

## Supplemental Table 1: Veteran Population Characteristics - Fiscal Year 2012

Veteran Characteristics				
Total Veteran population	22,299,350			
Veterans utilizing services <sup>1</sup>	9,113,125		Race distribution	
Median age	64		White/Caucasian	82.5%
Age distribution			Black/African American	12.1%
	<30	4.8%	Other	5.4%
	30-49	23.1%	Geographic distribution of Veterans	
	50-69	42.0%	Northeast	18.8%
	> 70	30.1%	Southeast	27.8%
Sex distribution			Midwest	25.7%
	Male	91.5%	Northeast	14.4%
	Female	8.5%	Southeast	13.5%

<sup>1</sup>Unique number of Veterans utilizing at least one Veterans Affairs benefit

Data source: The Veterans Affairs National Center for Veterans Analysis and Statistics at <http://www.va.gov/vetdata/> accessed 11/11/16 and internal data from Veterans Health Administration Inpatient Evaluation Center

## Supplemental Table 2: Veterans Health Administration (VHA) Medical Facility Characteristics - Fiscal Year 2012

VHA Medical Center Characteristics				
Unique patients served	5,911,885		Geographic distribution of medical centers	
Total number of Medical Centers <sup>1</sup>	141		Northeast	26.2%
Number of Long Term Care facilities	134		Southeast	19.2%
Number of Outpatient facilities	961		Midwest	26.2%
Number of Acute Care facilities	139		Northwest	16.8%
Average acute care operational bed size <sup>2</sup>	91		Southwest	11.6%
Range acute care operational bed size	6-370			
Percentage with Intensive Care Units	83%		Acute care Hospital-Acquired Infection (HAI) Rates <sup>4</sup>	
Number with graduate medical education programs	124		Mean Ventilator-Associated Pneumonia rate	1.8/1000 days of mechanical ventilation
Medical center complexity level distribution <sup>3</sup>			Mean CLABSI <sup>5</sup> rate	1.1 /1,000 line days
1a	23%		Mean Intensive-Care Unit MRSA <sup>6</sup> HAIs	0.37/1,000 bed days of care
1b	13%		Mean Non-Intensive Care Unit MRSA HAIs	0.15/1,000 bed days of care
1c	18%			
2	23%			
3	23%			

<sup>1</sup>Where two or more hospital divisions operate as a single integrated health care system those facilities are combined

<sup>2</sup>Bed sizes are approximations due to operational changes based on patient and hospital complexity alterations, staffing and construction needs.  
Acute care bed size totals exclude inpatient psychiatric units.

<sup>3</sup>Complexity level designation determined by a variety of facility characteristics including volume and complexity of patient care, complexity of services offered, education/teaching program affiliations, and research commitments

