A Fresh Outlook on Pain Management: Three Innovative Strategies to Reduce Pain

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Background:

- Partnered with the National Database of Nursing Quality Indicators (NDNQI©) and the University of Utah with 326 other hospitals

- A national translational research study designed to test strategies to improve the management of pain in hospitalized patients. Two Phases of Data Collection April 2011 and December 2011: All inpatient Adult Medical Surgical Units and Mom/Baby

• One unit chosen for Phase II Intervention: Medical Surgical Oncology Unit (Red Unit)

Setting:

- Denver Health Medical Center

- Rocky Mountain Regional Trauma Center

- 525 beds – urban public safety net hospital

- 42% of Denver Health clients are uninsured

- In 2011, $460 million of uncompensated care was provided to patients who could not pay for their care

Purpose:

- The purpose of this study is to:

  - Gather data from patients by asking them directly about their experience with pain

  - Gather the responses about their perception and satisfaction of pain care

  - Implement evidence-based approaches to measure and improve outcomes as related to pain management
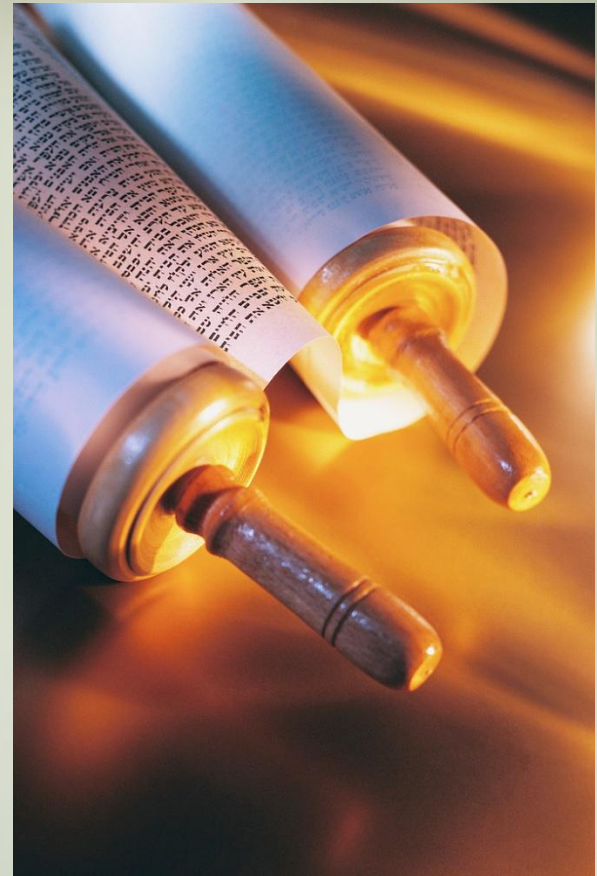
Methods:

Project consisted of two phases:

- Phase I:

  - Included April 2011 survey of patients on nine acute care units

    - Adult Medical
    - Adult Surgical
    - Adult Medical-Surgical
    - Adult Step Down
    - Adult Rehab
    - Obstetric/Post Partum

  - Pain Quality Indicator survey provided by a NDNQI© was used to evaluate baseline data

  - Data was analyzed by NDNQI © and included aggregate responses at the unit level including percentiles, median, mean, standard deviation, and number of units

  - A Medical-Surgical oncology unit was chosen by NDNQI ©

  - Team leader was interviewed to gather information regarding unit understanding of quality improvement and perception of pain management

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Methods:

- **Phase II:**
  - The goal of the second phase of this project was to implement and evaluate three levels of resources to support improvement in pain management:

    - Level 1: the usual practice group (control group)
    - Level 2: provided with web-based pain improvement toolkit to support implementation of pain care improvement at the unit-level.
    - Level 3: provided with the toolkit and monthly conference calls with pain experts

  - Denver Health Medical-Surgical Unit was chosen for Level 1 (control group) and for our "standard practice" three interventions were chosen:

    - Nursing Education
    - Pain Order Set
    - Pet Therapy

  - Nurse Team Leader was interviewed after Phase II

  - Re-surveyed in December 2011 of same units

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Interventions:

- Created an evaluation tool for nurse knowledge regarding pain:

    - "Brief Pain Surveys" developed by leading pain researchers Betty Ferrell, PhD FAAN and Margo McCaffery RN, MSN, FAAN (Ferrell, BR & McCaffery, M. 1996 Brief Pain Surveys/City of Hope, Duarte, CA)

- Nurses surveyed prior to and after education

Interventions:

- Education included:

  - Pain assessment principle's:

