

Preventing Healthcare Associated Infections: The Federal Perspective

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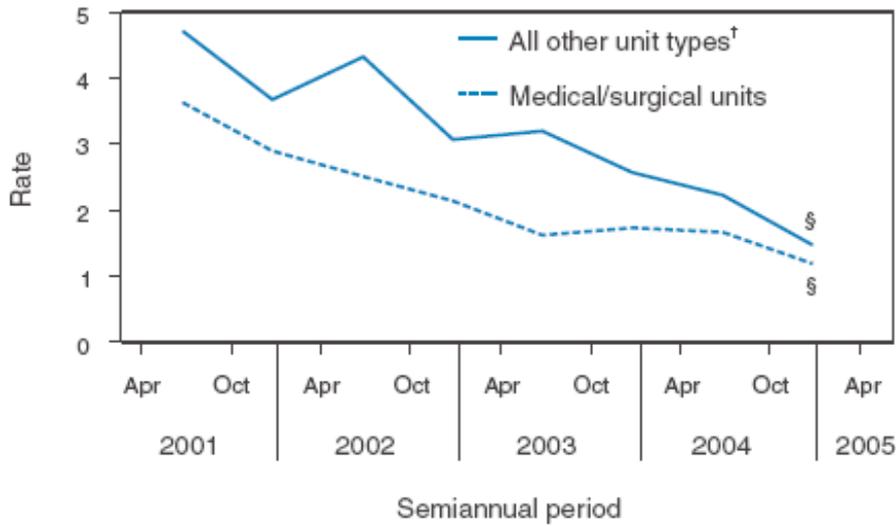
The findings and inclusions in this presentation do not necessarily reflect the views of CDC

How Many Healthcare Associated Infections (HAIs) are Preventable?

- ❑ Many more than we used to think.
- ❑ SENIC study- 32%
 - 1970-76
 - Am J Epidemiol 1985;121:182
- ❑ We were all pretty satisfied with that for a long time.

Prevention of Central Line Associated Blood Stream Infections

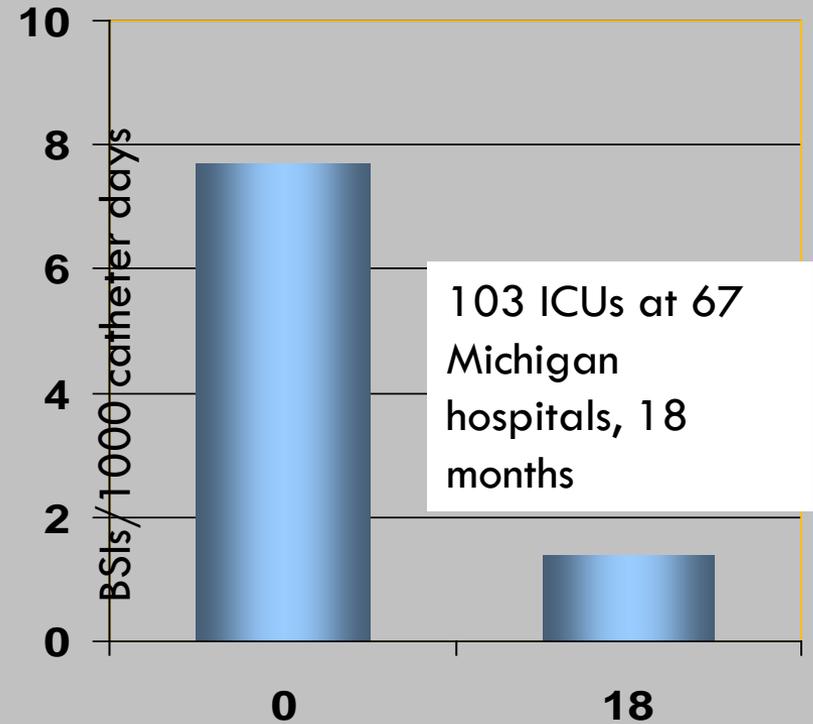
FIGURE. Central line–associated bloodstream infection rate* in 66 intensive care units (ICUs), by ICU type and semiannual period — southwestern Pennsylvania, April 2001–March 2005



* Pooled mean rate per 1,000 central line days.

[†] Includes cardiothoracic, coronary, surgical, neurosurgical, trauma, medical, burn, and pediatric ICUs.

