

## A One-Health approach to antibiotic stewardship in South Africa

The Global Antibiotic Resistance Partnership (GARP) published a comprehensive situation analysis on antibiotic resistance in South Africa (SA) as a series of articles in a special issue of the South African Medical Journal in 2011<sup>1</sup>. Antibiotic resistance was driven locally by many factors, many of which are associated with inappropriate antibiotic management and consumption. In addition, it was established that the regulatory environment, knowledge of health care workers and patient expectations all influence antibiotic use.

Subsequently, SA's consumption of antibiotics has markedly increased<sup>2,3</sup>. In response to this increase and to the rising prevalence of multi-drug resistant common bacterial infections in SA, an intersectorial One Health-based national strategic framework for antimicrobial resistance<sup>4</sup>, an implementation plan<sup>5</sup>, and a mechanism for the governance of stewardship at national, provincial, district, and hospital levels was developed<sup>6</sup>. The One-Health AMR strategic framework consists of several strategic objectives that are underpinned by key enablers. The goals of the strategy are to improve the appropriate use of antibiotics in human and animal health and to preserve their effectiveness into the future through the implementation of multi-modal antimicrobial stewardship programmes.

In this regard, several pivotal areas of research required to make evidence-based recommendations on the use of antibiotics in travel medicine were recently identified<sup>7</sup>. Data is accumulating on antibiotic resistance acquisition of colonic microbiota during international travel and effects of self-treatment that may lead to modifications of current therapeutic recommendations.<sup>7</sup> It is also evident that based on the knowledge, attitude and perceptions of antibiotic resistance amongst SA undergraduate medical students<sup>8</sup> as well as SA patients and primary care prescribers<sup>9</sup> that increasing student education, improving patient knowledge and awareness and tailoring prescriber interventions, respectively could positively influence antibiotic use behaviour.

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6. South African National Department of Health. Guidelines on implementation of the antimicrobial strategy in South Africa. One Health approach and governance. <http://www.health.gov.za/index.php/antimicrobial-resistance?download=2194:antimicrobialstewardship-guidelines-governance-june2017> (accessed 4<sup>th</sup> July 2018)

7. Dupont et al. *J Travel Med* 2017; **24**:S57-62

8. Brink et al. *SAMJ* 2017;107:357-358

9. Farley et al. *SAMJ* 2018 (In press)