RAPID HEALTH FACILITY ASSESSMENT

- WATER, SANITATION AND HYGIENE (WSH) MODULE -

DRAFT FOR DISCUSSION

This is a draft of a proposed WSH module to complement the KPC2000+ survey and existing health facility assessments. A draft checklist is included as well. The following assumptions were made in preparing this document:

- The assessment should be simple (rapid) and require only minimal resources. It relies on direct observations of infrastructure and essential materials and information provided by the person in-charge where necessary to complement observations. The more demanding direct observation of health worker or client practices is not included.
- It assesses the health facility that serves the population surveyed using the KPC 2000+ instrument to allow an analysis that links household with health facility data.
- It complements other health facility assessments such as the Integrated Health Facility Assessment Manual (BASICS, 1998) by addressing issues not measured through existing instruments.
- The assessment targets peripheral health facilities such as health posts, dispensaries and health centers. It is not intended for hospitals.
- "Sanitation" and "Hygiene" are defined broadly to include injection safety¹, medical waste disposal, general "cleanliness", and pest and vector control.
- This draft implies minimal standards for WSH that may be appropriate for least developed countries, for example in rural Sub-Saharan Africa. It only checks for the availability and usability of the most basic infrastructure and materials, but does not attempt to relate these to facility size or client volume. Applications of the assessment in urban centers or in more developed countries could be adapted to higher standards.

This draft proposes six indicators that represent the capacity of health facilities to provide safe water, adequate sanitation facilities and prerequisites for basic hygiene without actually verifying the quality of water (bacteriological and chemical), sanitary environment (exposure to fecal matters and medical waste) and hygiene practices (by staff and clients). These six indicators may not be sufficient to adequately describe facility capacity, therefore additional supporting information (formulated like indicators) is included in each section. The checklist indicates which information is essential for measuring the six indicators, and which questions and

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¹ Injection safety in the context of immunization programs is included in the WSH module to replace an assessment of sterilization techniques for medical equipment. For small health facilities it is more appropriate to use auto-disposable syringes. An assessment of sterilization equipment would complicate a rapid assessment.

observations are facultative for gathering supplemental information. The process of selecting health facilities, how to link household with facility data in the analysis, and a strategy for field-testing the instrument need to be developed.

This draft covers the following:

- A. Water supply
- B. Excreta disposal
- C. Medical waste management
- D. Safe injections (instead of sterilization)
- E. Infection prevention
- F. Pest and vector control
- G. References
- H. Sample checklist

A. WATER SUPPLY

Indicator

Proportion of health facilities with access to a safe water source.

Indicator Definition

Numerator: Number of health facilities with access to a safe water source.

Denominator: Total number of health facilities assessed.

Unit of Measurement

Health facility

Important Terms

A safe water source is defined as follows:

- Facility connection
- Standpipe (on facility premises or public)

A standpipe usually provides communal access to water, and access is not as controlled as a facility connection (which ends within a building). Standpipes, borehole and other wells on the premises of public facilities such as health centers or schools are often used as a public water source and are not just available to clients and staff.

- Borehole (on facility premises or public)
 - A borehole well required drilling equipment to construct it and is outfit with a pipe and some kind of pump. Borehole wells are usually completely sealed and minimize the risk of contamination.
- Protected dug well (on facility premises or public)
 - This type of well was dug by hand, has a wide diameter and has a superstructure that covers the well completely. Protected wells often feature a pump. Where buckets are used they should be dedicated to the well and not come from users to reduce the risk of contaminating well water.
- Protected spring (on facility premises or public)
 Spring water is captured in some form of closed containment, the spring box, which is often made of brick and mortar. Water flows freely from a short pipe.
- Rainwater collection in closed containments

Unsafe water sources include the following:

- Unprotected well
 - Hand dug wells without any cover that could reduce the risk of contamination. In their simplest form these may be shallow holes without any superstructure.
- Unprotected spring
 - Springs are left in their natural state without protecting water from human or animal waste.
- Vendor-provided water
 - These are usually small-scale water vendors selling water in buckets or small drums. Water contamination can occur at many points during the process.
- Bottled water
 - Although bottled water is usually safe when factory filled, it can only be afforded by more affluent households. It should not be treated as a reliable source of drinking water, and households are likely to resort to unsafe water sources, such as filling water bottles themselves and storing water. Evidence suggests that water contamination is a greater problem in the household than at the source.

