

Information Technology in Nursing Practice

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Full academic paper. Proposals and illustrative examples are presented as coursework.

Identify a healthcare setting and an electronic health record system (EHRS) that could be used in this setting.

The healthcare setting selected for this analysis is the inpatient telemetry unit at Good Samaritan Hospital, an acute-care hospital. MEDITECH is the electronic health record system (EHRS) used in this setting.

The purpose of MEDITECH in the telemetry setting is to collect, store, organize, and make patient health information available to the interdisciplinary healthcare team. Nurses use the system to document assessments, vital signs, medication administration, care-plan interventions, and changes in patient condition. MEDITECH also provides access to provider orders, medication records, allergies, laboratory and diagnostic results, and documentation from other healthcare professionals. In a telemetry unit, this information helps nurses and providers monitor a patient's cardiovascular status, coordinate treatment, communicate across disciplines and shifts, and maintain continuity of care. By maintaining clinical information throughout the patient's hospitalization, the EHRS supports documentation, communication, clinical decision-making, patient safety, and evaluation of the patient's response to treatment (Hardy, 2024).

MEDITECH supports clinical decision-making by providing access to current patient data, provider orders, and medication information. For example, a telemetry patient is scheduled to receive metoprolol with instructions to hold the medication for a heart rate below 60 beats per minute or a systolic blood pressure below 100 mm Hg. Before administration, the nurse reviews the patient's documented vital signs in MEDITECH and identifies a heart rate of 48 beats per minute and a blood pressure of 88/54 mm Hg. The nurse performs a focused assessment, verifies the findings, holds the medication according to the prescribed parameters, documents the action, and notifies the provider. This timely decision helps prevent the medication from worsening the patient's bradycardia and hypotension and allows the provider to reevaluate the treatment plan, thereby promoting safe, high-quality care. MEDITECH makes the relevant clinical data and order information available at the point of care, while the nurse remains responsible for applying clinical judgment and determining the appropriate action (Hardy, 2024).

The primary barrier to using MEDITECH in this setting is poor usability caused by the fragmentation of clinical information between the electronic system and the physical patient chart. During my telemetry preceptorship at Good Samaritan Hospital, some patient information was documented in MEDITECH, while other documentation remained in the physical chart. Therefore, nurses had to consult both records to obtain a complete clinical picture. Relevant electronic information was also distributed across multiple screens, making it difficult to locate quickly. This hybrid workflow increases the nurse's cognitive workload and creates opportunities for information to be overlooked, duplicated, or documented inconsistently. Park et al. (2024) found that poor EHR usability is associated with increased nursing workload, workarounds, workflow disruption, and potential threats to patient safety. These findings support the concern that fragmented and difficult-to-navigate documentation can interfere with nurses' timely access to the information needed for safe patient care.

The nurse has both an immediate and a long-term role in maintaining data integrity while helping to overcome fragmentation between MEDITECH and the paper record. During the hybrid workflow observed at Good Samaritan Hospital, the nurse must review both sources, verify that information belongs to the correct patient, and reconcile discrepancies involving medications, allergies, provider orders, laboratory results, assessments, and treatment documentation. Questionable information should be validated with the patient, the original clinical source, the provider, the pharmacy, or another appropriate member of the healthcare team before it is used to guide care. The nurse must promptly document in the correct record and designated fields, avoid copying prior documentation without verification, and correct or report inaccurate entries according to facility policy. Paper documents must be completed, signed, dated, secured, and routed in accordance with facility policy for scanning or incorporation into the legal health record. During handoff, the nurse should communicate unresolved discrepancies and identify where essential information is located to prevent it from being overlooked. Nurses can also report recurring usability problems and unsafe workarounds and collaborate with informatics professionals and organizational leaders to improve electronic documentation workflows. These actions preserve the accuracy, completeness, consistency, and timeliness of patient data while supporting a more integrated documentation process (Hardy, 2024).

Overcoming the fragmented electronic-paper workflow would improve patient outcomes by giving nurses and other healthcare professionals timely access to a more complete and consistently organized patient record. Consolidating vital signs, laboratory results, medication information, provider orders, assessments, and clinical notes within an accessible electronic system would reduce the likelihood that abnormal findings, medication contraindications, or changes in patient condition are overlooked. In the telemetry setting, faster access to complete information would support earlier recognition of deterioration and more timely interventions. It would also reduce the risk of documentation discrepancies, duplicate interventions, medication errors, and delays caused by searching both MEDITECH and the physical chart. Park et al. (2024) found that EHR usability is associated with nurses' performance and patient safety, supporting the importance of aligning electronic documentation with clinical workflows. By allowing the healthcare team to base decisions on complete and readily available information, overcoming this barrier would promote safer care, reduce preventable complications, and support better continuity of care across handoffs and discharge.

Overcoming fragmented electronic-paper documentation would advance patient health literacy by enabling nurses to provide education based on complete, accurate, and consistent clinical information. When diagnoses, medication changes, follow-up appointments, and discharge instructions are accessible within one organized record, the nurse can identify discrepancies and give the patient a clear, individualized explanation of the care plan. For example, before discharging a telemetry patient with heart failure, the nurse could verify the final medication list and explain the medication schedule, daily weight monitoring, dietary recommendations, follow-up care, and symptoms requiring immediate medical attention. The nurse could present this information in plain language and use teach-back to confirm that the patient can explain the instructions in their own words. The AHRQ Health Literacy Universal Precautions Toolkit, 3rd Edition, recommends simplifying communication and confirming understanding with all patients

rather than assuming that information was understood (Brach, 2024). Providing accurate and understandable information advances health literacy by strengthening patients' ability to find, understand, and use health information to make informed decisions, follow treatment instructions, recognize warning signs, and manage their health after discharge.

