SAFETY

ANNOTATED BIBLIOGRAPHY

JULY 2007 – NEW CITATIONS

Bargagliotti, L. A., & Lancaster, J. (2007). Quality and safety education in nursing: More than new wine in old skins. *Nursing outlook, 55*(3), 156-158.

The Quality and Safety Education for Nurses (QSEN) project, funded by the Robert Wood Johnson Foundation, has identified 6 core competencies that all pre-licensure nursing students need to master in order to provide high quality, safe nursing care. The core competencies are: patient-centered care; teamwork and collaboration; evidence-based practice; informatics; quality improvement; and safety. Implementation of these competencies throughout nursing education will require shedding the nursing and faculty belief systems and mental models of the past to adopt new ones. (Source: QSEN Team)

Buerhaus, P. I., Donelan, K., Ulrich, B. T., Norman, L., DesRoches, C., & Dittus, R. (2007). Impact of the nurse shortage on hospital patient care: Comparative perspectives. *Health affairs, 26*(3), 853-862.

National surveys of registered nurses, physicians, and hospital executives document considerable concern about the U.S. nurse shortage. Substantial proportions of respondents perceived negative impacts on care processes, hospital capacity, nursing practice, and the Institute of Medicine's six aims for improving health care systems. There were also many areas of divergent opinion within and among these groups, including the impact of the shortage on safety and early detection of patient complications. These divergences in perceptions could be

important barriers to resolving the current nurse shortage and improving the quality and safety of patient care. (Source: PubMed)

Carlton, G., & Blegen, M. A. (2006). Medication-related errors: A literature review of incidence and antecedents. *Annual review of nursing research, 24*, 19-38.

Patient safety has become a major concern for both society and policymakers. Since nurses are intimately involved in the delivery of medications and are ultimately responsible during the medication administration phase, it is important for nursing to understand factors contributing to medication administration errors. The purpose of this chapter is to identify the incidence of these errors and the associated factors in an attempt to better understand the problem and lessen future error occurrence. Literature review revealed both active failures and latent conditions established in Reason's theory remain prevalent in current literature where active failures often display themselves in the form of incorrect drug calculations, lack of individual knowledge, and failure to follow established protocol. Latent conditions are evidenced as time pressures, fatigue, understaffing, inexperience, design deficiencies, and inadequate equipment and may lie dormant within a system until combined with active failures to create opportunity for error. Although medication error research has shifted in emphasis toward identification of system problems inherent in error occurrence, no one force emerges as a clear antecedent, reinforcing the need for further research and replication of existing studies with emphasis placed on more dependable reporting measures through which nurses are not threatened by reprisal. (Source: PubMed)

Clarke, S. P. (2006). Organizational climate and culture factors. *Annual review of nursing research, 24*, 255-272.

Nurses and others have expressed a great deal of interest in the potential for incorporating notions about organizational culture and climate in research and practice aiming to improve health care safety. In

this review, definitions and measures of these terms are explored, the state of the research literature connecting culture and climate with safety is reviewed, and directions for future research and leadership practice are outlined. (Source: PubMed)

Cronenwett, L., Sherwood, G., Barnsteiner, J., Disch, J., Johnson, J., Mitchell, P., et al. (2007). Quality and safety education for nurses. *Nursing outlook, 55*(3), 122-131.
Quality and Safety Education for Nurses (QSEN) addresses the challenge of preparing nurses with the competencies necessary to continuously improve the quality and safety of the health care systems in which they work. The QSEN faculty members adapted the Institute of Medicine competencies for nursing (patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement, safety, and informatics), proposing definitions that could describe essential features of what it means to be a competent and respected nurse. Using the competency definitions, the authors propose statements of the knowledge, skills, and attitudes (KSAs) for each competency that should be developed during pre-licensure nursing education. Quality and Safety Education for Nurses (QSEN) faculty and advisory board members invite the profession to comment on the competencies and their definitions and on whether the KSAs for pre-licensure education are appropriate goals for students preparing for basic practice as a registered nurse. (Source: PubMed)

