VAP Reduction

PI Project

The problem

- PI RNs were flagging more VAPs which led to deep dive in mid-2023
- 8 VAP cases identified (10 flagged, 2 did not meet criteria; removed)
- 01/22-01/23: VAP rate = 8%
- Definition: Trauma patients intubated >48hrs (n=106)
- Fall 2023 TQIP Benchmark Report was released, showed high rate of VAP case among all patients

Potential OFI

VAP prevention bundle not ordered consistently

Oral care not documented Q2H consistently

Daily SBT/SAT not documented consistently

Limited non opioid pain management standardize/options

Time to trach placement >8 days intermittently

RT assessments not ordered/documented consistently

RT treatments not administered as ordered consistently

PT evaluations and PROM not documentation consistently

Inconsistent documentation of respiratory cultures nBAL

What we did

Collaborated with Trauma Surgeons, ICU, RT, PT to address OFI

Trauma Surgeons:

- Increased utilization of ICU orderset containing VAP Prevention Bundle
- Educated each other and ICU staff on trach goal of 8 days post intubation. Also added to ICU rounds

ICU and RT worked on documenting/performing oral care Q2H and SBT/SAT daily documentation

RT:

- Changed practices to performing evaluation on the first day of intubation vs day 2-3
- Worked with therapists on treatment administration per orders

Policy on routine collection of nBAL cultures not aligned with best practices and was removed

