

Table 2: CLABSI Trend Model Coefficients, Incidence Rate Ratios and Annual Percentage Change by Location Type

Model Parameter ^a	Estimate	Standard Error	p-value	Incidence rate ratio (95% CI)	Percent change per year ^b (95% CI)
ICU's					
Time Trend:2009-14 (β_1)	-0.1067	0.003723	<.0001	0.898(0.892,0.905)	-10.12 (-12.28, -09.63)
Immediate effect of interruption at 2015(β_2)	0.2575	0.01891	<.0001	1.288(1.241,1.336)	28.75 (24.07, 33.62)
Change in slope direction after 2015 (β_3)	0.03667	0.007144	<.0001	1.037 (1.023,1.052)	03.73(02.29,05.20)
Time trend:2009-18 ($\beta_1 + \beta_3$)	-0.07004	0.006155	<.0001	0.932 (0.921, 0.944)	-06.76 (-7.88, -5.63)
WARDS					
Time Trend (β_1)	-0.08299	0.004629	<.0001	0.920(0.912, 0.929)	-07.96(-08.8, -07.12)
Immediate effect of interruption at 2015(β_2)	0.2573	0.01751	<.0001	1.2930 (1.25,1.34)	29.34 (24.98, 33.86)

^aNegative binomial mixed model adjusted for patient care location types, facility type, and annual survey level variables of teaching status, hospital bed size, total number of beds in intensive care units, and average length of patient stay in hospital.

^bPercent change= (incidence rate ratio-1) x 100

except for an increase in 2015. Similar trends were observed by location type. Among the ICUs, adjusted CLABSI incidence decreased by 10% annually in 2009–2014, increased nearly 29% in 2015, and thereafter decreased at an average of 6.8% per year. Among the wards, adjusted CLABSI incidence decreased at an average of 7.9% annually, except for a 29.3% increase in 2015. **Conclusions:** Substantial progress has been made in reducing CLABSIs in both ICUs and wards over the last 10 years. Indirect effects of CAUTI definitional changes may explain the immediate increase in ICUs, whereas the CMS mandate may explain the similar increase in wards in 2015. Despite this increase, these findings suggest that policies and practices aimed at prevention of CLABSI have likely been effective on a national level.

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Increased Isolation of Pathogens After Resin-Containing Blood Culture Bottle Implementation

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Background: Resin-containing blood culture bottles (RBB) are used to increase the isolation of microorganisms by binding antimicrobials in sampled blood. Since RBB implementation in April 2018, our infection preventionists noted an increase in positive blood cultures on routine surveillance. **Objective:** To describe the change in bacterial isolation post-RBB implementation. **Methods:** All positive blood culture sets drawn in adult inpatient units or the emergency room between October 2017 and September 2018 and their associated organisms were obtained from the hospital laboratory database. Then, regardless of central-line placement or “present on admission” designation, the 2019 NHSN surveillance definitions for laboratory-confirmed bloodstream infection (LCBI-1 and LCBI-2) were applied to categorize all positive cultures as “common commensals” (CCs) or pathogens. A univariate analysis was performed using the Mantel-Haenszel χ^2 test (OpenEpi version 3.01). **Results:** Although the number of monthly blood cultures drawn remained effectively stable before and after implementation (pre-RBB median, 3,512.5; post-RBB median, 3,626), the rate ratio of positive

Figure 1: Monthly Incidence Rate of Positive Blood Cultures by Organism Type

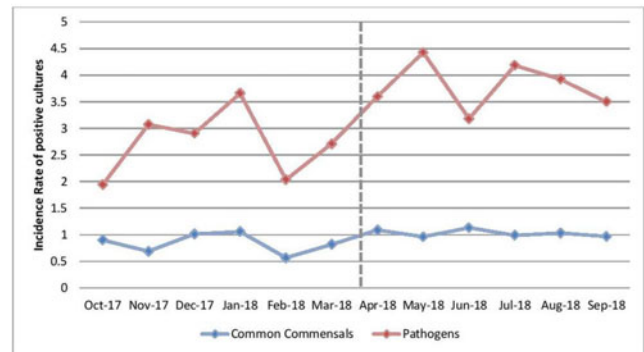


Fig. 1.

cultures increased by 1.36 times: pre-RBB median, 127 sets per month and post-RBB median, 172.5 sets per month ($\chi^2 = 5.785$; $P = .008$). The rate ratio of pathogen-containing cultures increased by 1.40 times (pre-RBB median, 98 sets per month and post-RBB median, 137.5 sets per month; $\chi^2 = 5.615$; $P = .009$) with only a 1.24 increase in CCs (pre-RBB median, 29 and post-RBB median, 36; $\chi^2 = 0.553$; $P = .229$) (Fig. 1). **Conclusions:** After RBB implementation, the monthly incidence rate of pathogen-containing sets increased. Additionally, the increase in these sets as well as of overall positive blood cultures was statistically significant. Current literature on RBBs does not suggest preferential increased isolation of pathogens. Further study is needed to determine whether our findings are related to blood-culturing practices or the RBBs themselves.

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Increased Return Clinic Visits for Adults with Group A Streptococcal Pharyngitis Treated with a Macrolide

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Background: A multicenter audit-and-feedback intervention was conducted to improve management of acute respiratory infections (ARIs) including group A streptococcal (GAS) pharyngitis within 6 VA medical Centers (VAMCs). A relative reduction (24.8%) in azithromycin prescribing after the intervention was observed. Within these facilities during 2015–2018, 2,266 cases of GAS occurred, and susceptibility to erythromycin ranged from 55% to 70%. We evaluated whether prescribing a macrolide for GAS pharyngitis was associated with an increase in outpatient return visits. **Methods:** A cohort of ambulatory adults treated for GAS pharyngitis (years 2014–2019) at 6 VAMCs was created. Demographic, diagnostic, treatment, and revisit data were extracted from the Corporate Data Warehouse. GAS pharyngitis was defined by an acute pharyngitis diagnostic code combined with a GAS-positive rapid strep test or throat culture ≤ 3 days of index date. Antibiotic prescriptions were included if filled ≤ 3 days of index date and were classified as first line (penicillin/amoxicillin), second line (cephalexin/clindamycin), macrolides (azithromycin,