Hospital Acquired Conditions

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A hospital-acquired infection (HAI), also known as a nosocomial infection, is an infection that is acquired in a hospital or other health care facility

Hospital Acquired Conditions: HACs

- Adverse Drug Events
- Catheter Associated Urinary Tract Infections (CAUTI)
- Central Line Associated Blood Stream Infections (CLABSI)
- Falls
- PIVIE (Peripheral Intravenous Infiltrates and Extravasates)
- Pressure Ulcers
- Readmissions
- Surgical Site Infections
- Ventilator Associated Pneumonia
- Venous Thromboembolism

What are the HAC's and their bundle elements?

Adverse Drug Events	Catheter Associated Urinary Tract Infections	Central Line Associated Blood Stream Infections	Falls	IV Infiltrates	Pressure Ulcers	Readmissions	Surgical Site Infections	Ventilator Associated Pneumonia	Venous Thrombo-embolism
Correct home Med list	Aseptic Insertion	Wash hands & sterile insertion	Screen patients for risk of falls	Wash Hands	Daily Skin Assessments	Follow-up Appointment Indicated on AVS	Pre-Op Bath	Head of Bed Up	Screening for High Risk Patients
Correct Dose	Documented Reason for Use	CHG for insertion scrub unless contraindicated	Identify & communicate patients at risk – door sign, white board, FYI, armband	Wear gloves	Appropriate Bed Surface	AVS Contain Diet & Activity Instructions	Appropriate timing of pre-op antibiotics	Oral Hygiene Q 4 hours	Documentation of Anti-coagulation decision making
Correct Route	Maintain Closed System	Use CVL insertion kit or cart	Ensure safe environment - call light within reach	CHG scrub unless contraindicated	Turn/reposition every 2 hours or with cares in neonates	AVS Signed by Parents / Caregiver and Scanned to EPIC	No razor	Change circuit when visibly soiled and drain circuit before repositioning	
Correct Frequency	Secured Catheter	Insertion Checklist Used	Parent education on fall risk	IV secured	Pulse Ox rotation every 4 hours	Teach Back		Daily discussion of readiness to extubate	
No Omitted Meds	Daily assessment of line necessity	Dressing is Clean & Intact		Dressing clean, dry, occlusive	Skin barrier with diaper changes				
	Bag Below Bladder	Hand Hygiene & Gloves To Touch Lines		Hourly assessment TLC					
	Unobstructed Flow	Standardized Scrub the Hub		Site visible					
	Daily Catheter Care	Daily assessment of line necessity		Site compared to other limb					
		Standard dressing, cap, & tubing changes							
		Daily CHG Treatments							

Adverse Drug Event

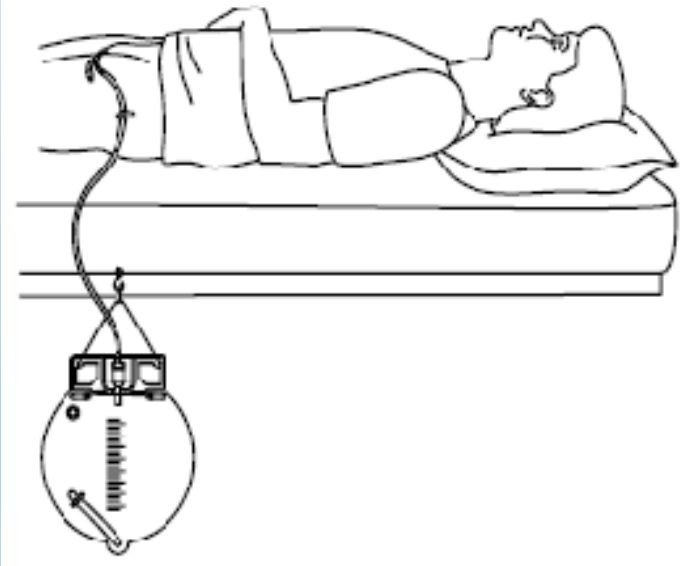
Number of ADE with significance of F,G,H or I

All home medications will be entered into Epic within 24 hours of admission with the following:

- Correct Dose
- Correct Medication
- Correct Route
- Correct Frequence
- No Omitted Meds

Catheter Associated Urinary Tract Infections (CAUTI)

- Documentation of hand hygiene, sterile insertion, and reason for use in LDA upon insertion
- Bag remains below the bladder at ALL times
- Closed system maintained
- Secured catheter
- Unobstructed flow
- Daily catheter care, daily bath
- Daily discussion with provider



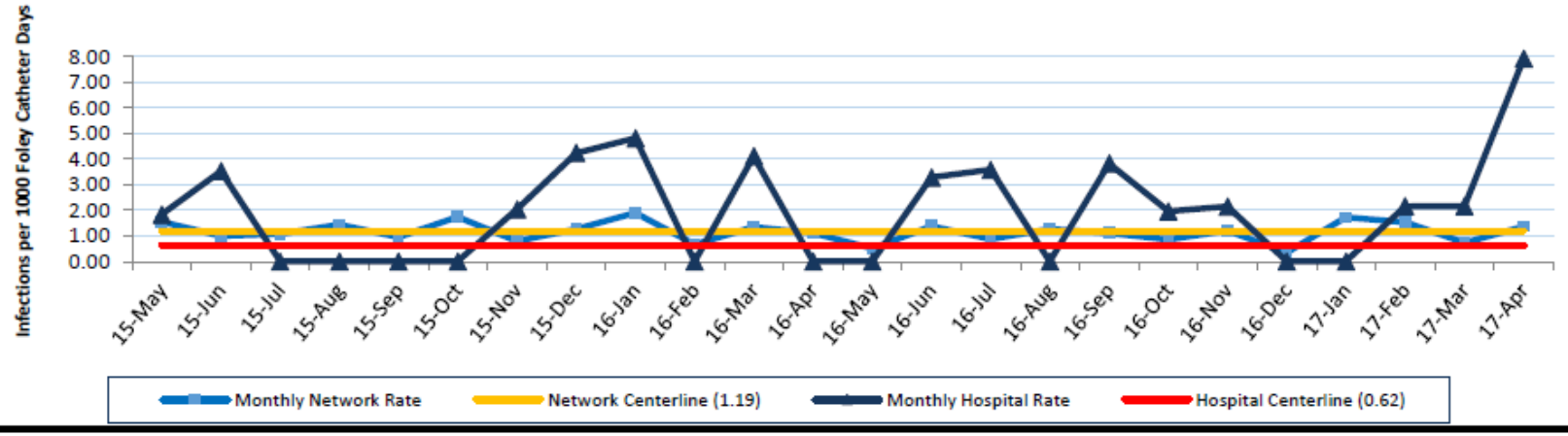
Catheter Associated Urinary Tract Infections by Month

