

# POLICIES

for Eliminating  
Healthcare-Associated  
Infections



Lessons Learned  
from State  
Stakeholder  
Engagement





*Policies for Eliminating Healthcare-Associated Infections: Lessons from State Stakeholder Engagement* is a collaboration between The Association of State and Territorial Health Officials (ASTHO) and the Centers for Disease Control and Prevention (CDC). This report summarizes the outcomes of state meetings and phone consultations regarding the early impact of healthcare-associated infection policies.

To view this publication online, visit [www.astho.org](http://www.astho.org) and [www.cdc.gov](http://www.cdc.gov).

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# CONTENTS

Introduction . . . . .	5
Background . . . . .	5
Phase II Project Overview . . . . .	6
Findings. . . . .	7
Mandatory Public Reporting . . . . .	7
Culture Change . . . . .	8
Capacity . . . . .	8
Best Advice for Building a Suite of Policy Interventions . . . . .	9
Indicators of HAI Reduction . . . . .	10
Next Steps . . . . .	10
Table I: State Stakeholder Observations. . . . .	12
Appendix I: Stakeholder Consultation Topic Areas . . . . .	19
Appendix II: Agenda for In-Person Meeting (New York Sample). . . . .	20
Appendix III: Participants . . . . .	22





# Policies for Eliminating Healthcare-Associated Infections: Lessons from State Stakeholder Engagement

## Introduction

The Association of State and Territorial Health Officials (ASTHO) and the Centers for Disease Control and Prevention (CDC) have collaborated since July 2010 to advance state-level healthcare-associated infection (HAI) prevention efforts. This report, *Policies for Eliminating Healthcare-Associated Infections: Lessons from State Stakeholder Engagement*, summarizes the outcomes of stakeholder meetings and phone consultations, facilitated by The Keystone Center<sup>1</sup>, regarding the early impact of HAI policies in states.

## Background

HAIs are preventable, yet they affect 1 in 20 patients in U.S. hospitals. There is a critical need for comprehensive programs to eliminate HAIs. Several federal initiatives are under way to facilitate HAI prevention, making this an opportune time for states to initiate or enhance HAI programs. State health agencies play a central role in HAI elimination because they are responsible for protecting patients across the healthcare system and serve as a bridge between healthcare and the community. State health agencies may have authority to regulate and inspect facilities, collect and validate data on infections, and implement improvement programs while maintaining the requisite level of privacy and confidentiality to protect patients' rights.

In March 2011, ASTHO and CDC jointly released the toolkit *Eliminating Healthcare-Associated Infections: State Policy Options*, which is available at [www.astho.org/HAI\\_Policy\\_Toolkit](http://www.astho.org/HAI_Policy_Toolkit). This toolkit provides guidance to senior policy-makers on various promising ways to use legal and policy interventions to implement a comprehensive HAI prevention program. The toolkit assesses the landscape of state policies to advance HAI prevention and will benefit states wishing to initiate or enhance existing HAI policies. The policies described in the toolkit include public reporting options, advisory councils, financial incentives and disincentives, and licensure and training requirements. To inform development of the toolkit, ASTHO assembled an expert working group of HAI prevention leaders nationwide, including state health agency staff, legislative liaisons, legal counsel, infection preventionists, epidemiologists and consumer advocates.

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<sup>1</sup> The Keystone Center is a nonprofit organization with over 35 years of experience in the customized design, participant recruitment, and facilitation for multi-stakeholder conversations on health and environmental policy issues.



*The Policies for Eliminating Healthcare-Associated Infections: Lessons from State Stakeholder Engagement* report is phase II of the project. Phase II builds on the HAI policy toolkit and examines the early impact of policy. It is based on phone consultations with stakeholders from seven states and in-person meetings with broad representation in three states. The 150 participating stakeholders represented state and local health agencies, consumer and patient groups, quality improvement organizations, hospitals and hospital associations, outpatient settings, healthcare professionals, and healthcare payers.

### Phase II Project Overview

ASTHO and CDC selected a diverse group of states with relevant policy experience to participate in this project. The Keystone Center convened and facilitated meetings in Colorado, New York, and Tennessee and phone consultations in California, Illinois, Massachusetts, Nevada, Pennsylvania, South Carolina and Washington.

Overarching goals for the project were the following:

- Provide an inventory of promising policy interventions.
- Catalogue indicators of effectiveness (e.g., process measures) being used by states.
- Identify a list of indicators that may help to track the progress of specific policies and any interaction among policies.
- Pinpoint, where possible, specific policies or a suite of policies that show early promise in reducing HAI and could be considered by other states.
- Recommend next steps or future questions that might be explored to further reduce HAI.

