

Impact of an Integrated Tele-Antimicrobial Stewardship Program (TASP) at a Rural Community Hospital

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OBJECTIVE

- Describe the impact of an integrated tele-antimicrobial stewardship program (TASP) at a rural community hospital

BACKGROUND

- Small hospitals in the US may lack access to infectious diseases (ID) expertise despite similar rates of antimicrobial use and drug-resistant bacteria as larger hospitals.
- A tele-antimicrobial stewardship program (TASP) is a force multiplier, expanding access to specialty care, training, and guidance on appropriate resource utilization.
- Data on the impact of TASP in community or rural inpatient settings is limited.

METHODS

- We established a TASP at a 160-bed hospital in Armstrong County, PA (population 65,000) in September 2020.
- Tele-ID consult services were already being used as of April 2020.
- A non-local ID pharmacist or ID physician with access to the local electronic medical record performed prospective audits and provided feedback with 1 local pharmacist on a 30-minute video conference daily.
- At TASP implementation, all patients receiving intravenous (IV) fluoroquinolones, metronidazole, and azithromycin were reviewed.
- Figure 1 shows the timeline of TASP implementation.

Figure 1. TASP Timeline

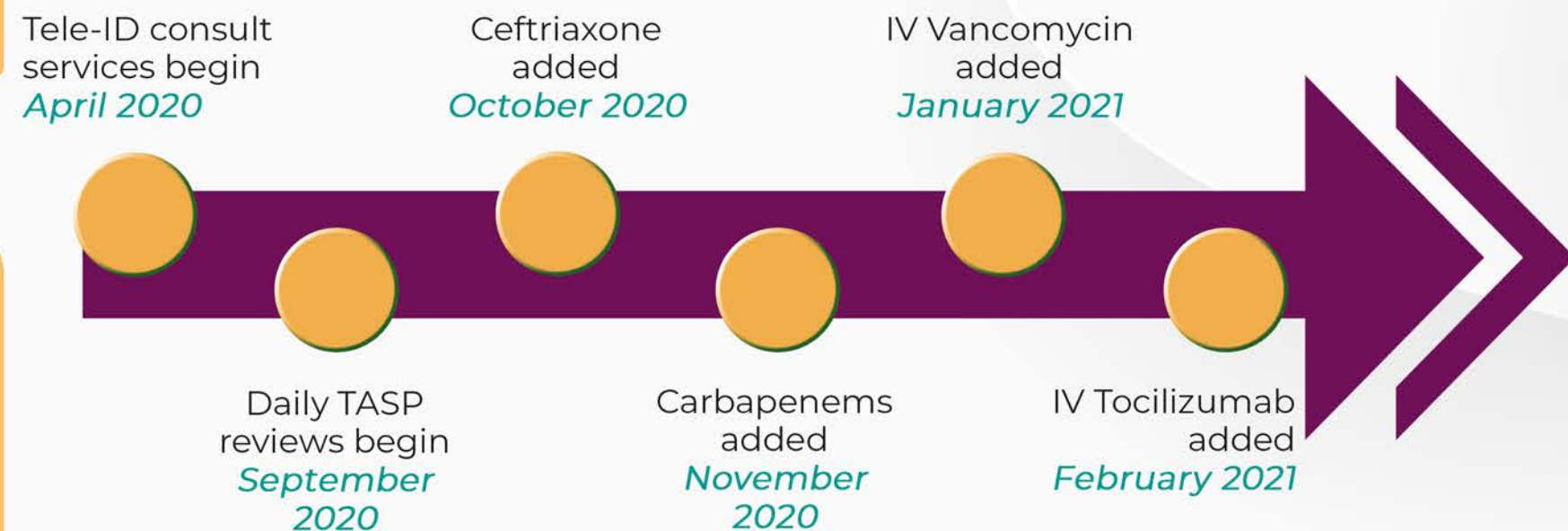


Figure 2. Stewardship Interventions

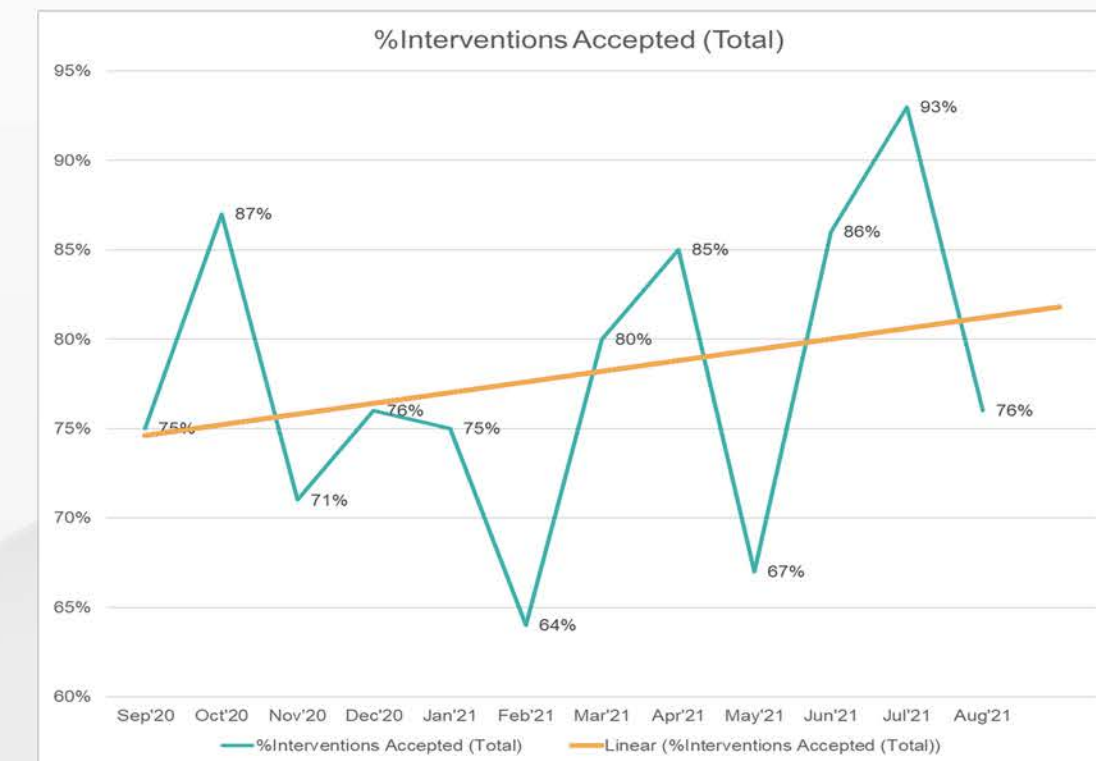
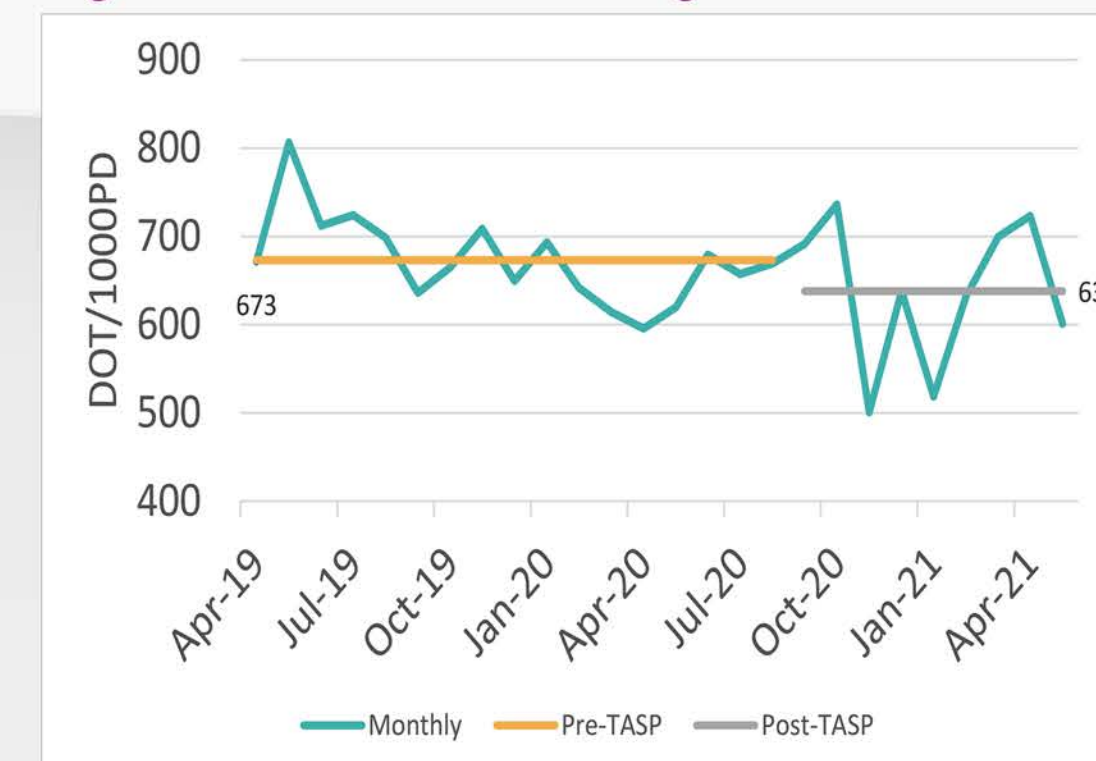


Figure 3. Antimicrobial Usage



Patient Care	Guidelines	Microbiology Lab	Policies	Education
