

Annex 1: Summary of feedback from piloting of national antimicrobial resistance situation assessment tools

Human health laboratory tool

Area	Comment
Question wording	<ul style="list-style-type: none"> • Unclear if staffing questions are referring to scientific staff or all staff • Question on additional comments unclear and too broad, needs to be more specific • Question on quality control assumes that is someone's entire role rather than part of a role • Question on qualifications change 'degree' to 'qualification' • Use of "plate rounds" may not be universally understood as it may be referred to differently in different settings • Regarding meetings on changes to protocols, inappropriate wording as these meetings would be incorporated into other meetings • Regarding safety training, need to define safety and be more specific as to the different types of safety training • Question on power supply assumes laboratory is linked to hospital, will not be true for community or public health laboratories • Correct spelling error • Regarding sample referral, need to better define what is meant by system • Regarding data backup need to specify "critical data" • Question on challenges with media supply to complex • Question on procurement contracts too open-ended, needs to be more specific • Assumptions that stockout issues are resolved, often they are ongoing • Question on media prep needs to be made more specific • Need additional explanation regarding controlling for "positive growth" • Questions on reporting too broad, need to be specified • Spelling out of all acronyms (e.g. WGS, PFGE, MLST) • Question on storing laboratory data to be reworded to be more specific to what results/analyses are kept on file
Add additional option as answer	<ul style="list-style-type: none"> • Frequencies given for question on plate rounds inappropriate. Need to add in smaller timelines and all options should be no more than weekly • Regarding who pays for diagnostic tests need to include "government" as an alternative option • Regarding access system, add option of electronic system • Regarding biosafety cabinet, need to add option for "Class 1" • Regarding how AST results are recorded, need to add in MIC values as an option
Restrictions to answers	<ul style="list-style-type: none"> • Type of laboratory needs to be multi-select • Regarding external training, needs multiple options

	<ul style="list-style-type: none"> • Staffing characteristics should be EFT based rather than number of staff • Questions on sample referral need to be multi-select • Section on procurement needs to be simplified and have less free answer options • Multiple free-answer questions need to be restricted and made more specific as the potential answers are too broad
Unnecessary questions	<ul style="list-style-type: none"> • Question on methods producing laboratory grade water is too complex • Questions on fridge maintenance repetitive and can be condensed • Question on consumable storage repetitive and could be condensed • Free answer question following access system and on BSC maintenance are unneeded • Question on BSC filters repetitive and unnecessary • Numerous free-answer questions deemed unnecessary • Multiple questions on QC systems are unnecessary • Separate questions for rejection criteria of samples are unneeded • Question on clinical data collection and linkages to be combined into one question
Add additional question	<ul style="list-style-type: none"> • Question on number of staff and qualifications being sufficient needs to be changed to 2 separate questions • Question on number of staff attending plate rounds is not relevant, need to add question on type of professional role attending • Add additional question on storage of <i>vancomycin-resistant Enterococcus</i> • Add additional question on who conducts BSC certification • Add additional question on equipment used for media preparation
Remove options for answers	<ul style="list-style-type: none"> • Some options for equipment are too specific and unneeded • Question regarding capacity to screen for MROs contains many agar / antibiotic combinations that are rarely used as they are too expensive
Question order	<ul style="list-style-type: none"> • Question on leaving samples for analysis until next day due to staff shortages feels out of place, move to a different section to improve flow • Move question regarding staff recruitment to section on staffing • Questions on sample request forms (demographics, location and sample reception) to be reordered to make more sense

Antimicrobial Stewardship Tools

Area	Comment
Question wording	<ul style="list-style-type: none"> • Specify the classification of ID registrars • Changing wording around nurses with responsibilities for AMS • Changing wording around specialist pharmacists from “trained”: to “dedicated” • Wording changed on question on using smartphone to access hospital systems.