Using each state's current policy interventions as a foundation for discussion, one-hour, confidential phone conversations and day-long, in-person meetings were conducted. Stakeholders were asked to rate their level of confidence in each major policy in their state, using existing empirical evidence if possible and professional judgment if no data exist. Stakeholders primarily relied on important dimensions of professional judgment such as experience with other public health interventions, technical expertise and expert observation. The discussion themes included the following:

- Stakeholder confidence in policy effectiveness.
- Contributing factors to policy effectiveness.
- Recommended policy changes.
- Best options for a priority list of indicators for assessing state-level progress.

It is important to note that this report's limitations include the scope of inquiry, as not every state with HAI policies was interviewed; and the timeframe of most relevant policies, as most HAI policies were implemented since 2006 and therefore consensus on scientific impact of a given policy may be difficult to determine.



## Findings

State HAI policies are relatively new, with most originating since 2006. Beyond the data generated by mandatory public reporting, little published information is available regarding the effect of HAI-related policies on infection rates. While it may be too early for outcome data that link specific policies to HAI reduction, other indicators can help to describe best practices. The professional judgment and collective experience described in this report is critical to states embarking on HAI policy development or continuing to enhance and implement existing policies.

## Mandatory Public Reporting

Of existing HAI policies, stakeholders have the most experience with and confidence in mandatory public reporting. Some states are experiencing reductions in HAI rates and, based on professional judgment, many stakeholders attribute these improvements to public reporting policies. Stakeholders from states conducting data validation expressed greater confidence in the value and accuracy of existing data than those from states without a validation system. States with phased-in implementation expressed more optimism about the ability to enact the reporting policies effectively. Participants also favored reporting policies with greater flexibility that allow states to adapt to emerging infections and circumstances that cannot be anticipated. State experiences include the following:

- New York—adult and pediatric central line-associated bloodstream infection (CLABSI) rates have decreased by 18 percent in the state since 2007 after adjusting for type of intensive care unit.<sup>2</sup> Numerous participants attributed the success of disclosure policies in New York to the auditing of reported data and the initial pilot reporting program, that allowed the state to refine requirements and educate facilities on reporting.
- Tennessee—according to state health agency representatives, the 2010 reduction in CLABSI rates in facilities can be attributed in part to public reporting of validated facility-specific rates.
- Colorado—participants observed that the mandatory reporting requirements have yielded benefits by elevating infection prevention to the attention of facility leadership; but they expressed reservations about the quality of the data due to the need for clear, consistent definitions for measurement.
- South Carolina—as reported in the *State-Specific Supplement to the National Healthcare-Associated Infection Standardized Infection Ratio Report: July 2009 through December 2009*, validated data showed a statistically significant reduction of 30 percent in CLABSIs in continuously reporting facilities from the first six-month to the second six-month period in 2009.

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<sup>2</sup> “Hospital-Acquired Infection (HAI) Rates in New York State Hospitals.” New York State Department of Health. [http://www.health.state.ny.us/statistics/facilities/hospital/hospital\\_acquired\\_infections/](http://www.health.state.ny.us/statistics/facilities/hospital/hospital_acquired_infections/). Accessed Aug. 1, 2011

Most stakeholders agreed that public reporting is an important component of HAI programs, but many are not confident that reporting alone will affect infection rates without other interventions. While many individuals acknowledged that reporting alone does not change behavior, stakeholders indicated that the requirement raised the awareness of facility leadership, elevating the importance of HAI reduction and elimination to priority status for senior executives. Many stakeholders asserted—despite doubting that members of the general public regularly used or accurately interpreted the reported data—that no facility wanted to be reported as having the “worst HAI numbers in the state.”

### Culture Change

Stakeholders supported innovative facility-level interventions to allow doctors, staff and patients to participate in driving culture change to prevent HAI through adherence to evidence-based guidelines. Stakeholders frequently cited culture and leadership awareness as enabling factors to the success of HAI policies, including the following:

- California—the creation and implementation of the state’s HAI policies have elevated the importance of infection control and prevention professionals and environmental services within healthcare facilities.
- Massachusetts—the state has maintained strong communication, from the leadership to the front line, which has contributed to the effectiveness of the state’s HAI policies.
- New York—stakeholders asserted that public reporting of HAI infection rates served as the catalyst for institutional and cultural changes in facilities. While a mandate of public reporting is not the sole reason for the reduction in HAI, it raised the awareness among facility leadership/administrators and caregivers and created the impetus for increasing dedicated infection control resources at the facility level.
- Pennsylvania—the state’s success is due in part to several leaders, from various state organizations to facilities, who foster a culture that supports HAI reduction.
- Tennessee—leadership, collaboration, and public reporting have exercised a strong, positive influence on HAI reduction in the state. The foundation for successful HAI policy interventions was laid through the state’s early involvement of key stakeholders in deliberations to inform the policy-making process, including payers, consumers, medical associations, and infection control and prevention professionals. One participant noted that while training helps to establish a basic understanding of needed practices, institutional and professional culture change is imperative to successful implementation.

