Pain Resource Nurse Programs:
An integrative Review of the Evidence
March to September 2012

Clinical Question: What is the quantity, quality and consistency of the evidence for the effective use of a pain resource nurse and/or a pain resource nurse program?

Evidence Search Strategies: An integrative review on the selected clinical question was conducted from March to September 2012 to determine the quantity, quality and consistency of the evidence. This review examined the strategies in developing, implementing, and evaluating a pain resource nurse program and/or the use of a pain resource nurse. A review of the research evidence from 2005-2012 was conducted via electronic databases (PubMed, Ovid, Medline, Embase, CINAHL, Proquest, Joanna Briggs Institute, Yahoo, and Google) using the search terms of “pain resource nurse”, “pain team”, “unit resource nurse”, pain resource program”, “nurses and pain team” either alone, mixed, or in combination. This review yielded 54 relevant hits and, after eliminating 33 duplicates, 24 articles were selected for inclusion. After careful examination, 13 articles were eliminated as they did not answer the clinical question, targeted inappropriate patient populations, and/or institutional settings. The remaining 11 articles pertained to the clinical area of inquiry and were reviewed in detail over a 3 month period. The articles were ranked and graded using the CCIRES Evidence Leveling System and CCIRES Strength of Recommendation Taxonomy Evidence Grading tool (See Page 13). The strength of the research evidence evaluated for this integrative review ranges from insufficient to good, with the majority of the evidence as insufficient. Result limitations include considerable variations in evidence methodology yielding inconsistent results and therefore are not generalizable to all practice settings. Additional limitations include the inability to capture accurate cost savings and a multitude of diverse interventions for PRN program design, implementation, and evaluation. There was one mention of pharmacy involvement in PRN programs and no references highlighting leadership as a PRN characteristic. However, the information presented in this review provides the best available evidence to date for clinicians in the development and implementation of a pain resource nurse program.

Executive Summary: Nurses care for diverse patient populations with both acute and chronic healthcare conditions. Many of these conditions have a pain component. Focused education on pain management is now seen as a requirement for 21st Century nursing practice. An evidence-based Pain Resource Nurse (PRN) program and the use of pain resource nurses could be the catalyst needed for enhancing nursing practice and improving pain management. Critical elements surrounding the evidence for pain resource nurses and/or PRN programs include:

- Embedding pain management awareness into organization structures promotes knowledge integration with quality improvement activities, enhances organizational processes, and significantly affects patient pain control outcomes.
- Identified challenges to the use of a pain resource nurse and/or a PRN program include negative uncaring attitudes about patients in pain, staff resistance, workload issues, and lack of available physicians, time, and pain management knowledge.
- PRN Program education can be divided into 4 content areas for the management of PAIN: Preparation, Assessment, Intervention, and Normalization.
- Collaborative multidisciplinary teamwork and communication are key to effective palliative nursing care and optimal pain management.
- Multidisciplinary team members must clarify their own attitudes/beliefs about pain management and be aware of what treatments they tend to endorse.
- Nurse-led acute pain teams utilizing nurse experts as consultants and role models enhances unit-level pain assessment/pain management competencies and improves patient outcomes.

*Nurse Expert: Key Characteristics of a Successful Pain Resource Nurse

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<td>Autonomy, Advocacy, and Commitment</td>
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*Note: The major characteristic of leadership was not articulated in the evidence.
Based on the reviewed evidence, the following recommendations are offered for consideration:

Use an evidence-based model and a collaborative multidisciplinary approach to establish a Pain Resource Nurse program in order to develop the competencies needed to support pain management nurse experts and nurse-led Acute Pain Teams 1,2,4,6,9,11 (See Appendix A, page 14).

