ABSTRACT
Background/Introduction
Innovative strategies are needed for ASP implementation in SCHs (<200 beds). Most SCHs lack ASPs that meet Joint Commission (JC) requirements and CDC core elements. Telehealth can help extend infectious diseases expertise and stewardship resources to such facilities.

Methods
The Infectious Diseases TeleHealth (IDt) program provides consultation and ASP support to 16 Intermountain SCHs (14-150 beds). Key stakeholders were identified at each site to establish formal ASPs. An IDt physician and pharmacist attended local meetings as ASP members to provide guidance. Centrally tracked antibiotic usage and resistance data were reviewed with each program to identify opportunities for improvement. Daily stewardship responsibilities were shared: frontline pharmacists were trained to review charts for appropriateness using automated electronic alerts, while the IDt pharmacist reviewed high priority alerts (e.g., positive blood cultures). Recommendations were made to local staff, or to the IDt physician in cases needing telehealth consultation.

Results
ASPs were formed at 15/16 hospitals (1/16 had an existing ASP). Members included: local physician (15/16), local pharmacist (15/16), infection preventionist (14/16), quality representative (15/16), nursing (5/16), and administration (5/16). Collaborative data review led to 16 planned projects to improve antimicrobial prescribing. Eleven targeted specific drugs (carbapenems (n=6), piperacillin-tazobactam (n=1), fluoroquinolones (n=2), vancomycin (n=2)), and five aimed to improve processes [allergy assessment (n=2), order sets (n=2), and implementation of rapid diagnostics (n=1)]. Five of 16 ASPs documented full compliance with JC and CDC requirements, and 11/16 documented partial compliance (none were compliant prior to IDt implementation). Frontline pharmacists reviewed 3,593 stewardship alerts during the first 7 months, leading to 826 interventions across 16 facilities. The IDt pharmacist reviewed 1,198 alerts leading to 318 interventions.

Conclusions
We established or augmented ASPs in 16 Intermountain SCHs through local empowerment, central data sharing, and IDt mentorship. We successfully demonstrated use of a telehealth platform to coordinate ASP activities remotely. Future goals include evaluating antibiotic use trends and assessing patient outcomes.

RESULTS

Table 1 – SCH Antimicrobial Stewardship Program Members*

<table>
<thead>
<tr>
<th>Hospital Bed Size</th>
<th>MD Champion</th>
<th>PharmD Champion</th>
<th>Infection Preventionist</th>
<th>Quality/ Safety</th>
<th>Nurse</th>
<th>Administrator</th>
</tr>
</thead>
<tbody>
<tr>
<td>148</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>69</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Displayed as days of therapy (DOT) per 1,000 patient days for all antibiotics

Figure 1 – Antibiotic Usage Data*

Baseline Data from SCH ASP Projects
Meropenem Evaluation
- Inappropriate meropenem DOT for all indications ranged from 20 to 40% in three medium-sized hospitals (bed size 69, 88, and 90 beds)

Vancomycin Evaluation
- Inappropriate vancomycin DOT at a 28 bed hospital:
  - Skin and soft tissue infection – 27%
  - Community-acquired pneumonia – 31%
  - Urinary tract infection – 25%

Fluoroquinolone Evaluation
- Inappropriate fluoroquinolone DOT for all indications was 33% at a 14 bed hospital

Figure 2 – Project Example – Meropenem Use Evaluation

CONCLUSIONS

- ASPs established at all 16 Intermountain SCHs
  - Empowered local programs through training, provision of data, and ongoing mentorship from IDt physician and IDt pharmacist
  - Initial projects have identified opportunities for improvement in antibiotic prescribing and have led to site-specific action plans
  - Compliance with JC requirements and CDC core elements for stewardship has increased at all facilities

FUTURE DIRECTIONS

- Provider education on local antimicrobial usage and resistance data
- Evaluate impact of centralized telehealth stewardship service on antimicrobial prescribing and patient outcomes
- Addition of non-Intermountain facilities

REFERENCES

No conflicts of interest to disclose.