Catalyst for Antimicrobial Stewardship Improvement (CASI): A Pilot Implementation Guidance Program for Illinois Acute Care Hospitals

David Schwartz, MD
Gail Itokazu, PharmD
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Co-Investigators

- Chinyere Alu, MPH
  - Illinois Department of Public Health
- Philippe Morency-Potvin MD
  - Centre Hospitalier de l’Université de Montréal

The Joint Commission

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Prepublication Requirements

The Joint Commission has approved the following revisions for prepublication. While revised requirements are published in the semiannual updates to the print manuals (as well as in the online E-dition®), accredited organizations and paid subscribers can also view them in the monthly periodical *The Joint Commission Perspectives®*. To begin your subscription, call 877-223-6866 or visit http://www.jcrinc.com.

Joint Commission Requirement

New Antimicrobial Stewardship Standard

APPLICABLE TO HOSPITALS AND CRITICAL ACCESS HOSPITALS

Effective January 1, 2017

Medication Management (MM)

Standard MM.09.01.01
The [critical access] hospital has an antimicrobial stewardship program based on current scientific literature.

Elements of Performance for MM.09.01.01

1. Leaders establish antimicrobial stewardship as an organizational priority. (*See also* LD.01.03.01, EP 5)

   Note: *Examples of leadership commitment to an antimicrobial stewardship program are as follows:*

   - *Accountability documents*
   - *Budget plans*
   - *Infection prevention plans*
   - *Performance improvement plans*
   - *Strategic plans*
   - *Using the electronic health record to collect antimicrobial stewardship data*
2. The [critical access] hospital educates staff and licensed independent practitioners involved in antimicrobial ordering, dispensing, administration, and monitoring about

   Note: *An example of an educational tool that can be used for patients and families includes the Centers for Disease Control and Prevention's Get Smart document, "Viruses or Bacteria—What's got you sick? at http://www.cdc.gov/getsmart/community/downloads/getsmart-chart.pdf.*
4. The [critical access] hospital has an antimicrobial stewardship multidisciplinary team that includes the following members, when available in the setting:

   - Infectious disease physician
   - Infection preventionist(s)
   - Pharmacist(s)
   - Practitioner

   Note 1: *Part-time or consultant staff are acceptable as members of the antimicrobial stewardship multidisciplinary team.*

   Note 2: *Telehealth staff are acceptable as members of the antimicrobial stewardship multidisciplinary team.*
5. Ⓓ The [critical access] hospital's antimicrobial stewardship program includes the following core elements:

   - Leadership commitment: Dedicating necessary human, financial, and information technology resources.
   - Accountability: Appointing a single leader responsible for program outcomes. Experience with successful programs shows that a physician leader is effective.

Objectives

CASI

- Assist a sample of Illinois hospitals in ASP development/improvement
- Identify themes, resources relevant to ASP support
- Foster dissemination of same to other facilities

Today's Talk

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- Assist a sample of Illinois hospitals in ASP development/improvement
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Today's Talk

- Provide an overview of CASI results
- Direct reports from two CASI participants
- Q & A: How might this apply to your institution?

Core Elements of Hospital Antibiotic Stewardship Programs

National Center for Emerging and Zoonotic Infectious Diseases
Division of Healthcare Quality Promotion

Summary of Core Elements of Hospital Antibiotic Stewardship Programs

- **Leadership Commitment:** Dedicating necessary human, financial and information technology resources.
- **Accountability:** Appointing a single leader responsible for program outcomes. Experience with successful programs show that a physician leader is effective.
- **Drug Expertise:** Appointing a single pharmacist leader responsible for working to improve antibiotic use.
- **Action:** Implementing at least one recommended action, such as systemic evaluation of ongoing treatment need after a set period of initial treatment (i.e. “antibiotic time out” after 48 hours).
- **Tracking:** Monitoring antibiotic prescribing and resistance patterns.
- **Reporting:** Regular reporting information on antibiotic use and resistance to doctors, nurses and relevant staff.
- **Education:** Educating clinicians about resistance and optimal prescribing.

Clinical Infectious Diseases

MAJOR ARTICLE

IDSA Infectious Diseases Society of America · hivma hiv medicine association · OXFORD

Antibiotic Stewardship Programs in U.S. Acute Care Hospitals: Findings From the 2014 National Healthcare Safety Network Annual Hospital Survey

Lori A. Pollack, Katharina L. van Santen, Lindsey M. Weiner, Margaret A. Dudeck, Jonathan R. Edwards, and Arjun Srinivasan

Background. The National Action Plan to Combat Antibiotic Resistant Bacteria calls for all US hospitals to improve antibiotic prescribing as a key prevention strategy for resistance and *Clostridium difficile*. Antibiotic stewardship programs (ASPs) will be important in this effort but implementation is not well understood.

