

## Society for Infectious Disease Pharmacists (SIDP): Final Projects Overview



August 6, 2024



1

### Housekeeping

- + Who's in the room today? (Name, facility, role)
- + Your line has been muted upon entry to eliminate any background noise during today's presentation.
  - A reminder that if you have dialed in, please do not place the call on hold as we may hear your "hold" music.
- + We encourage questions and open discussion.
- + Please utilize the Chat box to type in your questions or comments.
- + This event is being recorded.



2

# Agenda

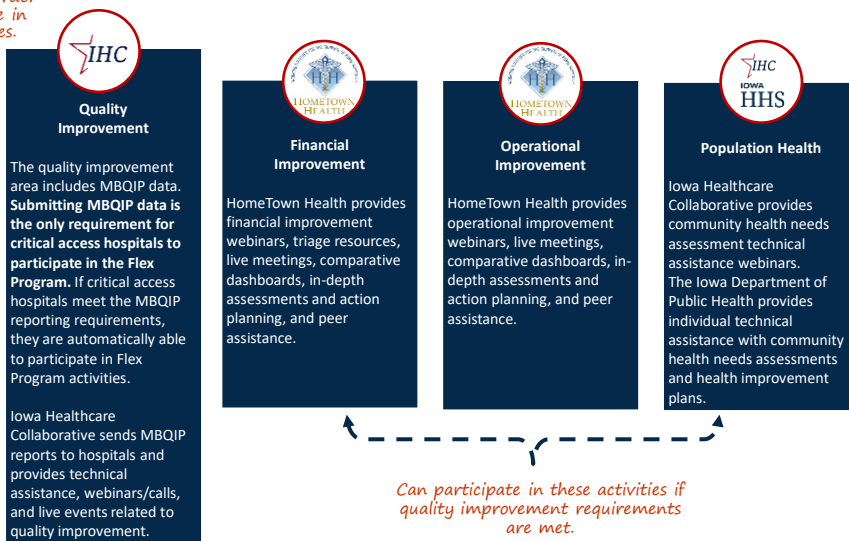
- + Society of Infectious Diseases Pharmacists (SIDP) Antimicrobial Stewardship Certificate Training Program Overview
- + Quality Improvement Project Presentations
- + Q&A



3

# Flex Program Areas

*Required in order to participate in other activities.*



*Can participate in these activities if quality improvement requirements are met.*

4

# Certificate Overview

<p><b>Part 1:</b> Core Content 12 CE hours</p>	<ul style="list-style-type: none"> <li>• <b>Goal:</b> provide foundational knowledge relevant for antibiotic stewardship</li> <li>• Self-paced, asynchronous, on-demand learning</li> <li>• Speakers - proven clinicians/educators with national name recognition within ID</li> </ul>
<p><b>Part 2*:</b> Application Minimum 4.25h required</p>	<ul style="list-style-type: none"> <li>• <b>Goal:</b> expand general stewardship principles to acute care and outpatient settings</li> <li>• Self-paced, asynchronous, on-demand learning</li> <li>• Speakers – clinical with expertise in specific settings</li> </ul>
<p><b>Part 3:</b> QI module – 1 CE h Project - 10 CE hours</p>	<ul style="list-style-type: none"> <li>• <b>Goal:</b> apply knowledge gained in Parts 1, 2, &amp; 3 module (required for ACPE certificate)</li> <li>• Live office hours (optional) with volunteers from SIDP Stewardship Committee</li> </ul>



Antimicrobial Stewardship  
Certificate Program

\*8.25h available

5

5

## Presenting



**Christian Erickson, PharmD**  
Pharmacy Supervisor  
Genesis Medical Center - DeWitt



**Kristin Bonar, PharmD**  
Clinical Pharmacist  
Regional Medical Center



6

SIDP QI Project  
Genesis Medical Center – DeWitt  
Christian Erickson, PharmD

7

## Hospital Description

- Genesis Medical Center – DeWitt
- Located in DeWitt, Iowa
- 13 Bed Critical Access Hospital
- No established Antimicrobial Stewardship Program prior to SIDP