### Capacity

States with dedicated financial support are better positioned to provide the technical assistance and oversight necessary to implement a comprehensive, well-staffed HAI program. All the states participating in this project benefited from the American Recovery and Reinvestment Act of 2009 funding to bolster HAI efforts, and stakeholders expressed concern about the long-term sustainability of their programs. In cases where enduring funding streams are not





available, stakeholders indicated that seed money, bonus payments, or facility improvement grants from third-party private payers may enable HAI efforts and support the implementation of cost-saving, self-sustaining programs.

Participants indicated that alignment of federal and state policies is needed to maximize HAI prevention capacity. Participants agreed that effective training is vital to reducing HAI, but few individuals were fully satisfied with the quality and reach of their states' infection-control training programs. Some limitations for effective HAI policy impact include insufficient resources, personnel, or training; a lack of validated data; and inadequate incentives to promote adherence to evidence-based guidelines. Stakeholder observations include the following:

- Additional financial support is essential for one state health agency to continue to monitor and validate the data being collected.
- Due to ongoing state budget constraints, stakeholders in one state believe that using state grants to create long-term financial support mechanisms will not be sustainable.
- Many stakeholders recommended increased funding to bolster staff capacity in one state, specifically mentioning the number of certified infection control and prevention professionals and epidemiologists.
- Many stakeholders in one state raised the concern that current HAI reporting requirements result in facility infection control and prevention staff allocating a significant amount of time to reporting, thereby diverting scarce time from more direct prevention efforts.

### Best Advice for Building a Suite of Policy Interventions

Stakeholders participating in phone consultations were invited to highlight the most important first step, or first few steps, essential to developing an effective set of policy interventions. Stakeholders suggested the following strategies with greatest frequency and emphasis:

- **Ensuring a collaborative approach to preventing HAIs from the outset.** Participants supported convening key stakeholders to determine the state's goals and advise policy-makers on the strategic direction and technical particulars of HAI-related policy. States should formulate a multisector advisory council to assist with shaping policy, provide direction on the implementation and further policy evolution. Among advisory council members, patient and consumer advocacy organizations, quality improvement organizations and infection control professionals are needed.
- **Mandating public reporting of HAI rates.** Virtually all stakeholders stressed the importance of requiring standardized and publicly available reporting of key infection rate information. Even stakeholders who questioned its impact on HAI incidence agreed that reporting should serve as a cornerstone of a statewide HAI prevention program, in large part for its influence in raising awareness among facility leadership, policy-makers, the media and other key stakeholders. A majority indicated that mandatory reporting should use

the National Healthcare Safety Network (NHSN) and be accompanied by robust processes for risk adjustment and data validation.

- **Standardizing definitions, reporting processes, metrics and evaluation.** In addition to using NHSN for data collection and reporting, states should move toward standardized metrics for reporting through NHSN. A number of states suggested that the choice of metrics and infections to be reported should be developed through a collaborative process. Stakeholders from Colorado, Illinois, Nevada, New York, South Carolina, Tennessee and Washington also indicated the need for electronic reporting. A call for alignment of state and federal reporting requirements and efforts was expressed.
- **Establishing a set of priority infections for initial focus.** State health agencies should work with key stakeholders, especially intended implementers such as hospitals, outpatient facilities, etc. to identify infections that represent either the gravest threat to health or the clearest opportunities for progress. Other infections can be phased in over time as capacity expands or reasonable success is achieved with the initial array. It is important to begin with a manageable set of priorities rather than risk overwhelming the system with too broad of a focus.

### Indicators of HAI Reduction

Stakeholders were queried about the merits and feasibility of using indicators to measure success. Given the lack of clear outcome data for most HAI policies, many stakeholders agreed that a set of process measures may serve as helpful indicators of whether or not progress is made. The indicators most frequently recommended by stakeholders were those that outlined enhanced facility and health agency capacity and an increased the number of trained and certified infection control personnel, and encouraged greater participation in facility-level improvement plans. A more robust set of indicators and corresponding metrics need to be further developed to be useful and widely implemented.

### Next Steps

States are currently creating or enhancing HAI policies, and early indicators suggest that state policies work in concert with federal initiatives to accelerate HAI prevention. Despite current progress toward the elimination of HAI, there is much work to be done to sustain state HAI programs. Based on stakeholder input, ASTHO and CDC have identified some next steps:

1. Produce a framework reflecting stakeholder recommendations for developing policy options, as well as their advice regarding best practices for implementing such policies.
2. Address questions of interest that emerged from the stakeholder engagement efforts to better understand the effectiveness of state HAI policies. For example, legal interventions



such as mandatory public reporting of HAIs have been identified by stakeholders as a key driver in reducing HAIs. CDC and ASTHO plan to further explore this relationship using more quantitative evaluation methodologies.

