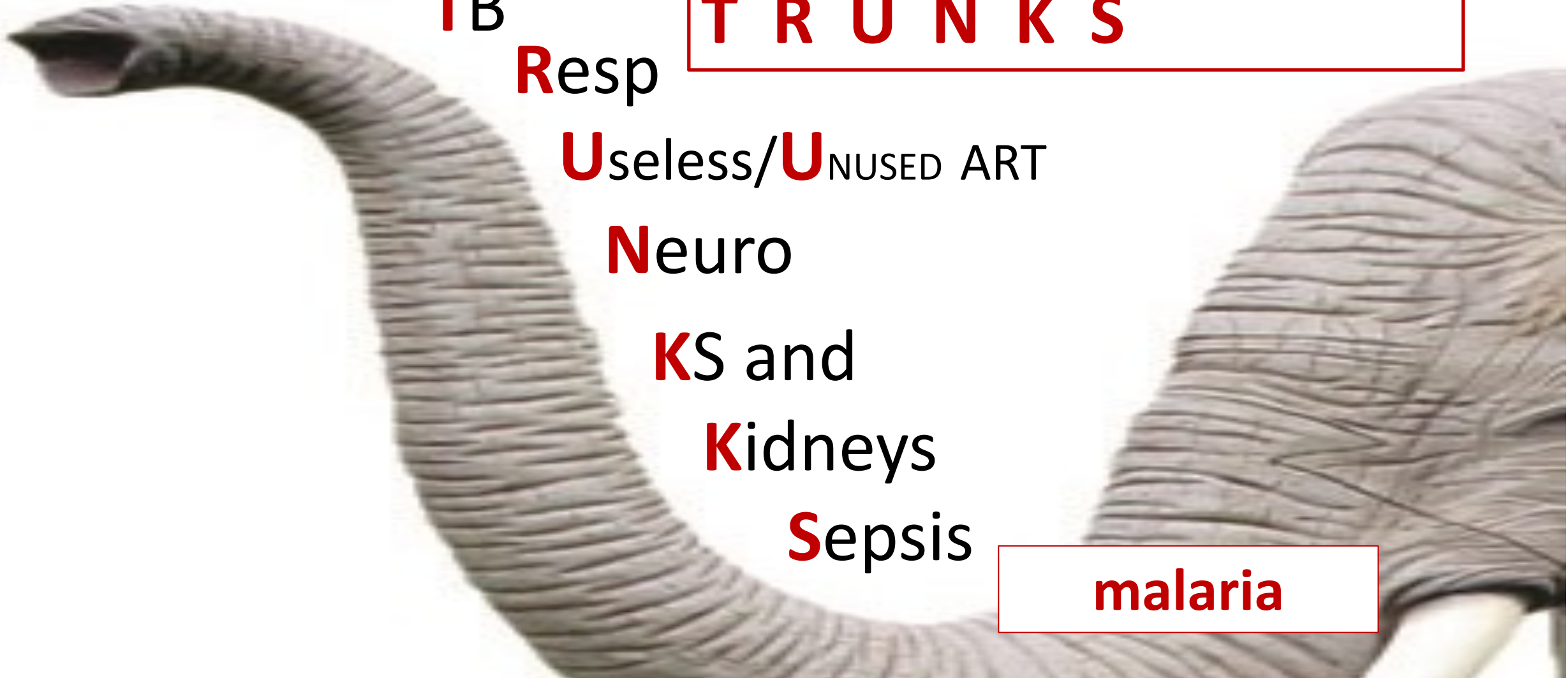
Neuro

KS and

Kidneys

Sepsis

malaria



Lessons Learnt

- Stakeholder engagement was critical to get past hurdles
- Commodity security essential to sustain momentum
- Reliable sample networking is a pillar for reflex testing
- Community component (tracing) critical for reflex TBLAM/CRAG testing to have impact
- Managing transitions between shifts and teams very important to maximize impact of inpatient algorithms
- Still a long way to go to end AIDS
- Adapting to COVID19 disruptions needed to keep the gains

Acknowledgements

- Ministry of Health Homa Bay
- Homa Bay County Teaching and Referral Hospital
- Division of NASCOP, Ministry of Health Kenya
- EGPAF
- MSF Field staff

Thank You



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www.msf.org

<https://msfaccess.org/waiting-isnt-option-preventing-and-surviving-advanced-hiv>

<https://samumsf.org/en/news/advanced-hiv-disease-toolkit>

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