



**Fourth Training Workshop and Symposium MURIA Group in conjunction with ISPE 18 – 21
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University of Namibia, Windhoek**

Theme: Medicine utilisation research in Africa influencing patient care and policy

Title: Development of a web-based application to improve data collection for antimicrobial point prevalence surveys in the public health care system in South Africa; findings and implications

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Background: Surveillance of antimicrobial use is one of the main recommended strategies in combating growing antimicrobial resistance (AMR) rates and a key part of developing pertinent policies and initiatives to reduce growing AMR rates in South Africa and wider. However, determining antimicrobial utilisation at a patient-level among public hospitals in South Africa can be a challenge given personnel and resource constraints. There are also currently no standardized data collection tools. Most countries in Africa currently undertake antimicrobial utilisation surveillance using paper-based data collection tools including point prevalence surveys (PPS). Unfortunately, paper-based systems have disadvantages including the time taken to complete the forms and analyse the findings, increasing costs and manpower hurdles. Electronic tools offer many advantages including mobile and real time data collection and also the opportunity for rapid analytics.

Objectives: Develop and test a web-based application (APP) for future PPS studies to successfully address identified challenges.

Methods: A web based application (APP) was developed based on previous PPS in Botswana and South Africa using a paper-based data collection tool and tested during July 2017 in a leading public hospital in South Africa. The developed APP was also evaluated for data quality by measuring the number of errors, work flow, and time taken for the survey versus the previous paper-based system. User acceptance was also measured via a questionnaire to the data collectors.

Results: A total of 187 patients' files were surveyed in this leading hospital using the APP whilst also documenting the challenges and areas of improvement for the APP. The identified areas of improvement have now been incorporated into the revised APP for future studies. The data collectors agreed that surveying the patients' files took appreciably less time with the APP compared to the paper based tool, and should be used in the future. In addition, data analysis was hastened using the APP.

Conclusions: The APP development process has been successful and the APP is a potential tool for future PPS in South Africa and wider. The APP methodology is now being tested in new studies across South Africa to help instigate pertinent educational and other interventions to improve the future use of antimicrobials among public hospitals in South Africa.