3. Evaluate the impact of CDC's support to states in implementing their state mandates and programs. CDC and ASTHO plan to examine core CDC functions and support to states in the absence of direct financial support; for example, by looking retrospectively at CDC's support in select states to identify evidence of effective investments, whereby CDC could sustain state HAI activities.

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We gratefully acknowledge the participating stakeholders (see appendix III for a complete list) for their time, expertise and insights. The opinions expressed in this report do not necessarily represent the views of their organizations.

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## Table I: State Stakeholder Observations

The table below is a list of the professional opinions of individual stakeholders—this does not reflect agreed upon consensus statements and does not represent policy of any governmental or nongovernmental organization.

### What is Working: Policy and Implementation Strengths

### Lessons Learned: Recommended Policy and Implementation Changes

## CALIFORNIA

### Culture Change and Raising Awareness

- Creation and implementation of HAI policies has raised the significance of infection control, elevating the importance of the facility's infection control and prevention professionals (ICPs) and environmental services.

### Reporting

- Mandatory public reporting.
- Mandatory National Healthcare Safety Network (NHSN) participation.
- Utilization of electronic reporting.

### Advisory Council

- Technical expertise and guidance from the advisory council informs health department decisions.

### Licensure & Training

- Ongoing training requirements for facility ICPs and epidemiologists.

### Culture Change and Raising Awareness

- Implement and increase enforcement efforts for all HAI-related policies.
- Improve communication, understanding and feedback between hospitals and the health department.

### Policy Construction

- Incorporate local health departments in HAI policy development to prevent confusion or exclusion. Increase flexibility in the law and implementation strategies.
- Reduce ambiguity in the law by defining components more clearly.

### Reporting

- Align state and federal reporting requirements.
- Allow for phased-in implementation of reporting requirements.
- Allow local health departments to have access to raw data reported to the state through NHSN.
- Engage facility leadership to supply appropriate resources to meet mandatory reporting mandates. The use of infection prevention staff for mandatory reporting and data entry activities is inappropriate and unsustainable.

### Financial Support

- Without continued federal funding, many state programs will probably be eliminated, resulting in loss of ongoing activities and momentum. Depending on federal funding is also unsustainable.

### Licensure and Training

- Ensure state health department surveyor competency through improved and increased training efforts.
- Supply of trained infection prevention and epidemiology personnel is insufficient to meet the current demand, and there is a lack of formal training programs to fill this gap.

### Advisory Council

- Create an inclusive advisory council, specifically by including quality improvement organizations.
- Strengthen the advisory council's role in policy development and implementation strategies.



## What is Working: Policy and Implementation Strengths

## Lessons Learned: Recommended Policy and Implementation Changes

### COLORADO

#### Culture Change & Raising Awareness

- Strong health department that provides support and is responsive to the needs of facilities.

#### Policy Construction

- Phased-in implementation of reporting requirements.
- The law was amended when necessary—i.e., ambulatory surgical centers (ASCs) were exempt from being required to have HAI data collected by a certified ICP.

#### Reporting

- Public reporting drives HAI policy compliance by facilities.
- Reporting mandate elevated the importance of infection control to facility leadership.
- Reporting mandate is not limited to hospitals (ASCs and dialysis centers are also obligated).

#### Advisory Council

- Strong and devoted advisory council

#### Culture Change & Raising Awareness

- Work with physicians, specifically surgeons, to increase buy-in of HAI reporting policies.

#### Policy Construction

- Create an HAI module for small hospitals.
- Mandate the use of electronic reporting by all reporting facilities.
- Provide facilities the ability to recommend changes to reporting requirements, if it is determined the requirement is not applicable to their facility.

#### Reporting

- Align state and federal HAI reporting policies.
- Develop standard definitions and implement consistent data surveillance.
- Improve risk adjustment in the reporting process.
- Increase surveillance and data reporting consistency.
- Work to develop a more user-friendly NHSN.

#### Financial Support

- Develop financial support mechanisms to improve infection control and reporting infrastructure at the state health department and facility level.
- Provide additional financial support to build capacity and reduce ICPs staff turnover.
- Provide financial support for data validation and audits.
- Provide financial support to increase prevention efforts.

#### Financial Penalties

- Levy penalties for failing to meet target infection rates.

#### Licensure & Training

- Establish more robust and specific infection control training programs.

### ILLINOIS

#### Culture Change and Raising Awareness

- Creation and implementation of HAI policies has raised the importance of infection control.
- Facility leadership that cultivates change in culture and supports transparency.

#### Policy Construction

- Wide stakeholder engagement with key organizations and interests to implement effective HAI reduction strategies throughout the state.

#### Policy Construction

- Craft legislation that is not pathogen-specific or overly prescriptive.
- Establish clear, strategic goals for overall, statewide efforts.
- Provide for flexibility in the laws and implementation strategies at the facility level.