- Align organizational support, sponsorship, and financial investment for pain resource nurses and/or a PRN program to ensure appropriate resource allocation, successful patient advocacy, and the establishment of pain management as an institutional priority4,8,11.
- Develop and implement evidence-based pharmacological and pain management protocols to reduce pain intensity, increase non-pharmacological/alternative treatments, and decrease analgesia use without increasing a patient’s pain 1-4,6,9,10.
- Ensure Pain Resource Nurse applicants articulate and/or demonstrate successful PRN characteristics as part of the selection process (See Nurse Expert table above).
- Design a strategy that assists nurses to actively transfer their knowledge to practice, such as an online pain management module that facilitates knowledge synthesis and clinical competency 3,6,10.
- Create electronic medical administration record (eMAR) prompts to improve/sustain pain documentation compliance, with pain assessment, intervention, monitoring, management, and evaluation components 3,3,8,9.
- Calculate accurate cost estimates of a PRN Program and/or pain resource nurses by evaluating education costs, analgesic cost, disposal nursing hours, length of stay, and other types of patient-related outcomes 2,4.
- Evaluate PRN program post-course knowledge and practice in order to assess the impact of course content on multidisciplinary communication, nursing practice, opioid dosing, and quality patient outcomes 3.
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Organizational Factors

- **Structures**
  - Embedding pain management awareness into organization structures within a variety of healthcare organizations does have a significant impact on pain control for patients.
    - Policies and procedures
    - Education
    - Care standards
    - Other organizational structures
  - **Organizational Support and Sponsorship**
    - Buy-in and support from administration (CNO, executive leadership, nurse managers), nurses, physicians, pharmacists, and other healthcare workers is essential to establishing pain management as a priority, to allocate appropriate resources, and for successful advocacy.
    - Continued support, coaching, and mentoring of PRNs
    - Collaborative practice between the PRNs and the medical and house staff
    - Implement important clinical improvements (e.g., The Joint Commission standards for effective pain management)
  - Pharmacy involvement:
    - Help build PRN curriculum
    - Provide ongoing support
    - Professional reinforcement
  - Financial support
    - Funding from department grants, pharmaceutical companies, equipment companies, and association grants
    - Knowledgeable and qualified program director
    - PRN program cost (i.e. send nurses to program, follow-up projects, speakers, food, handouts, & Clinical Ladder Program)
    - Managers to allocate staff time to create unit PRNs
    - PRNs to provide educational resources to unit staff
    - PRNs to meet a few hours a month

- **Processes**
  - Program guides participants to integrate knowledge with quality improvement activities can affect organizational processes and, to a more modest degree, patient outcomes.
  - Two Key processes describe the PRN experience
    - **Believing the Patients**
      - Awareness that nurses must effectively manage patient’s pain
      - Allows nurses to advocate for patient’s pain management with physicians, family members, and nurse colleagues
    - **Believing in Themselves**
      - PRN’s gained authority as experts in pain management
      - Accepted the responsibility of being champions in pain management
      - Gave themselves permission to make patients comfortable
  - Management of PAIN can be divided into 4 areas.
    1. **Preparation**: Groundwork and all aspects of interaction prior to pain assessment
      - Pre-op information
      - Individual attitudes
      - Beliefs
      - Cultures
      - Environment
    2. **Assessment**: Biopsychosociocultural assessment of pain
    3. **Intervention**: Social, psychological, pharmacological and non-pharmacological management
    4. **Normalization**: All aspects returning back to normal or optimal stage
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- **Tools**\(^1,6\)  
  - *Beliefs about Pain Control Questionnaire (BPCQ):* 13 items with BPCQ has 3 subscales\(^1\)  
  - *Internal Control (IC):* 5 items\(^1\)  
  - *Powerful Doctors (PD):* 4 items\(^1\)  
  - *Chance Happening (CH):* 4 items\(^1\)  
  - Pre and Post Education Changes in Attitude towards Pain Management\(^6\)  
    - *Self-efficacy instrument (SEP):* Belief of nurse to perform at a desired level\(^6\)  
    - *Insight test (C-PCQN):* Identified knowledge of pain management\(^6\)  
      - SEP and C-PCQN results (n=38) implied an increase in nurse competency; change in practice; the findings were not persuasive and this change could not be measured\(^6\)  
  - *A Pain Activities Questionnaire* to monitor nurses’ pain-related opportunities and participation in ward rounds with medical and pharmacy staff reinforced skills utilization\(^6\)  
    - Results were favorable but further evaluation is required\(^6\)

