Nebraska DHHS HAI/AR Program

Lacey Pavlovsky, RN, MSN, CIC, LTC-CIP
HAI/AR Infection Preventionist and
NHSN Coordination Lead,
Nebraska DHHS

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DEPT. OF HEALTH AND HUMAN SERVICES

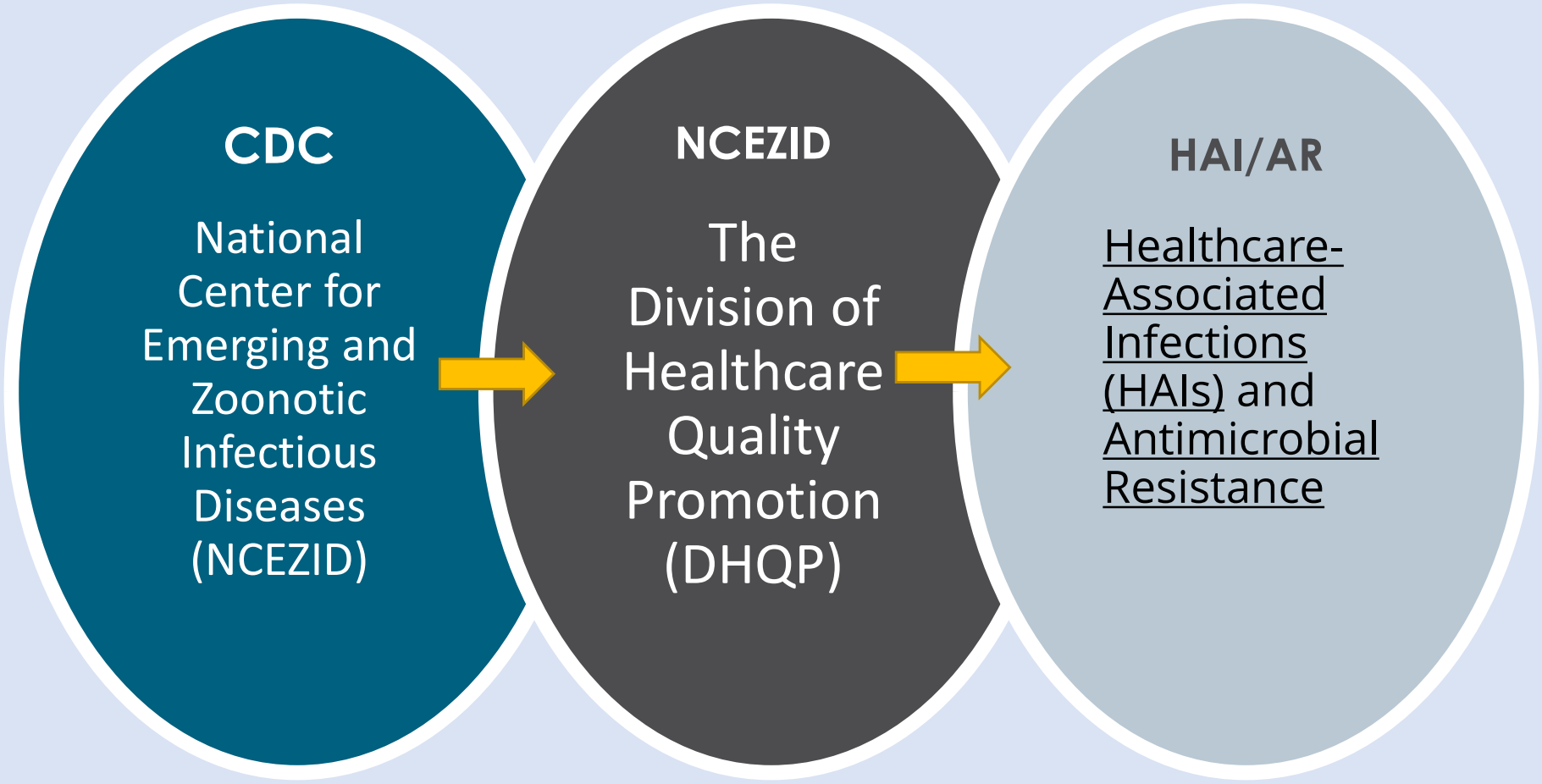
DIVISION OF
PUBLIC HEALTH

PROGRAM OVERVIEW

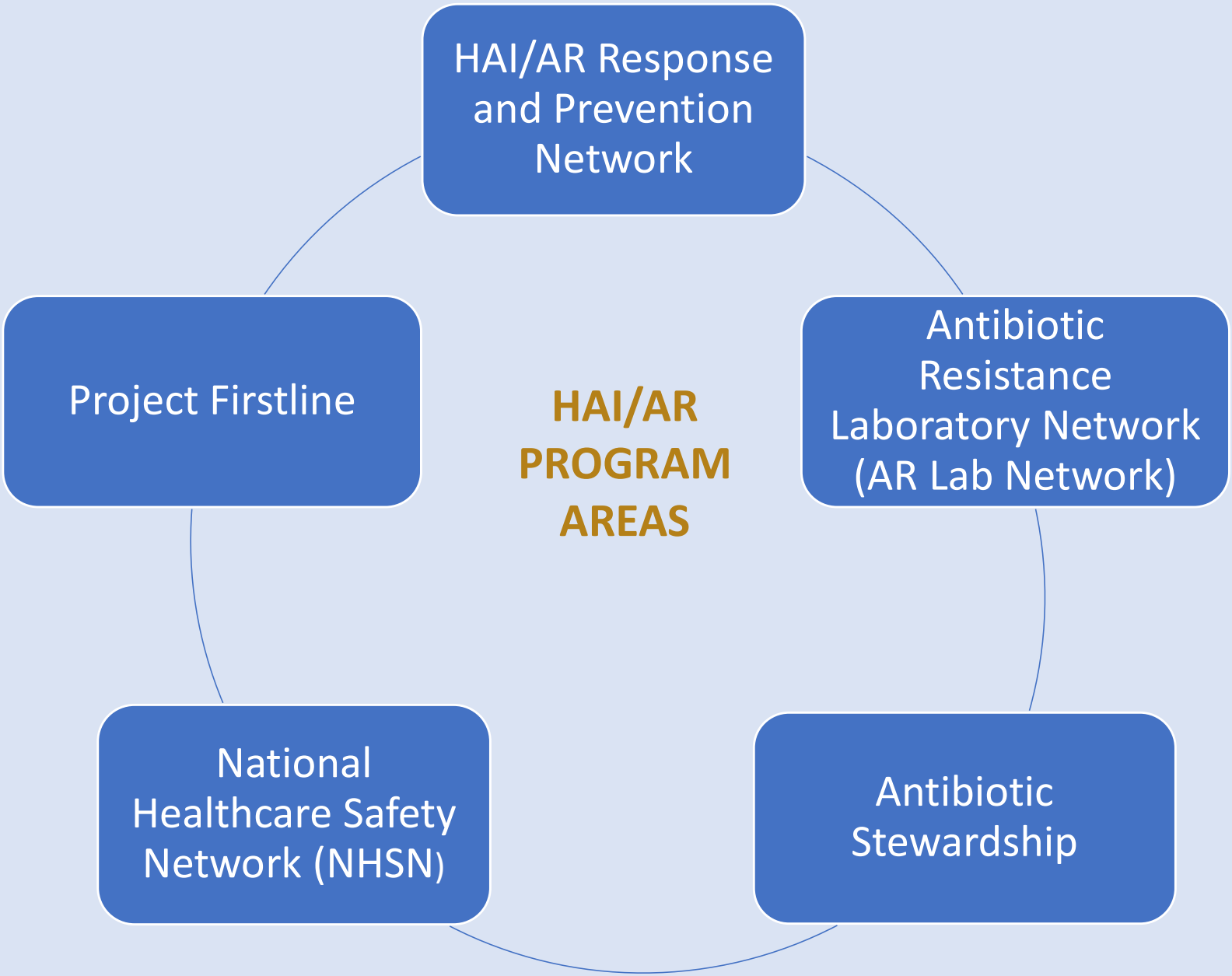
HAI Burden in the United States

- CDC estimates that on any given day, 1 in 31 hospital patients has at least one healthcare associated infection
- Cost billions of dollars in added expenses to the health-care system
- Can have devastating effects on physical, mental/emotional, and financial health
- Super germ (antibiotic resistant germs) is a big concern. A growing number of HAIs are caused by pathogens (germs) that our outsmarting the antimicrobial drugs typically used to fight them

About the HAI/AR Program



Programs are Organized around Five Key Program Areas



Nebraska DHHS HAI/AR Program

State

Monitors HAI rates and AR data and keep facilities informed regarding progress and opportunities

Initial outbreak response/consultations

Assist facilities with data reporting and validations

Partners with stakeholders to drive changes focused on decreasing HAIs and AR

Academia

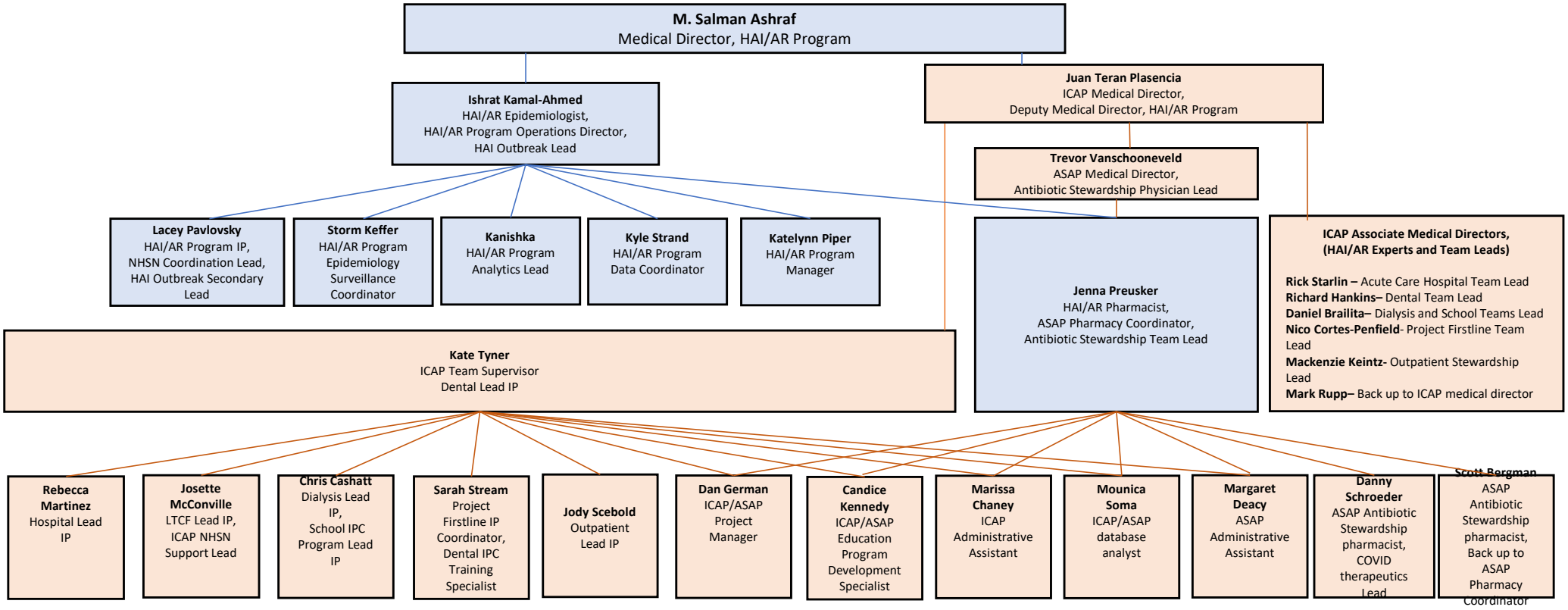
Partners with facilities to assess & advance their IC and AS programs on voluntary basis

Assist with IC assessment during outbreaks

Connect all facilities in the state with IC and AS subject matter experts

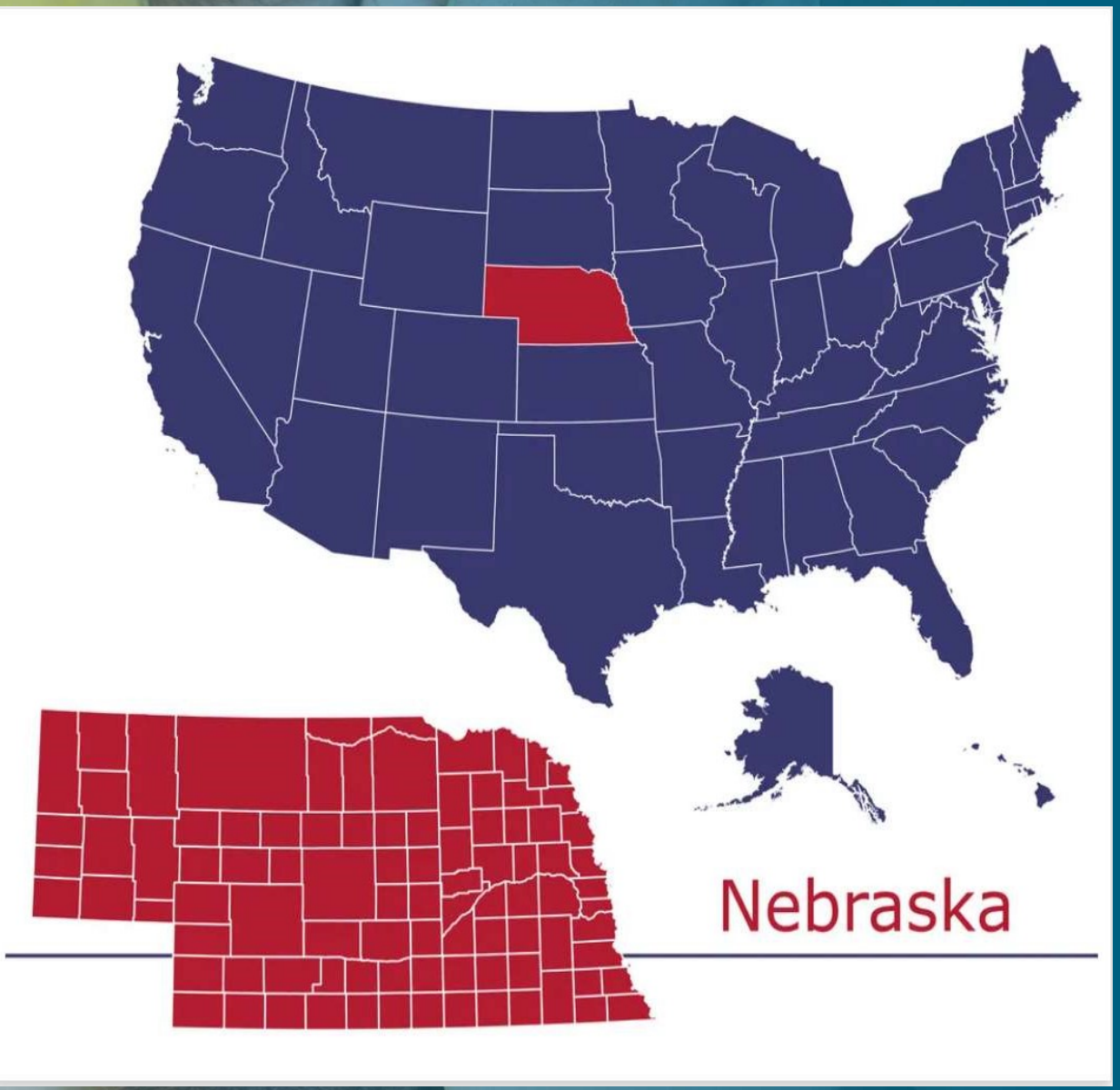
Develop educational resources and guidance