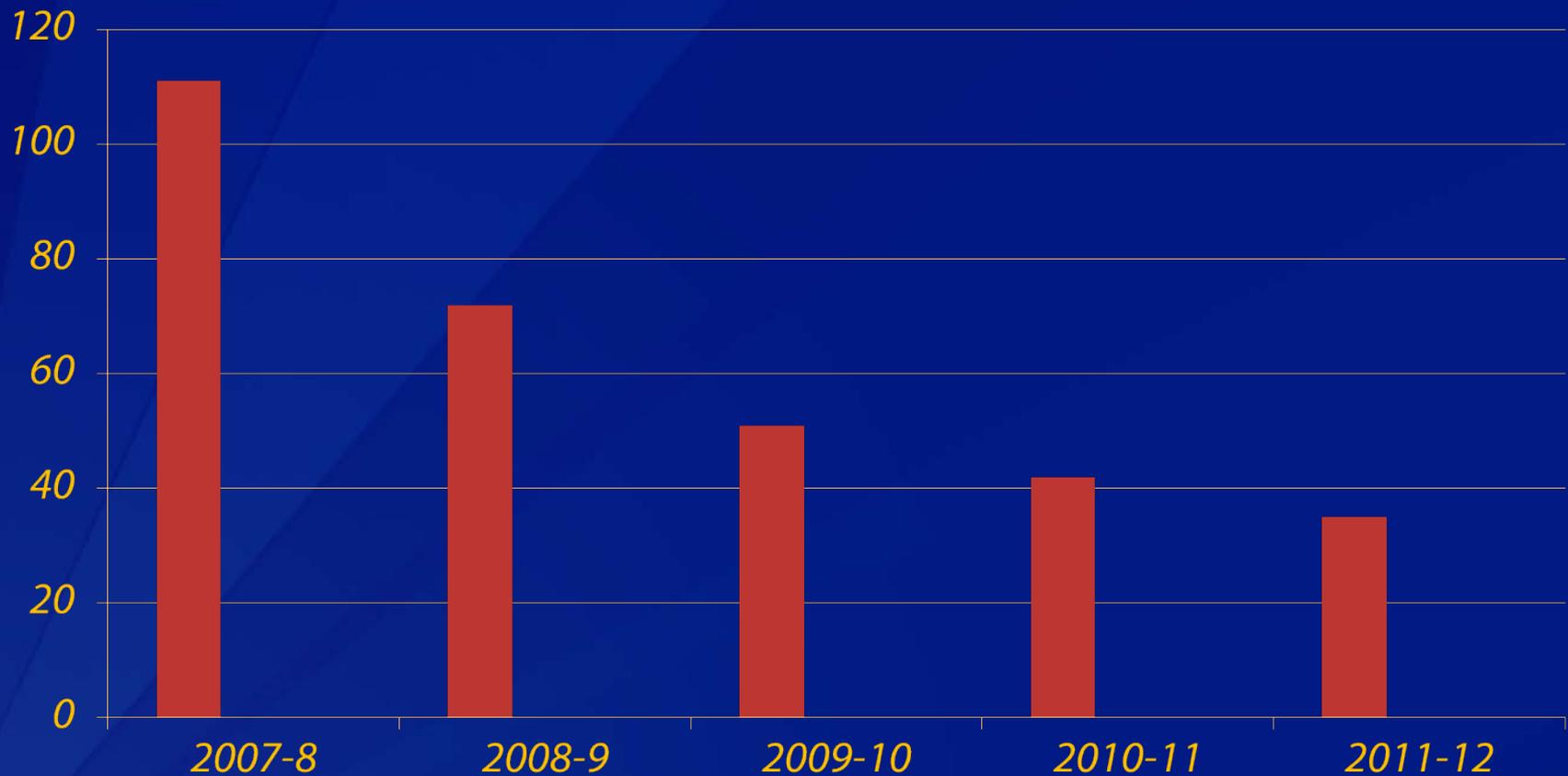
[§] $p < 0.001$.



Pronovost et al, NEJM 2006

~ 70% prevented

C. Difficile Rates per 100,00 Population UK Primary Care Organizations



68% Reduction

“Unacceptable”

- The growing awareness of the preventability of healthcare associated infections merged with increasing awareness of the burden and seriousness of the problem to create unprecedented pressure to both report and prevent HAIs and led to calls to “eliminate” HAIs.

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Learn about important topics including MRSA & Clostridium difficile, VRE, VAP, UTI, SSI & CR-BSI

What is MRSA?
What does it look like?
How is it spread?
How do you prevent it?

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◀PREV STOP NEXT▶

GO

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Infection Deaths

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When you go into the hospital some of the most important things you can follow to help reduce hospital infections:

- 1. Clean their hands before entering the room. The most important way to protect yourself is to make sure you're worried about being around the hospital. Clean your hands before you enter the room. Hand cleaners are more effective than soap and water. "Excuse me, but you're right there. Would you mind cleaning your hands before you touch me, so I can see that you're clean?"

2. Ask the nurse to clean the stethoscope, ask that the stethoscope be wiped with alcohol before use. The stethoscope is often contaminated with bacteria.

Latest News

- TV drug ads should tell how to report side effects. New Consumer Reports poll finds most Americans don't know they should tell the FDA. 04/01/08
- More states debating MRSA screening programs. New study shows screening patients for MRSA can dramatically reduce infection rates. 03/18/08
- Consumer groups endorse credit card reform. Consumers Union joins other groups in urging Congress to support HR 5244 and S. 2753. 03/12/08
- OH Governor urged to rescind rule on milk labeling. The rule is not pro-consumer, restricts free speech of dairies, and interferes with free markets. 03/11/08



Consumer Reports

For expert Ratings, buying advice and reliability on hundreds of products. ConsumerReports.org



Preventing Infection Deaths by Betsy McCaughey

A four-part series on QuantiaMD plus other educational resources and recorded lectures on reducing hospital related infections.



March 18th: Evanston-Northwestern Study Proves Effectiveness of MRSA Screening, CDC's LAX Guidelines Give Hospitals an Excuse to do too Little

March 12th: JAMA Article Provides False Support for CDC's Do-Nothing Position on MRSA

The Latest News From RID

What Does it Mean to “Eliminate” Infections?

- The maximal reduction of “the incidence of infection caused by a specific agent in a defined geographical area as a result of deliberate efforts; continued measures to prevent reestablishment of transmission are required.”
- Global disease elimination and eradication as public health strategies. *Morb Mortal Wkly Rep* 1999;48(suppl):1–208.

What Does That Mean for Healthcare Associated Infections?

- Zero preventable infections occur in healthcare settings.

How Do We Get There?

- There was an early recognition that eliminating HAIs would require concentrated and coordinated action from many stakeholders:
 - Patients and consumer advocates
 - Healthcare professionals
 - State and local governments
 - Federal government

Important to Remember

- I'm going to talk about the federal response to HAIs.
- It's critical to note that states have and continue to play a vital leadership role in HAI prevention and in many ways are really leading the charge.

Federal Activity on HAIs

- 2005 Deficit Reduction Act-
 - Called on the Center for Medicare and Medicaid Services to stop paying for costs of HAIs
- 2008 Government Accountability Office investigation on HAIs.
 - Called for more activity and more coordination between federal agencies.
 - Led to establishment of federal task force on HAIs.

