

Safety Network (NHSN) Antimicrobial Use and Resistance Module. Distributed twice per year, it included hospital rates of AU for high-volume and broad-spectrum antibiotics compared to rates from facilities of similar type, bed size, and geographic region (Figure). We solicited feedback from users of the AU feedback report via REDCap survey. The second report (pathway adherence) summarized adherence to treatment guidelines for adult and pediatric community acquired pneumonia (CAP), adult urinary tract infections (UTI), and adult skin/ soft tissue infections (SSTI). The pathway adherence report used self-reported, deidentified, case-level data entered by hospitals into a REDCap survey, and incorporated individualized review and expert guidance to assist ASP interventions. We analyzed all data and created custom PDFs in R-Studio and R-Markdown. **Results:** Between May 2023 and November 2024 we distributed 272 AU feedback reports to 52/55 (94%) acute care hospitals (ACH) and 23/33 (69%) critical access hospitals (CAH) in Colorado. Participating hospitals were distributed across the state and had a median (range) bed size of 49 (8– 828). Among 14 hospitals that provided feedback, most users said AU feedback reports included meaningful visual comparisons and helpful data quality checks. Many facilities responded that they shared the AU feedback reports with hospital leadership, pharmacists, prescribers, infection preventionists, nurses and laboratory personnel, in addition to ASPs and steering committees. In October 2024, we distributed 34 AU adherence reports to seven ACH and six CAH, including: four pediatric CAP, ten adult CAP, twelve UTI, and eight SSTI reports. **Conclusion:** Automated AU feedback and adherence reports were feasible, scalable, and well-received. They fostered an opportunity for public health to connect with hospital ASPs and provide 1:1 mentorship. Centrally-developed, individualized reports provide an

analytic service to equip ASPs with concise, comprehensive summaries of their hospital's AU.

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#### Presentation Type:

Poster Presentation

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#### Infection Prevention Program Infrastructure and Implementation of Best Practice Recommendations in Outpatient Healthcare Facilities

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**Background:** Nebraska (NE) Infection Control Assessment and Promotion Program (ICAP) is supported by the Nebraska DHHS Healthcare-Associated Infection (HAI) program via a CDC grant and works to assess and improve infection prevention and control (IPC) programs in all types of healthcare facilities. CDC recommends that outpatient healthcare facilities (OHFs) develop and maintain IPC programs; however, little is known about the infrastructure of IPC programs in OHFs. NE-ICAP performed onsite assessments to review the implementation of best practice recommendations (BPRs) in these programs. **Method:** Onsite IPC assessments were conducted in OHFs from January 2020 to February 2024. The assessment questions were based primarily on the CDC 2016 Infection Control Assessment and Response (ICAR) tool, complemented by the CMS Hospital Infection Control Worksheet. Assessments included interviews and onsite observations. A total of 66 BPRs were assessed for implementation. Descriptive statistics were calculated using Microsoft Excel for assessment responses and demographic information. BPRs were classified based on hospital affiliation, accreditation status (based on certification by recognized accrediting bodies), and urban-rural designation (based on USDA rural-urban commuting area codes). The chi-square test for independence was performed in SPSS 20 to assess for statistically significant differences across these categories using a threshold of  $p < 0.05$ . **Result:** A total of 19 OHFs had onsite assessments. 42.1% had external accreditation, 77.8% had at least one individual trained in infection prevention regularly available, and 36.8% were considered urban (figure 1). Domains with the lowest compliance (percentage of BPRs in place) included injection safety (48.8%), device reprocessing (49.7%), and personal protective

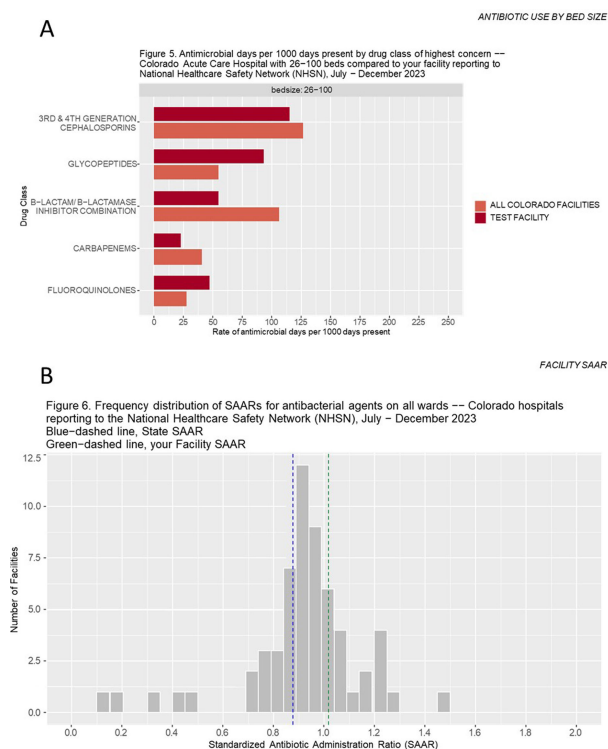


Figure: Sample figures from automated reports benchmarking antibiotic use across Colorado hospitals. A. Bar chart of antimicrobial days of therapy per 1,000 days present by broad spectrum antibiotic class. Antibiotic use for a test facility of 26–100 beds is compared to antibiotic use for hospitals of similar size reporting to the National Healthcare Safety Network. B. Histogram of standardized antibiotic administration ratios (SAARs) from Colorado hospitals reporting to the National Healthcare Safety Network. The green dashed line indicates the test facility SAAR. The blue dashed line indicates the SAAR for Colorado.