- **Pain Resource Nurse Program Strategies**\(^1-6,8,9,10,11\)  
  - **Multidisciplinary Multifactorial Interventions**\(^1,2\)  
    - *Interdisciplinary collaboration and communication:*\(^1,2\)  
      - A cohesive multidisciplinary team was considered by nurses as the key concept to effective palliative nursing care\(^4\)  
      - Nurses identified nurses, the multidisciplinary team, relaxation, and psychological assessment are highly important treatments for chronic pain\(^1\)  
  - **Single Interventions**\(^2\)  
    - *Medicines management*\(^2\)  
    - *Influence on medical decision making with regards to pain management*\(^2\)  
    - *Acting as patient advocate in pain management*\(^2\)  
  - **Pain Management Education** can be effective and the best approach to:\(^6\)  
    - *Provide self-directed knowledge*\(^5\)  
    - *Facilitate a more active learning style*\(^6\)  
    - *Encourage inquiry*\(^6\)  
    - *Be autonomous*\(^6\)  
    - *Encourage use of nurse expertise*\(^6\)  
    - *Draw on others to see new perspectives*\(^6\)  
    - *Challenge views and biases*\(^6\)  
  - **Education & Training**\(^1,3,5,6,11\)  
    - *Pain Education programs such as a PRN course can be a catalyst for improving pain management*\(^3\)  
    - *Traditional learning and teaching methods can increase knowledge and motivation but does not always change attitudes, behaviors, or practice*\(^6\)  
    - *The small improvements in patient pain scores following an education program suggests that nurses did not use their knowledge in daily practice to manage pain*\(^6\)  
    - *Identified PRN course content areas are:*\(^3\)  
      - Staff nurse attitudes, behaviors, and clinical practices for pain management\(^5,6\)  
      - Pain assessment\(^3\)  
      - Opioid use\(^3\)  
      - Adjuvant pain medications\(^3\)  
      - Psychosocial-spiritual care\(^3\)  
      - Non-drug interventions\(^3\)  
      - Relaxation being most frequent\(^3\)  
      - Spiritual care\(^3\)  
      - Massage\(^3\)  
      - Imagery\(^3\)  
      - Yoga\(^3\)  
      - Equianalgesic dosing *(identified as being the least applied)*\(^3\)  
      - Social and political advocacy\(^1,11\)
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- Develop an online pain management module using a student-centered problem-base learning (PBL) educational strategy to facilitate knowledge synthesis and clinical skills and can link theory to practice:
  - 5-stage model of on-line learning with an e-moderator:
    - Stage 1 and 2: Become familiar with online environment
    - Stage 3: Begin to interact with available information
    - Stage 4: More participative interaction
    - Stage 5: Discussion and debate; reflect on practices

- Pain Resource Nurse Advocacy:
  - Suggested strategies to promote advocacy activities:
    - Register to vote; encourage others to do so
    - Support or become a candidate and lobby for change
    - Use the internet to access and disseminate advocacy-related information
    - Media involvement
    - Be a resource person