Federal Activity

- 2009 Congress mandates all states develop HAI prevention plans.
 - Provided funding through American Recovery and Reinvestment Act to help implement
- 2009 Federal Action Plan to Prevent Healthcare Associated Infections.
 - From Department of Health and Human Services (HHS)

HHS Action Plan for HAI Prevention

National 5 Year Goals- 2009-13

Metric	National 5-Year Prevention Target
Bloodstream infections	50% reduction
Adherence to central-line insertion practices	100% adherence
<i>Clostridium difficile</i> (hospitalizations)	30% reduction
<i>Clostridium difficile</i> infections	30% reduction
Urinary tract infections	25% reduction
MRSA invasive infections (population)	50% reduction
MRSA bacteremia (hospital)	25% reduction
Surgical site infections	25% reduction
Surgical Care Improvement Project Measures	95% adherence

HHS Action Plan for HAI Prevention

National Goals for 2020

Metric	National 5-Year Prevention Target
Bloodstream infections	50% reduction from 2015 baseline
<i>Clostridium difficile</i> (hospitalizations)	30% reduction from 2015
Clostridium difficile infections	30% reduction from 2015
Urinary tract infections	25% reduction from 2015
MRSA invasive infections (population)	75% reduction from 2007-8
MRSA bacteremia (hospital)	50% reduction from 2015
Surgical site infections	30% reduction from 2015

Affordable Care Act

- Section 3001, (2)
- Calls for the establishment of “Value Based Purchasing” that will require hospitals to meet specified performance standards.
- For fiscal year 2013, the Secretary shall select measures that cover at least the following 5 conditions, including healthcare associated infections as measured by the HHS Action Plan to Prevent HAIs.

Implementing Healthcare Reform

- Data on HAIs would be reported to CDC's National Healthcare Safety Network.
- Data would be publicly reported on the Hospital Compare website.
- Hospitals would initially have to report data in order to qualify for full federal payments.
- In a few years, hospital performance in HAI prevention would become part of payment calculations.

Healthcare Facility HAI Reporting- Current Requirements

HAI Event	Facility Type	Reporting Start Date
CLABSI	Acute Care Hospitals Adult, Pediatric, and Neonatal ICUs	January 2011
CAUTI	Acute Care Hospitals Adult and Pediatric ICUs	January 2012
SSI	Acute Care Hospitals Colon and abdominal hysterectomy	January 2012
I.V. antimicrobial start <i>(proposed)</i>	Dialysis Facilities	January 2012
Positive blood culture <i>(proposed)</i>	Dialysis Facilities	January 2012
Signs of vascular access infection <i>(proposed)</i>	Dialysis Facilities	January 2012
CLABSI	Long Term Care Hospitals *	October 2012
CAUTI	Long Term Care Hospitals *	October 2012
CAUTI	Inpatient Rehabilitation Facilities	October 2012
MRSA Bacteremia	Acute Care Hospitals	January 2013
<i>C. difficile</i> Lab ID Event	Acute Care Hospitals	January 2013
HCW Influenza Vaccination	Acute Care Hospitals	January 2013
SSI <i>(proposed)</i>	Outpatient Surgery/ASCs	January 2013
HCW Influenza Vaccination <i>(proposed)</i>	Outpatient Surgery/ASCs	October 2013

* Long Term Care Hospitals are called **Long Term Acute Care Hospitals** in NHSN

Healthcare Facility HAI Reporting- Upcoming Requirements

- October 2014
- Healthcare personnel influenza vaccination
 - Hospital outpatient departments
 - Long term acute care hospitals (LTACHs)
 - Ambulatory surgical centers
- January 2015
- CLABSI and CAUTI in adult and pediatric medical and surgical wards- acute care
- MRSA bacteremia and C. difficile LabID- LTACHs

What Has Happened?

- ❑ More people in hospitals now care very deeply and are well informed about HAIs.
- ❑ HAI prevention is much more front and center in healthcare facilities.
- ❑ Public health officials really recognize the importance and benefits of HAI prevention.
- ❑ Infection rates are going down- for some HAIs.
 - Cause and effect?

HAI Progress To Date

	2006-8	2009	2010	2011	2012
CLABSI	1.0	0.85* (15% reduction)	0.68* (32% reduction)	0.59* (41% reduction)	0.56* (44% reduction)
CAUTI		1.0	0.94* (6% reduction)	0.93* (7% reduction)	1.02** (2% increase)
SSI	1.0	0.98 (2% reduction)	0.92* (8% reduction)	0.84* (16% reduction)	0.80* (20% reduction)
MRSA Lab-ID				1.0	0.97 (3% reduction)
CDILab ID				1.0	0.98* (2% reduction)

Challenges

- ❑ Hospitals are feeling increasing pressure to eliminate HAIs
 - Staff under pressure not to classify some events as HAIs.
- ❑ HAI requirements have not been accompanied by more resources for hospitals to comply.

Challenges

- CDC HAI definitions are surveillance, not clinical, definitions and were not developed for public reporting and hospital comparisons.
 - Hospitals question subjectivity and clinicians question clinical relevance of surveillance definitions
- HAI surveillance is very labor intensive.
- HAI data needs to be validated to ensure accuracy and confidence.

Challenges

- We're not seeing uniform progress.
- Some infections are not being prevented.
- Prevention success is variable in different parts of the hospital:
 - CLABSI: more prevention in ICUs
 - CAUTI: more prevention on wards

Addressing the Challenges

- CDC is constantly working to improve definitions as more data is available.
 - Mucosal barrier injury blood stream infection
 - Ventilator associated events
 - CAUTI
- Exploring ways to reduce reporting burden and subjectivity by developing HAI detection algorithms that can be run against electronic medical record data.

The Future of HAI Surveillance Is Here

- Ventilator Associated Events (VAE).
- VAE definition is based on objective measures that can all be obtained from electronic records.
- CDC has developed a web service that can do automated reviews of data to identify potential VAEs for review.
- Dramatically reduces labor for surveillance.

