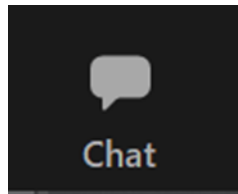


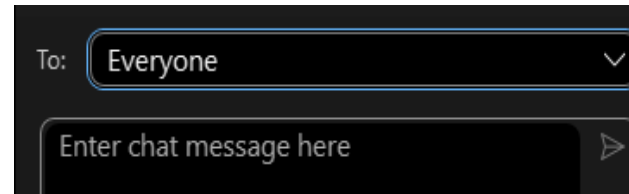
# We Will Get Started Shortly

- Lines have been muted upon entry to reduce background noise
- We encourage you to ask questions for the presenter(s) throughout the event using the **Chat Box** feature
- Please enter your name, role, organization and State into Chat Box

Open Chat



Scroll Down & Select To **Everyone**



# Antibiotic Stewardship: *Quick Wins for Improving Duration of Therapy*

November 8, 2022

Hosted by IPRO HQIC

IPRO, Alliant, Compass and Telligen Joint HQIC Learning and Action Network Event

***Please Note: This LAN is being recorded.***



• Healthcentric Advisors • Clarant  
• Kentucky Hospital Association  
• Q3 Health Innovation Partners  
• Superior Health Quality Alliance



Telligen QI Connect

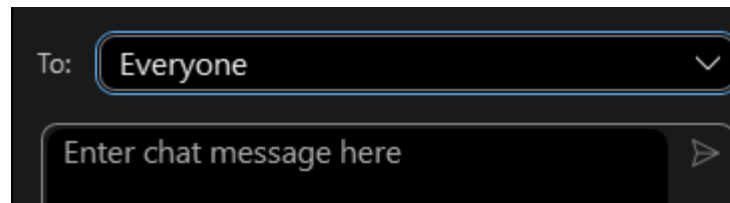


# How to Use & Send a Message in Chat Box

Open **Chat** Panel



Scroll down and select **'Everyone'**



# Learning Objectives

---

- Describe CDC Antibiotic Stewardship Core Elements and program status in acute care hospitals
- Discuss national trending data on antibiotic use and duration of therapy
- Review opportunities to improve prescribing practices and decrease antibiotic duration of therapy at the time of patient discharge, including handoff to the next level of care
- Explain duration of therapy evidence-based strategies and associated outcomes to enhance patient safety
- Hear about a hospital's challenges and successes with implementing practical electronic health record (EHR) solutions and other data-driven strategies to optimize duration of therapy



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# Why Focus on This Now?

- Antibiotic Stewardship remains a national priority - aimed at optimizing antibiotic use to effectively treat infections, protect patients from harms caused by unnecessary use and curb antibiotic resistance
- CDC's Core Elements of Antibiotic Stewardship are an effective strategy to optimize antibiotic use - yet more needs done
- Hard-wiring meaningful stewardship is imperative given the impact and associated challenges of the COVID-19 Pandemic - on patients/families, hospitals, and providers across the care continuum
- Antibiotic Awareness Week, November 18-24, '**Antimicrobials: Handle with Care**' - highlights steps everyone can take to improve antibiotic prescribing and use



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## Today's Speakers



**Arjun Srinivasan, MD**  
CAPT USPHS  
Deputy Director for Program Improvement  
Division of Healthcare Quality Promotion  
Centers for Disease Control & Prevention



**Valerie Vaughn, MD MSc**  
Assistant Professor & Director of Hospital  
Medicine Research  
University of Utah School of Medicine  
Hospitalist Lead - Antimicrobial Use  
Initiative Michigan Hospital Medicine  
Safety Consortium



**Robert Neetz, PharmD BCPS**  
Lead Antimicrobial Stewardship  
Clinical Pharmacist  
MyMichigan Health

## Today's Facilitator



**Lynda Martin, MPA BSN RN CPHQ**  
Senior Director Patient Safety  
Qlarant  
Patient Safety Lead  
IPRO HQIC



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# CDC Updates on Antibiotic Stewardship-2022

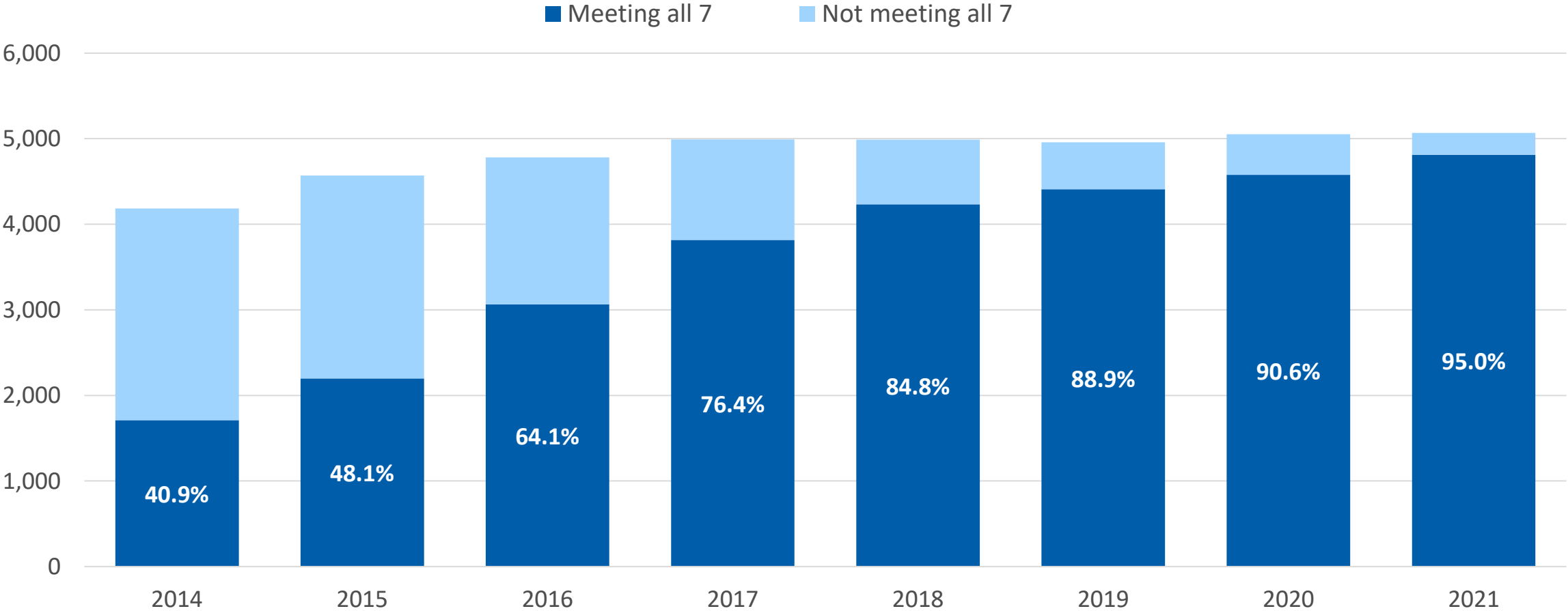
**Arjun Srinivasan, MD**

**CAPT, USPHS**

**Division of Healthcare Quality Promotion**

**[beu8@cdc.gov](mailto:beu8@cdc.gov)**

# NHSN Annual Hospital Surveys 2014-2021: Number and percentage of hospitals meeting all 7 Core Elements





# Advancing Stewardship Implementation

- Not all stewardship is created equal.
- There is some data showing that some practices are especially effective.
- There is a lot of experience demonstrating that some practices are better than others, for a variety of reasons- more effective, easier to implement, preferred by providers etc.
- We tried to indicate some of these in the 2019 revisions to the Hospital Core Elements for Antibiotic Stewardship Programs.
- It's time to start identifying and directing people to these more aggressively.

# Hospital Leadership Commitment- Proposed Priority Implementation

- Physician has antibiotic stewardship responsibilities in their contract or job description OR
- Pharmacist has antibiotic stewardship responsibilities in their contract or job description

# Accountability- Proposed Priority Implementation

- Our facility has co-leaders (both pharmacist and physician) responsible for antibiotic stewardship outcomes

# (Pharmacy) Expertise- Proposed Priority Implementation

- Physician completed an ID fellowship OR completed a certificate program or other coursework OR
- Pharmacist completed a PGY2 ID residency and/or ID fellowship OR completed a certificate program or other coursework

## Action- Proposed Priority Implementation

- Providers have access to facility- or region-specific treatment guidelines or recommendations for commonly encountered infections AND
- Our facility has a policy or formal procedure for required authorization by the stewardship team before restricted antibiotics on the formulary can be dispensed (i.e., prior authorization) OR
- Our facility has a policy or formal procedure for the stewardship team to review courses of therapy for specific antibiotic agents and provide real-time feedback and recommendations to the treating team (i.e., prospective audit and feedback)

# Tracking- Proposed Priority Implementation

- Hospitals submit antibiotic use data to the NHSN Antimicrobial Use (AU) Option

# Reporting- Proposed Priority Implementation

- Stewardship program provides the following reports on antibiotic use to prescribers, at least annually - at least unit- or service-specific reports

# What Does This Mean For Hospitals And Stewardship?

- The priority implementation approaches are not going to miraculously transform antibiotic use.
- Rather, these are intended to point hospitals to strategies they should consider focusing on implementing if they are not already doing so.
- And there are no requirements, incentives or penalties related to the priority implementation recommendations.
- But it seems time to take a next step with the core elements.
- This is an incremental next step on a long journey...