- Tanker truck-provided water
 Water is sold in large volume mostly by private vendors, but water quality is not assured unless controlled by a water utility, which is usually not the case.
- Rainwater collection in open containments
- Surface water from rivers, streams, lakes, canals, or dams

Supporting Information

Proportion of health facilities without water on the premises where the water source is within 30 meters (or at most "across the street").

Distance to the water source at household level is commonly measured at 200 meters (or 5 minutes walk) and 1 kilometer (20 minutes), but these seem too far to satisfy the quantity of water needed by health facilities. This issue may require some simple operations research.

Proportion of health facilities without water piped directly into the facility, which store drinking water in narrow-neck containers that are closed and outfit with a spigot.

Proportion of health facilities where water is chlorinated at a minimum level or above (free chlorine test required). Free Chlorine above 0.2 mg/l is effective; Free Chlorine above 3.5 mg/l is excessive.

Proportion of health facilities where water is available during operating hours (24 hours where inpatient and maternity services are provided).

B. EXCRETA DISPOSAL

Indicator

Proportion of health facilities with adequate sanitation facilities.

Indicator Definition

Numerator: Number of health facilities with adequate sanitation facilities.

Denominator: Total number of health facilities assessed.

Unit of Measurement

Health facility

Important Terms

An <u>adequate sanitation facility</u> that allows the safe disposal of feces needs to meet all of the following five criteria:

- 1. Type of facility defined as adequate
 - Flush toilet with connection to a public sewer
 - Flush toilet with connection to septic system
 - Pour-flush latrine
 - Simple pit latrine
 - Ventilated improved pit latrine
- 2. Basic superstructure of walls, roof and door that can be closed (to keep animals out)
- 3. A *place for handwashing* (includes the presence of water and soap) within or next to the sanitation facility
- 4. Separate facilities for men and women of the types mentioned under criterion 1.
- 5. A child-friendly sanitation facility
 - Smaller hole in a pit latrine
 - If equipped with a seat, height adapted for children and lower than for adults
 - Potty available for children under 2 years

An <u>inadequate sanitation facility</u> is defined as being any or all for the following:

- Service (or bucket) latrines (where excreta are manually removed)
- Public latrines
 - Public latrines are not exclusively available to clients (and staff where appropriate), but to the community as well. Sanitary conditions are usually difficult to control.
- Open / uncovered latrines (referring to a lack of superstructure)
- No place for handwashing near the latrine
- No separate facilities for men and women
- No child-friendly facility

Supporting Information

Proportion of health facilities with latrines where holes are uncovered.

Proportion of health facilities with fecal matter found in the sanitation facility (on ground and walls).

Proportion of health facilities without a place for handwashing (includes the presence of water and soap) within or next to the sanitation facility.

C. MEDICAL WASTE MANAGEMENT

Indicator

Proportion of health facilities with adequate medical waste disposal.

Indicator Definition

Numerator: Number of health facilities with adequate medical waste disposal.

Denominator: Total number of health facilities assessed.

Unit of Measurement

Health facility

Important Terms

An <u>adequate waste disposal</u> removes all medical waste² from the environment and needs to meet all of the following three criteria:

- 1. Presence of a *dedicated waste disposal pit* on the facility premises
- 2. Waste covered with a layer of dirt (about 4 inches thickness are recommended).
- 3. *Superstructure* that bars access to the pit for humans and animals (at minimum a fence and a gate that locks)

<u>Regular waste removal service</u> where such a service is available. In such cases a waste pit may not be required.