<sup>4</sup>VHA national acute care hospital-acquired infection rates

<sup>5</sup>CLABSI is Central Line-Associated Bloodstream Infection

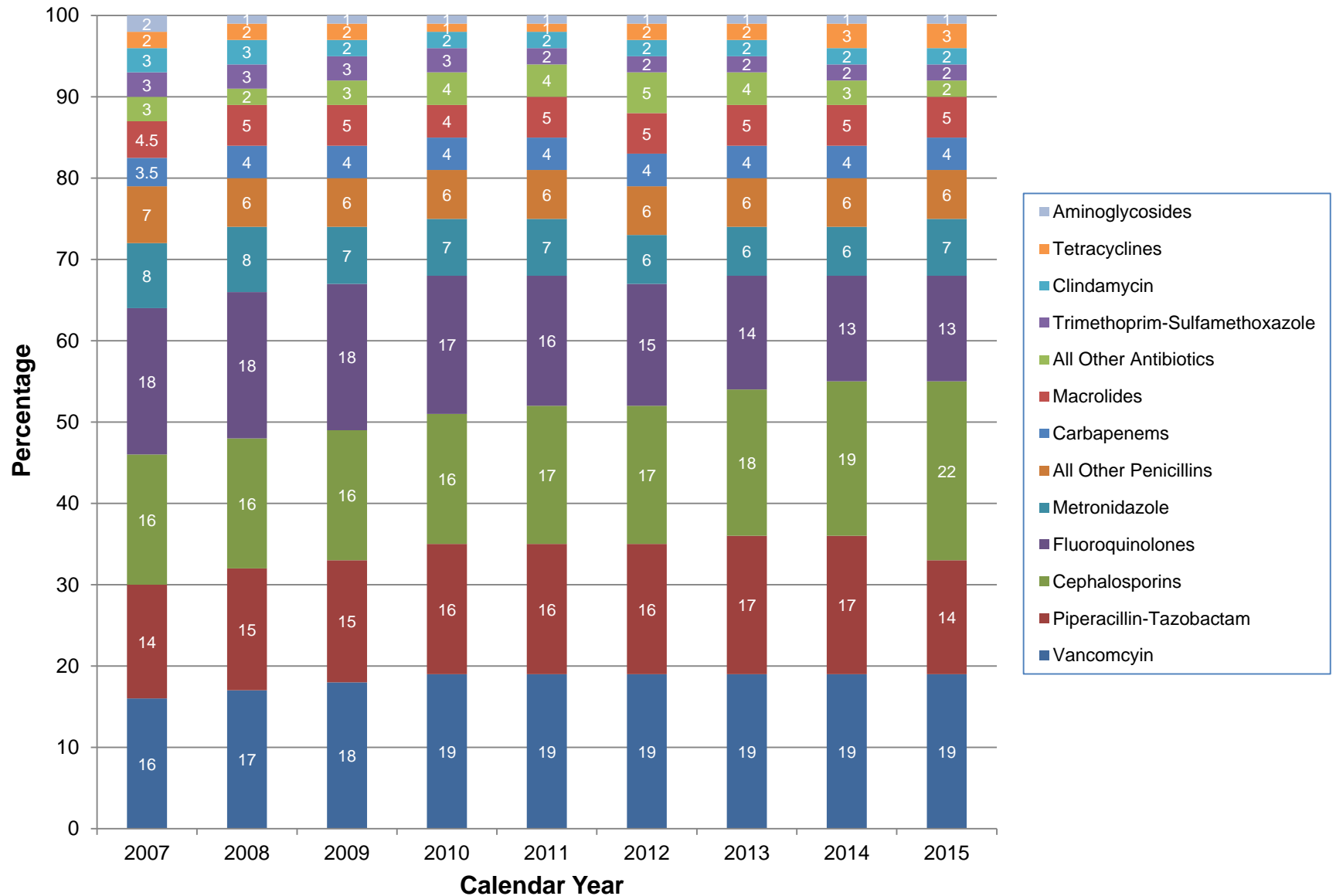
<sup>6</sup>MRSA is Methicillin Resistant *Staphylococcus aureus*

Data source: Internal data from Veterans Affairs Capital Asset Inventory and the VHA Hospital Report Card at

<http://www.va.gov/health/hospitalReportCard.asp> accessed 11/11/16

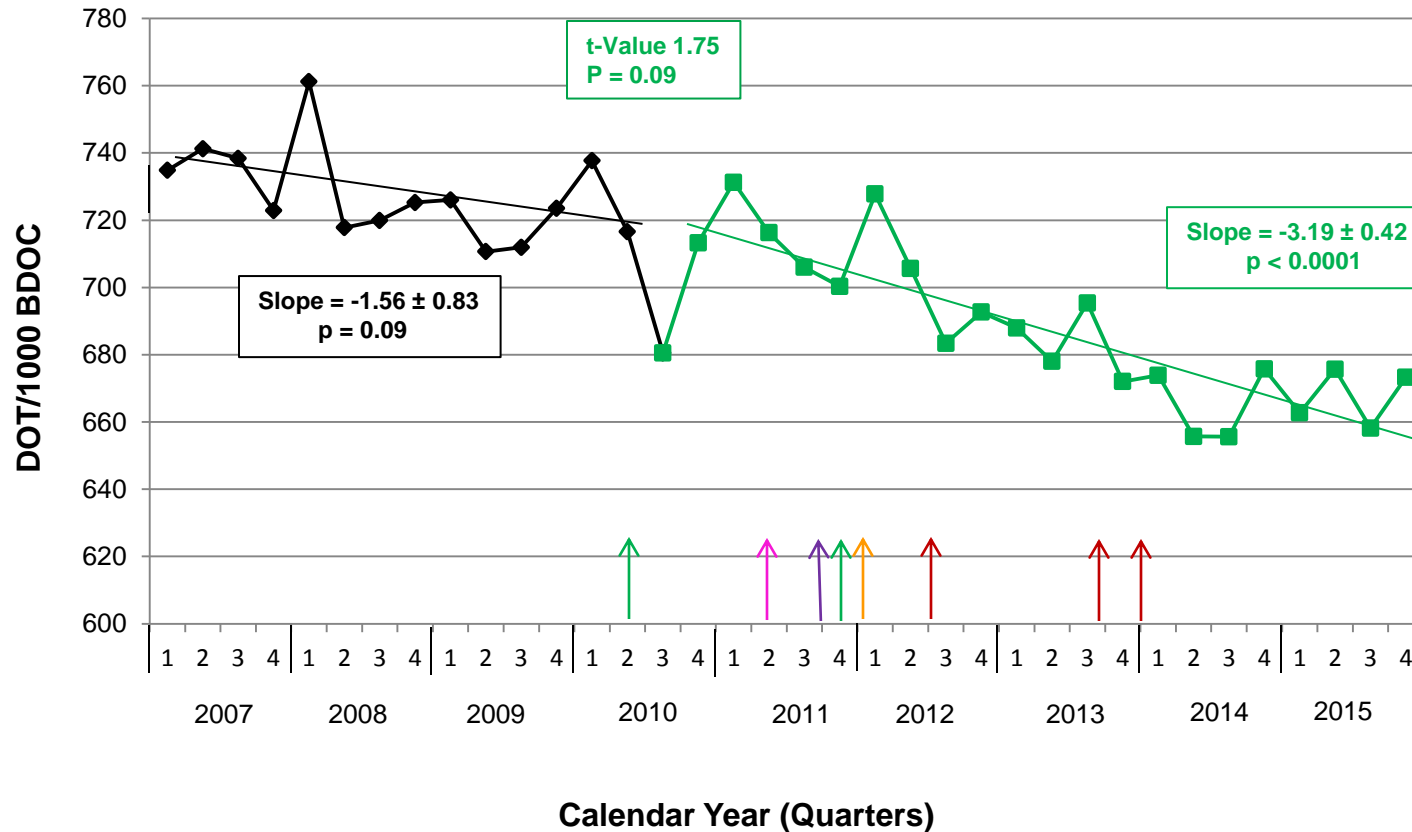
## Supplemental Figure 1: Antibiotic Proportional Distribution 2007 - 2015

