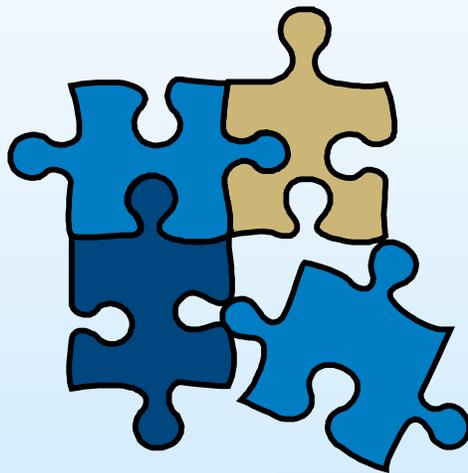


STRATEGIC PLAN 2013-2016



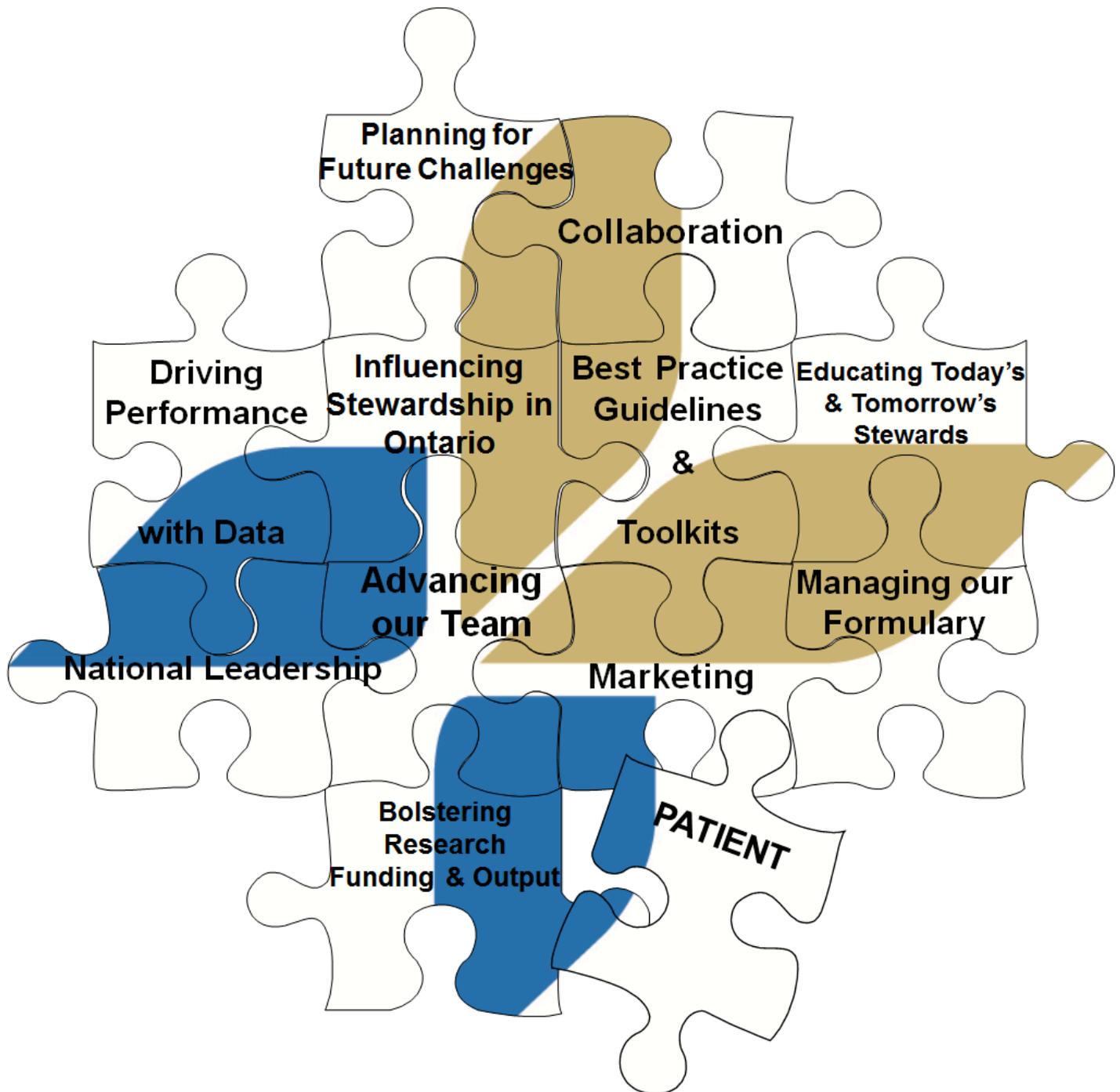
ANTIMICROBIAL STEWARDSHIP PROGRAM

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STRATEGIC PLAN: JULY 1, 2013-JUNE 30, 2016

Goals to achieve our vision of “getting every patient on the right antibiotics”



EXECUTIVE SUMMARY

The Mount Sinai Hospital-University Health Network Antimicrobial Stewardship Program (MSH-UHN ASP) developed this strategic plan to guide our program's management over the period July 2013 - June 2016 to achieve our goal of "getting every patient on the right antibiotics".

BACKGROUND

The MSH-UHN ASP is a multidisciplinary and collaborative program. The ASP uses innovative, evidence-informed practice in research, education and clinical practice to have local, national and global impact on the appropriate use of antimicrobials.

Funding

Initial funding was provided at MSH in November 2008 and UHN in May 2009. In December 2009, MSH signed an agreement with Pfizer Canada Inc, who donated \$1 million over 3 years, with the requirement to develop an educational website and materials to benefit antimicrobial stewardship efforts nationwide.

Antimicrobial Stewardship Program Team

As of July 2011, the MSH and UHN ASPs became functionally integrated as a combined team, which included cross coverage of services. The MSH-UHN ASP team is comprised of a Clinical Team, an Operational Team and a Research Team.

The Clinical Team is comprised of physicians and pharmacists. Physicians include Dr. Andrew Morris (Medical Director) and Drs. Susy Hota, Paul Bunce and Shahid Husain who have portions of their time dedicated for the ASP; pharmacists include Dr. Olavo Fernandes (Clinical Director), Ms. Monique Pitre, and Drs. Sandra Nelson, Linda Dresser, Kevin Duplisea and Miranda So. The Operational Team includes Ms. Tanaz Jivraj (project manager), Ms. Lopa Naik (database programmer), Ms. Melanie Thomson (data analyst), and Ms. Stephanie Olegario (administrative assistant). The Research Team consists of Ms. Marilyn Steinberg (research coordinator), Ms. Yoshiko Nakamachi (CAHO project manager), and Dr. Chaim Bell (research physician). Dr. Nisha Thampi, our current research fellow, plays roles with both the Clinical and Research Teams.

ASP Team Activities

Clinical: The ASP team provides prospective audit and feedback in several clinical areas, including: critical care (MSH, TWH, TGH ICUs; TGH CVICU; MSH NICU), leukemia service, general internal medicine (piloted until January 2013). The ASP team also collaborates with clinical teams on guidelines, algorithms and pathways. These include: c-section protocol, surgical prophylaxis, diagnosis and management of ventilator-associated pneumonia, emergency department-based management pathways (cellulitis, community-acquired pneumonia, urinary tract infections), and management of high-risk febrile neutropenia.

