

2nd Place: Assessment of the Characteristics of Multidrug Resistant Organisms at Lehigh Valley Health Network: Where Do They Come From and Where Do They Go?

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Published In/Presented At

Landis, C. Slenker, A. Kile, J. Rhodes, L. (2019, August). *Assessment of the Characteristics of Multidrug Resistant Organisms at Lehigh Valley Health Network: Where Do They Come From and Where Do They Go?*. LVHN Research Scholar Program Poster Session, Lehigh Valley Health Network, Allentown, PA.

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Assessment of the Characteristics of Multidrug Resistant Organisms at Lehigh Valley Health Network: Where Do They Come From and Where Do They Go?

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Introduction

- Multidrug resistant (MDR) infections are associated with high mortality and limited treatment options¹⁻³
- The characteristics of MDR organisms that present to Lehigh Valley Health Network (LVHN) are unknown
- Infection control guidelines encourage partnerships between inpatient and outpatient health care facilities to better control the spread of these high-risk infections⁶

Objectives

- Determine the characteristics and treatment of MDR organisms among patients admitted to LVHN
- Identify common admission and discharge locations for patients admitted to LVHN diagnosed with a MDR organism

Methods

- Retrospective chart review of 371 adult patient encounters (237 unique patients) at LVH-CC and LVH-M identified with a MDR organism in 2018
- Obtain patient demographics, admission and discharge locations and dates, empiric and targeted antibiotic days of treatment, and results of positive MDR culture(s) from the patient chart in EPIC

