

Appendix 1. A structured questionnaire on health facility referral practice

This is a survey regarding health referral processes. Health referrals are defined as a process by which a health facility providing lower levels of care seeks the assistance of providers who are better equipped or specially trained to help manage or take over responsibility for a given clinical condition. As defined, health referrals include the process of transferring patient care from one healthcare setting to another for the purposes of reducing morbidity and mortality.

GENERAL INFORMATION

1. What is the facility name?

2. What is the facility type?
 - Primary Health Care Clinic (PHC Level 1 or PHC Level 2)
 - Health Center
 - District Hospital
 - County Hospital
 - Regional Hospital
 - National Referral Hospital
 - Other

3. What is the ownership of the health facility?
 - Government of Liberia
 - Private
 - Faith-based
 - Non-governmental organization
 - Other

4. What types of services are provided at the facility?
 - Outpatient Yes No
 - Inpatient Yes No
 - Obstetrics/Maternal Health Yes No
 - Pediatrics (≤ 5 years of age) Yes No
 - General Surgery Yes No
 - Pathology/Laboratory Medicine Yes No
 - Imaging Yes No

5. How many total staff members are employed at the facility?

6. What are the primary presenting conditions to the health facility? *Please select all that apply*
 - Maternal/reproductive/newborn health services
 - Adolescent/sexual health
 - Child health services (Example: nutrition, immunization, Integrated Management of Neonatal and Childhood Illness)
 - Communicable diseases (Example: STIs, including HIV, malaria, TB, leprosy)
 - Neglected tropical diseases (Example: onchocerciasis, lymphatic filariasis, schistosomiasis, etc.)
 - Non-communicable diseases (Example: hypertension, stroke, cardiovascular disease, diabetes, cancer, chronic respiratory diseases, sickle cell anemia, age-related eye disease, etc.)
 - Eye health services
 - Dental
 - Emergency health services (Example: injuries, trauma, acute abdomen, etc.)
 - Mental health

7. What is the most common means for patients to come from the community to your health facility?

Please select one.

- Ambulance
- Taxi
- Private car
- Motorcycle
- Bicycle
- By foot
- Other:

8. How many total patients presented over the previous three-month period?

- Outpatient department:
- Inpatient admissions:

REFERRAL PROCESSES

9. How many total patients over the previous three-month period were referred to another facility for further care?

10. How many patients were referred for the following reasons?

- Obstetric emergency
- Maternal/reproductive health
- Injury/trauma
- Surgical/surgical subspecialty care
- Adult medical/subspecialty care
- Pediatrics/subspecialty care
- Psychiatric/Mental health
- Pharmaceuticals
- Imaging
- Pathology/laboratory medicine
- Other

11. Are there protocols at your health facility for referring patients?

- Yes No

If **yes**, is the protocol followed?

- Always Most of the time Some of the time Rarely Never

If **yes**, are there specific protocols for the following presenting conditions?

Please select all that apply.

- | | |
|--|--|
| <input type="checkbox"/> Obstetric emergencies | <input type="checkbox"/> Pediatrics/Subspecialty |
| <input type="checkbox"/> Maternal/Reproductive health | <input type="checkbox"/> Psychiatric/Mental health |
| <input type="checkbox"/> Injury/Trauma | <input type="checkbox"/> Pharmaceuticals |
| <input type="checkbox"/> Surgical/Surgical subspecialty care | <input type="checkbox"/> Imaging |
| <input type="checkbox"/> Adult medical/Subspecialty | <input type="checkbox"/> Other |

12. Prior to transferring patients, is therapy provided when appropriate?
- Never Always Most of the time Some of the time Rarely
- If therapy is provided, which of the following interventions are provided?
 - Intravenous fluids Yes No
 - Medications Yes No
 - Splinting Yes No
 - Oxygen Yes No
 - Backboard and/or collar Yes No

13. What is the primary mode of transport from your facility to the next higher health facility?
- Ambulance
 Taxi
 Private car
 Motorcycle
 Bicycle
 By foot
 Other:

14. Is an ambulance available at your facility for transfer?
- Yes No
- If **yes**, is the ambulance currently functional?
- Yes No
- If **yes**, is the use of the ambulance restricted to certain medical emergencies?
- Please select all that apply.*
- Obstetric emergencies
 - Maternal/reproductive health
 - Injury/Trauma
 - Surgical/Surgical subspecialty care
 - Adult medical/Subspecialty
 - Pediatrics/Subspecialty
 - Psychiatric/Mental health
 - Other

