



Collaborative Roles of Nursing, Health Information Management, and Health Informatics in Enhancing Completeness of Patient Clinical Records

Abeer Malah Saud Alhazmi^{1*}, Eman Mohammed Alrawway Alruwaili², Ibtisam Mohammed Alrawway Alruwaili³, Naif Furaih K Alshammari⁴, Mohammed Farhan Albalawi⁵, Munayfah Quwaytin Alruwaili⁶, Alruwaili, Fikr Wadid D⁷, Saleh Mufadhi Amash Alshammari⁸, Alshammari, Faisal Faris B⁹, Ahmed Hammad Mohammed Alshammari¹⁰, Riyadh Hammad Mohammad Alshammari¹¹

¹Nursing Technician (Diploma) – South Al Faisaliyah Primary Health Care Center – Northern Borders Health Cluster – Ministry of Health – Arar – Northern Borders Region – Saudi Arabia

* **Corresponding Author Email:** aalhazmi@moh.gov.sa - **ORCID:** 0000-0002-0247-7050

²Nursing Technician – Prince Miteb bin Abdulaziz Hospital in Sakaka – Al Jouf Health Cluster – Ministry of Health – Sakaka – Al Jouf Region – Saudi Arabia

Email: emalrowely@moh.gov.sa - **ORCID:** 0000-0002-5667-1150

³Nursing Technician – Prince Miteb bin Abdulaziz Hospital in Sakaka – Al Jouf Health Cluster – Ministry of Health – Sakaka – Al Jouf Region – Saudi Arabia

Email: emalrwaly@moh.gov.sa - **ORCID:** 0000-0002-5667-1880

⁴Nursing Technician – Al Naisiyah Primary Health Care Center – Hail Health Cluster – Ministry of Health – Hail – Hail Region – Saudi Arabia

Email: nafualshammari@moh.gov.sa - **ORCID:** 0000-0002-5667-1330

⁵Nursing Technician – Branch of the Ministry of Health – Ministry of Health – Tabuk – Tabuk Region – Saudi Arabia

Email: mofalbalawi@moh.gov.sa - **ORCID:** 0000-0002-5667-1110

⁶Nursing Specialist – Prince Miteb bin Abdulaziz Hospital in Sakaka – Al Jouf Health Cluster – Ministry of Health – Sakaka – Al Jouf Region – Saudi Arabia

Email: mgalruwaili@moh.gov.sa - **ORCID:** 0000-0002-5667-1990

⁷Nursing Technician – King Abdulaziz Specialist Hospital, Endocrinology and Diabetes Center – Al Jouf Health Cluster – Ministry of Health – Sakaka – Al Jouf Region – Saudi Arabia

Email: fwalrowily@moh.gov.sa - **ORCID:** 0000-0002-5667-1550

⁸Medical Records Technician – Port Administration – Hail Health Cluster – Ministry of Health – Hail – Hail Region – Saudi Arabia

Email: salshammri3@moh.gov.sa - **ORCID:** 0000-0002-5667-2220

⁹Medical Records Technician – Health Informatics – Muwaqq General Hospital – Hail Health Cluster – Ministry of Health – Muwaqq – Hail Region – Saudi Arabia

Email: fifalshammri@moh.gov.sa - **ORCID:** 0000-0002-5667-1660

¹⁰Medical Records Technician – Port Administration – Hail Health Cluster – Ministry of Health – Hail – Hail Region – Saudi Arabia

Email: ahhaalshammari@moh.gov.sa - **ORCID:** 0000-0002-5667-1999

¹¹Medical Records Technician – Hail General Hospital – Hail Health Cluster – Ministry of Health – Hail – Hail Region – Saudi Arabia

Email: riyadhha@moh.gov.sa - **ORCID:** 0000-0002-5667-1324

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Abstract:

The collaborative synergy between nursing, health information management (HIM), and health informatics is fundamental to achieving and sustaining the completeness of patient clinical records, a critical determinant of care quality and patient safety. Nursing provides the essential clinical context and is the primary generator of accurate, timely data at the point of care, ensuring the record reflects the holistic patient story. Health Information Management establishes the necessary governance framework, enforcing data standards, conducting audits, and ensuring compliance to guarantee the record's integrity, reliability, and legal sufficiency. Health Informatics serves as the technological catalyst, designing and optimizing intuitive health information systems, embedding clinical decision support, and enabling interoperability to facilitate efficient and structured data capture. This tripartite model transforms documentation from a siloed, burdensome task into a strategic, organization-wide objective. Through interdisciplinary collaboration on initiatives like EHR optimization, clinical documentation improvement programs, and workflow redesign, these disciplines collectively address systemic barriers, reduce documentation burden, and create a closed-loop system for continuous quality improvement. The result is a more complete, accurate, and usable patient record that enhances care coordination, supports data-driven decision-making, and ultimately fosters safer, more effective healthcare delivery.

