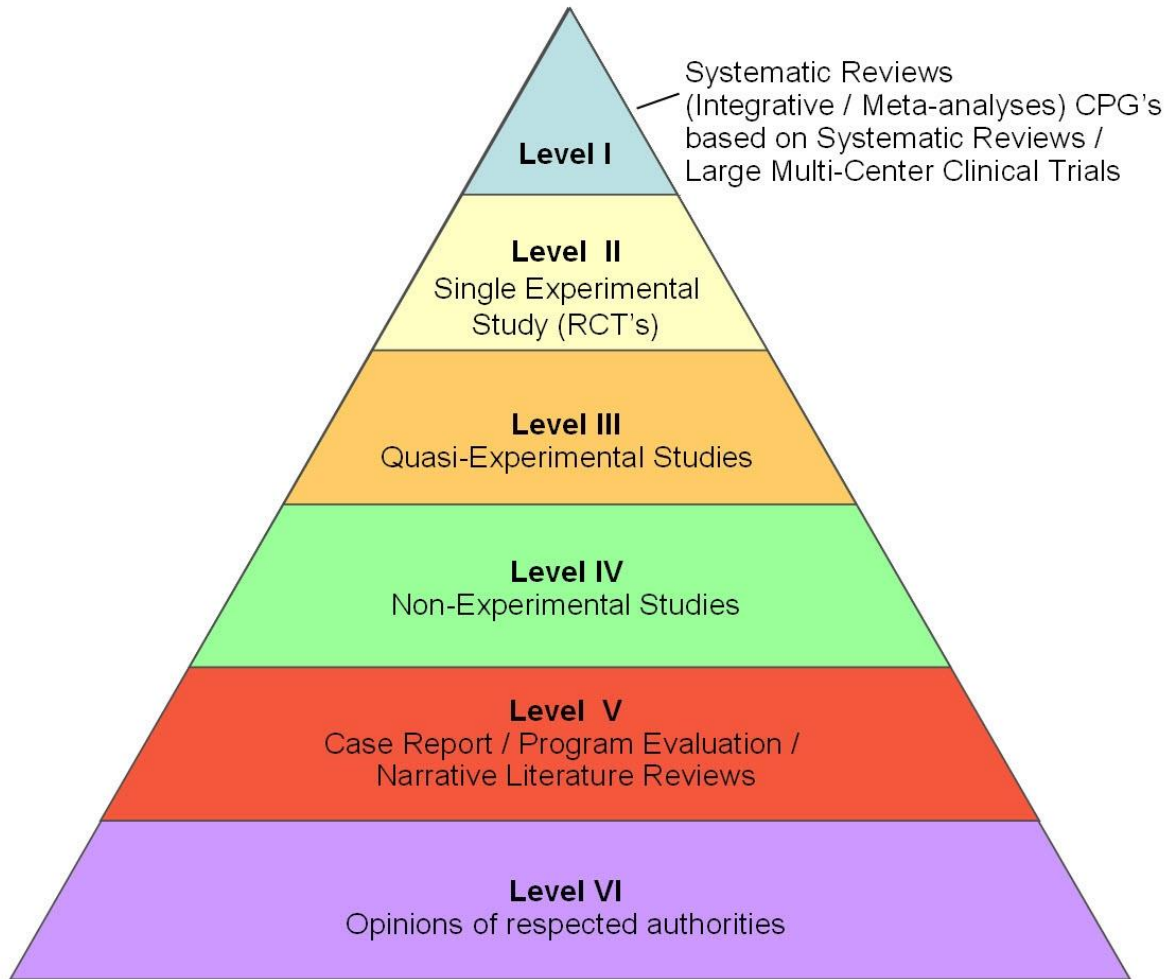


## LEVEL of EVIDENCE EXERCISE



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Figure 1. Levels of Quantitative Evidence for Effectiveness of Therapy. Adapted from the work of Stetler et al. (1998); Melnyk & Fineout-Overholt (2011), Levin (2008).

## LEVEL of EVIDENCE EXERCISE

**Using the Levels of Evidence Pyramid presented above read each abstract and then identify the level of evidence of the abstract's study.**

1. McDonald, M.V., Pezzin, L.E., Feldman, P.H., Murtaugh, C.M., Peng, T.R. (2005). Can just-in-time, evidence-based "reminders" improve pain management among home health care nurses and their patients. *Journal of Pain & Symptom Management*, 25(5), 474-488.