## Submission Metrics

- 2443 facilities submitted at least one month of data
  - From 50 states (+AE, AP, DC & PR)
  - Bed size
    - Mean = 204
    - Median = 148
    - Min/Max = 2, 1553
  - Teaching status
    - Teaching: 70.4%
      - (of all Teaching) Major teaching: 55%

Facility Type	# Ever Submitted
Critical access	236
Children's hospital	54
General acute care hospital	1890
Long-term acute care hospital	11
Military hospital	46
Oncology hospital	4
Orthopedic hospital	11
Psychiatric hospital	8
Rehab hospital	28
Surgical hospital	23
Veteran's Affairs hospital	117
Women's hospital	7
Women and children's hospital	8

\*As of June 2022

# CMS Hospital Inpatient Prospective Payment System- Final Rule for FY2023

- AUR Surveillance measure: The eligible hospital or CAH is in active engagement with CDC's National Healthcare Safety Network (NHSN) to submit antimicrobial use and resistance (AUR) data for the EHR reporting period and receives a report from NHSN indicating their successful submission of AUR data for the EHR reporting period.
- No additional points would be associated with the reporting of this measure, but it would be one of five required measures required to satisfy the Public Health and Clinical Data Exchange Objective.
- It will be included in the Public Health and Clinical Data Exchange Objective and will be a required measure beginning with the EHR reporting period in CY 2024.

# Assessing Correlation of Antibiotic Use and Resistance

- Correlations between antibiotic use and resistance can be informative for potential opportunities to improve use.
- Are there hospitals where use of some agents is much higher than what we would expect given resistance patterns?
  - E.g. a hospital using a lot of ceftazidime-avibactam, but with very little CRE
- Are there hospitals where use of some agents is much lower than what we would expect given resistance patterns?

# What's Next?

- Policy initiatives, reporting requirements and core elements are useless without the hard work you all do every day with stewardship implementation.
- We are always looking for places where our infrastructure can help make meaningful improvements in antibiotic use.
- Duration of therapy is a prime target...



# Antibiotic Duration and the Need for Discharge Stewardship:

*Introducing the Reducing Overuse of Antibiotics at Discharge (ROAD) Home*

**Valerie Vaughn, MD, MSc**

*Hospitalist Lead, Antimicrobial Use Initiative, Michigan Hospital Medicine Safety Consortium  
Director of Hospital Medicine Research, University of Utah  
[valerie.vaughn@hsc.utah.edu](mailto:valerie.vaughn@hsc.utah.edu)*



No Conflicts of Interest or Disclosures

# Antibiotic Duration and Discharge

- Background
- Framework for Improvement
- Pathways to Better Antibiotic Use at Discharge

# Antibiotic Duration and Discharge

- Background
- Framework for Improvement
- Pathways to Better Antibiotic Use at Discharge

# WHY DURATION???

For many diseases, evidence shows that shorter durations are equally effective as longer durations

**Change** in dogma

Longer durations

Kill off healthy, normal flora

Select for resistant pathogens

Increase risk of *Clostridioides difficile*

Increase risk of adverse events (e.g., side effects)

Uranga. JAMA Internal Medicine. 2016; Schrag. JAMA. 2001;  
Wistrom J. Antimicrobial Chemotherapy. 2001; Tamma. JAMA Internal Medicine. 2017



# WHAT'S THE "RIGHT" DURATION FOR PNEUMONIA?

It depends....

On patient factors, disease, clinical stability, improvement

Most patients (>80%) with CAP should receive 3-5 days of treatment

As long as afebrile x 48 hours and  $\leq 1$  vital sign abnormality by day 5 of treatment

Longer for complications (e.g., empyema) or organism (staph/pseudomonas)

# 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

Joshua P. Metlay\*, Grant Waterer\*, Ann C. Long, Antonio Anzueto, Jan Brozek, Kristina Crothers, Laura A. Cooley, Nathan C. Dean, Michael J. Fine, Scott A. Flanders, Marie R. Griffin, Mark L. Metersky, Daniel M. Musher, Marcos I. Restrepo, and Cynthia G. Whitney; on behalf of the American Thoracic Society and Infectious Diseases Society of America

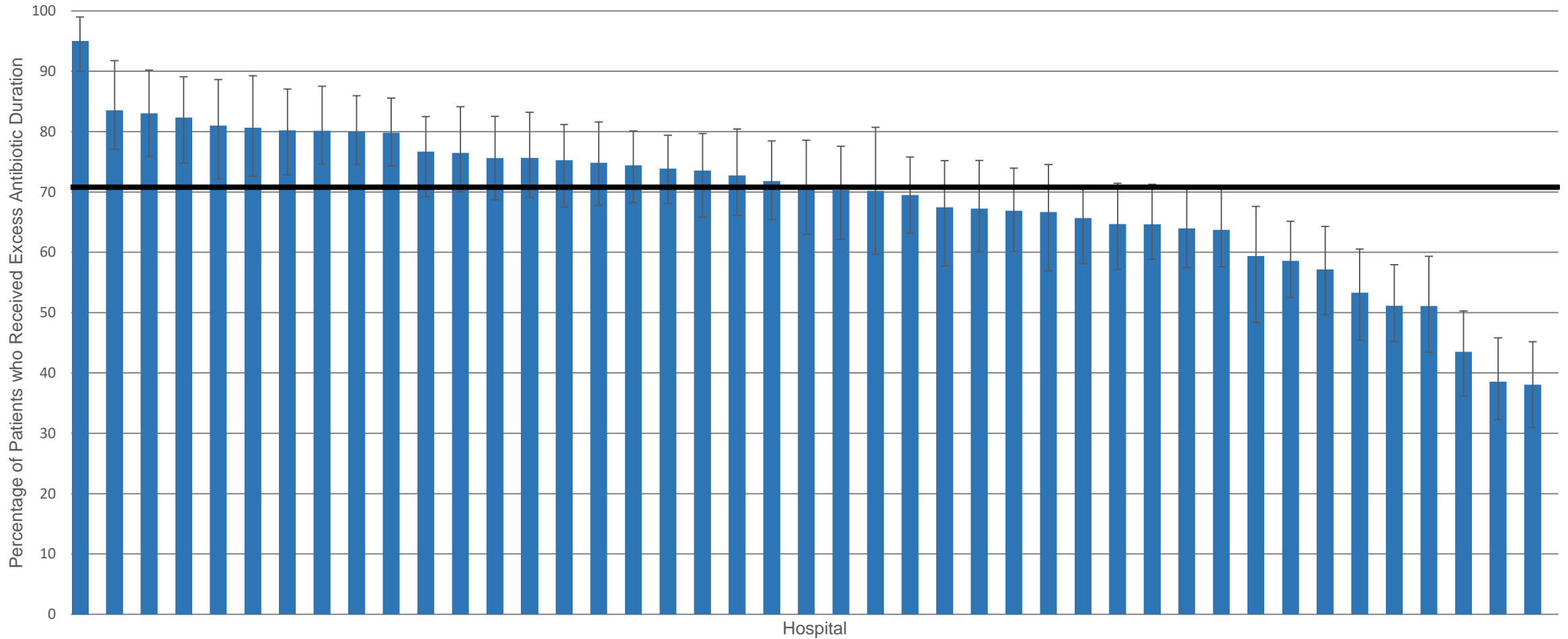
THIS OFFICIAL CLINICAL PRACTICE GUIDELINE WAS APPROVED BY THE AMERICAN THORACIC SOCIETY MAY 2019 AND THE INFECTIONS DISEASES SOCIETY OF AMERICA AUGUST 2019

Terminology “HCAP” has been removed by new guidelines  
These patients now also eligible for 5 days!!!

**Excess Antibiotic Treatment Duration and Adverse Events in Patients Hospitalized With Pneumonia**  
**A Multihospital Cohort Study**

Two-thirds of patients received excess antibiotic therapy

# PATIENTS WITH CAP WHO RECEIVED EXCESS DURATION, BY HOSPITAL



# Excess Antibiotic Treatment Duration and Adverse Events in Patients Hospitalized With Pneumonia

**A Multihospital Cohort Study**

Two-thirds of patients received excess antibiotic therapy

Each excess day of treatment was associated with 5% increase in odds of antibiotic adverse events

# Excess Antibiotic Treatment Duration and Adverse Events in Patients Hospitalized With Pneumonia

**A Multihospital Cohort Study**

Two-thirds of patients received excess antibiotic therapy

Discharge antibiotics were responsible for 93.2% of excess duration!!!

