



# ID-FOCUSED HOSPITAL EFFICIENCY IMPROVEMENT PROGRAM

A guide to implementing services aimed at mitigating healthcare associated infections and other infectious diseases-related issues, under the leadership of an ID physician executive

# **ID-Focused Hospital Efficiency Improvement Program**

**November 2016**

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## Executive Summary

For many hospitals and health care systems, the evolution towards more value-based care delivery has required a different approach to coordinating activities within facilities and across systems. Programs like the Medicare Inpatient Quality Reporting program, which applies payment penalties to hospitals for poor performance on metrics and posts results via [HospitalCompare](#), and the Medicare Comprehensive Care for Joint Replacement, which pays a bundled payment for services related to hip or knee replacements, have placed more emphasis on activities that mitigate risk of healthcare associated infections (HAIs) and promote efficient use of resources through coordinated care.

As well, this evolution towards value-based care delivery has brought to light the importance of physician leadership in determining the success of organizations achieving improvements in quality care. Much of the change required to evolve our health care system relies on physicians adapting their practice, working more closely with other physicians, and assuming leadership roles to effect the change within their facilities.

Therefore, in recognition of this evolution towards more value-based care delivery, we propose the **Infectious Diseases (ID) Focused Healthcare Efficiency Improvement Program (ID-HEIP)**. This program can be modified to the needs and resources of a particular facility and provides clear descriptions of activities (defined as services lines) and related metrics. This program positions the infectious diseases physicians as the accountable, strategic clinical leaders of key facility/system-wide service lines that promote efficient, appropriate use of resources and mitigate risk of HAI-related complications. The ID-HEIP can encompass the following services line:

- Infection Prevention & Control (IPC)
- Antimicrobial Stewardship (AS)
- Outpatient Parenteral Antimicrobial Therapy (OPAT) Hospital Admission/Readmission Avoidance
- Bio-security, Bio-preparedness, & Emerging Infectious Diseases (BBEID)

We believe that administrators will find that the ID-HEIP provides organizational clarity and accountable leadership that support the strategic mission of their hospital or health care system. For more information on the ID-HEIP and how you can build such a program, please contact [Andrés Rodríguez](#).

## Business Case

The ID-focused Hospital Efficiency Improvement Program (ID-HEIP) is intended to assign accountability for patient safety related to infectious diseases and operational efficiency in alignment with a hospital's strategic plan to deliver appropriate, value-based care. The ID-HEIP can encompass the following service lines, depending on the available resources within the hospital or health care system:

- Infection Prevention & Control (IPC)
- Antimicrobial Stewardship (AS)
- Outpatient Parenteral Antimicrobial Therapy (OPAT) Hospital Admission/Readmission Avoidance
- Bio-security, Bio-preparedness, & Emerging Infectious Diseases (BBEID)

There is a strong rationale supporting the establishment of formal accountability for patient safety and operational accountability related to infectious diseases. The threat of Antibiotic Resistance (AR) is gaining wider recognition as many efforts have recently been initiated at the national level to raise awareness and implement countermeasures. In March of 2015, the White House formulated the National Action Plan for Combating Antibiotic-Resistant Bacteria (CARB).<sup>i</sup> This plan cites antimicrobial stewardship as a critical component to combating AR and calls for implementation of formal antimicrobial stewardship programs in hospitals, nursing homes, and long-term care facilities. The Centers for Disease Control & Prevention (CDC) has promulgated guidance for establishing antimicrobial stewardship in hospitals and nursing homes.<sup>ii,iii</sup> The Centers for Medicare & Medicaid Services (CMS) has been collecting information via its Hospital Infection Control Worksheet Survey to assess hospitals' antimicrobial stewardship efforts.<sup>iv</sup> In 2015, CMS issued a proposed rule with plans to establish **Antimicrobial Stewardship Programs** (ASPs) for long-term care facilities and in June of 2016 issued its proposed rule for acute care hospitals. As well, The Joint Commission recently published its [new Antimicrobial Stewardship Standard](#) which goes into effect in January of 2017. All this activity is based on the recognition of the substantial evidence in the published literature that demonstrates the benefits of ASPs in terms of patient safety, reducing resistance, reducing infection rates, and reducing costs.<sup>v</sup> Thus, in acknowledgement of these benefits and in response to the threat of AR, the momentum behind establishing ASPs across the health care system is building.

