BACKGROUND
The majority of U.S. small community hospitals (SCHs) lack access to infectious diseases (ID) subspecialists. Telehealth can extend ID expertise to such facilities. We describe lessons learned from implementing a new Infectious Diseases TeleHealth (IDt) program for 16 SCHs in Utah and Idaho from October 1, 2016 to April 30, 2017.

IMPLEMENTATION PROCESS
- IDt services included:
  1. A 24-hour ID physician telephone advice line (No EHR review/documentation)
  2. An inpatient ID consult service that provided: a. EHR review and documentation (e-Consults) b. Daytime telemedicine consultation (TC) using encrypted, HIPAA-compliant, synchronous, 2-way audio-video connection
  3. An ID pharmacist-led antimicrobial stewardship program with dedicated central monitoring of antimicrobial use and key ID condition alerts

- The IDt service was comprised of:
  a. Medical director (full-time)
  b. Operations officer (part-time)
  c. ID pharmacist (full-time)
  d. Analyst (part-time)
  e. Rotating ID physicians

- The service was implemented as a step-wedge design. IDt requests were received through a dedicated phone line or generated from daily telehealth antimicrobial stewardship rounds. Random telephone patient satisfaction surveys on TC visits, and anonymous electronic surveys of SCH providers were conducted to assess program effectiveness.

RESULTS

ID Advice Line
- The physician advice line was operational for all 16 SCHs on October 1, 2016. 312 advice-only calls were fielded (92 per 1000 hospital-days covered).
- Common infections requiring phone advice included: bloodstream (16%), genitourinary (13%), and musculoskeletal (12%). musculoskeletal (12%).

eConsults and Telemedicine Consults
- E-Consult and TC services were operational at 11 SCHs by April 30, 2017 (1074 hospital-days covered).
- The service completed 104 e-Consults, 163 TCs, and 1198 stewardship reviews during the study period.
- Mean time [minutes (range)] spent per case was 16 (5-30) for eConsults and 55 (30-120) for TCs [on-camera time: 25 (12-46)].
- Common infections requiring e-consult or TC were: bloodstream (45%), musculoskeletal (16%), and skin/soft tissue (11%). (Figure 2)

Patient/Provider Satisfaction
- 97% of surveyed SCH staff felt the IDt service improved patient care and 90% felt it was a necessary service (32% response from 98 providers, nurses, pharmacists). (Figure 3)
- 22 patients (14%) seen by TC were surveyed: 100% felt the service improved their care in a timely manner and was necessary at their SCH. (Figure 4)

CONCLUSIONS
A new multi-component ID TeleHealth service was well utilized and received by Small Community Hospital staff and patients, with bloodstream infections being the most common reason for consultation. A telehealth platform successfully integrated antimicrobial stewardship efforts remotely, providing patient and population-level interventions. Future steps include evaluation of the IDt effect on specific clinical outcomes, assessing financial metrics, staff education on common inpatient ID conditions, and regional expansion of services.

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