Research: The ASP team has initiated and collaborated on several research projects. There are several projects that have received research funding with team members as Principal Investigators.

Education: The ASP is active in hospital, university, regional and national educational initiatives to improve antimicrobial use. This includes education to hospital trainees and prescribers, supervisions of resident electives, and presentations across the province. The ASP formed the Toronto Antimicrobial Stewardship Corridor (TASC), a group of ASP physicians and pharmacists in the Greater Toronto Areas. As well, the ASP developed a course on antimicrobial stewardship held in June 2011, which attracted attendees from across Canada.

OVERSIGHT COMMITTEE

The MSH-UHN ASP reports to an oversight committee consisting of senior UHN leaders (Dr. Charlie Chan, VP, Medical Affairs; Mr. Scott McIntaggart, VP, Critical Care, Transplantation, and Surgical Services; and Dr. Olavo Fernandes, Director, Pharmacy Services) and senior MSH leaders (Dr. Maureen Shandling, VP-Medical; Dr. Gary Newton, Interim Physician-in-Chief; and Mr. Bill Wilson, Director, Pharmacy).

GUIDING PRINCIPLES

Guiding principles for the MSH-UHN Antimicrobial Stewardship Program include:

- ✦ *Complements and Collaborates*
- ✦ *Evidence-Informed Approaches to Decision Making*
- ✦ *Focuses on Effectiveness and Safety*
- ✦ *Considers Local Resistance*
- ✦ *Cost-Consciousness*
- ✦ *Communicates Results*

SWOT ANALYSIS

<p><u>Strengths:</u></p> <ul style="list-style-type: none"> ✦ Senior leadership support ✦ Team personnel ✦ Early successes 	<p><u>Opportunities and Threats:</u></p> <ul style="list-style-type: none"> ✦ Build and strengthen the ASP team ✦ Expanding the ASP team across MSH and UHN ✦ Research ✦ Building our brand ✦ External partnerships
<p><u>Weaknesses:</u></p> <ul style="list-style-type: none"> ✦ Less than optimal integration with Infectious Diseases, Microbiology and Infection (Prevention and) Control ✦ Lack of research ✦ Team cohesiveness 	

MAJOR GOALS

Major Goal	Description
Advancing Our Team	Our team is committed to working on our intra-team communication and strengthening our team through internal development and team building. To further advance the program, the team has identified the opportunity to involve nursing as a key player in optimizing the use of antimicrobials.
Driving Performance with Data	<p>The ASP uses data from a variety of databases to report in the quarterly report, as well as to support decision-making and research. Our goal is to ensure reliable, accurate data based on standardized methodology across all sites.</p> <p>The ASP's capacity to affect care is primarily limited by its inability to rapidly access patient-specific and aggregate information in a user-friendly manner.</p>

An application dedicated to the ASP that is integrated with other data sources would allow us to provide timely feedback to clinicians.

Best Practice Guidelines and Toolkits

The first phase in developing best practice guidelines is to create one-pager summaries to enhance consistency among the ASP team in our recommendations on antimicrobial use and management of common infectious syndromes. These summaries will then serve as a basis to develop guidelines with consultation and collaboration with various clinical and administrative stakeholders across MSH and UHN. Special attention will be paid to the immunocompromised patient (i.e. recipients of solid organ and stem cell transplantation, and those undergoing myeloablative chemotherapy).

Using our collective experience, the MSH-UHN ASP will develop toolkits and other practice guidelines that can be used internally or externally. These toolkits may include best practice guidelines, “how to” documents on developing, implementing, maintaining or expanding an ASP. Such toolkits and best practice guidelines will also enhance our profile and reach.

Bolstering Research Funding and Output

The MSH-UHN ASP vision involves taking a leadership role in antimicrobial stewardship research locally, provincially, nationally and internationally. The research objective is to conduct innovative world-class research through interventional studies, clinical trials, observational studies and surveys, focusing on our strengths: antimicrobial stewardship in critical care settings, antimicrobial stewardship in immunocompromised patients, antimicrobial management in sepsis, and *Staphylococcus aureus* bacteremia.

Educating Today’s and Tomorrow’s Stewards

The MSH-UHN ASP team plans on expanding existing and creating new educational initiatives to broaden the breadth and depth of antimicrobial stewardship knowledge locally, regionally and nationally.

Hospital: Education is embedded in all plans as the MSH-UHN ASP expands to work with other clinical areas.

University: Educational initiatives include creation and course coordination of an Antimicrobial Stewardship Elective at the Leslie Dan Faculty of Pharmacy, an ASP Fellowship program for physicians and pharmacists, and rotations for residents.

Regional: As part of the ARTIC Council of Academic Hospitals of Ontario (CAHO) Project, the MSH-UHN ASP team has developed educational modules for all participating Ontario academic hospitals.

National: The MSH-UHN ASP has developed an external website, which has been referenced and promoted by Accreditation Canada, in relation to the new Required Organizational Practice of Antimicrobial Stewardship. It is also regularly one of the top 5 visited websites for “antimicrobial stewardship” internationally. The MSH-UHN ASP is also planning another Antimicrobial Stewardship Course for June 2013, which will be based on the inaugural course our program held in June 2011.

Managing our Formulary

The ASP will be responsible for a transparent, effective and efficient process for managing all clinical aspects of the antimicrobial formularies at MSH and UHN. An Antimicrobial Advisory Committee will be re-instated to fulfill this role.

Marketing

Our MSH-UHN ASP is developing an internal marketing strategy to communicate our key message of “Getting patients the right antibiotics when they need them”. The focus will be to communicate the importance of antimicrobial stewardship as an essential patient safety and quality improvement initiative.

Collaboration

We collaborate with several external groups, including Baycrest, University of Toronto, Toronto-Central LHIN and the Toronto Antimicrobial Stewardship Corridor (TASC). TASC was formed and chaired by the MSH-UHN ASP. Over the next 3 years, we will enhance our collaboration with TASC and identify 2-3 new external groups to form partnerships with.

Planning for Future Challenges

Disaster/crisis planning is important for the ASP as we embed within several clinical areas across MSH and UHN and work collaboratively on patient safety and quality initiatives. The ASP will prepare a disaster plan, which will include communication to stakeholders, key messaging, and reduced ASP coverage.

Influencing Stewardship in Ontario and National Leadership

The Council of Academic Hospital of Ontario (CAHO) awarded funds to the MSH-UHN ASP to lead the implementation of ASPs in Intensive Care Units in Ontario’s academic hospitals. We plan on leveraging our current partnership with CAHO to explore new provincial opportunities.

The MSH-UHN ASP has also partnered with Critical Care Services Ontario (CCSO), for the addition of three new antimicrobial indicators in the Critical Care Information System (CCIS).

Going forward, MSH-UHN ASP is looking to develop on-line educational tools for pharmacists in the community, through partnerships with CCSO and the Ontario Hospital Association; establish a model whereby ASP clinical expertise is provided to community hospitals by leveraging expertise developed in academic hospitals as a result of the CAHO project; and submit a research proposal to CCSO to use CCIS data. The MSH-UHN ASP would be the first program to have access to the CCIS data for research purposes.

Evaluation

The MSH-UHN ASP evaluation plan includes both an evaluation of the program, as well as internal personalized evaluation of team members.