<u>Incinerators</u> are *not recommended* for small health facilities, because the risks of polluting the environment are substantially greater than waste burial. Small-scale incineration of medical waste, for example, using drum incinerators or single chamber brick incinerators, does not destroy infective agents and may spread chemical pollutants.

Supporting Information

<u>Safe Sharps/Needle Disposal</u>: Proportion of health facilities that use puncture-proof containers for the collection and disposal of used disposable and auto-disable syringes, needles and other injection materials as per WHO/UNICEF recommendation.

² Medical waste includes syringes, needles, intravenous fluid containers, dressings, expired drugs, and any materials biomedically contaminated. It is recommended that health facilities dispose separately of medical and other solid waste, because of safety reasons and the need to preserve space for medical waste by not mixing it with other waste that may accumulate in a much larger volume.

D. SAFE INJECTIONS

Only for health facilities that provide immunization services.

Indicator

Proportion of health facilities that use auto-disable syringes for immunization as per WHO/UNICEF recommendation.

Indicator Definition

Numerator: Number of health facilities that use auto-disable syringes for immunization.

Denominator: Total number of health facilities assessed that offer immunization services.

Unit of Measurement

Health facility with immunization services

Important Terms

Auto-disable syringes can only be used once and render themselves unusable after being used. WHO/UNICEF recommend that auto-disable syringes be used for all routine and campaign immunization activities. The use of auto-disable syringes makes sterilization of immunization equipment obsolete (and is thus not addressed in the assessment), but sterilization may still be required for injection equipment for other uses.

Supporting Information

<u>Safe Sharps/Needle Disposal</u>: Proportion of health facilities that use puncture-proof containers for the collection and disposal of used auto-disable syringes as per WHO/UNICEF recommendation.

E. INFECTION PREVENTION

Indicator

Proportion of health facilities with an adequate handwashing facility for health personnel.

Indicator Definition

Numerator: Number of health facilities with an adequate handwashing facility for health

personnel.

Denominator: Total number of health facilities assessed.

Unit of Measurement

Health facility

Important Terms

An <u>adequate handwashing facility</u> for health personnel is easily accessible at key points within the health facility and needs to meet all of the following three criteria:

- 1. At least one handwashing facility is located in or near (adjacent or within a few steps) the room *where clients are seen and treated*.
- 2. Staff's ability to wash hands at appropriate times depends on whether a *place exists in the facility that has all necessary items for handwashing*:
 - water from tap or container with spigot
 - soap, ash or other detergent
 - hand brush (especially where asepsis is important)
 - basin or sink
 - clean towel or cloth for drying hands
- 3. Wastewater from a sink or basin needs to be disposed of adequately to remove biomedical matter from the environment. *Adequate wastewater disposal* includes:
 - grey-water pit, soak-away pit, or absorption trench
 - connection to a septic system

Not recommended are:

- disposal in a latrine (because of a potentially large volume or cleaning and laboratory agents)
- uncontrolled run-off
- collection for further use, e.g., irrigation, pour-flush toilet (because of potential biomedical contaminants)

Supporting Information

<u>General Cleanliness</u>: Proportion of health facilities where general cleanliness in client/patient areas is satisfactory or better.

Based on a visit of the health facility and judgment of cleanliness on a sliding scale:

Very clean		Clean	Poor cleanliness
(No evidence of		(Satisfactory,	(Dirt, refuse and
dirt, refuse or		generally clean, some dust	human waste
human waste)		or litter, no human waste)	like feces or blood)
Score 5	4	3 2	1

This is a very subjective indicator, if information is based on a cursory visit of the facility and use of a sliding scale. This may be useful as an overall impression of the attention to hygiene, but it carries a lesser weight than indicators based on the observation of specific criteria that are well defined.

A better indicator of infection prevention at a health facility might be handwashing (as mentioned above) and the

<u>Availability of disinfectant</u>: Proportion of health facilities that have a disinfectant available.

This is an observation of availability based on a short list of locally available disinfectants. The observation does not address use of the disinfectant for critical tasks, for example, to clean floors, furniture or medical equipment.

