Welcome & FHA Mission to Care HIIN Overview
  - Cheryl Love, RN, BSN, BS-HCA, MBA, LHRM, CPHRM, Director of Quality and Patient Safety and Improvement Advisor, FHA

NHSN: Ventilator-Associated Events (VAE) - Root Cause and Prevention Strategies
  - Linda R. Greene, RN, MPS, CIC, FAPIC, Manager of Infection Prevention, UR Highland Hospital, Rochester, NY

Q&A

Upcoming HIIN Events and Opportunities

Evaluation Survey & Continuing Nursing Education
HIIN Core Topics – Aim is 20% reduction

- Adverse Drug Events (ADE)
- Catheter-associated Urinary Tract Infections (CAUTI)
- Clostridium Difficile Infection (CDI)
- Central line-associated Blood Stream Infections (CLABSI)
- Hospital-onset MRSA Bacteremia
- Injuries from Falls and Immobility
- Pressure Ulcers (PrU)
- Sepsis
- Surgical Site Infections (SSI)
- Venous Thromboembolisms (VTE)
- Ventilator-Associated Events (VAE/IVAC/PVAP)
- Readmissions (12% reduction)
- Worker Safety
VAE Resources, Trainings and Tools

- Mission to Care Website
- FHA IVAC Call to Action Website
- HRET HIIN Website

Hospital Acquired Infections (HAIs)

Ventilator-Associated Event (VAE)

Ventilator-associated events are lung infections, such as pneumonia, and other complications occurring in patients who are on mechanical ventilation breathing apparatuses.

Goal: By September 27, 2018, a 20 percent reduction in VAE

Resources to prevent VAE:

- VAE Change Package
- VAE Checklist
- Infection-Related Ventilator-Associated Complications (IVAC) Resource Guide
- IVAC Checklist: Top 10 Process Changes
- Watch Past Virtual Trainings
- HIIN Resource Library
- Success Stories
- SOAP UP
- GET UP
- WAKE UP

Infection-Related Ventilator-Associated Complications

FHA issued a Call to Action on Nov. 20, 2017, for Florida hospitals to focus their efforts on preventing ventilator-associated infections. Patients developing infection-related ventilator-associated complications (IVAC) are at high risk for outcomes such as pneumonia, sepsis, and other complications, which can lead to death.

The FHA Quality Team has put together resources, education and trainings to help hospitals implement strategies to prevent IVAC.

Resources

- FDA
  - IVAC Checklist: Top 10 Process Changes
  - IVAC Resource Guide
  - IVAC UP Campaign - Cross-cutting harm reduction strategies
  - SOAP UP - Hand hygiene
  - GET UP - Mobilize Patients
  - WAKE UP - Prevent Over-Sedation
  - SCRIPT UP - Optimize Inpatient Medications

Health Resource & Educational Trust (HRET):

- Ventilator-Associated Events (VAE) Change Package
- VAE Top 10 Checklist / Date of Last VAE Poster
- VAE Resource Library
- Case Study
- Journal Articles
- High-flow oxygen through nasal cannula in acute hypoxic respiratory failure
Designed to reduce multiple forms of harm with simple, easy-to-accomplish activities that cut across several topics to decrease harm.

Focused on four components:

- **SOAP UP**: Hardwire Hand Hygiene
- **GET UP**: Mobilize Patients
- **WAKE UP**: Prevent Over-sedation
- **SCRIPT UP**: Optimize Inpatient Medications
FHA Mission to Care Update:
Ventilator-associated Condition Rate

