

Table 1.

Table 1. Annual abdominal hysterectomy surgery surgical site infection crude incidence rates

Year	Number of hospitals	No. of events	No. of procedures	Annual SSI incidence rates (%)
2009	422	357	43,956	0.81
2010	562	408	54,165	0.75
2011	1,155	530	82,985	0.64
2012	2,985	2,091	297,932	0.70
2013	2,983	2,056	300,770	0.68
2014	3,012	1,982	303,882	0.65
2015	3,011	2,055	302,895	0.68
2016	2,972	1,802	301,102	0.60
2017	2,959	1,811	293,621	0.62
2018	2,941	1,863	290,421	0.64

Table 2.

Table 2. Parameter estimates from mixed effect logistic regression

Variable*	Estimate	Standard error	p-value	Odds ratio (95%CI)	Annual percent change of odds ratio, % (95%CI)
Year	-0.0261	0.0038	<.0001	0.9742 (0.9670, 0.9815)	-2.58 (-3.30, -1.85)

*The model adjusted for the following variables: hospital bedsize, general anesthesia, scope, ASA score, wound classification, medical school affiliation type, procedure duration and age.

annually after controlling for variables mentioned above (Table 2). **Conclusions:** The volume of hospitals and procedures for HYST reported to NHSN increased substantially because of the CMS reporting requirement implemented in 2012. The overall adjusted HYST SSI odds ratio decreased annually over 2009–2018, which indicates progress in preventing HYST SSIs.

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Poster Presentation

Surgical Site Infection Trend Analysis Following Colon Surgeries, National Healthcare Safety Network, 2009–2018

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Background: Hospitals have submitted surveillance data for surgical site infections (SSIs) following colon surgeries (COLO) to the Centers for Disease Control and Prevention's National Healthcare Safety Network (NHSN) since 2005. COLO SSI data submissions to NHSN have increased substantially beginning in 2012 as result of a Centers for Medicare and Medicaid Services (CMS) mandatory reporting requirement that began that year. A trend analysis of COLO SSIs, using data submitted to NHSN, has not been previously reported. To estimate the national trend of COLO SSI rates, we analyzed data reported from acute-care hospitals during 2009–2018. **Methods:** We analyzed inpatient adult COLO procedures with primary closure and resulting deep incisional primary and organ-space SSIs detected during the same hospitalization or rehospitalization in the same hospital. SSIs reported as infection present at time of surgery (PATOS) were included in the analysis. A protocol change that reprioritized COLO above small bowel surgery (SB) in the multiprocedural abdominal operations selection list for SSI attribution beginning in 2013 was a potential interruption to COLO SSI outcome. An interrupted time series with mixed-effects logistic regression was used to estimate the annual change in the log odds of COLO SSI. The estimates were adjusted for the following variables: hospital bed size, gender, emergency, trauma, general anesthesia, scope, ASA score, wound classification, medical school affiliation type, procedure duration and age. We also assessed

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Table 1. Annual colon surgery surgical site infection crude incidence rates

Year	Number of hospitals	No. of events	No. of procedures	Annual SSI incidence rates (%)
2009	306	832	29,415	2.83
2010	434	988	36,929	2.68
2011	1,073	1,661	68,030	2.44
2012	3,100	6,766	281,472	2.40
2013	3,099	8,157	289,109	2.82
2014	3,133	8,749	291,078	3.01
2015	3,125	9,022	293,420	3.07
2016	3,119	8,947	307,605	2.91
2017	3,151	9,151	309,177	2.96
2018	3,123	9,618	310,419	3.10

Table 2.

Table 2. Parameter estimates from interrupted time series using a mixed effect logistic regression

Variable*	Estimate	Standard error	p-value	Odds ratio (95%CI)	Annual percent change of odds ratio, % (95%CI)
Year	-0.0058	0.0027	0.0289	0.9942 (0.9890, 0.9994)	-0.58 (-1.10, -0.06)
2013–2018 vs 2009–2012	0.1802	0.0154	<.0001	1.1975 (1.1619, 1.2341)	19.75 (16.19, 23.41)

*The model adjusted for the following variables: hospital bedsize, gender, emergency, trauma, general anesthesia, scope, ASA score, wound classification, medical school affiliation type, procedure duration and age.

the slope and level change of log odds before and after 2013. **Results:** The number of hospitals and procedures increased and then stabilized after 2012 (Table 1). The annual crude SSI rates ranged from 2.40% to 3.10%. There was no statistically significant slope change in 2013 and after. Compared to 2009–2012, the log odds of COLO SSI increased in 2013–2018 (OR, 1.1975; $P < .0001$). Based on this model, we estimate a 0.58% annual decrease in the odds of having a COLO SSI during 2009–2012 and 2013–2018 after controlling for the aforementioned variables (Table 2). **Conclusions:** We observed a substantial increase in the volume of hospitals and procedures reported to the NHSN since 2012 and an increase in odds of having a COLO SSI in 2013–2018 associated with surveillance protocol changes. After adjusting for these changes, we found a slight annual decrease in the overall odds of COLO SSI. Greater prevention efforts are needed for COLO SSI.

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Surgical Site Infections at a Level I Trauma Center in India: Data From an Indigenously Developed, e-SSI Surveillance System

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Background: Globally, surgical site infections (SSIs) not only complicate the surgeries but also lead to \$5–10 billion excess health expenditures, along with the increased length of hospital stay. SSI rates have become a universal measure of quality in hospital-based surgical practice because they are probably the most preventable of all healthcare-associated infections. Although, many national regulatory bodies have made it mandatory to report SSI rates, the burden of SSI is still likely to be significant underestimated due to truncated SSI surveillance as well as underestimated postdischarge SSIs. A WHO survey found that in low- to