Definition: (Number of patients with a confirmed CA-UTI by Infection Prevention using CDC criteria / Total number of foley catheter days during the time period) * 1000

Data Source: Solution for Patient Safety (SPS)

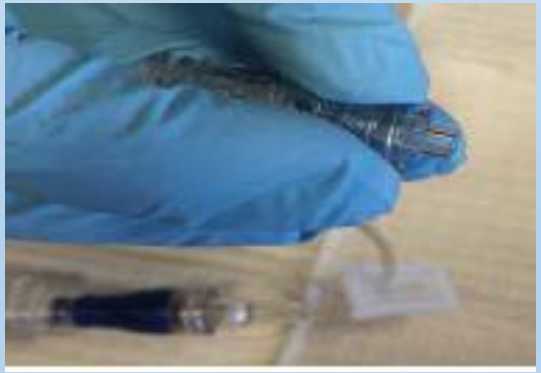
CHW Data Source: Manual Surveillance (entered into Midas);Epic

Data Pull Date: 6/19/2017



	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sept 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17
Number of CA-UTI Events	0	0	2	2	0	2	1	1	0	0	1	1	4
Foley Cath Days	494	692	610	559	584	523	512	467	415	382	465	463	506
Monthly Hospital Rate	0	0	3.28	3.58	0	3.82	1.95	2.14	0	0	2.15	2.16	7.91
Monthly Network Rate	1.1	0.6	1.38	0.87	1.27	1.11	0.85	1.2	0.34	1.72	1.53	0.73	1.36

CLABSI



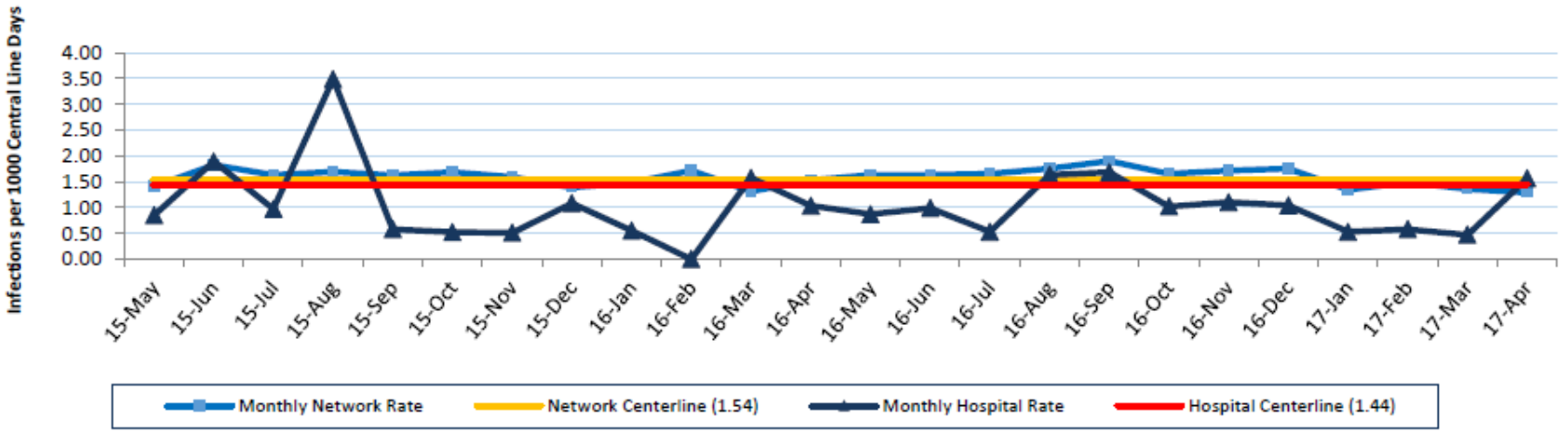
Maintenance bundle

- Set up of tubing is as aseptic as possible
  - Don’t put the nano-clave at the end of tubing to get primed
- Sterile cap changes
  - When putting a nano-clave t-connector on a central line it should be treated as a STERILE cap change (see JIT *Nano-clave T-connector Cap Change*).
- Clean gloves and scrub the hub with every medication/flush
- Sterile dressing change with date
- Daily CHG bath
- CVL dressing clean, dry and intact
- Dual caps on every access point
- Daily linen changes for patients with central lines

- https://www.cdc.gov/HAI/bsi/bsi.html

Central Line Associated Blood Stream Infections by Month

Definition: (Number of patients with a confirmed CLA-BSI by Infection Prevention using CDC criteria / Total number of central line days during the time period) * 1000
Data Source: Solution for Patient Safety (SPS)
CHW Data Source: Manual Surveillance (entered into Midas);Epic
Data Pull Date: 6/19/2017