**Infection Prevention & Control Programs (IPCP)** have long been established as a condition of participation for hospitals within the Medicare program. Hospitals must demonstrate an effective IPCP capability as part of their certification process and the IPCP is relied upon to minimize Catheter-Associated Urinary Tract Infection (CAUTI) and Central Line-Associated Bloodstream Infection (CLABSI) rates, among others. Under the Inpatient Quality Reporting program, Medicare has tied hospital payment to performance on HAI-related measures, thereby elevating IPC in terms of strategic importance for hospitals, as performance across hospitals can be publicly accessed via [Medicare.gov/HospitalCompare](http://www.Medicare.gov/HospitalCompare) and other outlets.

Emerging infections such as Ebola virus diseases and Zika virus disease are creating public health concerns within the United States, prompting some health care systems to assess their abilities to respond to such threats. For many hospital administrators, the need for resources dedicated to **Bio-security, Bio-preparedness, & Emerging Infectious Diseases (BBEID)** is becoming more apparent. This service line focuses on activities directed toward system-wide all-hazards preparedness for public health emergencies and provides coordination at the local level that aligns with preparedness planning on regional and national levels. For hospitals and health care systems located in major metropolitan areas whose airports are direct connections for international travelers, these threats are particularly relevant.

For integrated delivery systems with infusion suite capabilities, **Outpatient Parenteral Antimicrobial Therapy (OPAT)** services offer the ability to effectively transition patients from the inpatient to the outpatient or home setting as well as avoid hospitalization altogether. OPAT is a program of strategic importance that relies on efficient infusion operations and well-networked care coordination across a health care system and offers patient safety with convenience. In a time where hospitals are bearing more financial risk for surgical episodes of care (e.g. Total Hip Replacement/Total Knee Replacement under the CMS Comprehensive Care for Joint Replacement (CJR) model), ensuring patients with HAIs transition safely out of the hospital and mitigating the need for HAI-related readmissions through an established OPAT program are critical to the success of the hospital.

Across all these activities, the role of the ID physician as the strategic clinical leader is essential to recognize. ID physicians maintain a long-term focus on risk reduction and safety through system-wide activities. As a core competency, ID physicians focus on efficient resource management, across various sites-of-service, not just specific to antimicrobials but also related to the use of costly diagnostic and radiology services. Therefore, ID physicians are well-suited to lead an ID-HEIP with specific activities delineated and specific quality measures identified to ensure accountability. Below, the components of the ID-HEIP are separately outlined. For each service line, the exact resources needed to support the program will depend on the size of the facility and scope of services provided.

## Infection Prevention & Control (IPC) Service Line

Effective Infection Prevention & Control is essential to the efficient operation of any health care facility. It is a critical component for patient safety and, in an environment of value-based health care, there are significant penalties tied to the occurrence of healthcare associated infections (HAIs). Through health care consumer resources such as HospitalCompare.gov, infection rates across facilities can become a point of competitive differentiation, therefore IPC is of strategic importance to a health care facility.

### IPC Service Line structure & activity

The IPC Service Line Team will be comprised of the following personnel:

- ID physician, serving as Service Line Leader
- Hospital Administration representative (CMO, COO/CFO)
- Environmental Services representative
- Value analysis/Procurement representative
- Infection Prevention representative
- Medical staff representative
- Nursing representative (CNO)
- IT System representative (CMIO)

Under the leadership of the ID physician, this team will be responsible for implementing the business plan for the IPC service line that aligns with the overall facility strategic plan. The specific management services are described in [Appendix A](#). These activities are then tied to performance metrics outlined in [Appendix B](#). Many IPC service line measurements align with the metrics that apply to the Medicare Inpatient Quality Reporting system and other metrics used by payers, related to HAIs.