Proportion of antibiotic, antibiotic class or group per year from 2007 through 2015 compared by Chi-square analyses. The percentage distribution of all categories is unchanged ( $p = 0.99$ ). Neither the proportional drop in fluoroquinolone use by 5% nor the proportional increase in cephalosporins by 6% was significant ( $p = 0.95$  and  $p = 0.97$  respectively).



## Supplemental Figure 2: Veterans Health Administration (VHA) Inpatient Antibiotic Use: Days of Therapy (DOT) per 1000 Bed Days of Care (BDOC) Timeline of Events

Inpatient antibiotic use before and after initiation of activities by the VHA National Stewardship Initiative in the 2<sup>nd</sup> quarter of calendar year 2010 with specific national stewardship events noted. *Green arrows*: education events live conferences (May, June, July 2010 and Nov 2011); *Pink arrow*: VHA Antimicrobial Stewardship Taskforce Charter and Email distribution list (May 2011); *Purple arrow*: Sanford Guide® On-line provided at all VHA facilities (Oct 2011); *Orange arrow*: start of monthly teleconferences and Stewardship Microsoft® SharePoint site launch (Jan 2012); *Red arrows*: Policy documents, the Under Secretary for Health's Information Letter (July 2012), memorandum encouraging pharmacist education in stewardship (Sep 2013), and VHA Directive 1031 (Jan 2014).



### Supplemental Table 3: Veterans Health Administration Quality and Safety Measures per Fiscal Year

Patient Outcomes	2010	2011	2012	2013	2014
Mean Length of Stay <sup>1</sup> (LOS)					
All acute care units LOS (days)	5.01	5.16	5.05	5.02	4.85
Intensive Care Unit LOS (days)	2.97	3.08	3.07	3.11	3.03
30-day Standardized Mortality Ratio <sup>2</sup>	1.19	1.17	1.10	1.10	1.02
30-day Readmission rate <sup>3</sup> (percent)	13.6	13.4	13.0	12.9	12.9