Validating HAI Data

- NHSN has a number of data checks that serve as internal validation.
- States have led efforts to perform external validation of HAI data.
 - Efforts have demonstrated this can be done in a collaborative and productive way.
- Data Use Agreements (DUAs), like the one here in AZ, will be critical to giving states access to data to support validation work.

Validating HAI Data

- Validation remains one of the big challenges for HAI surveillance.
- It's expensive and time consuming to do right.
- In collaboration with many state partners, CDC continues to develop and refine methodologies and tools for validation.

Addressing the Challenges

- We need universal implementation of strategies that have been proven to work.
 - Lots of proven infection control strategies have not been adopted in all facilities.
- CDC working on ways to help facilities use their own NHSN data to identify locations where more prevention work is needed (targeted assessment for prevention).

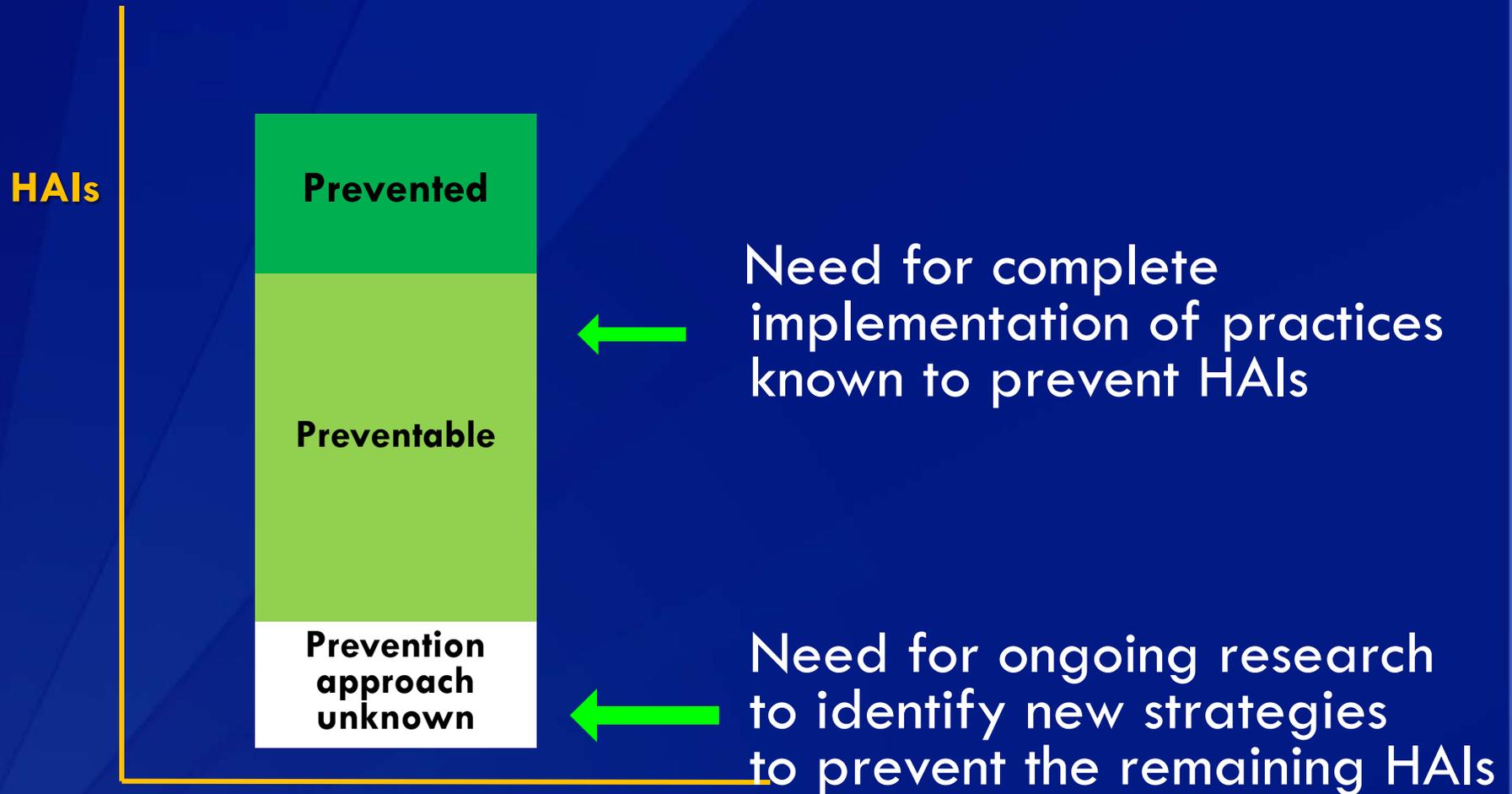
Addressing the Challenges

- Continued cultural change in healthcare:
 - Belief that more HAIs can be prevented
 - All healthcare providers have to be involved in efforts to prevent HAIs
 - Facility leadership has to support these efforts, verbally and financially.
 - Value based purchasing and pay for performance will certainly play a role in this.

