

Take It to the Vanc — Implementing AUC:MIC at a Large Health System

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LEARNING OBJECTIVES

- Describe the characteristics of an ideal calculator to utilize for AUC:MIC monitoring of vancomycin therapy.
- List the key steps needed to implement a Bayesian AUC:MIC calculator within a large health system.

PROJECT PURPOSE

To optimize patient care through AUC:MIC monitoring of vancomycin via EMR integration of a Bayesian calculator. Advantages to patient care focused on increasing efficacy of vancomycin dosing and decreasing toxicity in a 12 hospital Health System with a large free standing Emergency Department and Home Infusion pharmacy services

BACKGROUND

- AUC:MIC is the ideal way to monitor vancomycin to optimize both safety and efficacy
- 2020 IDSA guidelines recommend a target AUC:MIC of 400-600 for severe MRSA infections
- Advantages of Bayesian kinetics vs conventional first order kinetic monitoring includes early level attainment, single level capabilities and population-based predictions.

METHODOLOGY

Phase 1 (2019)

- Internal evaluation** of vancomycin therapeutic drug monitoring practices
- Decision to shift practice from trough to AUC monitoring
- Defining “Ideal” state

Phase 2 (2020)

- Evaluation of AUC monitoring methods (internal vs external)
- Development of first-order, two-point calculator within EMR
- Internal **pilot** and validation in ICU patients over one month
- RE-defining “Ideal” state
- Defining characteristics of an “ideal” calculator

Phase 3 (2021)

- External calculator evaluation
- Development of **Decision Document**
- Engagement with Pharmacy Leadership
- Engagement with Supply Chain and Legal for contracting