The MSH-UHN ASP regularly evaluates progress on initiatives across MSH and UHN through the quarterly reports and reporting to the Oversight Committee. Data is measured on an ongoing basis and regularly provided to clinical and non-clinical stakeholders involved in the various initiatives across MSH and UHN.

The MSH-UHN ASP is developing an evaluation plan for team members to self-evaluate and to identify personal development goals. The informative evaluation is aimed at inspiring individual and team development. Regular evaluations will help build a culture of ongoing responsiveness and accountability for the team.

1. INTRODUCTION

The Mount Sinai Hospital-University Health Network Antimicrobial Stewardship Program (MSH-UHN ASP) developed this strategic plan to provide a detailed approach to the program management over the period July 2013 – June 2016.

Questions or comments can be forwarded to:

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2. BACKGROUND

2.1 FUNDING AND STRUCTURE

An initial proposal for introducing an Antimicrobial Stewardship Program (ASP) to Mount Sinai Hospital and University Health Network was presented in August 2008, with subsequent business plans submitted in October 2008 (Mount Sinai Hospital) and December 2008 (University Health Network). This was developed from early work at UHN as part of the High Cost Utilization Committee, which included developing a protocol for optimizing antimicrobial treatment of ventilator-associated pneumonia using clinical decision support with the electronic medical record.

Mount Sinai Hospital

Funding for the MSH ASP initially provided for a physician (0.2 FTE) and a dedicated ASP Pharmacist (1.0 FTE: Sandra Nelson, already hired as an infectious diseases pharmacist) commencing November 2008. A 0.5 FTE project manager (to be shared with the Office of Quality and Performance Measurement), Tanaz Jivraj, was assigned to the MSH ASP Team. A health records specialist/data analyst (to be shared with other departments, with 0.5 FTE dedicated time to ASP) was also hired. At this time the MSH ASP reported to an oversight committee consisting of Drs. Conrad Liles (Division Director, Infectious Diseases), Maureen Shandling (VP-Medical), and Tom Stewart (Head, Critical Care). The MSH ASP did not have a set funding structure or have an operational budget other than salary support.

University Health Network

Funding for the UHN ASP was secured in May 2009. Initially, the UHN ASP included 2 pharmacists (Linda Dresser and Amita Woods), a database analyst/programmer (Lopa Naik), and a project manager (Lucas Thung). Support for a 0.5 FTE ASP physician (James Brunton) was also provided. Andrew Morris was appointed the Director of the UHN ASP. Drs. Brunton and Woods dedicated their time to an Outpatient

Antimicrobial Therapy (OPAT) Clinic, and Lopa Naik's first major project was creating an OPAT clinic database.

Oversight of the two ASPs joined and was provided by a committee that included Mr. Scott McIntaggart (VP Critical Care, Transplantation, and Surgical Services, UHN), Ms. Monique Pitre (Manager, Pharmacy Clinical Informatics, UHN), and Mr. Bill Wilson (Director, Pharmacy, MSH) in addition to Drs. Liles, Shandling and Stewart. Additionally, the UHN ASP reported quarterly to the UHN Pharmacy & Therapeutics Committee, through Dr. Liles as the Chair of the Antimicrobial Advisory Committee.

Funding and structure of the UHN ASP changed considerably in April 2011 with a shift to focus solely on inpatient services. The pharmacy and physician positions dedicated to OPAT were transitioned to inpatient positions. Additional funding was also provided for two new pharmacist positions and an additional approximately 1.0 FTE physician position (to be divided among several physicians). Plans were made to have the UHN ASP team members share space with Infection Prevention and Control (IPAC).

Combined MSH-UHN ASP

As of July 2011 the MSH and UHN ASPs became functionally integrated (e.g. combined team meetings, cross coverage of services).

Pfizer Canada Donation

In December 2009, Mount Sinai Hospital signed an agreement with Pfizer Canada Inc. Pfizer graciously donated \$1 million over the course of 3 years to Mount Sinai Hospital. The MSH ASP would henceforth be referred to as the Mount Sinai Hospital Antimicrobial Stewardship Program with support from Pfizer Canada.

The agreement with Pfizer Canada (to expire December 2012) made two primary requirements of the MSH ASP: 1. Develop an educational website that would benefit antimicrobial stewardship efforts nationwide, and 2. Develop educational materials (e.g. toolkits) that could be used by hospitals throughout Canada to improve antimicrobial use. None of the money provided by Pfizer would be used to support clinical activities of the MSH ASP.

The Pfizer donation was used to hire a Research Pharmacist (Dr. Lisa Burry) for a short period of time. Dr. Burry was incredibly productive, and helped the ASP obtain a Physicians' Services Incorporated (PSI) Foundation grant for studying ASPs in Intensive Care Units (ICUs), but chose to return to dedicate more of her time to clinical work. More recently Marilyn Steinberg was hired as the ASP Research Coordinator.

Current Team Complement (see Organization Chart in Appendix)

The MSH-UHN ASP is comprised of a Clinical Team, an Operational Team, and a Research Team.

Clinical Team: There are 4 ASP Physicians on the team. **Dr. Andrew Morris** is 0.6 FTE, and is the Medical Director. He is responsible for the overall medical/clinical operation of the ASP, and reports directly to the Oversight Committee. **Drs. Susy Hota, Paul Bunce** and **Shahid Husain** are 0.2 FTE each. In relation to the functioning of the ASP, they report to Dr. Morris, although they have distinct reporting structures for their non-ASP work. Funding for Dr. Morris comes from both hospitals (from a variety of account sources). Funding for Dr. Hota is provided in-kind as part of her position with Infection Prevention

and Control at UHN; funding for Drs. Bunce and Husain come from a variety of sources at UHN.

There are 5 Pharmacists on the team. **Dr. Olavo Fernandes** is the Clinical Director of the Program, and provides his approximately 0.2 FTE to the program in-kind as part of his role of Clinical Director of Pharmacy, UHN. There are 4 ASP Pharmacists. **Dr. Sandra Nelson** is based at MSH and reports to the MSH Pharmacy Director (Bill Wilson). **Drs. Linda Dresser** (0.75 FTE), **Kevin Duplisea**, and **Miranda So** are based at UHN, and report to **Ms. Monique Pitre**, Manager of Pharmacy Informatics, UHN. Funding for the UHN pharmacists come from the UHN ASP operational budget. Funding for the MSH pharmacist comes from the Pharmacy Department, MSH.

Operational Team: The Operational Team consists of a project manager, database programmer, data analyst and administrative assistant.

Project Management: **Ms. Tanaz Jivraj** (MSH, 0.5 FTE) is the project manager. She is responsible for overseeing all projects for the MSH-UHN ASP. Funding from Ms. Jivraj comes from the Office of Quality and Performance Measurement, MSH. In relation to the functioning of the ASP, she reports to Dr. Morris.

Database Programmer: **Ms. Lopa Naik** (UHN, 1.0 FTE) is the MSH-UHN ASP DB programmer. She currently reports to Ms. Pitre. Funding for Ms. Naik comes from the UHN ASP operational budget.

Data Analyst: **Ms. Melanie Thomson** (MSH, 0.5 FTE) is the MSH-UHN ASP data analyst. Funding for Ms. Thomson comes from the Office of Quality and Performance Measurement, MSH.

Administrative Assistant: **Ms. Stephanie Olegario** (UHN, 1.0 FTE) is the MSH-UHN ASP administrative assistant. Funding for Ms. Olegario comes from the UHN ASP operational budget.

