**Supplementary Information**

Table 1 – Questionnaire for the assessment of institutional capacity to enhance appropriate antimicrobial use (adapted from (1-3)

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| **PPS Antibiotic Utilization Study in Botswana** | | **HOSPITAL CODE:** | |
| No. | (Answer "Yes" or "No" and provide simple counts to the questions below) | | Responses |
| 1 | Does your facility have a formal ASP accountable for ensuring appropriate antimicrobial use? | |  |
| 2 | Does your facility have a formal organizational structure responsible for ASPs? | |  |
| 3 | Is an antimicrobial stewardship team available at your facility? | |  |
| 4 | Is there a physician identified as a leader for antimicrobial stewardship activities at your facility? | |  |
|  | If no who is providing the leadership? | |  |
| 5 | Is there a microbiologist accessible from your facility? | |  |
| 6 | Is there a pharmacist responsible for ensuring appropriate antimicrobial use at your facility? | |  |
| 7 | Does your facility provide any financial support for dedicated time for antimicrobial stewardship activities? | |  |
| 8 | Does your facility have IT capability to support the needs of the antimicrobial stewardship activities? | |  |
| 9 | Is there a microbiology division functioning in lab? | |  |
| 10 | What is the total number of culture tests conducted in the past 3 months in your facility? | |  |
| 11 | Was there a continuous supply of reagents for culture media available in the last 3 months in your facility? | |  |
| 12 | Number of days in the past 3 months when cultures could not be performed due to the unavailability of ingredients for preparing the culture media? | |  |
| 13 | Was there a continuous supply of Antibiotic Discs for conducting sensitivity tests made in the hospital in the last 3 months? | |  |
| 14 | Number of days when Sensitivity Tests could not be performed due to an unavailability of antibiotic discs in the last 3 months? | |  |
| 15 | Number of days when Sensitivity Tests could not be performed due to a breakdown of equipment in the past 3 months in your facility? | |  |
| 16 | Was the Botswana Antimicrobial Guidelines readily available in the wards in your facility? **(Can be electronic or hard copy)** | |  |
| 17 | Is there a functioning Infection Prevention & Control Committee in your hospital? | |  |
| 18 | Is there a functioning Drugs and Therapeutics Committee in your hospital? | |  |
| 19 | Was the current Botswana Essential Drug List June 2016 version available/accessible in the wards in your hospital? | |  |
| 20 | Does your facility have facility-specific treatment recommendations based on local antimicrobial susceptibility to assist with antimicrobial selection for common clinical conditions? | |  |
| 21 | Does your facility have a written policy that requires prescribers to document an indication in the medical record or during order entry for all antimicrobial prescriptions? | |  |
| 22 | Is it routine practice for specified antimicrobial agents to be approved by a physician or pharmacist in your facility **(e.g. preauthorization)**? | |  |
| 23 | Is there a formal procedure for a physician, pharmacist, or other staff member to review the appropriateness of an antimicrobial at or after 48 hours from the initial order **(e.g. post-prescription review)**? | |  |
| 24 | Were the antimicrobial guidelines used in the wards to help with empiric decision making (building on question 16)? | |  |
| 25 | Was there a current antibiogram available in the hospital **(with data from last 12 months)**? | |  |
| 26 | Was there any continuing education provided to prescribers on local antimicrobial resistance patterns to improve decision making in the past 12 months? | |  |
| 27 | Has your facility produced a cumulative antimicrobial susceptibility report in the past year? | |  |
| 28 | Does your facility monitor if the indication is captured in the medical record for all antimicrobial prescriptions? | |  |
| 29 | Does your facility audit or review surgical antimicrobial prophylaxis choice and duration? | |  |
| 30 | Are results of antimicrobial audits or reviews communicated directly with the prescribers? | |  |
| 31 | Does your facility regularly monitor antimicrobial use by grams (Defined Daily Dose [DDD]) or counts (Days of Therapy [DOT]) of antimicrobial(s) by patients per days? | |  |
| 32 | Has an annual report focused on antimicrobial stewardship been produced for your facility in the past year? | |  |

NB: ASPs = Antimicrobial stewardship programmes

1. Massele A, Tiroyakgosi C, Matome M, Desta A, Muller A, Paramadhas BD, et al. Research activities to improve the utilization of antibiotics in Africa. Expert review of pharmacoeconomics & outcomes research. 2017;17(1):1-4.

2. ECDC. Point prevalence survey of healthcare-associated infections and antimicrobial use in European acute care hospitals. Available at URL: <http://ecdc.europa.eu/en/publications/Publications/PPS-HAI-antimicrobial-use-EU-acute-care-hospitals-V5-3.pdf>

3. Versporten A, Zarb P, Caniaux I, Gros MF, Drapier N, Miller M, et al. Antimicrobial consumption and resistance in adult hospital inpatients in 53 countries: results of an internet-based global point prevalence survey. The Lancet Global health. 2018;6(6):e619-e29.