Day, L., & Smith, E. L. (2007). Integrating quality and safety content into clinical teaching in the acute care setting. *Nursing outlook, 55*(3), 138-143.
Teaching the highest quality and safest practice has long been a goal of faculty members in pre-licensure nursing education programs. This article will describe innovative approaches to integrating quality and safety content into existing clinical practica. The core competencies identified by the Quality and Safety Education for Nurses project-patient-

centered care, teamwork and collaboration, evidence-based practice, quality improvement, safety, and informatics-serve as the framework for the teaching/learning exercises. The strategies described require a shift in attention rather than changes in course content and can be included in any clinical rotation in an acute care setting. (Source: PubMed)

Finkelman, A. W., & Kenner, C. (2007). *Teaching IOM: Implications of the Institute of Medicine reports for nursing education*. Silver Spring, MD: American Nurses Association.
Teaching IOM focuses on the core competencies derived from the IOM reports on quality and health care and how to use these reports in the classroom. The companion CD-ROM provides additional material for incorporating content into curricula and teaching-learning experiences. It includes PowerPoint presentations with notes on the book's five major topics; healthcare safety, healthcare quality, public health safety and quality, healthcare diversity, and linkage between research and evidence-based practice. The content is appropriate for graduate or undergraduate students. (Source: QSEN Team)

Frankel, A. S., Leonard, M. W., & Denham, C. R. (2006). Fair and just culture, team behavior, and leadership engagement: The tools to achieve high reliability. *Health services research, 41*(4 Pt 2), 1690-1709.
BACKGROUND: Disparate health care provider attitudes about autonomy, teamwork, and administrative operations have added to the complexity of health care delivery and are a central factor in medicine's unacceptably high rate of errors. Other industries have improved their reliability by applying innovative concepts to interpersonal relationships and administrative hierarchical structures (Chandler 1962). In the last 10 years the science of patient safety has become more sophisticated, with practical concepts identified and tested to improve the safety and reliability of care. OBJECTIVE: Three initiatives stand out as worthy regarding interpersonal relationships and the application of provider concerns to shape operational change: The development and

implementation of Fair and Just Culture principles, the broad use of Teamwork Training and Communication, and tools like WalkRounds that promote the alignment of leadership and frontline provider perspectives through effective use of adverse event data and provider comments. METHODS: Fair and Just Culture, Teamwork Training, and WalkRounds are described, and implementation examples provided. The argument is made that they must be systematically and consistently implemented in an integrated fashion. CONCLUSIONS: There are excellent examples of institutions applying Just Culture principles, Teamwork Training, and Leadership WalkRounds--but to date, they have not been comprehensively instituted in health care organizations in a cohesive and interdependent manner. To achieve reliability, organizations need to begin thinking about the relationship between these efforts and linking them conceptually. (Source: PubMed)

Glaister, K. (2007). The presence of mathematics and computer anxiety in nursing students and their effects on medication dosage calculations. *Nurse education today, 27*(4), 341-347.
AIM: To determine if the presence of mathematical and computer anxiety in nursing students affects learning of dosage calculations. METHOD: The quasi-experimental study compared learning outcomes at differing levels of mathematical and computer anxiety when integrative and computer based learning approaches were used. Participants involved a cohort of second year nursing students (n=97). RESULTS: Mathematical anxiety exists in 20% (n=19) of the student nurse population, and 14% (n=13) experienced mathematical testing anxiety. Those students more anxious about mathematics and the testing of mathematics benefited from integrative learning to develop conditional knowledge ($F(4,66)=2.52$ at $p<.05$). Computer anxiety was present in 12% (n=11) of participants, with those reporting medium and high levels of computer anxiety performing less well than those with low levels ($F(1,81)=3.98$ at $p<.05$). CONCLUSION: Instructional strategies need to account for the presence

of mathematical and computer anxiety when planning an educational program to develop competency in dosage calculations. (Source: PubMed)

