Supplemental Digital Content - FigureS1: CNS Infection flow sheet (Comprehensive)

(Comprehensive)		
Name		<u>Date</u>
Suspicion for central nervous system infection (fever, headache, altered mental status, meningeal signs, etc)		
Lumbar Puncture (record op	pening pressure)	
☐ CSF White Blood Cell Count (PMN, Lymphocyte)		
☐ CSF glucose		
☐ CSF protein		
☐ Gram stain		
☐ Bacterial culture		
☐ AFB Ziehl-Neelsen stain(at least 6 mL)		
Initiate Ceftriaxone 2g IV if symptom < 10 days. □ started □ no		
Definite Bacterial Meningitis:	Definite Tuberculous Meningitis:	Cryptococcal meningitis:
positive gram stain or culture in CSF	Acid fast bacilli in the CSF	Positive India ink or serum/CSF cryptococcal antigen
or	→ Treat tuberculous meningitis	
CSF PMN > 50% + positive blood culture +	Probable TBM:	Possible Viral Meningitis:
CSF:serum glucose < 0.5 Probable BM:	CSF lymphocytes >50% + CSF:serum glucose + one of the following:	< 0.5 CSF finding (lymphocytes >50% and CSF:serum glucose > 0.5)
Trobusic BW.	- Active TB on CXR	Other abnormal CSF findings in
CSF PMN >50% + CSF:serum glucose <0.5 + improvement on antibiotic treatment	- AFB found in sample other than from CSF	Non-HIV patients:
→ Bacterial Meningitis treatment	- clinical evidence of other extrapulmonary T	
Possible BM:	Possible TBM:	Other CSF finding in HIV patients (including normal CSF):
CSF PMN >50% + CSF:serum glucose <0.5	CSF lymphocytes >50% + CSF:serum glucose + illness > 6 days	< 0.5 Continue BM treatment
→ Bacterial Meningitis treatment	→ BM therapy, reassess in 48 hours	Consider IRIS if lymphocytic predominance and on ART
Repeat Lumbar Puncture	No Def	inite diagnosis or improvement within 48 hours?
☐ AFB stain(at least 6 mL!)		within 40 hours:
☐ leukocyte count with diff ☐ CSF protein	& glucose	Yes
☐ Gram stain ☐ CSF bacterial culture		Continue Treatment
→ consider TBM therapy if rise in CSF/serum gluco	se <100%	

Figure S2: CNS Infection flow sheet (Stepwise)

Suspicion for central nervous system infection (fever, headache, altered mental status, meningeal signs, etc) **NOTES:** If CRAG is not available, use **WBC** India Ink Additional rule-out: Malaria >5 WBC /μL smear, VDRL, Toxoplasmosis IgG before viral determination PMN > 50% <5 WBC /μL (cost not included in above Lymph > 50% estimate) **CRAG Gram Stain CRAG** Positive Negative Positive Negative Positive Negative CSF glucose Treat Bacterial **AFB Smear** Cryptococcal CSF Glucose Meningitis Meningitis Negative Normal >50% Low <50% serum Positive **Gram Stain** Treat TBM Stop, Consider **CSF** Low <50% Normal >50% Other Diagnostics Serum Protein Viral,* Provide Negative Positive Supportive Care Normal High >50 <50 mg/dL AFB Smear CSF Glucose Treat BM possible Listeria Consider other AFB Diagnoses Low Positive Negative <50% Negative Positive Treat TBM **CSF Protein** Normal |>50% serum Treat TB **Treat Bacterial** Normal Meningitis Meningitis High (>50) <50 mg/dl Reassess clinical status and consider repeat CSF Glucose Consider other Viral, Provide TB-GeneXpert* in 48 hours Diagnoses Supportive Care Treatment Regimens: Bacterial meningitis WHO recommended treatment: Negative Positive Ceftriaxone 2g/day IV/IM x 5 days WHO Cryptococcal Guidelines at: **CSF Bacterial** Treat TB who.int/hiv/pub/cryptococcal disease2011 Culture Meningitis Negative Positive Abbreviations: CRAG = Cryptococcal Antigen Treat Bacterial AFB = acid fast bacilli, Ziehl-Neelsen Stain TBM = TB meningitis Meningitis *Xpert MTB/RIF Assay or other enhanced TB diagnostic

FigureS3: CNS Infection flow sheet (Minimalist)