# TYPES OF ANTIBIOTIC OVERUSE AT DISCHARGE



## Unnecessary Antibiotics

Given for a non-infectious or non-bacterial syndrome



## Excessive Duration

Antibiotic needed, but prescribed for longer than necessary



## Avoidable Fluoroquinolones

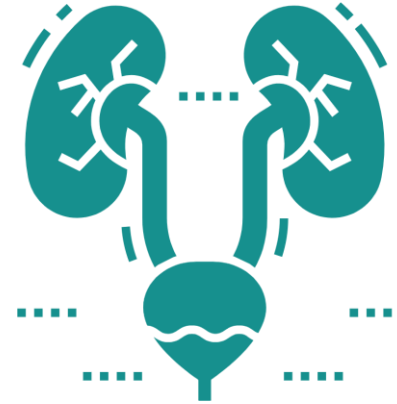
Antibiotic needed, but safer alternative exists

# Antibiotic Overuse at Discharge Is Common

Assessment of antibiotic use at discharge in 21,825 patients treated for pneumonia or urinary tract infection across 46 hospitals (July 2017-July 2019)



57% had antibiotic overuse at discharge



39% had antibiotic overuse at discharge



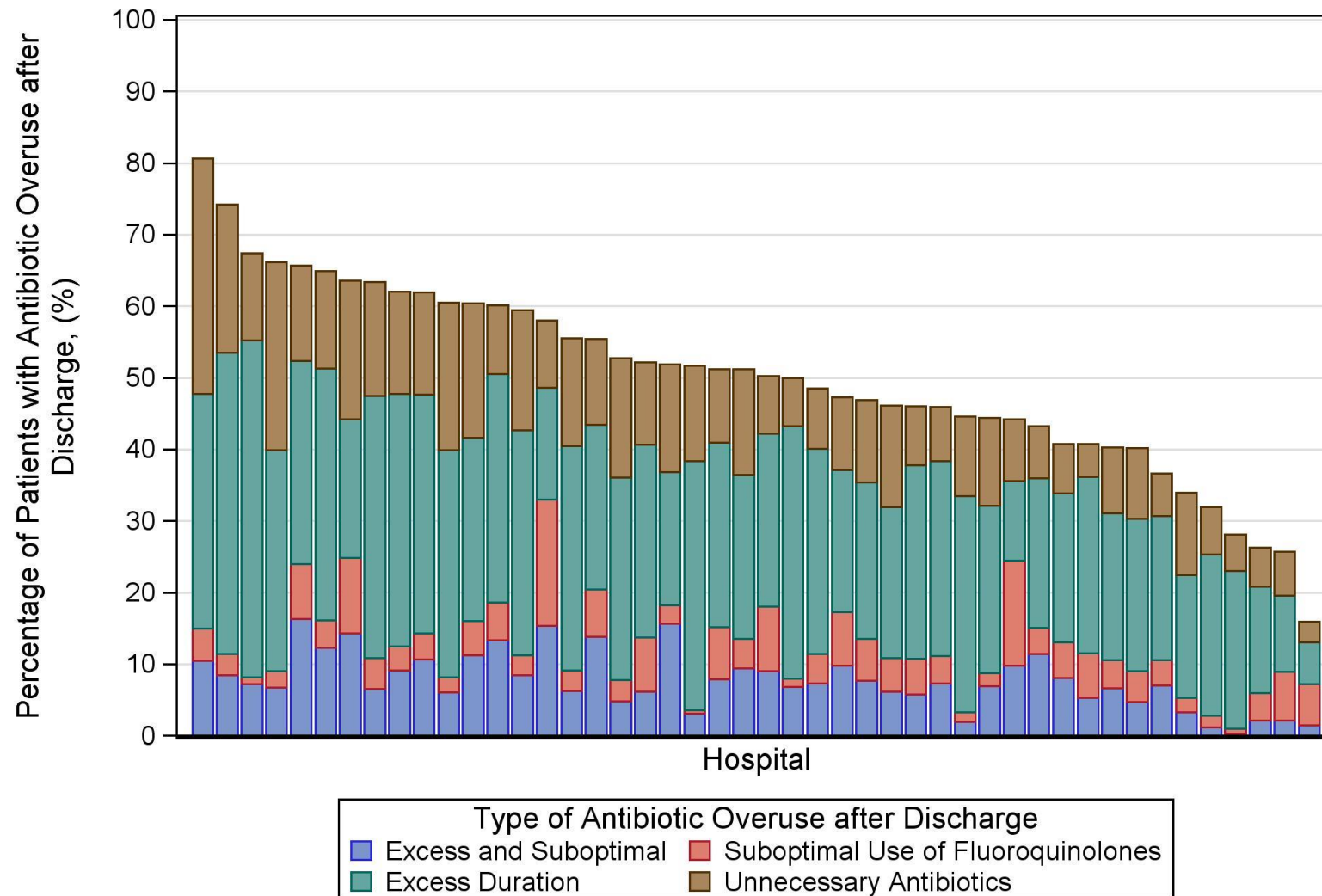
# Antibiotic Overuse at Discharge Is Associated with Patient Harm

- Antibiotic side effects (e.g., *C. difficile*)
- Increased antibiotic resistance (self)
- Increased antibiotic resistance (communities, nursing homes)

Vaughn VM, et al. *Clinical Infectious Diseases*. 2020  
Vaughn VM, et al. *Annals of Internal Medicine*. 2019  
Gontjes KJ et al. *JAMA Network Open*. 2022

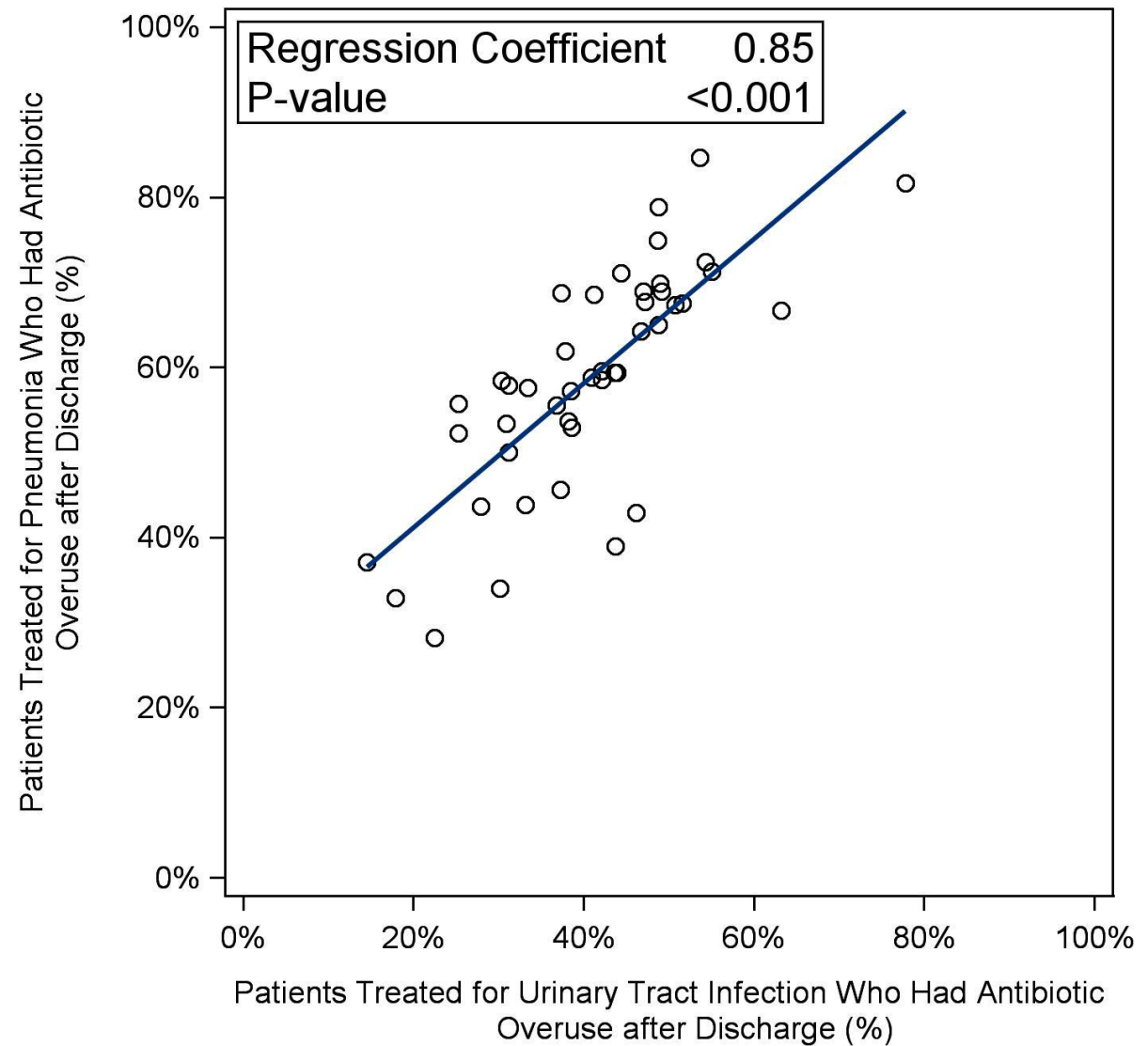
# 5-FOLD VARIATION ACROSS HOSPITALS

Figure 1. Antibiotic Overuse after Discharge in Patients Treated for Pneumonia or Urinary Tract Infection, by Hospital, (N=46 hospitals)



**STRONGLY  
CORRELATED  
ACROSS  
CONDITIONS**

**Figure 2. Antibiotic Overuse after Discharge in Patients Treated for UTI vs. Patients Treated for Pneumonia, by Hospital, (N=44 hospitals)**



# Inpatient Antibiotic Stewardship Strategies may NOT be Effective at Discharge



11%

fewer patients received a fluoroquinolone in hospitals targeting **inpatient** fluoroquinolone use



Double

the number of patients were **newly started** on a fluoroquinolone **at discharge**

What are the most effective strategies to improve antibiotic prescribing at discharge?