Nebraska DHHS HAI/AR Program



Notes:

1. This chart outlines the roles of HAI/AR program team members and represents day-to-day workflow. It does not reflect organizations' administrative reporting structure. All NDHHS HAI/AR program staff reports to "Deputy Director, Epidemiology, Informatics and Vitals Units". UNMC and Nebraska Medicine employees (working for ICAP and ASAP) have reporting responsibilities within their organizations. HAI/AR Program Medical Director also has additional reporting responsibility to state epidemiologist.
2. Administrative leaders for this collaboration are Matt Donahue and Felicia Quintana-Zinn at NDHHS, Mark Rupp at UNMC ID-Division and Shelly Schwedhelm at Nebraska Medicine
3. The chart only describes the primary responsibilities of the staff within HAI/AR program. Many staff members have secondary responsibilities of assisting other team members in their roles or may have additional responsibilities outside the HAI/AR program
4. Blue colored boxes identify staff with NDHHS credentials and orange color boxes identify staff with primary responsibilities either at ICAP, ASAP or both
5. HAI/AR Program IP also assist with some ICAP activities



Reporting to the State

HAIs are Reportable in Nebraska – Title 173

1-003.01C Reporting by Healthcare Facilities in lieu of Physicians for Healthcare Associated Infections (HAIs): Healthcare Associated Infections (HAIs) that are reported by healthcare facilities to CDC's NHSN are reportable. If a healthcare facility provides access to NSHN Healthcare Associated Infection (HAI) data to the department and its local public health department and Healthcare Associated Infections (HAIs) are reported to NHSN on a quarterly basis aligning with the CMS Reporting Schedule, the physician is not required to make the Healthcare Associated Infection (HAI) report. Physicians remain obligated to report Healthcare Associated Infections (HAIs) when access to NHSN data is not provided to the department. In the event of an outbreak, the department has the authority to require Healthcare Associated Infection (HAI) data reports from facilities not currently reporting to NHSN.

1-004.01B Clusters, Outbreaks, or Unusual Events, Including Possible Bioterroristic Attacks*: Clusters, outbreaks, or epidemics of any health problem, infectious or other, both in the community and in healthcare settings, including food poisoning, healthcare-associated outbreaks or clusters, influenza, or possible bioterroristic attack; increased disease incidence beyond expectations; unexplained deaths possibly due to unidentified infectious causes; and any unusual disease or manifestations of illness must be reported immediately.

https://www.nebraska.gov/rules-and-regs/regsearch/Rules/Health_and_Human_Services_System/Title-173/Chapter-01.pdf

How to IMMEDIATELY report to the State

Preferred Method (in addition to electronic laboratory reporting or ELR)

Notify the state HAI team by creating an alert for the NEDHHS HAI team:

https://epi-dhhs.ne.gov/redcap/surveys/?s=7XWYTPPFHAAP3ALX
Website: https://dhhs.ne.gov/pages/Healthcare-Associated-Infections.aspx

Or Call: 531-207-4053 (Ishrat) or 402-219-3115 (Storm)

Other:

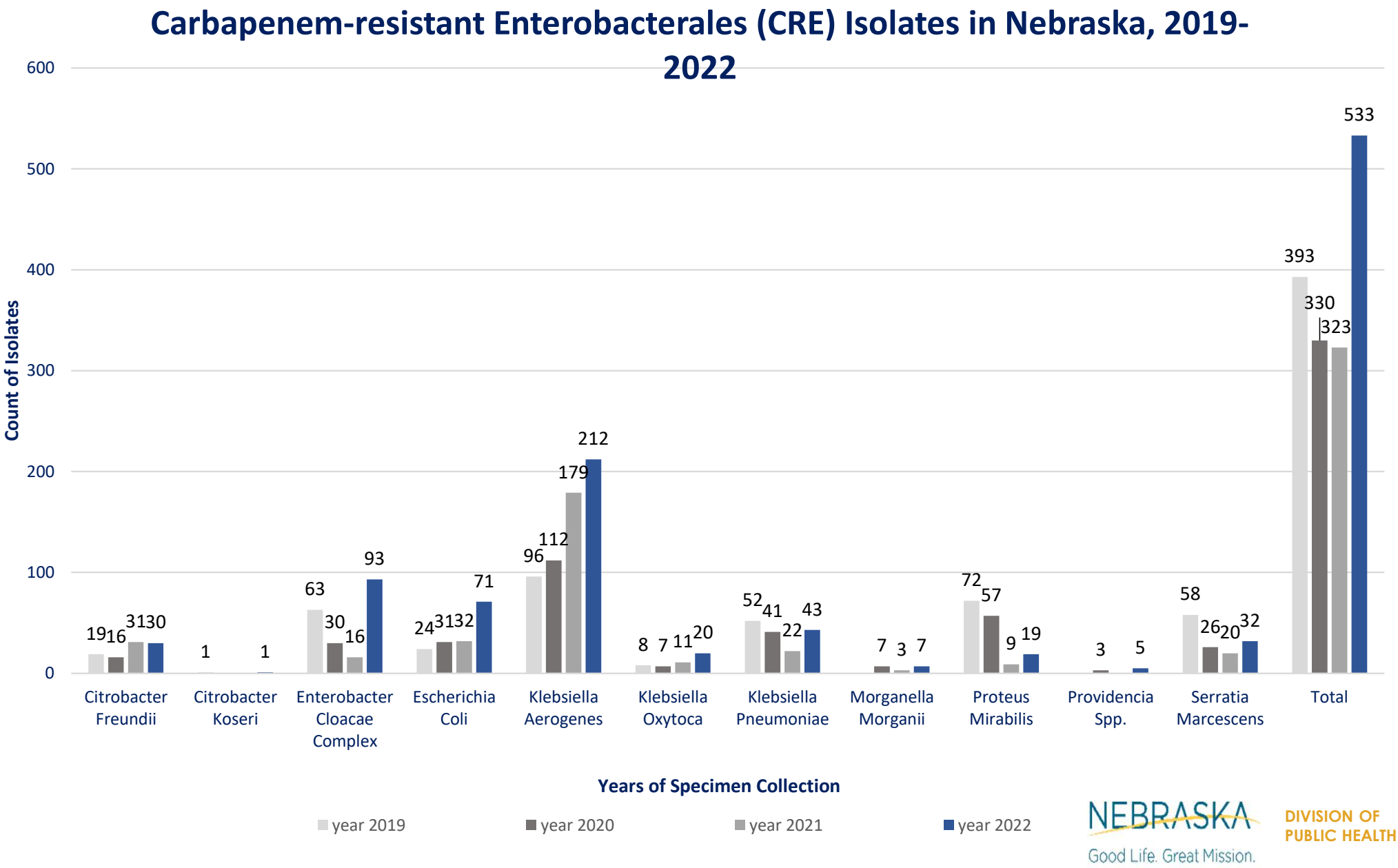
General Epidemiologic Unit phone number: 402-471-2937 (8 am to 5 pm, M through F)

Poison Control (Last Resort): 1-800-222-1222 (After hours and weekends)

https://www.nebraska.gov/rules-and-regs/regsearch/Rules/Health_and_Human_Services_System/Title-173/Chapter-01.pdf

Nebraska HAI/AR Data

Carbapenem-Resistant Enterobacterales in Nebraska



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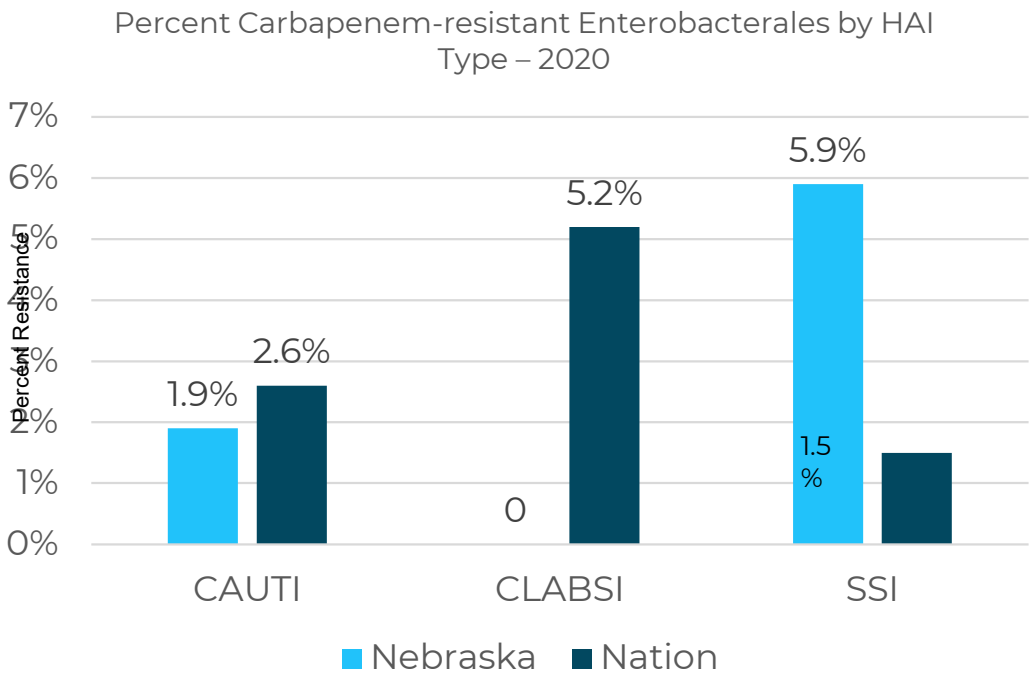
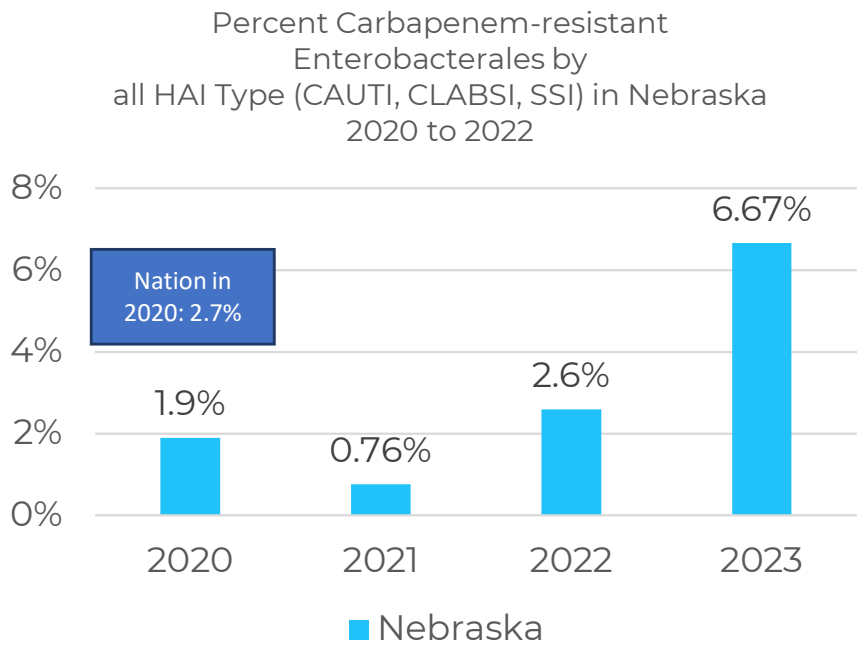
CRE Trends Related to HAIs





Source: NHSN Data

https://arpsp.cdc.gov/profile/antibiotic-resistance/carbapenem-resistant-enterobacterales
https://arpsp.cdc.gov/profile/geography/nebraska

Carbapenemase Genes Identified in Enterobacterales Isolates, Nebraska 2019-2023

Year	KPC	NDM	VIM	OXA-48	OXA-(Other than 48)	Total
2019	18	9	0	0	3	30
2020	8	0	0	1	0	9
2021	3	0	0	1	0	4
2022	8	3	1	1	0	13
2023 to date	6	5	0	4	0	15

In 2023, 1 case each of Carbapenemase producing *Pseudomonas aeruginosa,* and *Acinetobacter Baumannii* has also been isolated

NHSN Overview and Nebraska NHSN Data

What is NHSN?

National Healthcare Safety Network (NHSN)

CDC's domestic tracking and response system to identify emerging and enduring threats across healthcare, such as COVID-19, healthcare-associated infections (HAIs), and antimicrobial-resistant (AR) infections

179,000+
HAI cases were reported to NHSN by acute care hospitals in 2021 for six common HAI types[1,2]

4 out of 6
types of HAI rates were reported as significantly higher in U.S. hospitals during the COVID-19 pandemic following years of steady decline[3]

3 million+
nursing home residents and staff COVID-19 vaccination data collected and analyzed

National Healthcare Safety Network (NHSN). (cdc.gov)

What is NHSN continued?

38,000+ facilities use NHSN to track and stop infections.

During the COVID-19 pandemic, CDC leveraged actionable data reported to NHSN from hospitals and nursing homes to inform U.S. response efforts.

NHSN will support the National Biodefense Strategy by providing the platform for hospital bed occupancy and capacity data for all U.S. hospitals.[4]

NHSN is the cornerstone of U.S. infectious disease tracking in healthcare facilities

- **The nation's most comprehensive and established system to capture and analyze infection data,** drive improvement in healthcare quality, and stop the spread of deadly pathogens.
- Used by **38,000 U.S. healthcare facilities** - nearly all hospitals, nursing homes, dialysis facilities, and ambulatory surgery centers.
- Saving lives by **preventing tens of thousands of infections** through reliable, actionable data.
- **Highly adaptable for emerging threats** and used for federal, state, local, and healthcare facility emergency response decision-making.
- **Backed by CDC experts in public health,** healthcare, data science, epidemiology, and infection prevention and control.