Source: HRET Comprehensive Data System, January 18, 2019

<table>
<thead>
<tr>
<th></th>
<th>FL Rate</th>
<th>HRET HIIN Rate</th>
<th># FL Reporting</th>
<th>#HRET HIIN Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL</td>
<td>6.5</td>
<td>5.0</td>
<td>77</td>
<td>920</td>
</tr>
<tr>
<td>10/16</td>
<td>5.2</td>
<td>4.8</td>
<td>72</td>
<td>917</td>
</tr>
<tr>
<td>11/16</td>
<td>6.3</td>
<td>4.6</td>
<td>76</td>
<td>908</td>
</tr>
<tr>
<td>12/16</td>
<td>6.4</td>
<td>5.0</td>
<td>77</td>
<td>901</td>
</tr>
<tr>
<td>1/17</td>
<td>5.0</td>
<td>4.9</td>
<td>77</td>
<td>901</td>
</tr>
<tr>
<td>2/17</td>
<td>5.5</td>
<td>4.7</td>
<td>77</td>
<td>894</td>
</tr>
<tr>
<td>3/17</td>
<td>5.5</td>
<td>4.9</td>
<td>76</td>
<td>893</td>
</tr>
<tr>
<td>4/17</td>
<td>6.5</td>
<td>5.2</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>5/17</td>
<td>5.5</td>
<td>4.9</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>6/17</td>
<td>6.1</td>
<td>5.0</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>7/17</td>
<td>6.0</td>
<td>4.7</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>8/17</td>
<td>6.1</td>
<td>5.0</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>9/17</td>
<td>5.0</td>
<td>4.7</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>10/17</td>
<td>6.3</td>
<td>5.0</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>11/17</td>
<td>5.7</td>
<td>4.7</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>12/17</td>
<td>6.0</td>
<td>5.0</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>1/18</td>
<td>5.0</td>
<td>5.1</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>2/18</td>
<td>5.5</td>
<td>5.1</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>3/18</td>
<td>5.5</td>
<td>4.9</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>4/18</td>
<td>6.5</td>
<td>4.7</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>5/18</td>
<td>5.0</td>
<td>5.1</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>6/18</td>
<td>5.0</td>
<td>4.7</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>7/18</td>
<td>5.0</td>
<td>5.1</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>8/18</td>
<td>5.0</td>
<td>5.1</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>9/18</td>
<td>6.0</td>
<td>5.0</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>10/18</td>
<td>5.0</td>
<td>5.1</td>
<td>77</td>
<td>893</td>
</tr>
<tr>
<td>11/18</td>
<td>5.0</td>
<td>5.1</td>
<td>77</td>
<td>893</td>
</tr>
</tbody>
</table>

Note: The chart displays the ventilator-associated condition rate across various months from October 2016 to November 2018, with rates per 1,000 patients.
FHA Mission to Care Update: Infection-related Ventilator-associated Condition Rate