Greenfield, S. (2007). Medication error reduction and the use of PDA technology. *The Journal of nursing education, 46*(3), 127-131.
The purpose of this study was to determine whether nursing medication errors could be reduced and nursing care provided more efficiently using personal digital assistant (PDA) technology. The sample for this study consisted of junior and senior undergraduate baccalaureate nursing students. By self-selection of owning a PDA or not, students were placed in the PDA (experimental) group or the textbook (control) group, provided with a case study to read, and asked to answer six questions (i.e., three medication administration calculations and three clinical decisions based on medication administration). The analysis of collected data, calculated using a t test, revealed that the PDA group answered the six questions with greater accuracy and speed than did the textbook group. (Source: PubMed)

Hallmarks of quality and patient safety: Recommended baccalaureate competencies and curricular guidelines to ensure high-quality and safe patient care. (2006). *Journal of professional nursing : official journal of the American Association of Colleges of Nursing, 22*(6), 329-330.
In response to the call to better prepare today's nurses for professional practice, the American Association of Colleges of Nursing (AACN) convened a task force on essential patient safety competencies and charged this group with identifying the essential baccalaureate core competencies that should be achieved by professional nurses to ensure high-quality and safe patient care. This article presents the competencies that are the result of the work of the task force. (Source: QSEN Team)

Henriksen, K., & Dayton, E. (2006). Issues in the design of training for quality and safety. *Quality & safety in health care, 15 Suppl 1*, i17-24.

The US healthcare delivery system is in a state of change. Medical science and technology are advancing at an unprecedented rate, while cost containment and productivity pressures on clinicians make the clinical environment less than ideal for training. Training is one of the vehicles for addressing new knowledge requirements and for enhancing human and system based performance. Yet the theoretical underpinnings and design aspects of training have been largely unrecognized and unexamined in health care. This paper first explores changes in the practice of medicine and the healthcare delivery environment. It then describes how healthcare training and education can benefit from findings in the behavioral and cognitive sciences. It describes the systems approach to training and explores the extent to which a systems approach can be applied to the clinical environment. Finally, the paper examines innovative training and education techniques that are already gaining acceptance in health care. (Source: PubMed)

Henriksen, K., & Dayton, E. (2006). Organizational silence and hidden threats to patient safety. *Health services research, 41*(4 Pt 2), 1539-1554.

Organizational silence refers to a collective-level phenomenon of saying or doing very little in response to significant problems that face an organization. The paper focuses on some of the less obvious factors contributing to organizational silence that can serve as threats to patient safety. Converging areas of research from the cognitive, social, and organizational sciences and the study of sociotechnical systems help to identify some of the underlying factors that serve to shape and sustain organizational silence. These factors have been organized under three levels of analysis: (1) individual factors, including the availability heuristic, self-serving bias, and the status quo trap; (2) social factors, including conformity, diffusion of responsibility, and microclimates of distrust; and (3) organizational factors, including unchallenged beliefs, the good provider fallacy, and neglect of the interdependencies. Finally, a

new role for health care leaders and managers is envisioned. It is one that places high value on understanding system complexity and does not take comfort in organizational silence. (Source: PubMed)

Iedema, R., Jorm, C., Braithwaite, J., Travaglia, J., & Lum, M. (2006). A root cause analysis of clinical error: Confronting the disjunction between formal rules and situated clinical activity. *Social science & medicine, 63*(5), 1201-1212.

This paper presents evidence from a root cause analysis (RCA) team meeting that was recently conducted in a Sydney Metropolitan Teaching Hospital to investigate an iatrogenic morphine overdose. Analysis of the meeting transcript reveals on three levels that clinical members of the team struggle with framing the uncertain and contradictory details of situated clinical activity and translating these first into 'root causes', and then into recommendations for practice change. This analysis puts two challenges into special relief. First, RCA team members find themselves in the unusual position of having to derive organizational-managerial generalizations from the specifics of in situ activity. Second, they are constrained by the expectation inscribed into RCA that their recommendations result in 'systems improvements' assumed to flow forth from an extension of formal rules and spread of procedures. We argue that this perspective misrecognizes the importance of RCA as a means to engender solutions that leave the procedural detail of clinical processes unspecified, and produce cross-hospital discussions about the organizational dimensions of care. (Source: PubMed)

Johnson, K., & Maultsby, C. C. (2007). A plan for achieving significant improvement in patient safety. *Journal of nursing care quality, 22*(2), 164-171.