Research Team: The Research Team consists of a research coordinator, a project manager, a research physician, and research fellow. These positions are supported by non-hospital sources (e.g. grants).

Research Coordinator: **Ms. Marilyn Steinberg** (MSH, 1.0 FTE) is responsible for the coordination of all research activities of the ASP, from research idea conceptualization, to grant application, to publication and dissemination of research results. She is currently on a 1-year contract. She reports to both Drs. Chaim Bell and Andrew Morris.

CAHO Project Manager: **Ms. Yoshiko Nakamachi** (MSH, 1.0 FTE) is responsible for all aspects of the Council of Academic Hospitals of Ontario (CAHO) project. Although she liaises primarily with individuals and groups outside of MSH and UHN, the success of the CAHO project is largely dependent on the MSH-UHN ASP team, and so she interfaces with them. She is currently on a 27-month contract supported by a CAHO grant until project completion, which is scheduled for March 2014. She works closely with both Ms. Jivraj and Ms. Steinberg. She reports to Dr. Morris.

Research Physician: Dr. Chaim Bell (MSH, 0.3 FTE) is responsible for developing a research agenda, and guiding the research mission of the MSH-UHN ASP, including ensuring the quality of grant applications, research projects, and abstract/manuscript preparation. In relation to his ASP work, he reports to Dr. Morris. He is supported by ASP Research and Education funds.

Research Fellow: Dr. Nisha Thampi has started her 2-year research fellowship. She spends 50% of her time performing ASP-related research. The remainder of her time is spent in either quality improvement learning (she is participating in the VA Quality Scholars Program, run by Dr. Bell) or in apprentice-style learning. She reports directly to Drs. Morris and Bell.

2.2 ASP TEAM ACTIVITIES

Clinical

Prospective Audit and Feedback

Prospective audit and feedback with one or more members of the ASP providing direct, personalized guidance and feedback on antimicrobial management to members of the prescribing team, has been the main clinical intervention.

Audit and feedback has been provided in the following areas (start dates in parentheses):

Critical care: Mount Sinai Hospital (February 2009), Toronto Western Hospital (December 2009), Toronto General Hospital - Medical/Surgical (October 2010), Toronto General Hospital - Cardiovascular (October 2012), and Mount Sinai Hospital Neonatal ICU (October 2012).

General Surgery: Mount Sinai Hospital (March 2010, currently on hold)

Leukemia Service: Princess Margaret Hospital (March 2010, with interruption August-December 2010)

General Internal Medicine: Piloted Spring 2012 at MSH, TGH and TWH. Pilot continued at MSH and TWH through to January 2013. (Revised plans under development, based on pilot review)

Guidelines, Algorithms and Pathways

Obstetrics (November 2009) – a new C-section protocol was put in place at Mount Sinai Hospital. Working with the Obstetrical Team, the MSH ASP worked to improve obstetrical infectious morbidity by changing a) surgical preparation (from iodine-based to chlorhexidine-based), b) surgical prophylaxis choice (focusing on improving use of cefazolin and, if allergic, using vancomycin), and c) timing of prophylaxis (changing from post-cord-clamping to pre-incision).

Surgical Prophylaxis (April 2010) – new guidelines for surgical prophylaxis were introduced at University Health Network, focusing on appropriate timing and dosing of antimicrobials, assessment of beta-lactam allergy, and the use of vancomycin in cefazolin-allergic patients. At MSH, surgical prophylaxis guidelines are currently being developed. A retrospective chart review has been undertaken to better understand current practices.

Ventilator-Associated Pneumonia (November 2011) – a new algorithm guiding the investigation and management of VAP was developed in a multidisciplinary manner. It was implemented at MSH ICU in November 2011, TGH ICU in June 2012, TWH ICU in July 2012 and TGH CVICU in October 2012.

Emergency Department-based Pathways (Cellulitis, Community-acquired Pneumonia, Urinary Tract Infection) – the pneumonia algorithm is completed, and work on knowledge translation is underway. These pathways have been developed in collaboration with Emergency Department clinicians from the Toronto Central LHIN. The cellulitis and urinary tract infection algorithms are in progress.

High Risk Febrile Neutropenia Protocol (December 2012) – a comprehensive algorithm for the management of patients with febrile neutropenia was developed in collaboration with Malignant Haematology and Infectious Diseases. The UHN Pharmacy & Therapeutics Committee approved it in December 2012. It is currently being reviewed by UHN Healthcare Human Factors Team to improve usability.

Research

The ASP team has initiated and collaborated with several research projects. There are several projects that have received research funding with team members as Principal Investigator:

Use of a structured panel process to define quality metrics for antimicrobial stewardship programs. (Funding agency: Canadian Institutes of Health Research – Meeting Grant. Amount: \$19 000): This project developed metrics for evaluating the process and outcomes of antimicrobial stewardship efforts. Publication: **Morris AM**, Brener S, **Dresser L**, Daneman N, Dellit TH, Avdic E, et al. Use of a structured panel process to define quality metrics for antimicrobial stewardship programs. *Infect Control Hosp Epidemiol.* 2012;**33**:500-6.

The effect of antimicrobial stewardship programs on antimicrobial use in intensive care units: A prospective, stepped wedge study. (Funding agency: Physicians' Services Incorporated. Amount \$20 000): This project is evaluating the team's clinical work in the 3 medical-surgical ICUs. The manuscript is currently in preparation, with an anticipated submission date of May 2013.

Early results and lessons learned from Ontario's roll-out of antimicrobial stewardship programs. (Funding agency: Canadian Institutes of Health Research. Amount: \$24,000. Duration: 1 year.)

Introduction of antimicrobial stewardship programs in academic hospital intensive care units in Ontario. (Funding agency: Council of Academic Hospitals of Ontario, Ministry of Health and Long-Term Care. Amount: \$841 000. Duration: 2 years.)

Developing and evaluating an educational intervention to guide in the implementation of antimicrobial stewardship programs in community hospitals across Ontario (Funding agency: Canadian Society for Hospital Pharmacists. Amount: \$10 125. Duration: 1 year.)

Development of an antimicrobial resistance diversity index (ARDI) to guide initiatives and investment in public health, antimicrobial stewardship and infection control. (Funding agency: Canadian Institutes of Health Research and National Science and Engineering Research Council. Amount: \$399 000. Duration: 3 years.)

A National Survey of Critical Care Physicians' Knowledge, Attitudes and Perceptions of Antimicrobial Stewardship Programs – a survey of Intensive Care Physicians across Canada to better understand their attitudes towards ASPs. (Funding Agency: Canadian Critical Care Trials Group. Amount: \$2 500. Duration: 1 year.)

Additional (unfunded) research projects:

Effect of an antimicrobial stewardship program in the ICU on the management of positive sterile- and non-sterile-site cultures in intensive care unit patients. Publication: Katsios CM, **Burry L**, **Nelson S**, **Jivraj T**,

Lapinsky SE, Wax RS, et al. An antimicrobial stewardship program improves antimicrobial treatment by culture site and the quality of antimicrobial prescribing in critically ill patients. *Crit Care*. 2012;**16**:R216.

Retrospective, multi-site cohort study of *S. aureus* bacteraemia, focusing on duration of therapy, echocardiography, and patient outcomes. (Approximately 1200 patients. Data collection complete.)