#### Reporting

- Develop clear risk adjustment in the reporting process and publicly available reports.

## ILLINOIS *cont'd*

### Reporting

- Institution of rigorous surveillance and monitoring of HAI incidence.
- Mandatory public reporting.
- Mandatory use of NHSN for reporting.

- Develop standard definitions and implement consistent data surveillance.
- Expand NHSN enrollment and reporting to all facilities.
- Increase the number of reportable HAI and pathogens.

### Financial Support

- Increase state health department and facility capacity and personnel to implement HAI reduction strategies.
- Secure sustainable funding and resources for facilities and the state health department.

### Other

- Improve electronic communication between facilities to increase collaboration.
- Provide technical assistance and support for facilities.

## MASSACHUSETTS

### Culture Change and Raising Awareness

- Encouraging facilities to focus resources on identifying how and why they need to improve.

### Policy Construction

- Engaging of a diverse set of experts and community leaders, including consumer advocates, building public and healthcare provider support for HAI reduction initiatives.
- Holding facilities accountable through data validation and site visits.
- Phased-in implementation of reporting requirements and effective roll-out of the policy.

### Reporting

- Capturing the attention of both the clinical community and general public with required reporting.
- Collecting and monitoring data through a clearinghouse for the development, evaluation, and dissemination (including but not limited to the sponsorship of training and education programs) of best practices for patient safety and medical error reduction.
- Establishing a process to validate data.
- Utilizing information technology and electronic reporting.

### Advisory Council

- Establishing and convening an advisory council to help inform the health department about future policy decisions and to determine best approaches for HAI reduction.

### Reporting

- Demonstrating return on investment of reporting policy efforts.
- Develop standard definitions and implement consistent data surveillance.
- Improve risk adjustment in the reporting process, especially for facility comparisons.
- Increase the number of reportable HAI and pathogens, including ventilator-associated pneumonia (VAP).
- Limit the number of reportable conditions and HAI (the current number is time consuming).
- Provide evidence illustrating public reporting has improved care and patient safety.
- Require more frequently (e.g., quarterly) available user-friendly, nontechnical, facility-level reports to the public.
- Validate all reported HAI data.

### Training & Licensure

- Require infection control training and licensure for all infection control and prevention staff.
- Increase state health department support of infection control and prevention training.

### Financial Incentives

- Create incentives for facilities to implement policies.

### Financial Support

- Secure sustainable funding and resources for facilities and the state health department.



## NEVADA

### Culture Change and Raising Awareness

- Leadership support and an overall culture change within the facilities.

### Policy Construction

- Crafting a general definition for HAI in the legislation, allowing for flexibility in implementing the policies.

### Reporting

- Utilizing the state's sentinel event registry.

### Culture Change and Raising Awareness

- Improve facility leadership buy-in to HAI policies.
- Increase the transparency of HAI reporting initiatives and efforts at the state health department and facility level.

### Policy Construction

- Develop mechanisms for more proactive policies versus reactive policy development in response to infection outbreaks.

### Reporting

- Develop standard definitions and implement consistent data surveillance.
- Increase the availability of user-friendly, nontechnical HAI data reports to the public.
- Increase the number of reportable HAIs and pathogens.
- Provide facilities with guidance and technical support from the state.

### Financial Support

- Provide financial support for data validation and audits.
- Provide financial support for data collection and surveillance.
- Provide financial support to increase facility staff capacity, specifically, to increase the number of certified ICPs and epidemiologists.

### Financial Penalties

- Increase the utilization of existing punitive laws to ensure facility compliance.
- Implement pay-for-performance reimbursement strategies for all facilities and physicians.

### Training and Licensure

- Ensure state health department surveyor competency through improved and increased training efforts. Increase training opportunities and requirements for ICPs.

### Other

- Improve information-sharing and communication between local and state health departments.

## NEW YORK

### Culture Change and Raising Awareness

- High level of stakeholder buy-in.
- Successes are publicized to the community, CEOs and hospital staff.
- The hospitals in the collaborative support one another.

### Policy Construction

- The state began with a manageable pilot phase.

### Policy Construction

- Align state and federal reporting requirements.
- Develop and utilize hospital-specific dashboards to demonstrate facility reduction strategies and progress.

### Reporting

- Increase the use of automated systems to improve accuracy of data reporting.
- Data validation is an essential component to evaluate true reduction in HAI rates.



NEW YORK *cont'd*

Reporting

- Data are validated and audited.
- Mandatory NHSN participation.
- Mandatory public reporting.
- Utilization of shared definitions and terminology.

Financial Penalties

- Hospital leadership is supportive of policies and motivated, in part, by potential losses due to lower reimbursements.