- PRN Program: Selection, Design, Evaluation, and Outcomes:
  - PRN Selection Process:
    - Selection Criteria:
      - All shifts, all departments, 2 years experience, interest in pain management, and commitment to attend 6 meetings/year
      - Signed commitment from the nurse and manager
      - Must be submitted to the Pain Coordinator
      - Applicant demonstrates:
        - Interest in sharing knowledge with staff through role modeling and teaching
        - Effective interpersonal skills, especially the ability to collaborate with others
        - Commitment to own professional development through attendance at Pain Care Team monthly meetings
        - Knowledge and expertise in providing nursing care, problem solving, and implementing standards
        - Effective communication skills in written and verbal form
  - PRN Program Design:
    - Nurses can effectively accelerate the creation and implementation of the PRN program
    - Management of PAIN can be divided into 4 areas:
      1. Preparation: Groundwork and all aspects of interaction prior to pain assessment
        - Pre-op information
        - Individual attitudes
        - Beliefs
      2. Assessment: Biopsychosociocultural assessment of pain
      3. Intervention: Social, psychological, pharmacological and non-pharmacological management
      4. Normalization: All aspects returning back to normal or optimal stage
    - PRN 2-day Course incorporating the following elements (See Paice et al. 2006 for Two Day Course Outline):
      - Provision of preoperative information
      - Staff educational material for staff
      - Pain management guidelines
      - Strategy to assist nurses to actively transfer knowledge to practice
      - Daily pain rounds
      - Documentation of pain intensity scores
      - Promotion of best practice for prescribing analgesia
Email Newsletter “Pain Expert Nurse” for PRNs to share with clinical units

PRN listserv
- Network and communicate with other PRNs
- Seek assistance
- Rapidly disseminate pain related information

4 PRN Sub-Committees: Activity Examples:
- Education Committee
  - Presents monthly Mega day
  - Revise orientation-self learning module for pain
  - Develop Unit based in-services
  - Create article for newsletter
  - Set up booths for Mega Day
- Policy & Procedure Committee
  - Develop, update, and/or revise pain management medication policy/procedures
  - Develop, update, and/or revise pain assessment/reassessment policy/procedures
- Clinical Practice Committee
  - Narcan chart reviews
  - Eliminating Demerol
  - Sickle Cell protocol
- Performance Improvement Committee
  - Pain chart audits
  - Reports to Pain Committee and to unit staff meeting

Program Evaluation:
- Post course follow-up evaluation of post-course knowledge and practice is needed to assess the impact of course content on nursing pain management practice and its long-term impact on improving patient outcomes
  - Knowledge and attitude of participants
  - Retention of the PRNs
  - Patient satisfaction
  - Pain prevalence
  - Compliance with documentation
- Post-Course Activities:
  - Pass exam/post test with 80% or more
  - Develop 6-month and 12-month goals, both unit & personal (See Paice et al., 2006 for Pain Resource Nurse Goals)
  - Sign-up for sub-committee
- PRN Honors/Incentives:
  - Pins
  - Certificates
  - Poster pictures (used at Nurses Week, Mega Day, or other recognition events)
  - Continuing Education contact hours
  - Publicity: in house and local media

Program Outcomes:
- Comfort with Opioid Administration
  - Statistically significant improvements in nurses level of comfort in all queries related to basic opioid administration concepts after attending the course
  - The most gain was in physician communication and in opioid dosing of patients with substance abuse

Emma M. Cuenca, RN, MSN, CCRN, CNS, DNP(c), Cecelia L. Crawford, RN, DNP; and Collaborative Center for Integrative Reviews and Evidence Summaries (CCiRES), November 2, 2012
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- **Documentation** 
  - Disseminated information to colleagues to improve the assessment, documentation, and management of pain
  - Develop knowledge in documentation of pain assessment and intervention
  - eMAR prompts improved and sustained documentation compliance (44% reassessment compliance to over 95% for two years)
  - Improved nurses’ documentation of pain, regular pain assessment, pain intensity, postop analgesia, and pain intervention

- **Education**
  - Increased patient education has a positive effect on several measures of health status, patient experience and knowledge of pain and perception of control over pain
  - Increased unit-based patient education relating to pain management (process outcome)
  - Education, combined with the use of medicines and pain management protocols, can reduce pain intensity, increase the use on non-pharmacological treatments, and decrease the use of analgesia without increasing pain

- **Knowledge Development**
  - Integrate knowledge with quality improvement activities to affect organizational processes and, to a more modest degree, patient outcomes
  - Improved nurses’ knowledge of pain
  - Actively transfers nurses’ knowledge to practice