NHSN is a best buy for public health, healthcare improvement, and emergency response

- To sustain this essential work, **the FY24 President's budget proposes a $26 million increase to $50 million**.
- **Annual appropriations were stable from FY16-22 at $21 million.** In FY23, there was an increase of $3 million.
- **From FY22-26, CDC is investing approximately $60 million annually** from COVID-19 supplemental appropriations **to modernize and expand NHSN and support health department use of NHSN**.
- **When supplemental funds end, CDC will not be able to continue supporting this important work at the current level.**

National Healthcare Safety Network (NHSN). (cdc.gov)

Benefits for NHSN Reporting

❑For Medical Facilities:

- While ensuring data security, integrity, and confidentiality, NHSN gives healthcare facilities the ability to see their data in real-time and share that information with clinicians and facility leadership, as well as with other facilities (e.g., a multihospital system) and partners such as health departments or quality improvement organizations.
- CDC provides the standard national measures for HAIs as well as analytic tools that enable each facility to assess its progress and identify where additional efforts are needed.
- In addition, NHSN is the conduit for facilities to comply with Centers for Medicare and Medicaid Services (CMS) infection reporting requirements.

Benefits for NHSN Reporting

❑For Patients:

- In addition to benefiting from increased attention to HAI prevention, patients can use NHSN data posted publicly on the Department of Health and Human Services' Hospital Compare website. Patients are encouraged to visit the website to see how their local facilities are doing and discuss concerns with their healthcare providers.

❑For States and for the Nation:

- NHSN data are analyzed by CDC and others to direct actions for HAI prevention. Local, state, and national HAI trends are used to identify emerging problems and areas of concern that need intervention, and to measure progress in HAI reduction against national, state, and local prevention goals.

Healthcare Facility HAI Reporting Requirements to CMS via NHSN-- Current or Proposed Requirements

CMS Reporting Program	HAI Event	Reporting Specifications	Reporting Start Date
Hospital Inpatient Quality Reporting (IQR) Program	CLABSI	Adult, Pediatric, and Neonatal ICUs	January 2011
	CAUTI	Adult and Pediatric ICUs	January 2012
	SSI: COLO	Inpatient COLO Procedures	January 2012
	SSI: HYST	Inpatient HYST Procedures	January 2012
	MRSA Bacteremia LabID Event	FacWideIN	January 2013
	C. difficile LabID Event	FacWideIN	January 2013
	Healthcare Personnel Influenza Vaccination	All Inpatient Healthcare Personnel	January 2013
	Medicare Beneficiary Number	All Medicare Patients Reported into NHSN	July 2014
	CLABSI	Adult & Pediatric Medical, Surgical, & Medical/Surgical Wards	January 2015
	CAUTI	Adult & Pediatric Medical, Surgical, & Medical/Surgical Wards	January 2015

https://www.cdc.gov/nhsn/pdfs/cms/cms-reporting-requirements.pdf

Healthcare Facility HAI Reporting Requirements to CMS via NHSN-- Current or Proposed Requirements

ESRD Quality Incentive Program (QIP)	Dialysis Event (includes Positive blood culture, I.V. antimicrobial start, and signs of vascular access infection)	Outpatient Hemodialysis Facilities	January 2012
	Healthcare Personnel Influenza Vaccination	*As of October 1, 2018, ESRD QIP no longer requires outpatient dialysis facilities to submit Healthcare Personnel Influenza Vaccination event data*	*October 2015*
Long Term Care Hospital* Quality Reporting (LTCHQR) Program	CLABSI	Adult & Pediatric LTAC ICUs & Wards	October 2012
	CAUTI	Adult & Pediatric LTAC ICUs & Wards	October 2012
	Healthcare Personnel Influenza Vaccination	All Inpatient Healthcare Personnel	October 2014
	MRSA Bacteremia LabID Event	*FacWideIN*	*January 2015*
		As of October 1, 2018, LTCHQR no longer requires LTACs to submit MRSA Bacteremia LabID event data	
	C. difficile LabID Event	FacWideIN	January 2015
	VAE	*Adult LTAC ICUs & Wards*	*January 2016*
		As of October 1, 2018, LTCHQR no longer requires LTACs to submit VAE event data	
* Long Term Care Hospitals are called **Long Term Acute Care Hospitals** in NHSN			

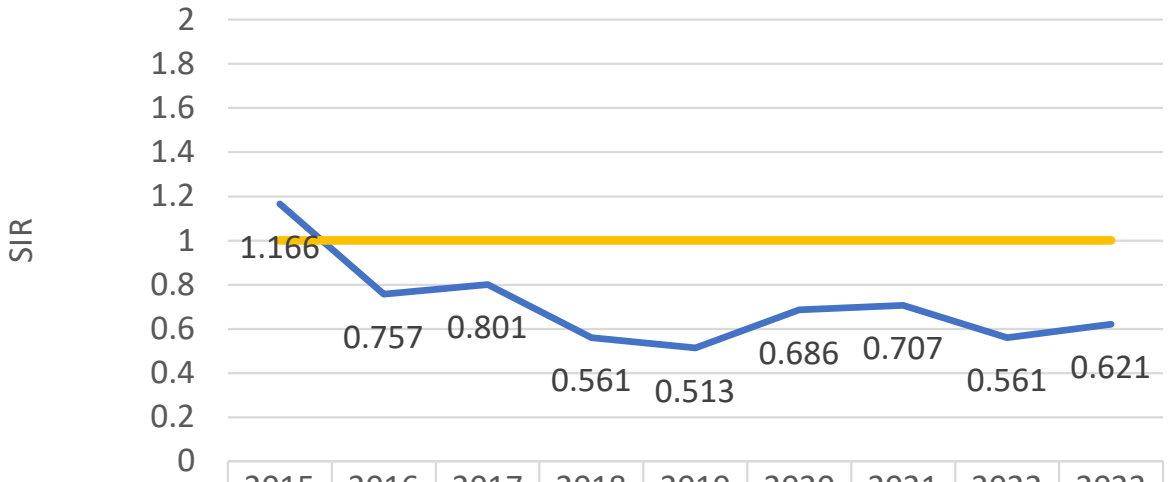
https://www.cdc.gov/nhsn/pdfs/cms/cms-reporting-requirements.pdf

Healthcare Facility HAI Reporting Requirements to CMS via NHSN-- Current or Proposed Requirements

CMS Reporting Program	HAI Event	Reporting Specifications	Reporting Start Date
Inpatient Rehabilitation Facility Quality Reporting (IRFQR) Program	CAUTI	Adult & Pediatric IRF Wards	October 2012
	Healthcare Personnel Influenza Vaccination	All Inpatient Healthcare Personnel	October 2014
	MRSA Bacteremia LabID Event	*FacWideIN*	*January 2015*
		As of October 1, 2018, IRFQR no longer requires IRFs to submit MRSA Bacteremia LabID event data	
	C. difficile LabID Event	FacWideIN	January 2015
Ambulatory Surgery Centers Quality Reporting (ASCQR) Program	*Healthcare Personnel Influenza Vaccination*	*As of October 1, 2018, ASCQR no longer requires ASCs to submit Healthcare Personnel Influenza Vaccination event data*	*October 2014*
PPS-Exempt Cancer Hospital Quality Reporting (PCHQR) Program	CLABSI	All Bedded Inpatient Locations	January 2013
	CAUTI	All Bedded Inpatient Locations	January 2013
	SSI: COLO	Inpatient COLO Procedures	January 2014
	SSI: HYST	Inpatient HYST Procedures	January 2014
	MRSA Bacteremia LabID Event	FacWideIN	January 2016
	C. difficile LabID Event	FacWideIN	January 2016
	Healthcare Personnel Influenza Vaccination	All Inpatient Healthcare Personnel	October 2016
Inpatient Psychiatric Facility Quality Reporting (IPFQR) Program	*Healthcare Personnel Influenza Vaccination*	*All Inpatient Healthcare Personnel*	*October 2015*
		As of October 1, 2018, IPFQR no longer requires IPFs to submit Healthcare Personnel Influenza Vaccination event data	

https://www.cdc.gov/nhsn/pdfs/cms/cms-reporting-requirements.pdf

CLABSI [ALL LOCATIONS] – Nebraska 2015-2023

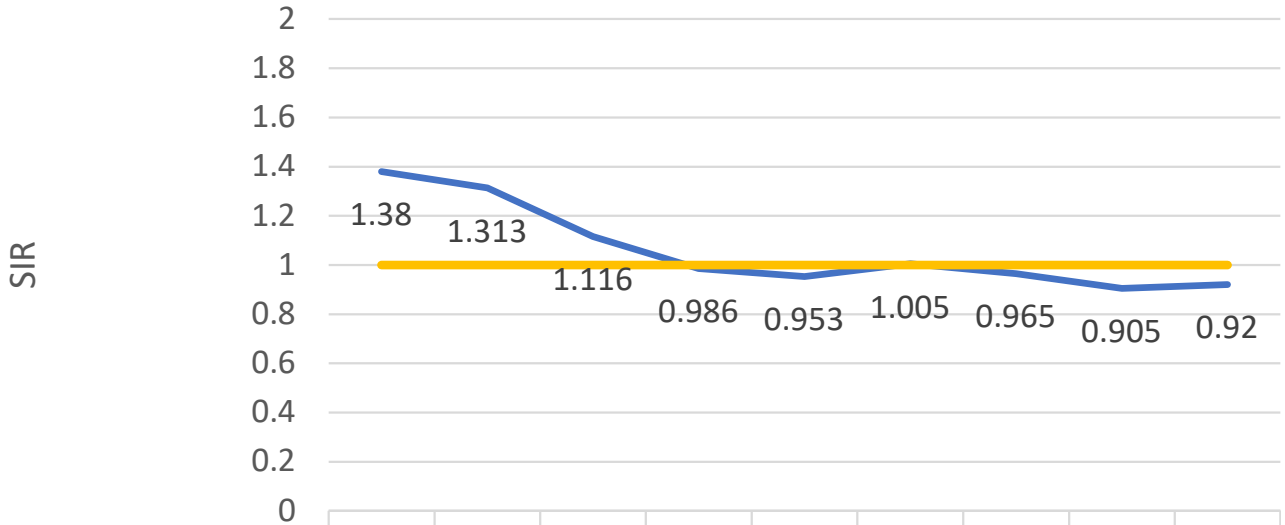


	2015	2016	2017	2018	2019	2020	2021	2022	2023
SIR	1.166	0.757	0.801	0.561	0.513	0.686	0.707	0.561	0.621
Observed	186	119	124	88	80	103	112	85	66
Predicted	159	157	155	157	156	150	158	152	106
Goal	1	1	1	1	1	1	1	1	1
95% Confidence Interval	1.008, 1.343	0.630, 0.902	0.669, 0.952	0.453, 0.688	0.410, 0.635	0.563, 0.829	0.586 0.849	0.440, 0.786	0.391 1.227

*2023 Data is for January 2023-September 2023

Data Source: NHSN – Include acute care hospitals conferring rights to DHHS

Central Line Utilization– Nebraska 2015-2023

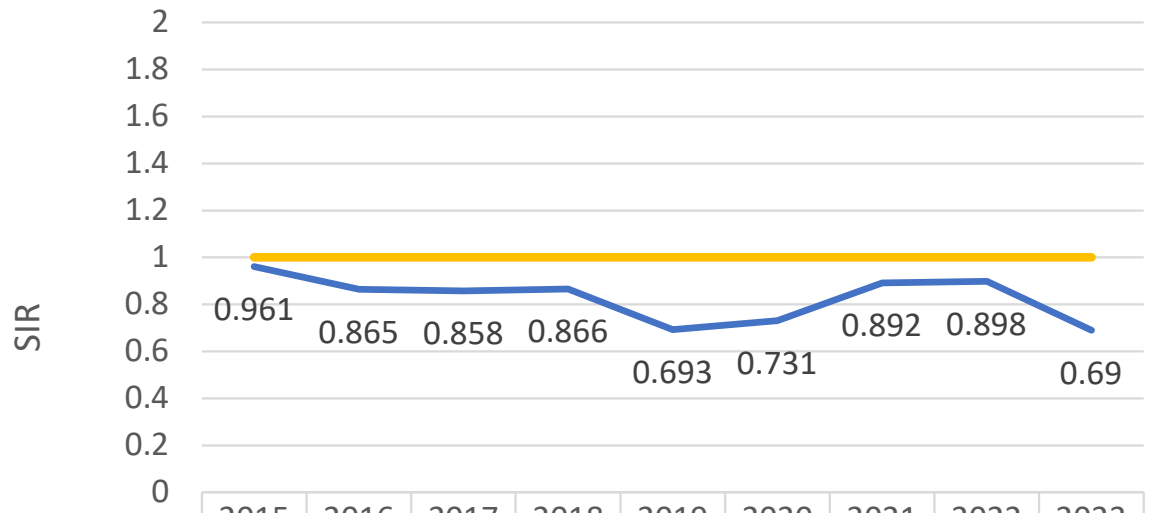


	2015	2016	2017	2018	2019	2020	2021	2022	2023
SUR	1.38	1.313	1.116	0.986	0.953	1.005	0.965	0.905	0.92
numCLDays	172534	165387	156315	152026	151884	150599	158364	150208	107626
numPredDDays	125066	125945	140033	154121	159396	149918	164170	166025	116930
Goal	1	1	1	1	1	1	1	1	1
95% Confidence Interval	1.373, 1.386	1.307, 1.319	1.111, 1.122	0.981, 0.991	0.948, 0.958	1.000, 1.010	0.960, 0.969	0.900, 0.909	0.915, 0.926