# Antibiotic Duration and Discharge

- Background
- Framework for Improvement
- Pathways to Better Antibiotic Use at Discharge

# Reducing Overuse of Antibiotics at Discharge (ROAD) Home Framework

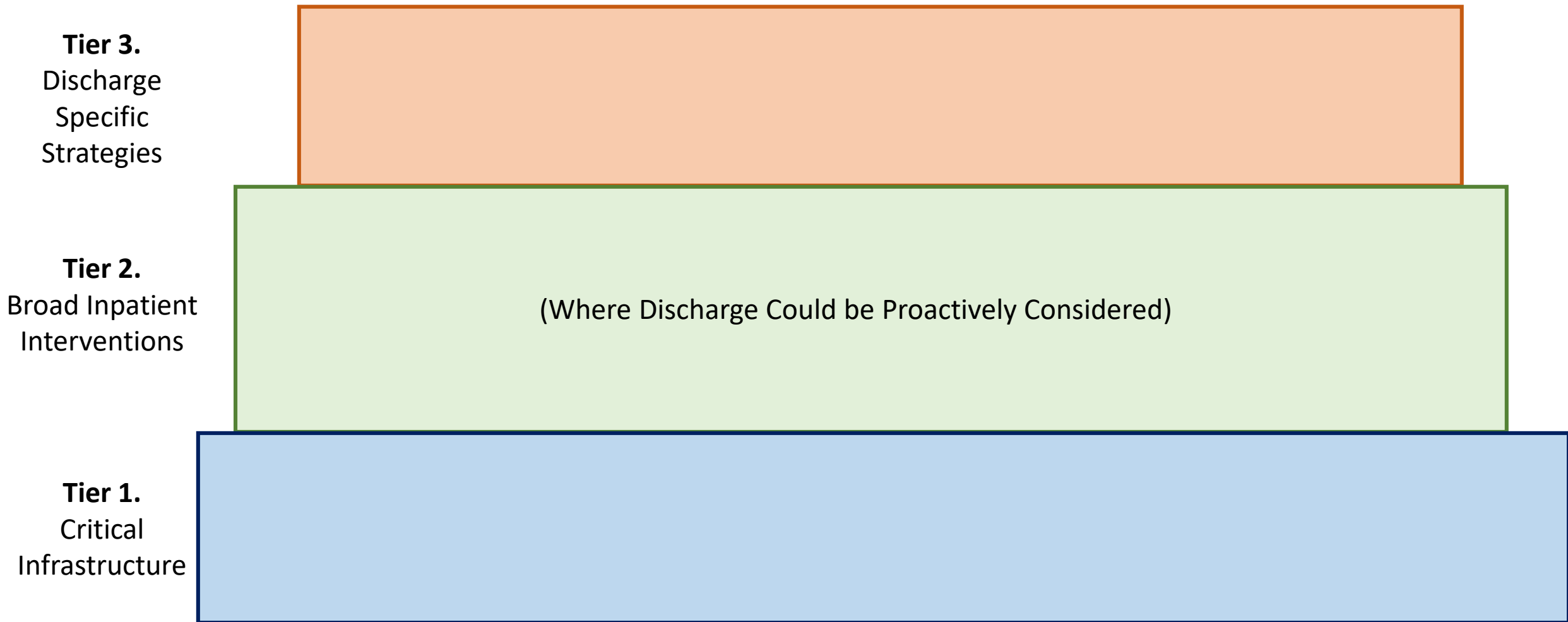
> [Clin Infect Dis. 2021 Sep 23;ciab842. doi: 10.1093/cid/ciab842. Online ahead of print.](#)

## **Antibiotic Overuse and Stewardship at Hospital Discharge: The Reducing Overuse of Antibiotics at Discharge (ROAD) Home Framework**

Valerie M Vaughn <sup>1 2 3</sup>, Adam L Hersh <sup>4</sup>, Emily S Spivak <sup>5</sup>

Vaughn VM, Hersh AL, Spivak ES, The ROAD Home Framework. *Clinical Infectious Diseases*. 2021.

# ROAD Home Tiered Strategies for Improving Antibiotic Use at Hospital Discharge





# ROAD Home Tiered Strategies for Improving Antibiotic Use at Hospital Discharge

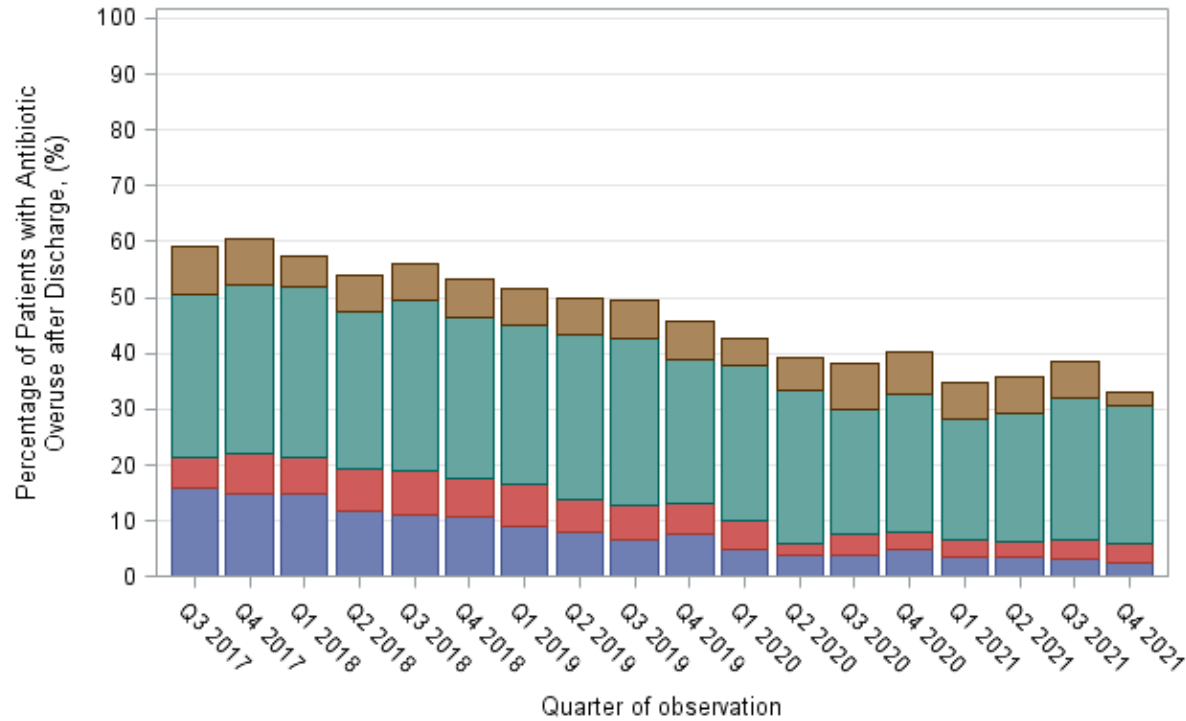
## Tier 3. Discharge Specific Strategies

Discharge Intervention De-emphasizing Fluoroquinolones (15%)	Antibiotic Use Data on Discharge Antibiotics (8%)	Review of Outpatient Antibiotics before Discharge (8%)
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Fall 2019 Survey (39 Hospitals)

# Over time, Antibiotic Overuse at Discharge Has Decreased

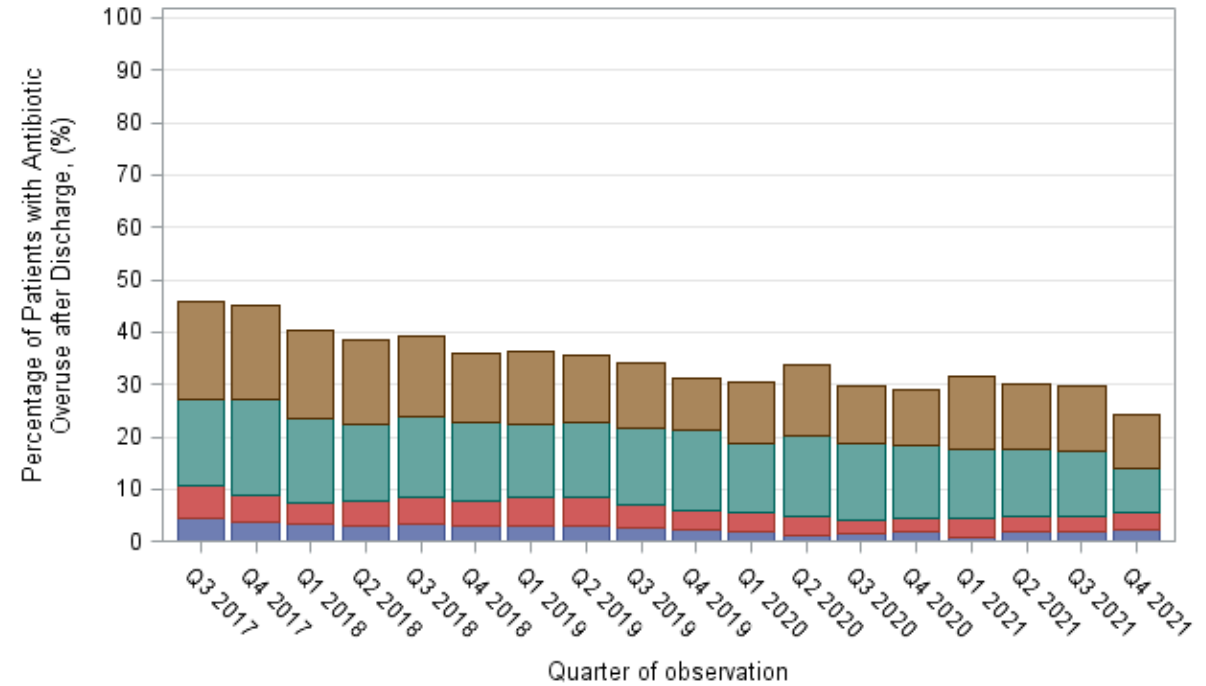
Antibiotic Overuse after Discharge in Patients Treated for Pneumonia, by Quarter



Type of Antibiotic Overuse after Discharge

- Excess and Suboptimal
- Suboptimal Use of Fluoroquinolones
- Excess Duration
- Unnecessary Antibiotics