Financial Incentives

- Develop policies to establish financial incentives for HAI reduction rather than relying on grant-based financial support.
- Align federal and state reimbursement policies.

Financial Support

- Establish funding streams for facilities to encourage infection control and prevention innovation.

Training and Licensure

- Adapt current infection control and prevention training to be more pertinent (e.g., emphasis on real-time training, greater use of technology).
- Integrate additional infection control practices in graduate and continuing medical education training programs.

PENNSYLVANIA

Culture Change and Raising Awareness

- Facilities participate in state collaboratives focused on HAIs such as Methicillin-resistant *Staphylococcus aureus*, *C. difficile*, and surgical site infections.
- Increase in HAI-related educational articles and information shared with the public may be contributing to the reduction in infection rates.
- Several leaders, representing various organizations and facilities throughout the state, foster a culture supporting HAI reduction.

Reporting

- Mandatory NHSN participation.
- Mandatory public reporting.
- Release of publicly available reports of statewide HAI data.
- Reporting requirements apply to more than just acute care facilities.

Culture Change and Raising Awareness

- Increase collaboration and input from stakeholders in the creation of new HAI policies.
- Improve and facilitate communication between facilities throughout the state.

Reporting

- Demonstrate return on investment of reporting policy efforts.
- Develop standard definitions and implement consistent data surveillance.
- Establish HAI-reduction benchmarks within the state.
- Expand NHSN enrollment and participation to all facility types.
- Mandate availability of user-friendly, nontechnical reports of HAI data to the public.
- Provide cross-state comparisons of infection rates and reduction strategies.
- Work to develop a more user-friendly NHSN.

Financial Support

- Secure funding and resources to increase infection control capacity in all facilities.
- Increase prevention efforts through the state's provision of additional infection prevention resources.

Training and Licensure

- Require increased education, training and certification of ICPs

Financial Incentives and Penalties

- Mandate the use of incentives or penalties for reporting compliance.

Other

- Develop and utilize evidence-based best practices.





## SOUTH CAROLINA

### Culture Change and Raising Awareness

- The law has increased transparency, accountability for patient safety and general awareness of HAI.
- Significant time and effort has been invested in consumer education.

### Policy Construction

- Phasing-in of reporting requirements.
- Strong, diverse multisector coalition of leaders spearheading the HAI reduction efforts collaboratively.

### Reporting

- Mandatory NHSN participation.
- Mandatory public reporting.
- The state policy to provide NHSN training and data validation has resulted in higher confidence in the quality and accuracy of the data.

### Advisory Council

- Creation and utilization of a state HAI advisory council.

### Culture Change and Raising Awareness

- Expand HAI prevention and reduction education, outreach and training to consumers.

### Reporting

- Develop standard definitions for pathogens such as ventilator-associated pneumonia.
- Adopt state policies to implement consistent data surveillance across all facilities.
- Enable facilities to collect and report hospital-wide and unit-by-unit HAI data.
- Increase the number of reportable HAI and pathogens.
- Mandate the use of electronic reporting by all reporting facilities.
- Require HAI reporting by all facilities and units.
- Validate all reported HAI data; South Carolina validates the NHSN data resulting in higher confidence in the data.
- Work to develop a more user-friendly NHSN.

### Financial Support

- Provide sufficient funding to support comprehensive HAI data reporting.

### Financial Penalties

- Implement stronger compliance regulations and disincentives.

### Training and Licensure

- Mandate at least one licensed ICP per facility.
- Require specific infection control and prevention training for all staff.

### Advisory Council

- Require the establishment of facility-level infection control advisory council akin to the state's council to assist in the development and implementation of facility-level HAI efforts.

## TENNESSEE

### Culture Change and Raising Awareness

- CEOs are holding each other accountable.
- Collaboratives have been beneficial (for example, facilities that participated in Tennessee Center for Patient Safety have seen a statistically significant difference in the reductions of CLASBIs).

### Policy Construction

- Convening an initial interdisciplinary, cross-sector study council benefited the final legislation, allowing for expert input and time for the health department to determine thoughtfully what should be in the final legislation.

### Policy Construction

- Increase flexibility in the law and implementation strategies.

### Reporting

- Reduce lag time in reported data and results of statewide report.
- Consider allowing an advisory committee to recommend frequency of reporting of statewide results as well as time lag. Legislation may not provide desired flexibility in reporting format.



### TENNESSEE *cont'd*

- Needs assessment was conducted for ICPs by health department.

#### Reporting

- Data are validated and audited.
- Flexibility in what conditions are reportable (conditions are specified in rules and regulations, not in the state code).
- Use of NSHN definitions, methodology and software, thereby facilitating collection of information that is useful at both the state and facility level.
- Use of standardized definitions established by the Joint Commission specifically for SSI.