*2023 Data is for January 2023-September 2023

Data Source: NHSN – Include acute care hospitals conferring rights to DHHS

CAUTI [ALL LOCATIONS] Nebraska 2015 to 2023

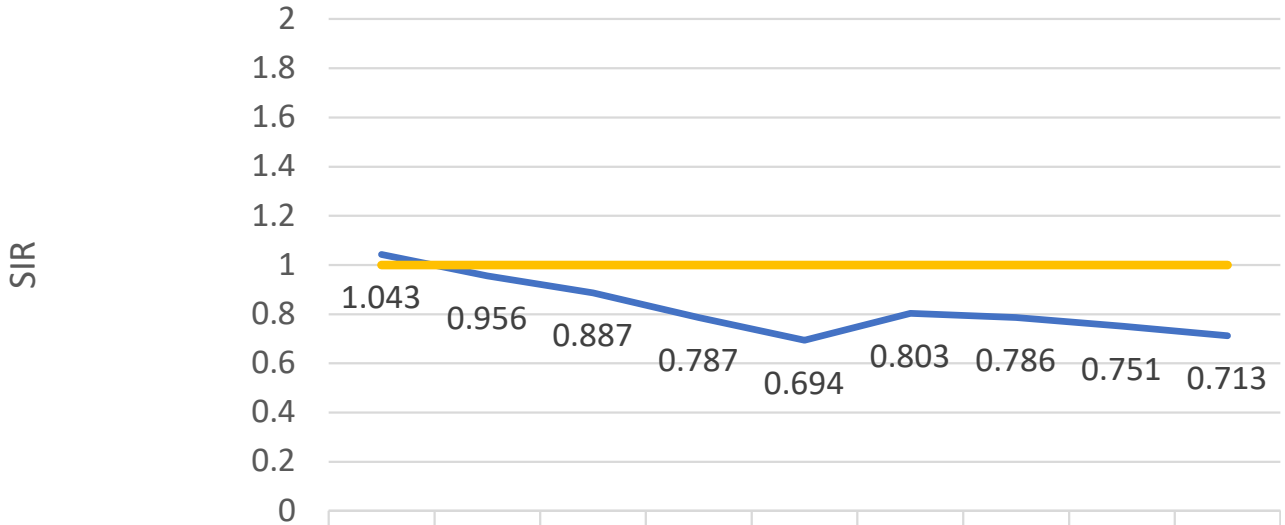


	2015	2016	2017	2018	2019	2020	2021	2022	2023
SIR	0.961	0.865	0.858	0.866	0.693	0.731	0.892	0.898	0.69
Observed	135	114	119	114	84	98	129	126	66
Predicted	140	132	139	132	121	134	145	140	95
Goal	1	1	1	1	1	1	1	1	1
95% Confidence Interval	0.809, 1.134	0.717, 1.035	0.714, 1.035	0.718, 1.036	0.557, 0.854	0.597, 0.887	0.748, 1.056	0.751, 1.066	0.538, 0.873

*2023 Data is for January 2023-September 2023

Data Source: NHSN – Include acute care hospitals conferring rights to DHHS

Indwelling Urinary Catheter Utilization– Nebraska 2015-2023

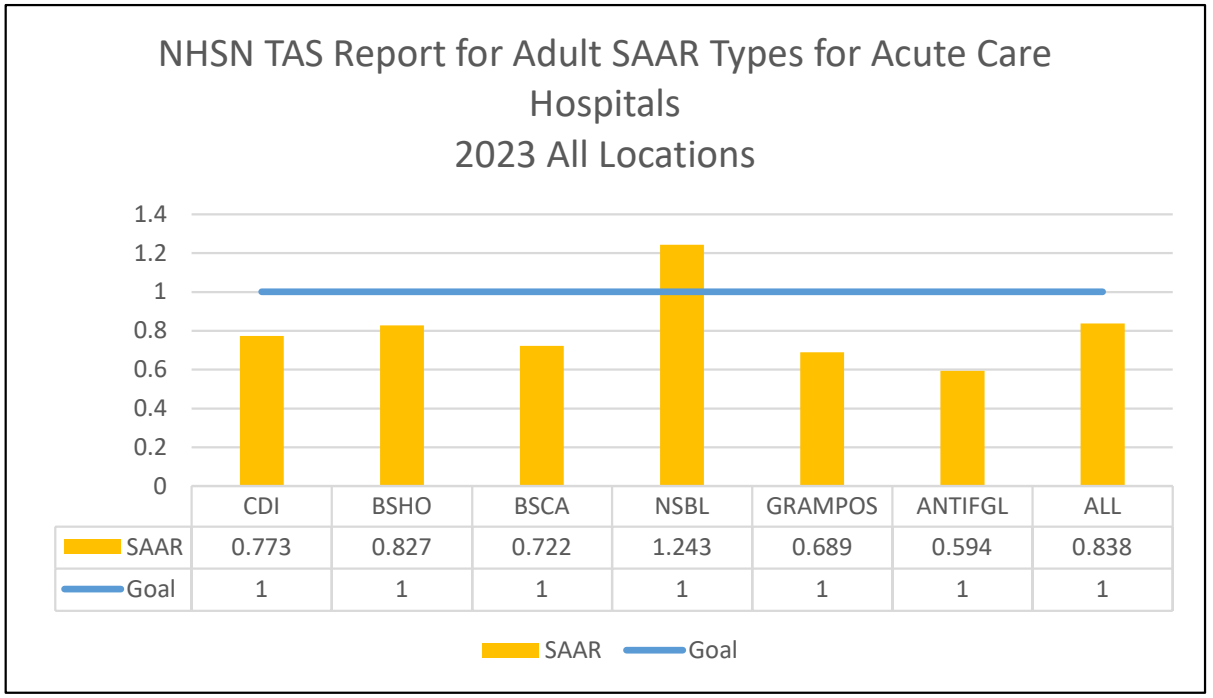


	2015	2016	2017	2018	2019	2020	2021	2022	2023
SUR	1.043	0.956	0.887	0.787	0.694	0.803	0.786	0.751	0.713
numucathdays	146682	132488	129409	115822	105964	116755	125609	121333	81648
numPredDDays	140569	138596	145871	147092	152719	145418	159850	161577	114553
Goal	1	1	1	1	1	1	1	1	1
95% Confidence Interval	1.039, 1.049	0.951, 0.961	0.882, 0.892	0.783, 0.792	0.690, 0.698	0.798, 0.807	0.781, 0.790	0.747, 0.755	0.708, 0.718

*2023 Data is for January 2023-September 2023

Data Source: NHSN – Include acute care hospitals conferring rights to DHHS

TAS Report for Adult SAAR Types for Acute Care Hospitals – Nebraska 2023

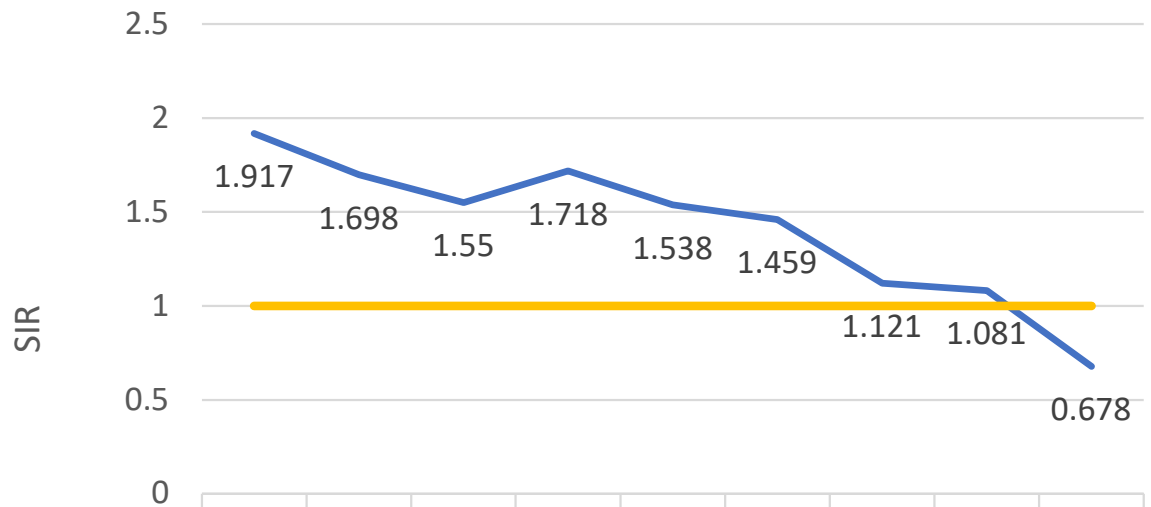


*2023 Data is for January 2023-September2023

Data Source: NHSN – Include acute care hospitals conferring rights to DHHS

SAARTypeCat	Three highest use drugs within SAAR Type (Percentage)
CDI	CEFTRX(52); CEFEP(27); LEVO(12);
BSHO	PIPERWT(61); CEFEP(28); MERO(9);
BSCA	CEFTRX(69); LEVO(16); ERTA(9);
NSBL	CEFAZ(48); AMOXWC(15); AMPIWS(14);
GRAMPOS	VANC(82); DAPTO(11); LNZ(5);
ANTIFGL	FLUCO(67); MICA(33); ANID(0);
ALL	PIPERWT(15); CEFTRX(14); VANC(13);

Ventilator-Associated Event (Total VAE)
Nebraska 2015 to 2023

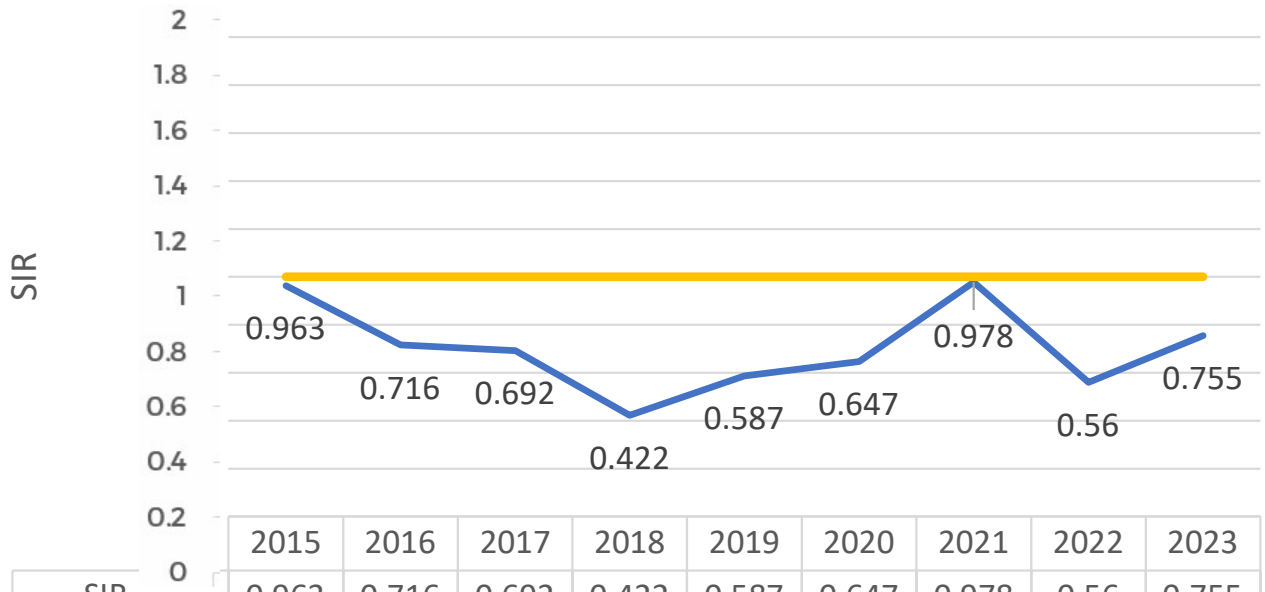


	2015	2016	2017	2018	2019	2020	2021	2022	2023
SIR	1.917	1.698	1.55	1.718	1.538	1.459	1.121	1.081	0.678
Observed	210	209	231	264	219	343	241	181	89
Predicted	110	123	149	154	142	235	215	167	131
Goal	1	1	1	1	1	1	1	1	1
95% Confidence Interval	0.809, 1.134	0.717, 1.035	0.714, 1.023	0.718, 1.036	0.557, 0.854	0.597, 0.887	0.748, 1.056	0.799, 1.277	0.210, 1.271

*2023 Data is for January 2023-September 2023

Data Source: NHSN – Include acute care hospitals conferring rights to DHHS

MRSA Bacteremia [Acute Care] – Nebraska 2015 to 2023

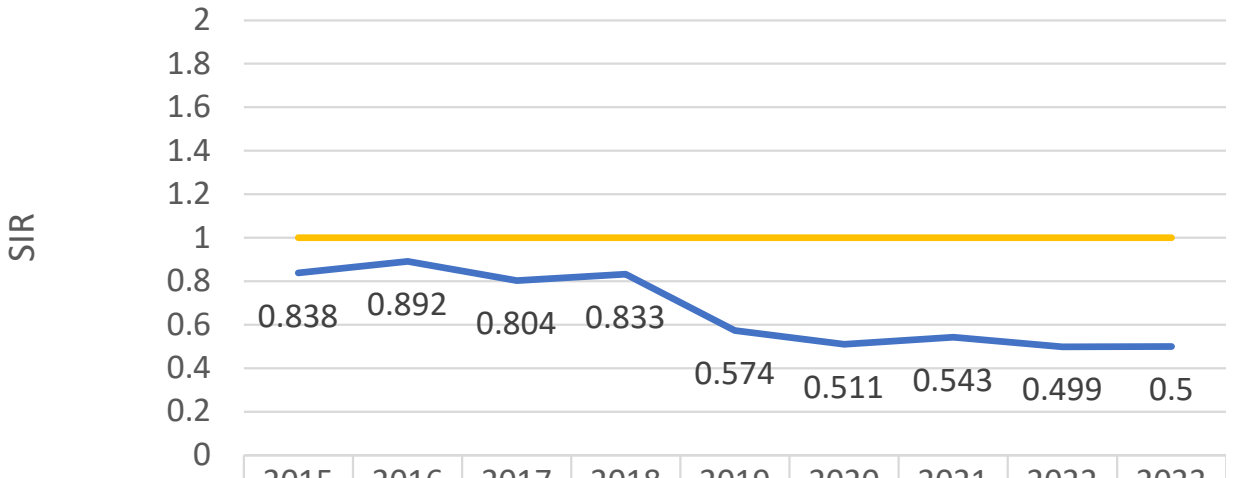


	2015	2016	2017	2018	2019	2020	2021	2022	2023
SIR	0.963	0.716	0.692	0.422	0.587	0.647	0.978	0.56	0.755
Observed	44	35	36	23	32	34	53	33	31
Predicted	46	49	52	55	55	53	54	59	41
Goal	1	1	1	1	1	1	1	1	1
95% Confidence Interval	0.708, 1.281	0.506, 0.985	0.492, 0.948	0.274, 0.623	0.408, 0.818	0.455, 0.894	0.740, 1.270	0.407, 1.032	0.522, 1.058