	<ul style="list-style-type: none"> • Need to differentiate between clinicians, change o “junior doctor”, “senior doctor”, “ward nurse” • Defining distinction between internal/external services and implications for logic of tool. • Regarding, cost of drugs – strength, route and quantity not specified. Need to add standard dosage for each • Regarding antimicrobials for use in private hospital, the wording is too broad and the number of possible answers would be too long and unnecessary, change wording to , “available and usually in-stock on site (does not include special access drugs ordered in for specific patients)”
Add additional option as answer	<ul style="list-style-type: none"> • Inclusion of specialists (Plastics, Trauma, Urology, orthopaedics, Upper Gastro and biliary, Colorectal, General, Ophthalmologic, Neurosurgery, cardiothoracic, vascular, maxillofacial, ENT) • Include sepsis metrics as a clinical outcome as well • Regarding AMS process, need to add additional option for post-prescription review
Restrictions to answers	<ul style="list-style-type: none"> • Add free-text option to provide more information on reporting as line of reporting can be complicated
Unnecessary questions	<ul style="list-style-type: none"> • Remove question on gender relating to staff characteristics
Add additional question	<ul style="list-style-type: none"> • Need to differentiate between ID physicians in the facility and those with actual AMS responsibilities. Add question "is there salaried time for an infectious diseases doctor to participate in the AMS program
Changes to branching logic	<ul style="list-style-type: none"> • Ensure questions about microbiology staff only come up if they select that microbiology services are delivered on-site
Instructions for users	<ul style="list-style-type: none"> • Include explanations on the mandatory fields in the initial instructions

Animal health laboratory tool

Area	Comment
Restrictions to answers	<ul style="list-style-type: none"> • Certain fields are restricted to integers, need more flexibility to allow ranges or estimates to be entered • Option for biannually causing confusion as to whether it is twice per year or every two years • Re-word questions using percentages into a scale with relative proportions • Regarding media prep, current restrictions for integers inflexible • Question about ‘criteria for performing AST on isolates’ should allow multiple choices
Question wording	<ul style="list-style-type: none"> • Wording for breakdown of staff roles assumes exclusive roles for specific tasks given however these roles are typically held by multiple individuals • Change “healthy animal samples” to “clinically healthy animal samples” • Differentiate between “food samples” for human consumption and animal feed

	<ul style="list-style-type: none"> Regarding sample rejection criteria, reword “inadequate specimens” to “invalid specimens” Regarding sample transport, reword “Triple cardboard” into “Triple packing” or “Triple insulation packing” Term ‘stockouts’ needs to be replaced with ‘stock outage’ Regarding reporting, MAFs and APH need to be defined
Unnecessary questions	<ul style="list-style-type: none"> No need to have separate questions for tissues and faecal sample rejection criteria Question ‘Do you have an inoculum measure’ is superfluous. Question asking, if the laboratory does not use an automated system, what system do you use? Can be removed. Remove the questions re carbapenemase-producing Ent, methicillin resistant Staph and Vancomycin resistant Enterococci
Add additional option as answer	<ul style="list-style-type: none"> <i>Ornithobacterium rhinotracheale</i> needs to be included in the list of poultry pathogens Add additional pathogens for each animal species and sample type Add additional options for antibiotics tested for resistance from health animal samples Recording system for stored isolates needs to allow for selection of both ‘Paper-based’ and ‘Electronic’ Methods for AST – some of the categories overlap, especially when automated reading systems list is not comprehensive (broth microdilution is equivalent to MIC). Categories should be more specifically defined and all options listed. For healthy wildlife species, specify the wildlife species and average number of samples tested per year Indicate the different animal specimens submitted for culture
Remove option for answer	<ul style="list-style-type: none"> Delete option clinician from the list of people who receive reports, as veterinarian is already there.
Add additional question	<ul style="list-style-type: none"> To add question: "Does the laboratory have any molecular diagnostic capability?"

IPC and WASH Tool

Area	Comment
Question wording	<ul style="list-style-type: none"> Assumes IPC team members have attended certified IPC courses when much of the training is done on the job Need to be more explicit in question on reporting practices of IPC committees Correct spelling mistake
Add additional option as answer	<ul style="list-style-type: none"> Regarding professional groups in IPC committee, add “chief nursing officer” and “chief operating officer” as options Regarding facility management, need to add options for those responsible for environmental cleaning and sterilisation Regarding facility guidelines, need to add options for “aseptic technique”, “pandemic plan”, “management of critical organisms

	<ul style="list-style-type: none">• Regarding IPC training, add option for “ad-hoc” training
Restrictions to answers	<ul style="list-style-type: none">• Regarding monitoring of IPC guidelines, change from yes/no to multiple options with different timelines
Unnecessary questions	<ul style="list-style-type: none">• Question on if administrative and managerial staff receive training related to IPC in facility is unnecessary• Question on system change too advanced for use in LMICs
Instructions for users	<ul style="list-style-type: none">• Provide link to WHO WASH guidelines• Update glossary of terms and ensure consistency of terms used throughout the tool
Question scoring	<ul style="list-style-type: none">• Smaller facilities may not require a full-time IPC professional and scoring shouldn’t be impacted if they only have part-time• Guidelines for hospital acquired pneumonia should not impact scoring as very few facilities would have this• Feeding back surveillance data to maintenance staff should not impact scoring