- **Knowledge Dissemination**
  - Course content and knowledge most frequently disseminated to other nurses within respondents’ institutions

- **Satisfaction**
  - **Nurse**
    - Enhanced job satisfaction, as demonstrated by anecdotal feedback and a reduced staff turnover when compared to other nurses
    - Increased nurse satisfaction with regards to pain management
    - High level of nurse satisfaction with the PRN Role
  - **Patient**
    - Improved patient satisfaction (no data; process improvement only)

- **Acute Pain Teams**
  - Nurses with an interest and specialized knowledge in pain assessment and management at the unit level may greatly improve patient outcomes
  - Increased confidence, responsibility, increased effectiveness, credibility, and ability to be patient advocates
  - Influenced and reinforced nurses’ professionalism
  - Improved Press Ganey Pain Scores
  - Improved Physician/Nurse Collaboration
  - More aggressive pain management
  - System wide program
  - Positive hospital publicity

- **Nurse-led Pain Teams**
  - Nurse-led model
  - Four months post-program implementation
    - Cost of analgesia and disposal nursing hours increased
    - Some reduction of post-op complications
    - VAS scores decreased
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- **Pain Resource Nurse Program Barriers**\(^4,5,6,7,11\):  
  - “Lack of time” identified as the greatest barrier to advocacy\(^11\)  
  - Lack of available doctors\(^7\)  
  - Self-doubt\(^5\)  
  - Negative, judgmental, uncaring attitudes of colleagues about patients in pain\(^5\)  
  - Staff resistance and lack of buy-in to utilize PRNs expertise\(^4,5\)  
  - Frequent PRN sub-committee meetings\(^4\)  
  - Staffing or workload issues\(^7\)  
  - Coordinating multiple projects\(^4\)  
  - Inadequate pain education strategies to prepare nurses to manage pain\(^6\)  
  - Inadequate support for nurses dealing with real clinical situations\(^8\)  
  - Lack of Knowledge (pertaining to pain management):\(^11\)  
    - Conflict management\(^11\)  
    - Legislative issues\(^11\)  
    - Legal issues\(^11\)  
    - Media training\(^11\)  
    - Promoting public awareness of pain management activities\(^11\)

- **Key Characteristics of a Successful Pain Resource Nurse**\(^1,3,4,9,11\):  
  - Aware of the complexities involved in modern healthcare environments\(^1\)  
  - Autonomy\(^9\)  
  - Commitment\(^9\)  
  - Advocacy:\(^1,3,11\)  
    - Optimal patient pain management\(^1,3,11\)  
    - Promote public awareness of pain management activities\(^11\)  
  - Knowledgeable about pain management, best practices, and best evidence\(^1\)  
  - Open and flexible to pain management treatments:\(^1,4\)  
    - More likely to endorse alternative pain interventions such as massage and aromatherapy\(^1\)  
    - Aware of what treatments they tend to endorse or neglect\(^1\)  
    - Assesses and articulates personal beliefs, knowledge, and attitudes concerning pain management\(^1,4\)