*2023 Data is for January 2023-September 2023

Data Source: NHSN – Include acute care hospitals conferring rights to DHHS

CDI [Acute Care] – Nebraska 2015 to 2023

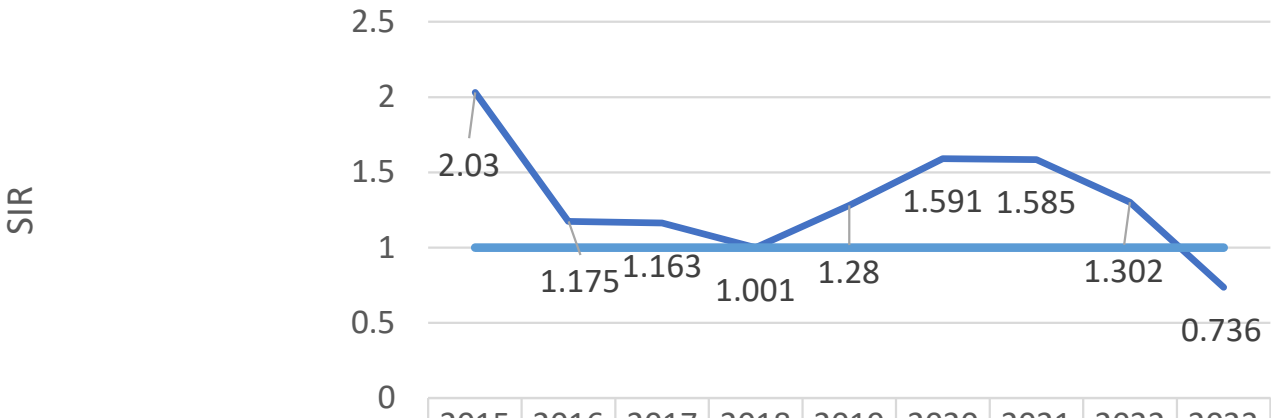


	2015	2016	2017	2018	2019	2020	2021	2022	2023
SIR	0.838	0.892	0.804	0.833	0.574	0.511	0.543	0.499	0.5
Observed	394	477	477	436	273	216	242	224	150
Predicted	470	535	593	524	476	423	445	449	218
Goal	1	1	1	1	1	1	1	1	1
95% Confidence Interval	0.758, 0.924	0.814, 0.974	0.734, 0.879	0.757, 0.914	0.509, 0.645	0.446, 0.582	0.478, 0.615	0.437, 0.567	0.455, 0.652

*2023 Data is for January 2023-September 2023

Data Source: NHSN – Include acute care hospitals conferring rights to DHHS

Surgical Site Infections [Abdominal Hysterectomy] – Nebraska 2015 to 2023

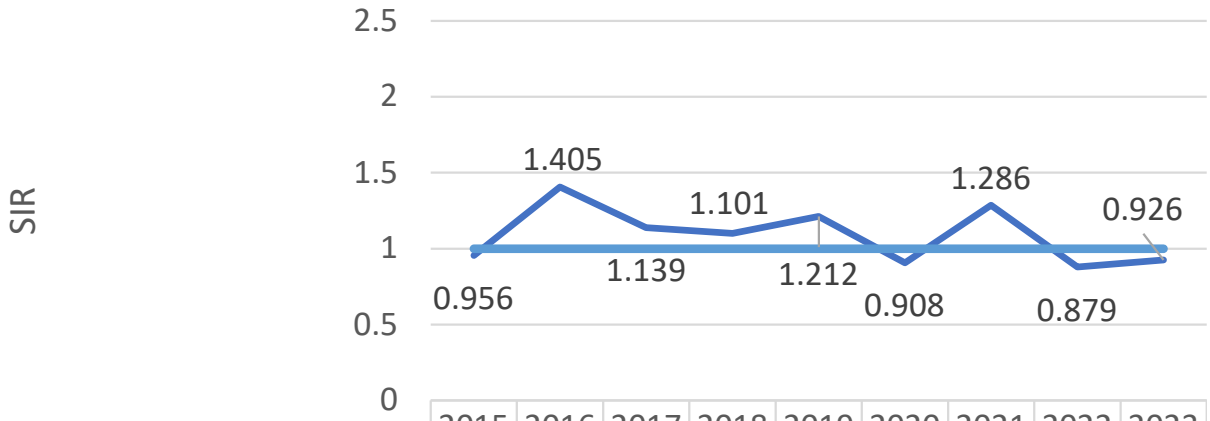


	2015	2016	2017	2018	2019	2020	2021	2022	2023
SIR	2.03	1.175	1.163	1.001	1.28	1.591	1.585	1.302	0.736
Observed Infections	26	15	13	12	18	16	19	15	6
Predicted Infections	13	13	11	12	14	10	12	12	8
Procedures Performed	1950	2089	2011	1931	2213	1645	1777	1747	781
Goal	1	1	1	1	1	1	1	1	1
95% Confidence Interval	1.354 2.932	0.683 1.895	0.647 1.938	0.542 1.702	0.782 1.983	0.942 2.529	0.983 2.429	0.662 2.995	0.298, 1.531

*2023 Data is for January 2023-June 2023

Data Source: NHSN – Include acute care hospitals conferring rights to DHHS

Surgical Site Infections [Colon] – Nebraska 2015 to 2023



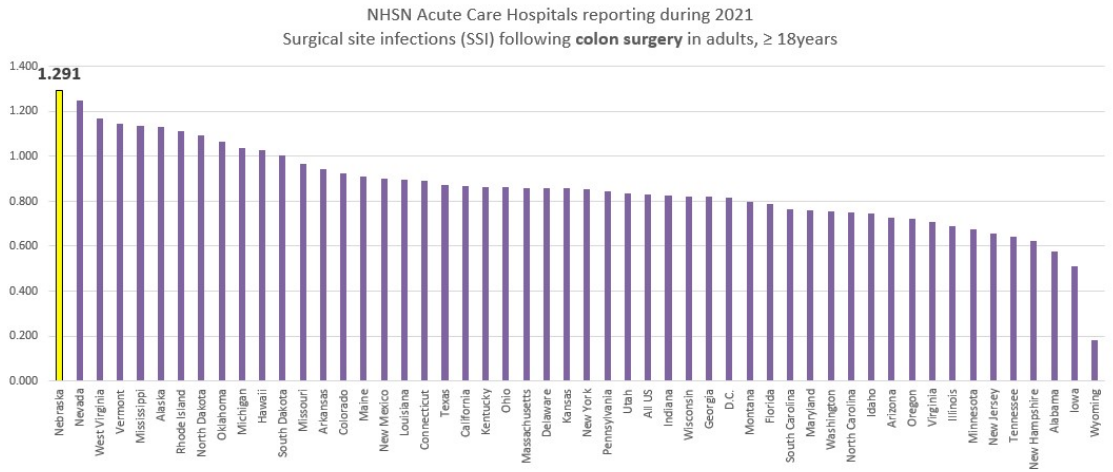
	2015	2016	2017	2018	2019	2020	2021	2022	2023
SIR	0.956	1.405	1.139	1.101	1.212	0.908	1.286	0.879	0.926
Observed Infections	42	73	55	58	61	42	71	46	34
Predicted Infections	44	52	48	53	50	46	55	52	37
Procedures Performed	1770	2050	1907	2063	1956	1773	2027	1992	1380
Goal	1	1	1	1	1	1	1	1	1
95% Confidence Interval	0.698 1.280	1.109, 1.756	0.866, 1.471	0.844, 1.414	0.93, 1.547	0.66, 1.216	1.012 1.613	0.525 1.269	0.683, 1.526

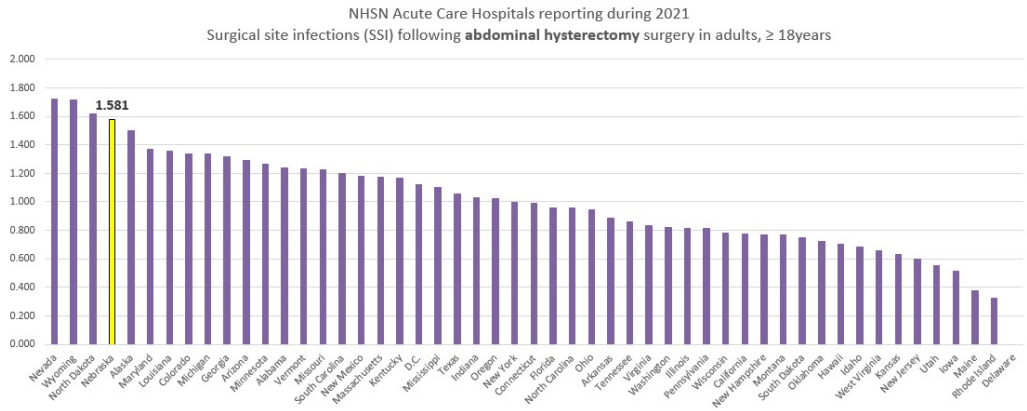
*2023 Data is for January 2023-September2023

Data Source: NHSN – Include acute care hospitals conferring rights to DHHS

2021 SIR Comparison for SSI Among All States

Nebraska has the **highest SIR** for Surgical Site Infections following Colon Surgeries





Nebraska has the **fourth highest SIR** for Surgical Site Infections following Abdominal Hysterectomies

https://www.cdc.gov/hai/data/portal/progress-report.html

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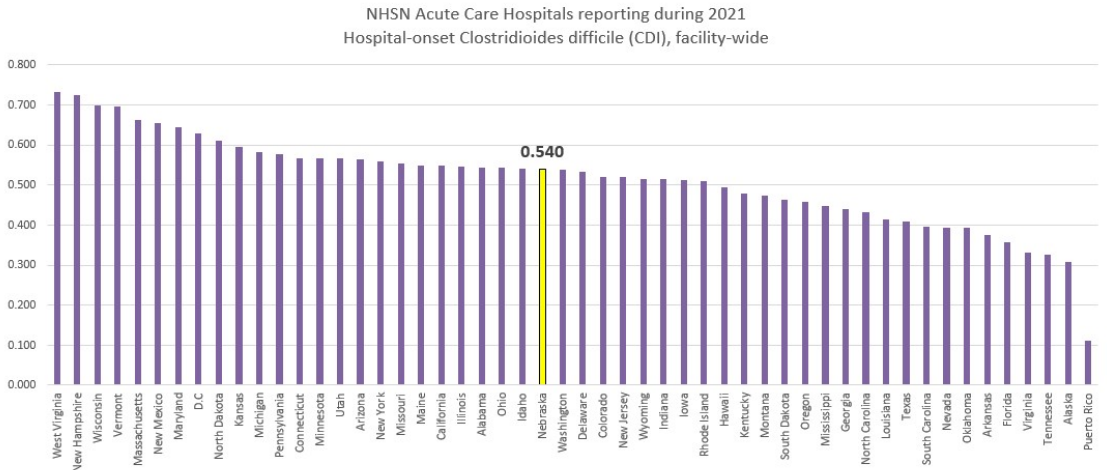
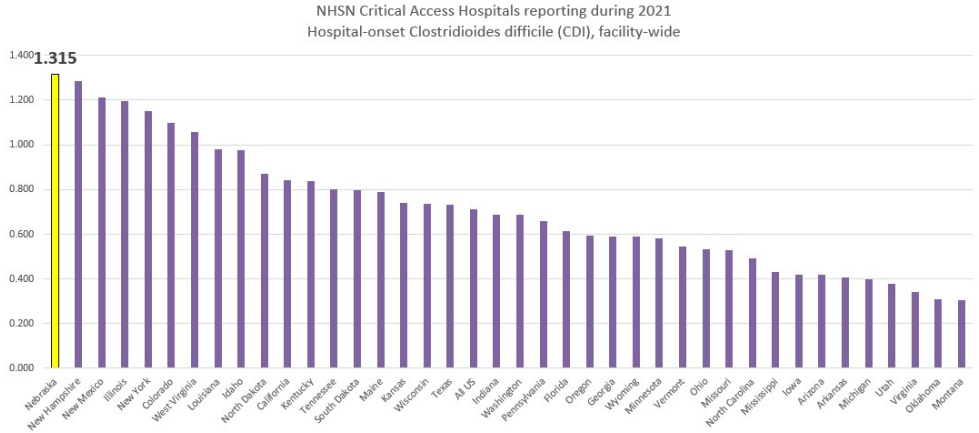
Digging Deeper into Hospital- Onset *C. difficile* Infections

Nebraska acute care hospitals (excluding critical access hospitals) **ranked 26th for lowest SIR** for *C. difficile* Infections among all 50 states in the US in 2021 (with 28 facilities contributing to this report)





Nebraska critical access hospitals have **the highest SIR** for *C. difficile* Infections among all 50 states in the US in 2021 (with 36 facilities contributing to this report)

https://www.cdc.gov/hai/data/portal/progress-report.html

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Nebraska Antimicrobial Stewardship Assessment and Promotion (NE ASAP) Program

Juan Teran Plasencia, MD
Medical Director of Nebraska ICAP

NE ICAP ASAP

Antimicrobial Stewardship

- Implement an antimicrobial stewardship program.
  - Appropriate antimicrobial use includes avoiding antimicrobial exposure if the patient does not have a condition for which antimicrobials are indicated and deescalating antibiotic therapy when feasible.

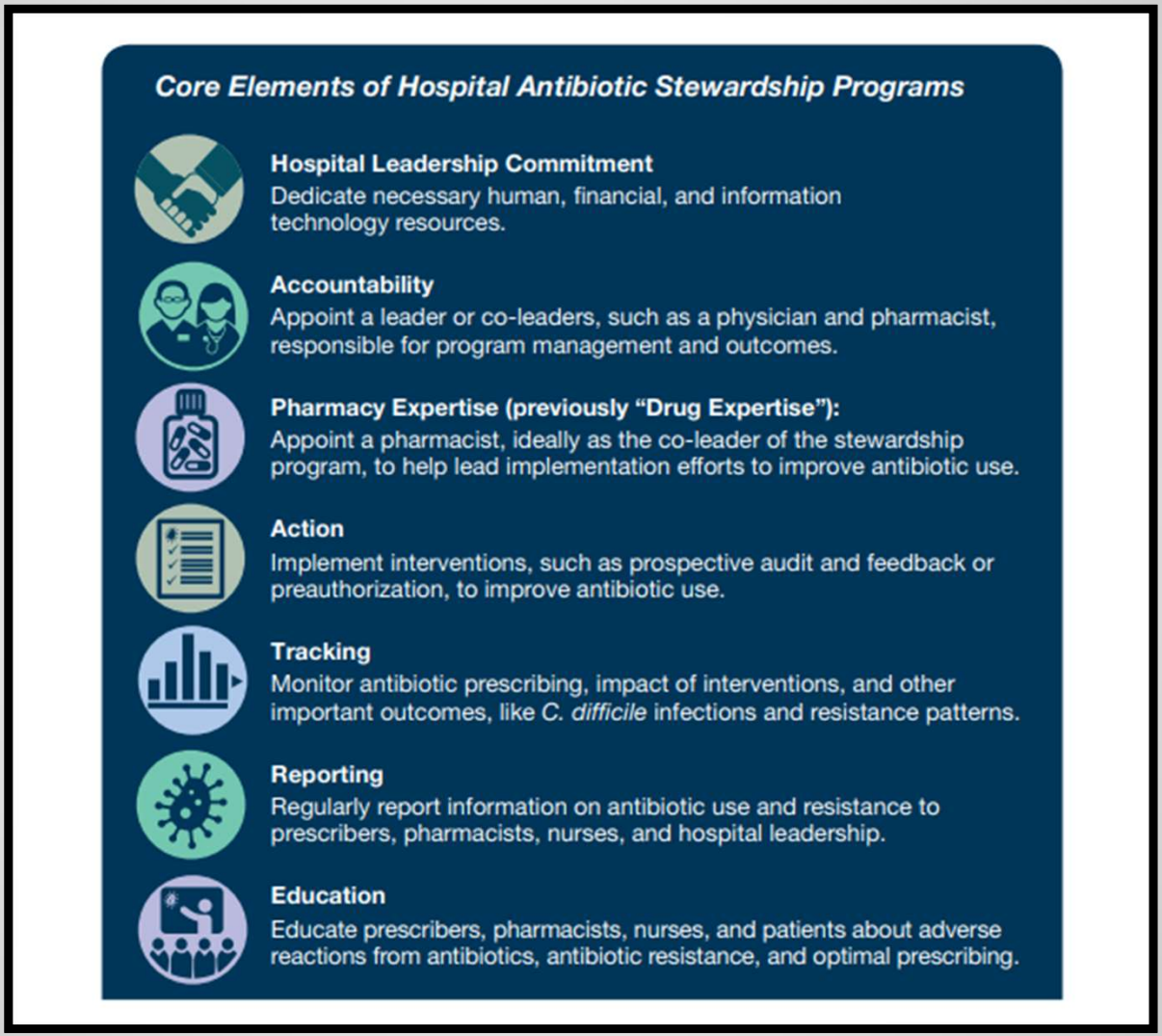
- Implement CDC's Core Elements of Hospital Antibiotic Stewardship Programs.