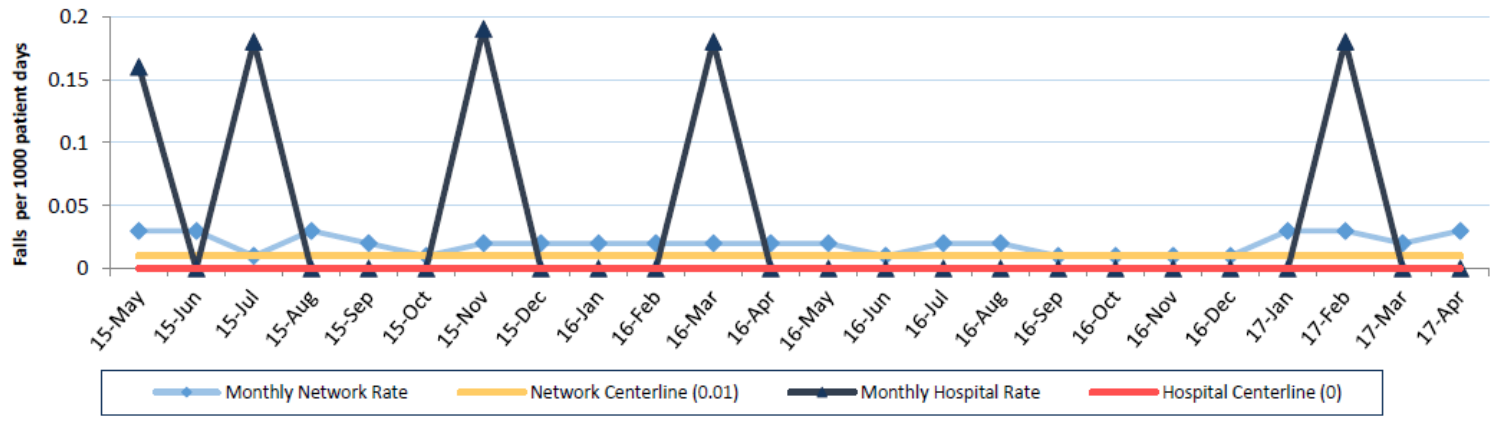
	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sept 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17
Num of CLABSI Events	2	2	2	1	3	3	2	2	2	1	1	1	3
Central Line Days	1949	2300	2011	1872	1836	1791	1960	1823	1929	1892	1722	2114	1923
Monthly Hospital Rate	1.03	0.87	0.99	0.53	1.63	1.68	1.02	1.1	1.04	0.53	0.58	0.47	1.56
Monthly Network Rate	1.55	1.63	1.63	1.65	1.75	1.9	1.65	1.71	1.73	1.34	1.49	1.36	1.29

Falls

- Complete a Fall Risk screen upon admission
- If at risk, be sure that all patients
  - Have a fall risk wrist band ON the same extremity as their name band
  - Have a fall risk sign on the door
  - Call light within reach
  - Receive education on what it means to be a fall risk – document in pt ed
  - Have a clutter free environment and call light within reach at all times
  - Documentation in EPIC

Falls Rate by Month

Definition: (Number of falls with injury of moderate or above as defined by NDNQI / Total number patient days) * 1000
Data Source: Solution for Patient Safety (SPS)
CHW Data Source:Midas Incident Report
Data Pull Date: 6/19/2017



	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sept 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17
# of Falls Events	0	0	0	0	0	0	0	0	0	0	1	0	0
Patient Days	4988	5625	5316	5151	5481	5195	5706	5580	5774	5554	5413	6676	6154
Monthly Hospital Rate	0	0	0	0	0	0	0	0	0	0	0.18	0	0
Monthly Network Rate	0.02	0.01	0.01	0.02	0.02	0.01	0.01	0.01	0.01	0.03	0.03	0.02	0.03

PIVIE

- Insertion
  - Wash hands
  - Wear clean gloves
  - Scrub with CHG
  - Appropriate securement

All need to be documented within the PIV LDA upon insertion

PIVIE

- Maintenance
  - **HOURLY** assessment of
    - TLC (Touch, Look, Compare)
    - Insertion site visible
    - Dressing clean, dry, and intact

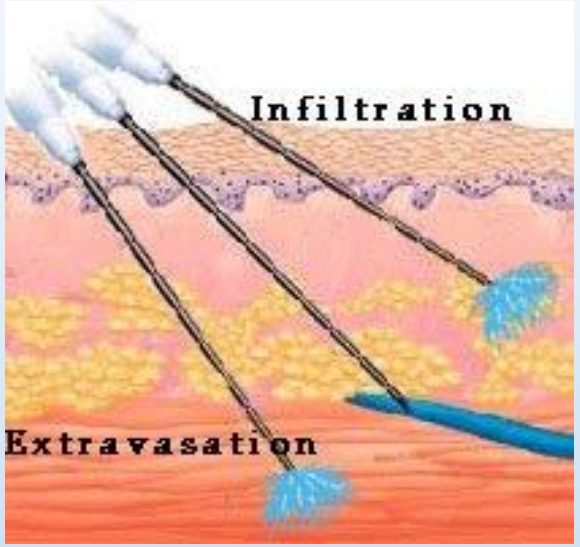
PIV's can infiltrate in a matter of minutes. Hourly assessments are crucial to reduce harm caused by PIV infiltrates.

Here are some infiltrates that have occurred here at CHW…


DURA-CUF®
REF 2201

10
20
30
40

If an infiltrate occurs…



- Remove the PIV immediately
- Attempt to aspirate
- Elevate the arm
- Complete measurements
- Consult the P&P to determine proper treatment
  - Heat pack versus cold pack, etc.
- For moderate and severe infiltrates, consider the use of hyaluronidase
  - See JIT *PIVIE: Hyaluronidase*

Administer within 1 hour (though you can give it over 1 hour)

Hyaluronidase will come supplied as 5 separate fixed needle syringes. Each syringe will contain 0.2 ml which can be given simultaneously by multiple nurses or in immediate succession by the bedside nurse.

Do NOT wait 5 minutes in between each dose as timing indicates on the Medication Administration Record (MAR).

Inject 0.1 to 0.2 ml subcutaneously into the leading edge of the infiltration/extravasation. Aim needle toward center of edema. Gently massage as tolerated by patient to help fluids leak out of injection sites. Use moistened gauze to wick more fluid if possible. Seeing a little bleeding is normal.

Children's Hospital of Wisconsin

Just in time teaching
PIVIE: Hyaluronidase Administration

What is hyaluronidase?

Hyaluronidase is an enzyme that breaks down hyaluronic acid, a compound best described as the "glue" which holds cells together.

