



Benefits of Implementing  
Antibiotic Stewardship  
at the  
Burke Rehabilitation Hospital

Tom Grandville, Pharm.D., Jacqueline DiMarco, Pharm.D.

# OBJECTIVE

- ▶ To implement a daily review of all oral and IV antibiotic orders written
- ▶ Assessed:
  - ▶ Appropriateness
  - ▶ Indication
  - ▶ Proper dosing
  - ▶ Bug-drug match
  - ▶ Possible de-escalation
- ▶ Recommendations made to ordering physician or attending, by Clinical Pharmacist or by co-chairs of Antibiotic Stewardship Committee

# BACKGROUND

- ▶ 150-bed acute rehabilitation hospital
- ▶ No in-house ID service
- ▶ No antibiotic restrictions
- ▶ Prior to this, no monitoring of antibiotic orders
- ▶ Medical Staff consists of attendings and residents with backgrounds in neurology and physiatry

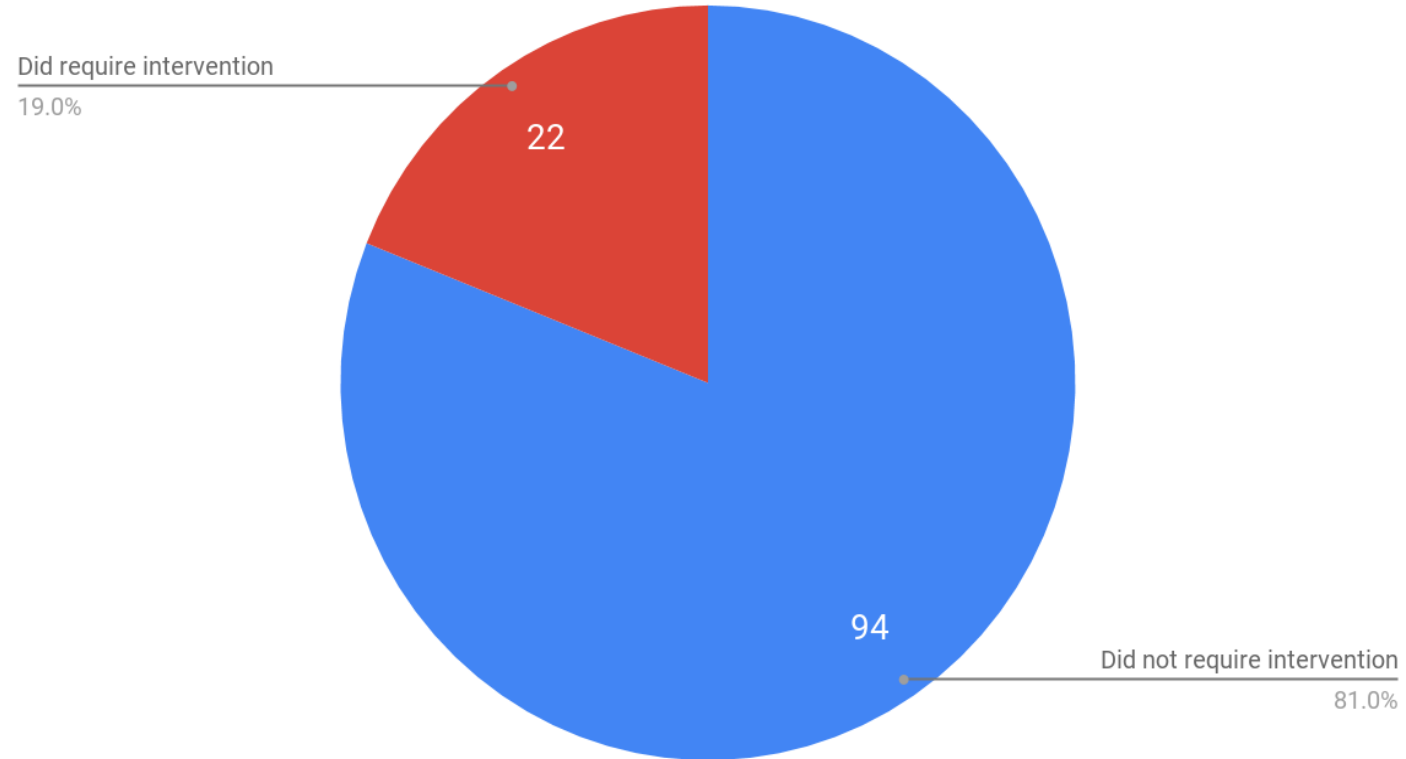
# IMMEDIATE GOALS

- ▶ Ensure appropriate antibiotic prescribing with a focus on urinary tract infections
  - ▶ Historically, UTIs account for majority of infections in our setting
- ▶ Aim to decrease empiric use of fluoroquinolones to treat UTIs
  - ▶ Increasing resistance to FQs
- ▶ Aim to decrease ordering of antibiotics for UTIs in patients who are asymptomatic