<table>
<thead>
<tr>
<th>Month</th>
<th>FL Rate</th>
<th>HRET HIIN Rate</th>
<th># FL Reporting</th>
<th>#HRET HIIN Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL</td>
<td>2.2</td>
<td>1.6</td>
<td>77</td>
<td>919</td>
</tr>
<tr>
<td>10/16</td>
<td>1.8</td>
<td>1.5</td>
<td>75</td>
<td>920</td>
</tr>
<tr>
<td>11/16</td>
<td>1.9</td>
<td>1.4</td>
<td>76</td>
<td>909</td>
</tr>
<tr>
<td>12/16</td>
<td>2.5</td>
<td>1.6</td>
<td>77</td>
<td>896</td>
</tr>
<tr>
<td>1/17</td>
<td>2.3</td>
<td>1.7</td>
<td>77</td>
<td>895</td>
</tr>
<tr>
<td>2/17</td>
<td>2.3</td>
<td>1.4</td>
<td>77</td>
<td>894</td>
</tr>
<tr>
<td>3/17</td>
<td>2.3</td>
<td>1.6</td>
<td>76</td>
<td>890</td>
</tr>
<tr>
<td>4/17</td>
<td>2.3</td>
<td>1.5</td>
<td>76</td>
<td>884</td>
</tr>
<tr>
<td>5/17</td>
<td>2.2</td>
<td>1.8</td>
<td>77</td>
<td>880</td>
</tr>
<tr>
<td>6/17</td>
<td>2.4</td>
<td>1.5</td>
<td>77</td>
<td>879</td>
</tr>
<tr>
<td>7/17</td>
<td>1.9</td>
<td>1.8</td>
<td>78</td>
<td>882</td>
</tr>
<tr>
<td>8/17</td>
<td>1.5</td>
<td>1.5</td>
<td>76</td>
<td>888</td>
</tr>
<tr>
<td>9/17</td>
<td>2.4</td>
<td>1.7</td>
<td>74</td>
<td>877</td>
</tr>
<tr>
<td>10/17</td>
<td>2.9</td>
<td>1.7</td>
<td>74</td>
<td>873</td>
</tr>
<tr>
<td>11/17</td>
<td>2.5</td>
<td>1.7</td>
<td>73</td>
<td>866</td>
</tr>
<tr>
<td>12/17</td>
<td>0.9</td>
<td>1.3</td>
<td>69</td>
<td>858</td>
</tr>
<tr>
<td>1/18</td>
<td>1.2</td>
<td>1.6</td>
<td>69</td>
<td>854</td>
</tr>
<tr>
<td>2/18</td>
<td>2.0</td>
<td>1.5</td>
<td>69</td>
<td>849</td>
</tr>
<tr>
<td>3/18</td>
<td>0.9</td>
<td>1.8</td>
<td>73</td>
<td>859</td>
</tr>
<tr>
<td>4/18</td>
<td>2.0</td>
<td>1.3</td>
<td>68</td>
<td>847</td>
</tr>
<tr>
<td>5/18</td>
<td>1.9</td>
<td>1.6</td>
<td>68</td>
<td>830</td>
</tr>
<tr>
<td>6/18</td>
<td>1.5</td>
<td>1.7</td>
<td>68</td>
<td>821</td>
</tr>
<tr>
<td>7/18</td>
<td>1.7</td>
<td>1.1</td>
<td>68</td>
<td>810</td>
</tr>
<tr>
<td>8/18</td>
<td>1.0</td>
<td>1.4</td>
<td>67</td>
<td>741</td>
</tr>
<tr>
<td>9/18</td>
<td>0.9</td>
<td>1.4</td>
<td>63</td>
<td>646</td>
</tr>
<tr>
<td>10/18</td>
<td>1.6</td>
<td>1.7</td>
<td>63</td>
<td>714</td>
</tr>
<tr>
<td>11/18</td>
<td>1.6</td>
<td>1.7</td>
<td>63</td>
<td>673</td>
</tr>
</tbody>
</table>

Source: HRET Comprehensive Data System, January 18, 2019
FHA Mission to Care Update:
Florida | Ventilator-associated Events

FHA HIIN Hospital Performance Report

**Summary of Progress Meeting 20/12 Goal:**

<table>
<thead>
<tr>
<th>Percentage Reduction</th>
<th>PTD</th>
<th>Most Recent</th>
</tr>
</thead>
<tbody>
<tr>
<td>20% or greater</td>
<td>0.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>15% - 19%</td>
<td>50.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>0% - 14%</td>
<td>50.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Increase instead</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>of reduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Measures</strong></td>
<td>2.0%</td>
<td>2.0%</td>
</tr>
</tbody>
</table>

**Effective Date:** January 18, 2019

*Rate calculated per 100

### Measure Rates

<table>
<thead>
<tr>
<th>Measure</th>
<th>Baseline</th>
<th>Project-to-Date: Oct. 2016 to November 2018</th>
<th>Most Recent Three Months Data (August, September, October 2018)</th>
<th>Hospital Target 9/2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td># Harms</td>
<td>Denom.</td>
<td>Average Rate</td>
</tr>
<tr>
<td>Ventilator-associated condition rate</td>
<td>2.51</td>
<td>2,018</td>
<td>373,875</td>
<td>5.40</td>
</tr>
<tr>
<td>Infection-related ventilator-associated rate</td>
<td>2.20</td>
<td>691</td>
<td>366,864</td>
<td>1.88</td>
</tr>
</tbody>
</table>
VAE: How to Assess Root Cause and Prevention Strategies

Linda_Greene@urmc.rochester.edu
Objectives

- Review VAE definition
- Discuss ways to take a “deep dive” into VAE events
- Describe key prevention strategies to prevent VAE
Polling Question

What is your background?