Why is it given?

Hyaluronidase minimizes the local damage caused by the infiltration/extravasation by increasing the absorption of injected medications or fluids. Hyaluronidase causes the cells to separate allowing the medication to distribute through a larger area by breaking down the walls that keep it localized.

Is it ever contraindicated?

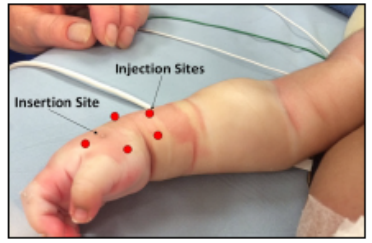
It is only contraindicated for those with an allergy to hyaluronidase. Treatment is not effective when the infusing medication is a vasopressor. See P&P for other options.

How do I know if my patient's PIV infiltration/extravasation needs hyaluronidase?

- It is recommended for most moderate and severe infiltrates.
- It may not be compatible with infusing medication or fluid infusing at the time of the infiltration/extravasation. Call pharmacy to determine compatibility.
- It requires an order. Collaborate with the provider to determine treatment options.

How do I administer it?

1. Administer within 1 hour of recognizing the infiltrate/extravasate whenever possible.
2. Hyaluronidase will come supplied as 5 separate fixed needle syringes. Each syringe will contain 0.2 ml which can be given simultaneously by multiple nurses or in immediate succession by the bedside nurse. Do **not** wait 5 minutes in between each dose as timing indicates on the Medication Administration Record (MAR). Be sure to scan each syringe given on the MAR.
3. Locate the leading edge, also known as the perimeter, of swelling and identify where you will inject the medication. Medication is given in a circle fashion around the leading edge of swelling.
4. Clean area with alcohol swab.
5. Aspirate before each injection to prevent injection into the blood stream.
6. Inject 0.1 to 0.2 ml subcutaneously into the leading edge of the infiltration/extravasation. Aim needle toward center of edema. Gently massage as tolerated by patient to help fluids leak out of injection sites. Use moistened gauze to wick more fluid if possible. Seeing a little bleeding is normal.



7. Repeat **step 6** using the remaining syringes scanning each one on the MAR. Do not wait 5 minutes in between each dose.
8. Continue to monitor site. If the severity worsens, collaborate with the provider and pharmacy to determine if additional doses are needed.

Can hyaluronidase be given after the 1 hour recommendation?

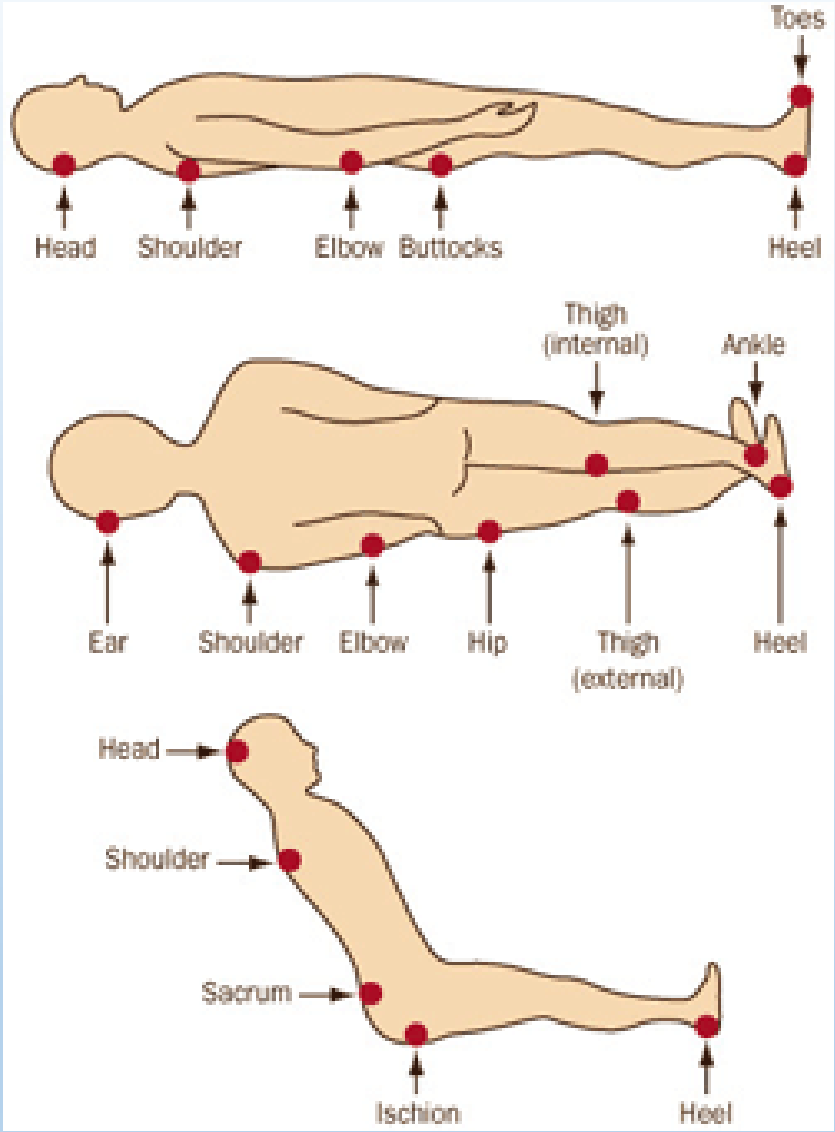
It is most effective when given within an hour of the infiltration/extravasation, but can still be administered after that time.

