BACKGROUND
Multidrug-resistant bacteria (MDRO) and Clostridium difficile infections (CDI) affect patient safety. The objective of this study was to describe the burden of MDRO and CDI infections to depict changing trends over time in an integrated healthcare network.

METHODS
We abstracted electronic data from patients seen at any of Intermountain Healthcare’s 22 hospitals and affiliated clinics between January 1, 2008 and December 31, 2015. Surveillance cultures and results were collected from the Intermountain Healthcare Laboratory:• Methicillin-resistant Staphylococcus aureus (MRSA) • Vancomycin resistant Enterococci (VRE) • Enterobacter and Enterobacteriaceae spp. • E. coli and E. coli ESBL harboring Gram-negative rods The data set included all patients from 12 hospitals where the C. difficile and ESBL programs existed. The C. difficile and ESBL programs accounted for 65% of hospital admissions from 2008 to 2015. Patients admitted from an ambulatory setting were more frequently hospitalized in hospitals where C. difficile and ESBL were less frequently isolated in the hospital (Figure 6).

RESULTS
A total of 4,019,314 patient encounters were identified during our study period of interest. Of these, 1,617,057 (40%) were from patients positive for an MRSA and/or C. difficile. Methicillin-resistant Staphylococcus aureus (MRSA), E. coli and Enterobacteriaceae were the most common organisms. The detection rate of C. difficile and ESBL is steadily increasing over time (Figure 2). Similar to C. difficile infections, ESBL infections have also increased from 2008 to 2015 with C. difficile increasing from 6% to 10%. Interestingly, MRSA infections were less frequently isolated in the hospital; however, vancomycin resistant E. faecium, VRE, and other organisms were more frequently isolated in hospital (Figure 6).

CONCLUSIONS
While MRSA continues to be the most common antibiotic resistant bacteria, rates have been declining. In contrast, ESBL and C. difficile continue to increase. The role of acquiring an MDRO in acute care facilities varies by bacterial species. Understanding these trends help focus limited infection control resources.

OBJECTIVE
To describe the burden of antibiotic resistant bacteria and Clostridium difficile in an integrated healthcare network between January 1, 2008 and December 31, 2015.

SUBJECTS AND METHODS
Data were collected from 22 hospitals and affiliated clinics who had cultures positive for antibiotic resistant Gram-positive or Gram-negative bacteria and/or who had cultures positive for antibiotic resistant Enterococcus. CDI was defined as resistant to ≤2 antibiotic classes, pan-resistance as resistant to all antibiotic classes. Carbapenem resistant Enterobacteriaceae (CRE) were defined according to CDC definitions. Specimens collected 48 hours after a hospital admission (for C. difficile or VRE) were classified as hospital acquired.

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