1. Infection Prevention
2. Respiratory Care
3. Quality
4. Nursing
5. Other
Let's Review

VAE Definition Algorithm Summary

- Respiratory status component
  - Patient on mechanical ventilation > 2 days
  - Baseline period of stability or improvement, followed by sustained period of worsening oxygenation
  - Ventilator-Associated Condition (VAC)

- Infection/inflammation component
  - General evidence of infection/inflammation
  - Infection-Related Ventilator-Associated Complication (IVAC)

- Additional evidence
  - Positive results of microbiological testing
  - Possible VAP (PVAP)

No CXR needed!
Some Key Points

Pathogen Exclusions

- *Candida* species or yeast not otherwise specified, coagulase negative *Staphylococcus* species, and *Enterococcus* species are excluded for use unless isolated from lung tissue or pleural fluid.

- Likewise a BSI with these exclude pathogens cannot be attributed as secondary to VAE unless the excluded pathogen is isolated from lung tissue or pleural fluid.
Test Your Knowledge

If a patient is admitted with community-acquired pneumonia requiring intubation and mechanical ventilation or has a pneumonia identified during the inpatient stay prior to initiation of mechanical ventilation is that patient exempt from VAE surveillance until the pneumonia has resolved?
Polling Question

Do you count the pneumonia described on the previous slide?

1. Yes
2. No
Polling Question

If the VAC definition is met, and later within the 14 day event period other criteria that will help to satisfy IVAC, PVAP definitions become available, I should upgrade the VAC to the specific event that is met using the new information.
Polling Question

Do you count the pneumonia described on the previous slide?

1. Yes
2. No
Polling Question

If the VAC definition is met, and later within the 14 day event period other criteria that will help to satisfy IVAC, PVAP definitions become available, I should upgrade the VAC to the specific event that is met using the new information.
Polling Question

I should upgrade for changes within 14 days:

1. Yes
2. No
Polling Question

Which of the following is your greatest challenge?

1. SAT’s and SBT’s
2. Mobility
3. Standardization of individual physician practice
4. Other
Daily Care
Process Measures

- Use subglottic suctioning endotracheal tube (ETTs) in patients expected to be ventilated for >72 hours
- Elevate head of bed to a semi-recumbent position (≥30°)
- Minimize sedation level
- Use spontaneous awakening trial (SAT) with validated sedation scale daily (RASS or SAS)
- Assess readiness to wean daily with spontaneous breathing trial (SBT)
- Assess for delirium
Polling Question

Mr. Rodgers meets criteria for VAC and IVAC. A specimen from an endotracheal suction grows enterococci > 25% neutrophils. Can this be used to meet the PVAP Definition?

1. Yes
2. No
Taking a Deep DIVE

- Huddles
- Briefs
- Debriefs
- RCA form
- The 5 “Whys”
- Learning from defects
Huddles

- Enables teams to have frequent but short meetings
- Good strategy to involve front line staff in problem solving
- Recover immediately from defects:
  - Increased delirium
  - Sepsis
Huddle Example:

Mr. X, a vent patient has become very agitated and fallen out of bed.

A huddle is called with the staff on the unit to problem solve this issue.

Staff report increasing concerns regarding delirium and RASS score much higher than baseline.

This patient met criteria for a VAC.
Learning from Defects Tool (LFD)

- **Defect =** any clinical or operational event or situation that you would not want to have happen again.