<u>Evidence of hygiene promotion</u> at the facility level could be one important means to increase people's awareness about household-level hygiene and sanitation. Such evidence includes the display of posters, flipcharts and other educational material with water, sanitation and hygiene related messages.

Availability of waste bins at key points in the health facility: waiting area and treatment room.

F. PEST AND VECTOR CONTROL

Indicator

Proportion of health facilities with adequate pest or vector control measures where required.

Indicator Definition

Numerator: Number of health facilities that are exposed to pests and/or vectors and implement

appropriate control measures.

Denominator: Total number of health facilities assessed.

Unit of Measurement

Health facility

Important Terms

- Pests and vectors considered here are limited to mosquitoes and rodents (rats and mice) that
 transmit diseases of major public health importance such as malaria, dengue, encephalitis and
 fevers of viral origin like hanta or West-Nile. Outbreaks of plague and typhus (transmitted
 by fleas) still play a role in a few least developed countries.
- Appropriate control measures that can be verified easily through observation include:
 - Only for health facilities that admit patients³ in areas with mosquitoes (any type)
 - Bednets impregnated with insecticides in inpatient wards (medical and obstetrical)
 - Screen covers on windows and doors of inpatient facilities
 - For all health facilities in areas with rats and mice infestation
 - Evidence of rodent traps and/or poisons

Supporting Information

Proportion of health facilities that admit patients (medical and obstetrical) in areas with mosquitoes where doors and windows are covered with screens.

Proportion of health facilities that admit patients (medical and obstetrical) in areas with mosquitoes where patients sleep under insecticide treated nets.

Proportion of health facilities in areas with rodent infestation (rats and mice) that use appropriate traps and/or poisons to eliminate these pests.

³ The assumption is that operating hours for most health facilities that provide only ambulatory care are during the morning after sunrise when mosquitoes are unlikely to bite

G. REFERENCES

[To be completed]

Integrated Health Facility Assessment Manual (BASICS, 1998).

Safety of injections (WHO/V&B/99.25. Printed: December 1999). WHO-UNICEF-UNFPA joint statement on the use of auto-disable syringes in immunization services.

Safe Injection Global Network (2001). Healthcare waste management rapid assessment tool.

Handbook for Emergencies - Second Edition (UNHCR, 1999, 414 p.): 17. Environmental sanitation.

The Sphere Project - Humanitarian Charter and Minimum Standards in Disaster Response (IFRC, 2000, 330 p.): Part 2: The Minimum Standards: Chapter 1: Minimum Standards in Water Supply and Sanitation.

Safe management of wastes from health-care activities (WHO, 1999).

John H. Austin, Eric Dannenmaier, Don Sharp (USAID, May 2000). The State of Eritrea: Environmental Health Program Recommendations.

H. SAMPLE CHECKLIST

IDENTIFICATION	 	
CLUSTER NUMBER		
FACILITY NUMBER		
RECORD NUMBER		

[questionnaire needs to be re-numbered!]

RESPONDENT BACKGROUND CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1. ess	What is your position in this health facility?¹ (CHECK ONE) ess = essential information for six key indicators, all others are facultative	IN-CHARGE	
2. ess	What type of facility is this? (CHECK ONE)	HEALTH CENTER	
ess	What is the type of ownership? (CHECK ONE)	PUBLIC, GOVERNMENT	
3. ess	What type of services does this facility provide? (CHECK ALL THAT APPLY)	OUTPATIENT A INPATIENT B MATERNITY C OTHER X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
	Water Supply		
4. ess	What is the principal water source for this facility? ¹ (CHECK ONE)	FACILITY CONNECTION	→ 7
5. ess	What is the distance to the water source? (CHECK ONE)	ON PREMISES	
6. ess	How much time does it take to walk to the water source? (CHECK ONE)	ON PREMISES	
7. ess	What is water availability from this water source during operating hours? IF AMBULATORY CARE ONLY: FACILITY OPENING HOURS IF INPATIENT OR MATERNITY: 24 HOURS	ALLWAYS	
8.	Do you store water in the facility?	YES	
9.	IF YES, could you show me in which container(s) you store water? (OBSERVE AND CHECK ALL THAT APPLY)	BUCKET A JERRYCAN B BARREL/DRUM C CLAY-POT D SAUCEPAN E JUG F KETTLE G BOTTLES H NO CONTAINER I	→ 15