References

- *Peripheral Intravenous Insertion and Therapy* Policy and Procedure
- Pharmacy
- Unit Based Clinical Nurse Specialist

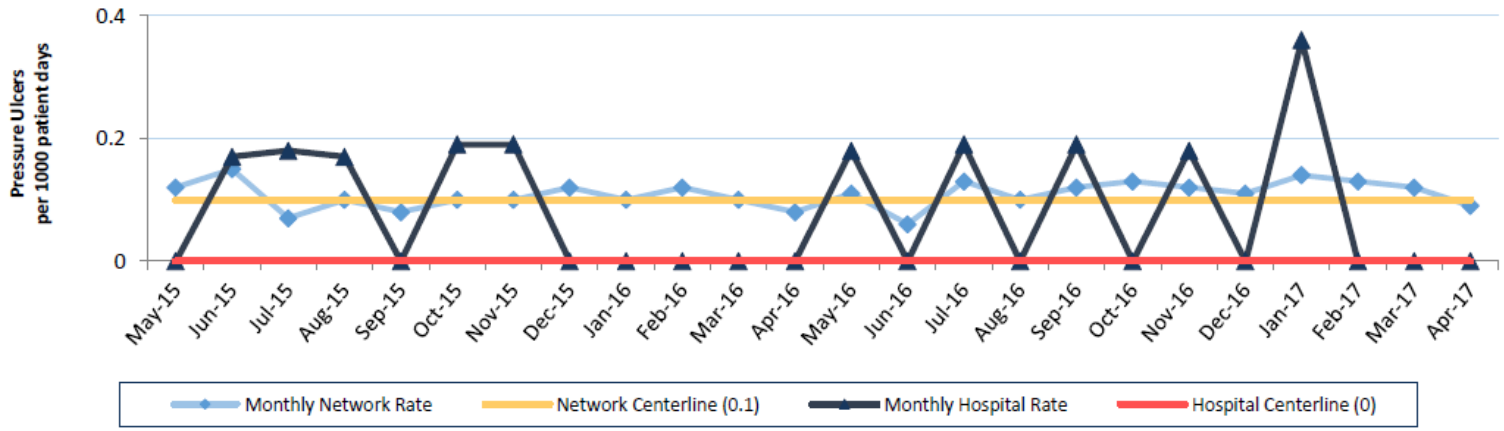
Pressure Ulcer Prevention (PUP)

- Full skin assessments
- Appropriate bed surface
- Turn and reposition every 2 hours
- Pulse ox rotation every 4 hours
- Skin barrier with diaper changes



Pressure Injury Rate by Month

Definition: (Number of deep tissue injuries (DTI) prior to 2015, Stage III, IV, and unstageable pressure injury confirmed by skin champion / Total number patient days) * 1000
Data Source: Solution for Patient Safety (SPS)
CHW Data Source: Midas, Pressure Injury Prevention Team (PUP)
Data Pull Date: 6/19/2017



	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sept 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17
# of PU Events	0	1	0	1	0	1	0	1	0	2	0	0	0
Patient Days	4988	5625	5316	5151	5481	5195	5706	5580	5774	5554	5413	6676	6154
Monthly Hospital Rate	0	0.18	0	0.19	0	0.19	0	0.18	0	0.36	0	0	0
Monthly Network Rate	0.08	0.11	0.06	0.13	0.1	0.12	0.13	0.11	0.11	0.14	0.13	0.12	0.09


Wound Measuring Guide


graphic

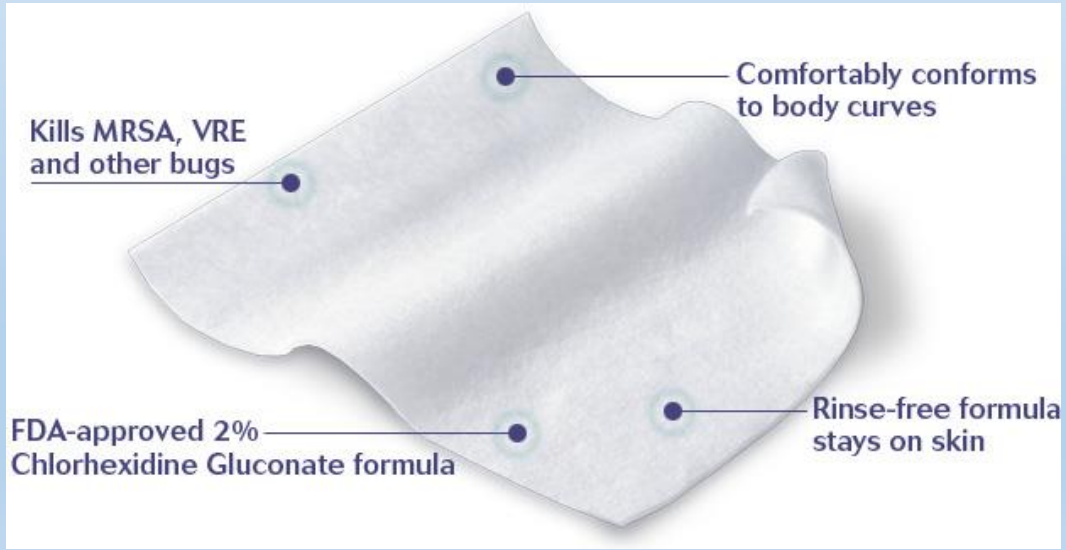
Readmissions

- Follow up appointment is indicated on AVS
- AVS contain diet and activity instructions
- AVS is signed by the parents/caregiver and scanned into Epic
- Teach back methodology is used for medication education and is documented

- Chart reviews
- Survey families of patients that were readmitted
- Readability Level assessed