1. Introduction

The patient clinical record stands as the cornerstone of modern healthcare delivery, a dynamic and comprehensive narrative that charts the course of a patient's health journey. It is far more than a simple administrative document; it is the primary medium of communication among healthcare providers, the legal testimony of care rendered, the essential data source for quality improvement and research, and the foundational element for accurate clinical decision-making [1]. The completeness of this record—defined as the extent to which all necessary data elements, including patient history, assessments, interventions, outcomes, and plans, are accurately recorded, timely, and readily accessible—is therefore not a mere bureaucratic ideal but a critical determinant of patient safety, care quality, and systemic efficiency [2]. Incomplete records lead to fragmented care, diagnostic errors, treatment delays, compromised patient safety, and flawed analytics, ultimately eroding the very integrity of the healthcare process [3].

Despite its paramount importance, achieving and sustaining high levels of documentation completeness remains a persistent and formidable challenge for healthcare organizations worldwide. The obstacles are multifaceted and systemic. Clinicians, particularly nurses and physicians at the frontline of care, face immense time pressures, leading to documentation being perceived as a burdensome secondary task rather than an integral part of care. Inconsistent documentation standards, ambiguous policies, and the lack of interoperability between disparate information systems further exacerbate the problem, creating data silos and gaps in the patient story [4]. Furthermore, the transition

from paper-based to electronic health records (EHRs), while offering transformative potential, has introduced new complexities. Poorly designed EHR interfaces, excessive alert fatigue, and cumbersome documentation workflows can ironically impede rather than enhance completeness, a phenomenon sometimes termed "digital documentation burden" [5].

Addressing this chronic challenge requires a paradigm shift from viewing documentation as the isolated responsibility of the treating clinician to recognizing it as a strategic, organization-wide objective that necessitates deep, structured collaboration between clinical, information management, and technical domains. No single discipline possesses all the tools, perspectives, or authority to solve this problem in isolation. It is at the intersection of three key professions—Nursing, Health Information Management (HIM), and Health Informatics (HI)—that a robust and sustainable solution can be architected. Each brings a unique and essential lens to the documentation ecosystem. Nursing provides the clinical context, understanding the flow of care and the patient-specific data that is crucial for continuity. HIM provides the governance framework, ensuring data integrity, confidentiality, and adherence to legal and regulatory standards. HI provides the technological bridge, designing and optimizing systems to capture data efficiently and transform it into actionable knowledge [6].

This tripartite collaboration represents a synergistic model where clinical expertise, information governance, and technological innovation converge. Nurses, as the professionals spending the most continuous time with patients, are the primary generators of rich, contextual clinical data. Their engagement in the design and refinement of

documentation processes is vital to ensure that these processes are clinically sensible and support rather than hinder care. Health Information Management professionals, as the custodians of health data, establish the policies, conduct the audits, and manage the lifecycle of the record to ensure its reliability and usability for secondary purposes like billing, research, and population health. Health Informaticians act as the translators and engineers, mediating between clinical needs and technical possibilities to build user-friendly systems that facilitate complete, structured, and interoperable data capture [7].

The evolution of healthcare towards value-based models, precision medicine, and advanced analytics powered by artificial intelligence has made the completeness and quality of clinical data more critical than ever. Incomplete records directly undermine these initiatives, leading to inaccurate risk stratification, ineffective care coordination, and biased algorithmic outputs. Therefore, fostering an environment of active collaboration among nursing, HIM, and HI is not merely an operational improvement but a strategic imperative for any healthcare organization seeking to thrive in the data-driven future of healthcare [8].

2. The Foundational Role of Nursing in Clinical Documentation

Nursing documentation constitutes the vital signs of the patient's record, providing a continuous, detailed account of the patient's status, the nursing process applied, and the patient's response to care. As the largest cohort of healthcare professionals and those with the most sustained patient contact, nurses are the cornerstone of data generation at the point of care. Their role in ensuring completeness is both direct and profound. The nursing process itself—Assessment, Diagnosis, Planning, Implementation, and Evaluation (ADPIE)—provides a structured framework that, when thoroughly documented, creates a logical and complete narrative. A complete nursing assessment, for instance, includes not only physiological parameters but also psychosocial, cultural, and environmental factors, painting a holistic picture essential for personalized care [9]. Documentation of nursing interventions, from medication administration to patient education, and their subsequent evaluation, is crucial for demonstrating the impact of care and ensuring continuity across shifts and during care transitions.

