



Ventilator-Associated Event (VAE) and Pediatric VAE Analysis

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Objectives of this Training

- Review of the Standardized Infection Ratio (SIR), Total Ventilator Associated Events (Total-VAE) and Infection-related Ventilator- Associated Complication Plus (IVAC+) events.
- Understand the Acute Care Hospitals (ACH) model for SIR calculations for Total VAE and IVAC+ events.
- Interpretation of the analysis reports in NHSN.

Review: The Standardized Infection Ratio (SIR)

■ SIR

- Is a **summary measure** used to track healthcare-associated infections (HAIs) at a national, state, or local level over time.

$$\text{SIR} = \frac{\# \text{ Observed HAIs}}{\# \text{ Predicted HAIs}}$$

- **Adjusted for risk factors** that were found to be significantly associated with differences in infection incidence.
- Given the **standard population** (i.e., 2015 NHSN rebaseline)

Review: The Standardized Infection Ratio (SIR)

■ SIR interpretation:

- 1 = number of observed HAIs were equal to the number of predicted HAIs.
- An SIR greater than 1.0 indicates that more HAIs were observed than predicted,
 - SIR of 1.25 = 25% more observed infections than predicted
- An SIR lesser than 1.0 indicates that fewer HAIs were observed than predicted,
 - SIR of 0.5 = 50% lesser observed infections than predicted

Review: Why use SIRs and not Rates

- Pooled mean rates cannot reflect differences in risk between populations, and hence lose comparability over time and across entities.
 - **Example:** Calculating rates from 2 facilities serving entirely different patient populations can lead to unfair comparison.
- SIR allows users to summarize data by more than a single risk factor (e.g., location or procedure category), adjusting for differences in the incidence of infection among the various risk factors. Additionally, it allows for a comparison to the national benchmark from a baseline time period and can be used to measure progress from a single point in time.
 - **Example:** SIR permits comparisons between the number of infections experienced by a facility, group or state to the number of infections that were predicted to have occurred based on national data (i.e., baseline data).

Review: Total VAE and IVAC+ events

- The “Total VAE” includes events identified as Ventilator-Associated Condition (VAC), Infection-related Ventilator-Associated complication (IVAC) and Possible Ventilator-Associated Pneumonia (PVAP).

National Healthcare Safety Network Line Listing for All Ventilator-Associated Events

As of: January 29, 2021 at 9:13 PM

Date Range: VA_EVENTS evtDateYQ After and Including 2018Q1

orgID	patID	dob	gender	admitDate	eventID	eventDate	eventType	spcEvent	location
10018	1098777	02/13/2012	M	04/29/2019	89453	05/06/2019	VAE	IVAC	5G
10018	123	01/01/1980	F	02/01/2018	68385	02/05/2018	VAE	PVAP	5G
10018	1234	10/01/1992	F	02/01/2018	68383	02/04/2018	VAE	PVAP	5G
10018	1CG	02/01/1960	F	02/01/2018	68947	02/05/2018	VAE	PVAP	5G
10018	101	05/14/1991	M	10/01/2020	99089	10/04/2020	VAE	PVAP	ICU
10018	2	01/01/1987	F	01/12/2020	99067	10/11/2020	VAE	PVAP	ICU
10018	654321	10/01/1992	M	07/15/2018	77743	07/20/2018	VAE	VAC	ICU-A
10018	1006_563	06/09/1969	M	09/20/2019	88672	09/26/2019	VAE	VAC	MCC

⇒ Total VAE



Total VAE Infection Count: 8

⇒ Total VAE

* Data presented in the tables are fictitious and are for educational purposes only

Review: Total VAE and IVAC+ events

- The “IVAC Plus” includes events identified as IVAC and PVAP.