Antibiotic Overuse after Discharge in Patients Treated for Urinary Tract Infection, by Quarter



Type of Antibiotic Overuse after Discharge

- Excess and Suboptimal
- Suboptimal Use of Fluoroquinolones
- Excess Duration
- Unnecessary Antibiotics

# Analysis of the ROAD Home Framework

20,444 patients across 39 hospitals between 7/2017 and 7/2019

- Generally, the more strategies the less antibiotic overuse at discharge
- Only 1 intervention was associated with less antibiotic overuse at discharge for both CAP and UTI
  - **Tier 3 Strategy: Review of Outpatient Antibiotics before Discharge**
    - aIRR 0.543 (0.335-0.878); ~46% fewer antibiotic overuse days at discharge
- One associated with **MORE** antibiotic overuse at discharge
  - Tier 2: Preset Antibiotic Duration for Pneumonia (↑44.1%)

# Antibiotic Duration and Discharge

- Background
- Framework for Improvement
- Pathways to Better Antibiotic Use at Discharge

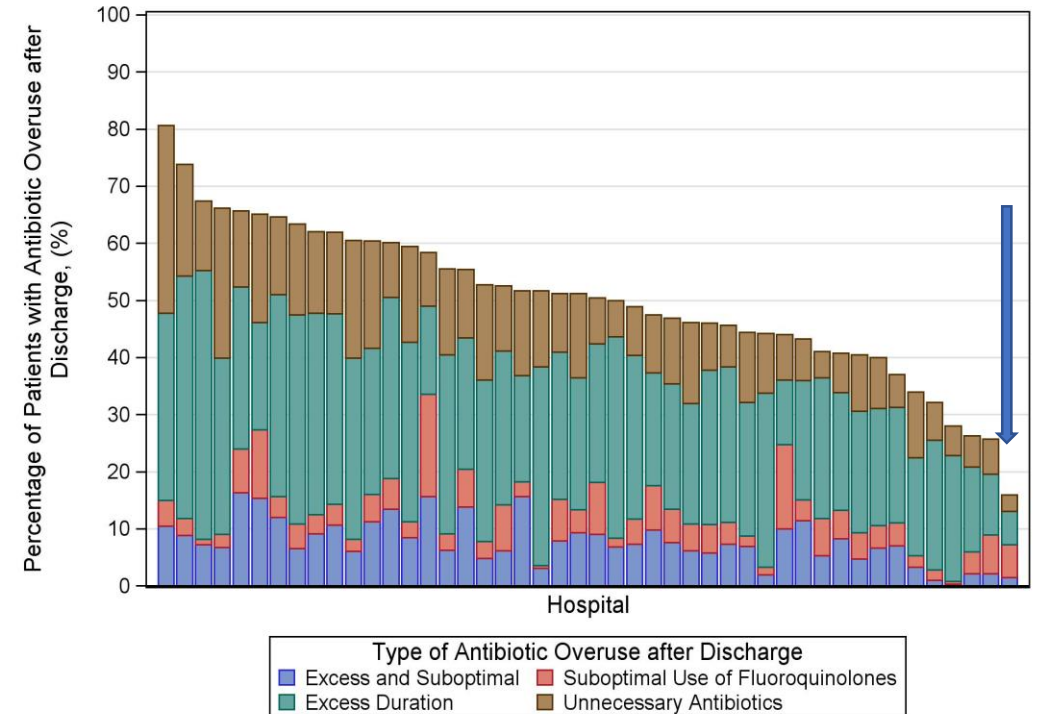
Three Pathways to  
Improving Antibiotic Use  
at Discharge



Do it all

Tier 1: 4 (of 6); Tier 2: 9 (of 24); Tier 3: 2 (of 3)

Figure 1. Antibiotic Overuse after Discharge in Patients Treated for Pneumonia or Urinary Tract Infection, by Hospital, (N=46 hospitals)

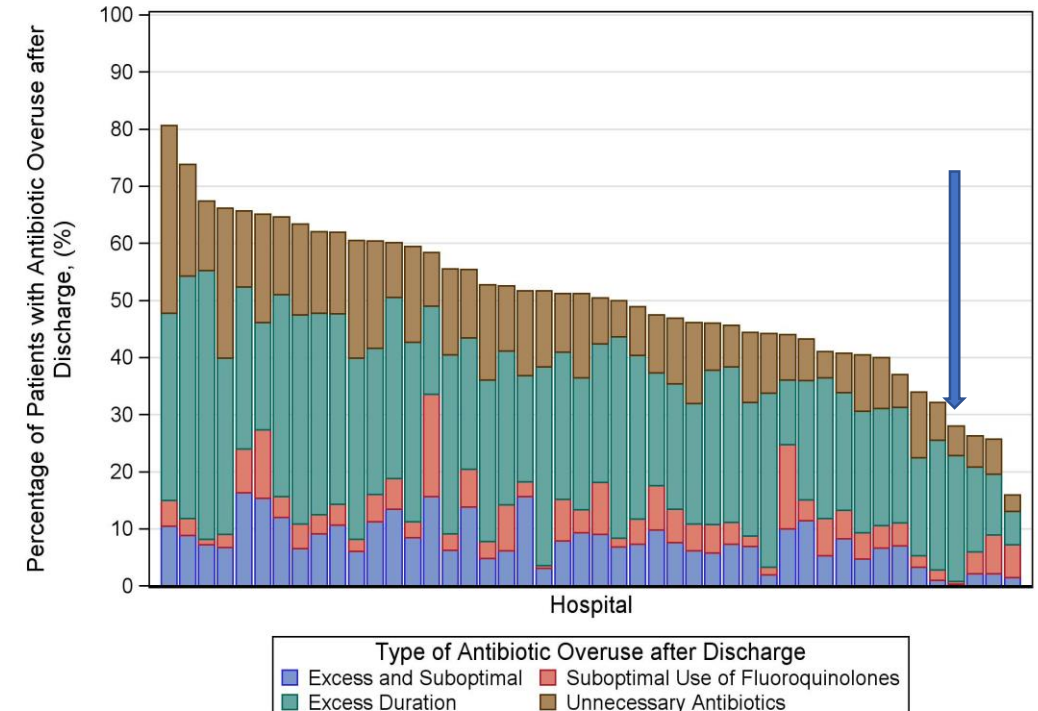


# Strong Inpatient Stewardship (keeping discharge in mind)

- Hospitals that already have robust inpatient stewardship interventions
- Proactively incorporate discharge into Tier 1 and Tier 2 Strategies

Tier 1: 5 (of 6); Tier 2: 12 (of 24); Tier 3: 0 (of 3)

Figure 1. Antibiotic Overuse after Discharge in Patients Treated for Pneumonia or Urinary Tract Infection, by Hospital, (N=46 hospitals)

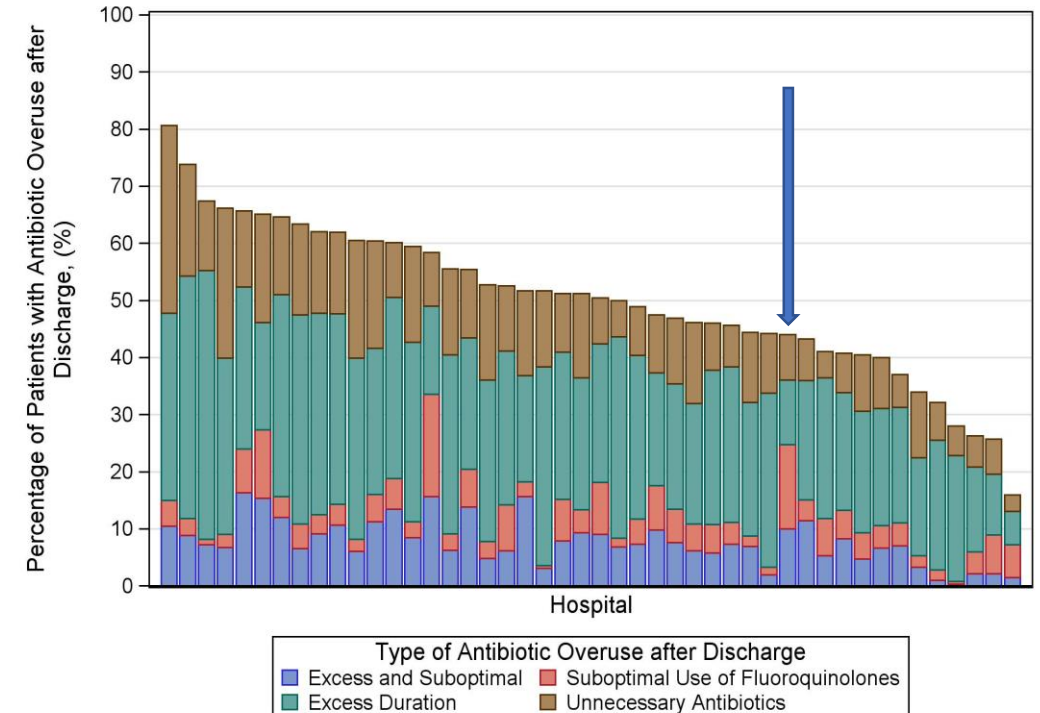


# Focus on Discharge

- Hospitals with fewer resources for inpatient antibiotic stewardship
- Implement robust Tier 3 “discharge-specific” strategies

Tier 1: 2 (of 6); Tier 2: 6 (of 24); **Tier 3: 2 (of 3)**

Figure 1. Antibiotic Overuse after Discharge in Patients Treated for Pneumonia or Urinary Tract Infection, by Hospital, (N=46 hospitals)