Addressing the Challenges

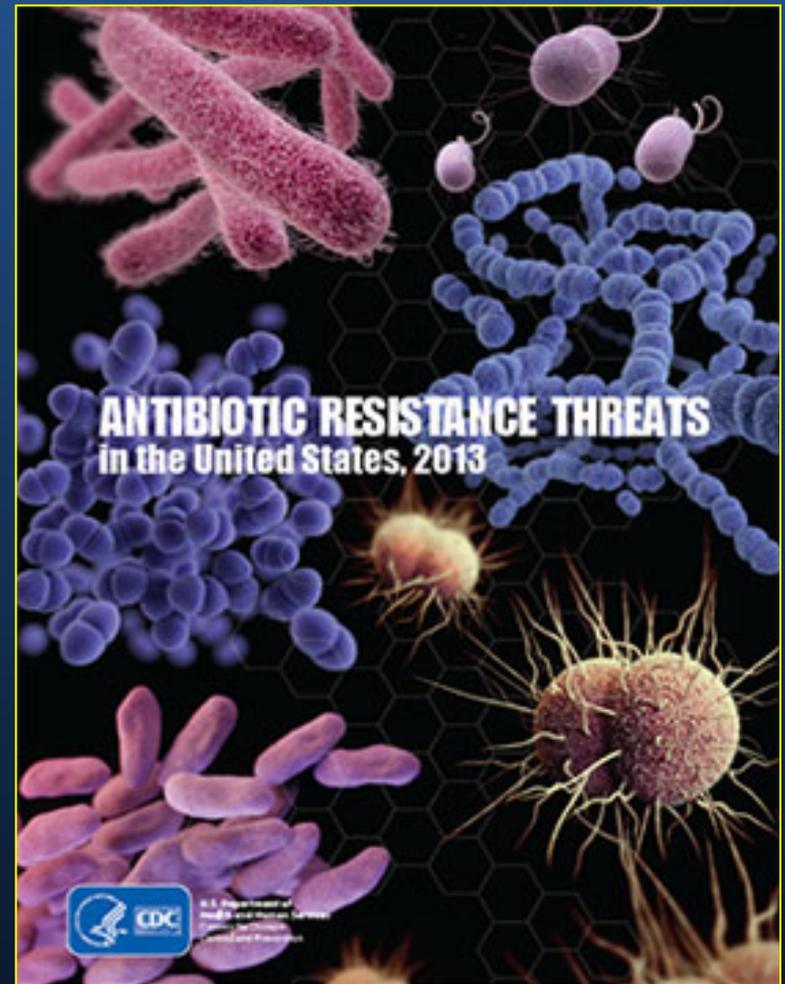
- On-going research on:
 - More efficient and reliable ways to monitor healthcare associated infections.
 - More effective ways to implement current prevention approaches.
 - New prevention strategies for infections that we currently can't prevent.

HAI Prevention Implementation and Research



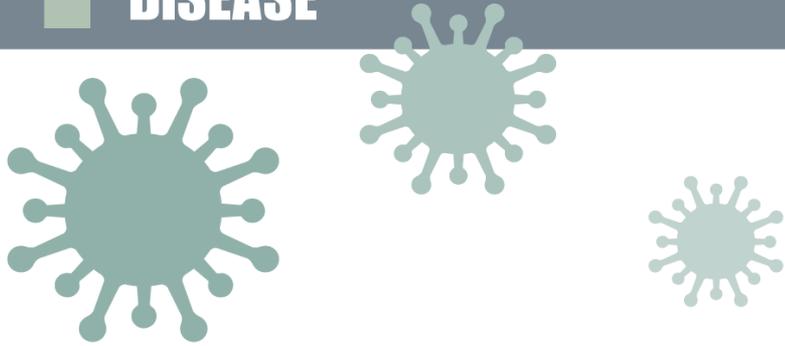
Antibiotic resistance in the United States

- Sickens >2 million people/year
- Kills at least 23,000 people/year, plus 14,000/year from *C. difficile*
- >\$20B/year in health care costs
- Threat to economic stability
- Need to act now or even drugs of last resort will soon be ineffective



