

Health Information Technology for the Perinatal Setting

An official position statement of the Association of Women's Health, Obstetric & Neonatal Nursing

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Position

The Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) recognizes the vital role of health information technology (HIT) in the health care delivery system of the United States. Because AWHONN members primarily provide care to women and infants, AWHONN is especially interested in HIT and data collection in the perinatal setting. AWHONN supports standard data collection across the perinatal setting, regardless of the format of the patient's record (electronic or paper). Additionally, AWHONN recognizes the critical need for interoperability and archiving in data collection systems. Hospital and institution-wide HIT systems should incorporate specialty specific data (e.g., neonatal intensive care unit [NICU] and obstetric outpatient records) into patient records. To accomplish the efficient use of HIT in the perinatal setting, nurses must be involved in the product selection, development, implementation, evaluation and improvement of information systems.

Background

The health care system in the United States is complex and fragmented. There are numerous health care providers, multiple sites of care delivery, many different payers, and countless models used to document and store information (Committee on Quality of Health Care in America, Institute of Medicine, 2001). This fragmentation can lead to miscommunication, duplicative tests, increased costs, and most importantly errors in patient care (Congressional Budget Office, 2008). Information technologies such as electronic health records (EHR) hold enormous potential for addressing the inherent fragmentation in HIT systems.

Despite their recognized and potential benefits, there are many challenges in designing and implementing effective HIT systems (Ortiz & Clancy, 2003). In the practice of women's and newborn care, there are a number of special considerations related to interoperability and archiving.

Interoperability

Interoperability is the capability of a system to function and interact with other systems without any access or implementation restrictions. The interface capability of systems is critically important within a health care organization and between health care organizations. Interoperability is particularly important in the obstetric environment because the patient changes venues for care as she progresses through pregnancy, intrapartum, and postpartum. Many hospital information systems, such as admission, discharge, transfer (ADT), laboratory, pharmacy, critical care, and the emergency room, must efficiently interface.

Electronic perinatal systems were some of the first electronic systems developed in the health care setting; some are quite mature. Enterprise-wide systems developed more recently may not include perinatal content, which can make integration with other hospital systems challenging. Due to inadequate system integration, perinatal nurses must frequently document in different types of electronic systems simultaneously. This can create frustration and confusion, reduce the time available to provide direct patient care, and increase the potential for lost data and documentation errors. The ability to provide quality care safely and efficiently becomes compromised as the perinatal nurse navigates through multiple discordant systems. Additionally, important information from the patient's prenatal record may not populate her intrapartum and postpartum records or the newborn's record, further adding to inefficiency, fragmentation, and potential for error.

Another concern in the perinatal setting relates to fetal monitoring records. Many enterprise-wide HIT systems do not currently provide capabilities for electronic fetal monitoring (EFM) documentation and archival. Therefore, the obstetric provider must work with a system that may not interface with the hospital enterprise-wide HIT system. As a result, these providers may continue to document on and archive paper fetal monitoring tracings (also known



as strips). Doing so fragments the EHR and increases the possibility for lost or unreadable fetal monitoring tracings over time. At the very least, without an interface, double documentation becomes necessary as notations made on the tracing do not populate the electronic obstetric record.

Archiving

Each institution should determine policies and procedures regarding maintenance, storage, archiving, and retrieval of the EHR. Each institution should also determine policies and procedures regarding maintenance, storage, archiving, and retrieval of the all forms, paper and electronic, of the fetal heart monitoring (FHM) record with special attention to the tracing itself. It is essential that these policies and procedures also include system back up implementation and emergency disaster planning. Currently, the health record may be archived electronically but not the FHM tracing or vice versa. Whatever method is used, clarity regarding the procedure for storage and retrieval of all essential elements of the maternal/newborn medical record is key.

Electronic archiving capability that ensures proper security, storage, and retrievability for both EHR and EFM documentation must be cost effective. With the national emphasis on EHR implementation, work needs to continue on standardization of terminology and interoperability within the obstetric specialty. It is also imperative that educational efforts continue for providers to ensure competency in electronic documentation.

Obstetric information should be available to all health care providers across the continuum of a woman's life. Because of some of the challenges related to archiving and interoperability, pregnancy related information is often kept separate from other health information. Yet this information can be critically important long after pregnancy, labor and birth. For example, evidence suggests that women who have preeclampsia are more likely to have cardiovascular disease later in life (Smith et al., 2009). In addition, the presence of gestational diabetes puts women and their children at higher risk for obesity and type 2 diabetes (National Institute of Child Health and Human Development [NICHD], 2008). A number of similar risk factors associated with pregnancy should be considered by providers as they assess a woman's health needs later in her life.

Given the acute care nature of the perinatal environment and the need for medical information

generated during the childbearing period to be available to a woman and her newborn throughout the lifespan, perinatal providers must advocate for a high level of interoperability and determine archival policies. Also crucial is the need to advocate for standardization of terminology wherever possible to facilitate data sharing across organizations. Data sharing and organizational comparison are important elements for quality measurement and process improvement.

Essential Elements

In an effort to increase positive patient outcomes, limit duplicative work, and lower costs, each institution should gather the same data and follow certain standards related to data collection, reporting and maintenance. Common data elements require universal agreement on definitions, which will lead to better measurement of outcomes in the future. Further, the use of standardized language will move the obstetric field further toward interoperability across settings and align with national efforts to create a standardized EHR.

AWHONN supports federal and state incentives for the adoption of EHRs, such as those created in the Health Information Technology for Economic and Clinical Health (HITECH) Act. The goal of "meaningful use" of EHRs to significantly improve care (Blumenthal & Tavenner, 2010) is also important.

Essential data elements from the perinatal setting include the following:

- Nationally recognized terms for fetal monitoring developed by the NICHD and jointly reaffirmed and redefined by NICHD, the American College of Obstetricians and Gynecologists and the Society for Maternal-Fetal Medicine in 2008 (Macones, Hankins, Spong, Hauth, & Moore, 2008)
- National patient safety goals
- Pregnancy history
- Elements of the delivery record
- Prenatal record elements

The Role of the Nurse

Integrating HIT into the health care field is necessary and in some institutions long overdue. Realizing the success of any electronic record is dependent upon its users, and senior leadership must advocate for systems that complement the workflow of the perinatal nurse. At a 2010 roundtable discussion, nurse leaders captured this concept succinctly when stating, "Nurses drive

practice and decisions. IT experts support and complement the process" (American Nurse Today, 2010, p. 19). Nurses must lead the process for a patient centered system.

In addition to taking part in the selection, design, and implementation process, nurses must be diligent and provide continuous feedback while using these systems at the patient's bedside. A nurse representative should attend hospital-wide informatics councils to share information and feedback regarding unit concerns. On some obstetric units, nurses are designated to patient data management systems. This position is beneficial as it allows a clinician to advocate for change while providing real time assistance as a technical issue surfaces. The bedside nurse should avoid "workarounds," an alternative approach to override the system and accomplish the desired task (McCartney, 2006).

Technology can promote a safe environment for nursing practice by reducing negative exposure to risk and liability (McCartney, 2006). Safety reporting systems should be utilized whereby nurses report all near misses. Reports highlighting nursing outcomes along with performance improvement projects will reinforce the vital importance of a successful HIT system.

Electronic documentation enhances the opportunity for data maintenance and reporting and reduces error, which helps to improve care for patients. A great deal of work needs to continue to improve design and effectiveness of hardware and

software that are cost effective. Analysis of the effectiveness of the technology needs to continue as we strive for a patient centered system that is available across the continuum of care across the lifespan.

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