Under Pressure: An EBP Project to Reduce Pressure Ulcers

Carrie Doyle

Providence Alaska Medical Center, carrie.doyle@providence.org
UnderPressure: An EBP Project to Reduce Pressure Ulcers

Carrie Doyle DNP, RN, ACNS-BC, CEN
Director of Clinical Practice, Research, & Staff Development
Providence Alaska Medical Center
April 2013
Objectives

At the end of this presentation the learner will be able to:

• Describe the use of the FOCUS - PDSA cycle in an Evidence Based Practice quality improvement project.

• Discuss the value of utilizing stakeholders at the unit level to introduce evidence-based interventions to prevent pressure ulcers.

• Describe what to do when it all goes horribly wrong!
Introduction

• The purpose of this project was to implement an evidence-based pressure ulcer prevention protocol through the use of unit-based skin care champions and staff education.

• The overall goal was to reduce hospital acquired pressure ulcers within a three month time period in the spring of 2012.
Background

Providence Alaska Medical Center experienced a significant increase of hospital acquired pressure ulcers (HAPU) in 2011.
Significance

The financial implications to PAMC in excess costs due to HAPU in 2011 was approximately $1,160,415.
The Process/Methodology

FOCUS

PDSA
FOCUS - Find

- F = Find the process improvement opportunity
- Hospital data indicated an increase in HAPU rate
  - (Pinnacle Network, n.d.).
FOCUS - Organize

- O = Organize the team/stakeholders
- Skin Integrity Council
**FOCUS - Clarify**

- **C = Clarify current knowledge**
- Literature review conducted

<table>
<thead>
<tr>
<th>Author / Year / Title</th>
<th>Design</th>
<th>Findings</th>
<th>Level of Evidence (Melnyk &amp; Fineout-Overholt, 2005)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chan, W.S., Pang, S.M.C., and Kwong, E.W.Y. (2009) Assessing predictive validity of the modified Braden scale for prediction of pressure ulcer risk of orthopaedic patients in an acute care setting.</td>
<td>Prospective Cohort</td>
<td>9.1% of the patients received a pressure ulcer. The modified Braden scale showed more predictive ability than the regular Braden.</td>
<td>Level IV</td>
</tr>
<tr>
<td>Beldon, P. (2010) Using risk assessment to prevent pressure ulcers</td>
<td>Case Study</td>
<td>This is a fictional case study that explains how preventative measures would be used in conjunction with a risk assessment score but does not show that the score is predictive in nature.</td>
<td>Level VII</td>
</tr>
<tr>
<td>Pancorbo-Hidalgo, P.L., Garcia- Fernandez, F.P., Lopez-Medina, I.M., and Alvarez-Nieto, C. (2006) Risk assessment scales for pressure ulcer prevention: a systematic review</td>
<td>Systematic Review</td>
<td>Not enough evidence was available to state that risk assessment scales decreased pressure ulcer rates including no evidence to support a nurses’ clinical judgment decreased pressure ulcer development. The Braden scale appeared to have the best predictive ability.</td>
<td>Level 1</td>
</tr>
<tr>
<td>Wann-Hansson, C., Hagell, P., and Willman, A. (2008) Risk factors and prevention among patients with hospital-acquired and pre-existing pressure ulcers in an acute care hospital.</td>
<td>Point prevalence study with a cross-sectional survey design</td>
<td>The findings suggest that it is important to identify those patients at risk for HAPU in order to ensure preventative measures are taken.</td>
<td>Level VI</td>
</tr>
<tr>
<td>Whiteing, N.L. (2009). Skin assessment of patients at risk of pressure ulcers.</td>
<td>Expert Opinion</td>
<td>Describes that skin assessment is the first step to preventing pressure ulcers.</td>
<td>Level VII</td>
</tr>
</tbody>
</table>
### FOCUS - Clarify