8

## Project Overview

- I started as supervisor May 2023. Facility needed antimicrobial stewardship program
- Reviewed antibiotic use history utilizing TheraDoc clinical reports
- Identified abnormally high usage of IV antibiotics especially vancomycin for our patient population
- Goals set to reduce vancomycin usage by 10% and increase proportion of PO antibiotics used vs IV by 10% over fiscal year 2024

9

## Interventions

### Proactive Interventions:

- Established need for 0.2 Full-Time Equivalent (FTE) staff pharmacist to allow myself to dedicate time to antimicrobial stewardship (AMS)
- Provided physician education and prospective medication review
- Added DeWitt to system level policies w/ collaborative practice agreements to de-escalate therapy under certain conditions

10

## Interventions

### Retrospective Review:

- Adjusted antibiotics as necessary that were initiated after business hours
- Collaborated with physician when patient status changes warrant change in therapy
- Created reports in TheraDoc to monitor progress and report out to hospital leaders and administration quarterly

11

## Barriers

- Very supportive environment made for few barriers
- Need to increase department FTE, required written rationalization for formal review. Approved upon submission
- Issues with spikes in intravenous (IV) antibiotic use over weekends/ certain providers being less accepting of interventions. Solved with education and physician turnover

12

# Project Outcomes

## Subject: Antimicrobial Stewardship

FY24 Target	Performance Indicators		Q1	Q2	Q3	Q4
	<136.91	DOT Vancomycin Per 1000 Patient Days (Lower is Better)	Vancomycin DOT			
Med Surg Total Patient Days						383
x1000			83.00	24.10	10.44	
>0.231	Proportion of DOT of Antibiotics Given Orally	DOT Oral Antibiotics				146
		DOT All Route Antibiotics				243
			0.21	0.33	0.60	

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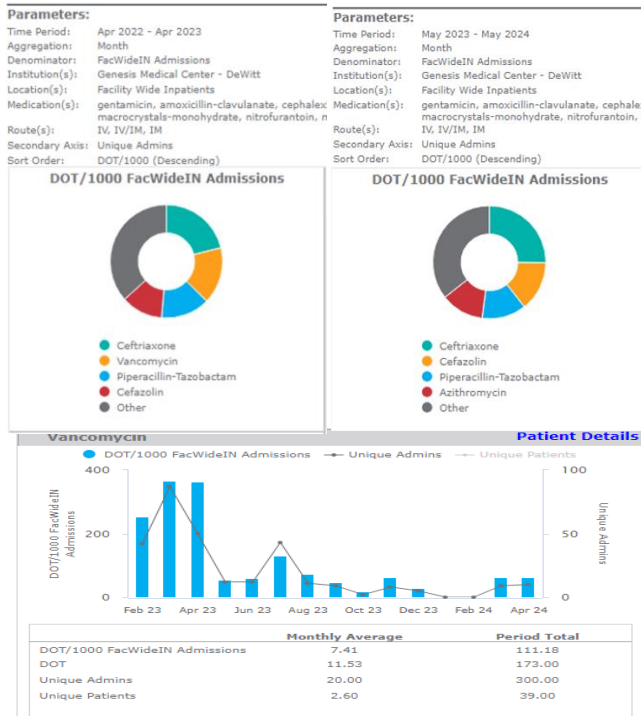
Time Period: Jan 2024 - Mar 2024  
 Aggregation: Month  
 Denominator: FacWideIN Admissions  
 Institution(s): Genesis Medical Center - DeWitt  
 Location(s): Facility Wide Inpatients  
 Medication(s): gentamicin, ceFTRIAXone, clindamycin, azithromycin, doxycycline, metroNIDAZOLE, sulfamethoxazole-trimethoprim, piperacillin-tazobactam, nitrofurantoin macrocrystals-monohydrate, nitrofurantoin, meropenem, levoFLOxacih, ertapenem, cephalosin, cefuroxime, ceFTAZidime, ceFAZolin, aztreonam, amoxicillin-clavulanate (ES), a...  
 Route(s): IV, IV/IM, IM, PO  
 Secondary Axis: Unique Admins  
 Sort Order: DOT/1000 (Descending)