National Healthcare Safety Network Line Listing for All Ventilator-Associated Events

As of: January 29, 2021 at 9:13 PM

Date Range: VA_EVENTS evtntDateYQ After and Including 2018Q1

orgID	patID	dob	gender	admitDate	eventID	eventDate	eventType	spcEvent	location
10018	1098777	02/13/2012	M	04/29/2019	89453	05/06/2019	VAE	IVAC	5G
10018	123	01/01/1980	F	02/01/2018	68385	02/05/2018	VAE	PVAP	5G
10018	1234	10/01/1992	F	02/01/2018	68383	02/04/2018	VAE	PVAP	5G
10018	1CG	02/01/1960	F	02/01/2018	68947	02/05/2018	VAE	PVAP	5G
10018	101	05/14/1991	M	10/01/2020	99089	10/04/2020	VAE	PVAP	ICU
10018	2	01/01/1987	F	01/12/2020	99067	10/11/2020	VAE	PVAP	ICU
10018	654321	10/01/1992	M	07/15/2018	77743	07/20/2018	VAE	VAC	ICU-A
10018	1006_563	06/09/1969	M	09/20/2019	88672	09/26/2019	VAE	VAC	MCC



IVAC+

IVAC+ Infection Count: 6

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Total VAE and IVAC+ events

- **Total VAE rate/SIR** (representing **all events that met at least the VAC definition**) would be suitable for,
 - Benchmarking, inter-facility comparisons, pay-for-performance, public reporting.
- **IVAC+ rate/SIR** (representing **all events that met at least the IVAC definition**) would be suitable for,
 - Intra-facility comparisons, internal use.

Using a Negative Binomial Regression Model for calculation of Number of Predicted Total VAE and IVAC+ infections in Acute Care Hospitals (ACHs)

$\log(\lambda) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_i X_i$, where:

α = Intercept

β_i = Parameter Estimate

X_i = Value of Risk Factor (Categorical variables= 1 if present, 0 if not.)

i = Number of Predictors

SIR Guide: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf>

Risk Factors in the Total VAE and IVAC+ Models: Acute Care Hospitals (ACHs)

Risk Factors	Total VAE	IVAC+
CDC Location	X	X
Facility Type	X	
Medical School Affiliation	X	X
Facility Bed Size	X	X

Parameters and parameter estimates for Total VAE in ACHs

Parameter	Parameter Estimate
<i>Intercept</i>	-6.8748
CDC Location: Adult Critical Care Units, Oncology Critical Care Units	0.5009
CDC Location: <i>Surgical Cardiothoracic Critical Care</i>	0.9418
CDC Location: <i>Medical-Surgical Critical Care</i>	1.0161
CDC Location: Burn/Medical Cardiac/Medical/Neurologic/Neurosurgical/Surgical Critical Care Units	1.1140
CDC Location: Adult Mixed Acuity Unit	1.3225
CDC Location: Trauma Critical Care Unit	1.4320
CDC Location: Adult Step-down Unit, Oncology Step-down Unit	0.4096
CDC Location: All other wards, Solid Organ Transplant Specialty Care Area	REFERENT

Continued - Parameters and parameter estimates for Total VAE in ACHs

Parameter	Parameter Estimate
<i>Intercept</i>	-6.8748
* Medical School Affiliation: Major	0.2905
* Medical School Affiliation: Graduate/Undergraduate	0.1395
* Medical School Affiliation: Non-teaching	REFERENT
* Facility bed size: 85-129 beds	0.1591
* Facility bed size: 130-425 beds	0.2513
* Facility bed size: 426-526 beds	0.5123
* Facility bed size: ≥ 527 beds	0.6471
* Facility bed size: ≤ 84 beds	REFERENT

* *Medical School Affiliation and Facility bed size were taken from the Annual ACH survey*

Continued - Parameters and parameter estimates for Total VAE in ACHs

Parameter	Parameter Estimate
<i>Intercept</i>	-6.8748
Facility Type: Acute Care Hospital, Veterans' Affairs Hospital	0.2154
Facility Type: Military, Psychiatry, Oncology, Orthopedic, Surgical, Women's, Women's and Children's Hospital	REFERENT

Parameters and parameter estimates for IVAC+ in ACHs

Parameter	Parameter Estimate
<i>Intercept</i>	-7.4627
CDC Location: Adult Critical Care Units, Oncology Critical Care Units	0.9092
CDC Location: <i>Surgical Cardiothoracic Critical Care</i>	0.9418
CDC Location: <i>Trauma Critical Care</i>	1.5429
CDC Location: Burn/Neurologic/Neurosurgical/Surgical Critical Care Units	1.1747
CDC Location: Adult Mixed Acuity Unit	1.2291
CDC Location: All other wards, Solid Organ Transplant Specialty Care Area, Step-down units	REFERENT
*Medical School Affiliation: Major	0.3157
*Medical School Affiliation: Graduate/Undergraduate	0.1630
*Medical School Affiliation: Non-teaching	REFERENT