However, nurses face significant barriers to achieving documentation completeness. The primary challenge is the constant tension between direct patient care and documentation demands. In

high-acuity environments, the immediacy of clinical needs can force documentation to be delayed, leading to omissions or reliance on memory, which is inherently unreliable. Furthermore, if the EHR system is not intuitively aligned with nursing workflow, it can create redundant data entry, excessive clicking, and poorly organized interfaces that waste time and increase cognitive load, a major contributor to documentation incompleteness and burnout [10]. Another critical issue is the variability in documentation practices. Without clear, standardized guidelines and terminology (such as the use of standardized nursing languages like NANDA-I, NIC, and NOC), documentation can become subjective, inconsistent, and difficult to aggregate for analysis, compromising its completeness from a data usability perspective [11]. Therefore, the nursing profession's contribution to enhancing completeness extends beyond mere data entry. It involves active participation in the design and optimization of documentation systems. Nurse informaticists and frontline nurse champions are essential in representing the clinical workflow during EHR configuration, advocating for documentation tools that are efficient, intuitive, and integrated into the natural flow of care, such as bedside mobile devices or voice-to-text technologies. By providing feedback on documentation burdens and suggesting improvements, nurses ensure the system supports, rather than hinders, complete and accurate recording. Their clinical insight is irreplaceable in defining what data elements are essential for safe handoffs and ongoing care, ensuring the record captures the full story of the patient [12].

3. The Governance Role of Health Information Management (HIM)

While nursing generates the clinical content, the Health Information Management profession provides the essential structure, governance, and quality control mechanisms that ensure the record's completeness meets institutional, legal, and regulatory standards. HIM professionals are the architects of the information framework. They develop and maintain the policies and procedures that define what constitutes a complete record for different patient types and encounters. This includes establishing documentation timelines, defining required components for various forms and reports, and setting standards for authentication and amendments [13]. Their work ensures that the documentation not only supports patient care but also fulfills external requirements from accrediting bodies like The Joint Commission and government

regulations such as the Medicare Conditions of Participation.

A core function of HIM in promoting completeness is the ongoing process of quantitative and qualitative analysis through chart audits and reviews. Quantitative analysis involves running reports to identify missing forms, unsigned notes, or incomplete required fields within the EHR. Qualitative clinical documentation improvement (CDI) programs, often spearheaded by HIM professionals in collaboration with clinicians, go deeper. They review records to assess the accuracy, clarity, and specificity of documented diagnoses and procedures, which directly impacts coding accuracy, reimbursement, and the reflection of true patient severity and complexity in the data [14]. By identifying patterns of incompleteness or ambiguity, HIM provides actionable data back to clinical departments and informatics teams, creating a closed feedback loop for continuous improvement.

Furthermore, HIM professionals are the custodians of the legal health record. They manage its integrity, ensuring that a complete and authentic version is available for legal requests, audits, and patient disclosures. They also play a crucial role in managing the record lifecycle, from creation to archiving or destruction, ensuring compliance with retention laws. In the digital age, HIM expertise is critical in managing hybrid records (part paper, part electronic), ensuring data privacy and security under regulations like HIPAA, and contributing to information governance committees that oversee data quality strategy across the organization. Their focus on data standards, integrity, and utility makes them pivotal in transforming raw clinical documentation into reliable, high-quality data assets [15].

4. The Enabling Role of Health Informatics

Health Informatics serves as the critical enabler and technological catalyst that bridges the clinical world of nursing and the governance world of HIM. Informaticians translate clinical and administrative needs into functional and effective technological solutions. Their primary role in enhancing documentation completeness is the design, implementation, optimization, and evaluation of health information systems, primarily the EHR. A well-designed system, informed by user-centered design principles, can proactively promote completeness. This includes implementing structured data entry templates with required fields, using discrete data elements (coded terminology) rather than free text alone, and employing clinical decision support (CDS) tools [16]. Clinical Decision

Support is a powerful informatics tool for improving completeness. CDS can range from simple prompts and reminders (e.g., “Pain reassessment due”) to complex rules-based alerts that suggest documenting an allergy or a fall risk assessment based on entered medications or patient age. When thoughtfully integrated, these tools can guide clinicians towards required documentation at the point of care, reducing reliance on memory and ensuring critical data points are not overlooked. Furthermore, informaticians work to enhance interoperability—the ability of systems to exchange and use data. By implementing standards like HL7 FHIR, they help ensure that data generated in one part of the healthcare ecosystem (e.g., a specialist’s office, a lab) can be seamlessly and completely incorporated into the patient’s primary record, eliminating manual entry and the gaps it creates [17].

