



SOUTH DAKOTA DEPARTMENT OF HEALTH

South Dakota HAI Department Action Plan to Prevent Healthcare-Associated Infections and Antibiotic Resistance

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Table of Contents

Background	3
List of Acronyms and Links to Relevant Resources.....	4
South Dakota HAI Action Plan for ELC G1 Base.....	5

Background

South Dakota Department of Health (SD DOH) Disease and Prevention Services serve an approximate population of 884,000 individuals residing from urban to mostly rural areas within the state.¹ SD DOH is a central entity in the state government working along with Federal partners to eliminate healthcare-associated infections (HAIs) and reduce the burden of multidrug-resistant organisms (MDRO). The effects of HAIs have the potential to impact all communities within South Dakota, particularly the most vulnerable populations in rural areas that lack access to critical healthcare infrastructure. Therefore, it is important to provide a coordinated effort that utilizes a collaborative public health approach of surveillance, outbreak response, infection control, research, training, education, and prevention practices. SD DOH partners with healthcare facilities in acute care, long-term care, and ambulatory care settings to address three strategic priorities to better prevent antimicrobial resistance (AR) and HAIs and encourage antibiotic stewardship (AS) in healthcare facilities.

The following action plan is structured using three strategic priority areas identified by the state HAI program:

- Surveillance, Detection, and Response
- Prevention and Intervention
- Communications, Coordination, and Partnerships

South Dakota's HAI program overall mission will be to conduct surveillance on evolving MDROs and provide timely response to emerging MDRO threats. The program will provide technical assistance to healthcare facilities in outbreak response of HAIs, offer education and support on antibiotic stewardship initiatives, and finally, facilitate partnership and collaboration among state partners and stakeholders involved in antibiotic stewardship and HAIs.

¹ Population estimate retrieved from [https://www.census.gov/quickfacts/SD 8/19/20](https://www.census.gov/quickfacts/SD%208/19/20)

List of Acronyms and Links to Relevant Resources

Acronym	Full Name
APIC	Association for Professionals in Infection Control and Epidemiology
AR	Antibiotic Resistance
ARLN	Antibiotic Resistance Laboratory Network
AS	Antibiotic Stewardship
AUR	Antimicrobial Use and Resistance
CAH	Critical Access Hospital
C. auris	<i>Candida auris</i>
CAUTI	Catheter-Associated Urinary Tract Infection
CDI	<i>Clostridioides difficile</i> Infection
CP-CRE	Carbapenemase-Producing Carbapenem-Resistant Enterobacterales
CDC	Centers for Disease Control and Prevention
CLABSI	Central Line-Associated Bloodstream Infection
COLO	Colon (related surgeries)
CRE	Carbapenem-Resistant Enterobacterales
DUA	Data Use Agreement
Ftag	Numbering system corresponding to specific stipulations within the Code of Federal Regulations.
HAI	Healthcare-Associated Infections
HYST	Abdominal and hysterectomy related surgeries.
ICAR	Infection Control Assessments and Response
IMP	Imipenemase
KPC	Klebsiella pneumoniae carbapenemase
LNA	Learning Needs Assessment
LTACH	Long-term Acute Care Hospital
MDRO	Multi-drug Resistant Organism
NHSN	National Healthcare Safety Network
NDM	New Delhi Metallo-beta-lactamase-1
OXA	Oxacillinase
PFL	Project Firstline
PPE	Personal Protective Equipment
SD DOH	South Dakota Department of Health
SDPHL	South Dakota Public Health Laboratory
SIR	Standardized Infection Ratio
SME	Subject Matter Expert
SNF	Skilled Nursing Facility
SSI	Surgical Site Infection
TAP	Targeted Assessment for Prevention Strategy
VIM	Verona Integron-Encoded Metallo-beta-lactamase
vSNF	Ventilator Capacity Skilled Nursing Facility

ELC G1

Strategy	Implementation Activities
<p>I. Support containment of novel or high-concern antibiotic-resistant organisms.</p>	<ul style="list-style-type: none"> • SD DOH, along with the South Dakota Public Health Lab AR SME and lab director, will provide HAI/AR technical assistance and support to clinical labs, infection prevention networks (South Dakota Infection Control Council), and healthcare facilities within the state. • SD DOH will develop written plans that address AR threats such as C. auris & CP-CRE and include submission, reporting, and response requirements by the health system. • Conduct colonization screenings and continue until spread is controlled. Facilitate timely sharing of colonization screening results and incorporate findings in recommendations to affected healthcare facilities and providers. • SD DOH will use the CDC's Interim Guidance for a Public Health Response to Contain Novel or Targeted Multidrug-resistant Organisms to serve as general guidance for the initial response for the containment of novel or targeted MDROs or resistance mechanisms.
<p>II. Support rapid response efforts to control newly identified HAIs and AR risks, outbreaks, or serious infection control breaches.</p>	<ul style="list-style-type: none"> • Respond to and investigate outbreak reports made by facilities: SD DOH will facilitate a coordinated response among interconnected facilities by involving system and facility level infection control expertise
<p>III. Conduct response-driven onsite infection control assessments and evaluations and provide recommendations for containment and other responses.</p>	<ul style="list-style-type: none"> • Conduct onsite infection control assessments at facilities where targeted organisms or resistance mechanisms have been identified or have occurred. In response to the identification of a targeted organism (e.g., C. auris or pan-resistant isolates), or non-KPC resistance mechanisms (e.g., NDM, VIM, IMP, OXA), SD DOH will provide an on-site Infection Control assessment using CDC ICAR tools. • SD DOH will provide an on-site infection control assessment using CDC ICAR tools in response to the outbreak of a targeted organism (e.g., C. auris or pan-resistant isolate), or resistance mechanisms (e.g., CRE with the less common carbapenemase).

