1st South African Antibiotic Stewardship Programme (SAASP)

Working Group Meeting

12th February 2012, Radisson Blu Hotel, Sandton, Gauteng

Introduction

Decades of injudicious antibiotic prescribing and a disregard for basic infection control practice have left the international community facing a return to the age of untreatable bacterial infections, due to the emergence of pan-resistant Gram negative infections. The rise of extended spectrum beta-lactamase (ESBL)-producing- and subsequently carbapenemase-resistant strains has left colistin as the only antibiotic left in the armamentarium for these infections, an antibiotic from the 1960s with a high toxicity profile. The recent identification and subsequent spread of New Delhi Metallo-beta-lactamase-1 (NDM-1) and Klebsiella pneumonia carbapenemase (kpc)-producing strains of enterobacteriaceae signify the latest ‘super‐bugs’ to threaten public health. Experience in Gauteng suggests that the number of NDM-1 infections is rising rapidly, requiring increased use of colistin. Colistin resistance has already been reported, rendering such patients untreatable.

South Africa, like the rest of the international community, needs a strong, coordinated, and urgent response to this threat. Both clinical governance of antibiotic prescribing (antibiotic stewardship) through antibiotic stewardship programmes (ASP), and infection control practice must strengthened if we are to control the situation.

As a first step towards a coordinated response to antibiotic stewardship in South Africa, the Federation of Infectious Diseases Societies of Southern Africa (FIDSSA), the national and regional body representing infectious diseases physicians (adult and paediatric), clinical microbiologists and infection control practitioners, along with key stakeholders convened the 1st South African Antibiotic Stewardship Programme (SAASP) conference on 11th February 2012. Two hundred public and private sector stakeholders participated in a dynamic conference studying international experience with ASPs, a situational analysis of South African antibiotic use and resistance rates, and current ASPs in the public and private sectors.

On day 2 of the conference, a working group made up of key representatives from infectious diseases, clinical microbiology, infection control, pharmacy and directors of medical schemes met as an expert panel to decide on the way forward for the SAASP in the short to medium term. The following report highlights the goals, structures, priorities for change and short-term audits to effect change that need to be undertaken by the working group and identified stakeholders.

The conference and working group meeting was organized by FIDSSA and sponsored by an un‐restricted educational grant to FIDSSA from MSD. MSD had no input into the content of the conference or into its direction, which was
determined solely by FIDSSA. Sue McGuiness Communications and Event Management, FIDSSA’s conference organizers coordinated the meeting’s logistics.

**SAASP Working Group Participants**

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International Advisor

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ID-Pharmacist
Ohio State University, USA

Apologies

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Physician
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Dr Cloete Van Vuuren
Infectious Diseases
University of Bloemfontein

Dr Ivan Joubert
Intensive Care
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**Goals of the SAASP Working Group**

1. Provide leadership, advocacy for, and strengthening of, antibiotic stewardship in the public and private sectors in South Africa.

2. Direct appropriate training in antibiotic stewardship and coordinate dissemination of antibiotic stewardship information to all sectors of South Africa’s health care system and civil society. Engage with the Health Professions Council of South Africa to propose that antibiotic stewardship CPD becomes mandatory, as is the case for ethics.
3. Harmonize existing national antibiotic prescribing guidelines and develop guidelines for those infections not already covered, for adult and paediatric practice, incorporating principles of antibiotic stewardship and optimal diagnostic testing into one document.

4. Identify gaps in current knowledge and the necessary operational research/audit that will inform practice. Feedback the results of these studies to stakeholders, so as to implement change.

5. Engage with the National Department of Health and industry to address the economic issues and systemic obstacles surrounding antibiotic costs and stewardship.

Pathways for engagement of key stakeholders to effect change

Accepting that public and private sector healthcare presents different health structures and challenges, the working group resolved to engage the following key stakeholders:

1. In the private sector, a point person will be identified in each private health care group, who in turn will nominate a point person for contact in each private hospital or clinic.

2. In the public sector, key stakeholders identified as provincial DOH, CEOs of Hospitals and Deans of University departments of Health Science will be engaged with. Provincial working groups representing all these stakeholders, such as that already formed in KwaZulu Natal, will liaise with the SAASP working group to effect change.

3. The co-chairs of SAASP working group will approach the National Department of Health (DOH) to invite a representative to be part of the SAASP Working Group. This will give insight to the working group and facilitate engagement with NDOH in presenting a proposed national framework policy for antibiotic stewardship.

4. Professor Gous will coordinate engagement with pharmacists through the South African Society of Clinical Pharmacists, as the society’s chairman.

Above all, ASPs must operate at the institutional level and this requires institutional buy-in from the start.

National Antibiotic Stewardship Programme priorities for change

The following interventions were agreed on as priority areas to target for change in the short-medium term.
1. The appropriate use of microbiological diagnostic tests prior to initiation of antibiotics to allow de-escalation and rationalization of therapy. To define (as far as is possible), the source of the infection with monitoring of response at that source.

2. To decrease the overall consumption of antibiotics in South Africa, recognizing that all antibiotic prescribing predisposes to emergence of multi-drug resistance (MDR). Decreasing antibiotic exposure of patients protects against development of MDR bacteria.

3. To decrease the duration of antibiotic therapy, by setting clear evidence-based guidelines or where good evidence is not available, use expert opinion from within the SAASP working group to define optimal duration. Develop pharmacy systems to identify and block prolonged antibiotic duration.

4. Address inappropriate dosing of antibiotics, with specific relation to use of loading doses and weight-based dosing where evidence exists, and directing the correct use of therapeutic drug monitoring (TDM).

Priority start-up projects for implication across public and private sectors

1. Hang time: the time interval between prescription of an antibiotic and administration to the patient. Although considerable challenges exist in implementing this project in the public sector due to the almost total lack of documentation of time of prescription, public sector hospitals under the SASA guidelines have identified hang time as a key component to record.

2. A) Time from positivity of blood cultures in the lab to the administration of antibiotic or antifungal.

   B) Bug-drug match: Was the choice of antibiotic or antifungal appropriate to the bacteria or fungus identified?

3. IV to PO switch: the time taken between when a patient on iv antibiotics is adjudged to be able to take oral antibiotics, and the actual time that the patient receives their 1st oral dose. Use ciprofloxacin for this study.

4. Time to removal of indwelling intravascular catheter from cessation of intravenous antibiotic, taking into account requirement for iv fluids.

5. Number of patients in an ICU or other clinical unit on >4 antibiotics

6. Is the indication for antibiotic therapy documented in the notes?

7. How many patients on antibiotics had cultures taken? Were the cultures taken from the appropriate source?
8. Investigation of vancomycin dosing
   a. Was a loading dose given?
   b. Was the dose of vancomycin weight-based?
   c. Define the time to TDM.
   d. Define the time to Creatinine follow-up.

9. Investigation of aminoglycoside dosing – time to TDM and renal follow-up.

10. Number of days of urinary catheterization and time to removal of catheter once the indication for catheterization was no longer appropriate.

**International advisors and funding opportunities for SAASP**

The co-chairs of the SAASP working group nominated Dr Debbie Goff and Dr George Karam, both champions of antibiotic stewardship in the United States, and close collaborators on ASPs, as international advisors to SAASP. Dr Goff agreed to act in this regard, and Dr Karam will be invited by mail.

FIDSSA will engage with industry partners to levy un-restricted educational grants to support the work of the SAASP in delivering its goals.