<table>
<thead>
<tr>
<th>Author / Year / Title</th>
<th>Design</th>
<th>Findings</th>
<th>Level of Evidence (Melnyk &amp; Fineout-Overholt, 2005)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compton, F., Hoffman, F., Hortig, T., Strauss, M., Zidek, W., &amp; Schafer, J. (2008).</td>
<td>Prospective epidemiologic study</td>
<td>Performing a skin assessment and physical assessment can more accurately predict the risk for developing a pressure ulcer over the use of pre-set parameters.</td>
<td>Level VI</td>
</tr>
<tr>
<td>van Anholt, R.D., Sobotka, L., Meijer, E.P., Heyman, H., Groen, H.W., Topinkova, E.,</td>
<td>Randomized controlled trial</td>
<td>The use of adequate nutrition through supplements and increased protein aids in the healing of pressure ulcers.</td>
<td>Level II</td>
</tr>
<tr>
<td>van Leen, M., &amp; Schols, J.M.G. (2010). Specific nutritional support accelerates pressure ulcer healing and reduces wound care intensity in non- malnourished patients</td>
<td>Evidence- based clinical practice guidelines.</td>
<td>Evidence based guidelines concerning preventative measures such as skin assessments, risk assessment scales, nutrition interventions, moisture management interventions, and pressure minimization interventions.</td>
<td>Level I</td>
</tr>
<tr>
<td>European Pressure Ulcer Advisory Panel and National Pressure Ulcer Advisory Panel</td>
<td>Expert opinion</td>
<td>Identifies preventative measures for pressure ulcers such as the use of risk assessment scales, pressure minimization such as repositioning and the use of pressure relieving devices, and staff education concerning preventing pressure ulcers.</td>
<td>Level VII</td>
</tr>
<tr>
<td>(2009). Prevention and treatment of pressure ulcers: Quick reference guide.</td>
<td>Systematic review</td>
<td>Examines the evidence surrounding repositioning as a method to prevent pressure ulcers. There was no randomized control trial completed to measure the effects of repositioning and the review could not conclude if repositioning is effective.</td>
<td>Level I</td>
</tr>
</tbody>
</table>
FOCUS - Understand

- Understand causes of process variation
- Gap analysis conducted between clinical practice guidelines and current practice
FOCUS - Understand

Nutrition = 77%

Moisture Management = 83%

Pressure Minimization = 77%

Staff Education = 0%
FOCUS – Understand

SWOT

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Pressure ulcer prevention is in alignment with PAMC and PH&amp;S quality</td>
<td>• A culture of non-accountability with hospital staff and leadership.</td>
</tr>
<tr>
<td>improvement goals.</td>
<td>• The lack of a formal inpatient wound care team.</td>
</tr>
<tr>
<td>• An interdisciplinary Skin Integrity Council that is engaged.</td>
<td>• Only one Wound Ostomy Continence Certified nurse.</td>
</tr>
<tr>
<td>• Hospital administration that is concerned about quality improvement</td>
<td>• Multiple quality improvement and process improvement demands on the clinical units.</td>
</tr>
<tr>
<td>including pressure ulcers.</td>
<td></td>
</tr>
<tr>
<td>• A knowledgeable Performance Improvement department.</td>
<td></td>
</tr>
<tr>
<td>• Certified wound care nurses on most of the clinical units.</td>
<td></td>
</tr>
<tr>
<td>• The hospital is part of a much larger healthcare system and has easy</td>
<td></td>
</tr>
<tr>
<td>access to wound care experts within the system.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Opportunity to standardize practices across clinical units.</td>
<td>• A scheduled upgrade in the EMR system to the Clinical Practice Model (CPM) in February, 2012.</td>
</tr>
</tbody>
</table>
FOCUS - Select

- S = Select the improvement plan
- Education on selected prevention interventions
- Development of unit based skin care champions
Introducing the Pressure Ulcer Prevention Project

PUPP

- Nutrition
- Skin & Risk Assessments
- Pressure Minimization
- Friction & Shear
- Moisture Management
PDSA - Study

