

Antibiotic Stewardship in Acute Care Hospitals The Intermountain Healthcare Experience

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PACCARB

Presidential Advisory Council on Combating Antibiotic-Resistant Bacteria

Antibiotic Stewardship in Acute Care Hospitals: The Intermountain Healthcare Experience

PACCARB

Public Meeting #4

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Medical Director, Antimicrobial Stewardship and ID TeleHealth

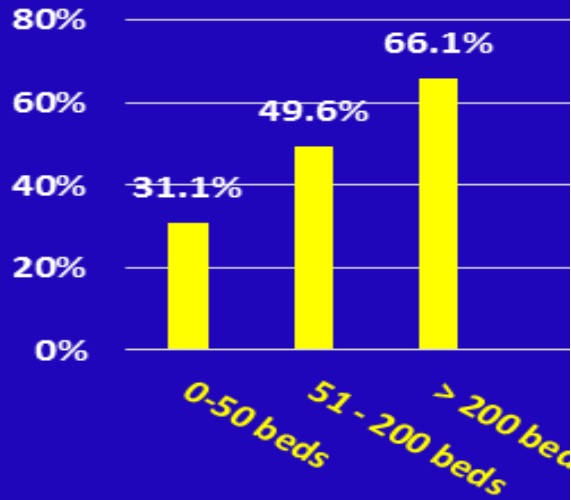
Intermountain Medical Center

Murray, UT

Areas of Focus

1. Antibiotic Stewardship in ALL hospitals: where to focus
2. Impact of regulations
3. Need for improved quality measurement