# Summary

- The ROAD Home framework can help hospitals reduce antibiotic overuse at discharge
  - The more interventions (or the higher tier) the more reduction
- Interventions with the biggest effect on discharge
  - Tier 3 (discharge-specific) strategies
  - For CAP having a preset/automatic duration led to **higher** antibiotic overuse
- Three pathways to success
  - Do it all
  - Planning inpatient strategies with discharge in mind
  - Discharge specific strategies

# Thanks...

Ashwin Gupta, MD  
Andrea White, PhD  
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Tawny Czilok, MHI, BSN, RN  
Jennifer Horowitz, MA  
Tanima Basu, PhD  
Scott Flanders, MD  
Tejal Gandhi, MD  
M. Todd Green, PhD  
Sean Huls, MD  
Xiaomei Feng, MD  
Adam Hersh, MD, PhD



# Antibiotic Stewardship Strategies and Their Association With Antibiotic Overuse After Hospital Discharge: An Analysis of the Reducing Overuse of Antibiotics at Discharge (Road) Home Framework

Valerie M. Vaughn<sup>1,2,3</sup> David Ratz<sup>4</sup> M. Todd Greene<sup>3,4</sup> Scott A. Flanders<sup>3</sup> Tejal N. Gandhi<sup>5</sup> Lindsay A. Petty<sup>5</sup> Sean Huls<sup>6</sup> Xiaomei Feng<sup>7</sup> Andrea T. White<sup>1</sup> and Adam L. Hersh<sup>8</sup>

# Questions?

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[valerie.vaughn@hsc.utah.edu](mailto:valerie.vaughn@hsc.utah.edu)

# ROAD Home Tiered Strategies for Improving Antibiotic Use at Hospital Discharge

<b>Tier 3.</b> Discharge Specific Strategies	Discharge Intervention De-emphasizing Fluoroquinolones (15%)		Antibiotic Use Data on Discharge Antibiotics (8%)		Review of Outpatient Antibiotics before Discharge (8%)			
<b>Tier 2.</b> Broad Inpatient Interventions	Antibiotic Timeout (31%)	Fluoroquinolone Restriction (31%)	Fluoroquinolone-specific Interventions (3, 2-4) (100%)	Preset Duration for Pneumonia (56% said yes)		Audit & Feedback Pneumonia (80%)		CPOE Pneumonia (100%)
<b>Tier 1.</b> Critical Infrastructure	Dedicated Stewardship Resources since the Joint Commission Requirement (31%)		Hospital Policy Requiring Documentation of Intended Duration in Discharge Summary (15%)		Updated UTI Guideline (51%)		Education on UTI and ASB (87%)	
					Updated Pneumonia Guideline (59%)		Education on Pneumonia (95%)	
				Audit & Feedback ASB (59%)	Audit & Feedback UTI (67%)	CPOE ASB (26%)	CPOE UTI (67%)	Diagnostic Stewardship Interventions (1, 0-2) (67%)

# Experience from a community health system

Robert Neetz, PharmD, BCPS

Clinical Pharmacist – Antimicrobial Stewardship

MyMichigan Health, Midland, Michigan



# About MyMichigan Health System

- Seven hospitals across mid-east/northeast Michigan
  - Alma – 97 beds (Meds to Beds pharmacy)
  - Alpena – 139 beds (Meds to Beds pharmacy)
  - Clare – 49 beds
  - Gladwin – 25 beds
  - Midland – 324 beds (Meds to Beds pharmacy)
  - Sault St. Marie – 49 beds
  - West Branch – 86 beds

## MyMichigan Health

### • Medical Centers

MyMichigan Medical Center Alma  
 MyMichigan Medical Center Alpena  
 MyMichigan Medical Center Clare  
 MyMichigan Medical Center Gladwin  
 MyMichigan Medical Center Midland  
 MyMichigan Medical Center Mt. Pleasant  
 MyMichigan Medical Center Sault  
 MyMichigan Medical Center West Branch  
 Mackinac Straits Hospital\*\*  
 Mackinac Island Medical Center\*\*

### • Medical Offices and Support Services

Alma, Alpena, Atlanta, Auburn, Bois Blanc Island\*\*, Breckenridge, Cheboygan\*\*, Cedarville, Clare, Drummond Island, Edmore, Farwell, Freeland, Gladwin, Harrison, Ithaca, Kinross, Lincoln, Mackinaw City\*\*, Midland, Mt. Pleasant, Oscoda, Pigeon, Prudenville, Rogers City, St. Ignace\*\*, Sault Ste. Marie, Sanford, Shepherd and West Branch

### • Health Parks

Bay, Freeland, Gladwin, Harrison, West Branch

### • Urgent Care Centers

Alma, Alpena, Clare, Freeland, Gladwin, Houghton Lake, Midland, West Branch

### • Walk In Care

Bay, Sault Ste. Marie

### • Continuing Care

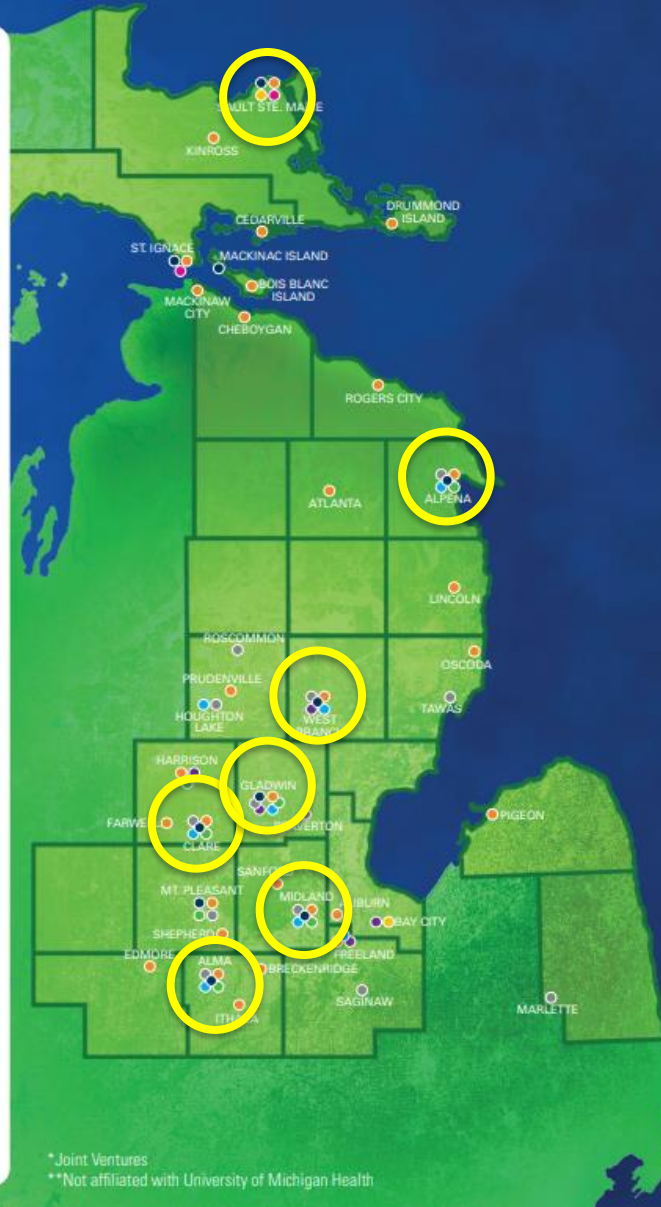
RehabCentre  
 MyMichigan Home Care  
 MyMichigan Hospice  
 Woodland Hospice House

### • Long Term Care

Sault Ste. Marie, St. Ignace\*\*

### • Other Services, Partners, Joint Ventures

Advanced PET Imaging Network\*  
 ConnectCare\*  
 Great Lakes Bay Surgery & Endoscopy Center\*  
 MidMichigan Community Health Services  
 Mt. Pleasant Surgery Center\*  
 MyMichigan Collaborative Care Organization  
 MyMichigan Health Foundation  
 MyMichigan Health Network\*  
 MyMichigan Medical Group  
 Open MRI Mt. Pleasant\*  
 Wound Treatment Centers\*