Continued - Parameters and parameter estimates for IVAC+ in ACHs

Parameter	Parameter Estimate
<i>Intercept</i>	-7.4627
*Facility bed size: 290-425 beds	0.1540
*Facility bed size: 426-526 beds	0.4058
*Facility bed size: ≥ 527 beds	0.5079
*Facility bed size: ≤ 289 beds	REFERENT

* Medical School Affiliation and Facility bed size were taken from the Annual ACH survey

Example: Applying Negative Binomial Regression Model for number of predicted Total VAE

$$\begin{aligned}
 &= \exp(-6.8748 + \\
 &0.5009 (\text{Adult, Oncology Critical Care}^*) + \\
 &0.9418 (\text{Surgical Cardiothoracic Critical Care}^*) + \\
 &1.0161 (\text{Medical-Surgical Critical Care}^*) + \\
 &1.1140 (\text{Burn/Medical} \\
 &\text{Cardiac/Medical/Neurologic/Neurosurgical/Surgical Critical Care}^*) + \\
 &1.3225 (\text{Adult Mixed Acuity}^*) + \\
 &1.4320 (\text{Trauma Critical Care Unit}^*) + \\
 &0.4096 (\text{Adult, Oncology Step-down}^*) + \\
 &0.2905 (\text{Med School Aff: Major}^*) + \\
 &0.1395 (\text{Med School Aff: Minor}^*) + \\
 &0.1591 (\text{Facility Bed Size: 85-129 beds}^*) + \\
 &0.2513 (\text{Facility Bed Size: 130-425 beds}^*) + \\
 &0.5123 (\text{Facility Bed Size: 426-526 beds}^*) + \\
 &0.6471 (\text{Facility Bed Size: } \geq 527\text{beds}^*) + \\
 &0.2154 (\text{Facility Type: Acute Care Hospital, Veterans' Affairs Hospital}^*) \\
 &\times \text{Number of Ventilator days (Device days)}
 \end{aligned}$$

Parameter	Parameter Estimate
<i>Intercept</i>	-6.8748
CDC Location: Adult Critical Care Units, Oncology Critical Care Units	0.5009
CDC Location: <i>Surgical Cardiothoracic Critical Care</i>	0.9418
CDC Location: <i>Medical-Surgical Critical Care</i>	1.0161
CDC Location: Burn/Medical Cardiac/Medical/Neurologic/Neurosurgical/Surgical Critical Care Units	1.1140
CDC Location: Adult Mixed Acuity Unit	1.3225
CDC Location: Trauma Critical Care Unit	1.4320
CDC Location: Adult Step-down Unit, Oncology Step-down Unit	0.4096
CDC Location: All other wards, Solid Organ Transplant Specialty Care Area	REFERENT
*Medical School Affiliation: Major	0.2905
*Medical School Affiliation: Minor	0.1395
*Medical School Affiliation: None	REFERENT
*Facility bed size: 85-129 beds	0.1591
*Facility bed size: 130-425 beds	0.2513
*Facility bed size: 426-526 beds	0.5123
*Facility bed size: ≥ 527 beds	0.6471
*Facility bed size: ≤ 84 beds	REFERENT
Facility Type: Acute Care Hospital, Veterans' Affairs Hospital	0.2154
Facility Type: Military, Psychiatry, Oncology, Orthopedic, Surgical, Women's, Women's and Children's Hospital	REFERENT

Example: Applying Negative Binomial Regression Model for number of predicted Total VAE

■ Facility Profile:

- 250 beds
- General Acute Care Hospital
- No Medical School Affiliation
- Reporting for – Medical Surgical Critical Care
- 525 ventilator days for January 2021



** Data presented is fictitious and is for educational purposes only*

Example: Applying Negative Binomial Regression Model for number of predicted Total VAE

$$= \exp(-6.8748 + 0.5009(0) + 0.9418(0) + 1.0161(1) + 1.1140(0) + 1.3225(0) + 1.4320(0) + 0.4096(0) + 0.2905(0) + 0.1395(0) + 0.1591(0) + 0.2513(0) + 0.5123(0) + 0.6471(0) + 0.2154(0))$$