    - Accept patients complaint of pain

    - History of pain

    - Assessment of non-verbal patients
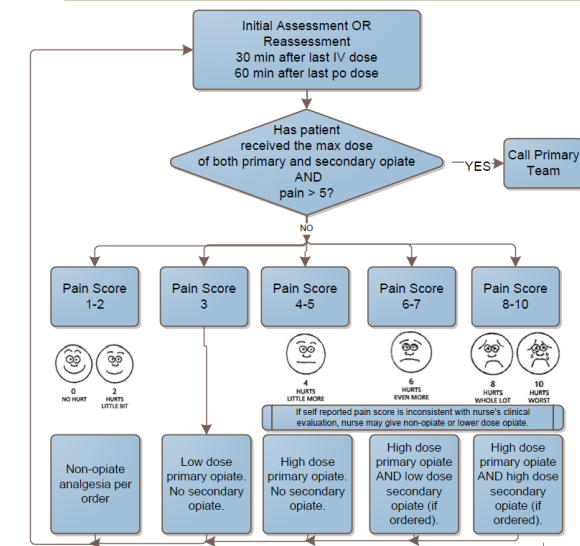
    - Patient centered goals

- Algorithm

Adult Inpatient Acute Pain Management Algorithm (Non-PCA)

Thursday, April 28, 2011

Note

This algorithm is intended to be used in conjunction with the Adult Inpatient Pain Management order set within CPOE. Within that order set, providers designate one non-opiate pain medicine, one primary opiate pain medicine, and one secondary opiate pain medicine (if required).

(1) Pain is assessed by self report or by FLACC scale.
(2) Nurse may give non opiate in place of ordered opiate per patient preference.
(3) Nurse may withhold medication, give non-opiate, or give lower dose opiate if excessive sedation, respiratory depression, or assessment that self reported pain score is inconsistent with clinical evaluation.

Interventions:

- Pain Order Set
  - Education done with RNs
  - Education done with Providers
  - Implementation June 7, 2011
  - Feedback from RN's
  - Feedback from Providers
  - Early data gathering

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Interventions:

- Pet Therapy
  - Pain scores before and after
  - Patient comments
  - Observation

Education done
Sept 2011
First visit
9/12/2011

Results & Outcomes:

- Patient survey (NDNQI©)

- Nurse pre and post education

- Order Set

- Pet Therapy

- Focusing on control unit

- Interventions were over a 3 month period:

  – September 2011 through November 2011

- ***Unclear on what intervention affected results***

- ***Statistical difference vs. clinical difference***

Results: Patient Survey

- Included patients:
    - Age 19 or older
    - English speaking
    - Be in pain or given pain medication within the last 24 hours

	Unit Census	Patients Assessed	Patients off Unit	Patients Physically / Mentally Unable	Wrong Population Type	Patient Ineligible	Patient Refused
PRE	31	14	3	4	0	8	2
POST	36	9	1	3	0	20	3
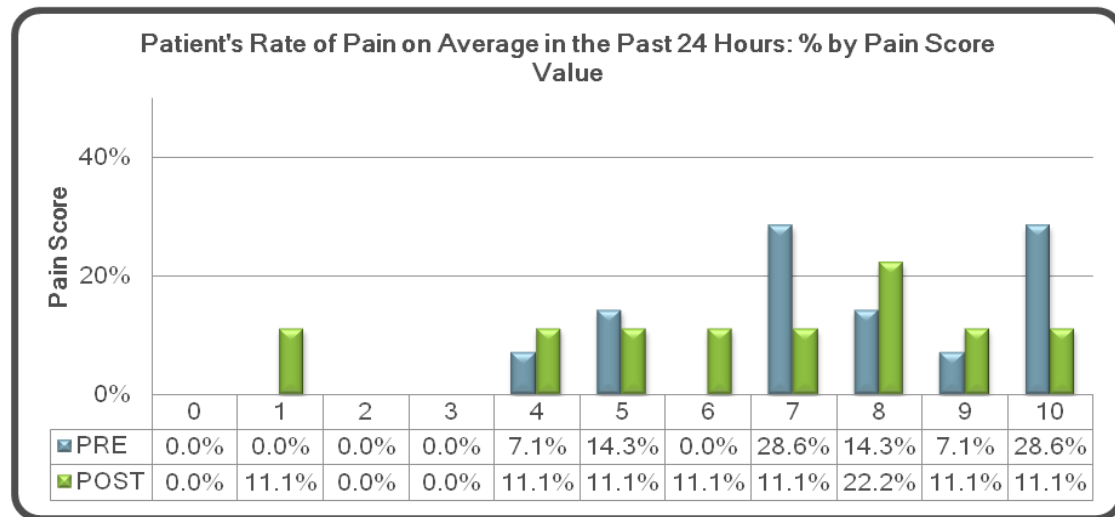
Patient's Rate of Pain on Average in the Past 24 Hours: % by Pain Score Value

Pain Score	0	1	2	3	4	5	6	7	8	9	10
PRE	0.0%	0.0%	0.0%	0.0%	7.1%	14.3%	0.0%	28.6%	14.3%	7.1%	28.6%
POST	0.0%	11.1%	0.0%	0.0%	11.1%	11.1%	11.1%	11.1%	22.2%	11.1%	11.1%