Abstract: The purpose of this randomized, controlled, home care intervention was to test the effectiveness of two nurse-targeted, e-mail-based interventions to increase home care nurses' adherence to pain assessment and management guidelines, and to improve patient outcomes. Nurses from a large urban non-profit home care organization were assigned to usual care or one of two interventions upon identification of an eligible cancer patient with pain. The basic intervention consisted of a patient-specific, one-time email reminder highlighting six pain-specific clinical recommendations. The augmented intervention supplemented the initial e-mail reminder with provider prompts, patient education material, and clinical nurse specialist outreach. Over 300 nurses were randomized and outcomes of 673 of their patients were reviewed. Data collection involved clinical record abstraction of nurse care practices and patient interviews completed approximately 45 days after start of care. The intervention has limited effect on nurse-documented care practices but patient outcomes were positively influenced. Patients in the augmented group improved significantly over the control group in ratings of pain intensity at its worst, whereas patients in the basic group had better ratings of pain intensity on average. Other outcomes measures were also positively influenced but did not reach statistical significance. Our findings suggest that although reminders have some role in improving cancer pain management, a more intensive approach is needed for a generalized, nursing workforce with limited recent exposure to state-of-the-art pain management practices.

- a. Level I
- b. Level II or III
- c. Cannot use this leveling scheme
- d. Level IV
- e. Level V/VI

2. Clark, L., Fink, R., Pennington, K., Jones, K., (2006). Nurses' reflections on pain management in a nursing home setting. *Pain Management Nursing*, 7(2), 71-77.

Abstract: Achieving optimal and safe pain-management practices in the nursing home setting continues to challenge administrators, nurses, physicians, and other health care providers. Several factors in nursing home settings complicate the conduct of clinical

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process improvement research. The purpose of this qualitative study was to explore the perceptions of a sample of Colorado nursing home staff who participated in a study to develop and evaluate a multifaceted pain-management intervention. Semi-structured interviews were conducted with 103 staff from treatment and control nursing homes, audiotaped, and content analyzed. Staff identified changes in their knowledge and attitudes about pain and their pain-assessment and management practices. Progressive solutions and suggestions for changing practice include establishing an internal pain team and incorporating nursing assistants into the care planning process. Quality improvement strategies can accommodate the special circumstances of nursing home care and build the capacity of the nursing homes to initiate and monitor their own process-improvement programs using a participatory research approach.

- a. Level I
  - b. Level II or III
  - c. Cannot use this leveling scheme
  - d. Level IV
  - e. Level V/VI
3. Dewar, A., (2006). Assessment and management of chronic pain in the older person living in the community. *Australian Journal of Advanced Nursing*, 24(I), 33-38.

**AIM:** This paper reviews the nursing research literature on chronic pain in the older person living in the community and suggests areas for future research.

**BACKGROUND:** Chronic pain is a pervasive and complex problem that is difficult to treat appropriately. Nurses managing chronic pain in older people in domiciliary/home/community nursing settings face many challenges. To provide care, the many parameters of chronic pain which include the physical as well as the psycho-social impact and the effect of pain on patients and their families, must be carefully assessed.

Beliefs of the older person about pain and pain management are also important. **METHOD:** Relevant nursing studies were searched using CINAHL, Cochrane Database of Systematic Reviews, EMBASE and PUBMED databases using key words about pain and the older person that were appropriate to each database. **RESULTS:** Tools to assess pain intensity in the older person have been studied but there has been less research on the other parameters of pain assessment or how the older person manages pain. An effective nurse-patient relationship is an important component of this process and one that needs more study. Few research studies have focused on how nurses can be assisted, or on the challenges, nurses' face, when managing this vulnerable population.

**CONCLUSION:** A broad approach at the organizational level will assist nurses to manage this health care issue.

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- a. Level I
- b. Level II
- c. Level III
- d. Level IV
- e. Level V/VI

4. Vallerand, A.H., Collins-Bohler, D., Templin, T., Hasenau, S.M. (2007). Knowledge of and barriers to pain management in caregivers of cancer patients receiving homecare. *Cancer Nursing*. 30(1), 31-37.

Abstract: Cancer treatment is increasingly being provided in outpatient settings, requiring many of the responsibilities for patient care to be undertaken by family caregivers. Pain is one of the most frequent and distressing symptoms experienced by cancer patients and is a primary concern for the family caregiver. Caregivers struggle with many issues that lead to inadequate management of cancer pain. The purpose of this study was to determine pain management knowledge and examine concerns about reporting pain and using analgesics in a sample of primary family caregivers of cancer patients receiving homecare. The Barriers Questionnaire and the Family Pain Questionnaire were administered to 46 primary caregivers. Between 46 and 94 % of the caregivers reported having at least some agreement with the various concerns that are barriers to reporting pain and using analgesics, and up to 15 % reported having strong agreement. The areas of greatest concern were about opioid-related side effects, fears of addiction, and the belief that pain meant disease progression. Results showed that caregivers with higher pain management knowledge had significantly fewer barriers to cancer pain management, supporting the importance of increasing caregiver's knowledge of management of cancer pain.

