

Table S1. Standard format for reporting AMR surveillance data to the NPHL [15].

| Patient Id/No | Name | Age | Gender | OPD/IPD | Date of admission | Institution | Department | Location | Specimen | Specimen collection date | Organism | Antibiotics | | | | | | |
|---------------|------|-----|--------|---------|-------------------|-------------|------------|----------|----------|--------------------------|----------|-------------|-----|-----|-----|-----|-----|-----|
| | | | | | | | | | | | | Ab1 | Ab2 | Ab3 | Ab4 | Ab5 | Ab6 | Ab7 |
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Ab; antibiotics tested against the organism.

Table S2. Sample format of the datasheet submitted by sentinel surveillance site A to the NPHL.

| SN | Name | Sample | Patient id | Age | Sex | Sample taken Date | Finding | Sensitivity | Intermediate | Resistant |
|----|------|--------|------------|-----|--------|-------------------|--|--|--------------|---|
| 1 | AA | Urine | 111 | 20 | MALE | 2022-01-01 | Culture sterile after 24 hrs of aerobic incubation at 37°C | | | |
| 2 | BB | Blood | 222 | 25 | FEMALE | 2022-01-01 | Culture sterile after 24 hrs of aerobic incubation at 37°C | | | |
| 3 | CC | Urine | 333 | 45 | FEMALE | 2022-01-01 | Escherichia coli | Ceftriaxone, Nitrofurantoin, Piperacillin, Tigecycline | Levofloxacin | Co-Trimoxazole, Gentamicin, Ofloxacin |
| 4 | DD | Sputum | 444 | 60 | FEMALE | 2022-01-01 | Enterococcus faecalis | Levofloxacin, Linezolid, Nitrofurantoin, Teicoplanin, Vancomycin | | |
| 5 | EE | CSF | 555 | 70 | FEMALE | 2022-01-02 | Culture sterile after 24 hrs of aerobic incubation at 37°C | | | |

Table S3. Sample format of the datasheet submitted by sentinel surveillance site B to the NPHL.

| Lab No | Age | Gender | Origin | Test Name | TestDate | Bacteria | Amikacin | Amoxycillin | Amoxycillin /Clavulanic Ac | Ampicillin | Cefepime | Cefixime | Cefotaxime | Ceftazidime |
|--------|-----|--------|--------|-----------|----------|------------------|----------|-------------|----------------------------|------------|----------|----------|------------|-------------|
| 1 | 038 | M | OPD | Urine C/s | 1/1/2021 | Escherichia coli | S | R | R | | R | R | R | R |
| 2 | 017 | F | OPD | Urine C/s | 1/1/2021 | No Growth | | | | | | | | |
| 3 | 064 | F | OPD | Urine C/s | 1/1/2022 | Escherichia coli | | S | | | | S | S | |
| 4 | 030 | M | OPD | Blood C/S | 1/1/2022 | No Growth | | | | | | | | |
| 5 | 040 | F | OPD | CSF C/S | 1/1/2022 | No Growth | | | | | | | | |

Table S4. A summary of the errors identified, and corrections made by ODX in the formatted sheet.

| Error | Error description | Correction | Correction description | Sitetype | Ast_id | Spreadsheet_name |
|-------|-----------------------------|------------|---|----------|----------------------------|----------------------|
| | | True | Gender changed from F to "f", Bacteria changed from No growth to "No growth", | NPHL | 186f460be110.62bec424d8cec | NPHL_April_2022.xlsx |
| True | Sample is not recognised, | True | Gender changed from M to "m", Bacteria changed from No growth to "No growth", | NPHL | 186f460be110.bbf68e8924c0f | NPHL_April_2022.xlsx |
| True | Bacteria is not recognised, | True | Gender changed from M to "m", | NPHL | 186f460be120.4f8db92d8b3e1 | NPHL_April_2022.xlsx |
| | | True | Gender changed from F to "f", Bacteria changed from No growth to "No growth", | NPHL | 186f460be140.7ffc98fbe8335 | NPHL_April_2022.xlsx |
| True | Bacteria is not recognised, | True | Gender changed from M to "m", | NPHL | 186f460be140.b7559f3edcbc7 | NPHL_April_2022.xlsx |
| | | True | Gender changed from M to "m", Bacteria changed from No growth to "No growth", | NPHL | 186f460be4b0.212376b11d7d | NPHL_April_2022.xlsx |
| True | Bacteria is not recognised, | True | Gender changed from F to "f", | NPHL | 186f460be4b0.764785f737688 | NPHL_April_2022.xlsx |
| True | Sample is not recognised, | True | Gender changed from M to "m", Bacteria changed from No growth to "No growth", | NPHL | 186f460be4b0.243c58e6b1001 | NPHL_April_2022.xlsx |

Note: During data cleansing by ODX, the user is provided with a summary of what has been auto-corrected based on the configurations and mapping and where errors have been found. An “error” column in the formatted sheet states ‘true’ if an error identified, and the adjacent column with a detailed “error description”. A “correction” column states ‘true’ if an automatic correction has been done, and the adjacent column with a detailed correction description made by ODX.

Table S5. Break down via ODX of the comma-separated values of “antibiotics” into separate columns with antimicrobial susceptibility testing results.

| S.N. | Name | Age | Sex | TestDate | Specimen | Result | Resistant | Intermediate | Sensitive |
|------|------|-----|-----|------------|----------|--------------------|-----------------------------|---------------|---|
| 1 | AA | 12 | M | 2022/01/02 | Sputum | Klebsiella species | Ciprofloxacin | Levofloxacin | Gentamicin, Amikacin, Cefotaxime, Meropenem |
| 2 | BB | 15 | F | 2022/01/02 | Urine | E. coli | Ampicillin, Cefotaxime | Ciprofloxacin | Gentamicin, Amikacin, Meropenem, Levofloxacin |
| 3 | CC | 24 | F | 2022/01/02 | Blood | No growth | | | |
| 4 | DD | 30 | M | 2022/01/03 | Urine | E. coli | Ciprofloxacin, Levofloxacin | Gentamicin | Ampicillin, Cefotaxime, Amikacin, Meropenem |



After ODX Cleansing

| S.N. | Name | Age | Sex | TestDate | Specimen | Result | Ampicillin | Ciprofloxacin | Levofloxacin | Gentamicin | Amikacin | Cefotaxime | Meropenem |
|------|------|-----|-----|------------|----------|--------------------|------------|---------------|--------------|------------|----------|------------|-----------|
| 1 | AA | 12 | M | 2022/01/02 | Sputum | Klebsiella species | | R | I | S | S | S | S |
| 2 | BB | 15 | F | 2022/01/02 | Urine | E. coli | R | I | S | S | S | R | S |
| 3 | CC | 24 | F | 2022/01/02 | Blood | No growth | | | | | | | |
| 4 | DD | 30 | M | 2022/01/03 | Urine | E. coli | S | R | R | I | S | S | S |

Note: In addition to spelling errors and automatic correction, a further useful feature of ODX is that it breaks down comma separated values of “antibiotics”, submitted in separate “resistant”, “sensitive”, and “intermediate” columns, and creates a new column for each antibiotic with a specific antibiotic susceptibility test (AST) result and incorporates the values “R” for “resistant”, “S” for “sensitive”, and “I” for “intermediate” in the respective antibiotics columns.