Parameter	Parameter Estimate
Intercept	-6.8748
CDC Location: Adult Critical Care Units, Oncology Critical Care Units	0.5009
CDC Location: <i>Surgical Cardiothoracic Critical Care</i>	0.9418
CDC Location: <i>Medical-Surgical Critical Care</i>	1.0161
CDC Location: Burn/Medical Cardiac/Medical/Neurologic/Neurosurgical/Surgical Critical Care Units	1.1140
CDC Location: Adult Mixed Acuity Unit	1.3225
CDC Location: Trauma Critical Care Unit	1.4320
CDC Location: Adult Step-down Unit, Oncology Step-down Unit	0.4096
CDC Location: All other wards, Solid Organ Transplant Specialty Care Area	REFERENT

Example: Applying Negative Binomial Regression Model for number of predicted Total VAE

= exp(-6.8748 +
 0.5009 (0) +
 0.9418 (0) +
 1.0161 (1) +
 1.1140 (0) +
 1.3225 (0) +
 1.4320 (0) +
 0.4096 (0) +
 0.2905 (0)+
 0.1395 (0)+
 0.1591 (0) +
 0.2513 (1) +
 0.5123 (0) +
 0.6471 (0) +
 0.2154 (1)

$$SIR = \frac{\# \text{ Observed HAIs}}{\# \text{ Predicted HAIs}}$$

$$SIR = 5/2.39 = 2.09$$

x 525 ventilator days

Number of predicted Total VAE for January 2021 = exp (-6.8748 + 1.0161 + 0 +

0.2513 + 0.2154) x 525 = 2.39

Parameter	Parameter Estimate
Intercept	-6.8748
*Medical School Affiliation: Major	0.2905
*Medical School Affiliation: Minor	0.1395
*Medical School Affiliation: None	REFERENT
*Facility bed size: 85-129 beds	0.1591
*Facility bed size: 130-425 beds	0.2513
*Facility bed size: 426-526 beds	0.5123
*Facility bed size: ≥ 527 beds	0.6471
*Facility bed size: ≤ 84 beds	REFERENT
Facility Type: Acute Care Hospital, Veterans' Affairs Hospital	0.2154
Facility Type: Military, Psychiatry, Oncology, Orthopedic, Surgical, Women's, Women's and Children's Hospital	REFERENT

Total VAE and IVAC+ SIR Tables under Analysis Reports in NHSN for ACHs

- 1) There are 4 types of SIR tables each for Total VAE and IVAC+ events separated by MedType in NHSN analysis reports.
 - 1) By OrgID
 - 2) By OrgID/LocationType
 - 3) By OrgID/CDC Location Code
 - 4) By OrgID/Location

Continued - Total VAE and IVAC+ SIR Tables under Analysis Reports in NHSN for ACHs

National Healthcare Safety Network

SIR for Ventilator-Associated Event Data for Acute Care Hospitals (2015 Baseline) - By OrgID

As of: February 2, 2021 at 3:21 PM

Date Range: All BS2_VAE_RATESICU_SCA

vaeCategory=Total VAE orgid=10018 medType=G

orgid	ccn	summaryYH	infCount	numPred	numventdays	SIR	SIR_pval	SIR95CI	SIR_pct	vaeCategory
10018	12345	2017H1	2	2.920	363	0.685	0.6529	0.115, 2.263	45	Total VAE
10018	12345	2017H2	3	0.039	5	.	.	.	.	Total VAE
10018	66666	2019H1	1	0.179	46	.	.	.	.	Total VAE
10018	66666	2019H2	1	0.525	117	.	.	.	.	Total VAE
10018	66666	2020H1	0	0.071	25	.	.	.	.	Total VAE
10018	66666	2020H2	0	0.021	7	.	.	.	.	Total VAE

National Healthcare Safety Network

SIR for Ventilator-Associated Event Data for Acute Care Hospitals (2015 Baseline) - By OrgID