#### Financial Support

- Continue and increase financial support for data validation.
- Create financial support mechanisms that go beyond funding for the health department and would extend to individual facilities. Because of contract limitations, the health department provides support to facilities through a single contract: the public health hospital reporting project, which supports electronic reporting of data to NHSN as well as electronic laboratory result reporting.
- Develop financial support mechanisms to improve infection control and reporting infrastructure at the state health department and facility level.

#### Training and Licensure

- Increase requirements for infection control training.

### WASHINGTON

#### Culture Change and Raising Awareness

- Demonstrated support from stakeholders and advocates around the state.
- Increased awareness of HAI among the general public and within the clinical community.
- Increased partnerships and the creation of collaboratives around the state.
- Observed shift in the healthcare provider community and general public culture to supporting transparency and reporting.

#### Reporting

- Mandatory use of NHSN for reporting.
- Utilization of shared definitions and terminology. Facilities participate in state collaboratives focused on HAIs such as Methicillin-resistant *Staphylococcus aureus*, *C. difficile*, and surgical site infections.
- Increase in HAI-related educational articles and information shared with the public may be contributing to the reduction in infection rates.
- Several leaders, representing various organizations and facilities throughout the state, foster a culture supporting HAI reduction.

#### Reporting

- Mandatory NHSN participation.
- Mandatory public reporting.
- Release of publicly available reports of statewide HAI data.
- Reporting requirements apply to more than just acute care facilities.

#### Culture Change and Raising Awareness

- Increase leadership participation within the healthcare community to facilitate cultural change.

#### Reporting

- Standardize the infection types reported and implement consistent data surveillance.
- Expand CLABSI surveillance and consider how to include reporting of pathogens of particular public health concern (certain multidrug resistant organisms).
- Mandate the use of electronic reporting by all reporting facilities.
- Validate reported HAI data.

#### Financial Support

- Bolster capacity and sophistication of lab reporting.
- Increase state funding and opportunities for training of ICPs and epidemiologists.
- Secure funding and resources to increase infection control capacity in all facilities.
- Secure sustainable funding and resources for facilities and the state health department.

# Appendix I

## *Stakeholder Consultation Topic Areas*

### Stakeholder Consultation Topic Areas

The focus of our conversation included these broad topical areas.

**CONFIRMING POLICY APPROACHES.** Is the attached overview of HAI policies in your state— prepared by CDC as a draft for discussion—accurate, or are there oversights or errors?

**IMPACT.** Is each policy working effectively? Why or why not, and based on what evidence? How is progress being measured? Would any specific changes to HAI policy in your state lead to significantly greater progress?

**INDICATORS and METRICS.** Which of the “process indicators” in the attached list—prepared in consultation with CDC as a draft for discussion—are most helpful in tracking progress in HAI reduction? Should any be considered as top priorities for widespread use? Would you suggest any changes to the list?

**BEST ADVICE.** After watching/tracking/participating in the development/implementation of one or more HAI policies, what advice would you give to a state considering a suite of policy options? What is the most important handful of policy measures to take?

# Appendix II

## Agenda for In-Person Meeting (New York Sample)

### Understanding Best Policy Approaches for Healthcare-Associated Infections

#### MEETING AGENDA

##### Desired Outcomes

- To understand the potential impacts of state law- and policy-based interventions\* on preventing healthcare-associated infections (HAIs) in New York.
- To identify early indicators resulting from policy interventions expected to lead to HAI elimination.
- To determine if available indicator data suggest whether specific policies or a combination of policies show early promise and should be considered by other states.
- To understand other factors that may further enable or create barriers to policy effectiveness.

*\*Interventions also may be governmental (statutes, rules, regulations, or policies) or non-governmental (i.e., internal organizational policies in a hospital, association, etc).*

##### **9:30 a.m. Welcome and introductions**

*Centers for Disease Control and Prevention (CDC)  
New York State Department of Health*

##### **9:45 a.m. Meeting purpose, agenda review, and ground rules**

*Objective: Review the meeting purpose and plan for the day.*

##### **10:00 a.m. Overview: Understanding policy interventions for state HAI programs**

*Objective: Provide background on CDC/ASTHO's approach to and methodology for this effort.*