Retrospective, cohort study of the relationship between diagnostic imaging, the utilization of antifungal therapy, and patient outcome in patients undergoing induction chemotherapy for acute leukemia. (Approximately 200 patients. Data collection 90% complete.)

Retrospective analysis of sepsis outcomes at MSH from April 1st, 2010 through March 31st, 2011 (Data collection complete. Manuscript in preparation.)

Education

The MSH-UHN ASP is active in hospital, university, regional, and national educational initiatives to improve antimicrobial use.

Hospital:

- ✦ Bi-monthly presentation to new ICU trainees at Mount Sinai Hospital
- ✦ Quarterly educational sessions with general surgery trainees at Mount Sinai Hospital
- ✦ Weekly ASP education rounds in the ICU at Toronto Western Hospital
- ✦ Collaborative education sessions with Infectious Disease for general internal medicine trainees
- ✦ ASP pharmacist is present daily with the Tri-Hospital Infectious Diseases Consultation Service to provide education and support

University:

- ✦ Academic half-day teaching for adult infectious diseases and medical microbiology residents
- ✦ Supervision of adult and pediatric infectious diseases resident electives
- ✦ Supervision and mentorship of pharmacy residents, and students
- ✦ Lectures on antimicrobial use/stewardship to undergraduate medical and pharmacy classes
- ✦ Development of knowledge translation materials for the Best Practices in General Surgery (BPiGS) program at the University of Toronto

Regional:

- ✦ Talks to local (hospital-based) physician groups on antimicrobial stewardship
- ✦ Presentations to the Ontario Hospital Association, Canadian Society of Pharmacists-Ontario branch
- ✦ Formed and Chairs of the Toronto Antimicrobial Stewardship Corridor (TASC), a group of ASP physicians and pharmacists in the Greater Toronto Area, which meets to discuss ASP related issues.
- ✦ Development of a full day, on-site training program at MSH-UHN for ASP pharmacists and physicians from Ontario Academic Hospitals
- ✦ University of Toronto Continuing Education and Professional Development accredited CAHO ASP Education Day: held in November 2012. Included attendees from across Ontario.

National:

- ✦ Presentation to Canadian Patient Safety Institute Annual Conference
- ✦ Presentation to Canadian Society of Hospital Pharmacists

- ✦ First Course on Antimicrobial Stewardship: held in June 2011. This was accredited by University of Toronto's Continuing Education and Professional Development. The course attracted attendees from across Canada and speakers from across North America, showcasing the MSH-UHN ASP.
- ✦ Second Course on Antimicrobial Stewardship: to be held June 2013 in collaboration with Continuing Professional Development at the Leslie Dan Faculty of Pharmacy.

3. OVERSIGHT, MANAGEMENT, AND CO-DEPENDENT RELATIONSHIPS

3.1 OVERSIGHT COMMITTEE

Oversight of the MSH-UHN ASP has changed over the past 4 years. Currently, Dr. Morris reports to an advisory committee consisting of two senior UHN leaders (Dr. Charlie Chan, VP, Medical Affairs; Mr. Scott McIntaggart, VP, Critical Care, Transplantation, and Surgical Services) and three senior MSH leaders (Dr. Maureen Shandling, VP-Medical; Dr. Gary Newton, Interim Physician-in-Chief; and Mr. Bill Wilson, Director, Pharmacy).

3.2 BOARD OF DIRECTORS

The MSH-UHN ASP reports annually to the Patient Safety and Quality Committee of the Board of Directors at MSH since its inception. The MSH-UHN ASP has presented to the Quality Committee of the Board of Directors at UHN this past fiscal year, and will be reporting annually to this committee.

3.3 INFECTIOUS DISEASES (ID) CONSULTATION SERVICES

Since the inception of the MSH-UHN ASP, there has been a dichotomous relationship with the Infectious Diseases consultation services. This is not too dissimilar from the manner in which Infection (Prevention and) Control operates at both Mount Sinai Hospital and University Health Network, whereby the day-to-day operations and decision-making is made relatively independently of input from members of the Infectious Diseases consultation service.

The MSH-UHN ASP team, when performing prospective audit and feedback, does not formally review patients followed by an ID consultation service. There is no participation from the ID consultation service during prospective audit and feedback, either. However, individual ID physicians, at their discretion, may on occasion attend ASP prospective audit and feedback rounds. The care provided by the ID consultation service is, at times, inconsistent with the principles of antimicrobial use promoted by the antimicrobial stewardship program.

For the development of guidelines, algorithms and clinical pathways, members of the Division of Infectious Diseases are routinely asked for input on draft documents.

Prior to January 2012, the ID Division Director sat on the MSH-UHN ASP Oversight Committee. Presently, there is no formal link between the MSH-UHN ASP and the new ID Division Director, Dr. Rupert Kaul.

3.4 MICROBIOLOGY

The MSH-UHN ASP relies heavily on the Microbiology Laboratory to provide a) patient-specific information, b) service-, ward-, or hospital-specific reports (e.g. susceptibility of organisms to various antimicrobials) to develop best-practices documents, and c) to provide reports that support the research agenda of the ASP. The main microbiology laboratory liaisons, who have provided the MSH-UHN ASP with tremendous support,

have been Mr. Ed Cudek (LIS officer), Ms. Nancy Beresford (LIS officer), and Dr. Sue Poutanen (microbiologist).

The MSH-UHN ASP does not have a formal relationship with the microbiology laboratory, however. There is no representation of the ASP on any of the microbiology laboratory committees, and there is no dedicated funding/functioning of the microbiology lab to support antimicrobial stewardship activities (unlike Infection Control at MSH and Infection Prevention and Control at UHN, who are considered to “share” the service).

3.5 INFECTION (PREVENTION AND) CONTROL PROGRAMS

The MSH-UHN ASP relies heavily on the respective hospital Infection (Prevention) and Control Programs.¹ IPAC programs serve to optimize patient health by reducing the acquisition and spread of pathogens, including antimicrobial-resistant pathogens. The work (and success) of the MSH-UHN ASP is largely dependent on the success of the IPAC programs: if fewer patients get infection, fewer patients will need antimicrobials. Further, if fewer patients acquire drug-resistant infections, fewer patients will require broad-spectrum antimicrobials. Conversely, the success of the IPAC programs is partially dependent on the success of the ASP, as the development and spread of pathogens within the hospital (especially *C. difficile*) is largely dependent on antimicrobial use.

The ASP does not have a formal relationship with the IPAC programs, even though the various programs work together on certain projects. The relationship with UHN IPAC has strengthened considerably with the addition of Dr. Susy Hota to the MSH-UHN ASP team. There are no shared resources with the IPAC programs, although the ASP team based at UHN shares office space with UHN IPAC.

3.6 PHARMACY SERVICES

The MSH-UHN ASP has maintained strong relationships with the Pharmacy Departments at both MSH and UHN through the close relationships between the ASP pharmacists and their colleagues. The presence of pharmacy leadership on the ASP Oversight Committee by Dr. Olavo Fernandes, Director of Pharmacy, UHN, and Bill Wilson, Director of Pharmacy, MSH has helped consolidate these relationships.

3.7 PHARMACY AND THERAPEUTICS COMMITTEES

When the MSH-UHN ASP was formed, the desire was to have the ASP function as the *de facto* Antimicrobial Advisory Committee (AAC) at both MSH and UHN. However, the UHN P&T Chair chose to have Dr. Conrad Liles chair a distinct AAC and report directly to Medical Advisory Committee. Since the inception of the MSH-UHN P&T, there were few AAC meetings; Dr. Liles would primarily present the ASP Quarterly Reports to P&T.