- **Pain Resource Nurse Role and Responsibilities**\(^2,3,4,8,9\):  
  - **Role Model and Resource**\(^2,3,4,8,9\):  
    - Performs and documents thorough pain assessments, interventions and outcomes\(^4\)  
    - Communicates pain issues in reports and rounds\(^4\)  
    - Teaches patients and families about pain management\(^4\)  
    - Develops, supports, and educates staff nurses in practicing with evidence-based knowledge and skills\(^2,3,4,8,9\)  
    - Develops competencies\(^2,3,4,8\)  
      - Role model and resource for pain management\(^4,8\)  
      - Assessment, monitoring, evaluation, documentation, and management of pain\(^2,8\)  
      - Clinical experience can be enhanced by activities such as rounding on palliative care units and observation in outpatient chronic pain facilities\(^5\)  
      - Medicines management\(^3,4\)  
        - Assists staff in calculating opioid dose and route equianalgesic calculations\(^3,4\)  
  - Patient advocate\(^2\)  
  - Provide a foundation for practice, quality, improvement, and ultimately nursing research\(^9\)  
  - Interdisciplinary collaboration and communication\(^2,8\)  
    - Key member of cohesive multidisciplinary team\(^2\)
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- Information dissemination\textsuperscript{2,4,8}: 
  - Coordination of unit inservices\textsuperscript{4}
  - Journal article reviews\textsuperscript{4}
  - AHCPR/JCAHO guidelines\textsuperscript{4}
  - Email distribution of newsletter to clinical units\textsuperscript{8}
  - PRN listserv for nurses to network, seek assistance, communicate with other PRNs, and rapidly disseminate pain related information\textsuperscript{8}

- Pain Resource Nurse Responsibilities\textsuperscript{1,4,8}: 
  - Assesses and articulates personal beliefs, knowledge, and attitudes concerning pain management\textsuperscript{1,4}
  - Active participant in organizational initiatives to comply with care standards and promote quality pain management\textsuperscript{6}
  - Meets specific organizational goals\textsuperscript{4} (See Paice et al., 2006 for Pain Resource Nurse Goals)
  - Collaborates with organizational leadership to evaluate progress and address any training issues\textsuperscript{4}
  - Regular attendance at PRN program meetings and other appropriate committee meetings\textsuperscript{4}
  - Informal needs assessment of clinical unit setting\textsuperscript{4}
  - Review of staff knowledge and attitudes about pain\textsuperscript{4}
  - General pain management practices and documentation\textsuperscript{4}
  - Assists staff in calculating opioid dose and route equianalgesic calculations\textsuperscript{4}
  - Targets areas for improvement\textsuperscript{4}
  - Facilitates pain quality assurance studies\textsuperscript{4}
  - Identifies needs and assists in development of pain management patient education materials\textsuperscript{4}
  - Provides educational resources to unit staff\textsuperscript{8}
  - Updates policies and procedures\textsuperscript{4}
  - Provides feedback to staff regarding pain management practices\textsuperscript{4}

- Suggested Future Nursing Research\textsuperscript{2,3,11}: 
  - Further research is needed to understand nurses’ perceived value of knowledge on equianalgesic dosing principles and ensure this knowledge is utilized in clinical practice\textsuperscript{3}
  - Compare pain management, knowledge, comfort, and practice between PRN participants and a similar nonparticipant group for a stronger demonstration of course impact\textsuperscript{9}
  - Post course follow-up evaluation of post-course knowledge and practice to assess the impact of educational content on nursing pain management practice and its long-term impact on improving patient outcomes\textsuperscript{3}
  - Follow-up with American Society for Pain Management Nursing (ASPMN) membership to better understand the major barrier of “lack of time” for advocacy\textsuperscript{11}
  - Activities of nurses practicing in the area of chronic pain outside of hospital setting\textsuperscript{2}
  - Educational interventions delivered by nurse specialists to patients experiencing chronic pain in different disease areas\textsuperscript{2}
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#### Electronic Database Search Methodology

**Integrative Review search topic:** What is the quality, quantity, and consistency of the evidence for the effective use of a pain resource nurse and/or a pain resource nurse program?