- LFD tool rigorously analyze the various components that contributed to an event
- Examine factors that have contributed to the defect
- Identify opportunities to prevent the defect from happening again
### TABLE 1. RICHMOND AGITATION–SEDATION SCALE

<table>
<thead>
<tr>
<th>Score</th>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+4</td>
<td>Combative</td>
<td>Overtly combative or violent; immediate danger to staff</td>
</tr>
<tr>
<td>+3</td>
<td>Very agitation</td>
<td>Pulls on or removes tube(s) or catheter(s) or has aggressive behavior toward staff</td>
</tr>
<tr>
<td>+2</td>
<td>Agitated</td>
<td>Frequent nonpurposeful movement or patient–ventilator dyssynchrony</td>
</tr>
<tr>
<td>+1</td>
<td>Restless</td>
<td>Anxious or apprehensive but movements not aggressive or vigorous</td>
</tr>
<tr>
<td>0</td>
<td>Alert and calm</td>
<td>Not fully alert, but has sustained (more than 10 seconds) awakening, with eye contact, to voice</td>
</tr>
<tr>
<td>−1</td>
<td>Drowsy</td>
<td>Briefly (less than 10 seconds) awakens with eye contact to voice</td>
</tr>
<tr>
<td>−2</td>
<td>Light sedation</td>
<td>Any movement (but no eye contact) to voice</td>
</tr>
<tr>
<td>−3</td>
<td>Moderate sedation</td>
<td>No response to voice, but any movement to physical stimulation</td>
</tr>
<tr>
<td>−4</td>
<td>Deep sedation</td>
<td>No response to voice or physical stimulation</td>
</tr>
<tr>
<td>−5</td>
<td>Unarousable</td>
<td></td>
</tr>
</tbody>
</table>

**Procedure**

1. Observe patient. Is patient alert and calm (score 0)?
   - Does patient have behavior that is consistent with restlessness or agitation (score +1 to +4 using the criteria listed above, under DESCRIPTION)?

2. If patient is not alert, in a loud speaking voice state patient’s name and direct patient to open eyes and look at speaker. Repeat once if necessary. Can prompt patient to continue looking at speaker.
   - Patient has eye opening and eye contact, which is sustained for more than 10 seconds (score −1).
   - Patient has eye opening and eye contact, but this is not sustained for 10 seconds (score −2).
   - Patient has any movement in response to voice, excluding eye contact (score −3).

3. If patient does not respond to voice, physically stimulate patient by shaking shoulder and then rubbing sternum if there is no response to shaking shoulder.
   - Patient has any movement to physical stimulation (score −4).
   - Patient has no response to voice or physical stimulation (score −5).
Learning from Defects
4 Key Questions

1. What happened?

2. Why did it happen?

3. What will you do to reduce the risk of recurrence?

4. How will you know the risk is reduced?
LFD

What happened?
Mr. x became restless and fell out of bed

Why did it happen?
Increased delirium
Changes in FI02 leading to a VAC
LFD

What will you do to reduce the incidence of occurrence?

Minimize sedation
1. Manage ventilated patients without sedatives whenever possible
2. Preferentially use agents and strategies other than benzodiazepines to manage agitation, such as analgesics for patients in pain, reassurance, antipsychotics, dexmedetomidine, and propofol.
   a. Interrupt sedation once a day (spontaneous awakening trials for patients without contraindications)
How will you know if the risk is reduced?

Monitoring analgesics

RASS scores

VAC rates
### What happened? (brief description)

### Why did it happen? (what factors contributed)

<table>
<thead>
<tr>
<th>+</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What prevented it from being worse?</strong></td>
<td><strong>What happened to cause the defect?</strong></td>
</tr>
</tbody>
</table>

### What can we do to reduce the risk of it happening with a different person?

### Action Plan | Responsible Person | Targeted Date | Evaluation Plan – How will we know risk is reduced?
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### With whom shall we share our learning? (Communication plan)

<table>
<thead>
<tr>
<th>Who</th>
<th>When</th>
<th>How</th>
<th>Follow up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Prevention

It takes a village
Prevention Strategies

The current literature on VAP provides the best resource for prevention of VAC.