As of: February 2, 2021 at 3:21 PM

Date Range: All BS2_VAE_RATESICU_SCA

vaeCategory=IVAC Plus orgid=10018 medType=G

orgid	ccn	summaryYH	infCount	numPred	numventdays	SIR	SIR_pval	SIR95CI	SIR_pct	vaeCategory
10018	12345	2017H1	0	1.211	363	0.000	0.2978	, 2.473	20	IVAC Plus
10018	12345	2017H2	3	0.014	5	.	.	.	.	IVAC Plus
10018	66666	2019H1	1	0.077	46	.	.	.	.	IVAC Plus
10018	66666	2019H2	0	0.197	117	.	.	.	.	IVAC Plus
10018	66666	2020H1	0	0.042	25	IVAC Plus
10018	66666	2020H2	0	0.012	7	IVAC Plus

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Continued - Total VAE and IVAC+ SIR Tables under Analysis Reports in NHSN for ACHs

National Healthcare Safety Network SIR for Ventilator-Associated Event Data for Acute Care Hospitals (2015 Baseline) - By OrgID/Location Type

As of: February 2, 2021 at 3:21 PM
Date Range: All BS2_VAE_RATESICU_SCA

vaeCategory=Total VAE orgid=10018 medType=G

orgid	ccn	locationType	summaryYH	infCount	numPred	numventdays	SIR	SIR_pval	sir95ci	SIR_pct	vaeCategory
10018	12345	CC	2017H1	2	2.827	330	0.708	0.6896	0.119, 2.337	46	Total VAE
10018	12345	CC	2017H2	3	0.039	5	.	.	.	.	Total VAE
10018	66666	CC	2019H1	1	0.155	36	.	.	.	.	Total VAE
10018	66666	CC	2019H2	1	0.525	117	.	.	.	.	Total VAE
10018	66666	CC	2020H1	0	0.022	5	.	.	.	.	Total VAE
10018	66666	CC	2020H2	0	0.009	2	.	.	.	.	Total VAE
10018	12345	CC_ONC	2017H1	0	0.000	0	.	.	.	.	Total VAE
10018	66666	CC_ONC	2019H1	0	0.024	10	.	.	.	.	Total VAE
10018	66666	CC_ONC	2020H1	0	0.049	20	.	.	.	.	Total VAE
10018	66666	CC_ONC	2020H2	0	0.012	5	.	.	.	.	Total VAE
10018	12345	WARD	2017H1	0	0.093	33	.	.	.	.	Total VAE

National Healthcare Safety Network SIR for Ventilator-Associated Event Data for Acute Care Hospitals (2015 Baseline) - By OrgID/Location Type

As of: February 2, 2021 at 3:21 PM
Date Range: All BS2_VAE_RATESICU_SCA

vaeCategory=IVAC Plus orgid=10018 medType=G

orgid	ccn	locationType	summaryYH	infCount	numPred	numventdays	SIR	SIR_pval	sir95ci	SIR_pct	vaeCategory
10018	12345	CC	2017H1	0	1.174	330	0.000	0.3091	2.551	20	IVAC Plus
10018	12345	CC	2017H2	3	0.014	5	.	.	.	.	IVAC Plus
10018	66666	CC	2019H1	1	0.060	36	.	.	.	.	IVAC Plus
10018	66666	CC	2019H2	0	0.197	117	.	.	.	.	IVAC Plus
10018	66666	CC	2020H1	0	0.008	5	.	.	.	.	IVAC Plus
10018	66666	CC	2020H2	0	0.003	2	.	.	.	.	IVAC Plus
10018	12345	CC_ONC	2017H1	0	0.000	0	.	.	.	.	IVAC Plus
10018	66666	CC_ONC	2019H1	0	0.017	10	.	.	.	.	IVAC Plus
10018	66666	CC_ONC	2020H1	0	0.034	20	.	.	.	.	IVAC Plus
10018	66666	CC_ONC	2020H2	0	0.008	5	IVAC Plus
10018	12345	WARD	2017H1	0	0.037	33	IVAC Plus

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Knowledge Check

For the ACHs, Total VAE SIR includes only VAC and IVAC events while IVAC+ SIR includes only IVAC and PVAP events.

- A. True
- B. False

Knowledge Check

For ACHs, Total VAE SIR includes only VAC and IVAC events while IVAC+ SIR includes only IVAC and PVAP events.

- A. True
- B. False

Answer: B. False

Total VAE SIR includes VAC, IVAC and **PVAP** events while IVAC+ SIR includes only IVAC and PVAP events.