**Date(s):** March to May 2012

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</tr>
<tr>
<td><strong>Name:</strong> CINAHL <em>Years: 2005-2012</em></td>
<td>Unit Resource Nurse</td>
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<td><strong>Name:</strong> CINAHL <em>Years: 2005-2012</em></td>
<td>Pain Team</td>
<td>11</td>
<td>1</td>
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<td><strong>Name:</strong> Proquest <em>Years: 2005-2012</em></td>
<td>Pain Resource Nurse</td>
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<td><strong>Name:</strong> Proquest <em>Years: 2005-2012</em></td>
<td>Unit Resource Nurse</td>
<td>236</td>
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<tr>
<td><strong>Name:</strong> Proquest <em>Years: 2005-2012</em></td>
<td>Pain Team</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Name:</strong> Proquest <em>Years: 2005-2012</em></td>
<td>Pain Resource Program</td>
<td>60</td>
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<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Name:</strong> Joanna Briggs Institute <em>Years: Open</em></td>
<td>Unit Resource Nurse, Pain Team, Pain Resource Program</td>
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<td>0</td>
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<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td><strong>17,647</strong></td>
<td><strong>54</strong></td>
<td><strong>33</strong></td>
<td><strong>24</strong></td>
<td><strong>13</strong></td>
<td><strong>11</strong></td>
</tr>
</tbody>
</table>

*Total Articles Included in Literature Review: Database (11) + Contextual Links (0) = 11*

**Inclusion Criteria:** Acute care adult surgical units, surgical units, and/or medical/surgical units  
**Exclusion Criteria:** Long term care, SNF, rehabilitation, pediatrics, medical units; articles older than 2005-2012
## Pain Resource Nurse Programs: An integrative Review of the Evidence

March to September 2012

Quality of the Evidence

### CCIRES© Evidence Leveling System (ELS)

Adapted from Canadian Medical Association & Centre for Evidence-Based Medicine, Levels of the Evidence (2001) and AACN Evidence Leveling System (2009)

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>DESCRIPTION</th>
<th>RELEVANT ARTICLES</th>
<th>ARTICLE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Meta-analysis of multiple large sample or small sample* randomized controlled studies, or meta-synthesis of qualitative studies with results that consistently support a specific action, intervention, or treatment</td>
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<td>0</td>
</tr>
<tr>
<td>B</td>
<td>Well-designed controlled studies, both randomized and nonrandomized, prospective or retrospective studies, and integrative reviews with results that consistently support a specific action, intervention, or treatment</td>
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<td>0</td>
</tr>
<tr>
<td>C</td>
<td>Qualitative studies, descriptive or correlational studies, integrative reviews, systematic reviews, or randomized controlled trials with inconsistent results</td>
<td>6</td>
<td>#1, #3, #5, #7, #10, #11</td>
</tr>
<tr>
<td>D</td>
<td>Peer-reviewed professional organizational standards, with clinical studies to support recommendations</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>Theory-based evidence from expert opinion or multiple case reports, case studies, consensus of experts, and literature reviews</td>
<td>5</td>
<td>#2, #4, #6, #8, #9</td>
</tr>
<tr>
<td>MA</td>
<td>Manufacturer’s recommendation; Anecdotes</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* A large sample has adequate power to detect the observed effect with confidence (as seen in significant Confidence Intervals). A small sample may lack confidence in the power of the desired effect (Polit & Beck, 2008)

### CCIRES Strength of Recommendation Taxonomy (SORT) for Grading the Evidence

Evidence graded as “Good” (1) = 3 articles
Evidence graded as “Fair” (2) = 2 articles
Evidence graded as Insufficient (3) = 6 articles

### Summary of the Strength of the Body of Evidence

3 = Insufficient

The summary of the body of the evidence based on consensus, usual practice, opinion, disease-oriented evidence#, and demonstrates good quality patient-oriented evidence*, case series, and case studies

*Patient-oriented evidence measures outcomes that matter to patients: morbidity, mortality, symptom improvement, cost reduction, quality of life.