**Medication Utilization Analysis – Admin**

Data processed on: 05/02/2024 02:19 EDT  
 Run Date/Time: 05/07/24 08:48 CDT

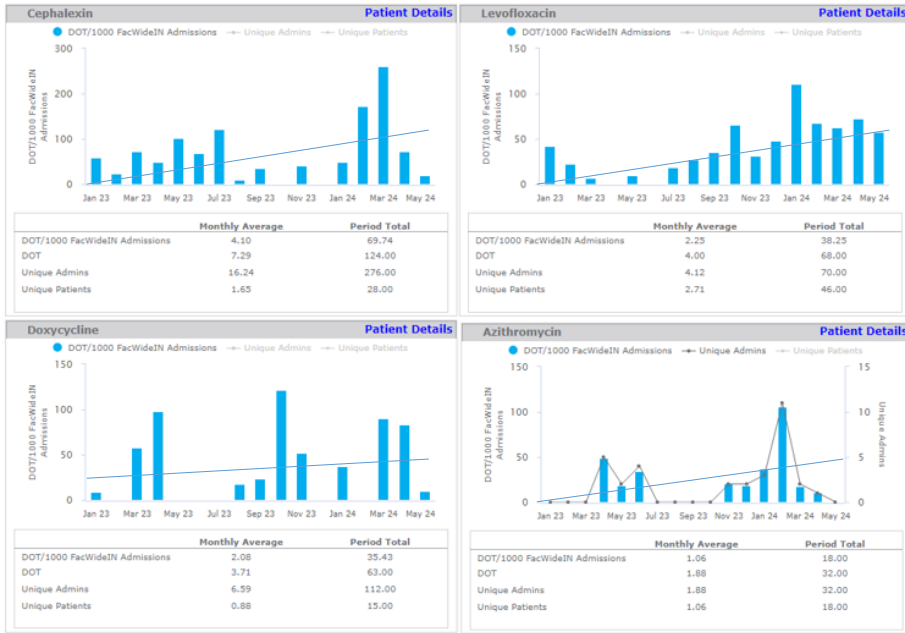
13

Total IV Antibiotic DOT/1000  
 Apr 22–Apr 23  
**813.47**



Total IV Antibiotic DOT/1000  
 May 23-May 24  
**451.54**

14



15

## Plans For Sustainment

- Reports are established and clinical intervention is now embedded into workflow, which allows for AMS program to be nearly automated.
- Allows for expansion of program for the future as amount of time to maintain current program decreases.

16



# SIDP Certificate Program Experience: IHC Report

Kristin Bonar, PharmD  
July 2024



17

# Facility Overview



18

## Regional Medical Center (RMC)

- Manchester, Iowa (IA)
- Critical access hospital - 25 beds



19

## Antimicrobial Stewardship @ RMC

- Co-led by a pharmacist and hospitalist
- Reports monthly at Pharmacy and therapeutics (P&T) meetings
- Program interventions:
  - Prospective audit and feedback
  - Monitor the appropriate use of vancomycin
  - Facility specific, guideline driven order sets – Community-acquired Pneumonia (CAP), cellulitis
  - Pharmacokinetic dosing program - vancomycin, aminoglycosides
  - Antibiotic automatic stop order of 5 days
  - Antibigram supplied and reviewed semi-annually
  - Educational newsletter to clinicians semi-annually

20

# SIDP Project Overview

21



## Facility Assessment: CAP Treatment

Chart review performed on all patients admitted to the Medical/Surgical floor with a diagnosis of pneumonia during the months of October - December 2023

- Total of #45 patients assessed
- #6 patients excluded from assessment
  - Transferred care
  - Transition to comfort care