Analysis Resources in NHSN

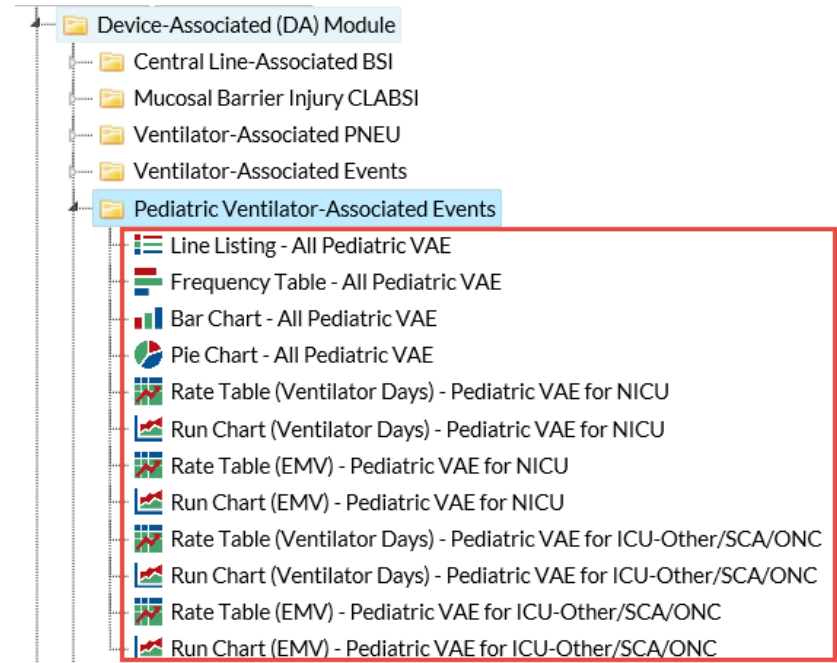
- SIR Guide: <https://www.cdc.gov/nhsn/pdfs/ps-analysis-resources/nhsn-sir-guide.pdf>
- Analysis Resources: <https://www.cdc.gov/nhsn/ps-analysis-resources/index.html>

Pediatric VAE

Rashad Arcement, MSPH

PedVAE reports

- Line Listing
- Frequency Table
- Bar/Pie Chart
- Rate tables for Ventilator days and EMV
 - NICU
 - ICU-Other/SCA/ONC



PedVAE – Rate table

- Report Modification





Modify "Rate Table (Ventilator Days) - Pediatric VAE for NICU "

Show descriptive variable names ([Print List](#)) Analysis Data Set: pedVAE_RatesNICU Type: Rate Table Data Set Generated On: 01/22/2019 10:00:00

Title/Format Time Period Filters Display Options

Title:

Format:

Title/Format **Time Period** Filters Display Options

Time Period:

Date Variable	Beginning	Ending	
<input type="text" value="summaryYr"/>	<input type="text" value="2018"/>	<input type="text" value="2018"/>	<input type="button" value="Clear Time Period"/>

Enter Date variable/Time period at the time you click the Run button

Title/Format Time Period **Filters** **Display Options**

Rate Table Options:

Group by:

PedVAE – Ventilator Days Rate Table

- Location specific rate data for Ventilator Days
- PedVAE Rate
 - $\text{PedVAECount} / \text{numVentDays} * 1000$
- This location has a PedVAE rate of 18.182 per 1000 ventilator days
- Ventilator Utilization Ratio
 - $\text{numVentDays} / \text{numPatDays}$

National Healthcare Safety Network

Rate Table (Ventilator Days) for Pediatric Ventilator-Associated Event
Data for ICU-Other/SCA/ONC

As of: March 11, 2019 at 2:43 PM

Date Range: PEDVAE_RATESICU_SCA_summaryYM After and Including 2019M01

orgID=10000 loccdc=IN:ACUTE:CC:MS_PED

location	summaryYM	pedVAECount	numVentDays	pedVAERate	numPatDays	VentDU
PICU2	2019M01	2	110	18.182	130	0.846

PedVAE – Ventilator Days Rate Table for NICUs

- Location specific rate data for Ventilator Days for NICUs
- PedVAE Rate
 - $\text{PedVAECount} / \text{numVentDays} * 1000$
- This NICU location for birthweight A has a pedVAE rate of 11.765 per 1000 ventilator days
- Ventilator Utilization Ratio
 - $\text{numVentDays} / \text{numPatDays}$