Improvement in systems that ensure safety in the provision of care is a high priority to hospital administrators, clinicians, and patients. Research to determine the approaches and methods that will result in the most significant patient safety improvements is underway but more is needed.

This article describes the process for improving patient safety adopted at one hospital. Results of these efforts demonstrate significant improvement in staff understanding of patient safety measures. Staff survey results are supported by improvement in clinical indicators. Recommendations for future action and implications for other hospitals are discussed. (Source: PubMed)

Johnstone, M. J., & Kanitsaki, O. (2007). Clinical risk management and patient safety education for nurses: A critique. *Nurse education today, 27*(3), 185-191.

Nurses have a pivotal role to play in clinical risk management (CRM) and promoting patient safety in health care domains. Accordingly, nurses need to be prepared educationally to manage clinical risk effectively when delivering patient care. Just what form the CRM and safety education of nurses should take, however, remains an open question. A recent search of the literature has revealed a surprising lack of evidence substantiating models of effective CRM and safety education for nurses. In this paper, a critical discussion is advanced on the question of CRM and safety education for nurses and the need for nurse education in this area to be reviewed and systematically researched as a strategic priority, nationally and internationally. It is a key contention of this paper that without 'good' safety education research it will not be possible to ensure that the educational programs that are being offered to nurses in this area are evidence-based and designed in a manner that will enable nurses to develop the capabilities they need to respond effectively to the multifaceted and complex demands that are inherent in their ethical and professional responsibilities to promote and protect patient safety and quality care in health care domains. (Source: PubMed)

Kazaoka, T., Ohtsuka, K., Ueno, K., & Mori, M. (2007). Why nurses make medication errors: A simulation study. *Nurse education today, 27*(4), 312-317.

The purpose of this study was to investigate about the communication

problems in the team nursing systems, if the requests for medication between nurses happen. For this study, we developed a simulation involving a nurse giving a medication prepared by another nurse. Baseline data was collected from 100 third-year nursing students and 163 nurses of two municipal hospitals further subdivided into three groups by their service years. The responders attributing to the errors in the simulation were compared. As a result, the more service years the fewer nurses there were who attributed medication errors to no explanation and no confirmation between nurses. The nurses whose service years were less than five years had a low level of awareness regarding no explanation of a nurse leader requesting the medications as well as the students. These findings suggested that there is the possibility that some medication errors occur due to preoccupation that nurses feel it is less necessary to explain and confirm everything related to medication administrations as their length of service increase. Nurses have a communication problem that is influenced by the relationship in the workplace in the team nursing system. Therefore, the requests for medication should no be permitted. (Source: PubMed)

Li, S., & Kenward, K. (2006). A national survey of nursing education and practice of newly licensed nurses. *JONA's healthcare law, ethics & regulation, 8*, 110-115.

The Institute of Medicine recommended establishing evidence-based teaching methods and curricula in health professions' education to meet the needs of the changing healthcare system. In an attempt to provide evidence-based information for nursing education, this study was designed to identify educational elements that best prepare nurses for practice. The study employed a two-tiered survey process for collecting and combining data from programs of nursing education and the graduates of those programs. Administrators of 410 nursing programs responded to questions related to elements of education in their programs (response rate = 51%), whereas 7,497 RN (76.5%) and LPN