Benchmark Comparison:
- Pre – significantly higher prior to intervention
- Post – slightly below

Results: Patient Survey

% of Patients Experiencing Severe Pain in the last 24 hours
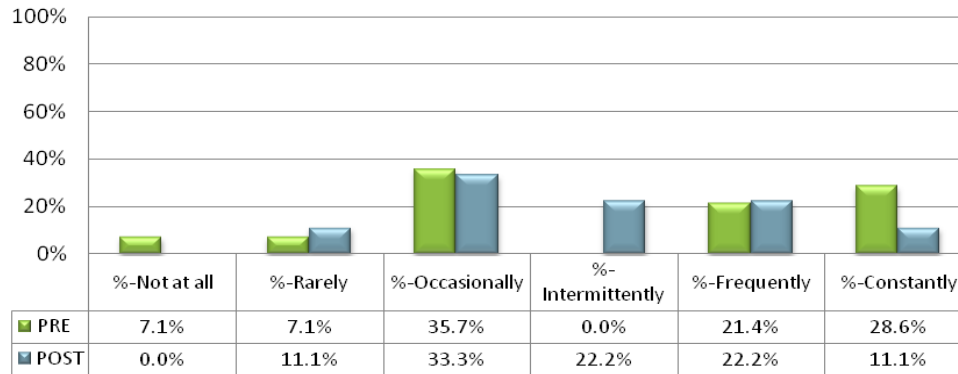
	%-Not at all	%-Rarely	%-Occasionally	%-Intermittently	%-Frequently	%-Constantly
PRE	7.1%	7.1%	35.7%	0.0%	21.4%	28.6%
POST	0.0%	11.1%	33.3%	22.2%	22.2%	11.1%

Benchmark Comparison:
- **Pre – significantly higher prior to intervention**
- **Post – slightly below**

% of Patients Receiving Pain Medication in the Last 24 Hours
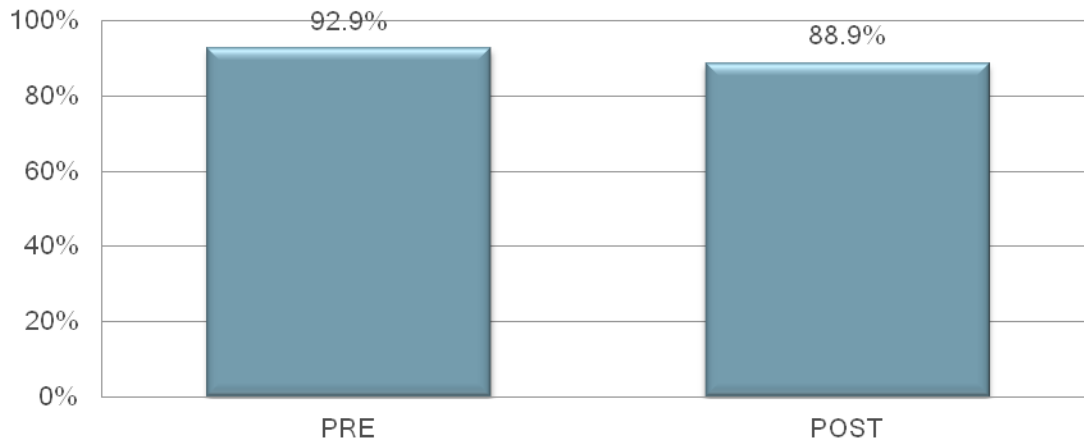
PRE	POST
92.9%	88.9%

Benchmark Comparison:
- **Pre – Above**
- **Post – slightly below**

Results: Patient Survey

% of Patients: relief from pain treatments or medication provided

PRE: 70.8%
POST: 78.8%

Benchmark Comparison:
- **Pre – Slightly Above**
- **Post –Above**

My Nurse Believed My Reports About My Pain

	% Strongly Disagree	% Moderately Disagree	% Slightly Disagree	% Slightly Agree	% Moderately Agree	% Strongly Agree
PRE	0.0%	0.0%	0.0%	0.0%	7.1%	92.9%
POST	11.1%	0.0%	0.0%	0.0%	0.0%	88.9%