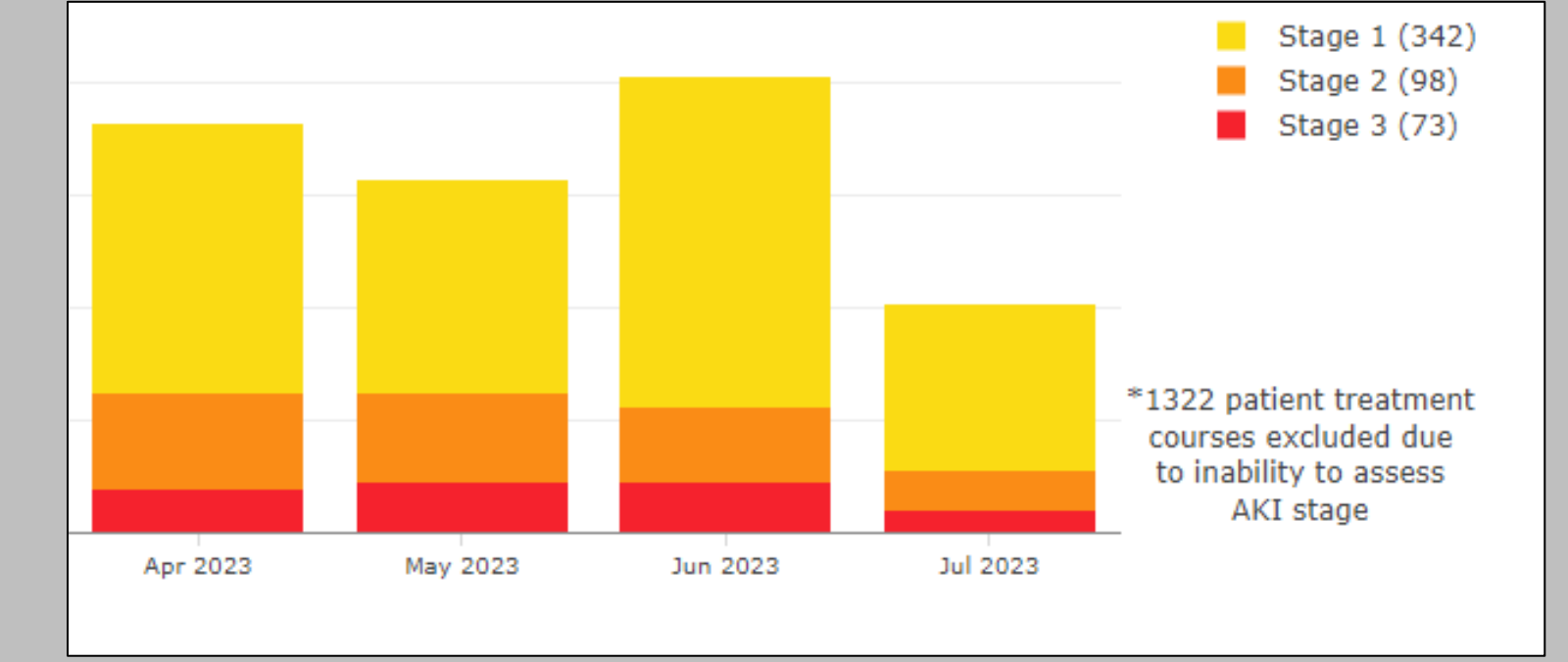
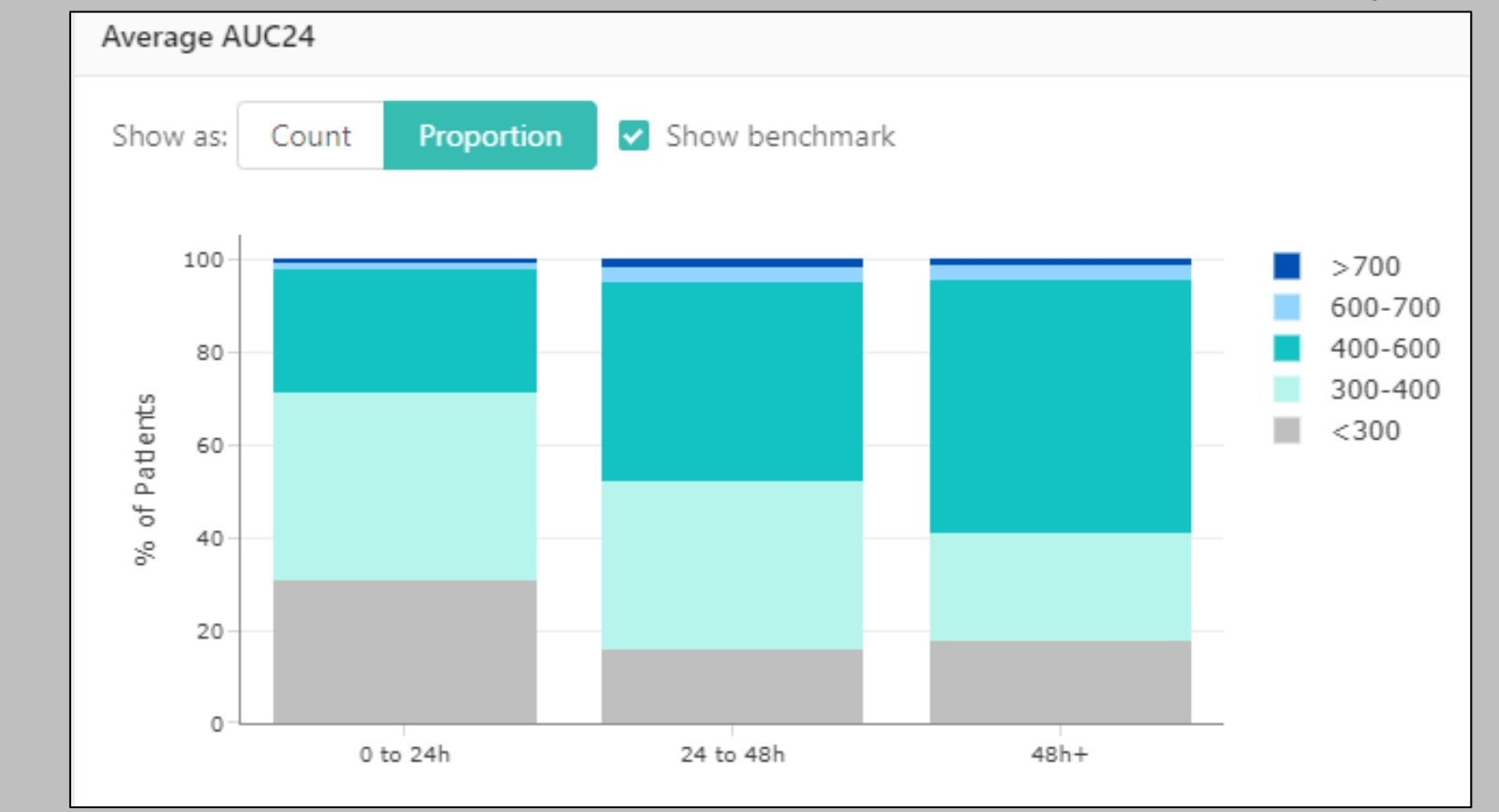
Phase 4 (2022)

- Super-user training**
- CE development and completion by 300+ pharmacists
- Targeted education to stakeholders: Physicians, Nursing, Lab
- EMR integration + corresponding updates
- Go-live 11/2022

IMPLEMENTATION HIGHLIGHTS

OUTCOMES

- Over 9500 doses have been utilized in over 8500 patients



KEY TAKEAWAYS & IMPACT

- Primary GOAL: improving the care of our patients by increasing efficacy and decreasing toxicity
- Effective implementation and conversion to AUC monitoring at a health-system requires due diligence and coordination across several layers of the enterprise

Internal Evaluation

- Baseline vancomycin TDM practices
- Defining “Ideal” state

Internal Calculator

- Development of internal calculator
- Internal pilot and validation
- Critical step to understand practice barriers
- Re-define “Ideal” state

The “Ideal” Calculator

- EMR-integration
- Bayesian kinetics
- Web-based platform
- Analytics dashboard

Decision Document

- Vetting potential calculator options
- Assessed pros/cons with formal recommendation
- Presented to OhioHealth Pharmacy Leadership

Pharmacist Education

- Super-user Training of Antimicrobial Stewardship Team
- CE development and education of 300+ pharmacists

Key Stakeholder Engagement

- Physicians and Nursing
- Lab Services
- Informatics

EMR-integration

- Corresponding updates in EMR
- Lab orders and results
- Progress notes