Available for patient-related questions via email outside of daily TASP call	Empiric antimicrobials for common infections	Enhanced culture results display to providers in electronic health record for improved readability	Indications for use on electronic antibiotic orders	Introduction to stewardship webinar
Coaching on conducting thorough beta-lactam allergy history	COVID-19	Added clinician comments to culture and laboratory test results	Surgical prophylaxis	Monthly stewardship pearl newsletter
Stewardship intervention form	CAP	Updated AST panels and reporting rules to align with current breakpoints	Aminoglycoside dosing	Tocilizumab webinar
Patient monitoring form	HAP/VAP	Revised antibiotic reporting rules for <i>Enterococcus</i> spp. isolated in urine cultures	Renal dosing	COVID-19 monthly updates and webinars
Prospective audit with feedback M-F	Procalcitonin	Revised cascade reporting rules	MDRO and isolation	
	IV to PO conversion	Updated local antibiogram	Vancomycin dosing in dialysis	

RESULTS

- From September 2020 to August 2021, 406/519 (78%) stewardship opportunities were accepted (Figure 2).
- Monthly antimicrobial use declined on average from 673 DOT/1000 PD to 638 DOT/1000 PD (Figure 3).
- Daily calls involved ~5 patient reviews though were cancelled on ~20% of weekdays due to staffing shortages

CONCLUSIONS

- TASP in a rural community hospital resulted in a high percentage of accepted stewardship interventions and lower antimicrobial usage.**
- Success is dependent on robust educational efforts, establishing strong relationships with local providers, and involvement of key stakeholders.
- Lack of dedicated stewardship time for local pharmacists is a very significant barrier to TASP success.