## Antimicrobial Stewardship Program (ASP) Service Line

Antimicrobial Stewardship is an important component in the effort to combat AR. It is important to recognize it as a patient safety program, separate and distinct from Infection Prevention, yet complementary. The training required to appropriately implement and maintain an antimicrobial stewardship program is distinct from the training related to Infection Prevention and Control. Moreover, the resources required to effectively implement antimicrobial stewardship are different from those needed to effectively achieve infection prevention. AS requires clinical intervention and guidance (described as the 5 “Ds”: correct diagnosis, correct drug, correct dose, correct duration of therapy, and appropriate de-escalation when microbiologic data are available), often accomplished by direct physician-to-physician dialogue. Since ASPs require clinical experience and judgment to determine the appropriate antibiotic for care of individual patients, ASPs are best led by a physician trained and experienced in the subspecialty of Infectious Diseases and who is prepared to hold accountability for effective performance of an ASP. Stewardship involves a multi-disciplinary, team-based approach, also involving ID-trained pharmacists, clinical microbiologists, and other providers and leveraging health care information technology systems. ID-trained pharmacists provide an integral component to stewardship through activity such as prospective audit with intervention and feedback (PAIF). Clinical microbiologists provide expertise in rapid diagnostic testing and antibiogram (compilation of aggregate antimicrobial susceptibility data) development. This integrated team-based activity requires ID physician leadership to synthesize disparate data and to ensure accountability, as called for in the CDC’s Core Elements of Antibiotic Stewardship Programs and referenced in The Joint Commission’s new [Standard for Antimicrobial Stewardship](#).

### ASP Service Line structure & activity

The ASP Service Line Team will be comprised of the following personnel:

- ID physician, serving as Service Line Leader
- Hospital Administration representative (CMO, COO/CFO)
- IT Systems representative (CMIO)
- Pharmacy Representative (ideally ID-trained pharmacist)
- Microbiology Lab Representative (ideally clinical microbiologist)
- Medical staff representative
- Nursing representative

Under the leadership of the ID physician, this team will be responsible for implementing the business plan for the ASP service line that aligns with the overall facility strategic plan. The specific management services are described in [Appendix C](#). These activities are then tied to performance metrics outlined in [Appendix D](#).



## **OPAT Hospital Admission/Readmission Avoidance Service Line**

Often, patients with severe infections require powerful antimicrobial therapy, administered intravenously, for extended periods of time. Depending on the type of infection, the drug regimen, and the patient's home status, ID physicians can employ OPAT to achieve timely discharge from the inpatient setting to the outpatient or home. As well, patients may present in the emergency department with an infection that is amenable to OPAT. With the correct care coordination structure in place, that patient may avoid a hospitalization and be treated entirely in the outpatient setting or at home. In this way, OPAT has been shown to offer patient convenience, ensure patient safety, and reduce average length-of-stay.

### **OPAT Service Line structure & activity**

The OPAT Service Line Team will be comprised of the following personnel:

- ID physician, serving as Service Line Leader
- Hospital Administration representative
- Pharmacy representative (ideally ID-trained pharmacist)
- Infusion Nurse representative
- Home Health representative (if applicable)
- Microbiology Lab Representative (ideally clinical microbiologist)

Under the leadership of the ID physician, the OPAT program will be responsible for implementing the business plan for the OPAT service line that aligns with the overall facility strategic plan. The specific management services are described in [Appendix E](#). These activities are then tied to performance metrics outlined in [Appendix F](#).

## **Bio-security, Bio-preparedness, & Emerging Infectious Diseases (BBEID) Service Line**

In an age where emerging infectious diseases from one part of the world can be rapidly transferred to another part of the world due to international air travel, the need for a BBEID Service Line will be critical for many health care systems. This service line focuses on activities directed toward system-wide all-hazards preparedness for public health emergencies and provides coordination at the local level that aligns with preparedness planning on regional and national levels.

### **BBEID Service Line structure & activity**

The BBEID Service Line Team will be comprised of the following personnel:

- ID physician, serving as Service Line Leader
- Hospital Administration representative
- Pharmacy representative (ideally ID-trained pharmacist)
- Environmental Services representative
- Emergency Department representative
- Nurse Administrator
- Nurse Educator
- Laboratory Director
- Behavioral health response representative
- Local Public Health Liaison
- Emergency Medical Services (EMS) response representative
- Other representatives deemed necessary

Under the leadership of the ID physician, the BBEID service line team will be responsible for implementing the business plan for the BBEID service line that aligns with the overall facility strategic plan. The specific management services are described in [Appendix G](#). These activities are then tied to performance metrics outlined in [Appendix H](#).

