

ANTIBIOTIC STEWARDSHIP PROGRAM (ASP) CASE STUDY: CRITICAL ACCESS HOSPITAL

Southwest Health System

Location:

Cortez, Colorado

Bed Size:

25

Key Contact (name/email):

Marc Meyer mmeyer@swhealth.org

Duration of organized ASP

Since October 2014

Organization and governance of ASP:

- > Leader or co-leaders (names, roles):
 - Marc Meyer Pharmacist, Infection Preventionist
- > Members of task force or committee (no names, just roles):
 - Hospitalist
 - ED physician
 - Wound care specialist, PT
 - RN Educator
 - RN ICU
 - RN medical clinics, oversees all clinics
 - Pharmacists
 - Lab microbiologist
 - Physician Assistant form clinics
 - Nurse Practitioner form clinics
- > Governance:
 - Meets quarterly
 - Reports to P&T quarterly, which filters to medical executives and the board
 - Updates to quality, infection prevention, and surgical committees

List all strategies of ASP implemented with key details:

1. Formal stewardship support
2. Financial support (part of pharmacy budget)
3. Accountability falls on the pharmacists, but there is also a physician leader
4. Drug expertise is provided by the pharmacy
5. Our team is wide and varied
6. We have a stewardship policy
7. We have daily rounds where 48 time out and de-escalation occur
8. We have nine antimicrobials that are restricted that need to be approved by pharmacy
9. Audit and feedback is performed
10. There are no automatic changes from IV to *po*; those are discussed in daily rounds
11. Dose optimization occurs on all orders at order approval by pharmacy
12. Time-sensitive stop orders are input into the system on almost all antimicrobials orders

13. We have specific interventions for UTI, SSI, Community Acquired Pneumonia, surgical prophylaxis, MRSA empiric treatment, CDI and culture proven blood stream infections
14. We report to the Antibiotic Use (AU) of the CDC (click [here](#) for more information) and use an affordable software vendor to look at data (driven down to prescriber level) and to monitor specific interventions
15. We track *C. difficile* rates and monitor problem pathogen histories in our system
16. We produce a yearly antibiogram
17. We monitor the Days of Therapy (DOT)/1000 patient days via the AU module and Asolva Medici AU
18. We are processing a way to share provider specific reports for our hospital and clinic staff
19. We have had three education sessions on stewardship for national experts in the last 12 months and we provide ongoing stewardship education locally for staff, medical staff, dentists, nursing homes and clinics
20. We have a clinic stewardship project for UTI and URI for both adults and peds
21. We have a Long Term Care project in a local nursing chain for 500 beds for UTI

Key milestones:

- > In October 2014 we became part of the Colorado Hospital Association Collaborative leadership and adopted the statewide UTI and SSTI project in our hospital.
- > In December 2015, we participated in the NQF project that authored a playbook for hospital stewardship that came out in May 2016.
- > In July 2016, Marc Meyer gave a webinar with Arjun Srinivasan, MD, Associate Director for Healthcare-Associated Infection Prevention Programs at the CDC, titled Stewardship in a Limited Resource Setting, available [here](#).
- > In April 2017, CDC and Pew convened a group of CAH content experts that included Marc Meyer from Southwest Health System to write a CAH stewardship guide. The guide was published in July and is available [here](#).
- > In May 2017, Marc Meyer co-authored a paper in Clinical Infectious Diseases on problems with stewardship in small hospitals, available [here](#).
- > In July 2017, Marc Meyer was invited by the CDC to post a Safe Healthcare blog, Antibiotic Stewardship in Action: Southwest Health System's Approach. This launched the release of the CAH guide above. It is available [here](#).
- > In July 2017, the SHS stewardship program was featured in a report by the CDC, Antibiotic Use in the United States: Progress and Opportunities, available [here](#).
- > Throughout 2017, Marc Meyer of Southwest Health System has served as a teacher and consultant to the CDC, Oregon, Washington, South Dakota, Illinois, and Iowa.

TIMELINE FOR IMPLEMENTATION:

We have done stewardship in some form for the last 27 years: closed formulary, stop orders, antibiotic order sheets, surgical guidance, etc.

We developed an official team in late 2014 and it has become very robust, with programs in all areas of our small health system.

Barriers and Strategies Employed to Overcome Barriers:

Good Data Collection.

We converted old guard antibiotic usage ideology to new data drive and guidance drive usage among both new and old providers. Overcoming this barrier was difficult. We needed the Antibiotic Use module data and an easy way to upload it. We solved this with Medici Au, an Asolva product. It costs \$50 per month for our 25 beds. It pulls MAR, transfer, admission and discharge data from our system to the cloud, where it uploads to the AU module in NHSN and also give us the ability to look at our antibiotic usage from as high as 30,000 feet right down to level of a single provider.

Time!

Solving the data collection barrier also went a long way towards solving the time barrier. Not only was much time saved in obtaining data, but good data lessened the time for adoption.

Results:

- > Total antibiotic use is < 1/3 less than the NHSN AU mean for CAHs
- > Levofloxacin use decreased 40%
- > Additional problem areas that the data has helped us identify include:
 - Periodic increases in vancomycin use
 - Higher than mean SAAR for MDRO antibiotics on our medical surgical department

Next Steps:

- > Become more robust using NHSN AU data to analyze our problem areas in combination with Asolva Medici AU.
- > Dive into antibiotic use patient by patient in those areas in retrospective review.
- > Work with our outpatient sites to improve antibiotic use
- > Work with local dentists and veterinarians to assist them with stewardship issues.
- > Measure the effect of community stewardship on MDRO's reported by our lab (which provides service to a 2-county area).
- > Work with our wound expert to develop a wound guide for the system.