Methods

The Joint Commission and the Centers for Medicare and Medicaid
As of Summer 2016, twelve facilities or regional networks meet or
Overall, a modest decline in antibiotic use was seen with many
2.5
Four different clinical information systems are utilized across the
Consolidation of three tier system into two tiers since some facilities
8
We sought to establish an ASP framework across 28 acute
Engaged in baseline ASP activities such as IV to PO conversion
Pharmacists set up monthly facility meetings to provide suggestions
Few facilities have dedicated time for assigned physician and
Site visits were conducted in Winter 2016 with key ASP stakeholders
Establishing a Measure

Days of therapy (DOT) per 1001 patient days was adopted for monitoring
select antibiotics monthly. Baseline usage data from September 2014
– August 2015 was collected.

Target and stretch DOT reduction goals were set for each facility.

Accomplishing the Work

Pharmacists set up monthly facility meetings to provide suggestions
for moving stewardship initiatives forward and assess progress.

Common initiatives include: fluoroquinolone use reduction, creation
of empiric guidelines for pneumonia and urinary tract infection,
implementation of rapid diagnostic technology, and reducing
unnecessary urine cultures to target asymptomatic bacteriuria.

Bi-monthly virtual meetings were established to share best practices,
assess system-wide data, and provide educational sessions

The Carolinas HealthCare Symposium to Optimize, Network, and
Engage Antimicrobial Stewardship Partners (CHS ONE ASP) was
held in Summer 2016 targeting global educational needs.

The “Bug Bytes” newsletter is disseminated on a bi-weekly basis.

Results

Data (DOT/1000 patient days) on 17 selected antibiotics were collected
in 28 acute care hospitals for each month between September 2014
and present.

The goal-stretch reduction set by facilities ranged from 1.25% to 5-10%

Table 1. Landscape of ASP at CHS by Tier

<table>
<thead>
<tr>
<th>Tier Level</th>
<th>Number of Facilities</th>
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<tbody>
<tr>
<td>1</td>
<td>2</td>
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<td>2</td>
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<table>
<thead>
<tr>
<th>Description</th>
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Table 2. Goal Reductions in DOT/1000 Patient Days by Tier

<table>
<thead>
<tr>
<th>Tier Level</th>
<th>Goal – Stretch Reduction (%)</th>
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<tr>
<td>1</td>
<td>5 – 10</td>
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<tr>
<td>2</td>
<td>2.5 – 5</td>
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<tr>
<td>3</td>
<td>1 – 2.5</td>
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</table>

Conclusion

• Building a unified ASP framework across a diverse system presents
many challenges including:
  • Obtaining consistent days of therapy and patient-days data from
facilities with different clinical information or decision system
platforms
  • Few facilities have dedicated time for assigned physician and
pharmacy champions to conduct daily stewardship activities and
spare time initiatives
  • Almost all Tier 3 facilities have limitations with generating targeted
reports to facilitate identification of potential stewardship
interventions from their current electronic health record system and
need increased surveillance platforms
  • Many facilities require a significant culture change for providers to
be receptive to recommendations that optimize antimicrobial therapy
  • Despite obstacles to establishing ASP in these facilities, many
successes emerged as a result of our collaborative:
    • All facilities disseminated a letter of commitment from senior
leadership stating the importance of improving antimicrobial use
    • Many sites who do not have dedicated ASP staff incorporated an
antibiotic time-out into their workflow and have seen reductions in
fluoroquinolone use
    • Tier 2 has developed a dedicated stewardship pharmacist and
implemented rapid diagnostic technology. Other facilities are in the
process of obtaining needed dedicated time and resources for
stewardship
    • Steps moving forward:
      • Pushing towards consistency in data collection methodology to allow
for effective identification of targets and trends as well as internal
benchmarking
      • Consolidation of three tier system into two tiers since some facilities
have increased resources for an established ASP
      • Targeting a single unified DOT reduction goal of 5-7.5% focusing
initiatives on fluoroquinolones, anti-pseudomonal beta-lactams, and
vancomycin

Background

• Alarming trends in antibiotic resistance sparked a National Action
Plan which endorsed antimicrobial stewardship programs (ASP) in
healthcare facilities as a strategy to curb resistance.
• The Joint Commission and the Centers for Medicare and Medicaid
also have recently mandated that all acute care and critical access
hospitals implement antimicrobial stewardship programs that align
with the CDC’s core elements of stewardship.
• Carolina HealthCare System (CHS) is a large, diverse healthcare system
providing care in 3 states and across varied settings ranging from critical access facilities to an 800-bed academic medical center with solid organ and bone marrow transplant.

Figure 1. CHS Regional Networks and Facilities

Figure 2. Goal Progression by Tier

Tier 1 Level Networks
Tier 2 Level Facilities
Tier 3 Level Facilities

Figure 3. Reductions in DOT/1000 Patient Days by Tier

Tier 1 Level Networks
Tier 2 Level Facilities
Tier 3 Level Facilities

• Antimicrobial stewardship efforts across CHS also vary by facility,
ranging from mature programs with dedicated stewardship
resources to those taking first steps towards establishing a program.
• Four different clinical information systems are utilized across the
system and only a few facilities have adopted clinical decision
support systems to identify and target antimicrobial stewardship
interventions.
• We sought to establish an ASP framework across 28 acute-care
hospitals by unifying local resources with an advisory team led by
a medical director, two clinical pharmacists, and a data analyst.

The First Step is Always the Hardest:
Building a Framework for Stewardship across a Large, Diverse Healthcare System

Julie E. Williamson, PharmD, BCPS; Andrea Y. Logan, PharmD, BCPS; Emily K. Reinke, PhD; Steven W. Jarrett, PharmD; Cynthia Clarke, RPh; Lisa E. Davidson, MD

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Poster #967

Table 3. Successes

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<th>CHS Networks (100+ beds)</th>
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Poster #54

Site visits

facility visits

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Figure 3. Reductions in DOT/1000 Patient Days by Tier

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