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
10.	What type of containers are these? (OBSERVE AND CHECK ALL THAT APPLY)	NARROW MOUTHED	
11.	Are the containers covered? (OBSERVE AND CHECK)	YES	
12.	Do the containers have a spigot? (OBSERVE AND CHECK)	YES	
13.	Do you process this water in any way to make it safer to drink?	YES	→ 16
14.	IF YES, what do you do to the water to make it safer to drink?	BOIL 1 ADD BLEACH/CHLORINE 2 SIEVE IT THROUGH CLOTH 3 WATER FILTER 4 DON'T KNOW 8	→ 16 → 16 → 16 → 16
15.	IF BLEACH, CHLORINE OR TAP WATER, TEST WATER FOR FREE AND TOTAL CHLORINE	DETECTABLE TOTAL CHLORINE RESIDUALS YES	
	Excreta Disposal		
16. ess	What type of toilet facility is available at this facility for clients/patients? (OBSERVE AND CHECK ONE)	FLUSH TOILET WITH CONNECTION TO A PUBLIC SEWER	→ 25
17. ess	CLIENT/PATIENT TOILET FACILITY: OBSERVE THE SUPERSTRUCTURE OF WALLS, ROOF AND DOOR?	HAS WALLS	
18. ess	CLIENT/PATIENT TOILET FACILITY: IF DOOR(S) ARE PRESENT, CAN THEY BE CLOSED?	YES	
19.	CLIENT/PATIENT TOILET FACILITY: IF ANY TYPE OF PIT LATRINE, Are the holes covered?	YES	
20. ess	CLIENT/PATIENT TOILET FACILITY: Are there separate facilities for men and women?	YES	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
21.	CLIENT/PATIENT TOILET FACILITY: Is there fecal matter present inside the facility on floor or walls (human or animal)?	YES	
22. ess	CLIENT/PATIENT TOILET FACILITY: Is there a child-friendly facility? (MAY BE SEPARATE OR IN THE SAME COMPARTMENT AS AN ADULT FACILITY. OBSERVE AND CHECK ALL THAT APPLY.)	PIT LATRINE WITH SMALLER HOLE A LOWER SEAT	
23. ess	CLIENT/PATIENT TOILET FACILITY: Is there a place for handwashing in the toilet facility or next to it?	YES	→ 25
24. ess	CLIENT/PATIENT TOILET FACILITY: Are the following items present at the place for handwashing? (OBSERVE AND CHECK ALL THAT APPLY)	WATER FROM TAP OR CONTAINER A SOAP OR DETERGENT B ASH C TOWEL OR CLOTH D BASIN OR SINK E NONE OF THE ABOVE F	
25.	Are there separate toilet facilities for staff?	YES	→ 29
26.	What type of toilet facility is available at this facility for staff? (OBSERVE AND CHECK ONE)	FLUSH TOILET WITH CONNECTION TO A PUBLIC SEWER	→ 29
27.	STAFF TOILET FACILITY: Is there a place for handwashing in the toilet facility or next to it?	YES	→ 29
28.	STAFF TOILET FACILITY: Are the following items present at the place for handwashing? (OBSERVE AND CHECK ALL THAT APPLY)	WATER FROM TAP OR CONTAINER A SOAP OR DETERGENT B ASH C TOWEL OR CLOTH D BASIN OR SINK E NONE OF THE ABOVE F	
	MEDICAL WASTE MANAGE	MENT	
29. ess	Is there a pit where medical waste is disposed of? (VERIFY BY OBSERVATION)	YES	→ 35 → 35
30. ess	Is the pit surrounded by an enclosure? (VERIFY BY OBSERVATION)	YES	
31. ess	Is there a gate or door? (VERIFY BY OBSERVATION)	YES	→ 33
32. ess	Is the gate or door locked? (VERIFY BY OBSERVATION)	YES	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
33. ess	Is the waste in the pit covered with dirt? (VERIFY BY OBSERVATION)	YES	
34.	Are used sharps (needles, blades, etc.) disposed in the pit?	YES	