Non opioid pain management and PT evals deemed nonissues

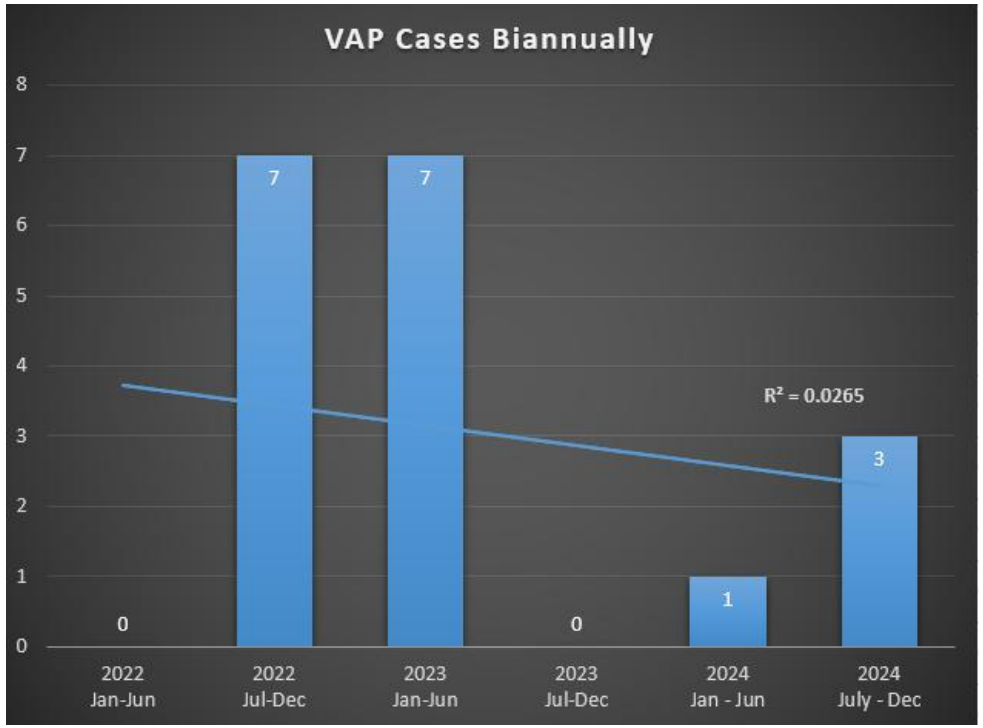
Goals

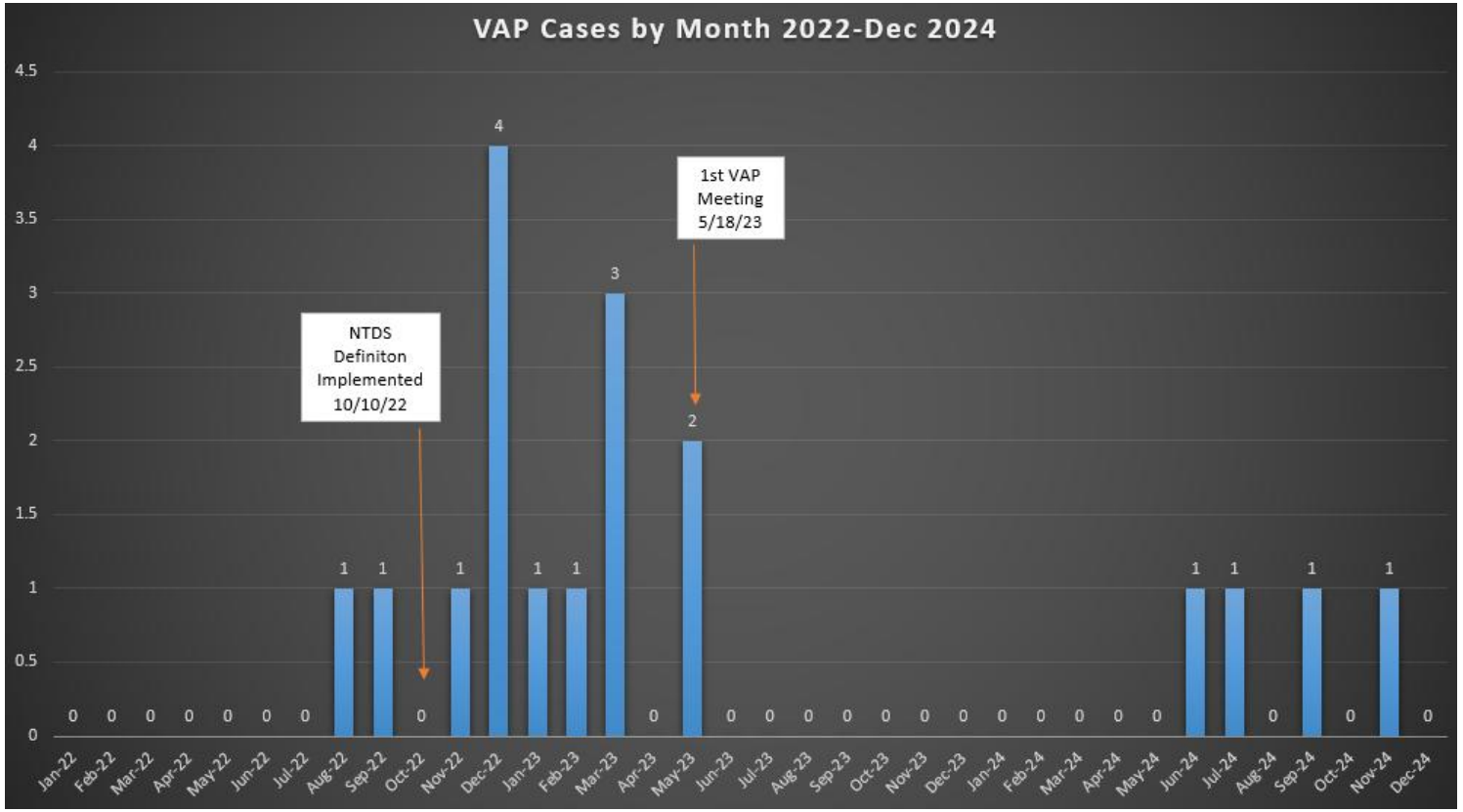
#1 Decrease VAP cases among all intubated trauma patients

#2 Decrease TQIP Benchmark Report VAP in all patients observed (%) and decile.

S.M.A.R.T. Goals Specific – Measurable – Achievable – Realistic – Time-based		Metrics		
		Baseline	**Target** (06/2024)	**Current**
Primary (How you will measure success)	Decrease VAP rates among all intubated trauma patients	(01/22-01/23) 8%	1%	(01/24-12/24) 2%
Secondary (A byproduct result of meeting the Primary goal)	Decrease TQIP Benchmark Report VAP in all patients observed (%) and decile.	(04/22-03/23) Observed: 1.2% Decile: 8	Observed: <1% Decile: <3	(04/23-03/24) Observed: 0.1% Decile: 2

Hospital Results





TQIP Results

Fall 2023 TQIP Benchmark Report

Table 5: Risk-Adjusted Specific Hospital Events by Hospital Event/Cohort

		Patients	Specific Hospital Event				Odds Ratio and 95% Confidence Interval				
Hospital Event	Cohort	N	Observed Events	Observed (%)	Expected (%)	TQIP Average (%)	Odds Ratio	Lower	Upper	Outlier	Decile
Acute Kidney Injury	All Patients	836	8	1.0	0.7	0.8	1.26	0.67	2.35	Average	8
Acute Kidney Injury	Shock	20	0	0.0	6.9	3.7	0.76	0.31	1.86	Average	1
Ventilator-Associated Pneumonia	All Patients	836	10	1.2	0.6	0.8	1.87	0.98	3.57	Average	8
Ventilator-Associated Pneumonia	Severe TBI	53	5	9.4	4.3	6.6	1.97	0.80	4.81	Average	9
Pulmonary Embolism	All Patients	836	6	0.7	0.5	0.6	1.19	0.64	2.22	Average	8
Surgical Site Infection	All Patients	836	2	0.2	0.3	0.5	0.86	0.35	2.13	Average	4
Unplanned Admission to the ICU	All Patients	836	16	1.9	2.9	3.1	0.74	0.49	1.11	Average	2
Unplanned Visit to OR	All Patients	836	6	0.7	1.5	2.0	0.56	0.29	1.08	Average	2
Catheter-Associated UTI	All Patients	836	2	0.2	0.1	0.2	1.32	0.43	4.03	Average	7