SSI

- Pre-op bath
  - For every patient going to OR
  - 3 min scrub time



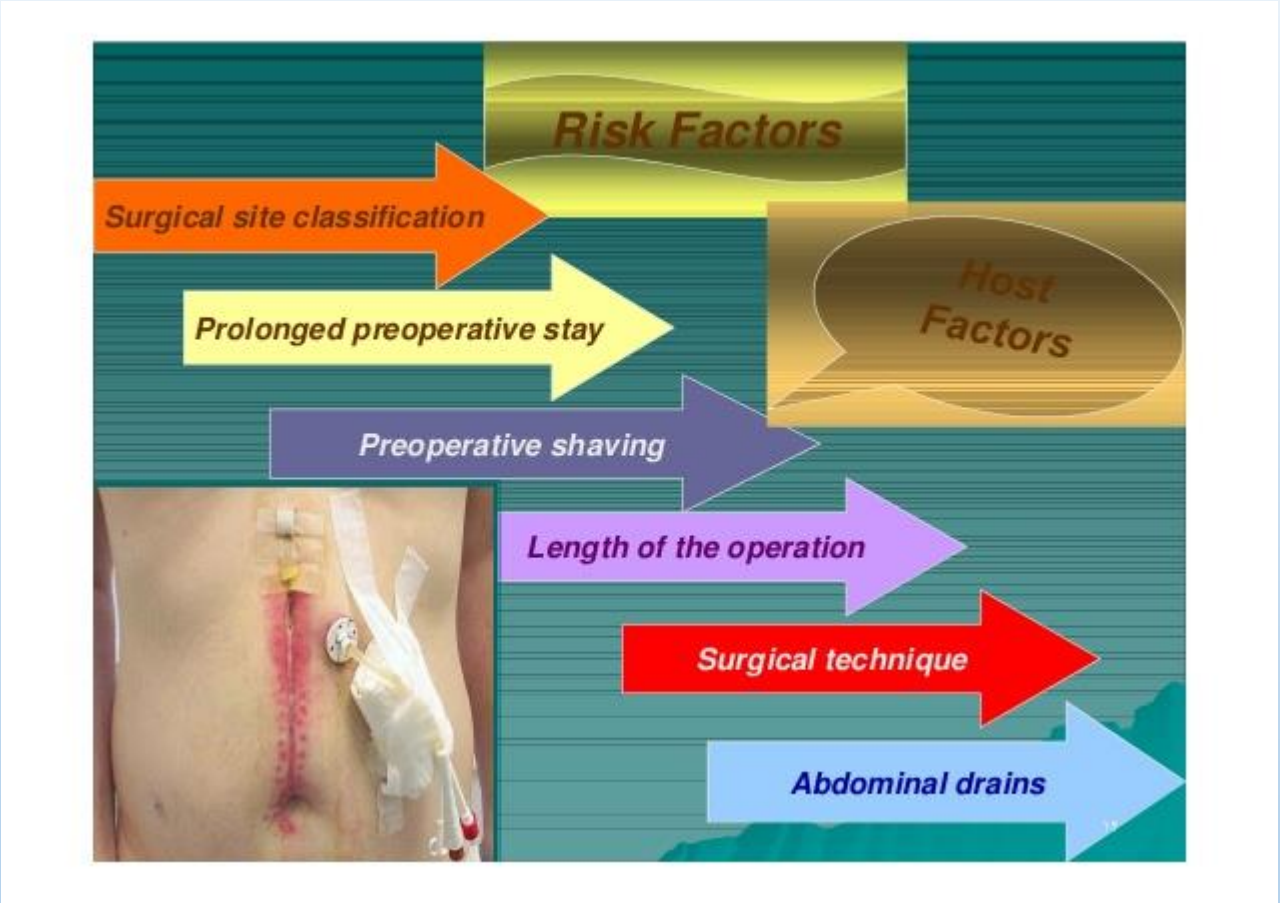
SSI

Follow up on Spinal fusions, VP Shunts and cardiac procedures that have resulted in SSI as defined by the CDC criteria

Pre-op Chlorohexidine Gluconate (CHG) bath

No Razor

Prophylaxis antibiotics administration within one hour of incision



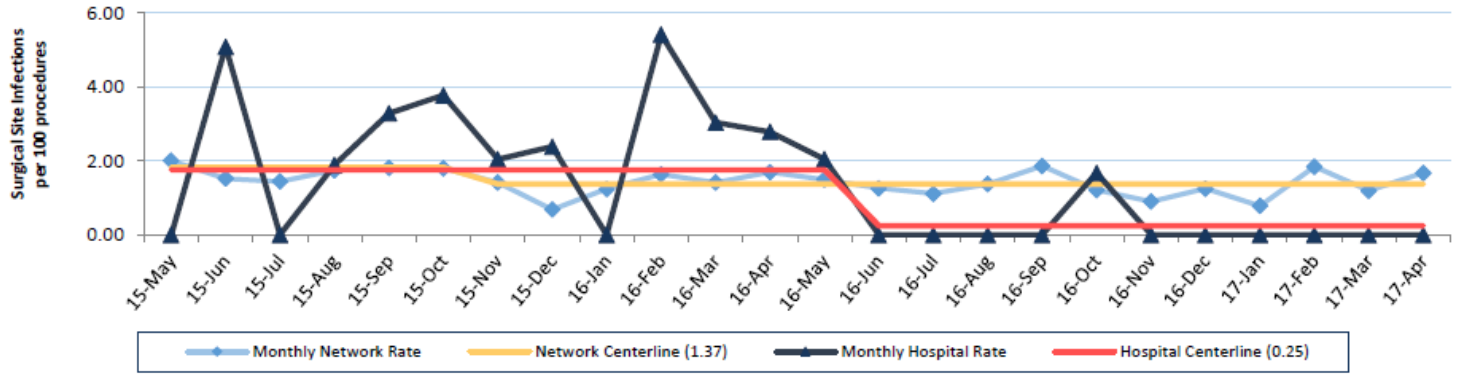
Surgical Site Infection Rate by Month

Definition: (Number of SSIs related to designated cardiac, spinal fusion and VP shunt procedures / Number of patient trips to the operating room for designated cardiac, spinal fusion and VP shunt procedures during the applicable reporting period) * 100

Data Source: Solution for Patient Safety (SPS)

CHW Data Source: Manual Surveillance (entered into Midas)