(23.5%) graduates of respondent programs answered questions related to the adequacy of educational preparation for practice, difficulty with current client care assignments, and other professional and practice issues (response rate = 45.4%). The majority of the nurses reported that their education had adequately prepared them to perform many, but not all, essential areas of the nursing functions examined. Nearly 20% of the RNs and 18% of the LPNs reported having difficulty with client care assignments. Inadequate preparation of several nursing functions were identified as predictive of difficulty with patient care assignments. These areas include working effectively within the healthcare team, administering medications to groups of patients, analyzing multiple types of data when making client-related decisions, delegating tasks to others, and understanding the pathophysiology underlying a client's conditions. In addition, it was found that the graduates were more likely to feel adequately prepared when nursing programs taught them use of information technology and evidence-based practice; integrated pathophysiology and critical thinking throughout the curriculum; taught content related to the care of client populations as independent courses; and had a higher percentage of faculty teaching both didactic and clinical components of the curriculum. The findings of this study are significant in broadening our understanding of the relationships between educational elements and preparedness of new nurses for practice. (Source: PubMed)

Malloch, K. (2007). The electronic health record: An essential tool for advancing patient safety. *Nursing outlook, 55*(3), 159-161.
According to a recent American Hospital Association survey, 68% of US hospitals reported they had fully or partially implemented electronic health records in 2006. Three applications within the electronic record—computerized physician order entry (CPOE), electronic medication administration records (eMAR), and clinical documentation—are impacting patient safety by decreasing incorrect and unnecessary

treatments and medications, as well as improving the timeliness of care. (Source: QSEN Team)

Maxfield, D., Grenny, J., McMillan, R., & et al. (2005). *Silence kills: The seven crucial conversations for healthcare.* from http://www.aacn.org/aacn/pubpolcy.nsf/Files/SilenceKills/$file/SilenceKills.pdf
The American Association of Critical-Care Nurses (AACN) commissioned VitalSmarts to conduct a study exploring communication difficulties experienced by health care personnel that may contribute to medical error. Areas of concern include broken rules, mistakes, lack of support, incompetence, poor teamwork, disrespect, and micromanagement. (Source: Publisher)

McKeon, L. M., Oswaks, J. D., & Cunningham, P. D. (2006). Safeguarding patients: Complexity science, high reliability organizations, and implications for team training in healthcare. *Clinical nurse specialist: The Journal for advanced nursing practice, 20*(6), 298-306.
Serious events within healthcare occur daily exposing the failure of the system to safeguard patient and providers. The complex nature of healthcare contributes to myriad ambiguities affecting quality nursing care and patient outcomes. Leaders in healthcare organizations are looking outside the industry for ways to improve care because of the slow rates of improvement in patient safety and insufficient application of evidenced-based research in practice. Military and aviation industry strategies are recognized by clinicians in high-risk care settings such as the operating room, emergency departments, and intensive care units as having great potential to create safe and effective systems of care. Complexity science forms the basis for high reliability teams to recognize even the most minor variances in expected outcomes and take strong action to prevent serious error from occurring. Cultural and system barriers to achieving high reliability performance within healthcare and implications for team training are discussed. (Source: PubMed)

Menzel, N. N., Hughes, N. L., Waters, T., Shores, L. S., & Nelson, A. (2007). Preventing musculoskeletal disorders in nurses: A safe patient handling curriculum module for nursing schools. *Nurse educator, 32*(3), 130-135.
Nursing educators who teach outmoded manual patient handling techniques contribute to the widespread problem of musculoskeletal disorders in student and practicing nurses. The authors discuss the development and implementation of a new safe patient handling curriculum module, which was pilot tested in 26 nursing programs. The module changes the focus of patient handling education from body mechanics to equipment-assisted safe patient lifting programs that have been shown to protect nurses from injury and improve care. (Source: PubMed)

Milligan, F. J. (2007). Establishing a culture for patient safety - the role of education. *Nurse education today, 27*(2), 95-102.
This paper argues that the process of making significant moves towards a patient safety culture requires changes in healthcare education. Improvements in patient safety are a shared international priority as too many errors and other forms of unnecessary harm are currently occurring in the process of caring for and treating patients. A description of the patient safety agenda is given followed by a brief analysis of human factors theory and its use in other safety critical industries, most notably aviation. The all too common problem of drug administration errors is used to illustrate the relevance of human factors theory to healthcare education with specific mention made of the Human Factors Analysis and Classification System (HFACS). (Source: PubMed)