## Appendix A: Specific management services – Infection Prevention & Control

- Contribute to the development of the hospital’s strategic plan with respect to population health management (e.g. antimicrobial resistance) and outbreak response.
- Assist in the development, implementation, and monitoring of patient care and patient safety protocols for the delivery of IPC service line services, including protocols pertaining to the most appropriate setting for such services (i.e., outpatient or inpatient).
- Assist in improving IPC service line efficiency and effectiveness by evaluating and recommending improvements in the management structure and workflow of infection control processes.
- Serve as liaison within the IPC service line for the purpose of addressing and resolving patient, physician, and staff complaints.
- Manage compliance to IPC service line policies and assist with implementation of corrective actions in accordance with hospital compliance policies and hospital medical staff by-laws.
- Assist in the education and training of professional support staff for the purpose of maintaining an efficient and effective IPC service line.
- Assist in the marketing of the IPC service line to the community and other providers within a defined service area.
- Develop and present (at least annually) programs with hospital to enhance community awareness and provide information regarding IPC service line services and related topics of interest to community residents.
- Oversee the preparation of operational reports and other information as needed which reflect the operations of the IPC service line for the identified time period, documentation of the work performed by personnel.
- Coordinate communications between IPC service line management and hospital personnel regarding activities, services, and operational/clinical protocols to achieve overall compliance and understanding of IPC service line objectives.
- Assist in strategic, financial, and operational planning for future IPC service line activities
- Assist, at the request of the hospital, in preparing for and responding to third-party requests, including but not limited to payer audits, governmental inquiries, and professional inquiries that pertain to the IPC service line.
- Assist in maintaining the accreditation of the IPC service line (as applicable) with proper agencies, including Joint Commission and others.
- Review, analyze, and make recommendations on addressing infection rates and trends specific to areas of potential patient safety and operational inefficiencies.
- Monitor IPC service line equipment and provide recommendations to hospital regarding maintenance issues and needed upgrades and serve as an advisory review panel for consideration of new program or technology issues related to IPC
- Assist hospital in implementing, monitoring, and managing quality assurance and utilization review activities for the IPC service line, and participate in peer review.
- Review regional and national benchmarks annually as defined by Healthgrades, Leapfrog, Joint

Commission, Core Measures, IHI, and National Quality Forum; provide recommendations on best practice improvement standards; establish and implement IPC service line benchmarks; and develop adherence/review processes. Best practice standards shall be established annually.

- Assist hospital in developing an annual report for the IPC service line that includes best practices, quality scores on national and regional benchmarks, patient safety, and special services or achievements.

[\[Return to IPCP Service Line description\]](#)

## Appendix B: Specific quality measurements – Infection Prevention & Control

- Specific infection rates - MDRO & *C. difficile* Infection rates as described in CDC MDRO/CDI Module<sup>vi</sup>
- HAI-related readmissions – reduction in rate or maintenance of baseline
- Health care worker (HCW) immunization rate
- Population-level immunization rate
- # of Training sessions to hospital staff on importance of vaccinations, hand hygiene, contact isolation, environmental cleaning across health care settings, and outbreak response.
- # of outreach training program to referral region on importance of vaccinations, hand hygiene, contact isolation, environmental cleaning across health care settings, and outbreak response.

[\[Return to IPCP Service Line description\]](#)

## Appendix C: Specific management services – Antimicrobial Stewardship Program (ASP)

- Develop facility-specific antibiogram and prepare report of findings with specific action plan that aligns with overall hospital strategic plan.
- Ensures prospective audits with feedback are performed in a timely manner.
- Ensure compliance of ASP with [CDC Core Elements for Hospitals](#) using checklist provided.
- Assist in the development, implementation, and monitoring of patient care and patient safety protocols for the delivery of ASP service line services, including protocols pertaining to the most appropriate setting for such services (i.e., outpatient or inpatient).
- Assist in improving ASP service line efficiency and effectiveness by evaluating and recommending improvements in the management structure and workflow of AS processes.
- Serve as liaison within the ASP service line for the purpose of addressing and resolving patient, physician, and staff complaints.
- Manage compliance to ASP service line policies and assist with implementation of corrective actions in accordance with hospital compliance policies and hospital medical staff by-laws.
- Assist in the education and training of professional support staff for the purpose of maintaining an efficient and effective ASP service line.
- Assist in the marketing of the ASP service line to the community and other providers within a defined service area.
- Develop and present (at least annually) programs with hospital to enhance community awareness and provide information regarding ASP service line services and related topics of interest to community residents.
- Oversee the preparation of operational reports and other information as needed which reflect the operations of the ASP service line for the identified time period, documentation of the work performed by personnel.
- Coordinate communications between ASP service line management and hospital personnel regarding activities, services, and operational/clinical protocols to achieve overall compliance and understanding of ASP service line objectives.
- Assist in strategic, financial, and operational planning for future ASP service line activities
- Assist, at the request of the hospital, in preparing for and responding to third-party requests, including but not limited to payer audits, governmental inquiries, and professional inquiries that pertain to the ASP service line.
- Assist in maintaining the accreditation of the ASP service line (as applicable) with proper agencies, including [Joint Commission](#) and others.
- Monitor ASP service line equipment and provide recommendations to hospital regarding maintenance issues and needed upgrades and serve as an advisory review panel for consideration of new program or technology issues related to ASP
- Assist hospital in implementing, monitoring, and managing quality assurance and utilization review activities for the ASP service line, and participate in peer review.