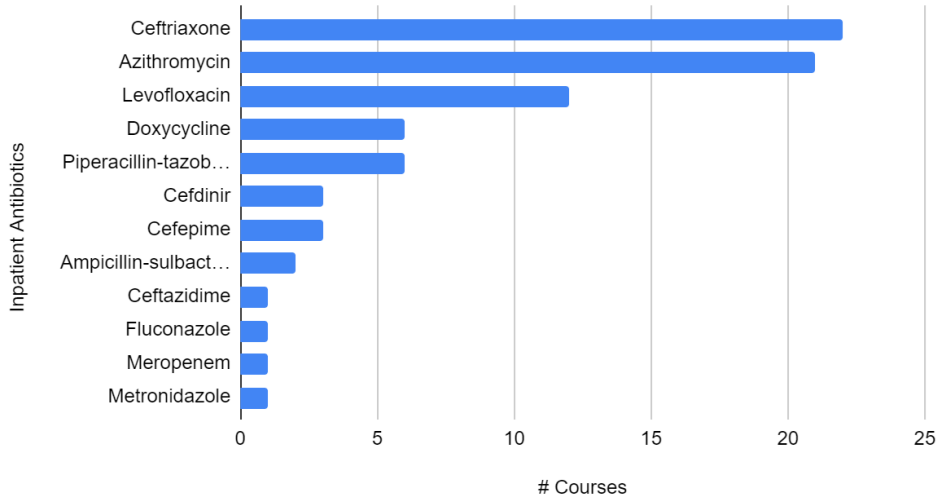
### Patient Characteristics

- Age
  - Average age: 80
  - Youngest patient: 8
  - Oldest patient: 97
- Sex
  - Male - 46%
  - Female - 54%