Methods. We analyzed the 2014 National Healthcare Safety Network Annual Hospital Survey to describe ASPs in US acute care hospitals as defined by the Center for Disease Control and Prevention's (CDC) Core Elements for Hospital ASPs. Univariate analyses were used to assess stewardship infrastructure and practices by facility characteristics and a multivariate model determined factors associated with meeting all ASP core elements.

Results. Among 4184 US hospitals, 39% reported having an ASP that met all 7 core elements. Although hospitals with greater than 200 beds (59%) were more likely to have ASPs, 1 in 4 (25%) of hospitals with less than 50 beds reported achieving all 7 CDC-defined core elements of a comprehensive ASP. The percent of hospitals in each state that reported all seven elements ranged from 7% to 58%. In the multivariate model, written support (adjusted relative risk [RR] 7.2 [95% confidence interval [CI], 6.2–8.4]; $P < .0001$) or salary support (adjusted RR 1.5 [95% CI, 1.4–1.6]; $P < .0001$) were significantly associated with having a comprehensive ASP.

Conclusions. Our findings show that ASP implementation varies across the United States and provide a baseline to monitor progress toward national goals. Comprehensive ASPs can be established in facilities of any size and hospital leadership support for antibiotic stewardship appears to drive the establishment of ASPs.

Clin Infect Dis 2016;63:443-449.

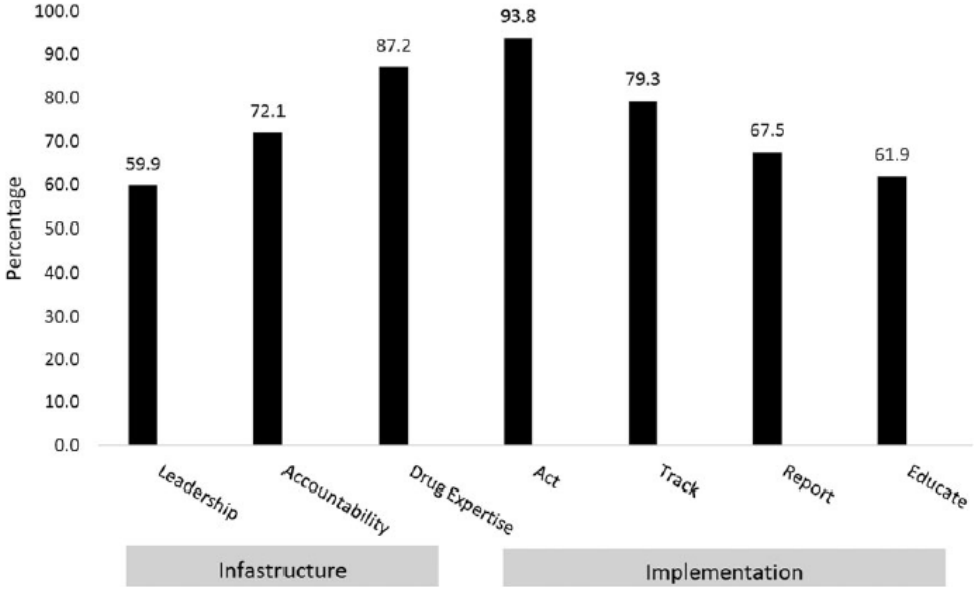


Figure 1. Percentage of US acute care hospitals (n = 4184) reporting implementation of antibiotic stewardship programs by core element, National Healthcare Safety Network, 2014.

Clin Infect Dis 2016;63:443-449.

Methods – 1

- Project conducted by the Illinois Department of Public Health (IDPH)
- Recruitment letters sent to 15 Illinois acute care hospitals; enrollment limited to first 10
- Project also presented during the Illinois Summit on Antimicrobial Stewardship, July 2016
- Selection criteria:
  - < 7 ASP elements per 2015 NHSN survey
  - Not associated with a medical school
  - Letter of support for participation from hospital leadership

Activities Overview

Hospitals will select goals and activities from a menu of antimicrobial stewardship interventions, as outlined below. An ASP toolkit with more details and resources for each activity will be provided to facilitate implementation.

Leadership Support

Select at least one:

- ❑ Secure written statement from leadership supporting hospital's AS efforts.
- ❑ Secure for salary support for dedicated time for antimicrobial stewardship activities.
- ❑ Designate a physician leader with responsibility for ASP outcomes.
- ❑ Designate a pharmacist with responsibility for improving antimicrobial use.