- Provide recommendations on best practice improvement standards; establish and implement ASP service line benchmarks; and develop adherence/review processes. Best practice standards shall be established annually.
- Assist hospital in developing an annual report for the ASP service line that includes best practices, quality scores on national and regional benchmarks, patient safety, and special services or achievements.

[\[Return to ASP Service Line description\]](#)

## Appendix D: Specific quality measurements – Antimicrobial Stewardship Programs

- Reduction in days-of-therapy
- Reduction in length-of-stay for patients with specific types of infection
- Specific provider-level metrics:
  - Percentage of Sepsis cases where ASP review documented (tied to SEP-1 Measure of Inpatient Quality Reporting)
  - Percentage of appropriate vancomycin cases confirmed
  - Percentage of MSSA treatment with beta-lactam confirmed
- Reduction in antimicrobial expense within Pharmacy Budget
- Reduction or maintenance of baseline for diagnostic testing expense
- National Healthcare Safety Network (NHSN) Antimicrobial Use Measure – (NQF #2720)

[\[Return to ASP Service Line description\]](#)



## Appendix E: Specific management services – OPAT Service Line

- Develop OPAT care coordination protocols between relevant departments and facilities (i.e. Emergency Department, nursing home, etc.).
- Assist in improving OPAT service line efficiency and effectiveness by evaluating and recommending improvements in the management structure and workflow of infection control processes.
- Serve as liaison within the OPAT service line for the purpose of addressing and resolving patient, physician, and staff complaints.
- Manage compliance to OPAT service line policies and assist with implementation of corrective actions in accordance with hospital compliance policies and hospital medical staff by-laws.
- Assist in the education and training of professional support staff for the purpose of maintaining an efficient and effective OPAT service line.
- Assist in the marketing of the OPAT service line to the community and other providers within a defined service area.
- Develop and present (at least annually) programs with hospital to enhance community awareness and provide information regarding OPAT service line services and related topics of interest to community residents.
- Oversee the preparation of operational reports and other information as needed which reflect the operations of the OPAT service line for the identified time period, documentation of the work performed by personnel.
- Coordinate communications between OPAT service line management and hospital personnel regarding activities, services, and operational/clinical protocols to achieve overall compliance and understanding of OPAT service line objectives.
- Assist in strategic, financial, and operational planning for future OPAT service line activities
- Assist, at the request of the hospital, in preparing for and responding to third-party requests, including but not limited to payer audits, governmental inquiries, and professional inquiries that pertain to the OPAT service line.
- Assist in maintaining the accreditation of the OPAT service line (as applicable) with proper agencies, including Joint Commission and others.
- Monitor OPAT service line equipment and provide recommendations to hospital regarding maintenance issues and needed upgrades and serve as an advisory review panel for consideration of new program or technology issues related to OPAT
- Assist hospital in implementing, monitoring, and managing quality assurance and utilization review activities for the OPAT service line, and participate in peer review.
- Provide recommendations on best practice improvement standards; establish and implement OPAT service line benchmarks; and develop adherence/review processes.
- Assist hospital in developing an annual report for the OPAT service line that includes best practices, quality scores on national and regional benchmarks, patient safety, and special services or achievements.

[\[Return to OPAT Service Line description\]](#)

## Appendix F: Specific quality measurements – OPAT

- Percent of “cured” cases without relapse of primary infection within 30 days or admission to hospital due to primary infection or treatment complication
- # of hospital avoidance cases (ED to OPAT)
- Average length of stay for patients with infections amenable to OPAT
- Patient satisfaction scores

[\[Return to OPAT Service Line description\]](#)