Image by rawpixel.com

CDC Core Elements of Hospital Antibiotic Stewardship Programs

NE ASAP

ASP Core Elements



The Core Elements of Hospital Antibiotic Stewardship Programs (cdc.gov)

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Core Elements are not unlike the performance improvement model

Nebraska ASAP Structure and Goals

- Supported through Nebraska Department of Health and Human Services (DHHS) through a CDC grant

- Team consists of ID pharmacists, ID physicians, infection preventionists, database analysts, and administrative assistants

- The goal of ASAP is to **promote the effective use of antimicrobials and improve patient outcomes** throughout the state of Nebraska by **collaborating** with local clinicians, pharmacists, infection preventionists and other health care workers to **establish effective antimicrobial stewardship programs**.

Examples of ASAP Activities

- Assist with antimicrobial stewardship program (ASP) development/alignment with CDC Core Elements (important CMS surveys)
- Answer any ASP questions/troubleshoot issues/provide 1:1 guidance
- Assist with tracking and interpretation of antimicrobial use data
- Nebraska ASAP website with numerous helpful resources for acute care, outpatient, and long-term care facilities (https://asap.nebraskamed.com/)
- YouTube account with informational videos on antimicrobial stewardship (https://www.youtube.com/channel/UCbRttgPKWu2z53Fj3OlKMxw)
- Host annual Nebraska Antimicrobial Stewardship Summit
- **Services offered at no cost to facilities thanks to CDC grant funding**

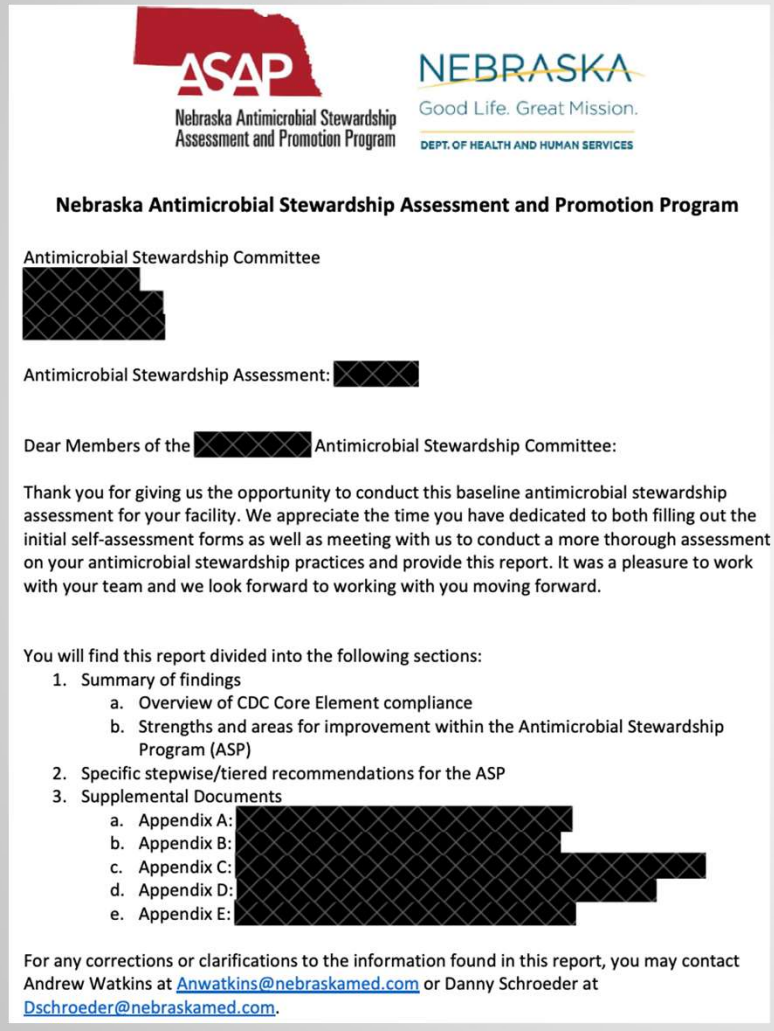
Core Element Assessment Surveys

- Links/QR codes below lead to a stewardship self-assessment survey (~15-30 minutes to complete)
- Once complete, ASAP will review results and reach out to schedule a meeting with your ASP team and our ID pharmacists and physicians
- Discuss your ASP, provide targeted feedback, answer any questions you have, and provide written report

- **These assessments are not regulatory in any way and are a free resource for you to improve your antimicrobial stewardship program.**

https://redcap.nebraskamed.com/surveys/?s=3HKX3R9AAH

Example of ASAP Core Element Assessment Report



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Nebraska Antimicrobial Stewardship Assessment and Promotion Program

Antimicrobial Stewardship Committee [redacted]

Antimicrobial Stewardship Assessment: [redacted]

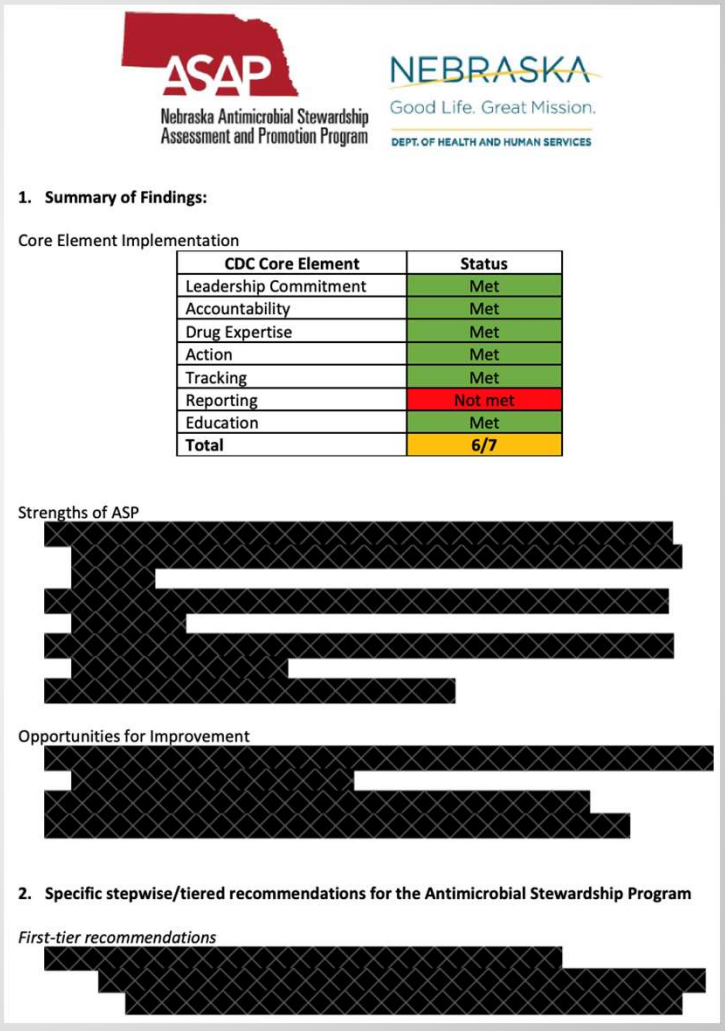
Dear Members of the [redacted] Antimicrobial Stewardship Committee:

Thank you for giving us the opportunity to conduct this baseline antimicrobial stewardship assessment for your facility. We appreciate the time you have dedicated to both filling out the initial self-assessment forms as well as meeting with us to conduct a more thorough assessment on your antimicrobial stewardship practices and provide this report. It was a pleasure to work with your team and we look forward to working with you moving forward.

You will find this report divided into the following sections:

1. Summary of findings
   a. Overview of CDC Core Element compliance
   b. Strengths and areas for improvement within the Antimicrobial Stewardship Program (ASP)
2. Specific stepwise/tiered recommendations for the ASP
3. Supplemental Documents
   a. Appendix A: [redacted]
   b. Appendix B:
   c. Appendix C:
   d. Appendix D:
   e. Appendix E:

For any corrections or clarifications to the information found in this report, you may contact Andrew Watkins at Anwatkins@nebraskamed.com or Danny Schroeder at Dschroeder@nebraskamed.com.



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1. Summary of Findings:

Core Element Implementation

CDC Core Element	Status
Leadership Commitment	Met
Accountability	Met
Drug Expertise	Met
Action	Met
Tracking	Met
Reporting	Not met
Education	Met
Total	**6/7**

Strengths of ASP [redacted]

Opportunities for Improvement [redacted]

2. Specific stepwise/tiered recommendations for the Antimicrobial Stewardship Program

First-tier recommendations [redacted]

Nebraska Infection Control Assessment and Promotion (NE ICAP) Program

Juan Teran Plasencia, MD
Medical Director of Nebraska ICAP

Rebecca Martinez, BA, BSN, RN, CIC
Infection Preventionist, NE ICAP

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How did we get here?

2009

- American Recovery and Reinvestment Act
- HAI Programs -> CDC Epidemiology and Laboratory Capacity (ELC)
- HAI surveillance -> CDC Emerging Infection Program (EIP)

2014

- Ebola Preparedness and Response Activities

2015

- Domestic Ebola supplement -> Healthcare Infection Control Assessment and Response (ICAR)
- ICAP is funded to provide technical support to state and local health departments

Nebraska ICAP Program

- Our team includes experienced infection preventionists, infectious disease trained medical directors, and professional educators.
- ICAP represents an academic and public partnership to combine resources and expertise to meet the needs of healthcare facilities.
- NE ICAP offers no cost, peer-to-peer infection control assessments and recommendations.
- Other services include being available for consultations to answer IPC questions and provide education, sharing information on our website, a monthly webinar for acute care and outpatient settings, a monthly webinar for long-term care settings, listings of helpful infection prevention and control (IPC) resources, and development of tools and other publications.

https://icap.nebraskamed.com/

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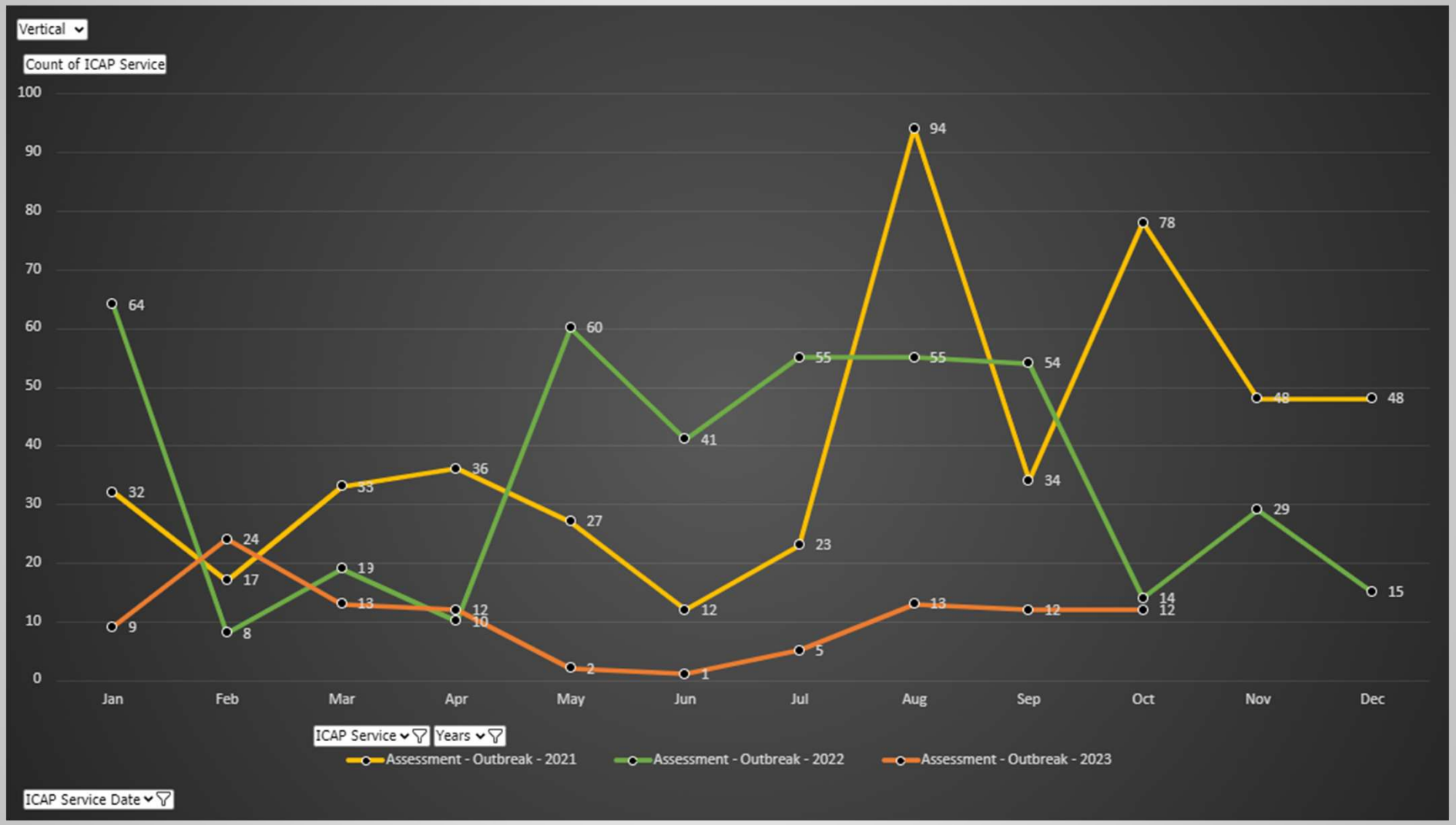
Additional ICAP initiatives for All Healthcare Settings