Benchmark Comparison:
- **Pre – Significantly Above**
- **Post – Above**

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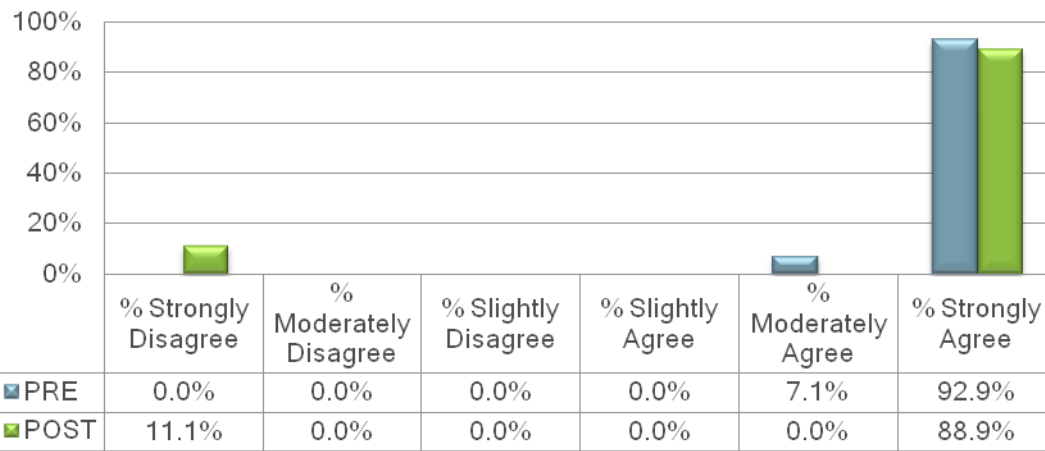
Results: Patient Survey

I Had Pain Medication Available When I Needed It

	% Strongly Disagree	% Moderately Disagree	% Slightly Disagree	% Slightly Agree	% Moderately Agree	% Strongly Agree	% Not Applicable
PRE	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%
POST	0.0%	0.0%	11.1%	0.0%	11.1%	77.8%	11.1%
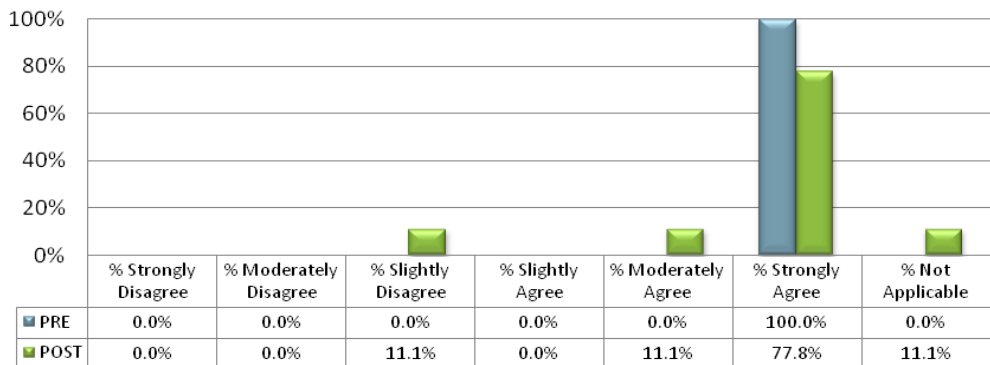
Benchmark Comparison:
- **Pre – Significantly Above**
- **Post –Above**

My Nurse Suggested Approaches to Help Manage My Pain

	% Strongly Disagree	% Moderately Disagree	% Slightly Disagree	% Slightly Agree	% Moderately Agree	% Strongly Agree	% Not Applicable
PRE	14%	0%	0%	21%	14%	50%	0%
POST	56%	0%	0%	11%	11%	22%	11%

Benchmark Comparison:
- **Pre – Significantly Above**
- **Post – Below**

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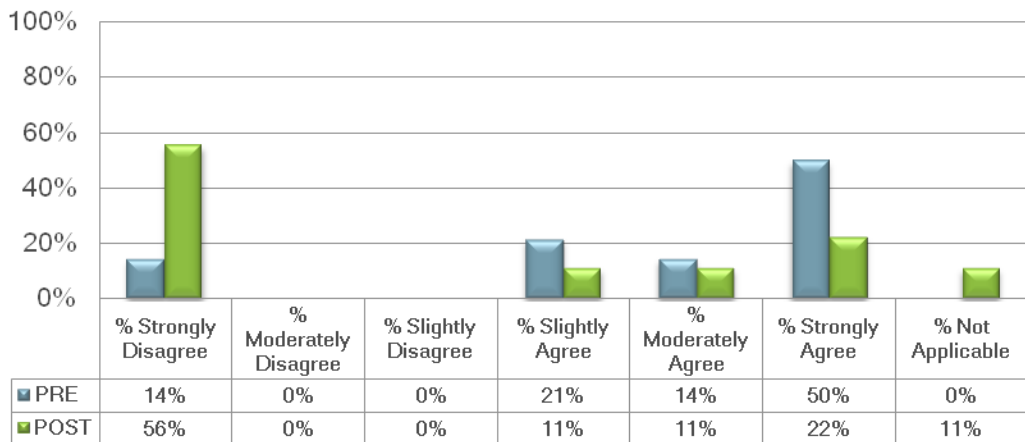
Results: Patient Survey