Figure 1

Facility Demographics	Yes n <sup>1</sup> (Percent)
Certified by CMS	16 (93.8%)
Accredited <sup>2</sup>	19 (42.1%)
Affiliated with a hospital	19 (42.1%)
Employs an individual trained in infection prevention	18 (77.8%)
Urban <sup>3</sup>	7 (36.8%)
Semi-Urban <sup>3</sup>	4 (21.1%)
Rural <sup>3</sup>	8 (42.1%)

1. n represents total responses per item

2. such as Accreditation Association for Ambulatory Health Care (AAAHC) or The Joint Commission

3. USDA rural-urban commuting area codes 1-3: Urban, 4-6: Semi-Urban, 7-10: Rural

Figure 2

Best Practice Recommendation	% All OHC with BPR in place (N=19)	Accreditation (N=8) vs. No Accreditation (N=11) P-value*	Affiliation (N=8) vs. No Affiliation (N=11) P-value*	Urban (N=7) vs. Rural (N=8) vs. Semi-Urban (N=4) P-value*
Facility has policies and procedures outlining facility response (i.e., risk assessment and recall of device) in the event of a reprocessing error or failure.	35%	63% vs 11% (p 0.013)	17% vs 45% (p 0.127)	83% vs 14% vs 0% (p 0.015)
Personnel who clean and disinfect patient care areas (e.g., environmental services, technicians, nurses, contractors) receive training on cleaning procedures annually.	33%	63% vs 10% (p 0.013)	14% vs 45% (p 0.127)	50% vs 13% vs 50% (p 0.303)
Healthcare personnel are required to demonstrate competency with environmental cleaning procedures following each training.	33%	13% vs 50% (p 0.127)	57% vs 18% (p 0.141)	33% vs 50% vs 0% (p 0.209)
Facility routinely audits (monitors and documents) adherence to hand hygiene.	32%	38% vs 27% (p 0.636)	38% vs 27% (p 0.636)	43% vs 38% vs 0% (p 0.303)
The individual(s) in charge of infection prevention at the facility is consulted whenever new devices or products will be purchased or introduced to ensure implementation of appropriate reprocessing policies and procedures.	31%	57% vs 11% (p 0.046)	0% vs 45% (p 0.026)	83% vs 0% vs 0% (p 0.003)
Facility routinely audits (monitors and documents) adherence to cleaning and disinfection procedures, including using products in accordance with manufacturer's instructions.	28%	13% vs 40% (p 0.243)	43% vs 18% (p 0.345)	33% vs 38% vs 0% (p 0.375)
Facility routinely audits (monitors and documents) adherence to reprocessing procedures.	24%	25% vs. 22% (p 0.719)	17% vs 27% (p 0.435)	50% vs 14% vs 0% (p 0.181)
Facility routinely audits (monitors and documents) adherence to recommended practices during point-of-care testing.	19%	38% vs 0% (p 0.027)	0% vs 27% (p 0.107)	17% vs 0% vs 50% (p 0.081)
Facility routinely audits (monitors and documents) adherence to safe injection practices.	16%	25% vs 9% (p 0.348)	0% vs 27% (p 0.107)	14% vs 0% vs 50% (p 0.081)

equipment (51.8%). Notable BPRs associated with less than 35% compliance are listed in figure 2. Accredited facilities demonstrated greater compliance with BPRs related to device reprocessing. **Conclusion:** Important IPC gaps exist in OHFs. Onsite assessments are crucial for evaluating IPC program infrastructure and highlighting areas for improvement. Further studies are needed to understand why accreditation is associated with better compliance with BPRs and the factors contributing to its success.

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**Risk stratification of tuberculosis transmission in healthcare settings: A systematic review**

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**Background:** Tuberculosis transmission in healthcare is poorly understood. Exposure definitions for patients and healthcare workers tend to

be based on custom rather than data leading to many people being flagged for evaluation despite few infection transmission events. We reviewed the medical literature to identify and quantify risk factors for tuberculosis transmission in healthcare to guide risk-stratification and inform exposure definitions. **Methods:** We reviewed MEDLINE, EMBASE, CINAHL and Cochrane databases from inception to December 10, 2024. We included studies reporting tuberculosis transmission from infected adult patients to healthcare workers and other patients in both inpatient and outpatient settings. We evaluated 12 transmission risk factors: contact factors (exposure duration, proximity of exposure, mask use, room ventilation), patient factors (smear positivity, NAAT positivity, cavitary pulmonary disease, respiratory symptoms), and procedure factors (intubation, bronchoscopy, sputum collection, and other procedures). **Results:** A total of 6,695 studies were identified of which 49 met inclusion criteria. Contact factors associated with increased risk of transmission included poor room ventilation ( $\leq 2$  air exchanges per hour, 60-70% air recirculation without high efficiency filtration, high ambient carbon dioxide levels with median 660-800 parts per million) and positive pressure air flow from poorly ventilated rooms to nearby clinical spaces. Most ventilation-related transmissions occurred before modern healthcare ventilation standards were implemented. Sustained proximity to infected patients was associated with patient-to-patient transmission via shared rooms (4 transmissions/90 exposures,