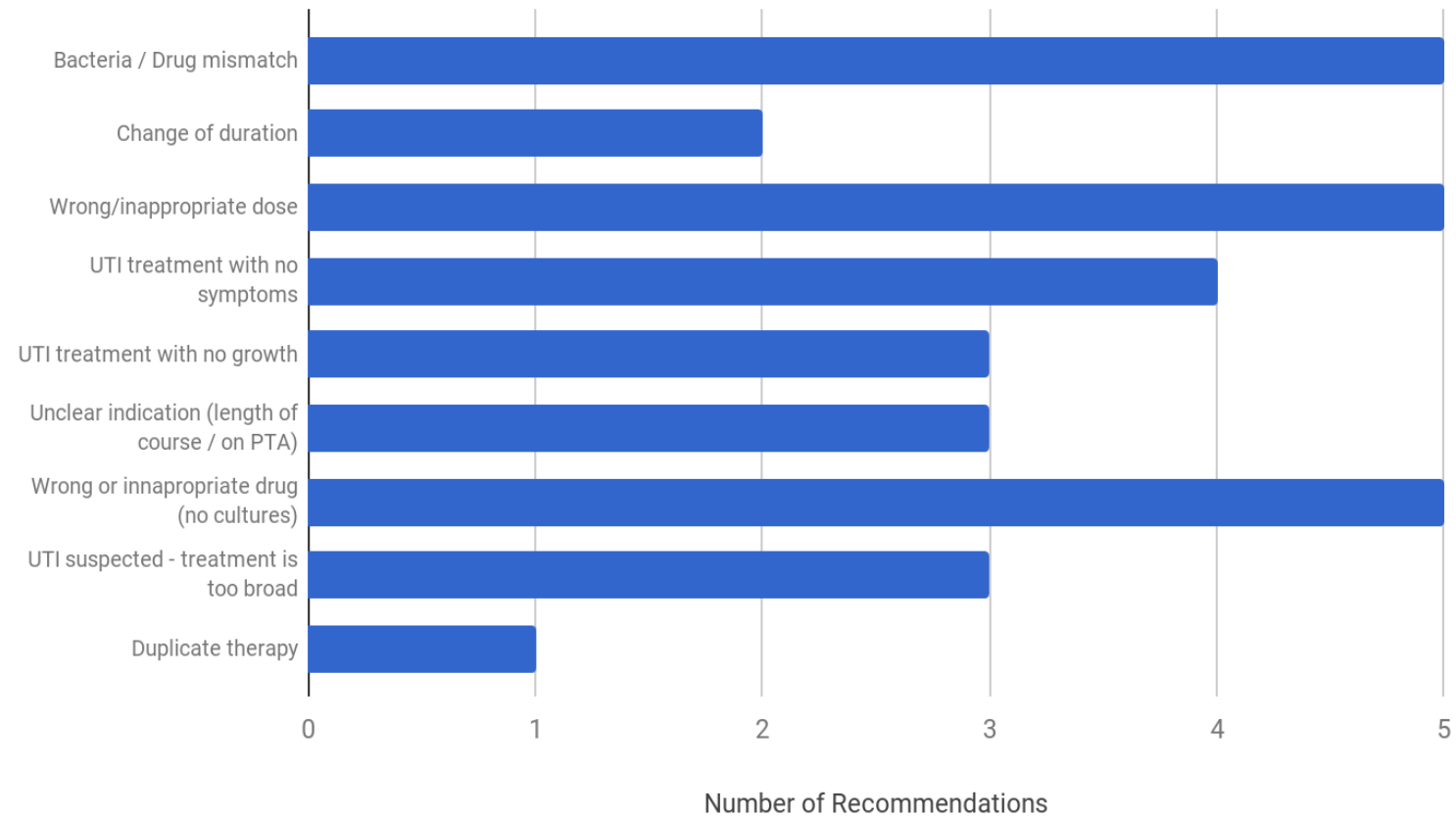
# METHODOLOGY

- ▶ Daily antibiotic report ran every morning for a 6-week period 8/20/17-9/30/17
- ▶ Each order assessed
- ▶ MDs were contacted for each order requiring intervention
- ▶ 116 antibiotic reviewed → 22 of which required intervention