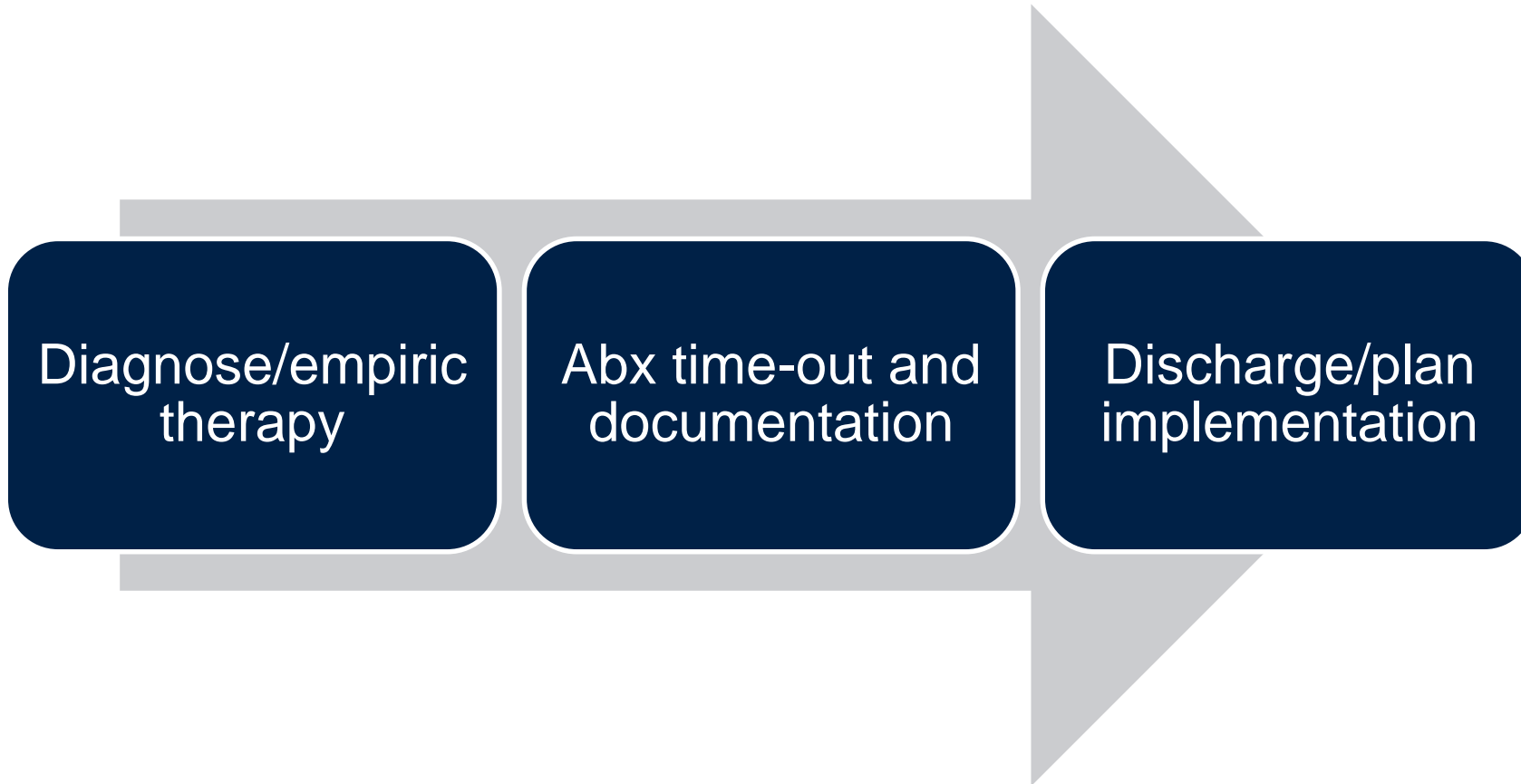
\*Joint Ventures  
 \*\*Not affiliated with University of Michigan Health

# Overview

- Provider quick wins to improve antibiotic discharge duration
  - Progress notes
  - EMR discharge ordering
- Pharmacists from start to finish



# “Discharge planning starts on admission” –Michael Scott



# Improve communication via notes

## Instead of this...

1. CAP – .....continue ceftriaxone 2g IV and azithromycin 250mg PO

## Try this...

1. CAP – .....continue ceftriaxone 2g IV and azithromycin 250mg PO. **Planned total duration of abx 5 days. End abx on 9/10.**

# Discharge defaults...avoid “restarting the clock”

Product: **LEVOFLOXACIN 750 MG ORAL TAB** [View Available Strengths](#)

Sig Method: **Specify Dose, Route, Frequency** [Taper/Ramp](#) [Combination Dosage](#) [Use Free Text](#)

Dose:  mg **750 mg**

Calculated dose: 1 tablet

Route:  **oral**

Frequency:  **Daily**

**Duration:**  [Doses](#) **Days** [5 days](#) **7 days** [10 days](#) [14 days](#)

Starting:  [Ending:](#)  [First fill:](#)

Dispense: Days/Fill: **Full (7 Days)** [30 Days](#) [90 Days](#)

Quantity:  tablet Refill:  **0**

Total Supply: 7 Days

# Upgrades made

levoFLOXacin (Levaquin) 750 mg tablet

Reference Links: [• Summary](#) [• Dose Adjustments](#) [• Black Box Warning](#)

Summary Report: **Show Antimicrobial Summary**

Product: **LEVOFLOXACIN 750 MG ORAL TAB** [View Available Strengths](#)

Sig Method: **Specify Dose, Route, Frequency** [Taper/Ramp](#) [Combination Dosage](#) [Use Free Text](#)

Dose:  mg **750 mg**

Calculated dose: 1 tablet

Route:  **oral**

Frequency:  **Daily**

**! Duration:** **!** [Doses](#) **Days** [5 days](#) [7 days](#) [10 days](#) [14 days](#)

Starting:  [📅](#) Ending:  [📅](#) First fill:  [📅](#)

# Easy access to counting days

Summary Report:

[^ Hide Antimicrobial Summary](#)

## Antimicrobial Days ↗

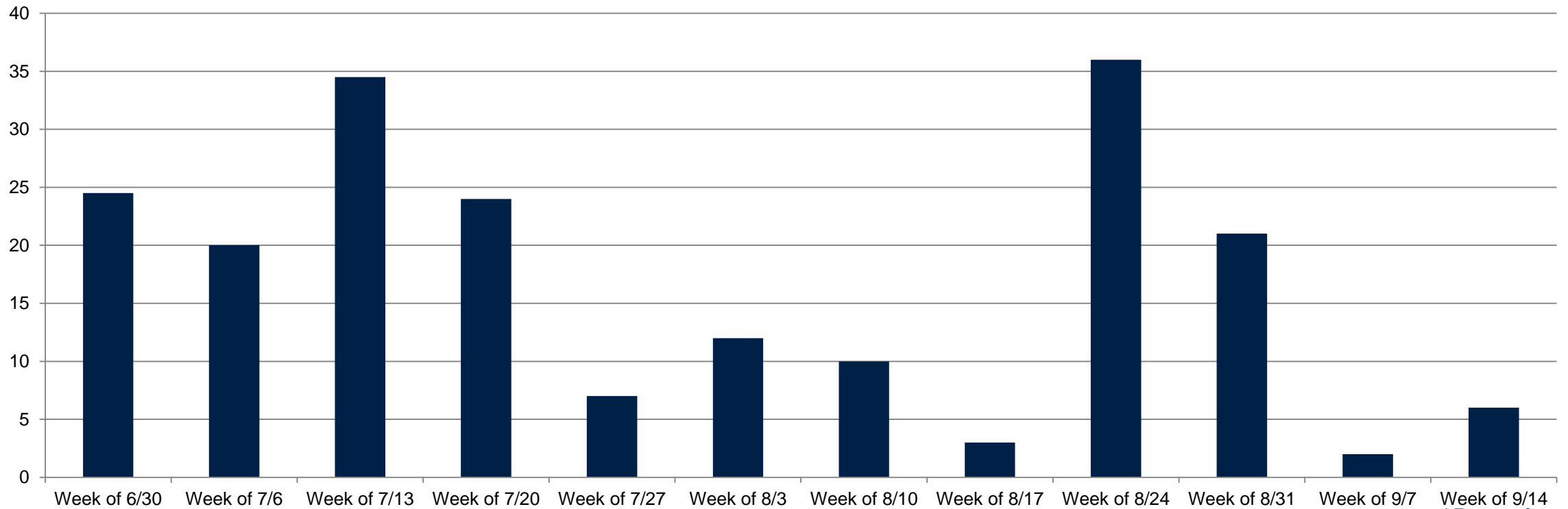
	9/3/2022	9/4/2022	9/5/2022	9/6/2022	9/7/2022	9/8/2022	9/9/2022	9/10/2022
<b>Antimicrobials</b>								
Meropenem Na, 100 mg, 100 mg Chloride						3 g, New Bag	3 g, New Bag	3 g, New Bag
Meropenem Na, 100 mg, 100 mg Chloride, 100 mg	4.5 g, New Bag	4.5 g, New Bag	4.5 g, New Bag	4.5 g, New Bag	4.5 g, New Bag	4.5 g, New Bag		
Meropenem Na, 100 mg, 100 mg Chloride, 100 mg								

# “Meds to Beds” Pharmacist

- Provide easy tools for quick review of normal durations for common indications
- Challenges:
  - Time – patient wants to go home!
  - Pharmacist buy in and confidence in recommendations

# Meds to Beds Initiative on Discharge

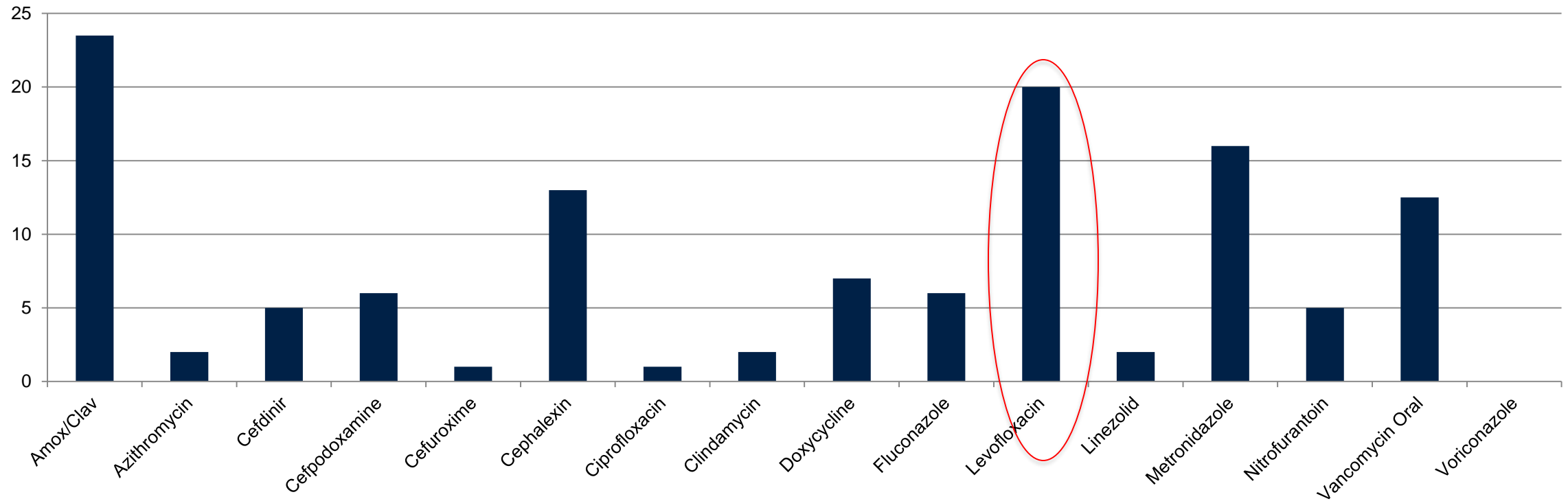
M2B 12 Week Unnecessary Antibiotic Days Avoided = 200 days