Action

Select at least one:

- ❑ Implement facility-specific treatment recommendations to guide antimicrobial selection for common clinical conditions.
- ❑ Require pharmacy or physician pre-approval of specified antimicrobial agents before dispensing.
- ❑ Review specific antimicrobial therapies and give feedback to prescribers.
- ❑ Monitor antimicrobial use at the unit, service, or facility-wide levels.
- ❑ Require documentation of indication for antimicrobial orders.

Education

Select at least one:

- ❑ Educate clinicians and other staff on antimicrobial stewardship activities that are implemented.
- ❑ Educate clinicians and other staff on appropriate antimicrobial use.
- ❑ Provide feedback to prescribers on how they can improve antimicrobial prescribing.

Measurement

Optional:

- ❑ Produce/improve facility-specific cumulative antimicrobial resistance report (i.e., antibiogram).

Required:

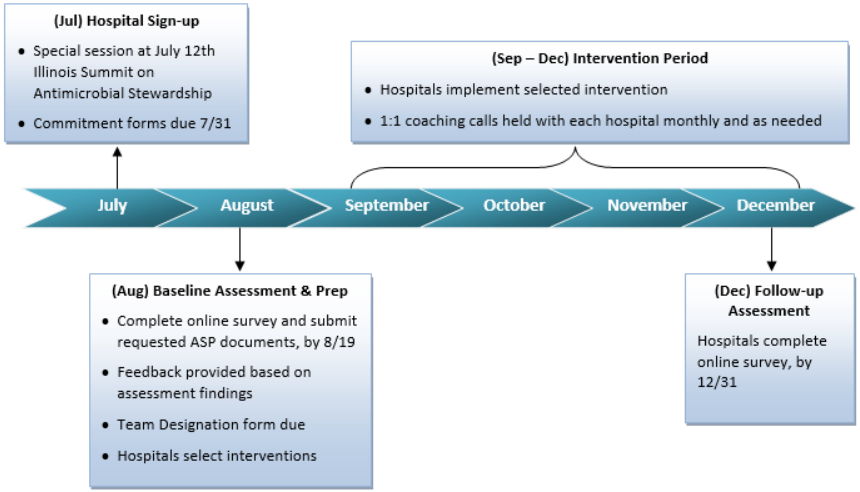
- ❑ Measure impact of selected interventions by identifying and tracking relevant metrics.

IDPH
Illinois Department of Public Health

Catalyst for Antimicrobial Stewardship Improvement (CASI) Project

Timeline 2016

The CASI Project is being implemented as a 6-month pilot (July to December 2016). Hospital-specific 1:1 calls will be held at least monthly and as needed to provide advice and technical assistance. In addition, one or two group conference calls may be scheduled to provide opportunities for participating hospitals to share and learn from each other.



CATALYST FOR ANTIMICROBIAL STEWARDSHIP IMPROVEMENT

TOOLKIT

September 2016

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1. General Information Tools for Antimicrobial Stewardship (AS)

- Thank you for participating in the Catalyst for Antimicrobial Stewardship Improvement (CASI) Project!
- Following our 40-45 minute telephone conversation with antimicrobial stewardship team members at your hospital, we prepared this document to summarize elements of an Antimicrobial Stewardship Program (ASP) which were considered important to advancing stewardship activities at your hospital. CASI's aim is to focus on the elements which we could assist you with, and that over the 5-6 month duration of this collaborative, has the potential to lead to a meaningful improvement in stewardship activities at your hospital. As needed, this document will be updated throughout the project and emailed to the assigned Point of Contact at each hospital. Please contact us at the addresses below for additional information or should questions arise. Please "cc" Chinyere Alu on all emails.
    - David Schwartz dschwartz@cookcountyhhs.org
    - Gail Itokazu gitokazu@cookcountyhhs.org
    - Philippe Morency-Potvin pmorencypotvin@gmail.com
    - Chinyere Alu Chinyere.Alu@illinois.gov

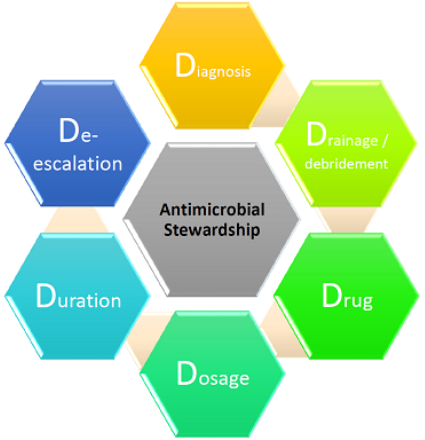
To get started, links to websites with detailed antimicrobial stewardship toolkits and other information which may assist you with your program are listed below and freely accessible to the public.

