CNPE DRAFT POSITION STATEMENT (04-25-2011)

Nurses' Involvement With the EHR: Advocating Patient Safety

Purpose:

The purpose of this position statement is to identify the American Nurses Association's (ANA's) position related to nurses, patient safety, and the electronic health record (EHR), a health information technology receiving much local, national, and international attention in public, private, and governmental organizations. This position statement identifies principles and expectations addressing patient safety issues related to the EHR.

Definitions:

EHR: The Health Information Technology for Economic and Clinical Health (HITECH) Act defines an EHR to be "an electronic record of health-related information on an individual that is created, gathered, managed, and consulted by authorized health care clinicians and staff" (Section 13400(5). The National Alliance for Health Information Technology (NAHIT) defines the EHR as follows: "An electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards and that can be created, managed, and consulted by authorized clinicians and staff across more than one health care organization."

Implementation: Includes the initial installation and start-up of a system, and for the purposes of this position statement, also includes system upgrades and modifications.

Lifecycle: All the phases of an electronic health record or information system, including planning and design, development, product selection, customization, implementation, evaluation, and updates and maintenance.

Statement of ANA Position:

It is the position of the ANA that patient safety requires that nurses must be deeply involved throughout the EHR lifecycle.

If patient care systems do not work for the nurses providing care, they do not work for patients. Nurses must be involved in all stages of the healthcare information system's lifecycle (ANA, 2008). The ANA believes that certain key principles are essential to the protection of patient safety as electronic health records become the primary mode of data capture and information management in healthcare settings. One key principle requires that end users be meaningfully involved throughout the healthcare information system lifecycle. Nurses are important users of the EHR, but are not universally involved in decision making related to EHR and system selection and implementation

processes.

When key principles are not followed, the anticipated system benefits may not be achieved and unintended consequences can occur that create threats to patient safety. To obtain the full benefits of EHRs and to protect patient safety, the key principles for successful systems must be followed.

Principles:

- Patient safety is a primary concern in healthcare. Implementation of computer systems in the patient care arena has implications for patient safety.

- Safe and effective systems selection and implementation of an EHR require the collaboration of computer systems experts and an interprofessional healthcare team.

- The wisdom of the end user must be incorporated into all phases of the EHR lifecycle to ensure successful adoption and use.

- Nurses who are knowledgeable and experienced in informatics must collaborate in decision making through the entire EHR lifecycle in all sites and settings.

- Ergonomics, human factors, and usability principles are integral components of EHR system design.

- The development of evidence-based clinical decision support, including prompts and alerts, must be incorporated into EHR system design.

- A systematic feedback process that encourages users to report EHR problems and concerns must be available, and supported by leadership.

- A system for communicating best practices across user groups must be available.

- Privacy and security of patient information must be protected.

Background:

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EHRs provide the possibility of great improvements in care management. It is especially true that EHRs have the potential to support nursing's efforts to improve patient safety and quality of care, as well as nursing education, and research. EHRs also have the potential to empower patients and their families to better manage their own care.

The ECRI Institute, a not-for-profit organization, has evaluated health technology issues and created an annual list of top ten health technology hazards (ECRI, 2010). Problems with "data loss, system incompatibilities, and other health IT [information technology]

complications" ranked fifth. Of all information technology errors, "wrong patient" was the most common and most worrisome (Gardner, 2010). With these dangers in mind, information systems that are developed to support patient care must use the best possible information and expertise to build in components that support patient safety.

Information system failures are most often produced when designers do not incorporate the experience of end-users into the system design. Design occurs at two key points: initial system design by the vendor and system customization after purchase. Nurses must be included in decision making at all points. Major vendors of clinical information system products today include nurse informatics specialists in their design teams. This strategy is essential for the development of quality EHRs to be used by nurses. It is equally necessary to include nurses in the purchasing decisions. Many of the EHRs purchased are customized extensively. Inadvertently, patient care risks may be created during system customization. Features intended to save money or streamline processes may actually impair patient care functions.

Failure to incorporate the practical needs of end-users is the highest prediction factor for failure of a new system. Even if systems operate as planned by designers, they will fail if they impede the workflow of nurses and other providers in ways that impact patient safety. Testing of EHRs should follow a carefully designed plan that includes testing and retesting of all aspects of the system throughout the design and implementation of the system. This process encompasses testing the hardware, software, and system interfaces as well as evaluating the effectiveness and efficiency of the educational materials and planned training program. Testing must allow all anticipated end-user groups to participate and provide feedback on the strengths and limitations of the system and concerns about interference with work processes.

EHR implementation requires sufficient investment of monetary and human resources to ensure a smooth, safe process. The implementation phase must include sufficient training to prepare all users, including patients, in the operation of the EHR. Extra caregivers must be provided during implementation so that the usual learning curve does not unduly stress the staff or create safety hazards for patients. End-user concerns about problems encountered with the EHR should be solicited. Those concerns should drive system adjustments, additional training, or other assistance to end users, with the result that users can accomplish their work safely and efficiently.

Implementation of a new system, system updates, or system enhancements places many demands on the healthcare team. Anything that distracts nurses from patient care poses a threat to patient safety. Therefore, it is imperative that planners explicitly address the issue of patient safety. Key areas that must be addressed are education of the staff and appropriate staffing levels. Inadequate training or inadequate staffing during training may delay patient care and result in errors. Strategies that can reduce safety risks include:

- Provide timely, high quality training.

- Ensure staffing matches patient care requirements during system implementation.
- Increase help desk and information technology support staff during implementation activities

Quality EHR system design should incorporate some decision support features. Decision support can be used to greatly improve patient safety by assisting nurses to address important aspects of patient care. At the least, clinical actions known to be errors or probable errors should result in a system alarm or an alert message to the user that a potential problem has been detected. Certain actions are always an immediate threat to patient safety and the EHR should support nurses' attempts to avoid such errors.

Evaluation of EHRs requires an organized assessment program beginning with the initial decision to purchase an information system solution through the implementation process and more importantly, during ongoing use. End-users should be primary participants in the testing and evaluation process. Because nurses are the largest number of clinicians using EHRs, their input provides critical insights about the EHR and its use.

Recommendations:

- Include informatics nurse specialists in all phases of the EHR life cycle from initial design to the reevaluation of an installed system.
- Include end-user nurses in all aspects of the institution's EHR selection and installation process, including the initial workflow analysis.
- Provide adequate system testing prior to implementation.
- Integrate nurses in the process of analyzing the effect of the EHR on clinical workflow.
- Provide adequate resources for high quality pre-implementation, implementation, and post-implementation training for end-users.
- Ensure technology support personnel are onsite and/or immediately available during the life of the system.
- Provide back-up systems so that care and care documentation can proceed if the EHR system is unavailable.
- Include error prevention and decision-support capabilities in the EHR.

Summary:

The federal imperative for greater implementation of EHRs has provided a strong impetus for many patient care provider organizations to move toward implementation of this technology. The EHR will bring many benefits to both clinicians and patients, but there are risks involved in changing to paperless health records. The best way to reduce the probability of patient harm from such systems is to employ key principles in

the planning, design, development, selection, implementation, evaluation, and maintenance of EHRs. The EHR lifecycle must include the end-user's perspectives and wisdom in system planning, design, implementation, and evaluation.

References:

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