

## Additional file 2: SPARS dispensing and prescribing indicators, associated measures, and definitions

Indicator (#)	Measure number and description	Definition
<b>Dispensing quality</b>		
Dispensing time (1)	1. % of facilities with average acceptable dispensing time for 6 patients	Calculated per facility as average time with >60 sec. scored acceptable (yes): # of facilities with acceptable dispensing time/ # of facilities * 100
Packaging material (2)	2. % of facilities with dispensing envelopes 3. % of facilities with appropriate and clean containers	Calculated in entire sample as:  # of facilities that meet each criterion/ # of facilities * 100
Dispensing equipment (3)	4. % of facilities with spatula or spoon 5. % of facilities with tablet counting tray or similar 6. % of facilities with tablets counted using spatula or gloves 7. % of facilities with graduated measuring cylinder	
Services available in dispensing area (4)	8. % of facilities with chairs/benches in dispensing area 9. % of facilities with privacy during dispensing 10. % of facilities where patients can wash hands 11. % of facilities with drinking water accessible to patients	
Patient care (5)	For 5 patients exiting the facility : 12. % of patients with all prescribed medicines dispensed 13. % of patients knowing dose of medicines to take 14. % of patients knowing how frequently to take medicines 15. % of patients knowing how long to take the medicines 16. % of patients knowing why they got the medicines	
Labelling (6)	For one medicine package from 5 exiting patients: 17. % of medicines labelled with medicines name 18. % of medicines labelled with strength 19. % of medicines labelled with quantity 20. % of medicines labelled with date 21. % of medicines labelled with dose 22. % of medicines labelled with patient name 23. % of medicines labelled with facility name	Calculated per facility as:  # of medicines that meet each criterion/ 5 * 100
Rationing of Antibiotics (7)	Assess antibiotics dispensed for 5 patients 24. % with all prescribed amoxicillin dispensed 25. % with all prescribed cotrimoxazole dispensed	Calculated per facility as:  # of patients who meet each criterion/ 5 * 100
<b>Prescribing quality</b>		
Prescription recording (1)	For last 10 patients recorded in dispensing/prescribing log: 26. % of prescriptions with date recorded 27. % of prescriptions with location of treatment recorded 28. % of prescriptions with diagnosis recorded 29. % of prescriptions with medicines name recorded 30. % of prescriptions with prescriber name recorded 31. % of prescriptions with amount prescribed recorded 32. % of prescriptions with amount dispensed recorded	Calculated per facility as:  # of prescriptions that meet each criterion/ 5 * 100

Rational prescribing (2)	For 20 patients in dispensing/prescribing log: 33. Average # of medicines prescribed 34. % of medicines prescribed by generic name 35. % of patients with no antibiotic prescribed 36. % of patients with no injection prescribed 37. % of patients with diagnosis recorded 38. % of medicines on essential medicines list of Uganda	Calculated per facility as: #33: total # of medicines prescribed/ 20 #34,38: # of medicines meeting each criterion/ total # of medicines * 100 #35-37: # of patients meeting each criterion/ 20 * 100
STG for diarrhea (3)	For 10 patients with watery (non-bloody) diarrhoea in dispensing/prescribing log: 39. % of patients prescribed oral rehydration salt (ORS) 40. % of patients prescribed ORS and no antibiotics 41. % of patients prescribed ORS and no anti-diarrhoeal 42. % of patients prescribed ORS and zinc 43. % of patients prescribed ORS and no antispasmodic 44. % of patients with appropriate prescription for diarrhoea*	Calculated per facility as: # of patients who meet each criterion/ 10 * 100
STG for cough/ cold (4)	For 10 patients diagnosed with cough/cold (mild respiratory tract infection, common cold, flu, cough, cold, sore throat): 45. % of patients prescribed no antibiotics 46. % of patients prescribed antipyretic/analgesic 47. % of patients prescribed cough or cold medicines 48. % of patients with appropriate prescription for cough/cold**	Calculated per facility as: # of patients who meet each criterion/ 10 * 100
STG for malaria (5)	Infrastructure for malaria treatment: 49. % of facilities with Rapid Diagnostic Tests (RDT) available 50. % of facilities with functional lab for malaria testing	Calculated in sample as: # of facilities that meet each criterion/ # of facilities * 100
	For 10 patients diagnosed with fever or malaria: 51. % of patients with malaria RDT or smear conducted 52. % of patients receiving artemisinin combination therapy 53. % of patients receiving quinine tablet 54. % of patients receiving no sulfadoxine/ pyrimethamine (SP) 55. % of patients receiving no antibiotics 56. % of patients receiving paracetamol/antipyretics 57. % patients with appropriate treatment for malaria***	Calculated per facility as: # of patients who meet each criterion/ 10 * 100

\*Appropriate prescribing for diarrhoea is prescription of oral rehydration salt with and without zinc.

\*\* Appropriate prescription for cough/cold (mild or moderate upper respiratory tract infection) is that no antibiotics are given, Antipyretic/analgesic or cough /cold medicines might be given.

\*\*\* Appropriate treatment for malaria is prescription of artemisinin combination therapy or Quinine tablets but not both. Paracetamol might or might not be given but no antibiotics and no sulfadoxine/pyrimethamine.