15. When referring patients, is the cost of the ambulance free for any of the following conditions?
- Please select all that apply.*
- Obstetric emergencies
 - Maternal/reproductive health
 - Injury/Trauma
 - Surgical/Surgical subspecialty care
 - Adult medical/Subspecialty
 - Pediatrics/Subspecialty
 - Psychiatric/Mental health
 - Other

16. What is the estimated travel cost to the next higher-level health facility via the following methods?
- Ambulance:
 - Taxi:
 - Private Auto:
 - Motorcycle:
 - Bicycle:

17. Who pays the cost of transportation?

- Patient and family
- Referring health facility
- MOHSW
- Other

18. Are patients expected to pay or provide their own means of transfer?

- Always
- Most of the time
- Some of the time
- Rarely
- Never

19. To which facilities do you most commonly refer patients?

- 1.
- 2.
- 3.

20. On average how long does it take for a patient to travel to the most probable referral site?

Minutes or hours (*Please circle*)

21. Is the referral hospital contacted prior to patient transfer?

- Always
- Most of the time
- Some of the time
- Rarely
- Never

If **yes**, what is the most likely means by which the referral hospital is contacted? *Please select one.*

- Cell phone
- Desk phone
- Radio
- Internet

22. Are the following communication devices available at your facility? *Please select all that apply.*

- Cell phone
- Desk phone
- Radio
- Internet

23. Is a letter or chart given to the patient when transferring to a higher-level facility?

- Always
- Most of the time
- Some of the time
- Rarely
- Never

If given, what type of information is included in the letter or chart?

24. How often is feedback given from the higher-level facility after patient transfer?

- Always
- Most of the time
- Some of the time
- Rarely
- Never

25. Do you feel that community health workers are adequately trained to know when to refer patients from the community to your health facility?

- Always
- Most of the time
- Some of the time
- Rarely
- Never

26. Do you feel that traditional birth attendants are adequately trained to know when to refer patients from the community to your health facility?

- Always
- Most of the time
- Some of the time
- Rarely
- Never

27. Do you feel that herbalists are adequately trained to know when to refer patients from the community to your health facility?

- Always
- Most of the time
- Some of the time
- Rarely
- Never

28. Do you feel that bone setters are adequately trained to know when to refer patients from the community to your health facility?

- Always
- Most of the time
- Some of the time
- Rarely
- Never

OTHER

29. What do you think are the largest barriers to referring patients from one health facility to another?

30. What would be the most important aspects to consider when designing a comprehensive referral and transfer system?

RECEIVING HOSPITALS ONLY

Please fill out this section only if your health facility is primarily a receiving facility.

1. How many total patients were transferred or referred to your health facility over the previous three-month period?

2. What are the most likely reasons for referral to your health facility?

- Obstetric emergencies
- Maternal/Reproductive health
- Injury/Trauma
- Surgical/Surgical subspecialty care
- Adult medical/Subspecialty
- Pediatrics/Subspecialty
- Psychiatric/Mental health
- Pharmaceuticals
- Imaging
- Other

3. What is the primary mode of transportation by which the patients arrive?

- Ambulance
- Taxi
- Private auto
- Motorcycle
- Bicycle
- By foot
- Other

4. Is there a protocol for receiving referrals?

- Yes No

If **yes**, is the protocol followed?

- Always Most of the time Some of the time Rarely Never

If **yes**, are there specific protocols for the following presenting conditions?

Please select all that apply.

- Obstetric emergencies
- Maternal/Reproductive health
- Injury/Trauma
- Surgical/Surgical subspecialty care
- Adult medical/Subspecialty
- Pediatrics/Subspecialty
- Psychiatric/Mental health
- Pharmaceuticals
- Imaging
- Other

5. Is your health facility contacted prior to a referral or transfer?
 Always Most of the time Some of the time Rarely Never
6. How often do patients present with a referral letter from the prior transfer facility?
 Always Most of the time Some of the time Rarely Never
7. How often is feedback given from the higher-level facility after patient transfer?
 Always Most of the time Some of the time Rarely Never
- If given, what kind of feedback is provided to the referring facility?