Toolkits

- California Antimicrobial Stewardship Program Toolkit. This comprehensive toolkit includes examples of cumulative antimicrobial susceptibility reports, anti-infective guidelines, antimicrobial use reports, educational materials and other stewardship resources from hospitals in California.
- National Quality Forum Antimicrobial Stewardship Playbook
- The Joint Commission Antimicrobial Stewardship Toolkit

Papers

- Internet-Based Institutional Antimicrobial Stewardship Program Resources in Leading US Academic Medical Centers
- Restrictions and prior authorization are very successful stewardship interventions as demonstrated in the following meta-analyses:
    - The Cochrane Collaboration: Interventions to improve antibiotic prescribing practices for hospital inpatients (Review)
    - The Lancet Infectious Diseases: Current evidence on hospital antimicrobial stewardship objectives: a systematic review and meta-analysis
- The Joint Commission New Antimicrobial Stewardship Standard
    - It is currently unknown how these standards will be evaluated. We do not plan to use this tool in this collaborative.
- The U.S. Food and Drug Administration recently issued an advisory that, for patients with acute sinusitis, acute bronchitis, and uncomplicated urinary tract infections who have non-fluoroquinolone treatment options, the serious side effects associated with fluoroquinolone antibacterial drugs generally outweigh their therapeutic benefits. To assist prescribers in complying with this warning, institutional guidelines should include non-fluoroquinolone alternatives for the above mentioned diagnoses.
- The 6 D's of Antimicrobial Stewardship



Baseline Characteristics

Hospital	Beds	Infrastructure	Interventions	Measures
A	25	PharmD-led, P&T	Daily PAF, order sets	MD acceptance
B	49	PharmD-led, P&T	Daily PAF, med staff ed.	MD acceptance
C	70	New, PharmD-led	CPOE order sets	None
D	107	RPh-led, P&T	Order sets, GLs, d-e alerts	AUR (MedMined)
E	117	New, PharmD*, MD*	None	AUR (Theradoc)
F	150	PharmD, MD*, P&T	CPOE order sets	AUR (MedMined)
G	154	New, PharmD-led	Order sets (unused)**	AUR
H	450	MD*-led, Inf Cont	Comp. GLs, PAF***	Alert #, PAF acceptance
I	473	PharmD*-led, Inf Cont	Comp GLs, indication rev.	AUR (MedMined)

* ID-trained ** Common lament *** Automated score for problem abx use PAF: prospective audit & feedback

Main Results

- 7 ASPs formalized in QA, obtained leadership support
- 16 new or improved interventions in 7 ASPs:
  - Guidelines: 4
  - Fluoroquinolone use reduction: 3
  - Order sets/indications: 2

ASP Infrastructure and Context

- Formalizing ASP within QA infrastructure
  - P&T versus infection control
- Physician contracts
  - ASP participation by prescriber sub-groups
  - ASP leadership: FTE support, “fox in the hen-house,” conflict of interest
- Hospital networks and mergers – good and bad

Measures

- Errors in, applications of antibiogram data
- “What is the Joint Commission looking for?”

Culture Change and Self-Efficacy

- Provider transitions:
  - Intellectual: ASP goals and processes understood
  - Attitudinal: ASP staff respected and engaged with
- ASP personnel transitions:
  - The burden of authority
  - Non-physicians directing physicians

A Tale of Two Hospitals

Discussion

- ASP implementation guidance framework effectively “catalyzed” ASP improvement for most participating hospitals
- Scalable with modest investment
- Whose stewardship?
  - Order sets (and guidelines?) off the shelf
  - Implementation guidance and implementation

Clinical Consulting

Clinical Consulting

Antimicrobial Stewardship Service

Drug Cost Control Solution »

Overview »

Antimicrobial Stewardship Service

Because we are all invested in patient care.

The Cardinal Health Antimicrobial Stewardship offering will assist you in becoming compliant with the upcoming CMS and Joint Commission requirements. Our consulting service provides thorough assessment, implementation, and analytics solutions.

Benefits to your hospital

- **Improve Quality:** Do your part in combating antimicrobial resistance, which is a serious and growing health threat
- **Optimize patient care:** Optimize antimicrobial use resulting in shorter lengths of stay and less complications including hospital acquired infections

A global crisis:

Are pharmacists prepared to tackle antimicrobial resistance?

Pharmacy Today
July 01, 2015

Discussion

- ASP implementation guidance framework effectively “catalyzed” ASP improvement for most participating hospitals
- Scalable with modest investment
- Whose stewardship?
  - Order sets (and guidelines?) off the shelf
  - Implementation guidance and implementation
  - Capacity, effectiveness, bidirectionality