Percentage of U.S. Hospitals (n=4,569) Meeting All Core Elements of ASP in 2015



2012 United State Non-federal Hospitals

4999 Registered Hospitals

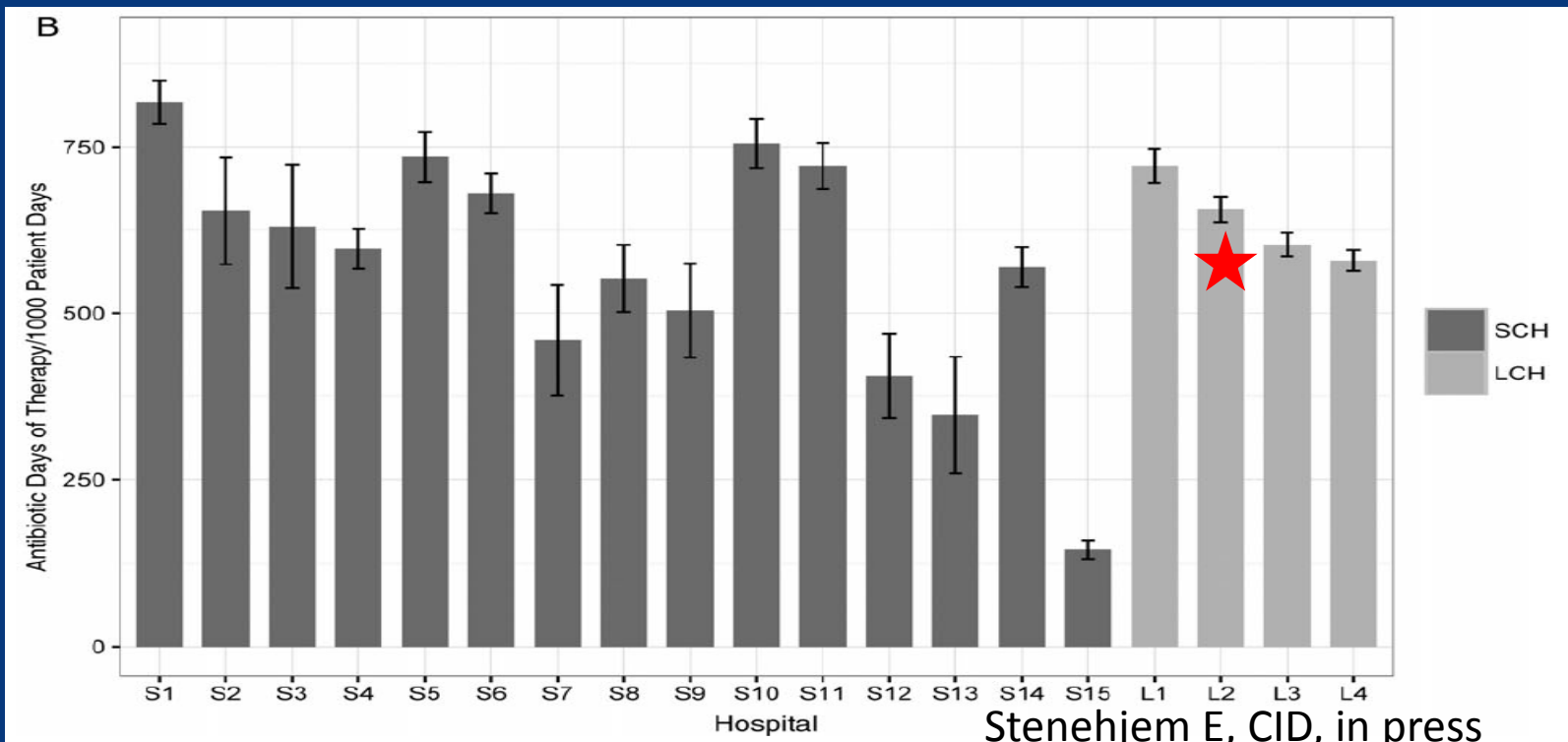
72.4% (3,619) have < 200 beds

Many of these are without ID physician or pharmacy support

Very few studies of stewardship

All included in regulations

Intermountain Hospitals 3 Year Mean Antibiotic Use Rates



SCORE STUDY

Program 1

Program 2

Program 3

Antibiotic Best Practices

Access to ID clinicians and pharmacists

48 hour antibiotic timeout

Antibiotic Indications

IV to PO conversion

Monthly hospital antibiotic utilization

Basic Antibiotic Stewardship Education

Advanced Antibiotic Stewardship Education

Prospective audit and feedback: light

Prospective audit and feedback: Full

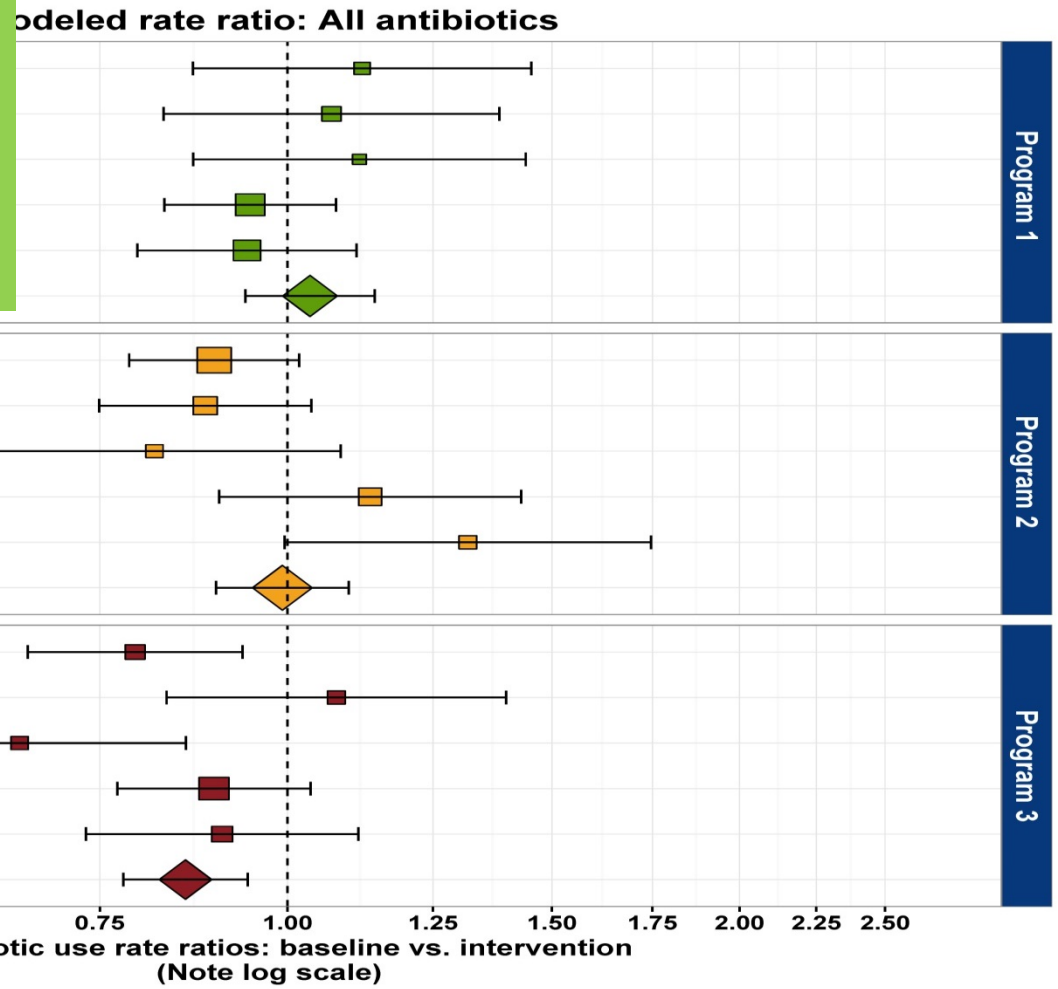
ID review positive blood cultures and MDROs