Identify one health information system and one technology to use in the healthcare setting. Use the EHRS you identified in part A.

The health information system selected for this healthcare setting is the MEDITECH EHRS. The healthcare technology selected is a barcode scanner used for barcode medication administration (BCMA) and integrated with the electronic medication administration record (eMAR).

MEDITECH supports patient-care decisions by providing the healthcare team with access to clinical information, including vital signs, laboratory results, allergies, medication records, provider orders, assessments, and interdisciplinary notes. Reviewing current findings together with previously documented information allows nurses to identify trends, recognize changes in a patient's condition, and determine whether planned interventions remain appropriate. For example, trends in blood pressure, heart rate, renal function, and electrolyte levels can help the nurse identify potential medication contraindications, the need for dosage adjustments, or signs of clinical deterioration that require further assessment or notification of the provider. Shared access to this information also allows nurses, providers, pharmacists, and other healthcare professionals to coordinate changes to the plan of care using the available clinical data. Electronic health records support quality and safety by improving access to patient information and providing data needed for clinical decision-making; however, healthcare professionals must still validate the information and apply clinical judgment (Hardy, 2024).

The barcode medication administration scanner supports decision-making by comparing the patient and medication being scanned with the active order in the electronic medication administration record. Before administering a medication, the nurse scans the patient's identification wristband and the medication barcode. The technology verifies the right patient, medication, dose, route, and scheduled time and generates an alert when the scanned information does not match the order (Hardy, 2024). For example, if the nurse scans a 40-mg tablet when the patient is prescribed 20 mg, the mismatch alert prompts the nurse to stop and investigate before administering the medication. The nurse then reviews the order and eMAR, verifies the available medication, and contacts the pharmacy or provider if clarification is needed. The scanner, therefore, provides point-of-care information that helps the nurse recognize a potential medication error and decide whether administration is safe. However, the technology does not replace nursing judgment; the nurse must still assess the patient, review contraindications and hold parameters, and avoid overriding an alert without resolving its cause.

Evaluating data from a health information system is essential because the presence of information in an electronic record does not guarantee its trustworthiness or appropriateness for clinical use. Reliability concerns whether the information came from a credible source and was entered into the correct patient record. Data quality requires information to be accurate, complete, current, and relevant. Consistency requires values, units of measurement,

terminology, and documentation to agree across the electronic record, physical chart, and other clinical sources. Security protects data from unauthorized access, disclosure, or alteration and helps preserve both patient privacy and the integrity of the record. An incorrect allergy, an outdated medication list, a vital sign documented in the wrong chart, or an inconsistent medication dose could lead to an unsafe clinical decision. Kadro et al. (2023) identified missing or incomplete dietary supplement documentation in electronic medical records as a patient safety concern because clinicians may not recognize potential interactions with prescribed medications. This demonstrates how incomplete or inconsistent documentation can obscure clinically significant information. Nurses must therefore compare questionable data with the patient assessment, active orders, laboratory results, medication records, and previous documentation, and other appropriate sources before using the information to guide care. Identified discrepancies should be corrected or reported in accordance with facility policy so that subsequent decisions are based on reliable, high-quality, consistent, and secure information.

Describe how relevant laws and policies guide the use of health information systems and safeguard healthcare information. Use APA in-text citations and references for this section.

Laws and organizational policies establish mandatory requirements for accessing, using, and disclosing healthcare information, while professional codes of ethics provide standards for applying those requirements responsibly. Together, these standards protect the confidentiality, integrity, and security of patient information contained in health information systems. Principle 3.1 of the AHIMA Code of Ethics establishes that written and electronic health information must be safeguarded against unauthorized access and inappropriate disclosure (American Health Information Management Association [AHIMA], 2019). Applied to nursing practice, this principle requires nurses to protect patient information whenever they access or use an electronic health record. For example, a nurse may open a patient's MEDITECH record to document an assessment and then be called urgently to another patient's room. If the nurse leaves the workstation unlocked, another person could view the patient's protected health information even if the nurse did not intend to disclose it. The nurse's ethical responsibility is to lock the workstation before stepping away, protect login credentials, access only the information required for assigned professional duties, and report any suspected unauthorized access in accordance with facility policy. Following these practices protects the patient's confidentiality, preserves trust in the nurse-patient relationship, and demonstrates responsible use of protected healthcare information.

The HIPAA Privacy Rule limits the circumstances in which a covered entity may use or disclose protected health information. A covered entity may disclose protected health information only as the Privacy Rule permits or requires or when the patient or the patient's personal representative provides valid written authorization (U.S. Department of Health and Human Services [HHS], 2025). For example, if a patient's friend calls the telemetry unit and asks for the patient's diagnosis and test results, the nurse cannot disclose that information simply because the caller claims to know or care for the patient. The nurse is legally responsible for verifying the caller's identity and authority, determining whether the patient has agreed to the disclosure or whether

another HIPAA provision permits it, and following facility procedures before releasing any information. If the patient has not agreed to the disclosure and no HIPAA provision permits it, the nurse must decline to provide the requested information. When disclosure is permitted, the nurse must limit the information to what is authorized and directly relevant to the person's involvement in the patient's care. These actions protect the patient's privacy rights and help prevent unauthorized disclosures of protected health information.

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