Results

Figure 1: Locations Prior to Admission for MDR Patients

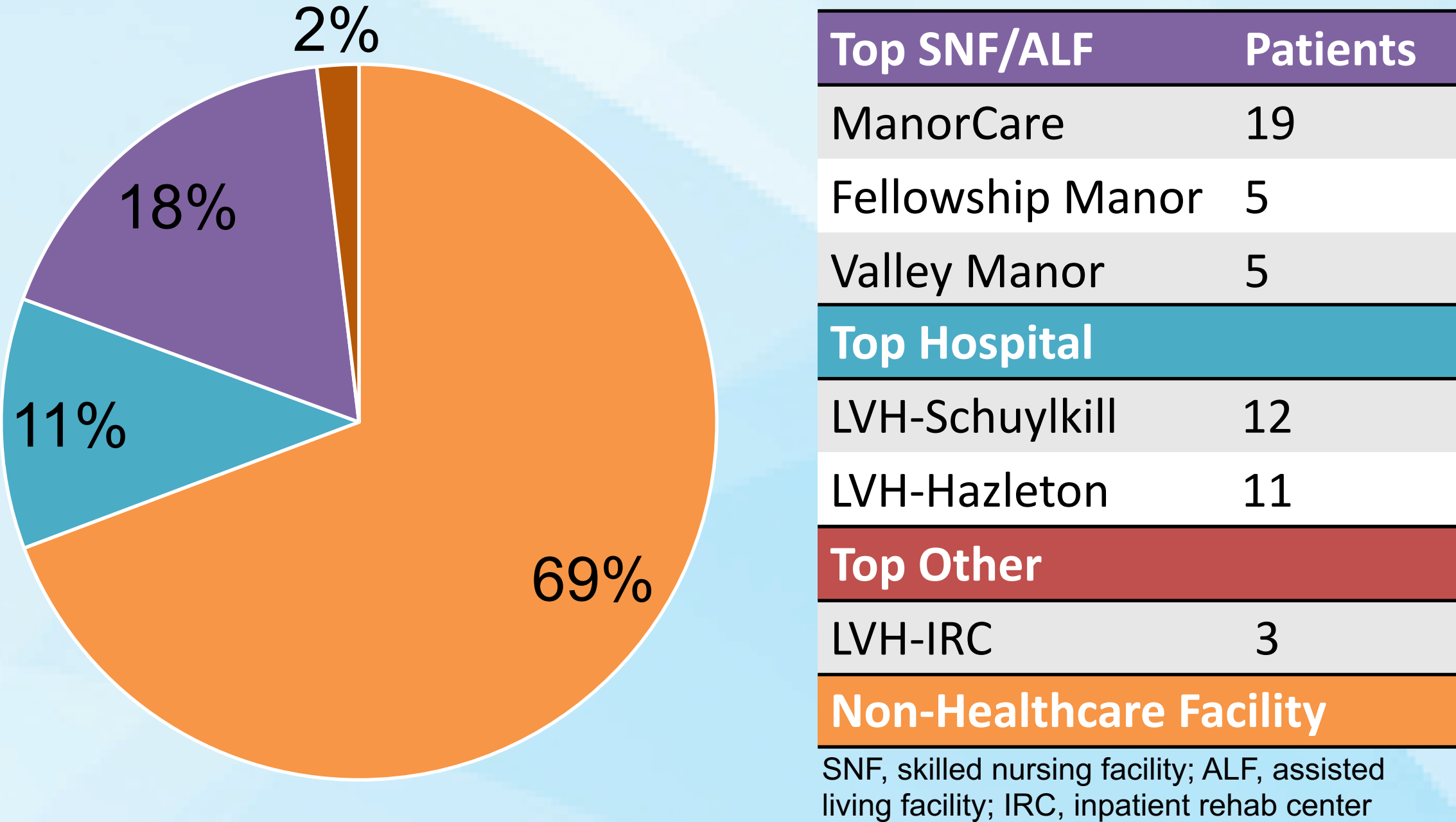


Figure 2: Discharge Locations for MDR Patients

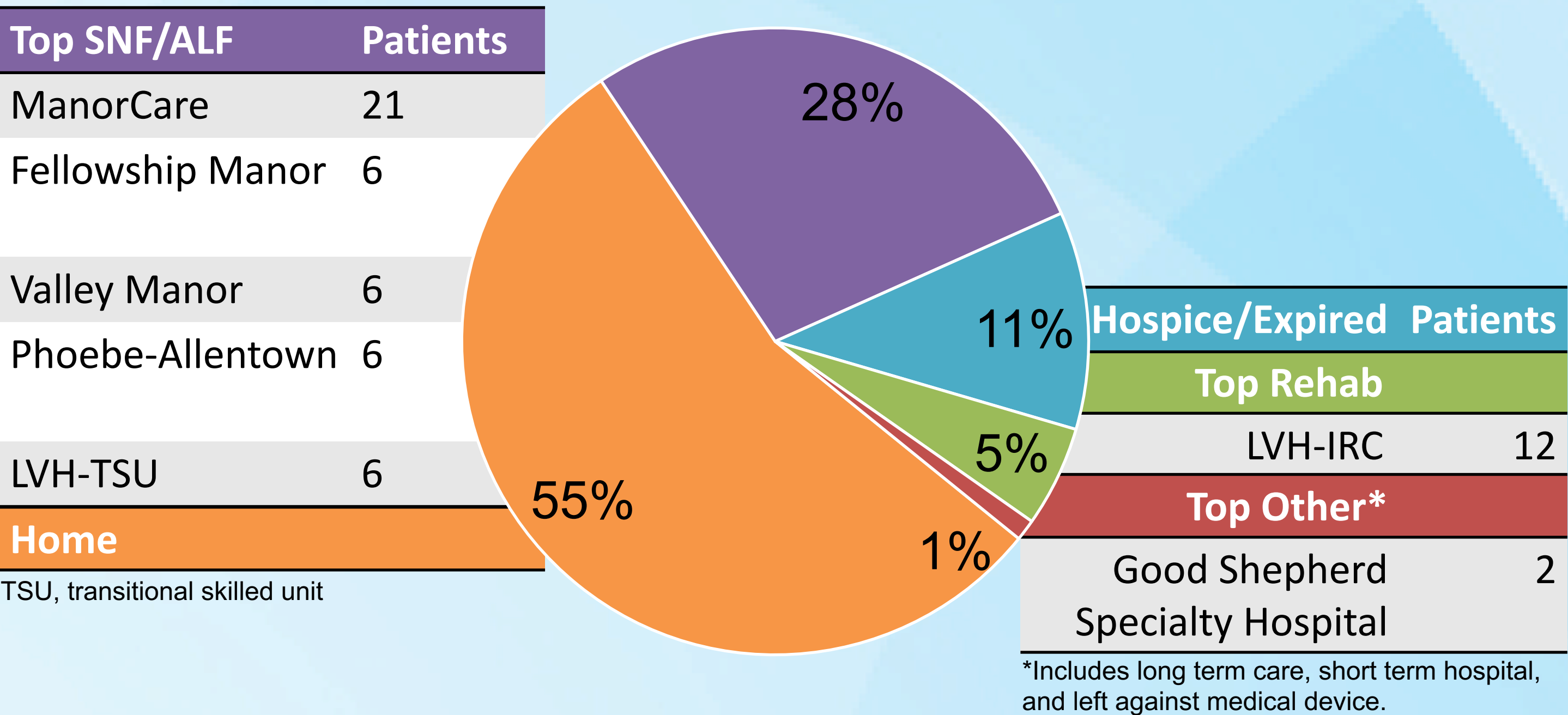
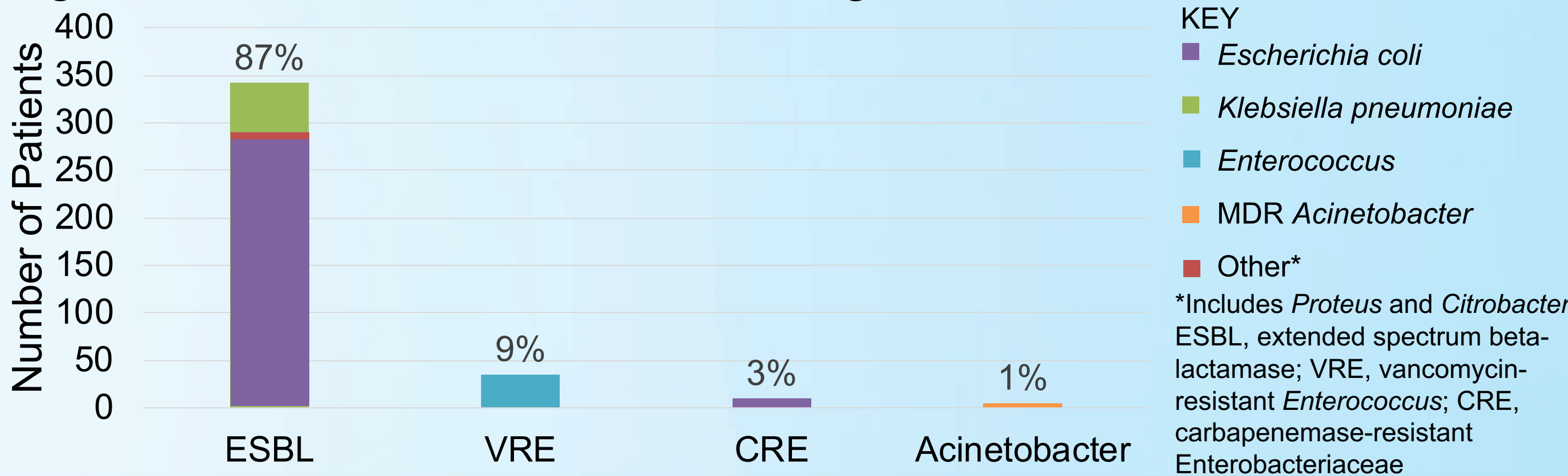


Table 1: Days of Therapy (DOT) for MDR Organism Infections

	Median Number of Days (IQR)
Empiric DOT	1 (0-3)
Targeted DOT in Hospital	2 (0-5)
Total Planned Targeted DOT	4.5 (0-10)
Total Antibiotic DOT	7 (3-14)
Hospital Length of Stay	6 (4-11)

Figure 3: Characteristics of MDR Organisms at LVHN



Conclusions

- The most common MDR organism and source at LVHN is ESBL *E. coli* in urine
- While most patients are admitted and discharged to non-healthcare facilities (Figures 1 and 2), the vast majority of MDR organisms are still healthcare-associated (94%)
- Facilities external to LVHN with the greatest incidence of MDR organisms are ManorCare, Fellowship Manor, Valley Manor, and Phoebe (Figures 1 and 2)
- LVHN is treating these infections appropriately, with a median of only 1 empiric DOT and a median of 7 total DOT

Future Directions

- Contact most common admission and discharge facilities to determine their infection control practices
- Develop partnerships between LVHN and most frequent outpatient facilities
- Establish a standardized approach to infection control practices among inpatient and outpatient health care facilities with greater incidences of MDR organisms

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