CDC Core Elements

1. Leadership
2. Accountability
3. Drug Expertise
4. Track
5. Report
6. Act
7. Educate

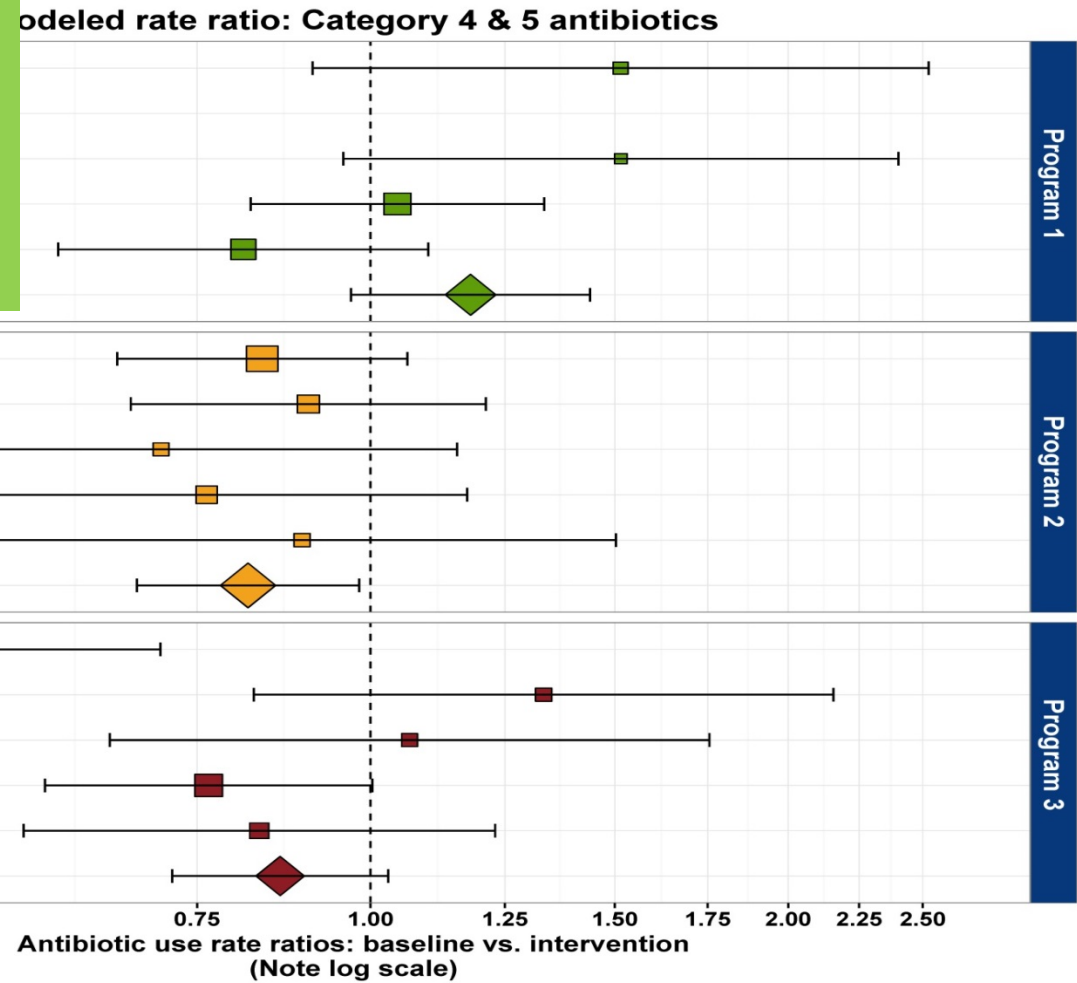
Intervention vs Expected: Program 3 vs 1
 RR 0.83 (0.72, 0.94) p = 0.006