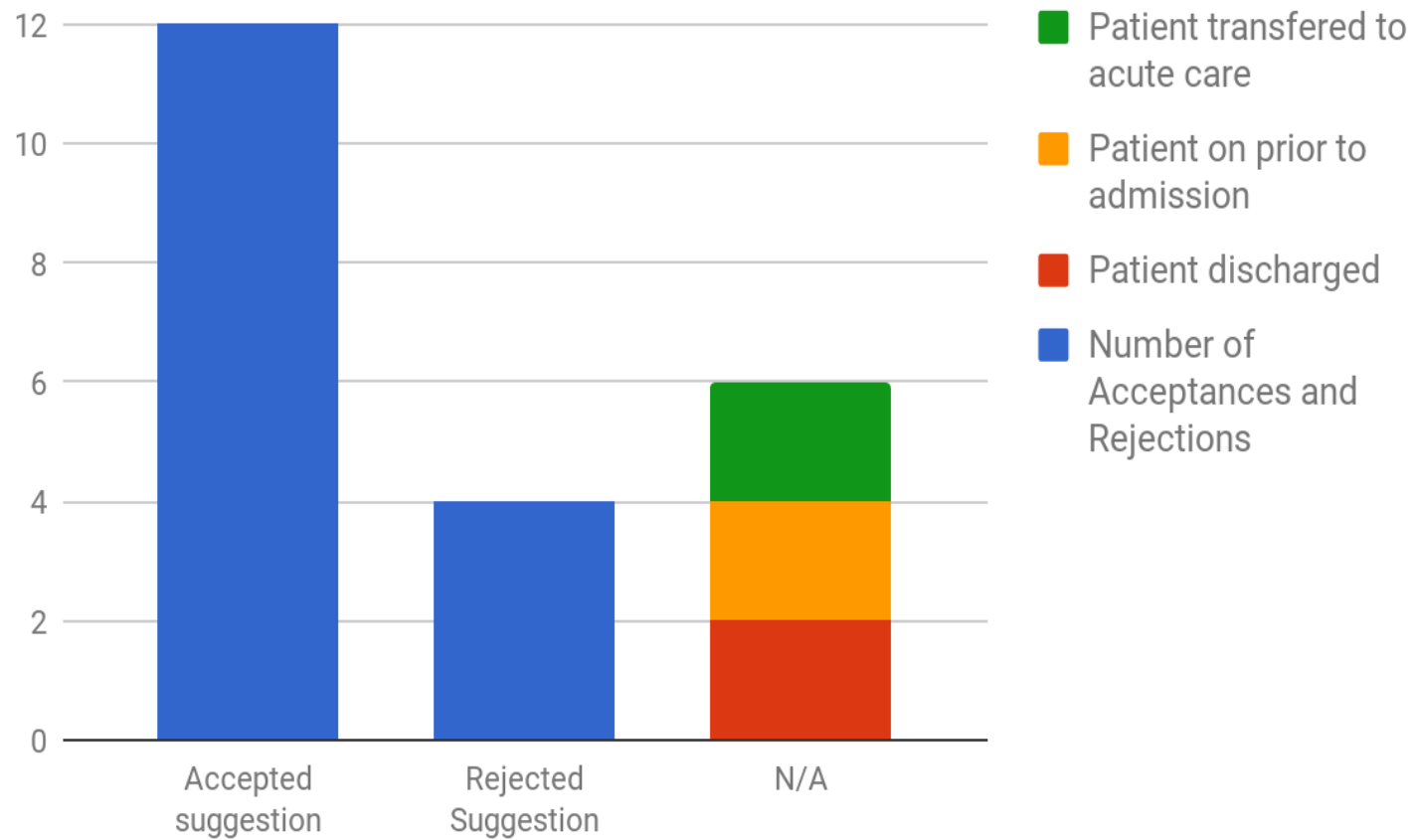
## Antibiotic Orders Reviewed From 8/20/17 - 9/30/17



