



# Maryland HAI Prevention Efforts

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## National Burden of HAI

- A 2002 study estimated that HAIs account for an estimated 1.7 million infections and 99,000 associated deaths annually,
  - making them the most common complication of hospital care.
- The added financial burden attributable to HAIs is estimated to be between \$28 billion to \$33 billion each year.
- Serious HAIs that lead to extended hospital stays, and ultimately increased cost and risk of mortality, include bloodstream infections (BSIs), catheter associated urinary tract infections (CAUTIs), surgical site infections (SSIs), and ventilator-associated pneumonia (VAP).
  - These four infections account for more than 80 percent of all HAIs.
- Each year, an estimated 250,000 cases of central line-associated blood stream infection (CLABSI) occur in U.S. hospitals, and an estimated 30,000 to 62,000 patients who get the infections die as a result, according to CDC.
- <http://www.ahrq.gov/qual/haiflyer.pdf>

## Definition of HAI

- Healthcare-associated infections (HAIs) are infections that patients acquire during the course of receiving healthcare treatment for other conditions. HAIs can be devastating and even deadly.
- HAI are distinguished from community acquired infections.
- Examples of HAI include:
  - CLABSI, VAE, SSI, CAUTI, Influenza, Blood borne pathogens (HIV, HCV, HBV), Measles, Legionellosis, Skin and Soft Tissue Infections, Diarrhea, Clostridium difficile infection (CDI), MDRO (MRSA, KPC, CRE)

## HHS HAI Action Plan

- Created in 2009, along with the Office of Healthcare Quality (OHQ) by the Assistant Secretary for Health to support and carry out the mandate to improve healthcare quality by preventing and eventually eliminating HAIs.
- Outlines a multi-factorial approach to HAI surveillance, prevention and control across the healthcare continuum.
- Phase I-Acute care inpatient settings
- Phase II-Ambulatory surgery centers, Dialysis Centers, Influenza Immunization of healthcare workers
- Phase III-Long term care facilities

## Maryland HAI History and Background

- 2006 State Law – Grants authority to collect & report HAI.
- MHCC & HAI Advisory committee develops State HAI Plan
  - Broad organizational representation and expertise.
- 2010 Maryland State HAI Plan submitted to HHS:
  - HAI Process and Outcome Measures
  - Infection Prevention
  - IP Training and Workforce Development
  - Electronic Laboratory Reporting

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## Maryland Accomplishments and Activities: A Collaborative Effort

- DHMH Infectious Disease Bureau and Emerging Infections Program:
  - Reportable disease surveillance and outbreaks, training and education, MDRO surveillance (MRSA, Acinetobacter, CRE, C diff), HAI prevalence, antibiotic use, funded by CDC ARRA and ACA.
- DHMH Office of Healthcare Quality (OHCQ):
  - Quality assurance across the healthcare spectrum.
- Maryland Healthcare Commission (MHCC):
  - Mandatory surveillance and public reporting of CLABSI, SSI, HCW Flu Immunization via CDC NHSN surveillance system.
- Maryland Patient Safety Center (MPSC)
  - Hand Hygiene Initiative, other patient safety initiatives
- Delmarva Foundation for Medical Care:
  - State QIO, Hand Hygiene Initiative, MRSA prevention, facilitates HHS Partnerships for Patients-funded projects in Maryland to reduce healthcare acquired conditions
- MHA:
  - Prevention initiatives for CLABSI, VAE, SSI, UTI, HH, CUSP Initiatives.

### MHCC Hospital Performance Guide: CLABSI

Performance Measure	FY2010	FY2011	Difference
<b>All ICU CLABSIs</b>	<b>472</b>	<b>296</b>	<b>Improvement (37.29% reduction)</b>
<b>Adult/Pediatric Intensive Care Units</b>			
CLABSIs	424	262	Improvement <b>(38.21% reduction)</b>
Hospitals with 0 Infections	7	12	Improvement
Hospitals Better than National Experience	0	4	Improvement
Hospitals Same as National Experience	37	39	Improvement
Hospitals Worse than National Experience	8	2	Improvement
Maryland Standardized Infection Ratio (SIR)*	1.35	0.85	Improvement
<b>Maryland Performance (using SIR)</b>	<b>Worse</b>	<b>Better</b>	<b>Improvement</b>
Maryland Adult/Ped ICU Central Line Days	<b>163,757</b>	<b>157,706</b>	
<b>Neonatal Intensive Care Units (NICUs)</b>			
Hospitals with NICUs	15	16	
CLABSIs (total)**	48	34	Improvement <b>(29.17% reduction)</b>
Hospitals with 0 Infections	5	3	No Improvement
Hospitals Better than National Experience	1	2	Improvement
Hospitals Same as National Experience	14	14	No Change
Hospitals Worse than National Experience	0	0	No Change
Maryland NICU Central Line Days	<b>18,453</b>	<b>18,659</b>	

\* The Standardized Infection Ratio (SIR) is a summary measure used to compare the infection rate of one group of patients to that of a standard population.

\*\*It is important to note that the FY 2011 CLABSI data reported on the Hospital Guide includes all central line associated bloodstream infections (umbilical line and non-umbilical line associated bloodstream infections) in NICUs. Only non-umbilical line associated bloodstream infections were reported in the FY2010 data released in October 2010.

[http://mhcc.maryland.gov/consumerinfo/hospitalguide/hospital\\_guide/reports/find\\_a\\_hospital/clabsi\\_all\\_hospital\\_table.asp?icu\\_id=AdPed](http://mhcc.maryland.gov/consumerinfo/hospitalguide/hospital_guide/reports/find_a_hospital/clabsi_all_hospital_table.asp?icu_id=AdPed)

## Strategic Priority Areas for HAI Prevention

- Hand Hygiene
- Antimicrobial Stewardship
- Environmental cleaning
- Public reporting of HAI
- Reimbursement (CMS, HSCRC)
- Targeting Specific Diseases:
  - Clostridium difficile (CDI or C diff)
  - Multidrug Resistant Organisms
    - (MDRO, CRE, MRSA)

## Next Steps

- Assess Maryland's infection prevention efforts
  - Antimicrobial stewardship, envt'l cleaning, screening, isolation, infection control, HCW immunization.
- Utilize this assessment to drive interventions for improvement
  - Potential tools: education, collaboratives, standard measures, public reporting, reimbursement, regulations.
- Enhance current surveillance
  - Target specific organisms: C diff, CRE/KPC, MRSA
  - Pilot new techniques and data collection mechanisms (e.g., NHSN modules)