#Disease oriented evidence measures intermediate, physiologic, or surrogate endpoints that may or may not reflect improvements in patient outcomes (i.e. blood pressure, blood chemistry, physiological function, and pathological findings)
# Pain Resource Nurse Program Integrative Review

## A Model of Evidence-Based Structures, Processes, and Outcomes

<table>
<thead>
<tr>
<th>Structures</th>
<th>Processes</th>
<th>Outcomes</th>
</tr>
</thead>
</table>
| Organizational Support, Sponsorship, and Financial Investment\(^{2,11}\)  
- Collaborative Multidisciplinary Team, including Pharmacy involvement\(^{1,2,8}\) | Implementation of the Four Areas of Pain Management, using a collaborative multimodal approach\(^{1,2,4,6,8}\)  
- **Preparation**: Patient/staff information, attitudes, beliefs, cultures, environment\(^{1,4-6,8}\)  
- **Assessment**: Biopsychosocial-cultural pain assessment\(^{1,3,5,8}\)  
- **Intervention**: Social, psychological, pharmacological and non-pharmacological pain management\(^{1,5,8}\)  
- **Normalization**: All aspects returned to normal or optimal stage\(^{2,6}\) | Increased PRN competencies & skills\(^{1-6,8,9}\)  
- Optimal communication with multidisciplinary team members\(^{1,2,6}\)  
- Improved documentation of assessment, intervention, monitoring, evaluation, and management of pain\(^{2,3,6,9}\)  
- Integration of best practices and best evidence into daily nursing practice\(^{3,5,10}\)  
- Increased comfort with equianalgesic and opioid dosing, calculation, & administration\(^3\) |

| Pain Resource Nurse (PRN) and/or PRN Programs\(^{2-11}\)  
- Nurse-Led Acute Pain Teams\(^{2,4,5}\)  
  - Pain Champions  
- PRN competencies & skills\(^{2,4,5,9}\)  
- Tools & Resources\(^{1-6}\)  
  - Pain assessment & measurement\(^1-3,5,8\)  
  - Staff beliefs & attitudes\(^{1,4-6,8}\)  
  - Medication dosing & calculations\(^2,3,4\)  
- Traditional & alternative pain management interventions\(^{1-4,6}\) | PRN program design, implementation, monitoring, evaluation, and modification\(^2-11\)  
- Timely and available pain management consultation by nurse experts\(^4-6,8,11\)  
- Identification of current pain management issues, challenges, and strengths\(^2,7-11\)  
- Integration of pain management best practices, best evidence, and scientific knowledge to organizational improvement activities\(^6,9-11\) | Retention of pain resource nurses\(^3\)  
Increased staff satisfaction\(^2,5,8\)  
Improved patient and staff education\(^2,3,10\)  
Increased patient satisfaction\(^9\)  
Decreased patient pain scores\(^2,4\)  
Balanced cost/benefit ratio for education costs, appropriate resource allocation, analgesic cost, and disposal nursing hours\(^2,4,8\)  
Dissemination of new knowledge at unit, department, medical center, and organizational levels\(^2,4,8\)  
- Unit in-services, posters, journal article review, staff meetings, pain huddles\(^4\)  
- Emailed newsletters\(^5\)  
- PRN listserv or other social media\(^8\) |

| PRN Sub-Committees\(^4\) | Review, update, and modify pain management educational content, protocols, and policy/procedures, as based on the best available evidence\(^2,4,8,9,10\) | Embedded pain management awareness into organizational structures & processes\(^10\)  
- Pain management as an institutional priority\(^8\)  
- Improved staff knowledge of pain\(^2,3,6\)  
- Evidence-based pain management education, protocols and policy/procedures\(^2,4\)  
- Translation of best practices and best evidence into daily clinical practice\(^6,9,10\)  
- Safe and high quality patient care\(^9,10\) |
| Education\(^4\)  
- Policy & Procedure\(^4\)  
- Clinical Practice\(^4\)  
- Performance Improvement\(^4\) |  
|  

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Cecelia L. Crawford, RN, DNP and Emma Cuenca, RN, MSN, CNS, DNP(c); November 1, 2012, and Collaborative Center for Integrative Reviews and Evidence Summaries  
Kaiser Permanente Southern California, Regional Nursing Research Program
Pain Resource Nurse Programs:
An integrative Review of the Evidence
March to September 2012

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Pain Resource Nurse Programs:
An integrative Review of the Evidence
March to September 2012

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