Strategy	Implementation Activities
<p>IV. Enhance other aspects of epi-lab coordination.</p>	<ul style="list-style-type: none"> • Using elements and guidance provided by CDC, collaborate with public health labs (local, state, and regional) to develop coordinated work plans to improve coordination and information flow. • The SDPHL SME, along with the AR Expert, and HAI coordinator will enhance existing work and communication plans. These plans will contain test algorithms for CRE/CP-CRE isolates, as well communication plans to the HAI coordinator or designee. • SD DOH will develop algorithms for testing CRE/CP-CRE isolates, that will determine the flow of information based on specimen result. • SD DOH will develop a CRE colonization work plan that incorporates Lab and epidemiology staff, and the option of working with the ARLN for isolate submission. • Facilitate connections between facilities or clinical laboratories and public health labs to ensure appropriate isolates are forwarded to the regional AR laboratory for targeted surveillance activities. • SD DOH will maintain greater than 90% isolate submission for CRE isolate reported to the SDPHL. • SD DOH will facilitate isolate submission to ARLN.
<p>V. Use data for action.</p>	<ul style="list-style-type: none"> • The HAI program will examine available NHSN data provided to the DOH through the NHSN DUA for outliers including, but not limited to, facilities with high CAD, SIR, and examine AUR module. • Extract, review, and send NHSN TAP data reports to Acute Care facilities and LTACH. Measures will include CDI TAP, CLABSI TAP, CAUTI TAP and SSI SIR (COLO/HYST). • Use data to inform the HAI advisory committee structure, membership, and priorities. • Data available to the SD DOH, including NHSN aggregate data, and AR surveillance data will be shared during HAI workgroup meetings. • HAI advisory committee will use data to help define jurisdiction priorities for HAI prevention and response to AR.

Strategy	Implementation Activities
VI. Implement data-driven prevention strategies.	<ul style="list-style-type: none"> • Conduct ongoing onsite assessments and gap mitigation in long length-of-stay, high-acuity facilities (e.g., skilled nursing facilities that provide ventilator care (VSNF), LTACHs, or others. e.g., dialysis facilities, outpatient facilities), based on identified needs (e.g., poor infection control practices), with the goal to improve infection control practices to reduce transmission of selected MDROs or reduce HAIs. • The state survey agency will continue to notify the HAI program of any Ftag 441 (or equivalent) infection control deficiencies that are assessed at facilities that result in immediate jeopardy, and the HAI department will help these facilities. • SD DOH will examine newly obtained NHSN data, to identify high risk facilities (i.e., dialysis facilities) and identify if an ICAR is appropriate.
VII. Implement antibiotic stewardship efforts	<ul style="list-style-type: none"> • Facilitate core element implementation in designated settings. Core elements should be applied in the setting for which they were designed.
VIII. Sustain HAI/AR capacity to implement program	<ul style="list-style-type: none"> • The HAI coordinator will provide HAI prevention coordination in collaboration with the State Epidemiologist and provide containment and response activities as directed by CDC. • The AR/AS will provide senior-level expertise (e.g., doctoral level or equivalent experience) in epidemiology and infection prevention with proficiency in AR/AS and data for action.

Strategy	Implementation Activities
<p>IX. Engage public health and healthcare providers</p>	<ul style="list-style-type: none"> • Building upon work previously funded through the Ebola supplement, maintain and update, as needed, an inventory of all healthcare settings in the jurisdiction. • SD DOH maintains an active inventory of all healthcare facilities in the state of South Dakota. This inventory breaks down facilities by facility type, name, address, phone number, county, number of beds, and administrator. The facility list can be found at the following link: https://apps.sd.gov/ph04lassnet/rptPH04LicenseList.aspx • Provide education/training on infection control for healthcare facilities on prevention of HAIs and control of targeted MDROs. • Improve onsite assessment capacity by developing expertise in facility assessment designed to improve infection prevention and control in outpatient or high-acuity, post-acute care settings.
<p>X. Coordinate prevention activities with partners (e.g., health systems, hospital associations, quality improvement programs such as QIN-QIOs and HIINs, Epicenters, EIP, local health departments, regulatory/licensing entities, ESRD networks).</p>	<ul style="list-style-type: none"> • Identify and engage with partners for prevention activities. • The HAI/AR program collaborates with the statewide HAI Advisory Committee which includes clinical stakeholders from across South Dakota. Stakeholder responsibilities include sharing internal QI project activities, submission of isolates to the SDPHL for molecular and phenotypic characterization, sharing of best practices in AS stewardship initiatives conducted in their healthcare systems, provide education related to HAIs and AR/AS and contribute to the state HAI plan.
<p>XI. Convene HAI advisory committee</p>	<ul style="list-style-type: none"> • Update the HAI plan regularly. • The HAI program will host meetings to present data from NHSN and SDPHL surveillance, provide aggregate data and information related to outbreak investigations in healthcare settings, discuss best practices related to HAI and AR containment, updated guidelines, and national trends in antimicrobial stewardship and resistance.