Coinciding with Dr. Liles’s departure from UHN in December 2011, two developments occurred: Dr. Morris now chairs the MSH P&T, and the UHN P&T recognizes the MSH-UHN ASP as the AAC.

However, gaps remain:

- ✦ There are no clear terms of reference for the ASP acting as the AAC.
- ✦ The ASP—as it functions in relation to advising P&T—does not maintain broad stakeholder input, but rather obtains it in an *ad hoc* manner.

¹ At Mount Sinai Hospital, the program is referred to as Infection Control, whereas at University Health Network it is referred to as Infection Prevention and Control. Hereon in, it will be referred to as IPAC.

4. MSH-UHN ASP TENETS

4.1 VISION

Getting every patient on the right antibiotics.

4.2 IDENTITY

The Mount Sinai Hospital-University Health Network Antimicrobial Stewardship Program is a multidisciplinary and collaborative program. It uses innovative, evidence-informed practice in research, education and clinical practice to have local, national and global impact on the appropriate use of antimicrobials.

4.3 GUIDING PRINCIPLES

Complements and Collaborates: The ASP complements the role of physicians specializing in infectious diseases, and clinical pharmacists. The ASP works in collaboration with IPAC and the Microbiology Laboratory. Other health care providers, such as nurses and respiratory therapists, can complement the work of the ASP. The ASP identifies and collaborates with stakeholders across MSH and UHN for interventions and studies it carries out.

Focuses on Effectiveness and Safety: Antimicrobial stewardship aims to optimize antimicrobial effectiveness while minimizing the potential for development of drug-resistance and adverse effects. The greatest risk of harm to patients relates to ineffective therapy (i.e. undertreating a severe or potentially severe infection.) The second greatest risk to patients is related to safety. Using antimicrobials when they are unnecessary, or choosing an antimicrobial regimen that is discordant with a patient's clinical illness exposes the patient to antimicrobial-resistant organisms and unnecessary drug toxicity.

Cost-Consciousness: Following the balance of effectiveness and safety, considerations of cost come into play. Because safe, effective treatment is almost always cost-effective, cost considerations should follow assessment of effectiveness and safety.

Evidence-Informed Approaches to Decision-Making: Demonstration of effectiveness and safety of antimicrobial therapy usually requires the combination of randomized clinical trials with intention-to-treat analyses (which demonstrate efficacy) and post-marketing surveillance (which demonstrates effectiveness and safety). Alternatively, quality improvement methodology can demonstrate both effectiveness and safety if appropriate primary endpoints are chosen.

Antimicrobial stewardship should not endorse any routine practices that do not satisfy the above principles of effectiveness and safety. Should there be a current practice that does not satisfy these principles when an alternative practice that does satisfy these principles is available, then the alternative practice should be adopted.

Should routine practices fail to satisfy these criteria and no alternative is available that satisfies these criteria, then either a quality improvement study (focusing on effectiveness and safety before and after changes are made) or a randomized controlled trial should be considered. Clinically meaningful endpoints for effectiveness and safety, antimicrobial utilization, and antimicrobial

resistance are measures required for all quality improvement studies or randomized controlled trials.

Considers Local Resistance: Local antimicrobial resistance data should always be a consideration for making modifications to recommended therapy. However, the clinical importance of bacterial resistance on clinical outcomes varies among illnesses (e.g. it is always important to use drugs with good activity against pathogens causing infective endocarditis and meningitis, but such a strategy may not be important for cellulitis).

Communicates Results: The ASP will monitor and disseminate to stakeholders the results of any interventions or studies it carries out.

5. SWOT ANALYSIS

5.1 STRENGTHS

Senior Leadership Support

One of the greatest strengths that the MSH-UHN ASP has is strong, overt, visible and vocal support from senior leadership, at both MSH and UHN. This support is personal, financial, administrative, and executive.

Team Personnel

The MSH-UHN ASP has a breadth and depth of talent that is unparalleled among antimicrobial stewardship programs in Canada, and matches or exceeds any antimicrobial stewardship program on the continent. The varied talent and experience provides the team with the potential to tackle most obstacles.

Early Successes

The first few projects of the ASP teams (the 3 intensive care units, caesarean section prophylaxis) have conferred credibility and experience.

5.2 WEAKNESSES

Less than optimal integration with Infectious Diseases, Microbiology and IPAC

No formal structure and/or resource shared between the ASP and ID, Microbiology and IPAC.

Lack of Research Productivity

There is limited research available in the field of antimicrobial stewardship. This is especially important for a program aspiring to be driven by evidence-informed practice. However, there is an opportunity for the MSH-UHN ASP to be leaders in contributing to research in this field.

Team Cohesiveness

Challenges arise with a rapidly expanding team (we have gone from 2 team members to approximately 17 in 4 years): we are very strong team but have yet to fully leverage our potential.

5.3 OPPORTUNITIES & THREATS

Build and Strengthen the ASP Team

There is opportunity for the ASP to build and strengthen our team. With a rapidly growing team, ensuring team effectiveness is critical to the success of the program. Priorities identified by the team include: improving communication methods (internally and externally); internal training; and team building and development.

Expanding the ASP Team Across MSH and UHN

The ASP has had initial discussions with clinical leaders across both MSH and UHN on opportunities to collaborate in order to optimize the use of antimicrobials, including nursing, a very important group in regards to patient safety and quality of care. A threat to expanding the team is the availability of data for informed decision-making on a regular basis for prospective audit and feedback. There are several time-consuming and inefficient steps our physicians and pharmacists must complete in order to get the patient information needed to inform the prescribers. A software application dedicated to ASP that is integrated with other hospital applications would allow us to review the patient information quickly and provide timely feedback to clinicians.

Research

There is limited research available in the field of antimicrobial stewardship. This is an opportunity to be a leader in contributing to the literature in this field.

Building our Brand

Building our brand and awareness of the program across MSH and UHN is critical to expansion across the hospitals. This is an opportunity to develop a marketing plan to improve our brand and awareness internally within MSH and UHN. The focus of our marketing efforts will be to communicate the importance of antimicrobial stewardship as an essential patient safety and quality improvement initiative.

External Partnerships

In addition to growth within MSH and UHN, the ASP has developed relationships with external organizations locally, provincially, nationally and internationally.

6. MAJOR GOALS

6.1 ADVANCING OUR TEAM

Our team is committed to working on our internal communication as well as strengthening our team as a unit. Our communication methods are currently verbal and electronic. It has been identified that we could improve the use of these two modalities to enhance the effectiveness of our team. Thus, we will work to have each team member using the available communication methods optimally. As well, we would like to work on strengthening our team as a unit through internal development and team-building exercises.

The ASP team has always been an inter-disciplinary and collaborative program. To further advance the inter-disciplinary nature of the program, the team has identified the opportunity to involve nursing as a key player in

optimizing the use of antimicrobials, as nursing is a very important group in regards to patient safety and quality of care.

