

AMR COP Session, 16th December 2022 Presentation Q&A

Question	Responses
The sample size is too small for credible extrapolation of results (esp on AST results). Did the team enrol all patients in the study period or some were left out?	<p>Agreed – The CLSI guidelines recommend using at least 30 isolates and above for making inferences.</p> <p>The laboratory in question is still being supported to provide routine AST and to generate more data – the results provided are what was available at the time the study was conducted, and we hope to continue to collect this data periodically to inform IPC and AMS activities.</p>
Regarding the isolated strains, You did not isolate any <i>Bacillus cereus</i> ? or you did, but considered them as contaminants?	Based on results obtained by the lab, <i>Bacillus cereus</i> was not isolated by the Lab.
what were your inclusion and exclusion criteria?	The quantitative component included bacteriology lab data of adult patients who underwent Bellwether procedures, were admitted to Medical/Surgical or Obstetric/Gynecological departments of JJ Dossen Memorial Hospital (JJDMH), with suspected SSI, and whose swabs were submitted to the laboratory between the 1st January and 31st December 2021. This study excluded lab data from patients outside JJDMH, pediatric patients, or patients with other types of infections.
Which method did you use in susceptibility testing?	The standard Kirby-Bauer disk diffusion method was used for antibiotic susceptibility testing (AST).
How do you measure ‘understanding?’ of IPC measures?	Our study did not measure ‘understanding’ of IPC measures. We only analyzed qualitative data for physicians, nurses, and midwives who are actively involved in performing Bellwether surgical procedures and managing postoperative patients at JJDMH. Their perceptions collapsed into three overarching themes: Concerns about AMR, IPC & AMS practices to prevent the spread of SSIs.
Did you assess the awareness of HCW’s on the relationship between IPC and AMR? if yes, what is their level of understanding?	No. This was not part of our study objectives. We only analyzed qualitative data for physicians, nurses, and midwives who are actively involved in performing Bellwether surgical procedures and managing postoperative patients at JJDMH. Their perceptions collapsed into three overarching themes: Concerns about AMR, IPC & AMS practices to prevent the spread of SSIs.
Does your Laboratory use panel definition for Antimicrobial susceptibility testing? How does your Laboratory Calibrate inoculum?	<p>Not very clear what you meant by “panel definition for AST”; however, we used ATCC strains of major bacteria as recommended by EUCAST guidelines.</p> <p>We use 0.5 MacFarland as standard inoculum for AST, equivalent to 10⁶ bacteria.</p>

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<p>did you also explore antibiotic use habits for patients (self medication from private pharmacy, sharing medications , stop medications when symptoms disappear) as confounding factor for AMR?</p>	<p>No. This was not part of our study objectives. However, it is a good idea to assess antibiotic use practices in future studies.</p>
<p>You have an antibiotic stewardship programme in your hospital. Can you briefly share your experience setting it up, the benefits, and what are the basic requirements to set it up in a small to medium hospitals/health centres common in many parts of Africa</p>	<p>AMS help clinicians improve clinical outcomes and minimize harms by improving antimicrobial prescribing and use.</p> <p>Below are the main steps we followed to establish the AMS program:</p> <ol style="list-style-type: none"> 1) Stakeholder planning workshop to identified the five most important clinical conditions that should be the focus of the new AMS programme [i.e. skin and soft tissue infection (SSTI), meningitis, urinary tract infection (UTI), community-acquired pneumonia, surgical site infection]. These target diseases were agreed between stakeholders, government representatives and external advisors. 2) Establishing AMS committees: The AMS teams consisted of a pharmacist, nurse, physician, infection prevention and control practitioners, laboratory scientists, technicians and hospital administrators. 3) Implementing AMS interventions: The AMS programme focuses on three interventions: <ol style="list-style-type: none"> a) implementation of a local treatment guideline for antimicrobial therapy; b) training of prescribers and other clinicians and c) Conducting regular AMS ward rounds <p>For more details, you can read our recently published research paper</p> <p>https://doi.org/10.1093/jacamr/dlac049</p>
<p>I haven't seen any use of control organisms in the presentation</p>	<p>Assessing or describing laboratory procedures was not part of the study objectives. We collected data from the lab registry. However, the laboratory uses control organisms, ATCC reference strains, in their bacterial identification and AST procedures.</p>
<p>Is the lab enrolled to an EQA program which adds confidence on their competency in isolating listed micro-organisms?</p>	<p>Not yet. However, ATCC strains are included to validate their tests and procedures.</p>
<p>What would you say are the sources of these organisms? Are the patients colonized by these organisms prior to admission or they acquire them</p>	<p>These bacteria were isolated from clinical samples (wound swabs) submitted to the Lab for the investigation of suspected primary SSI. Our study did not specifically</p>