Page, K., & McKinney, A. A. (2007). Addressing medication errors--the role of undergraduate nurse education. *Nurse education today, 27*(3), 219-224.
Medication errors are a persistent problem in today's National Health Service (NHS). Many factors contribute to drug incidents occurring, from the initial prescription stage through to administration and arise from

both individual and system failures. The literature identifies the multi-disciplinary nature of the problem and highlights the important contribution that nurses make with regards to ensuring medication safety. However limited evidence exists in the literature regarding the extent to which the current content of undergraduate pharmacology education prepares nurses for their role in the prevention of errors. The report "Building a safer NHS for patients-improving medication safety," concludes that it is now imperative that undergraduate education should emphasise the issue of medication safety. An educational initiative was therefore introduced to address this problem. A "Medication Safety Day" which focused on the causes of medication errors was implemented to highlight how and why drug incidents may occur. This initiative recognises that nurse education should not only ensure adequate theoretical knowledge of pharmacology but should also equip students with an awareness of how many diverse factors may contribute to the occurrence of medication errors. (Source: PubMed)

Quick, B., Nordstrom, S., & Johnson, K. (2006). Using continuous quality improvement to implement evidence-based medicine. *Lippincott's case management, 11*(6), 305-317.
The importance of implementing evidence-based medicine is being driven by public reporting of outcome data and linking these measures to reimbursement. Most hospitals are faced with many challenges in gaining sponsorship, staffing, creating tools, and reporting of evidence-based outcome measures. This article describes the use of the SSM Health Care (SSMHC) Continuous Quality Improvement model in implementing evidence-based practices at SSM DePaul Health Center, a community hospital member of SSMHC, including successes, opportunities for improvement, and lessons learned. Specifically, the article includes two different processes for data collection and interventions with staff, process requirements for each, and outcome data associated with each model. (Source: PubMed)

Rainboth, L., & DeMasi, C. (2006). Nursing students' mathematic calculation skills. *Nurse education today, 26*(8), 655-661.

This mixed method study used a pre-test/post-test design to evaluate the efficacy of a teaching strategy in improving beginning nursing student learning outcomes. During a 4-week student teaching period, a convenience sample of 54 sophomore level nursing students were required to complete calculation assignments, taught one calculation method, and mandated to attend medication calculation classes. These students completed pre- and post-math tests and a major medication mathematic exam. Scores from the intervention student group were compared to those achieved by the previous sophomore class. Results demonstrated a statistically significant improvement from pre- to post-test and the students who received the intervention had statistically significantly higher scores on the major medication calculation exam than did the students in the control group. The evaluation completed by the intervention group showed that the students were satisfied with the method and outcome. (Source: PubMed)

Salmon, M. (2007). Guest editorial: Care quality and safety: Same old? *Nursing outlook, 55*(3), 117-119.

Healthcare's increasing focus on quality and safety seem like a "natural" for nursing. The profession has prided itself in being the patient's advocate and the keeper of quality and safety. While nursing has clearly provided consistent and committed leadership in these arenas, it is also possible that exclusive professional ownership of quality and safety may actually work against the best interest of both nursing and patients. This editorial challenges nursing to reconsider its role in and approach to quality and safety improvement. Building on the important perspectives presented in this issue of Nursing Outlook, the author identifies the need for nursing to advance its own professional contributions through building on the shared values and commitments common to health professions. Establishing common ground and extending the concept of care teams to

incorporate others beyond direct-care providers are explored as a fundamental component of nursing's work in quality and safety improvement. (Source: PubMed)