Fighting back against antibiotic resistance

1 PREVENTING INFECTIONS, PREVENTING THE SPREAD OF DISEASE



2 TRACKING



3 IMPROVING ANTIBIOTIC PRESCRIBING AND USE, AKA "STEWARDSHIP"



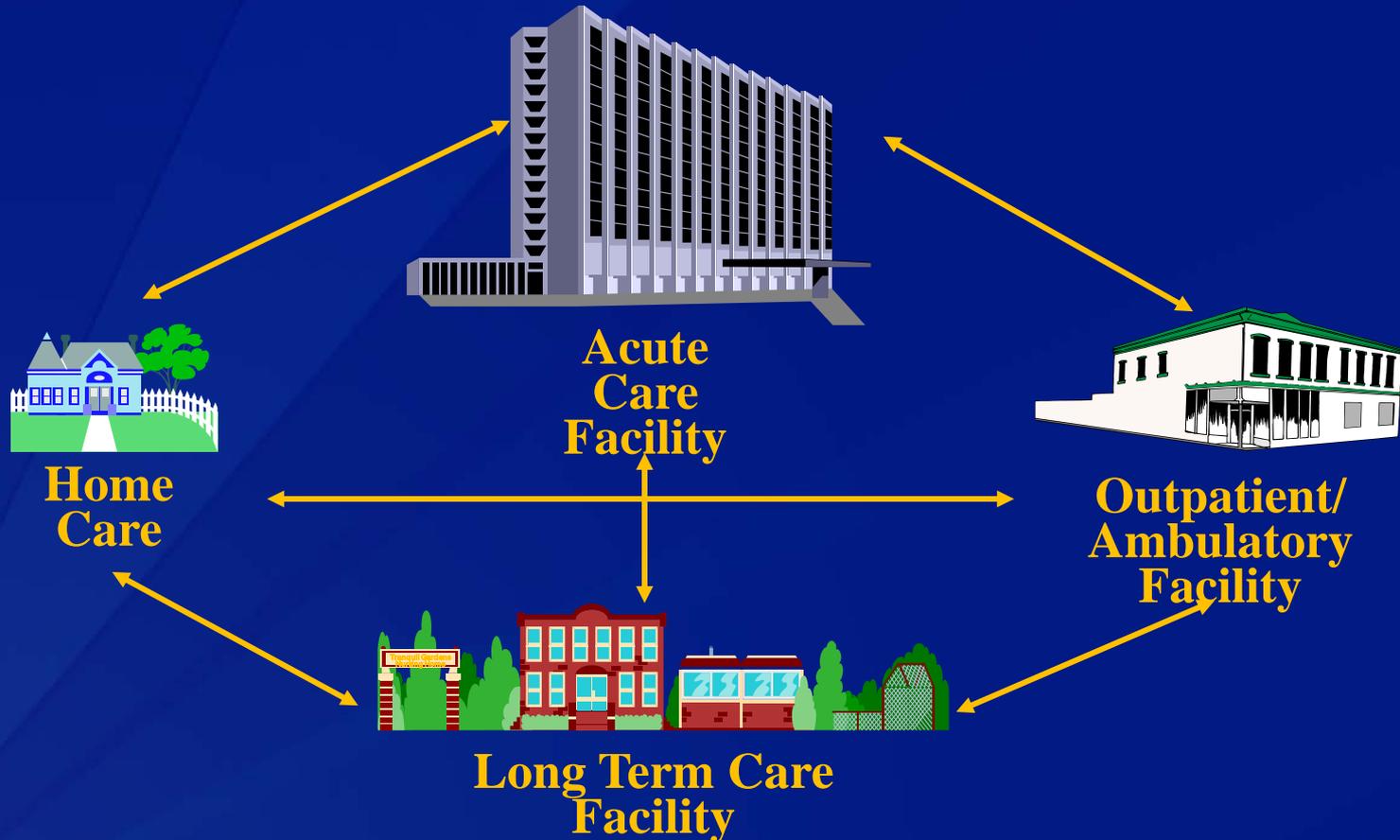
4 DEVELOPING NEW DRUGS AND DIAGNOSTICS



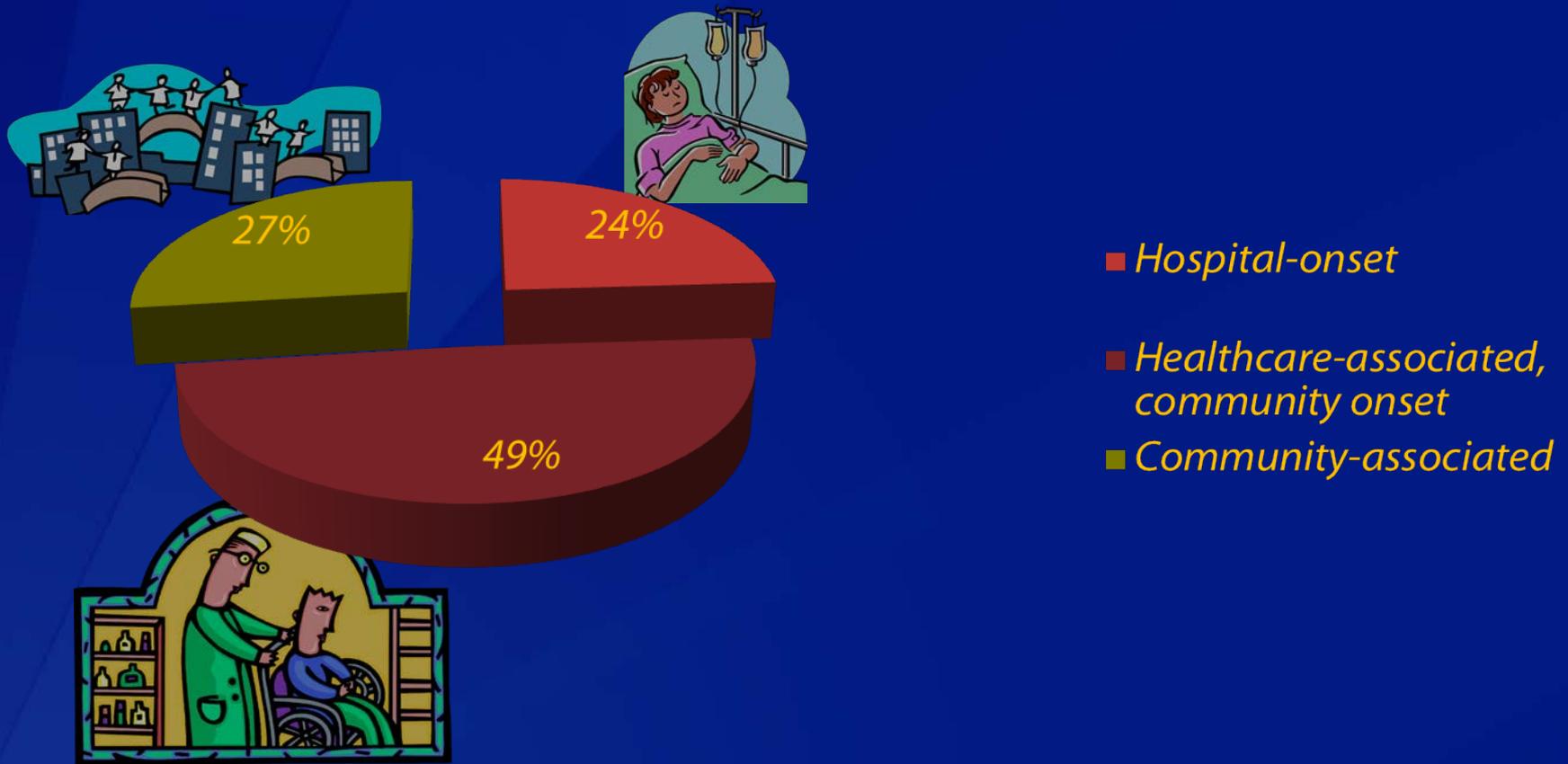
The Importance of the Continuum of Care

- For a long time, HAI prevention efforts have focused mostly on individual facilities—mostly in acute care.
- The challenge of antibiotic resistance highlights the fact that we need a different approach.