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<p>during admission? At what time are these samples analyzed?</p>	<p>look at community acquired vs hospital acquired infections in these patents.</p>
<p>Why is the majority of SSIs and multi-drug antimicrobial resistance is caused by gram negative bacteria, and not gram positive or in equal measure?</p>	<p>From our study findings, 22 pathogens were identified, and ~73% were gram-negative. Generally and from the literature, Gram negative pathogenic bacteria are more common causes of SSIs than Gram positive bacteria.</p>
<p>how did you ensure the isolates processed were true pathogens or colonizers?</p>	<p>Specimens analyzed in this study were from patients suspected of having an acute bacterial infection, SSI. Hence, the isolates are more likely to be true pathogens rather than colonizers.</p>
<p>if i understand well, out 435 participants 20(~5%) exhibited a suspicion of infection amongst which 8 (40%) were carbapenem resistance. Please what can explain that resistance? Is <i>Acinetobacter calcoaceticus</i> a pathogens in wound? <i>Acinetobacter baumannii</i> is known even by WHO as a threat to public health.</p>	<p>Overall, among 435 patient encounters that underwent Bellwether surgical procedures at JJDMH during the study period, 20(4.6%) had suspected surgical site infection (SSI) and swabs were sent to the bacteriology laboratory for testing. Of these (20), 18 (90.0%) had bacteriologically-confirmed SSI. Of the 18 swabs with bacteriologically confirmed SSI, 14 (77.8%) had single culture growth while 4 (22.2%) had two distinct pathogens identified, resulting in a total of 22 pathogens isolated.</p> <p>According to our findings, resistance profiles among CRE were : 6/8 (75.0) for <i>Acinetobacter calcoaceticus</i>; 1(25.0) for <i>Escherichia coli</i> ; 0/2(0.0) for <i>Pseudomonas aeruginosa</i>; 1/1(100.0) for <i>Klebsiella pneumoniae</i> (n=1); 0(0.0) for <i>Burkholderia cepacia</i>. Hence, the Overall resistance rate was 40%.</p> <p>The data indicates high carbapenem resistance but we recognize that our sample size was small – we will continue to monitor this and add on more data to see if the trend remains the same.</p> <p><i>Acinetobacter calcoaceticus</i> was identified in some samples analyzed by the lab – need for more samples/isolates to confirm any new trend.</p>
<p>were there other samples taken apart from pus swabs?</p>	<p>No. All samples were wound swabs from suspected SSI.</p>
<p>How does data from your hospital fit into Liberia national health data</p>	<p>We analyzed data from a small sample at a single hospital. This sample included all SSIs from Bellwether procedures sent to J.J. Dossen memorial Hospital (JJDMH) for testing in 2021, but this may not represent all SSIs at the hospital. While our specific findings might not represent antibiotic resistance patterns across Liberia, it certainly highlights the concerns about the presence of AMR in the country. Future studies should assess antibiotic resistance profiles in other county hospitals to</p>

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	<p>determine the burden and resistance patterns at the national level.</p> <p>Overall AMR data from our hospital (JJDH) is fed into the Liberia’s AMR data for analysis at the MOH/national level and submission to the international GLASS AMR database</p>
<p>how can multiple drug resistance bacteria be treated?</p>	<p>This will usually require more expensive antibiotic options that are broad spectrum and can kill or limit the growth of the MDR bacteria – the challenge is that these options are not always available at times in the health facilities owing to supply chain and financial aspects</p> <p>A specific example is treatment of MDR-TB. treatment for drug-resistant TB can take up to two years, and is so complex, expensive, and toxic that many patients are unable to access treatment.</p> <p>A good bacteriological laboratory is required to perform standard bacterial culture and AST to guide treatment</p>
<p>Please what was the outcome of those 18 patients at the end of the process?</p>	<p>Of 18 swabs with bacteriologically confirmed surgical site infections, 14 (77.8%) had single culture growth while 4 (22.2%) had two distinct pathogens identified each, resulting in a total of 22 pathogens isolated.</p>
<p>In the use of Hospital registers for data, how did you solve the issues standardization of the bench?</p>	<p>Use of approved SOPs, recommended quality controls (QC), and ATCC reference strains ensure our laboratory procedures are standard and reliable.</p>