6.2 DRIVING PERFORMANCE WITH DATA

Quality of Data

The MSH-UHN ASP uses data from a variety of databases across multiple sites. This data is reported quarterly in the ASP Quarterly Report, as well as reported on an *ad hoc* basis to support ASP decision making and research. The goal of the ASP is to have reliable, accurate data based on standardized methodology across all sites. A standardized procedure manual will be completed, which will catalogue all reports that are currently being run, with the ultimate goal being to have all of the ASP's data obtained from the ASP database. Data quality processes are also being developed to ensure integrity of data. Long-term initiatives will include identification and development of specialized reports (e.g. by physician, team etc) and possible implementation of different reporting measures (e.g. days of therapy).

ASP Database

The Antimicrobial Stewardship Program (ASP) performs a critical function for the hospital: ensuring that patients receive safe, effective, and cost-effective antimicrobial therapy. This is done by a) auditing microbiology and antimicrobial information and providing feedback to prescribers and b) developing evidence-based best practices that are based on our own microbiology data and culture. Currently the ASP's capacity to affect care is primarily limited by its inability to rapidly access patient-specific and aggregate information in a user-friendly manner, to track this information prospectively, and to communicate this information easily. This process is currently done manually and limits our ability to perform the review in a timely manner, resulting in patients receiving antimicrobial therapy that runs counter to accepted best practices. An application dedicated to ASP that is integrated with other hospital applications would allow us to review the patient information quickly and provide timely feedback to the clinicians.

There are several benefits for this database, including:

- ✦ enhancing the efficiency (and therefore scope) of the ASP, thereby enhancing patient safety and optimizing cost-effectiveness of antimicrobials;
- ✦ saving pharmacist and physician time; and
- ✦ automating much of the report generation that we currently perform manually (saving substantial project manager, data analyst and pharmacist time, thus allowing them to do other productive work).

Deliverables

- ✦ Phase 1: To get patient demographics, visit, allergies, microbiology, lab, antimicrobials, and diagnostic imaging data to generate a patient profile report which will have all necessary patient specific and aggregated information needed by physicians and pharmacists for rounds.
- ✦ Phase 2: To generate various reports needed for research and quality measurements. Make changes to database as per ongoing needs.
- ✦ Phase 3: To get all data for quarterly reports and clinical decision support. Make changes to database as per ongoing needs

6.3 BEST PRACTICE GUIDELINES AND TOOLKITS

Best practice guidelines on their own may not accomplish many goals of antimicrobial stewardship. If developed based on consensus from clinicians, incorporating local epidemiological data and targeting the needs of expected patient population, they can be useful in directing the care of patients. We will attend to

knowledge translation and monitoring of adherence to the guideline. Importantly, we will assess whether patient care improves, and we will also evaluate user (clinicians) satisfaction with the guidelines. Experience from developing, implementing and evaluation of locally developed practice guidelines can be published.

The following guidelines have been developed or are being developed by MSH-UHN ASP:

- ✦ Ventilator-associated pneumonia
- ✦ Community-acquired pneumonia (with Toronto Central LHIN)
- ✦ Febrile Neutropenia (High Risk)

The first phase in developing best practice guidelines is to create one-page summaries to enhance consistency among the ASP team in our recommendations on antimicrobial use and management of common infectious syndromes, which will then evolve into guidelines with consultation and collaboration with various clinical and administrative stakeholders across MSH and UHN. Because we identified significant opportunities in the immunocompromised host population to improve care (they are at both the highest risk of infections, but also at the highest risk of complications from antimicrobial therapy), we will be placing significant attention on this population. The General Internal Medicine services (MSH, TGH and TWH) are another group that will receive significant attention from our program and will be targeted for guideline development and best-practice implementation.

Toolkits in the healthcare setting refer to a variety of materials that are useful to develop, implement and expand a program. Examples include US Center for Diseases Control Hospital-Acquired Infections initiatives (e.g. Antimicrobial Stewardship Program, *C. difficile* infection, Central-Line Associated Blood Stream Infections) and SaferHealthCare Now bundles (CLABSI, VAP). Contents of toolkits usually include, but are not limited to:

- ✦ best practice guidelines for specific topics (infectious syndromes)
- ✦ presentations or posters (may be facilitated) useful for addressing specific aspects of the topic
- ✦ “Success stories”
- ✦ any other documents that may be useful (e.g. our MSH-UHN ASP Quarterly Report)

Based on our collective experience, the MSH-UHN ASP can develop toolkits that can be used internally or externally. The toolkit may include best practice guidelines, “how to” documents on developing, implementing, maintaining or expanding an ASP.

- ✦ Internal use: to facilitate a program within MSH and UHN for healthcare providers that wish to receive our service
- ✦ External use: to facilitate institutions that wish to consult us to help them develop an ASP.

Such toolkits and best practice guidelines will also enhance our profile and reach.

6.4 BOLSTERING RESEARCH FUNDING AND OUTPUT

The MSH-UHN ASP vision involves taking a leadership role in antimicrobial stewardship research locally, provincially, nationally and internationally, including developing countries.

The research objective is to conduct innovative world-class research through interventional studies, clinical trials, observational studies and surveys.

This objective will be accomplished by:

- + focusing on specific thematic areas
- + ensuring we work within a defined research framework
- + increasing collaboration
- + broadening stakeholder interaction

Challenges include human resource issues and lack of research funding. To combat these challenges we plan to:

- + expand the use of elective residents, students (medical, pharmacy), foreign trained physicians
- + expand grant applications
- + look to outside institutions for funding opportunities

6.5 EDUCATING TODAY'S AND TOMORROW'S STEWARDS

The MSH-UHN ASP team plans on expanding existing and creating new educational initiatives to broaden the breadth of knowledge to improve antimicrobial use in hospital, university, regionally and nationally.

Hospital:

Education is embedded in all plans as the MSH-UHN ASP expands to work with other clinical areas. This includes, but is not limited to: additional education sessions for trainees at the start of their orientation, peer to peer education for pharmacists and peer to peer education for physicians.

University:

Educational initiatives with the University include an ASP Fellowship program for physicians and pharmacists, rotations for elective residents and students, and course creation and coordination of an undergraduate pharmacy elective dedicated to antimicrobial stewardship at the University of Toronto. Further development on trainee outlines is planned to enhance the trainees' experience during their time with the MSH-UHN ASP.

Regional:

As part of the ARTIC Council of Academic Hospitals of Ontario (CAHO) Project, the MSH-UHN ASP team has developed educational modules, which have been provided to all of the academic hospitals participating in the project in Ontario.

National:

The MSH-UHN ASP has developed an external website. This website has been referenced and promoted by Accreditation Canada, in relation to the new Required Organizational Practice of Antimicrobial Stewardship for Acute Care Hospitals in Canada in the upcoming Accreditation Cycle. It is also regularly one of the top 5 visited websites for "antimicrobial stewardship" internationally. The MSH-UHN ASP is also planning another Antimicrobial Stewardship Course for June 2013, which will be based on the inaugural course held in June 2011 and attracted participants from across Canada.

6.6 MANAGING OUR FORMULARY

The MSH-UHN ASP will be responsible for a transparent, effective and efficient process for managing all clinical aspects of the antimicrobial formularies at MSH and UHN. An Antimicrobial Advisory Committee (AAC) will be re-instated to fulfill this role. The ASP will determine the Chair of the AAC, with agreement from the respective MSH and UHN Pharmacy and Therapeutics Committee (P&T) chairs. This chair will determine that the membership is reflective of all relevant stakeholders, and will update the Terms of Reference to reflect the

scope of the committee. The AAC will encompass the antimicrobial formularies of MSH and UHN, and will serve as the central forum for managing guideline, handbook, and protocol development, implementation and evaluation. The AAC will report to the P&T via the Medical Director of the ASP as a standing member of P&T.