My Nurse Discussed Side Effects of the Pain Medications With Me

	% Strongly Disagree	% Moderately Disagree	% Slightly Disagree	% Slightly Agree	% Moderately Agree	% Strongly Agree	% Not Applicable
PRE	7.7%	0.0%	7.7%	7.7%	7.7%	69.2%	0.0%
POST	22.2%	11.1%	0.0%	0.0%	22.2%	33.3%	11.1%
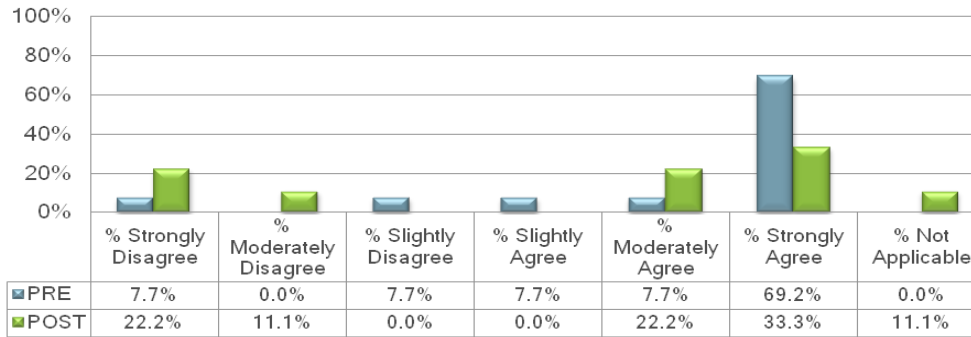
Benchmark Comparison:
- **Pre – Significantly Above**
- **Post – Above**

The Pain Medications Worked Well to Control My Pain

	% Strongly Disagree	% Moderately Disagree	% Slightly Disagree	% Slightly Agree	% Moderately Agree	% Strongly Agree	% Not Applicable
PRE	14.3%	0.0%	0.0%	21.4%	7.1%	57.1%	0.0%
POST	0.0%	11.1%	0.0%	33.3%	0.0%	44.4%	11.1%

Benchmark Comparison:
- **Pre – Above**
- **Post – Below**

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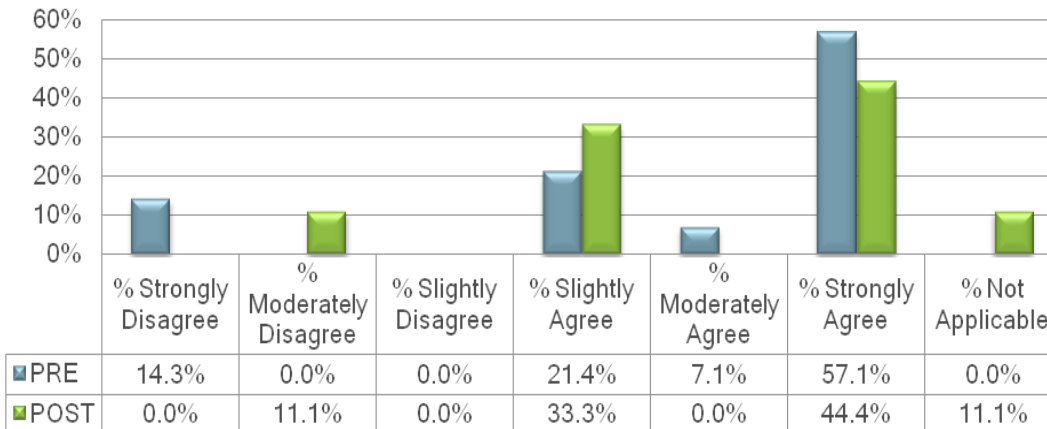
Results: Patient Survey

My Healthcare Team Involved Me in the Decisions About Controlling My Pain

	% Strongly Disagree	% Moderately Disagree	% Slightly Disagree	% Slightly Agree	% Moderately Agree	% Strongly Agree	% Not Applicable
PRE	7.1%	7.1%	0.0%	7.1%	0.0%	78.6%	0.0%
POST	22.2%	0.0%	0.0%	11.1%	11.1%	44.4%	11.1%
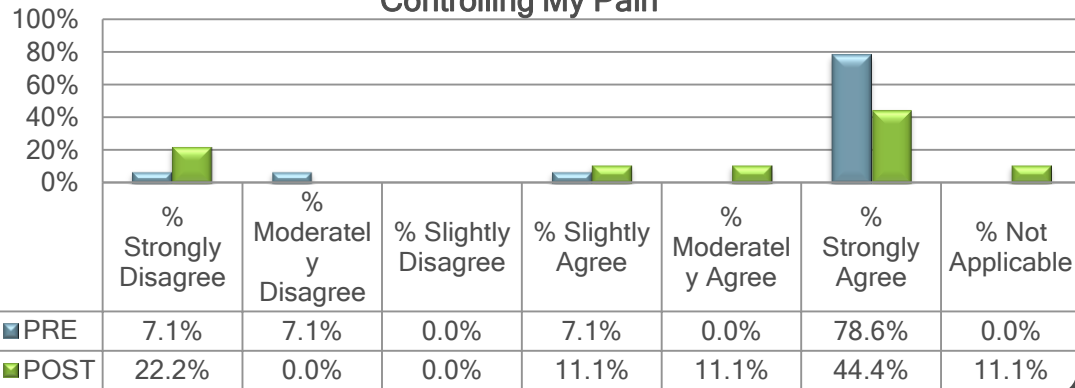
Benchmark Comparison:
- **Pre – Significantly Above**
- **Post – Slightly Below**

