

Supplementary File S1

Questionnaire

Title: Reducing Healthcare-Associated Infection (HAI) Risks Through Circular Economy Approaches to Medical Waste Management: An Empirical Analysis of Policy Interventions in Lagos, Nigeria

Section A: Demographic Information

1. Age: _____
 2. Gender:
 - ☐ Male
 - ☐ Female
 - ☐ Prefer not to say
 3. Professional Category:
 - ☐ Doctor
 - ☐ Nurse
 - ☐ Laboratory Scientist
 - ☐ Pharmacist
 - ☐ Cleaner/Domestic Worker
 - ☐ Waste Handler
 - ☐ Administrator
 - ☐ Other (Specify)
 4. Highest Educational Qualification:
 - ☐ Primary
 - ☐ Secondary
 - ☐ Diploma
 - ☐ Bachelor's Degree
 - ☐ Master's Degree
 - ☐ Doctorate
 - ☐ Other
 5. Years of Work Experience:
 - ☐ <1 year
 - ☐ 1–5 years
 - ☐ 6–10 years
 - ☐ 10 years
 6. Department/Unit:
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Section B: Knowledge of Healthcare Waste Categories

7. Which of the following is classified as general waste?
 - ☐ Food remnants
 - ☐ Blood-soaked cotton wool
 - ☐ Expired antibiotics
 - ☐ Used needles
8. Which colour code is used for pharmaceutical waste?
 - ☐ Black

- Yellow
 - Brown
 - Red
9. Used syringes should be classified as:
- General Waste
 - Infectious Waste
 - Sharps Waste
 - Pharmaceutical Waste
10. Expired antibiotics should be classified as:
- General Waste
 - Pharmaceutical Waste
 - Pathological Waste
 - Infectious Waste
11. Human tissues and body parts belong to:
- Pathological Waste
 - General Waste
 - Pharmaceutical Waste
 - Chemical Waste
12. Waste segregation should occur:
- At source
 - During transportation
 - At disposal site
 - After collection

Section C: Waste Segregation Practices

13. Does your facility practice waste segregation?
- Yes
 - No
14. Are colour-coded bins available in your work area?
- Always
 - Sometimes
 - Never
15. Are pharmaceutical wastes segregated separately?
- Always
 - Sometimes
 - Never
16. Have you observed mixing of medical waste streams?

- Frequently
- Occasionally
- Never

17. Are waste containers properly labelled?

- Yes
- No

18. Are segregation procedures monitored?

- Yes
- No

Section D: Storage and Transportation

19. How long is waste stored before collection?

- Less than 24 hours
- 24–48 hours
- 3–5 days
- More than 5 days

20. Is waste storage area secure?

- Yes
- No

21. Is storage area protected from rain and sunlight?

- Yes
- No

22. How is waste transported internally?

- Wheelbarrow
- Trolley
- Manual Carrying
- Other

23. Does transport pass through patient-care areas?

- Yes
- No

Section E: Training and Capacity Building

24. Have you received healthcare waste management training?

- Yes

- No

25. Frequency of training:

- Orientation only
- Annually
- Every 6 months
- Quarterly

26. Did the training include AMR-related content?

- Yes
- No

27. Did the training include pharmaceutical waste management?

- Yes
- No

28. Do you feel adequately trained?

- Yes
- No

Section F: Awareness of AMR and Waste Linkages

29. Have you heard of antimicrobial resistance?

- Yes
- No

30. Can improper disposal of antibiotics contribute to AMR?

- Yes
- No
- Not Sure

31. Can healthcare waste contaminate the environment?

- Yes
- No

32. Are waste handlers at risk of exposure to resistant organisms?

- Yes
- No

33. Should AMR considerations be included in healthcare waste management policies?

- Yes

- No

34. What improvements would you recommend?