## Types of Recommendations Made



## Physicians' Decisions on the 22 Recommendations Made



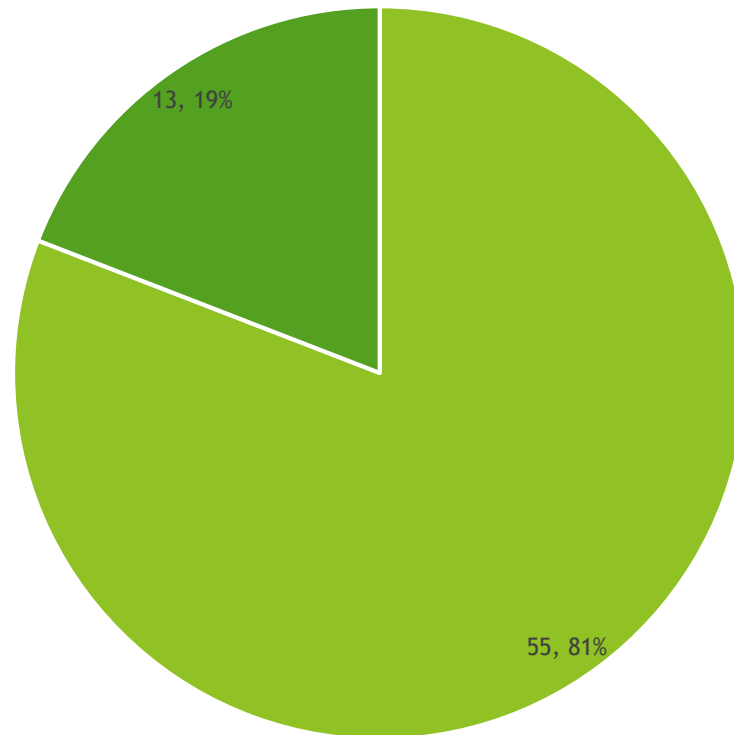


# FINDINGS

- ▶ Without this monitoring during the 6-week period, 22 antibiotic orders would have remained inappropriate (19% of total antibiotic orders)
- ▶ Regular communication with physicians was vital to their receptivity to the recommendations
  - ▶ MDs became more open to wanting to understand reasoning behind suggestions
- ▶ Study was repeated in the following two quarters - 3 week period and 4 week period- with similar findings regarding percent of inappropriate orders requiring interventions

# Antibiotic orders from 1/1/18-1/22/18

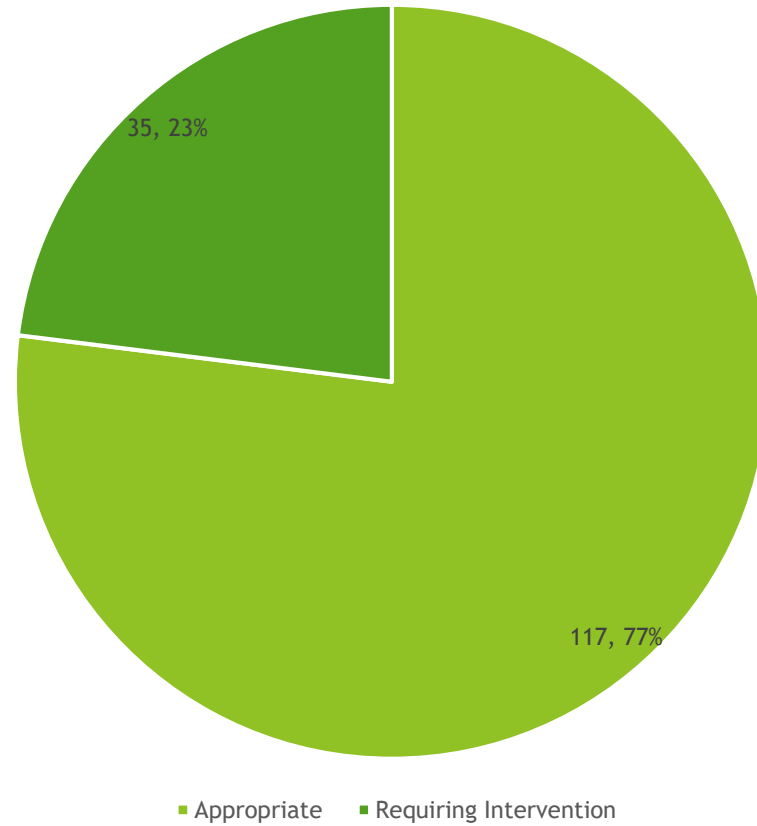
Appropriate vs Intervention



■ Appropriate ■ Requiring Intervention

# Antibiotic orders from 3/5/18-4/5/18

Appropriate vs Intervention



# LONG-TERM GOALS

- ▶ Encourage appropriate antibiotic ordering from physicians
- ▶ Increase receptivity of clinicians as a result of regular antibiotic monitoring, intervention, and education
- ▶ Decrease antibiotic resistance by decreasing use of broad-spectrum antibiotics
- ▶ Decrease empiric use of FQs for UTI treatment
- ▶ Decreasing ordering of antibiotics for patients with asymptomatic UTIs

# CONCLUSION

- ▶ The implementation of daily antibiotic monitoring has shown the value of Antibiotic Stewardship at the Burke Rehabilitation Hospital
- ▶ Results have shown an approximate 20% intervention rate at each of the time periods assessed
- ▶ The regular communication between physicians and pharmacist antibiotic steward is essential to the long-term goal of appropriate antibiotic ordering for patients