22

## Facility Assessment: CAP Treatment

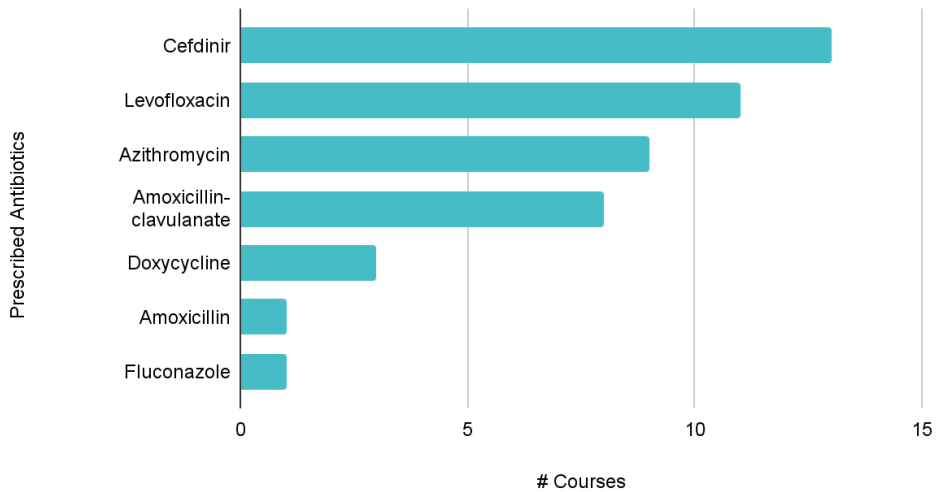
### Inpatient Antibiotic Courses



23

## Facility Assessment: CAP Treatment

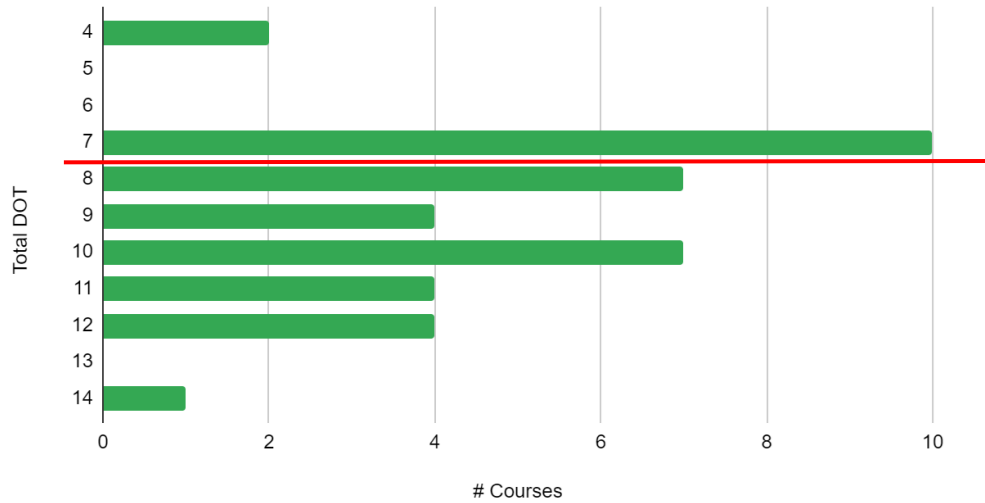
### Prescribed Antibiotic Courses at Discharge



24

## Facility Assessment: CAP Treatment

### Total Duration of Therapy



25

## ATS/IDSA Guidelines: Duration of Therapy (DOT)<sup>1</sup>

- Guided by measures of clinical stability
  - Vital signs
  - Ability to eat
  - Normal mentation
- Continue until the patient achieves stability (typically 48-72 hours)
- Several studies demonstrate efficacy of shorter courses (5-7 days)
  - No differences observed in studies comparing 5 vs 10 days of levofloxacin and ceftriaxone
- Most patients: 5 days total duration is appropriate for patients reaching clinical stability within 48-72 hours
- Suspected/confirmed Methicillin-resistant *Staphylococcus aureus* (MRSA)/*Pseudomonas*: 7 days
- Patients requiring longer courses
  - Pneumonia in the setting of meningitis, endocarditis, or other deep-seated infection
  - Infection w/ uncommon pathogens: *Burkholderia pseudomallei*, *Mycobacterium tuberculosis*, endemic fungi

26



## Problem Identification: Facility - Guideline Mismatch

- 69% of antibiotic courses exceeded the ATS/IDSA 2019 guideline recommendation of 5-7 days
- 23% of patients received > 10 Days of Therapy (DOT)
- Optimize (decrease) total duration of therapy for CAP

27



## SMART goal

- **Specific**: Decrease duration of antibiotic days of therapy for patients on the Medical/Surgical floor being treated for CAP. Total antibiotic duration of therapy for most patients should not exceed 5-7 days in accordance with The American Thoracic Society (ATS) and the Infectious Diseases Society of America (IDSA) 2019 CAP guidelines.
- **Measurable**: 80% compliance rate with total antibiotic duration of 5-7 days
  - Antibiotic use outcome: DOT (inpatient DOT + prescribed DOT at discharge)
  - Process outcome: compliance with 5-7 day course duration
- **Attainable**: Increase compliance rate by 44% to achieve 80% goal
- **Relevant**: CAP common diagnosis treated at our facility; facility - guideline mismatch warrants attention
- **Timely**: Assess compliance with 5-7 day total duration of therapy 3 months after implementation of intervention
  - May collect data monthly

28



## Departments Involved

- IT
  - Assistance with generated report to collect facility/patient data
- HIS
  - Assistance with diagnosis codes to generate report
- Medical/Surgical hospitalist team
  - Provider buy-in: guideline-facility DOT mismatch
  - Overview of ATS/IDSA 2019 CAP guidelines
- P & T committee
  - Stewardship efforts reported to committee
  - Approval of new stewardship initiative

29



## Project Interventions

1. Provider education
  - a. Review of ATS/IDSA 2019 CAP guidelines w/ Med/Surg hospitalist team
2. Pharmacist review of discharge medication reconciliation
  - a. Reviewed on patients with a diagnosis of CAP
  - b. Patients exceeding 7 total DOT will be reviewed with the hospitalist prior to discharge
  - c. Inpatient DOT will be reported daily (Monday - Friday) at the discharge planning meeting for patients nearing discharge