\*Data from 2020

# Meds to Beds Initiative with Pharmacy

Days Avoided by Medication 6/30 - 8/7



Data from 2020



# Inpatient Pharmacists

- Follow antibiotic from start to finish?
- Pick your targets – CAP, UTI, SSTI, FQs
- Challenges
  - Time and resources
  - Overwhelming amount of antibiotics – pick targets

# Alpena hospital example:

## Pharmacist led follow ups

- Daily monitoring on high yield stewardship opportunities
- Increased communication to address stewardship opportunities and plan for discharge from the start

**Indication:** Bacteremia/CAP

**Dose:** Vancomycin 1250 mg IVPB every 12 hours

Ceftriaxone 2 grams IVPB every 24 hours

Azithromycin 500 mg IVPB every 24 hours

**Scr/CrCl:** 1.1/ 74 ml/min

**WBC:** 10.3 (12.6)

**Temperature:** afebrile

**VS:** stable.

**Cultures:** 1 of 2 BC from 9/18 growing coag - staph, 9/19

BC: NGTD. ; UC >100K GNR.

**Start Date:** 09/18/22

**Day of Therapy:** 2

**Overall Number of Days on Antibiotics:** 3

**Anticipated Duration:** 5 days for CAP, 14 days for Bacteremia

**Notes/Plan:** Blood cultures now reported as Coag Neg Staph. Texted attending to inquire about need for Vancomycin. Awaiting his response. Update: Vancomycin stopped today by attending. Rocephin/Azithro continued.

# Alpena success!

QTR	Q2 2021	Q3 2021	Q4 2021	Q1 2022	Q2 2022
CAP treated with 5 Days of Antibiotics*- Measure #5 (%) ★	44.8	47.1	67.9	64.3	65.2
Reduce Fluoroquinolone Use in Patients with a Positive Urine Culture^ - Measure #6 (%)	6.4	7.2	4.3	5.3	5.6
Reduce Fluoroquinolone Use in Patients with Uncomplicated CAP~ - Measure #6 (%) ★	10.8	6.7	6.3	3.8	3.5
Reduce Use of Antibiotics in Patients with ASB**^^ - Measure #7 (%)	17.7	17.7	14.5	14.9	15

\*Data provided with permission from the Michigan Hospital Medicine Safety Consortium (HMS)



# Review

- Progress notes
  - More communication = less confusion
  - Document direct plan with stop date
- EMR changes for discharge prescribing
- Pharmacists!

# Thank you!

- [Robert.neetz@mymichigan.org](mailto:Robert.neetz@mymichigan.org)

When you edit an antibiotic prescription to add indication and duration



# Interactive Discussion: Panelists and Attendees

## Panelists



Arjun Srinivasan, MD



Valerie Vaughn, MD MSc



Robert Neetz, PharmD BCPS

## Facilitator



Lynda Martin, MPA BSN RN CPHQ

Please enter your questions or comments into Chat or raise your hand to be unmuted



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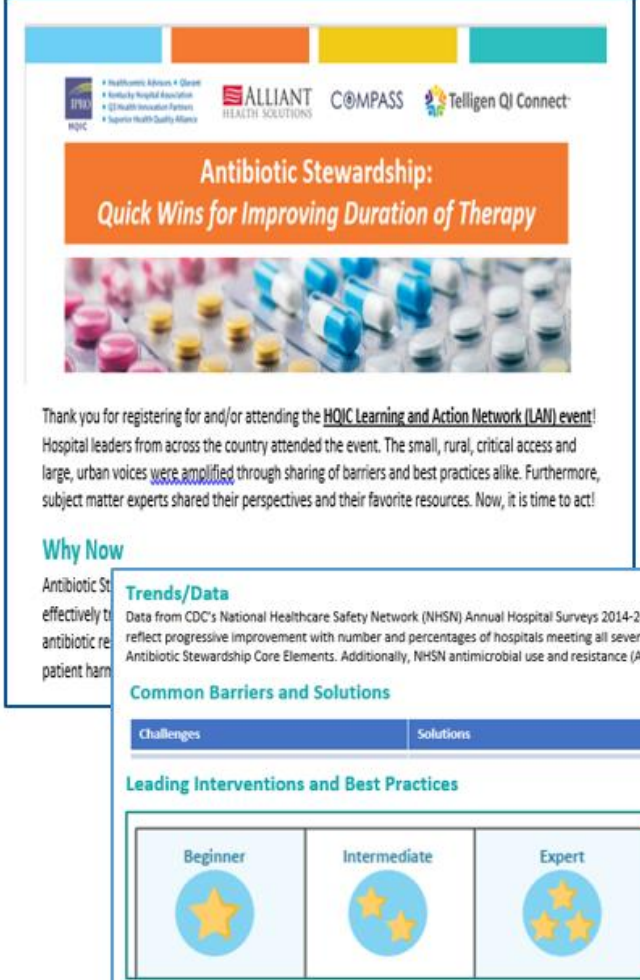
# Key Takeaways

- **Advancing stewardship – not all stewardship is created equal**
  - Priority implementation approaches – strategies to consider focusing on
  - Incremental steps on a long journey - help prepare for required CY2024 AUR surveillance measure reporting
- **ROAD Home framework can help reduce antibiotic overuse at discharge**
  - The more interventions (or the higher tier) the more reduction
  - Tier 3 (discharge-specific) strategies have biggest effect on discharge
- **Provider quick wins to improve antibiotic discharge duration**
  - Progress notes - more communication = less confusion
  - Document direct plan with stop date
  - EMR changes for discharge prescribing - avoid restarting the clock
- **Pharmacists from start to finish**
  - Increased communication to address opportunities and plan for discharge from the start



# Wrap-up

- Slides, recording & handouts shared within 1-2 weeks
- Antibiotic Stewardship Change Pathway
  - Adapt & use to help address your opportunities &/or augment existing interventions
  - Summary of LAN topics discussed
  - Compilation of challenges, barriers & best practices for implementation
  - Links to tools & resources for planning & executing your QI project
- *Save the Date information* – coming soon for January 2023 Joint HQIC LAN



The image shows a presentation slide titled "Antibiotic Stewardship: Quick Wins for Improving Duration of Therapy". At the top, there are logos for IPRO, HQIC, ALLIANT HEALTH SOLUTIONS, COMPASS, and Telligent QI Connect. Below the title is a photograph of various pills and capsules. The slide contains text thanking attendees for registering for the HQIC Learning and Action Network (LAN) event, mentioning that hospital leaders from across the country attended and shared barriers and best practices. It also includes a "Why Now" section, a "Trends/Data" section with data from CDC's NHSN surveys, a "Common Barriers and Solutions" table, and a "Leading Interventions and Best Practices" section with three levels: Beginner (1 star), Intermediate (2 stars), and Expert (3 stars).

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ALLIANT HEALTH SOLUTIONS

COMPASS

Telligent QI Connect

## Antibiotic Stewardship: Quick Wins for Improving Duration of Therapy

Thank you for registering for and/or attending the **HQIC Learning and Action Network (LAN) event!** Hospital leaders from across the country attended the event. The small, rural, critical access and large, urban voices were amplified through sharing of barriers and best practices alike. Furthermore, subject matter experts shared their perspectives and their favorite resources. Now, it is time to act!

### Why Now

Antibiotic Stewardship is a critical component of patient safety and quality of care. It is essential to effectively manage antibiotic resistance and patient harm.

### Trends/Data

Data from CDC's National Healthcare Safety Network (NHSN) Annual Hospital Surveys 2014-2021 reflect progressive improvement with number and percentages of hospitals meeting all seven (7) Antibiotic Stewardship Core Elements. Additionally, NHSN antimicrobial use and resistance (AUR) data shows a downward trend in antibiotic use and a corresponding decrease in antibiotic resistance.

### Common Barriers and Solutions

Challenges	Solutions

### Leading Interventions and Best Practices

Beginner	Intermediate	Expert
★	★★	★★★



# Contact Us

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# Thank You for Attending Today's Event

## We value your input!

*Please complete the brief survey after today's event.*

This material was prepared by the IPRO HQIC, a Hospital Quality Improvement Contractor, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services (HHS). Views expressed in this material do not necessarily reflect the official views or policy of CMS or HHS, and any reference to a specific product or entity herein does not constitute endorsement of that product or entity by CMS or HHS. IPRO-HQIC-Tsk56-22-252



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