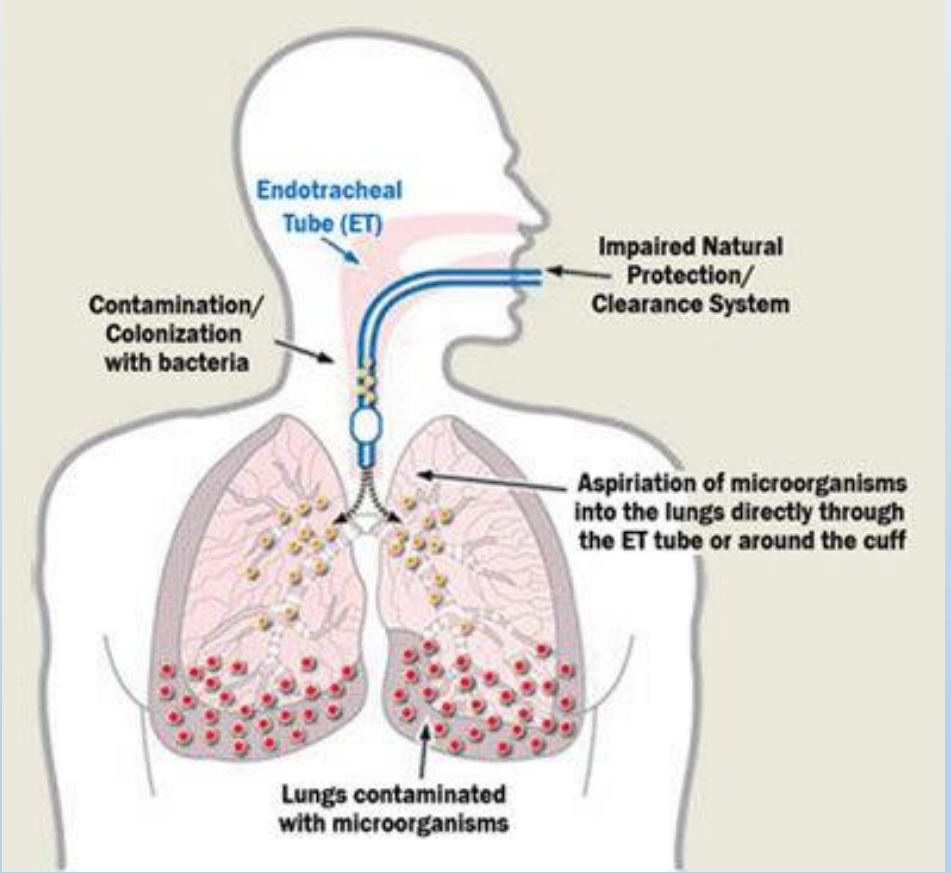
Data Pull Date: 6/19/2017



	Apr 16	May 16	Jun 16	Jul 16	Aug 16	Sept 16	Oct 16	Nov 16	Dec 16	Jan 17	Feb 17	Mar 17	Apr 17
# of SSI Events	1	1	0	0	0	0	1	0	0	0	0	0	0
Surgeries	35	49	52	64	47	50	60	45	37	39	29	29	54
Monthly Hospital Rate	2.78	2.04	0	0	0	0	1.67	0	0	0	0	0	0
Monthly Network Rate	1.69	1.49	1.26	1.11	1.38	1.86	1.21	0.9	1.23	0.78	1.84	1.19	1.67

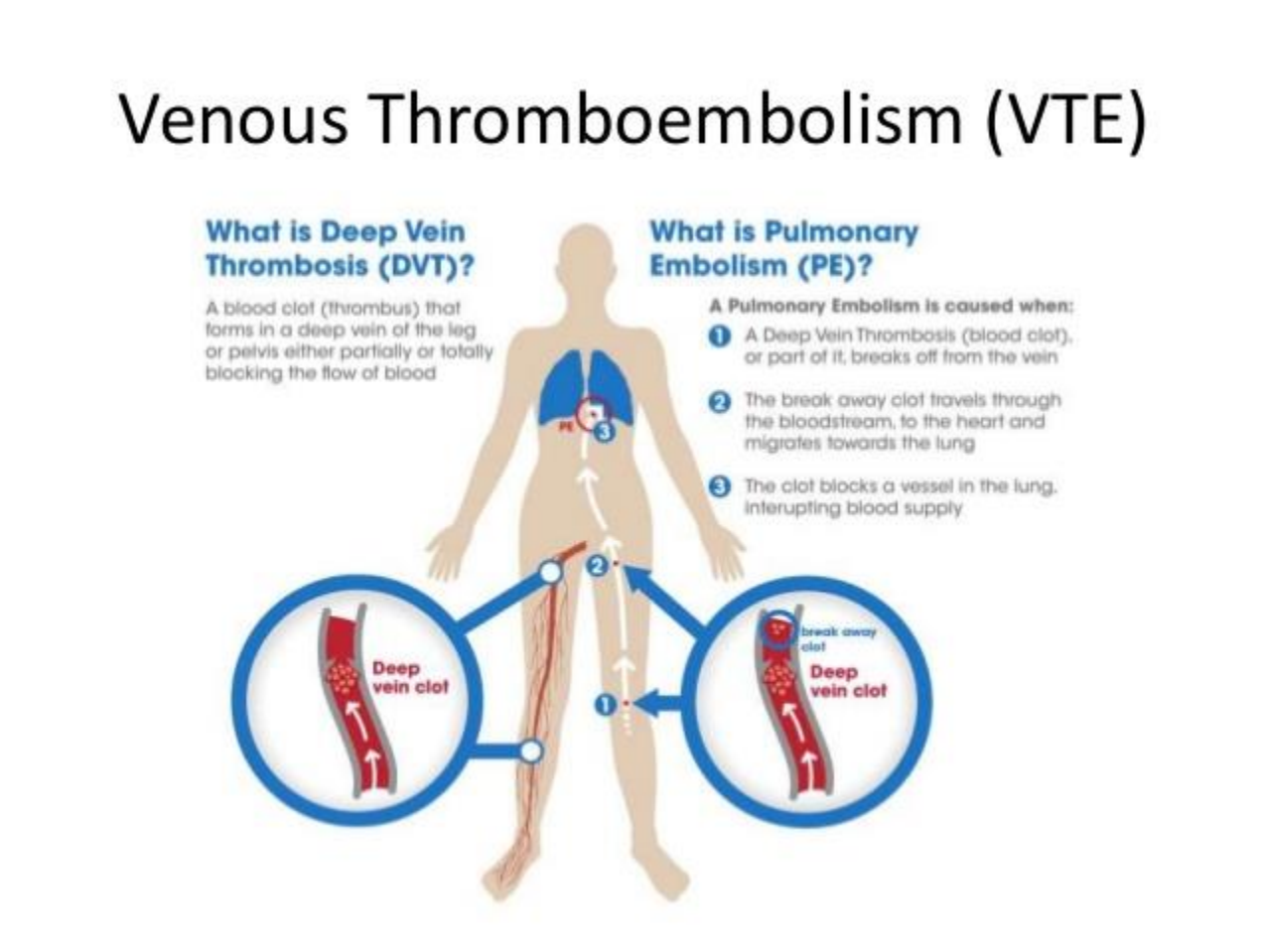
Ventilator Associated Pneumonia (VAP)