Intervention vs Expected: Program 2 vs 1
 RR 0.96 (0.83, 1.10) p = 0.56



Intervention vs Expected: Program 3 vs 1
 RR 0.73 (0.56, 0.95) p = 0.020

Intervention vs Expected: Program 2 vs 1
 RR 0.69 (0.53, 0.91) p = 0.007



Program 1

Program 2

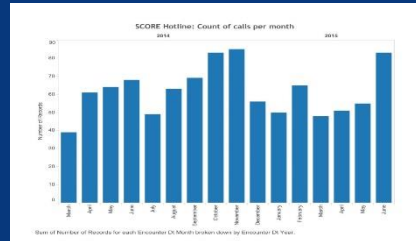
Program 3

SCORE Hotline Calls to the ID Clinician

1,006 logged calls to adult ID MD

Score Hotline Counts of calls per month, 2014-2015

Month	Number of Records
March	40
April	60
May	62
June	68
July	55
August	60
September	68
October	80
November	84
December	58
January	50
February	62
March	44
April	60
May	50
June	80



Calls / 1000 bed days

Program 1: 1.79

Program 2: 15.09

Program 3: 11.85

Regulatory Requirements: TJC/CMS

Joint Commission
Requirement

Official Publication of Joint Commission Requirements
New Antimicrobial Stewardship Standard

APPLICABLE TO HOSPITALS AND CRITICAL ACCESS HOSPITALS
Effective January 1, 2017

Medication Management (MM)

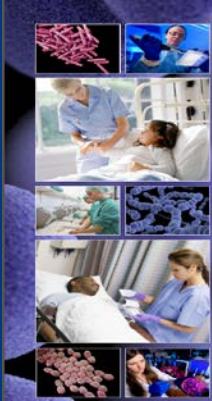
Standard MM.09.01.01
The [critical access] hospital has an antimicrobial stewardship program based on current scientific literature.

Elements of Performance for MM.09.01.01


- Leaders establish antimicrobial stewardship as an organizational priority. (See also LD.01.03.01, EP 5)
Note: Examples of leadership commitment to an antimicrobial stewardship program are as follows:
 - Accountability documents
 - Budget plans

- Infection prevention plans
- Performance improvement plans
- Strategic plans
- Using the electronic health record to collect antimicrobial stewardship data

- The [critical access] hospital educates staff and licensed independent practitioners involved in antimicrobial ordering, dispensing, administration, and monitoring about antimicrobial resistance and antimicrobial stewardship practices. Education occurs upon hire or granting of initial privileges and periodically thereafter, based on organizational need.
- The [critical access] hospital educates patients, and their families as needed, regarding the appropriate use of antimicrobial medications, including antibiotics. (For more information on patient education, refer to Stan-



Core Elements of Hospital Antibiotic Stewardship Programs



Healthcare IT News

TOPICS ↓ SIGN UP MA

Proposed CMS rule tackles overuse of antibiotics, aims to boost infection control

New measures could save hospitals up to \$284 million annually, officials say.

By [Susan Morse](#) | June 15, 2016 | 09:11 AM

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Intermountain ID TeleHealth Program

Intermountain TeleHealth Leadership

Infectious
Diseases



Antibiotic
Stewardship



Infectious
Diseases
Consultation



Process

Outcomes

Compliance

Pharmacy

Outreach

Research

Technology Platform: Fixed, Mobile, Devices, Data

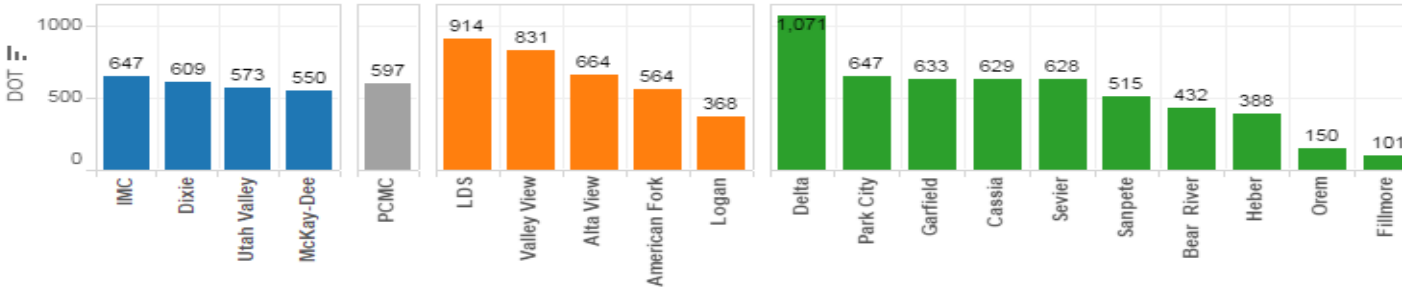
Antibiotic Usage Dashboard for the Month of July, 2016

(Click on any bar to drill into facility and drug type detail)