Reasons for Admission to the Hospital

	% Diagnosis of new condition or being worked up for a new problem	% Treatment of a disease	% Surgery	% Procedures	% Supportive care management of symptoms or complications	% Childbirth	% Other
PRE	29%	21%	0%	0%	7%	0%	79%
POST	33%	11%	0%	11%	0%	0%	56%

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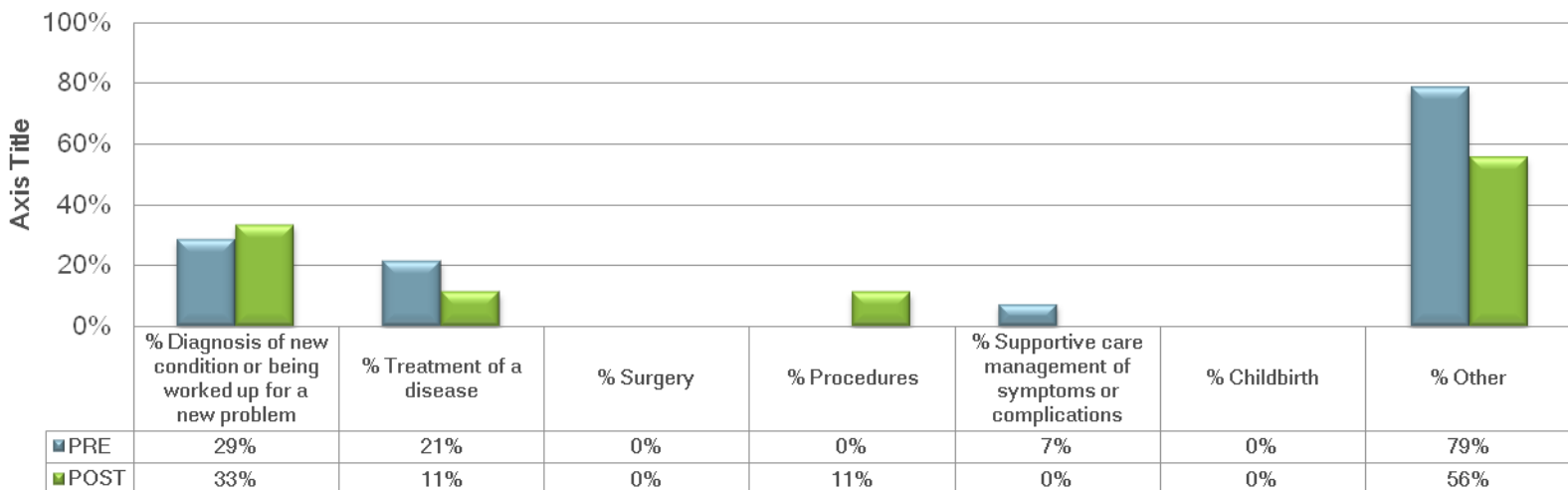
Results: Patient Survey