30



## Barriers

1. Collection of facility/patient data - timely process
  - a. Time commitment of antimicrobial stewardship pharmacist lead
2. Lack of available customizable reports with our Electronic Health Record (EHR) - manual chart review and calculation of DOT
  - a. Worked with an IT member specializing in reports to create a report to identify the relevant patient population

31



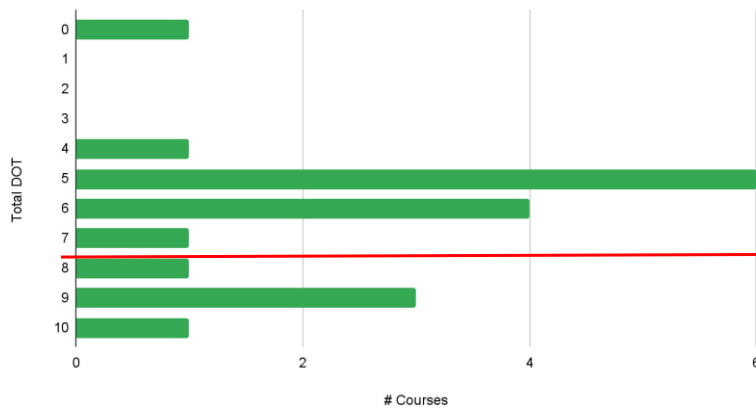
## Project Outcomes

32



## Antibiotic Use Outcome: DOT

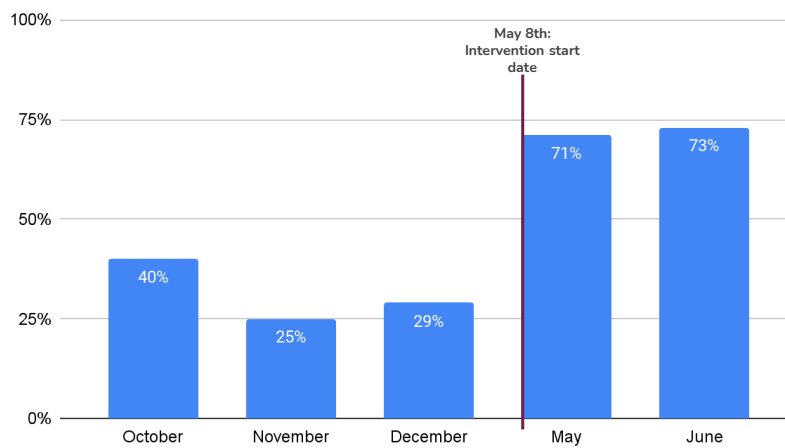
Total Duration of Therapy



33

## Process Outcome - Compliance Rate

CAP: 5-7 Day DOT Compliance Rate



34



## References

1. Metlay J, Waterer G, Long A, Anzueto A, Brozek J, Crothers K, et al. Diagnosis and treatment of adults with community-acquired pneumonia: an official clinical practice guideline of the American Thoracic Society and Infectious Diseases Society of America. *Am J Respir Crit Care Med*. 2019;200(7):45-67. doi: 10.1164/rccm.201908-1581ST

35

## Questions



36

## Upcoming Events

- + **SIDP QI Projects Overview: Session 2**
  - August 13, 2024, from 1:00-2:00PM (CT)
  - Free [Registration](#) (Link)
- + **How to Leverage Medicare Beneficiary Quality Improvement Program (MBQIP) Data for Improvements: Social Drivers of Health (SDOH) and Health Equity**
  - August 14, 2024, from 1:00-2:00 PM (CT)
  - Free [Registration](#) (Link)
- + **Screening for SDOH: Iowa Flex Best Practice Applications**
  - August 21, 2024, from 1:00-2:00PM (CT)
  - Free [Registration](#) (Link)



37

## iCompass Academy

- + This webinar will be recorded and be available on iCompass Academy
- + What is iCompass Academy?
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38

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- + iCompass is an online IHC forum designed to share information throughout the entire industry and bring people together to drive sustainable healthcare transformation.
- + Create an account today:  
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39

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40



## Thank You for Participating

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