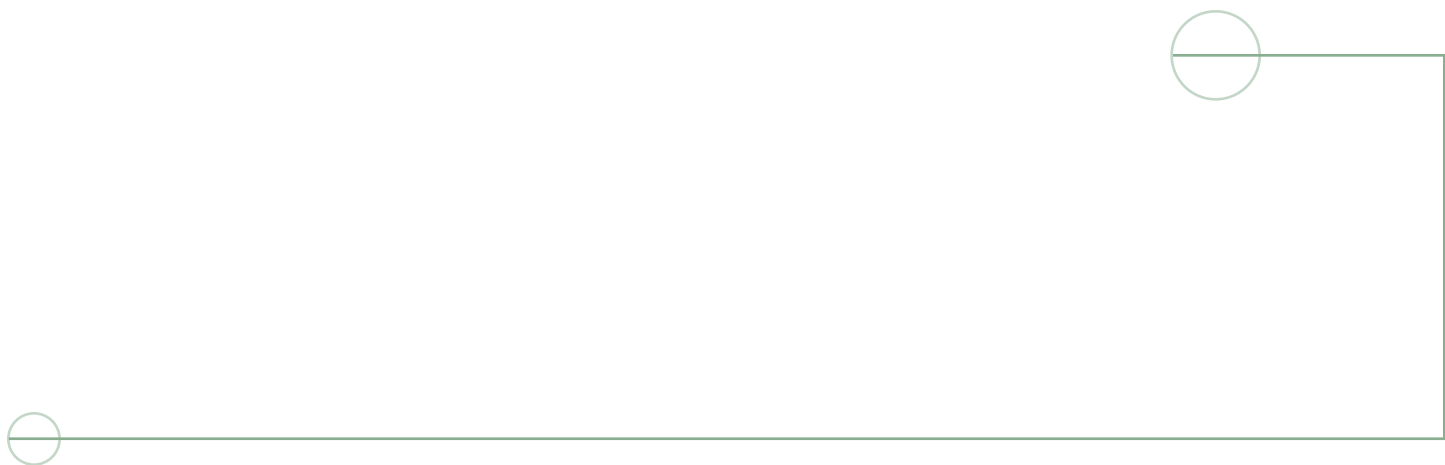
##### **10:15 a.m. Open discussion and comment**

##### **10:30 a.m. Discussion of state laws, policies, and their intentions**

*Objective: Ensuring a shared understanding of the state's suite of policies, intentions behind those policies, and the environment that led to their creation.*

Key questions to explore:

- What components of the policy intervention(s) appear to be working most effectively thus far and why?
- Were there particular enabling factors for the policy intervention(s)?

- 
- Have unintended consequences emerged?
  - Are any significant non-governmental policies underway?
  - Do any additional efforts need to be mentioned?(e.g., additional policy elements, resources, leadership)
  - In what ways (if any) are the policies interrelated and complementary? (That is, were they designed to work together and reinforce one another, or did they evolve separately?)

**11:30 a.m. Impacts of policies**

**12:30 p.m. Lunch**

**1:30 p.m. Continue Impacts discussion**

**2:45 p.m. Break**

**3:00 p.m. Measuring impact of policies: indicators of HAI prevention**

*Objective: Discussion of outcome and process indicators that show HAI prevention and the state's experience. Determine priority indicators of successful policy interventions.*

Key questions to explore:

- How are you tracking or measuring success of policy intervention(s) thus far?
- What, if any, indicators have been the most useful in reducing & eliminating HAIs?
- Are there any indicators or metrics you're not currently using that you feel are missing and need to be added?
- Thus far, do any of these indicators point to particularly promising policies (or a suite of policies)?
- Are there indicators that provide useful information about how the elements in the suite of policies complement each other in providing more efficient outcomes?
- If you were to choose five to ten indicators to emphasize for broad adoption, what would they be?

**4:30 p.m. Discussion of next steps**

**4:45 p.m. Closing Comments**

**5:00 p.m. Adjourn**

# Appendix III

## Participants

### Meeting Observers and Facilitators

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*“Keeping practitioners and facilities in the loop as reports are prepared and released goes a long way toward building trust and credibility. Even if someone is getting a red mark, if the methodology, data and process are transparent and make sense to them, the party in question is more likely to respond positively.”*

*—Healthcare provider participant*

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*“If you can build a well-equipped, determined advisory committee with a clear structure, with participation of experts and consumer advocates, and with real authority, then you have a good chance of establishing a good program.”*

*—Insurer participant*

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*“None of the policies by themselves would make a difference; it is the combination of them all that then makes the impact.”*

*—State Health Agency participant*

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*“We are past the point that public reporting is [simply] important. It is happening and going to happen—it is a part of transparency.”*

*—Consumer and patient advocate participant*

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*“Listen to your constituents—that is, the professionals at hospitals. States need to understand what hospitals are really dealing with, need, and can do.”  
—Facility-based prevention professional participant*

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*“Infection control professionals became more comfortable with the idea of talking about HAls and what was happening in their institution; they are no longer ‘state secrets.’”*

*—Hospital administrator participant*

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*“We need to focus on [reporting] things that are significant, definable and verifiable. By focusing only verifiable events we’d be ensuring that what was reported was significant, and we’d be freeing up time of infection control professionals to do more actual prevention work.”*

*—Insurer participant*

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*“Phasing in of reporting is essential. Don’t start by requiring reporting of every condition right away. It would take away from real prevention activity, forcing us to spend all our time counting things.”*

*—State health agency participant*

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