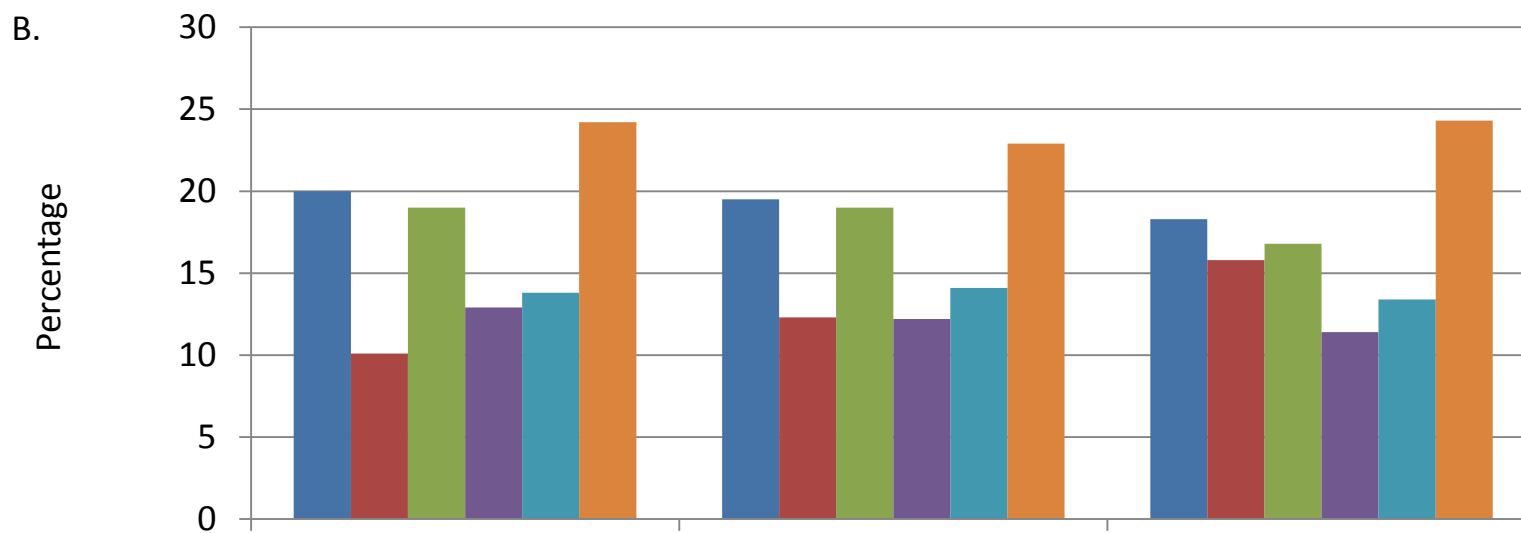
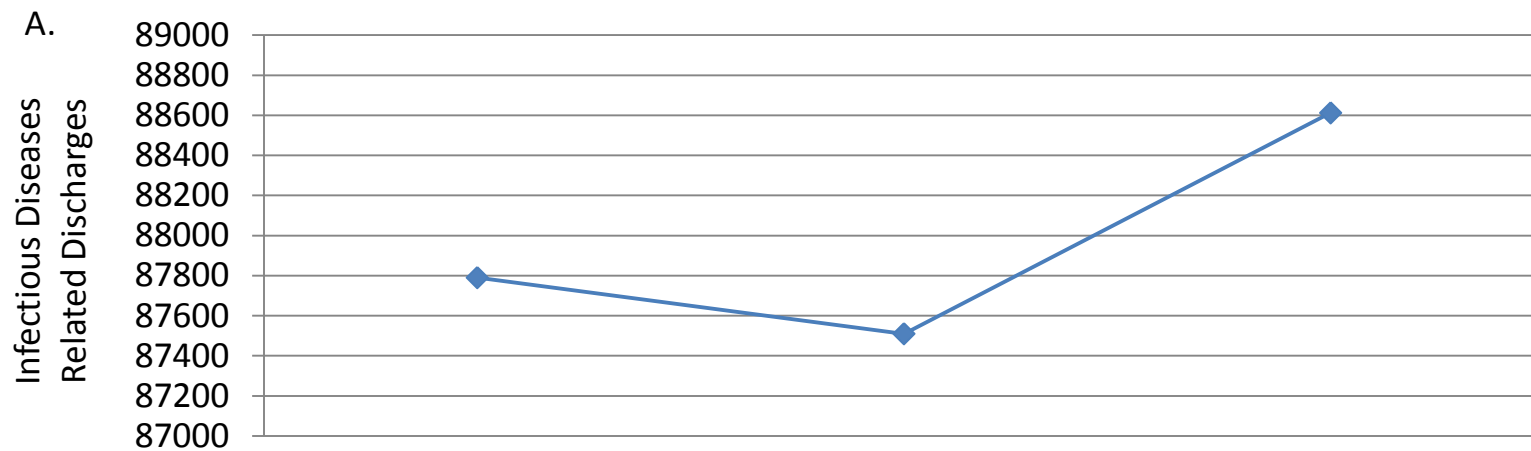
<sup>1</sup> Mean of observed patient-level hospital length of stay in days

<sup>2</sup> All cause 30-day Standardized Mortality Ratio calculated as observed deaths post hospital discharge per expected deaths at 30 days

<sup>3</sup> Average all cause 30-day readmission rate

### Supplemental Figure 3: Veterans Health Administration (VHA) Infectious Diseases Related Discharges

**Panel A:** Number of infectious diseases related discharges based on infectious diseases diagnosis related group by fiscal year. **Panel B:** Proportional distribution of discharges for infectious diseases diagnosis related groups by fiscal year



Data source: Internal data from VHA Managerial Cost Accounting Office

2012

2013

2014

Chi square p=0.99

■ Esophagitis/Gastroenteritis  
■ Pneumonia  
■ Cellulitis

■ Sepsis  
■ Urinary Tract Infection  
■ All Other