- Use noninvasive positive pressure ventilation in selected populations
- Manage patients without sedation whenever possible
- Interrupt sedation daily
- Assess readiness to extubate daily
- Perform spontaneous breathing trials with sedatives turned off
Basic Prevention Practices

- Utilize endotracheal tubes with subglottic secretion drainage ports for patients expected to require greater than 48 or 72 hours of mechanical ventilation.

- Change the ventilator circuit only if visibly soiled or malfunctioning.

- Facilitate early mobility.

- Elevate the head of the bed to 30°–45°.
Prevention

ICU PAD GUIDELINES
ABCDEF BUNDLE CHECKLIST*

- A – assess, prevent and manage pain
- B – both SATs and SBTs
- C – choice of sedation
- D – delirium: assess, prevent and manage
- E – early mobility and exercise
- F – family engagement and empowerment
Polling Question

How many of the basic practices do you routinely follow?

1. All of them
2. 7-9
3. 5 or more
4. Less than 5
Engage

. Develop a multidisciplinary team

Multidisciplinary teams include representatives from all disciplines that care for ventilated patients

- unit directors,
- physicians,
- nurses, and
- respiratory therapists.
- Partners include infection preventionists, pharmacists, nutritionists, physical therapists, occupational therapists, family members, and patient advocates
Educate

- Provide education sessions

Includes:

- Workshops, hands-on trainings, conferences, slide presentations, and/or interactive discussions
- Education sessions must be informative and relevant for the learner
- Educating patients and family members may help them better engage with and support the medical team’s plan of care.
- Provide educational materials
Execute

Standardize care processes:

- Standardize care processes through the implementation of guidelines, bundles, protocols, or pathways

- Daily multidisciplinary rounds in which goals are discussed

Create redundancy - build redundancy into care processes:

- Examples: posters, daily goal sheets, reminders
Evaluate

Measure performance

Measure performance using frequent formal and informal audits of clinical practice

Analyze all or a representative sample of VACs for etiology and preventability.

Pneumonia, pulmonary edema, acute respiratory distress syndrome, and atelectasis are typical etiologies for VACs.
Evaluate

Use your analyses to select and refine prevention strategies that address the most frequent and preventable causes of VACs in your clinical setting.

Provide feedback to staff

- Provide regular feedback on process and/or outcome data to staff.
- Feedback can be provided via wall displays or during meetings
How Will I Use My Data To Drive Improvement?

- Review both individual cases and system level issues
- Develop a form to help analyze individual cases
- Do we have policies and procedures in place?
- Do we follow evidence-based guidelines?
- Are we consistent with our practices?
Review All VAC Cases–Case Review 1

- Patient develops a VAC
  - Chronic ventilator dependency
  - Ambulation protocols were not implemented
  - Not monitored for dehydration
  - Presence of sputum not documented
  - Lack of communication between nursing and respiratory groups
Opportunities for Improvement

- Hardwire ambulation protocols
- Ensure documentation of secretions
- Work collaboratively with respiratory therapists to identify subtle changes
- Daily huddles
Case Review 2

• Ms. X is a 76-year-old woman, admitted to the ICU with septic shock requiring large volume fluid resuscitation
  • Intubated and placed on ventilator
  • Stable until day 6 when she has progressive oxygenation demands
  • Increased demands last for 72 hours
Case Review 2 – Outcomes

- Patient has a VAC
  - No fever
  - No increased white blood cell count
  - No new antibiotics

- Diagnosis: Pulmonary edema

- Opportunities for improvement?
Review 3

In an example ICU, many VAEs are PVAPs

Issues to evaluate:

- Head of bed monitoring
- Suctioning frequency
- SATs
- Endotracheal tubes with subglottic suctioning
Case Review 3 – Outcomes

- Analysis
  - Quarter 1: 20 VACs
    - 10 VACs
    - 7 IVACs
    - 3 PVAPs
  - Most are other healthcare-acquired infections
Opportunities for Improvement

- Hardwire ambulation protocols
- Ensure documentation of secretions
- Work collaboratively with respiratory therapists to identify subtle changes
- Daily huddles
Know Your Data