Sherwood, G., & Drenkard, K. (2007). Quality and safety curricula in nursing education: Matching practice realities. *Nursing outlook, 55*(3), 151-155. Health care delivery settings are redesigning in the wake of staggering reports of severe quality and safety issues. Sweeping changes underway in health care to address quality and safety outcomes lend urgency to the call to transform nursing curricula so new graduate competencies more closely match practice needs. Emerging views of quality and safety and related competencies as applied in practice have corresponding implications for the redesign of nursing education programs. Nurse executives and nurse educators are called to address the need for faculty development through strategic partnerships. (Source: PubMed)

Shojania, K. G., Fletcher, K. E., & Saint, S. (2006). Graduate medical education and patient safety: A busy--and occasionally hazardous--intersection. *Annals of internal medicine, 145*(8), 592-598.
A patient admitted to a teaching hospital with a mild episode of acute pancreatitis initially improved, but then her condition deteriorated and she subsequently died. The initial deterioration probably reflected bowel obstruction, as shown on an abdominal radiograph that an on-call intern forgot to review. This diagnostic delay was compounded by poor communication that resulted in a medical student inserting a feeding tube--rather than a nasogastric tube--to decompress the bowel, followed by failure to recognize how ill the patient had become. The case highlights the hazards of patient handoffs as well as the importance of clear communication techniques and knowing when to ask for help. The discussion also shows the vicious circle that results when attending physicians fail to provide effective supervision: Not only is safety compromised but trainees lose the experience of being supervised. Consequently, trainees have no models of effective supervision on which

to draw when they become supervisors. They then fall into the same trap as those who taught them, busying themselves with direct patient care and providing supervision only as time allows. (Source: PubMed)

Smith, E. L., Cronenwett, L., & Sherwood, G. (2007). Current assessments of quality and safety education in nursing. *Nursing outlook, 55*(3), 132-137. Concerns about the quality and safety of health care have changed practice expectations and created a mandate for change in the preparation of health care professionals. The Quality and Safety Education for Nurses project team conducted a survey to assess current levels of integration of quality and safety content in pre-licensure nursing curricula. Views of 195 nursing program leaders are presented, including information about satisfaction with faculty expertise and student competency development related to 6 domains that define quality and safety content: patient-centered care, teamwork and collaboration, evidence-based practice, quality improvement, safety, and informatics. With competency definitions as the sole reference point, survey respondents indicated that quality and safety content was embedded in current curricula, and they were generally satisfied that students were developing the desired competencies. These data are contrasted with work reported elsewhere in this issue of Nursing Outlook and readers are invited to consider a variety of interpretations of the differences. (Source: PubMed)

Sweitzer, S. C., & Silver, M. P. (2005). Learning from unexpected events: A root cause analysis training program. *Journal for healthcare quality: Promoting excellence in healthcare, 27*(5), 11-19.
Staff members need appropriate training before the investigation and causal analysis of accidents in any complex system. Otherwise results will be incomplete and will be focused on the least manageable contributors, such as the unsafe acts of frontline operators. This article outlines an incident investigation and root cause analysis workshop

developed to address this training need in a spectrum of healthcare settings and reviews feedback from participants. (Source: PubMed)

Wright, K. (2007). Student nurses need more than maths to improve their drug calculating skills. *Nurse education today, 27*(4), 278-285. Nurses need to be able to calculate accurate drug calculations in order to safely administer drugs to their patients. Studies have shown however that nurses do not always have the necessary skills to calculate accurate drug dosages and are potentially administering incorrect dosages of drugs to their patients. The literature indicates that in order to improve drug calculations strategies need to focus on both the mathematical skills and conceptual skills of student nurses so they can interpret clinical data into drug calculations to be solved. A study was undertaken to investigate the effectiveness of implementing several strategies which focused on developing the mathematical and conceptual skills of student nurses to improve their drug calculation skills. The study found that implementing a range of strategies which addressed these two developmental areas significantly improved the drug calculation skills of nurses. The study also indicates that a range of strategies has the potential ensuring that the skills taught are retained by the student nurses. Although the strategies significantly improved the drug calculation skills of student nurses, the fact that only 2 students were able to achieve 100% in their drug calculation test indicates a need for further research into this area. (Source: PubMed)

Last updated June 2007