- a. Level I
- b. Level II
- c. Level III
- d. Level IV
- e. Level V/VI

5. Haynes RB, Yao X, Degani A, Kripalani S, Garg A, McDonald HP. (2005). Interventions for enhancing medication adherence. (Article No. CD000011). *Cochrane Database of Systematic Reviews* Issue 4. DOI: 10.1002/14651858.CD000011.1.pub2.

Background: People who are prescribed self-administered medications typically take less than half the prescribed doses. Efforts to assist patients with adherence to medications might improve the benefits of prescribed medications, but also might increase their adverse effects.

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Objectives: To update a review summarizing the results of randomized controlled trials (RCTs) of interventions to help patients follow prescriptions for medications for medical problems, including mental disorders but not addictions.

Search strategy: Computerized searches were updated to September 2004 without language restriction in MEDLINE, EMBASE, CINAHL, The Cochrane Library, International Pharmaceutical Abstracts (IPA), PsycINFO and SOCIOFILE. We also reviewed bibliographies in articles on patient adherence and articles in our personal collections, and contacted authors of original and review articles on the topic.

- a. Level I
- b. Level II
- c. Level III
- d. Level IV
- e. Level V/VI

6. Vetter, M. J. (2015). Influence of clinical decisions on diagnostic accuracy in nurse practitioners. *Worldviews on Evidence-Based Nursing*, 126, 355-363.

Background: Clinical decision support systems (CDSSs) at the point of care are evidence-based interventions that have demonstrated incremental positive impact on quality of healthcare delivery over the past two decades. Existing best practices inform strategies to promote adoption and achievement of targeted outcomes. The purpose of this improvement project was to conduct a pilot implementation to understand the contextual factors and readiness for dissemination of a newly acquired electronic CDSS by evaluating its influence on diagnostic accuracy in nurse practitioners (NPs) functioning in a community health setting. Aims: The specific aims of this project were to measure and compare diagnostic accuracy in a pilot group before and after CDSS use, educate clinicians about the system and pilot its use, and then leverage the experience to design the practice-wide CDSS dissemination strategy. Methods: The project engaged a subset of NPs from a home-based primary care practice and other organizational stakeholders who provided tangible support and necessary resources for successful adoption of this innovation in practice. A structured conceptual model of Evidence-Based Practice Improvement enhanced with elements of the Promoting Action on Research Implementation in Health Sciences framework was used to guide the development, implementation and evaluation of this practice improvement initiative. A group of seven NP representatives of the practice participated in the project. Data collection was composed of small tests of change (plan-do-study-act) cycles at the local practice level, measuring achievement of improvement of the chosen outcome of correctness of medical diagnosis evidenced by appropriate substantiating clinical documentation.

## LEVEL of EVIDENCE EXERCISE

- a. Level I
  - b. Level II or III
  - c. Cannot use this leveling scheme
  - d. Level IV
  - e. Level V/VI
7. Marek, K. D., Popejoy, L., Petroski, G., Rantz, M. (2006). Nurse care coordination in community-based long-term care. *Journal of Nursing Scholarship*. 38(1), 80-86.

**PURPOSE:** To evaluate the clinical outcomes of a nurse care coordination program for people receiving services from a state-funded home and community-based waiver program called Missouri Care Options (MCO).

**DESIGN:** A quasi-experimental design was used to compare 55 MCO clients who received nurse care coordination (NCC) and 30 clients who received MCO services but no nurse care coordination.

**METHODS:** Nurse care coordination consists of the assignment of a registered nurse who provides home care services for both the MCO program and Medicare home health services. Two standardized datasets, the Minimum Data Set (MDS) for resident care and planning and the Outcome Assessment Instrument and Data Set (OASIS) were collected at baseline, 6 months, and 12 months on both groups. Cognition was measured with the MDS Cognitive Performance Scale (CPS), activities of daily living (ADL) as the sum of five MDS ADL items, depression with the MDS-Depression Rating Scale, and incontinence and pressure ulcers with specific MDS items. Three OASIS items were used to measure pain, dyspnea, and medication management. The Cochran-Mantel-Haenszel (CMH) method was used to test the association between the NCC intervention and clinical outcomes.

**FINDINGS:** At 12 months, the NCC group scored significantly better statistically in the clinical outcomes of pain, dyspnea, and ADLs. No significant differences between groups were found in eight clinical outcome measures at 6 months. **CONCLUSIONS:** Use of nurse care coordination for acute and chronic home care warrants further evaluation as a treatment approach for chronically ill older adults.

- a. Level I
- b. Level II or III
- c. Cannot use this leveling scheme
- d. Level IV
- e. Level V/VI