35.	Where are used sharps (needles, blades, etc.) put in the facility before disposal in the pit? (ASK TO SEE CONTAINER)	DEDICATED SHARPS CONTAINER 1 BIN FOR GENERAL WASTE	
36.	What type of container is used for used sharps (needles, blades, etc.)? (OBSERVE)	PUNCTURE PROOF (PLASTIC OR METAL)	
	Is the container covered?	COVERED WITH LID	
ess	Is there a waste removal service that collects medical waste from this facility?	YES	→ 37
ess	How regular is the medical waste removal service?	AT LEAST ONCE A WEEK	
	SAFE INJECTIONS		
37. ess	Does this health facility provide any immunization services (routine, fixed, mobile, campaign)?	YES	→ 41
38. ess	Are auto-disable syringes for immunization as per WHO/UNICEF recommendation used? (ASK TO SEE SYRINGES)	YES	
39.	Where are auto-disable syringes placed after use? (ASK TO SEE CONTAINER)	DEDICATED SHARPS CONTAINER 1 BIN FOR GENERAL WASTE 2 NO SPECIFIC PLACE 3	
40.	What type of container is used for used auto-disable syringes?	PUNCTURE PROOF (PLASTIC OR METAL)	
	Is the container covered?	COVERED WITH LID	
	Infection Preventio	N	
41. ess	Is there a place for handwashing in the room where clients/patients are seen or next to it?	YES	→ 44
42. ess	Are the following items present at the place for handwashing? (OBSERVE AND CHECK ALL THAT APPLY)	WATER FROM TAP OR CONTAINER A SOAP OR DETERGENT B ASH C HAND BRUSH D TOWEL OR CLOTH E BASIN OR SINK F NONE OF THE ABOVE G	
43. ess	Where is the wastewater disposed off? (OBSERVE AND CHECK ALL THAT APPLY)	GREY WATER PIT OR TRENCH	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
44.	Visit the locations where clients/patients are seen and judge the general state of cleanliness: RANK ON A SCALE FROM 1 TO 5 AS FOLLOWS: 5 No evidence of dirt, refuse, or human waste 4 (between 5 and 3) 3 Generally clean, some dust or litter, no human waste 2 (between 3 and 1) 1 Dirt, refuse and human waste like feces or blood	VERY CLEAN 5	
45.	Is there disinfectant available to clean medical equipment, furniture, or floors? (ASK TO SEE)	YES	
46.	Is there evidence of promotional activities related to water, sanitation and hygiene? (ARE POSTERS AND OTHER EDUCATIONAL MATERIALS ON DISPLAY IN CLIENT/PATIENT AREAS)	YES	
47.	Are waste bins present in client/patient areas? (OBSERVE)	YES	

PEST AND VECTOR CONTROL

48. ess	Are rats and mice a common nuisance in this area?	YES	→ 50
49. ess	Are rodent traps or poisons in place? (OBSERVE)	YES	
50. ess	Are patients admitted at this facility or is there a maternity?	YES	→ END
51. ess	Are mosquitoes a common nuisance in this area?	YES	→ END
52. ess	Are beds equipped with mosquito nets? (OBSERVE)	YES	→ 55
53. ess	Are these mosquito nets impregnated with insecticides?	YES, PERMANENT	
54. ess	When were mosquito nets impregnated last?	6 MONTHS OR LESS	
55. ess	Are doors and windows in inpatient ward or maternity equipped with mosquito screens? (OBSERVE)	YES	

ess = These questions and observations are essential to measure the six key indicators. All others facultative to collect supplemental information.