- Infection preventionist mentoring program
- Individualized IPC training sessions for healthcare facilities staff through Project Firstline
- IPC office hours
- Social media outreach for infection control education of frontline healthcare workers
  - Facebook, LinkedIn, Instagram
  - Mouthy IP podcast
  - Dirty Drink podcast
  - Dental IPC bites (Newsletter)
  - Nebraska ASAP YouTube Channel

ICAP Support by Setting Type

- Acute Care
- Dental
- Dialysis
- Long-term care
- Outpatient
- School

Nebraska ICAP Outbreak Assessments



NEBRASKA INFECTION CONTROL ASSESSMENT AND PROMOTION PROGRAM
ANTIMICROBIAL STEWARDSHIP ASSESSMENT AND PROMOTION PROGRAM

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CDC's Core IPC Practices for Safe Healthcare

- CDC's Core Infection Prevention and Control Practices for Safe Healthcare Delivery in All Settings represent fundamental standards of care that are not expected to change based on emerging evidence or to be regularly altered by changes in technology or practices and are applicable across the continuum of healthcare settings.
  - There are 8 core practice categories:
    - Leadership Support
    - Education and Training of Healthcare Personnel on Infection Prevention
    - Patient, Family and Caregiver Education
    - Performance Monitoring and Feedback
    - Standard Precautions
      - Includes hand hygiene, environmental cleaning and disinfection, injection and medication safety, risk assessment with use of personal protective equipment (PPE), minimizing potential exposures, and reprocessing of reusable medical equipment.
    - Transmission-Based Precautions
    - Temporary Invasive Medical Devices for Clinical Management
    - Occupational Health

CDC's Core IPC Practices for Safe Healthcare Delivery in All Settings

Image by rawpixel.com

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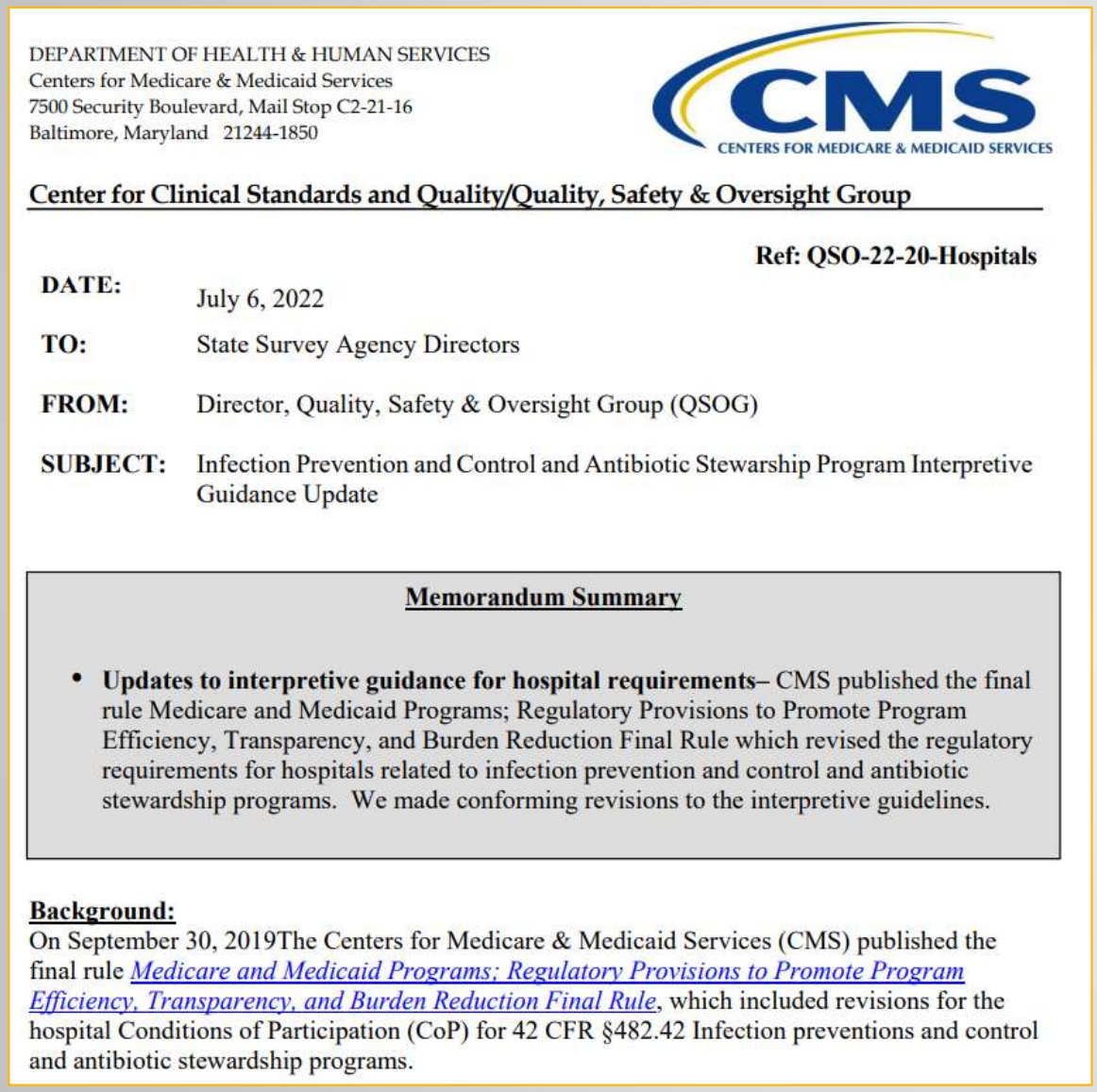
CMS Memo QSO-22-20-HOSPITALS



DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop C2-21-16
Baltimore, Maryland 21244-1850

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

Center for Clinical Standards and Quality/Quality, Safety & Oversight Group

Ref: QSO-22-20-Hospitals

DATE: July 6, 2022

TO: State Survey Agency Directors

FROM: Director, Quality, Safety & Oversight Group (QSOG)

SUBJECT: Infection Prevention and Control and Antibiotic Stewardship Program Interpretive Guidance Update

Memorandum Summary

- **Updates to interpretive guidance for hospital requirements**– CMS published the final rule Medicare and Medicaid Programs; Regulatory Provisions to Promote Program Efficiency, Transparency, and Burden Reduction Final Rule which revised the regulatory requirements for hospitals related to infection prevention and control and antibiotic stewardship programs. We made conforming revisions to the interpretive guidelines.

Background:
On September 30, 2019The Centers for Medicare & Medicaid Services (CMS) published the final rule *Medicare and Medicaid Programs; Regulatory Provisions to Promote Program Efficiency, Transparency, and Burden Reduction Final Rule*, which included revisions for the hospital Conditions of Participation (CoP) for 42 CFR §482.42 Infection preventions and control and antibiotic stewardship programs.

CMS QSO-22-20-Hospitals
Updates to the interpretive guidance for **hospital** requirements, State Operations Manual, **Appendix A** – Survey Protocol, Regulations and Interpretative Guidelines for Hospitals - **42 CFR §482.42** Conditions of Participation (CoP): **Infection prevention and control and antibiotic stewardship programs**.
CMS - Appendix A - Hospitals

Similar State Operations Manual, **Appendix W** – Survey Protocol, Regulations and Interpretative Guidelines for **Critical Access Hospitals (CAHs)** and Swing-Beds in CAHs - **42 CFR §485.640** Conditions of Participation (CoP): **Infection prevention and control and antibiotic stewardship programs**.
CMS - Appendix W - CAHs

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CMS CoP – IPC & QAPI Program Support

§485.640 Condition of Participation: Infection Prevention and Control and Antibiotic Stewardship Programs

The CAH must have active facility-wide programs, for the surveillance, prevention, and control of HAIs and other infectious diseases and for the optimization of antibiotic use through stewardship. The programs must demonstrate adherence to nationally recognized infection prevention and control guidelines, as well as to best practices for improving antibiotic use where applicable, and for reducing the development and transmission of HAIs and antibiotic-resistant organisms. Infection prevention and control problems and antibiotic use issues identified in the programs must be addressed in coordination with the facility-wide quality assessment and performance improvement (QAPI) program.

C-1229
(Rev. 200, Issued: 02-21-20; Effective: 02-21-20, Implementation: 02-21-20)

[(c) Standard: Leadership responsibilities]

§485.640(c)(1)(ii) All HAIs and other infectious diseases identified by the infection prevention and control program as well as antibiotic use issues identified by the antibiotic stewardship program are addressed in collaboration with the CAH's QAPI leadership.

CMS - Appendix W - CAHs

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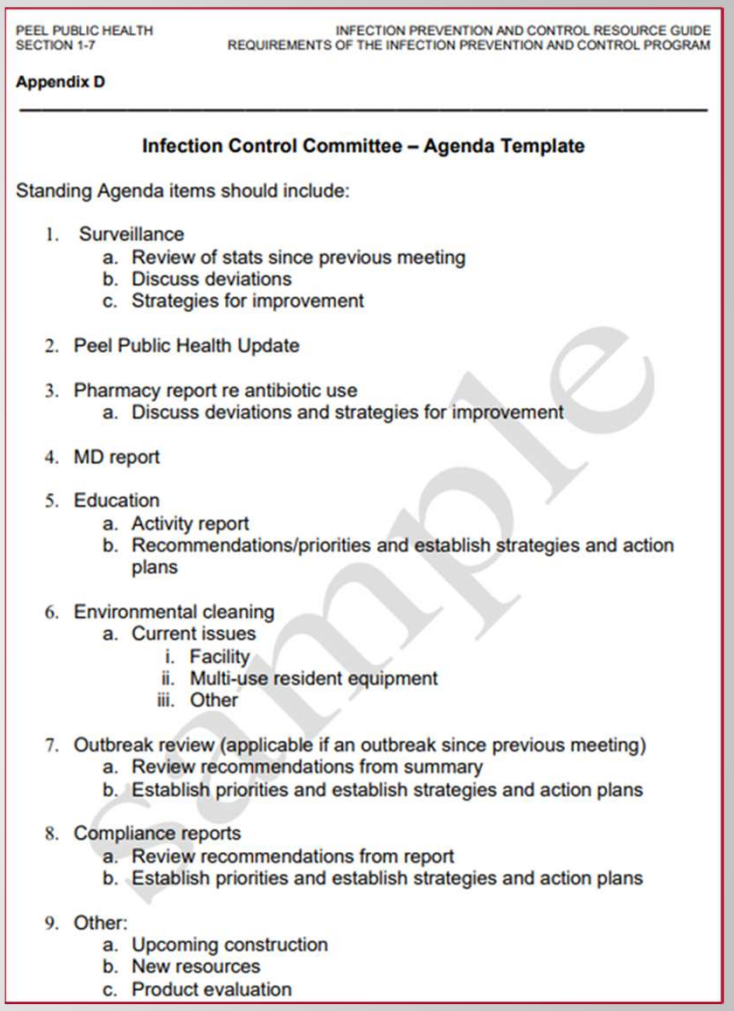
Sample IPC Committee Agendas

- Attendance and approval of prior IPC committee meeting minutes
- Healthcare Associated Infections (outcome surveillance)
- Outbreaks
- Reportable Diseases per Nebraska DHHS per 173 NAC 1 – Reporting and Control of Communicable Diseases and Poisonings
- Process Surveillance
  - Hand Hygiene audits
  - PPE – Standard and Transmission-Based Precaution audits
  - Safe Injection Practices and Blood Glucose Monitoring audits
- Employee Health Report
- Environmental Cleaning and Disinfection
- Antibiotic Stewardship Program Update
- Dialysis
  - Water reports ensure received
- Water management program (WMP)
- IPC policies or procedures, review and approve, as needed
- If applicable, update on any QAPI initiatives
- Other business and open discussion



PEEL PUBLIC HEALTH
SECTION 1-7

INFECTION PREVENTION AND CONTROL RESOURCE GUIDE
REQUIREMENTS OF THE INFECTION PREVENTION AND CONTROL PROGRAM

Appendix D

Infection Control Committee – Agenda Template

Standing Agenda items should include:

1. Surveillance
   a. Review of stats since previous meeting
   b. Discuss deviations
   c. Strategies for improvement
2. Peel Public Health Update
3. Pharmacy report re antibiotic use
   a. Discuss deviations and strategies for improvement
4. MD report
5. Education
   a. Activity report
   b. Recommendations/priorities and establish strategies and action plans
6. Environmental cleaning
   a. Current issues
      i. Facility
      ii. Multi-use resident equipment
      iii. Other
7. Outbreak review (applicable if an outbreak since previous meeting)
   a. Review recommendations from summary
   b. Establish priorities and establish strategies and action plans
8. Compliance reports
   a. Review recommendations from report
   b. Establish priorities and establish strategies and action plans
9. Other:
   a. Upcoming construction
   b. New resources
   c. Product evaluation

SAMPLE Infection Control Committee Agenda Template

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Injection & Medication Safety – Use Injection Safety Checklist

Proper hand hygiene, using alcohol-based hand rub or soap and water, is performed prior to preparing and administering medications.
Injections are prepared using aseptic technique in a clean area free from contamination or contact with blood, body fluids, or contaminated equipment.
Needles and syringes are used for only one patient (this includes manufactured prefilled syringes and cartridge devices such as insulin pens).
The rubber septum on a medication vial is disinfected with alcohol prior to piercing.
Medication vials are entered with a new needle and a new syringe, even when obtaining additional doses for the same patient.
Single-dose or single-use medication vials, ampules, and bags or bottles of intravenous solution are used for only one patient.
Medication administration tubing and connectors are used for only one patient.

Multi-dose vials are dated by healthcare when they are first opened and discarded within 28 days unless the manufacturer specifies a different (shorter or longer) date for that opened vial. Note: This is different from the expiration date printed on the vial.
Multi-dose vials are dedicated to individual patients whenever possible.
Multi-dose vials to be used for more than one patient are kept in a centralized medication area and do not enter the immediate patient treatment area (e.g., operating room, patient room/cubicle). Note: If multi-dose vials enter the immediate patient treatment area, they should be dedicated for single-patient use and discarded immediately after use.