“Surveillance is a critical component of every quality improvement effort; you cannot prevent it if you cannot measure it.”
The Bottom Line

- VAEs are associated with increased mortality and ICU and hospital LOS
- In randomized controlled trials, VAP interventions have been shown to improve objective outcomes, such as duration of MV, ICU or hospital LOS, mortality, and costs
- The existing VAP prevention literature is the best available guide to improving outcomes for ventilated patients
- It is important to continue monitoring the processes of care and the outcomes for mechanically ventilated patients
- Always give feedback to providers and assess the potential for preventable events


References


<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Register Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oct. 23, 2018</td>
<td>NHSN: SSI Surveillance Identification and Analysis</td>
<td>Event archive*</td>
</tr>
<tr>
<td>Nov. 20, 2018</td>
<td>SSI-Colon: How to Assess Root Cause and Prevention Strategies</td>
<td>Event archive*</td>
</tr>
<tr>
<td>Dec. 18, 2018</td>
<td>NHSN: VAE Surveillance Identification and Analysis</td>
<td>Event archive*</td>
</tr>
<tr>
<td>Jan. 22, 2019</td>
<td>VAE: How to Assess Root Cause and Prevention Strategies</td>
<td>Event archive will be available online*</td>
</tr>
<tr>
<td>Feb. 19, 2019</td>
<td>NHSN: MRSA Bacteremia Surveillance Identification and Analysis</td>
<td>Register: <a href="https://cc.readytalk.com/r/lepj00go9gg&amp;eom">https://cc.readytalk.com/r/lepj00go9gg&amp;eom</a></td>
</tr>
</tbody>
</table>

*Access Event Archives (Recordings | Slides) on the Mission to Care HIIN Website*
Upcoming Virtual Events

- Jan. 22 (3-4pm ET) – Culture of Safety: The Second Victim Experience
- Feb. 1 – Readmissions Multi Visit Patient #5
- Feb. 1 – Antibiotic Stewardship: Targeting Prescribing
- Feb. 6 – FHA Monthly Quality Hot Topics #4, “Managing Elopement with Baker Act & Marchman Act Patients”
- Feb. 7 – QIN-tastic Webinar on Pressure Ulcers and Falls
- Feb. 12 – CAUTI Fishbowl #3
- Feb. 14 – Antibiotic Stewardship: Managing Demand

Check the weekly MTC HIIN Upcoming Events for details and registration
Upcoming In-Person Events

- **TeamSTEPPS Master Trainer Class**
  - Jan. 29-30 (Pensacola)

- **Nurse Leadership Regional Meetings**, “Building Nurse Leadership Resiliency and Capacity: The Key to Improving Safety Culture”
  - Jan. 28 (Pensacola)
  - Jan. 29 (Hollywood)
  - Jan. 31 (Orlando)
  - Feb. 1 (Jacksonville)

- **UP Campaign ReBoot Regional Meetings**, “Leveraging Cross Cutting Strategies to Prevent Harm Across the Board”
  - Jan. 28 (Pensacola)
  - Jan. 29 (Hollywood)
  - Jan. 31 (Orlando)
  - Feb. 1 (Jacksonville)

Check the weekly [MTC HIIN Upcoming Events](#) for details and registration.
Eligibility for Nursing CEU requires submission of an evaluation survey for each participant requesting continuing education: https://www.surveymonkey.com/r/IP-NHSN-012219

- Share this link with all of your participants if viewing today’s webinar as a group (Survey closes Feb. 1, 2019)
- Be sure to include your contact information and Florida nursing license number
- FHA will report 1.0 credit hour to CE Broker and a certificate will be sent via e-mail (Please allow at least 2 weeks after the survey closes)
Cheryl D. Love, RN, BSN, BS-HCA, MBA, LHRM, CPHRM
Florida Hospital Association
cheryll@fha.org | 407-841-6230

Linda R. Greene, RN, MPS, CIC
Manager of Infection Prevention
UR Highland Hospital, Rochester, NY
linda_greene@urmc.rochester.edu