Stage I or Greater HAPU

- UCL: 0.075
- CL: 0.036

Project Period

[Graph showing data from Jan-10 to Mar-12]
### PDSA - Study

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2011 Average</th>
<th>Project Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1 or Greater</td>
<td>5.79%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Stage 2 or Greater</td>
<td>2.86%</td>
<td>2.2%</td>
</tr>
<tr>
<td>Pressure Minimization</td>
<td>77.1%</td>
<td>69.8%</td>
</tr>
<tr>
<td>Nutrition</td>
<td>77.1%</td>
<td>90.0%</td>
</tr>
<tr>
<td>Moisture Management</td>
<td>83.2%</td>
<td>84.3%</td>
</tr>
<tr>
<td>Skin Assessments</td>
<td>No data</td>
<td>95.1%</td>
</tr>
</tbody>
</table>
PDSA - Act

Time to Celebrate!?!
PDSA - Act

Not Yet!!!
What Happened?!?

Stage III or Greater HAPU

- UCL
- CL

Graph showing trends from Jul-11 to Mar-13.
What Happened?!?
FOCUS - PDSA (do over)

- Find
  - Data indicated a crisis
- Organize Stakeholders
  - Included Skin Integrity Council, Unit leaders, Unit Educators, and Senior Leadership
- Clarify
  - Data indicated that Interventions were not being implemented.
- Understand
  - Process variation remained the same as the beginning.
- Select
  - Plan Developed by Stakeholders
FOCUS - PDSA (do over)

• Plan
  • Emergency Meeting – weekly
  • Skin Team members identified and contract signed
  • 1:1 Live Education for all RNs and PCTs
  • Root Cause Analysis for every Stage III or IV HAPU.
  • Identify patients on unit boards who are at risk – Purple = Pressure
  • Add to morning facility-wide Safety Huddle
  • Units with Stage III, IV, Unstageable, or Suspected Deep Tissue are required to perform weekly prevalence studies

• Do
  • Implementation began in March 2013

• Study
  • TBD

• Act
  • TBD
NICU

- Began Prevalence Studies in 2011
- 50% Stage I HAPU rate
  - Temp probes primary cause
- First Organized Skin Care Team
  - Three RNs
- Call System
- Perform Wound Consults
NICU

• Changed the rotational schedule for temp probes.

• Used different product to cushion probe to avoid pressure.

• No pressure ulcers since the changes d/t temp probes.
Stage I or Greater HAPU

Looks like it is time to start the FOCUS-PDSA
NICU

F – Increase in Pressure Ulcer in Nares
O – NICU Skin Team
C – Literature and Best Practices
U – Change in Respiratory Products
S – Plan Selected

P – Product changed back; Schedule for rotating Bubble Pap/Cannulas
D – Change implemented
S – Rate returned to zero
A – Continued Monitoring
• Unit culture did not believe that pressure ulcer prevention was feasible.

• 20 cm X 25 cm Stage IV pressure ulcer.
  • Tried to blame other units
  • Root Cause Analysis

• Engagement of Skin Team
  • 12 members
Adult Critical Care

Stage II or Greater HAPU

- UCL: 0.179
- CL: 0.043

Monthly data from April 2012 to March 2013.
Adult Critical Care

“GETTING TO ZERO”

<table>
<thead>
<tr>
<th>CLABSI</th>
<th>FALLS</th>
<th>PRESSURE ULCER</th>
</tr>
</thead>
<tbody>
<tr>
<td>YTD: 0</td>
<td>YTD: 1</td>
<td>YTD: 0</td>
</tr>
<tr>
<td>LAST CLABSI: 12/12</td>
<td>LAST FALL: 2/28</td>
<td>LAST PU: 4/13</td>
</tr>
<tr>
<td>PREVIOUS YR: 12</td>
<td>PREVIOUS YR: 17</td>
<td>PREVIOUS YR: TBD</td>
</tr>
</tbody>
</table>

VAES: ventilator acquired events
VAC: 2
IVAC: 0
VAPs: 0

**QUICK NOTES**
References