Other Tips:

- Avoid multi-dose vials whenever possible
- Store vaccine at temperatures indicated by the manufacturer and discard when expired or indicated
- Only purchase safety needles for administration
- Wear a facemask when placing a catheter or injecting material into the epidural or subdural space (e.g., during myelogram, epidural or spinal anesthesia)

CDC's Core IPC Practices for Safe Healthcare Delivery in All Settings
CDC - One & Only Campaign
CDC - Injection Safety Checklist
OSHA Fact Sheet - Protecting Yourself When Handling Contaminated Sharps

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Splash Zones

- Outbreaks of infection have been associated with medications contaminated with tap water.
- Do not prepare medications near areas of splashing water (e.g., within 3 feet of a sink).
- Make sure sink splash zones do not contain any items which could become contaminated from hand washing/water splash.
- Mount a splash guard when workspace is limited.

Splash zone cluttered - Bad

Sink with Plexiglass splash guard - Good

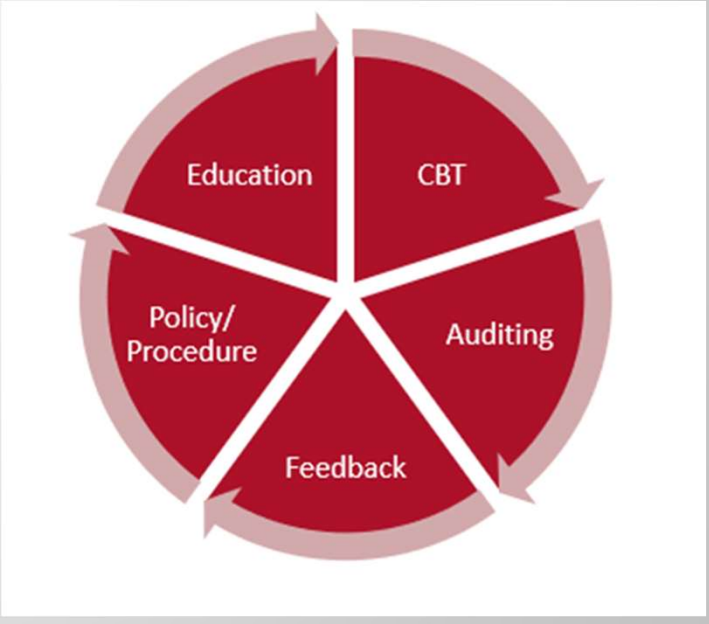
Splash zone empty – Good

NE ICAP - The Splash Zone

Education and Training of HCP on IPC

- Training should be adapted to reflect the diversity of the workforce, facility type, and tailored to meet the needs of each category of HCP being trained.
  - Provide job-specific, infection prevention education and training to all healthcare personnel for all tasks.
    - Require training before individuals are allowed to perform their duties and at least annually.
    - Provide additional training in response to recognized lapses in adherence and to address new equipment or protocols.
    - Develop processes to ensure that all HCP understand and are competent to adhere to IPC requirements as they perform their roles and responsibilities.
  - Provide written IPC policies and procedures that are available, current, and based on evidence-based guidelines (e.g., CDC/ HICPAC, etc.).

Competency-Based Training (CBT): *The provision of job-specific education, training, and assessment to ensure that healthcare personnel possess the proven ability to apply essential knowledge, skills, and abilities to prevent the transmission of pathogens during the provision of care.*



CDC's Core IPC Practices for Safe Healthcare Delivery in All Settings

CMS - QSO-22-20-Hospitals

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Performance Monitoring and Feedback

- Performance measures should be tailored to the care activities and the population served.
  - Identify and monitor adherence to infection prevention practices and infection control requirements.
    - Auditing is monitoring and documenting.
  - Provide prompt, regular feedback on adherence and related outcomes to HCP and facility leadership.
  - Train performance monitoring personnel and use standardized tools and definitions.
  - Monitor the incidence of infections that may be related to care provided at the facility and act on the data and use information collected through surveillance to detect transmission of infectious agents in the facility.

Image by rawpixel.com

CDC's Core IPC Practices for Safe Healthcare Delivery in All Settings

CDC - STRIVE - CBT Audits and Feedback

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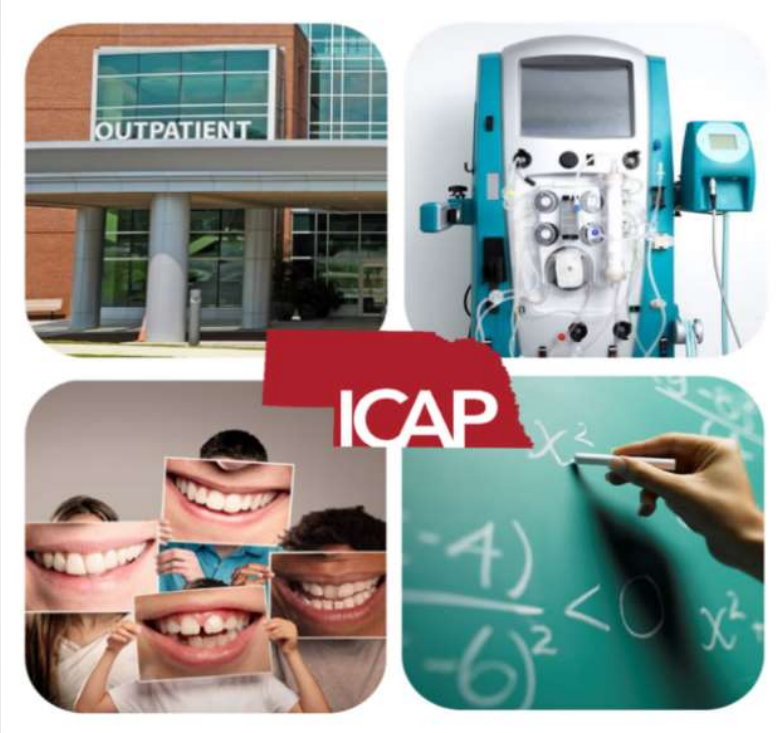
ICAR (infection Control Assessment and Response) Site Visits with ICAP

Visits are scheduled for both prevention and outbreak-related visits for all healthcare setting

The ICAP team evaluates infection prevention practices in a peer-to-peer, non-regulatory format.
ICAR evaluations are friendly, confidential, and free.

A visit generally takes 6 hours, but we are happy to customize the evaluation to any time frame that works best for the facility's schedule and can consider remote options.
Most facilities find the informal dialogue during the visit to be most helpful.

On the day of the ICAR, we initially start out by sitting down and discussing current procedures related to infection control. Following, a portion of the visit will include touring the building and observing areas such as supply storage, laundry processing, hand hygiene, donning/doffing of PPE, point of care blood glucose testing and medication preparation areas . Any facility leadership are welcome participate during the visit.



https://icap.nebraskamed.com/icar-assessments/

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Focused ICAR Visits Are Available

Nebraska ICAP is available for on-site infection control assessment and response (ICAR) non-regulatory voluntary visits. Based on your request, we can provide a more focused assessment including some, or all of the below domains. An example would be an SSI focused ICAR looking at surgical suite practices including device reprocessing.

- Surgical Site Infection (SSI) Prevention
- Device Reprocessing including sterilization and high-level disinfection
- Infection Control Program and Infrastructure
- Hand Hygiene
- Personal Protective Equipment (PPE)
- Catheter-associated Urinary Tract Infection (CAUTI) Prevention
- Central Line associated Bloodstream Infection (CLABSI) Prevention
- Ventilator-associated Event (VAE) Prevention
- Injection Safety
- Clostridioides difficile infection (CDI) Prevention
- Environmental Cleaning & Disinfection (ATP testing offered during visit)
- Systems to Detect, Prevent, and Respond to HAIs and MDROs
- Healthcare Personnel Safety
- Water Management
- COVID-19 Prevention and Response
- Antimicrobial Stewardship
    - The NE ASAP program provides comprehensive assessments

Please let us know if interested

nebraskaicap@nebraskamed.com
(402) 552-2881

NE ICAP ASAP

What is Assessed During an SSI- Focused ICAR Visit?

The visit would focus on the areas related to SSI prevention, including:

- Policies & Procedures related to Infection Prevention Control (IPC) and SSI Prevention
- Infection Control Training, Competency, and Audits
- Perioperative Environment
- Sterile Processing and Device Reprocessing
- Hand Hygiene
- Personal Protective Equipment
- Environmental Cleaning & Disinfection

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Assessment Tool – Hand Hygiene Example

Domain	Question ID	Elements To Be Assessed	Assessment	Notes
Hand Hygiene	020100	Hospital has a **competency-based training** program for hand hygiene.		
Hand Hygiene	020101	Training is provided to all healthcare personnel, including all ancillary personnel not directly involved in patient care but potentially exposed to infectious agents (e.g., food tray handlers, housekeeping, and volunteer		
Hand Hygiene	020102	Training is provided **upon hire, prior to provision of care** at this hospital.		
Hand Hygiene	020103	Training is provided at least **annually**.		
Hand Hygiene	020104	Personnel are required to demonstrate **competency** with hand hygiene following each training.		
Hand Hygiene	020105	Hospital maintains current **documentation** of hand hygiene competency for all personnel.		
Hand Hygiene	020200	Hospital routinely **audits** (monitors and documents) adherence to hand hygiene.		
Hand Hygiene	020201	Respondent can describe process used for audits.		
Hand Hygiene	020202	Respondent can describe frequency of audits.		
Hand Hygiene	020203	Respondent can describe process for improvement when non-adherence is observed.		
Hand Hygiene	020300	Hospital provides **feedback** from audits to personnel regarding their hand hygiene performance.		
Hand Hygiene	020301	Respondent can describe how feedback is provided.		
Hand Hygiene	020302	Respondent can describe frequency of feedback.		
Hand Hygiene	020400	Supplies necessary for adherence to hand hygiene (e.g., soap, water, paper towels, alcohol-based hand rub) are readily accessible in patient care areas.		
Hand Hygiene	020500	Hand hygiene policies promote preferential use of alcohol-based hand rub (ABHR) over soap and water in most clinical situations. *Note: Soap and water should be used when hands are visibly soiled (e.g., blood, body fluids) and is also preferred after caring for a patient with known or suspected C. difficile or norovirus during an outbreak or if rates of C. difficile infection (CDI) in the facility are persistently high.*		

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ICAR Response Report

Priority	Domain	Findings	Recommendations for Action & Interventions	References
Strength	IPC Program	Performs an annual facility risk assessment with IPC plan. Policies and procedures are current and based on evidence. IPC committee meets quarterly and QAPI committee is involved to address concerns.	This is a strength.	
Strength	Hand Hygiene	Routinely audits hand hygiene compliance and uses Secret Shoppers. Feedback is provided and shared.	This is a strength.	
Low	PPE	Three powered air purifying respirators (PAPRs) are available for use but not maintained.	PAPRs are PPE and should be accessible and maintained in a storage area or closed container or cabinet where they can be kept clean, dry, protected from dust, vermin, moisture, humidity extremes, and temperature extremes. Recommend to establish process for ensuring PAPRs are charged and quality control checks per instructions for use are being followed.	Refer to PAPR instructions for use.
Low	CAUTI Prevention	No annual education for catheter insertion or maintenance.	Consider adding to existing skills day or provide other annual education refresher with documentation.	SHEA - Prevent CAUTI, CDC - Prevention of CAUTI
Strength	CLABSI Prevention	Checklists for insertion and maintenance are utilized for competency-based training upon hire, annually, and when a central line is in use. Auditing and feedback occurs with line.	This is a strength.	
High	Injection Safety	No CBT performed for safe injection practices. No known processes for auditing and feedback of safe injection practices.	Many opportunities exist for injections of medications and vaccines by various routes (IM, SQ, IV, ID) along with use of point of care testing. Consider using CDC's Safe Injection Checklist which could be used for CBT and periodic auditing based on risk assessment.	CMS - §485.640(c)(2)(iv-v); CDC - Injection Safety Checklist
Intermediate	SSI Prevention	IP unaware of SSI prevention practices that are part of surgical care improvement program.	Recommend to review policies and connect with surgery manager to discuss SSI prevention practices and guidelines being followed. This will assist when reviewing SSIs, maintaining survey readiness, performing both IPC and environment of care rounds, and ensure evidenced-based practices are followed.	CMS - IC Worksheet; SHEA - Prevent SSI, APIC - Guide to OR
Low	Cleaning & Disinfection	Mixed storage closet. Items stored together were injectables, clean supplies, used PPE, re-usable housekeeping supplies, and lab supplies to the ceiling.	Store clean and sterile supplies in a designated area that is separate from other areas and is clean and dry, well-ventilated, and protected from dust, vermin, moisture, humidity extremes, and temperature extremes. Clean items can not be stored with contaminated items. Store supplies at least 18 inches from the ceiling, 2 inches from the outside wall, and at least 8 to 10 inches from the floor. Recommend all bottom wire racks in clean supply rooms have a plastic cover of some kind on the bottom or a solid bottom shelf. A solid bottom prevents contaminants from the floor from reaching the contents on the cart and prevents water from touching items on the bottom shelf when mopping.	CMS - §485.640(a)(3); CDC - Disinfection and Sterilization (page 76)
High	Reprocessing	Multiple instances of scissors in peel-open packages but scissors blades not opened or not fully open.	Hinged instruments should be sterilized in an open or unlatched position within the packaging. May use racks, stringers, and/or V-shaped pouches designed and intended for sterilization to maintain instruments in their open position according to instructions for use (IFU).	CDC - Disinfection and Sterilization (page 75)
Strength	Surveillance	Facility can describe timely review of data to help guide IPC activities.	This is a strength.	
Intermediate	Water Management	Vacant areas and no flushing of unused lines.	Areas that are not in use for extended periods (over 1 week) should have a schedule to be flushed weekly to prevent buildup of microorganisms from stagnation in the plumbing.	CDC - Water Management Program, CMS - QSO-17-30 - Water Systems

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Closing Thoughts

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ICAP Contact Info

Main Number Call 402-552-2881

Office Hours are Monday – Friday

8:00 AM - 4:00 PM Central Time

Weekends and Holidays 8:00-4:00

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Scan the QR Code to be taken to our NE ICAP Contact Form.
You can request to be connected to an Infection Preventionist that specializes in your area, get added to our setting specific communication list for webinar and training invites, sign up for newsletters and reminders, or request an ICAR review for your facility.

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Infection prevention and control is a team effort. Thank you!

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Please feel free to contact us for any questions now or in the future.

Juan Teran Plasencia, MD jteranplasencia@unmc.edu
Rebecca Martinez, BA, BSN, RN, CIC remartinez@nebraskamed.com
Lacey Pavlovsky, MSN, RN, CIC, LTC-CIP lacey.pavlovsky@nebraska.gov

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