## Appendix G: Specific management services – Bio-security, Bio-preparedness, & Emerging Infectious Diseases

- Conduct annual assessment of facility BBEID program to include assembling a multidisciplinary team trained to provide care for patients with highly infectious diseases.
- Draft detail protocols that outline resources required and response plans to ensure “all-hazards preparedness.”
- Establish and maintain the Hospital Incident Command System (HICS)<sup>vii</sup>
- Assist in improving BBEID service line efficiency and effectiveness by evaluating and recommending improvements in the management structure and workflow of BBEID processes.
- Serve as liaison within the BBEID service line for the purpose of addressing and resolving patient, physician, and staff complaints related to BBEID activity
- Manage compliance to BBEID service line policies and assist with implementation of corrective actions in accordance with hospital compliance policies and hospital medical staff by-laws.
- Coordinate training evolutions and drills as part of the ongoing education and training to the multidisciplinary team and support staff for the purpose of maintaining an efficient and effective BBEID service line.
- Assist in the promotion of the BBEID service line to the community and other providers within a defined service area as part of routine public service announcements as well as involvement in responding to media requests/updates to media.
- Oversee the preparation of operational reports and other information as needed which reflect the operations of the BBEID service line for the identified time period, documentation of the work performed by personnel.
- Coordinate communications between BBEID service line management and hospital personnel regarding activities, services, and operational/clinical protocols to achieve overall compliance and understanding of BBEID service line objectives.
- Assist in strategic, financial, and operational planning for future BBEID service line activities
- Assist, at the request of the hospital, in preparing for and responding to third-party requests, including but not limited to public health audits, governmental inquiries, and professional inquiries that pertain to the BBEID service line.
- Monitor BBEID service line equipment and provide recommendations to hospital regarding maintenance issues and needed upgrades and serve as an advisory review panel for consideration of new program or technology issues related to BBEID
- Provide recommendations on best practice improvement standards; establish and implement BBEID service line benchmarks; and develop adherence/review processes. Best practice standards shall be established annually.

[\[Return to BBEID Service description\]](#)

## Appendix H: Specific quality measurements – BBEID

- # of training programs held
- # of BBEID training simulations conducted
- Level of demonstrated proficiency of BBEID training participants

[\[Return to BBEID Service description\]](#)

## References

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<sup>i</sup> National Action Plan for Combating Antibiotic-Resistance Bacteria. March 2015. Accessed March 23, 2016 at [https://www.whitehouse.gov/sites/default/files/docs/national\\_action\\_plan\\_for\\_combating\\_antibiotic-resistant\\_bacteria.pdf](https://www.whitehouse.gov/sites/default/files/docs/national_action_plan_for_combating_antibiotic-resistant_bacteria.pdf).

<sup>ii</sup> Core Elements of Hospital Antibiotic Stewardship Programs, May 2015. Accessed March 23, 2016 at <http://www.cdc.gov/getsmart/healthcare/implementation/core-elements.html>

<sup>iii</sup> The Core Elements of Antibiotic Stewardship for Nursing Homes. March 2016. Accessed on March 23, 2016 at <http://www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html>

<sup>iv</sup> "Hospital Infection Control Worksheet." Centers for Medicare & Medicaid Services. Accessed March 24, 2016 at <https://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Downloads/Survey-and-Cert-Letter-15-12-Attachment-1.pdf>

<sup>v</sup> See Appendices in "IDSA & SHEA Collaboratively Present Evidence and Justification for Antimicrobial Stewardship as a Medicare Condition of Participation." Accessed on March 24, 2016 at [http://www.idsociety.org/uploadedFiles/IDSA/Policy\\_and\\_Advocacy/Current\\_Topics\\_and\\_Issues/Advancing\\_Product\\_Research\\_and\\_Development/Antimicrobials/Letters/AS-IDSA-SHEA-CMS-CoP-Letter%20MAR\\_2014.pdf#search=%22Antimicrobial Stewardship as a condition of participation%22](http://www.idsociety.org/uploadedFiles/IDSA/Policy_and_Advocacy/Current_Topics_and_Issues/Advancing_Product_Research_and_Development/Antimicrobials/Letters/AS-IDSA-SHEA-CMS-CoP-Letter%20MAR_2014.pdf#search=%22Antimicrobial%20Stewardship%20as%20a%20condition%20of%20participation%22)

<sup>vi</sup> CDC Multidrug-Resistant Organism & Clostridium difficile Infection (MDRO/CDI) Module. Accessed on March 30, 2016. Available at [http://www.cdc.gov/nhsn/pdfs/pscmanual/12pscmdro\\_cdadcurrent.pdf](http://www.cdc.gov/nhsn/pdfs/pscmanual/12pscmdro_cdadcurrent.pdf)

<sup>vii</sup> Refer to HICS, Fifth Edition which may be accessed here: <http://www.emsa.ca.gov/HICS>