Select an earlier month

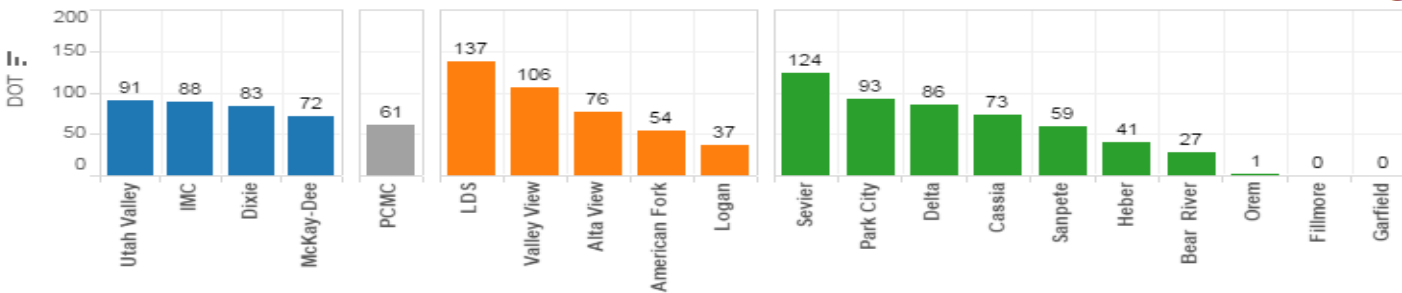
July, 2016 < >

All Antibiotics



DOT is a normalized antibiotic use rate. DOT means 'Days of therapy per thousand patient days' with the numerator being antibiotic days per month and the denominator being number of patient days present for that month. Hover over a bar to see details on the calculation.

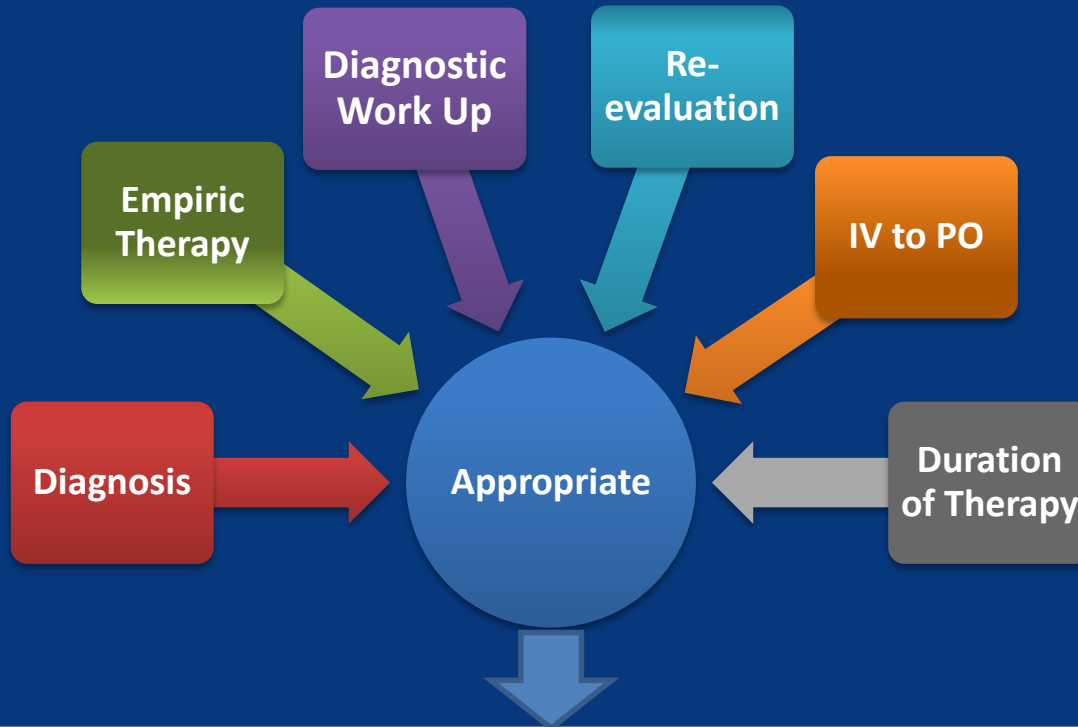
Anti-MRSA and VRE Antibiotics



Drugs within each antibiotic category

Anti-MRSA and VRE

- Ceftaroline
- Dalbavancin
- Daptomycin
- Linezolid
- Ositavancin
- Quinu/Dalfopristin
- Tedizolid
- Telavancin
- Vancomycin



IMPROVED OUTCOMES	
Mortality	Relapse / Readmission
Length of stay	Resistance rates
Adverse Drug Events	<i>C. difficile</i> infection