

# Structure of Antimicrobial Stewardship Programs in Leading U.S. Hospitals

Derrick Nhan<sup>1</sup>, Eric Lentz<sup>1</sup>, Marilyn Steinberg<sup>2</sup>, Chaim Bell<sup>2,3,4</sup>, Andrew Morris<sup>2,3,4</sup>

<sup>1</sup> University of Toronto, ON | <sup>2</sup> Sinai Health System, Toronto, ON | <sup>3</sup> University Health Network, Toronto, ON | <sup>4</sup> Department of Medicine, University of Toronto, ON

## BACKGROUND

- Increasingly, healthcare systems struggle to deal with the burden of fighting infections that no longer respond to common antibiotic-based treatments.
- One strategy used to combat antibiotic resistance is the implementation of hospital-based Antimicrobial Stewardship Programs (ASP).
- Examination of ASP structure among the top U.S. hospitals may provide insight into which of the Infectious Diseases Society of America (IDSA) and the Society for Healthcare Epidemiology of America (SHEA) ASP recommendations are most efficacious.
- We administered an online survey to ASPs to the top rated hospitals in order to better understand their make-up.

## OBJECTIVES

- To better understand the prevalence, structure and practices of Antimicrobial Stewardship Programs (ASPs) in top U.S. hospitals.

## METHODS

- We distributed an on-line survey to appropriate ASP personnel at the top 50 U.S. hospitals by specialty as ranked by U.S. News
- Survey questions were based on the 2016 IDSA/SHEA guidelines and covered topics such as ASP structure, budget, membership, hospital support, intervention and optimization strategies, education, and demographic information
- Content validity, utility, clarity, and test-retest reliability were evaluated prior to distribution.
- Sites were contacted by telephone, followed by an email with the survey link, between August and November, 201

## RESULTS

- Response rate for all sites (adult and pediatric) was 51% (n=101/200 sites)
- 82% of all sites surveyed had an active ASP (83/101)
- Most hospitals had fairly mature ASPs, with 59% (n=47/80) in operation for > 5 years

**Table 1: Duration of ASPs**

How long has your ASP been active as of July 1st, 2016? (n = 80)	n	%
<1 year	4	5
1-3 years	14	18
3-5 years	15	19
>5 years	47	59

**Table 2: ASP Interventions**

Which of the following interventions to reduce inappropriate antimicrobial use does your ASP utilize? (n=74)	n	%
Prospective audit and feedback of antimicrobial prescriptions for the prescriber	65	88
Facility specific recommendations for specific infectious syndromes	65	88
Pre-authorization/formulary restrictions of antimicrobials	61	82
Antimicrobials restricted to ID physicians	52	70
Facility specific recommendations for common infectious syndromes	50	68
Antimicrobial stewardship program intervention in cases with high risk of C. Difficile	27	36
Antimicrobial time-outs	17	23

- The majority of hospitals report to a committee, rather than an individual, and most do not have a dedicated budget

**Table 3: Reporting Structure and Budget**

Does your ASP report to a committee or individual? (n=80)	n	%
Committee	68	85
Individual	8	10
Neither	4	5
Is there a budget dedicated solely to your ASP? (n=80)		
	n	%
No	42	53
Yes	38	48

## CONCLUSIONS

- Most leading U.S. hospitals with an ASP selectively implement IDSA and SHEA recommendations.
- The most widely implemented interventions and optimization strategies included prospective auditing of antimicrobial usage and promoting transition from intravenous to oral antibiotics.
- The least common intervention was antimicrobial time-outs.
- Despite the maturity of most of the ASPs, they still face major limitations.

For additional information please contact:  
 Andrew.Morris@sinaihealthsystem.ca