HAls Across the Continuum of Care



Distribution of *C. difficile* infections by Epidemiologic Category, EIP



It's Not Just *C. difficile*

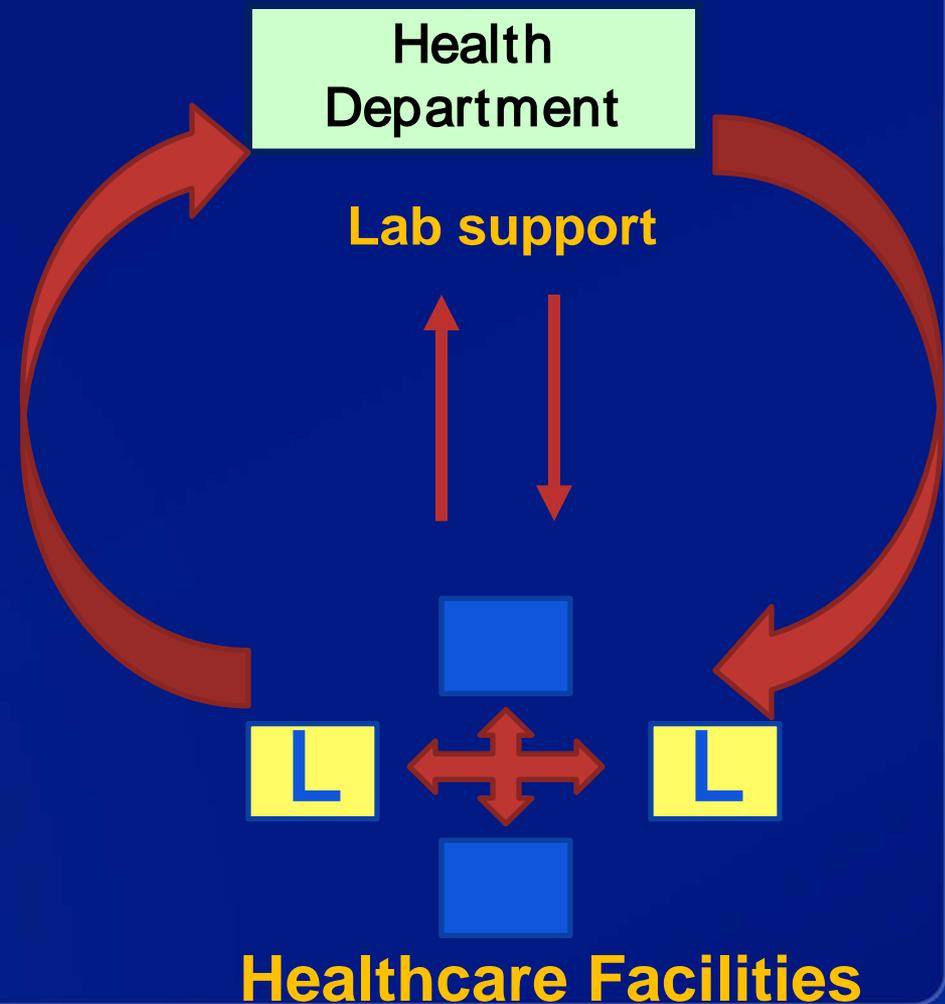
- ❑ Inter-facility transfer is known to be an issue for almost all drug-resistant pathogens:
 - MRSA
 - Carbapenem resistant Enterobacteriaceae (CRE).

This Issue Will Only Get More Important

- ❑ Hospital lengths of stay will continue to get shorter.
- ❑ More and more patients will need post-hospital care- short term and long term.

Regional collaboration is needed

- ❑ Central advisory group with health department leadership
- ❑ Central laboratory capacity
- ❑ Surveillance capacity (situational awareness)
- ❑ Education/training
 - “Collaborative” groups
- ❑ Outbreak response
 - Coordinated regional response
- ❑ Mechanisms for inter-facility communication