Patients' Perception of Cause of Pain

	% Disease	% Side effects of treatment or medications	% Surgery-Including C-section	% Procedure	% Chronic pain condition	% Accident	% Combat related injury	% Effects of childbirth	% Other
PRE	35.7%	0.0%	0.0%	0.0%	21.4%	0.0%	0.0%	0.0%	50.0%
POST	33.3%	0.0%	0.0%	11.1%	22.2%	22.2%	0.0%	0.0%	11.1%
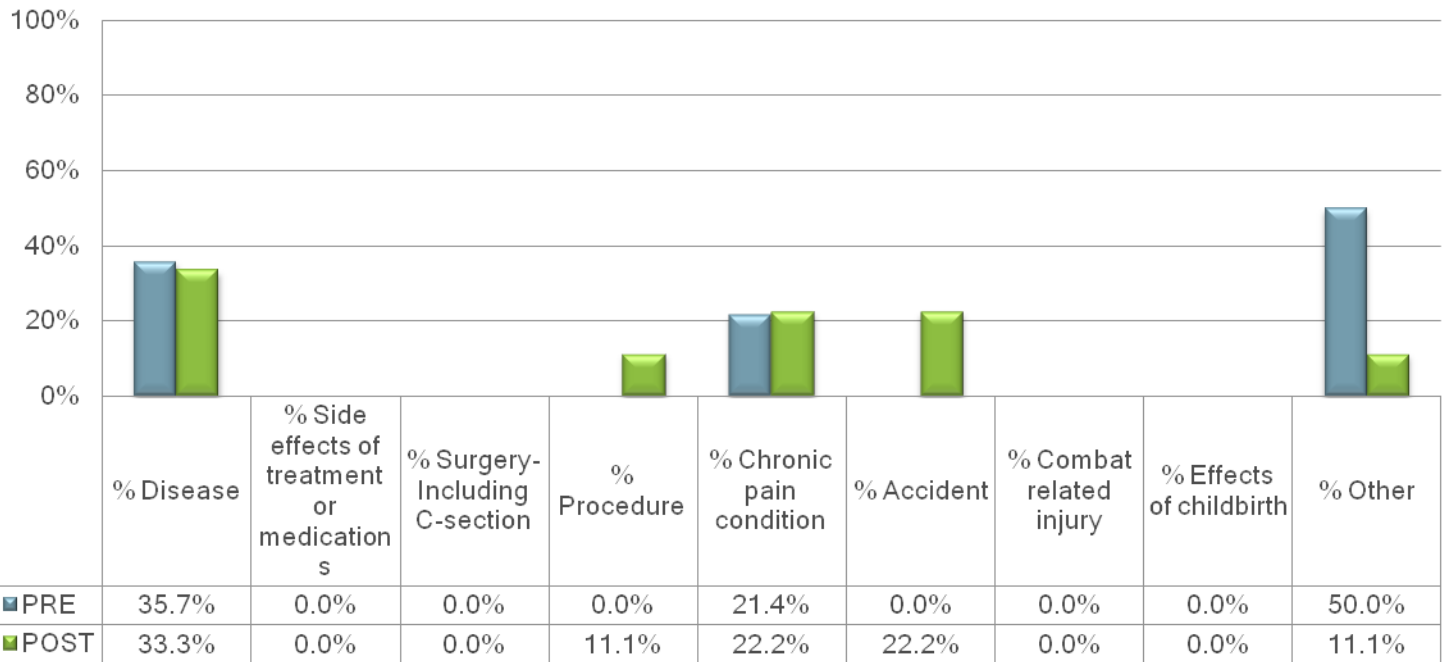
Benchmark Comparison:
- **Pre – Slightly Below**
- **Post – Slightly Above**

Results: The Staff Survey

- Survey consisted of:
  - Test Questions
  - Multiple Choice
  - True/False
  - Yes/No Opinions
- # of Nurses Surveyed:
  - Pre – N=24
  - Post – N= 23
- Red denotes correct answer

Nurse Survey

1. Andrew is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitors. Your assessment reveals the following information: BP= 120/80; HR= 80; R=18; on a scale of 0 to 10 (0 = no pain/discomfort, 10- worst pain/discomfort) he rates his pain as 8.

   You must document his pain. Select the number that represents your assessment of Andrew's pain.

   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

2. Robert is 25 years old and this is his first day following abdominal surgery. As you enter his room, he is lying quietly in bed and grimaces as he turns in bed. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0=no pain/discomfort, 10 – worst pain/discomfort) he rates his pain as 8.

   You must document his pain Select the number that represents your assessment of Robert's pain.

   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

3. Which of the following statements best describes your beliefs about gender and pain distress?
   a. Men have greater distress related to their pain than do women.
   b. Women have greater distress related to their pain than do men
   c. There are generally no differences in pain distress between men and women
4. How do you think gender influences willingness to report pain?
   a. Men tend to be stoic and under-report their pain more so than women
   b. Women tend to be stoic and under-report their pain more so than men
   c. Neither of the above
5. At what stage would you recommend maximum, tolerated narcotic analgesic therapy for treatment of severe cancer pain?
   a. Prognosis of less than 24 months
   b. Prognosis of less than 18 months
   c. Prognosis of less than 6- 12 months
   d. Prognosis of less than 3-6 months
   e. Prognosis of less than 1 month
   f. Prognosis of less than 1 week
   g. Anytime regardless of prognosis
6. The most likely explanation for why a terminal cancer patient with chronic pain would request increased doses of pain medications is:
   a. The patient is experiencing increased pain
   b. The patient is experiencing increased anxiety or depression

Staff Description of beliefs about gender and pain distress	Pre	Post
Men have greater distress related to their pain than do women.	29.2%	13.0%
Women have greater distress related to their pain than do men	0.0%	13.0%
There are generally no differences in pain distress between men and women	70.8%	73.9%

Staff perception of how gender influences willingness to *report* pain	Pre	Post
Men tend to be stoic and under-report their pain more so than women	16.7%	27.3%
Women tend to be stoic and under-report their pain more so than men	8.3%	9.1%
Neither of the above	75.0%	63.7%

Results: The Staff Survey

Staff perception of maximum, tolerated narcotic analgesic therapy for treatment of severe cancer pain recommendation	Pre	Post
Prognosis of less than 24 months	4.3%	4.3%
Prognosis of less than 18 months	0.0%	4.3%
Prognosis of less than 6- 12 months	0.0%	0.0%
Prognosis of less than 3-6 months	0.0%	8.7%
Prognosis of less than 1 month	4.3%	0.0%
Prognosis of less than 1 week	0.0%	4.3%
Anytime regardless of prognosis	91.3%	78.3%