National Healthcare Safety Network

Rate Table (Ventilator Days) for Pediatric Ventilator-Associated Event Data for NICU

By Birthweight Code

As of: March 11, 2019 at 2:35 PM

Date Range: PEDVAE_RATESNICU_summaryYM 2019M01 to 2019M01

orgID=10000 loccdc=IN:ACUTE:CC_STEP:NURS

location	birthWtCodeDesc	summaryYM	pedVAECount	numVentDays	pedVAERate	numPatDays	VentDU
NICU	A - <= 750	2019M01	1	85	11.765	90	0.944
NICU	B - 751 -1000	2019M01	0	77	0	86	0.895
NICU	C - 1001-1500	2019M01	0	65	0	79	0.823
NICU	D - 1501 -2500	2019M01	0	40	0	60	0.667
NICU	E - > 2500	2019M01	0	35	0	55	0.636

PedVAE – EMV Days Rate Table

- Location specific rate data for Episodes for Mechanical Ventilation
- The rate per 100 episodes of mechanical ventilation:
 - $(\text{PedVAECount} / \text{episodes of mechanical ventilation}) * 100$

National Healthcare Safety Network

Rate Table (EMV) for Ventilator-Associated Event Data for ICU-Other/SCA/ONC

As of: March 11, 2019 at 12:52 PM

Date Range: All PEDVAEEMV RATESICU SCA

orgID=10000 loccdc=IN:ACUTE:CC:MS_PED

location	summaryYM	pedVAECount	numNewEMV	pedVAEEMVRate
PICU2	2019M01	2	3	66.667
PICU2	2019M02	1	2	50.000

PedVAE – EMV Days Rate Table for NICUs

- NICU Location specific rate data for Episodes for Mechanical Ventilation
- Separated by birth weight
- The rate per 100 episodes of mechanical ventilation:
 - $(\text{PedVAECount} / \text{episodes of mechanical ventilation}) * 100$

National Healthcare Safety Network
Rate Table (EMV) for Ventilator-Associated Event Data for NICU
By Birthweight Code
As of: March 11, 2019 at 12:50 PM
Date Range: PEDVAEEMV_RATESNICU_summaryYM 2019M01 to 2019M01

orgID=10000 loccdc=IN:ACUTE:CC_STEP:NURS

location	birthWtCodeDesc	summaryYM	pedVAECount	numNewEMV	pedVAEEMVRate
NICU	B - 751 -1000	2019M01	1	3	33.333
NICU	C - 1001-1500	2019M01	0	2	0
NICU	D - 1501 -2500	2019M01	0	0	.
NICU	E - > 2500	2019M01	1	2	50.000

Knowledge Check

Can I run an SIR Report for PedVAE

- A. Yes
- B. No

Knowledge Check

Can I run an SIR report for PedVAE?

- A. Yes
- B. No

Answer: B. No

The SIR compares the number of infections in a facility or state to the number of infections that were “predicted”. This is calculated from an estimate based on aggregated data reported to CDC’s NHSN during a specific baseline period. Since PedVAE was added to NHSN after NHSN's last baseline period, **there is currently no baseline data available for PedVAE.**

Knowledge Check

The PedVAE Ventilator Days Rate is calculated by dividing the pedVAE event count by the number of ventilators days multiplied by

- A. 10
- B. 100
- C. 1000
- D. 10000

Knowledge Check

The **PedVAE Ventilator Days Rate** is calculated by dividing the pedVAE event count by the number of ventilators days multiplied by

- A. 10
- B. 100
- C. 1000
- D. 10000

Answer: C. 1000

The PedVAE rate is calculated by dividing the number of PedVAEs by the number of ventilator days and multiplying the result by 1000 (ventilator days).

Resources

- Analysis Reference Guides:

<https://www.cdc.gov/nhsn/ps-analysis-resources/reference-guides.html>

- NHSN Training Website:

<https://www.cdc.gov/nhsn/training/analysis/index.html>

- VAE/PEDVAE protocol information:

<https://www.cdc.gov/nhsn/enrolled-facilities/index.html>

- CMS Requirements:

<https://www.cdc.gov/nhsn/cms/index.html>

For any other questions, please email NHSN@cdc.gov

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