Spring 2024 TQIP Benchmark Report

Table 5: Risk-Adjusted Specific Hospital Events by Hospital Event/Cohort

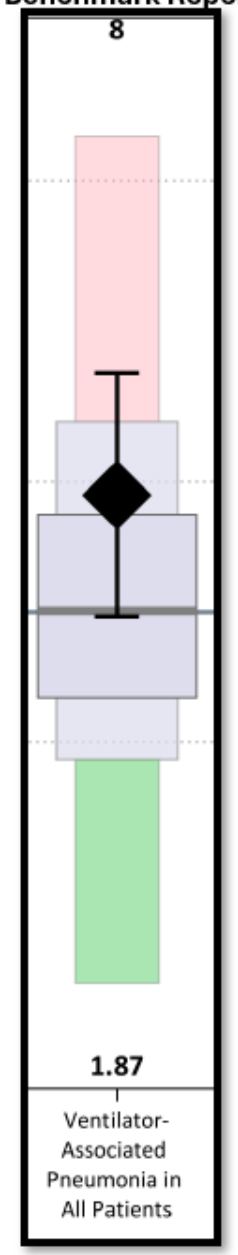
		Patients	Specific Hospital Event				Odds Ratio and 95% Confidence Interval				
Hospital Event	Cohort	N	Observed Events	Observed (%)	Expected (%)	TQIP Average (%)	Odds Ratio	Lower	Upper	Outlier	Decile
Acute Kidney Injury	All Patients	758	3	0.4	0.7	0.8	0.78	0.37	1.62	Average	3
Acute Kidney Injury	Shock	18	0	0.0	3.9	3.7	0.84	0.32	2.23	Average	2
Ventilator-Associated Pneumonia	All Patients	758	9	1.2	0.6	0.8	1.99	1.01	3.93	High	9
Ventilator-Associated Pneumonia	Severe TBI	44	5	11.4	3.7	6.5	2.52	1.00	6.36	Average	10
Pulmonary Embolism	All Patients	758	5	0.7	0.5	0.6	1.15	0.61	2.19	Average	7
Surgical Site Infection	All Patients	758	2	0.3	0.3	0.5	0.99	0.41	2.40	Average	6
Unplanned Admission to the ICU	All Patients	758	17	2.2	3.0	3.1	0.80	0.54	1.20	Average	3
Unplanned Visit to OR	All Patients	758	10	1.3	1.5	2.0	0.91	0.51	1.63	Average	5
Catheter-Associated UTI	All Patients	758	1	0.1	0.1	0.2	0.97	0.27	3.50	Average	6

Fall 2024 TQIP Benchmark Report

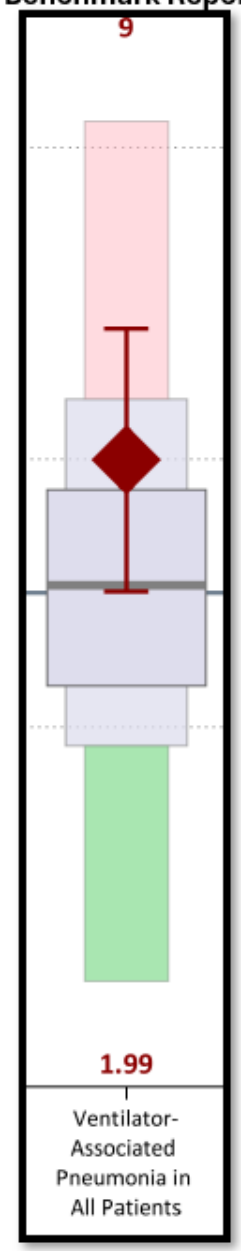
Table 5: Risk-Adjusted Specific Hospital Events by Hospital Event/Cohort

		Patients	Specific Hospital Event				Odds Ratio and 95% Confidence Interval				
Hospital Event	Cohort	N	Observed Events	Observed (%)	Expected (%)	TQIP Average (%)	Odds Ratio	Lower	Upper	Outlier	Decile
Acute Kidney Injury	All Patients	753	5	0.7	0.6	0.8	1.06	0.55	2.07	Average	6
Acute Kidney Injury	Shock	18	0	0.0	2.2	3.8	0.94	0.43	2.04	Average	3
Ventilator-Associated Pneumonia	All Patients	753	1	0.1	0.5	0.8	0.47	0.15	1.43	Average	2
Ventilator-Associated Pneumonia	Severe TBI	36	1	2.8	4.1	6.4	0.84	0.24	2.86	Average	4
Pulmonary Embolism	All Patients	753	3	0.4	0.4	0.6	0.97	0.47	2.00	Average	5
Surgical Site Infection	All Patients	753	3	0.4	0.3	0.5	1.16	0.50	2.71	Average	7
Unplanned Admission to the ICU	All Patients	753	13	1.7	3.1	3.0	0.66	0.43	1.02	Average	2
Unplanned Visit to OR	All Patients	753	7	0.9	1.4	1.9	0.71	0.37	1.37	Average	3
Catheter-Associated UTI	All Patients	753	1	0.1	0.1	0.2	1.02	0.31	3.39	Average	6

Fall 2023 TQIP Benchmark Report



Spring 2024 TQIP Benchmark Report



Fall 2024 TQIP Benchmark Report