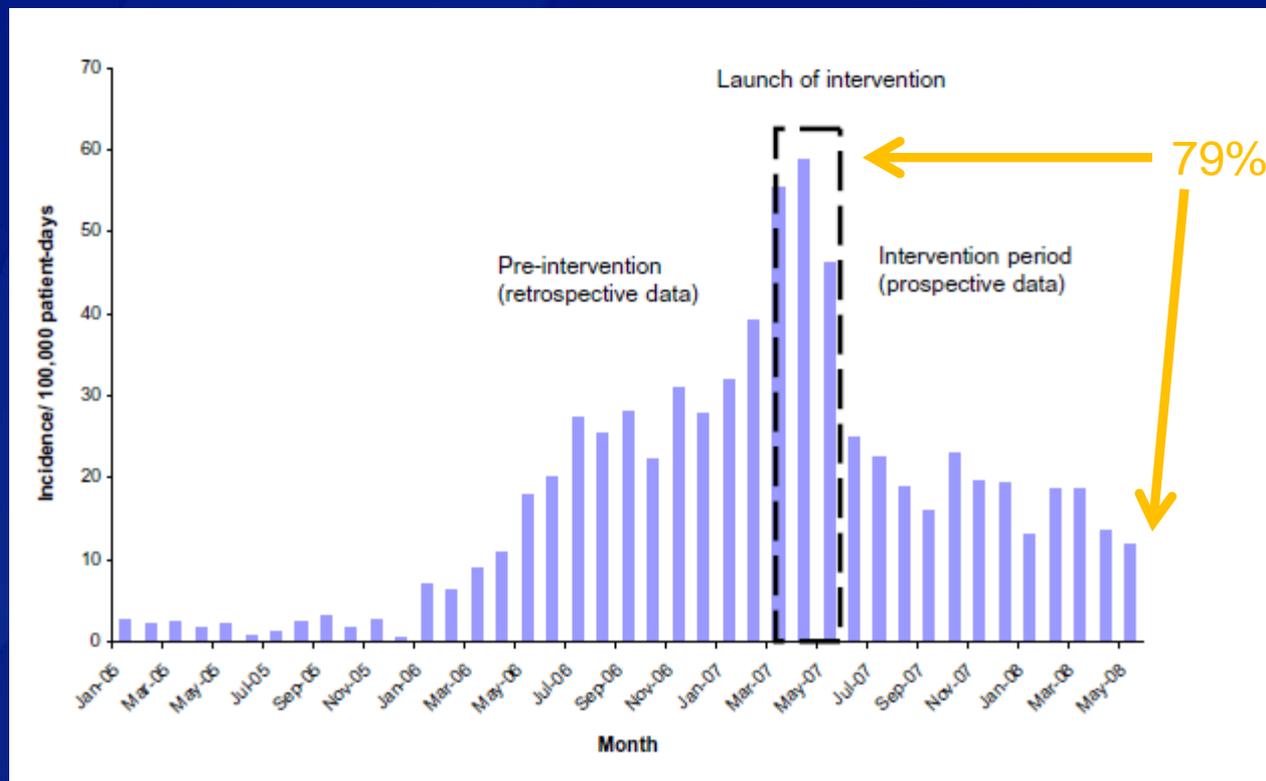


Regional collaboration works..

- ❑ VRE in Siouland region, 1997

- ❑ Israel: National coordinated effort to control KPC-producing CRE
 - Mandatory reporting of patients with CRE
 - Mandatory isolation (CP) of CRE patients
 - Staff and patient cohorting
 - Task Force developed to collect data and Intervene

Incidence of CRE from clinical cultures



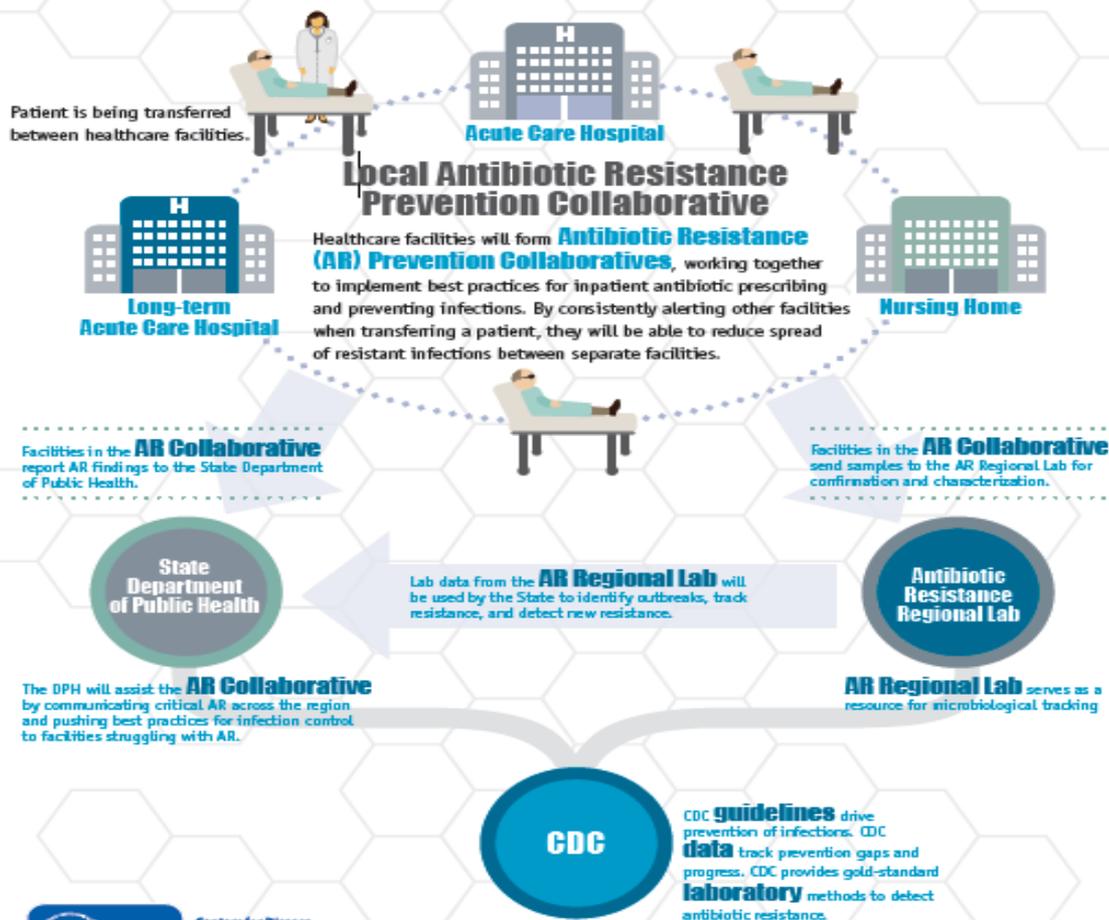
Schwaber et al. CID 2011; 848-855

To Get Ahead of the Curve

- ❑ We have to improve the ways in which healthcare facilities can work together.
- ❑ 2015 federal budget initiative for antimicrobial resistance seeks to do that.

Detect and Protect Against Antibiotic Resistance

CDC's Initiative will support groups of healthcare facilities to implement best practices for prescribing antibiotics, finding and preventing infections



Centers for Disease
Control and Prevention
National Center for Emerging and
Zoonotic Infectious Diseases

Moving Forward

- Pay for reporting is now shifting to pay for performance through value based purchasing- starting with CLABSI in FY 2015.
- On-going calls for increasing HAI reporting requirements in acute care and other settings as well- dialysis, long term care, ambulatory surgery.

Moving Forward

- The increased reporting and regulatory requirements will continue to drive improvements.
- But they can also have unintended consequences that we need to be ever vigilant for.

Moving Forward-Partnerships and Collaboration Are Critical

- We need to expand partnerships with providers, professional organizations, patient and consumer advocates.
- Federal, state and local collaboration and coordination will only become more important.
 - Implementing prevention
 - Exploring new prevention methods
 - Monitoring HAIs (and validating data)