Staff perception of the most likely explanation for why a terminal cancer patient with chronic pain would request increased doses of pain medications is:	Pre	Post
The patient is experiencing increased pain	91.3%	95.7%
The patient is experiencing increased anxiety or depression	8.7%	4.3%
The patient is requesting more staff attention	0.0%	0.0%
The patient's requests are related to addiction	0.0%	0.0%

	% of Correct Responses	
Observable changes in vital signs or behavioral expressions of pain will be present if the patient has severe pain:	21.7%	44.4%
Pain intensity should be rated by the nurse, not the patient:	100.0%	100.0%
If the patient can be distracted from his pain this usually means he does not have as high an intensity of pain as he indicates:	91.7%	95.5%
Patients may sleep in spite of severe pain:	66.7%	86.4%

	Pre	Post
Familiarity with alternative pain management interventions	95.7%	95.5%
Familiarity with hand massage to reduce a patient's pain	16.7%	27.3%
If yes, patient indication of decreased pain	50.0%	66.7%
Arranged for a pet visit in order to reduce a patient's pain	0.0%	40.9%
If yes, did the patient indicate the therapy decreased their pain	0.0%	100.0%
Routine discussion of the patient's pain management plan of care with the patient	95.8%	100.0%
Providing patient education on pain management helps to improve the patient's pain	91.3%	90.9%

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Pain Order Set Comments:

- Total 197 patients received Pain Order Set from June to December 2011
- Providers:
  - "This does not fit every patient's needs"
  - "It's early in the process, so it is sometimes hard to know which to use, but it gives you a lot of choices"
- RN's:
  - "I don't have to call the Dr. as much and my patient gets their pain medicine faster"
  - "It gives me options. If the first medication doesn't work, then I can move to something else right away"
- This needs further analysis

Pet Therapy:

- Total of 62 patients seen
- Total of 8 days approximately 2 hours per day (once a week for 2 months)
- Pain scores did not significantly change after the visits
- The effects were seen and heard from patients AND staff

Pet Therapy Results:

Sue: "I overheard many nurses ask there patients what they thought of Coppers visit- many of them really enjoyed it and said it helped their pain and made there day brighter- many asked if he was coming back soon."

Chronic pain pt- always requesting dilaudid. RN's skeptical about whether pet therapy would be ok with her. Patient use to be a Vet Tech and has not been able to keep that job since she got sick – Copper and I were in there for 40 minutes while she looked in his ears, teeth – massaged him and brushed him- At one point she got on the ground with him- She states "He helped me more than you know"

This patient was in hospital for a long time due to need for IV antibiotics. Copper accompanied her on her daily walk around the unit. She held his leash as she pushed her IV pole around- She said, "it was nice to have such a nice dog to keep her company on her walk. She would be in the hospital for a few weeks and would like to visit with Copper again".

Spanish Speaking only female in the room with her husband and her 1 year old little boy was drawn to copper – pointing to his eyes, nose, teeth. The pain relief came when she saw her little boy relaxed and playing. The boy kissed Copper on the nose and said "bye dog".

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Pet Therapy Comments:

30 year old female- Traumatic brain injury – Physical Therapy invited us in to help patient focus on reaching with her injured hand- She was amazed by Copper and just wanted to pet him – PT was able to redirect her to pick up her injured hand and place it on his head- She wore a Craini helmet which could of scared Copper but it did not – She kissed him good bye and waved bye using her good hand to wave with her injured hand- Her mother was in the room and was so happy to see her interactive

A non-English speaking man – comfort care. RN's concerned he would not understand pet therapy because of his language barrier. We walked in and he said in English "DOG" and attempted to get up to visit with Copper. He sat on the edge of the bed and pet Copper not saying a word for 10 minutes. He hugged him good-bye and said "Thank You"

A very pleasant young female- She saw Copper from the door- way and yelled out- "A dog- Come here!" She welcomed us immediately- She loved on him saying that he made her smile and that made her happy after being hospitalized after a few days- She wanted me to leave him with her for a "Sleep Over"

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Conclusions / Lessons Learned:

- Small Ns for the study
- Need more frequent data collection
- Target data collection to specific interventions with pointed objectives
- Patients in severe pain (constantly) decreased, relief from pain medication increased, average pain score of 10 in last 24 hours decreased
- Pain Order Set in early stage, positive direction so far
- Continuing education for Patients, RNs, and Providers
- Pet Therapy has benefits for both patients and staff

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Future Direction

- Access to the Pain Toolkit

- RPE for Pain Management at Denver Health

- Upgrading Physician Ordering System

- Planning video for the inpatient channel

- Include in care planning conversation with the patient
  - Realistic patient goals
  - Should we use the 1-10 scale?
  - Discuss options with the patient

- Continue to utilize Pet Therapy

- Future projects/data collection/further research