- Head of bed elevated
  - 10-15 degrees for infants or 15-45 degrees for older children
- Oral hygiene at least every 12 hours
- Daily discuss readiness to extubate daily
- Change circuit when soiled and drain before repositioning



Venous Thromboembolism (VTE)

- Screen for risk of VTE
- Provider intervention for prevention of VTE in high risk patients



Hospital Infections Now Cost Billions

$9.8 Billions in Hospital-Acquired Infection

- 33.7% SSI ($20,785/case)
- 31.6% VAP ($40,144/case)
- 18.9% CLABSI ($45,814/case)
- 15.4% *Clostridium difficile* ($11,285/case)
- 1.0% CAUTI ($896/case)

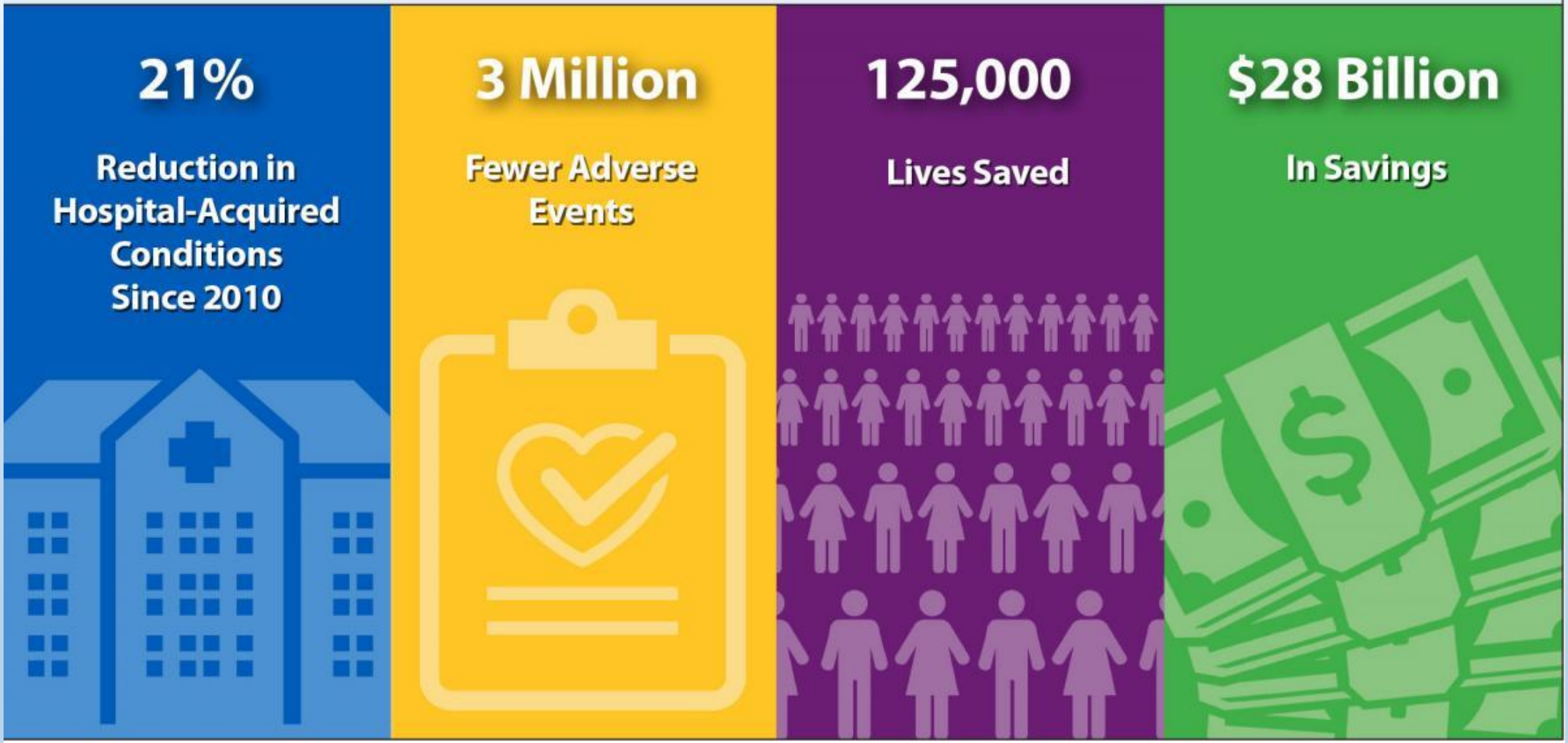
Risk Factors That May Compromise Healing

Aged >65 years
Wound infection
Pulmonary disease
Hemodynamic instability
Ostomies
Hypoalbuminemia
Systemic Infection
Obesity
Uremia
Hyperalimentation

Ascites
Malignancy
Hypertension
Length &depth of incision
Anemia
Jaundice
Diabetes Mellitus
Nicotine use
Type of Injury
Radiation therapy

Corticosteroid use
Malnutrition
Peripheral vascular disease

From 2010–2015, more than 3 million hospital-acquired conditions (HACs) were prevented, saving approximately 125,000 lives and more than $28 billion in health care costs.



Source: National Scorecard on Rates of Hospital-Acquired Conditions 2010-2015: Interim Data from National Efforts to Make Health Care Safer.