6.7 MARKETING

Our MSH-UHN ASP is developing a marketing strategy to communicate our key message of “Getting patients the right antibiotics when they need them”. Marketing is important to the success of our program because it identifies who we are, and informs people about the services we offer. The focus of our marketing efforts will be to communicate the importance of antimicrobial stewardship as an essential patient safety and quality improvement initiative.

The MSH-UHN ASP brand will become synonymous with antimicrobial stewardship experts in the areas of patient care, research, and education. Our marketing strategy will include, but not limited to:

- ✦ branding through our logo
- ✦ MSH-UHN ASP website
- ✦ hospital intranet ad eNews updates
- ✦ professional collaborations and affiliations

We will identify our go-to market proactively and on an ongoing basis, both internally and externally. Internally we will target our patients and visitors, physicians, patient care teams, infection prevention and control, as well as senior hospital administration. Externally we will market ourselves through our research and collaborations with external partners including but not limited to Council of Academic Hospitals of Ontario (CAHO), Public Health Ontario (PHO), Critical Care Services Ontario (CCSO, formerly Critical Care Secretariat), and the Ministry of Health and Long-Term Care (MOHLTC).

6.8 COLLABORATION

We currently collaborate or have had past collaboration with several groups external to MSH and UHN, including Baycrest, the University of Toronto, the Toronto-Central LHIN and the Toronto Antimicrobial Stewardship Corridor (TASC). TASC is a group of ASP physicians and pharmacists in the GTA that was formed and chaired by Andrew Morris and Sandra Nelson since December 2009. TASC meets periodically to discuss ASP related work and issues.

Over the next 3 years, our ASP will enhance our collaboration with TASC and identify 2-3 new external groups to form partnerships with.

6.9 PLANNING FOR FUTURE CHALLENGES

Disaster/crisis planning is important for the MSH-UHN ASP as we embed within several clinical areas across MSH and UHN and work collaboratively with Infection (Prevention and) Control, Infectious Diseases, Microbiology, Pharmacy and Informatics on several patient safety and quality initiatives.

A disaster/crisis for the ASP would include, but is not limited to:

- ✦ an outbreak (e.g., a multi-drug resistant organism);
- ✦ a drug shortage;
- ✦ problems with the Informatics systems;
- ✦ sudden personnel shortages (internal and external);

- ✦ identifying that one of our interventions is causing harm

The MSH-UHN ASP will prepare a step-by-step process if any of the above are encountered, determining key stakeholders who would need to be contacted, key messaging, communication templates and reduced ASP coverage across the hospital. In “two-way disaster planning”, we are working with our collaborators to ensure we are part of their plans and processes as well.

6.10 INFLUENCING STEWARDSHIP IN ONTARIO AND NATIONAL LEADERSHIP

In November 2011, the Council of Academic Hospital of Ontario (CAHO) approved the implementation of the Antimicrobial Stewardship Program (ASP) in Intensive Care Units ARTIC Project in Ontario’s academic hospitals and awarded funds to the MSH-UHN ASP to lead this provincial initiative.

The MSH-UHN ASP has also partnered with Critical Care Services Ontario (CCSO) formerly known as the Critical Care Secretariat (CCS), and CCSO has supported and funded the addition of three new antimicrobial indicators in the Critical Care Information System (CCIS). These three new indicators went live throughout the province in January 2013.

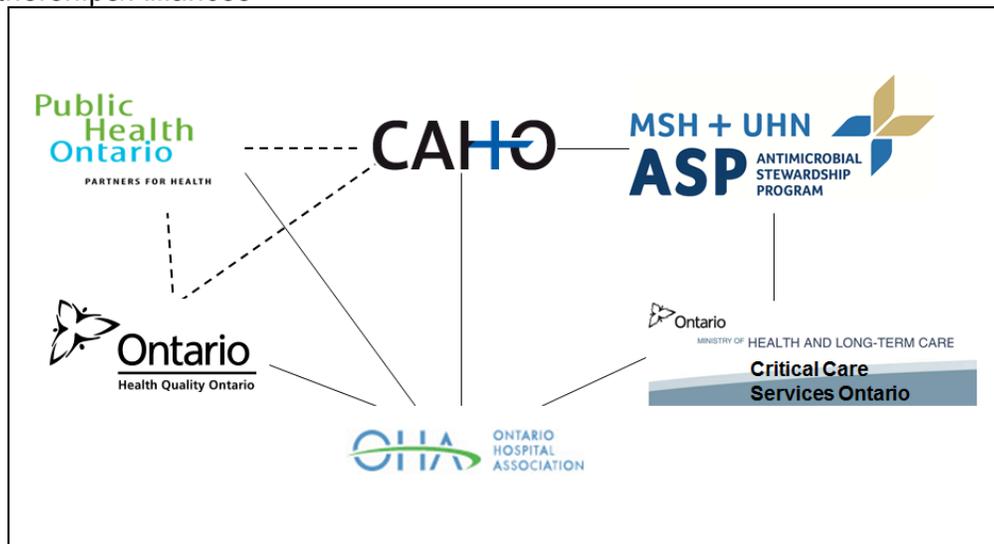
The MSH-UHN ASP program is:

- ✦ leveraging our current partnership with CAHO to explore new provincial opportunities, and with the assistance of CAHO, develop new alliances/partnerships
- ✦ leveraging our current relationship with CCSO
- ✦ developing new alliances independent of current partnerships/relationships

The objectives are 3-fold:

- ✦ working to improve the intensity and quality of antimicrobial stewardship activities in Ontario
- ✦ expanding the MSH-UHN ASP’s sphere of influence throughout the province
- ✦ obtaining additional funding for provincial initiatives

Diagram 1: Partnerships/Alliances



The MSH-UHN ASP is looking to:

- ✦ develop on-line educational tools for pharmacists in the community, and looking to partner with CCSO and the Ontario Hospital Association;
- ✦ develop an ASP Course for Community Pharmacists in response to Accreditation Canada's Required Organizational Practice. Currently there exists a gap as identified by Public Health Ontario (PHO);
- ✦ establish a spoke-hub model whereby ASP clinical expertise is provided to community hospitals by leveraging expertise developed in the academic hospitals as a result of the CAHO project; and
- ✦ submit a research proposal to CCSO to use CCIS data. The MSH-UHN ASP would be the first program to have access to the CCIS data.

6.11 EVALUATION

The MSH-UHN ASP evaluation plan includes both an evaluation on the program, as well as personalized evaluation of team members.

The MSH-UHN ASP regularly evaluates progress on initiatives across MSH and UHN through the quarterly reports and reporting to the Oversight Committee. Data is measured on an ongoing basis and regularly provided to clinical and non-clinical stakeholders involved in the various initiatives across MSH and UHN. As well, the MSH-UHN ASP collects qualitative feedback from key stakeholders to ensure the ASP is meeting their teams' needs.

The MSH-UHN ASP is developing an evaluation plan for team members to identify personal development goals and continuously improve competencies. The informative evaluation is aimed at inspiring individual and team development. The evaluation will apply to both clinical and non-clinical members of the team. Attributes would include, but not limited to: development milestones for practice competency, communication skills, respect for others. Performing regular evaluations will help build a culture of ongoing responsiveness and accountability for the team.