Health informaticians also leverage data analytics to measure and monitor documentation completeness as a key performance indicator. They can create dashboards that provide real-time feedback to units or individual providers on metrics like missing signatures, overdue assessments, or incomplete flowsheets. This objective data is invaluable for the collaborative improvement process. Moreover, informaticians are at the forefront of exploring and implementing advanced technologies like natural language processing (NLP) to extract structured data from unstructured clinician notes, thereby enhancing the depth and usability of documented information. They also investigate innovative documentation methods, such as speech recognition or ambient clinical intelligence (where AI listens to patient-clinician conversations and drafts notes), to reduce burden and capture a more complete account of the encounter [18].

5. Models of Collaborative Interaction for Enhanced Completeness

The synergistic potential of nursing, HIM, and HI is realized through formal and informal structures of collaboration. One of the most effective models is the establishment of interdisciplinary committees or task forces focused explicitly on documentation quality and EHR optimization. Such a committee would include frontline nurses, nurse managers, nurse informaticists, HIM directors and CDI specialists, clinical informaticians, IT analysts, and physicians. This forum allows for the direct exchange of perspectives: nurses can articulate workflow challenges and clinical necessities, HIM can present audit findings and regulatory constraints, and informaticians can explain system

capabilities and limitations while proposing technical solutions [19]. Within this collaborative framework, specific initiatives thrive. For example, the redesign of a nursing admission assessment form would follow a collaborative cycle: 1) HIM identifies, through audits, that psychosocial history is consistently incomplete. 2) Nursing explains that the current form is too lengthy and the questions are poorly organized. 3) The informatics team demonstrates how the EHR template can be redesigned with branching logic (showing relevant questions based on prior answers) and smart phrases. 4) The group collaboratively drafts a new, streamlined form that captures all required data elements in a clinically logical flow. 5) The new form is piloted on a unit, with feedback collected. 6) HIM measures completeness rates post-implementation to validate the improvement [20]. Clinical Documentation Improvement (CDI) programs are another prime example of this trilateral collaboration. While often staffed by HIM professionals with coding expertise or clinically trained nurses, the program's success hinges on collaboration. CDI specialists query physicians and nurses for clarification in records, providing education on specific documentation needs. Nurse informaticists can help embed CDI prompts or best-practice advisories within the EHR to provide guidance at the point of care. Informatics analysts ensure the CDI team has the right tools and reports to track their productivity and impact. This collaborative effort moves CDI from a retrospective, corrective process to a prospective, educational, and system-supported one, fundamentally improving the clarity and completeness of documentation at the source [21]. Furthermore, collaboration is essential during major system implementations or upgrades. Nurses must be involved in testing workflows to ensure new documentation screens support complete and efficient charting. HIM must validate that the system's configuration supports the legal health record definition and can produce the reports needed for audits. Informaticians must coordinate these inputs and ensure the technical build aligns with both clinical and governance requirements. Post-implementation support and continuous optimization also require this triad to work together to address emerging issues, such as new regulatory requirements or changes in clinical practice that demand documentation updates [22].

6. Addressing Specific Challenges through Collaborative Strategies

The collaborative model provides a robust framework for tackling specific, persistent causes

of documentation incompleteness. Handoff communication, a critical juncture where information gaps can lead to serious errors, is a key area for intervention. Nursing, HIM, and HI can collaborate to design and implement structured handoff tools within the EHR, such as I-PASS or SBAR templates. Nurses ensure the tool contains clinically relevant fields for a safe handoff. HIM ensures the tool is part of the permanent record for continuity and liability purposes. Informatics embeds the tool into the shift-change workflow, potentially linking it to patient summaries for automatic data population, thereby reducing manual entry and improving the completeness of transmitted information [23].

The pervasive problem of duplicate documentation—where the same data is entered in multiple places—is another challenge best solved collaboratively. Nurses can map out where redundancies occur in their daily workflow. Informaticians can then engineer solutions, such as using “write once, read many” functionalities, where data entered in a flowsheet automatically populates relevant parts of a progress note or handoff report. HIM professionals can review these solutions to ensure they do not compromise the legal integrity or auditability of the record. This tripartite effort reduces burden, minimizes error from re-entry, and ensures a single, complete source of truth for each data element [24].

Promoting the use of standardized terminologies is a strategic initiative that requires input from all three domains. Nurses and other clinicians can advocate for terminologies (like LOINC for labs, SNOMED CT for clinical findings) that reflect their practice and improve communication. HIM professionals understand how standardized data enhances coding accuracy, research, and analytics. Health informaticians possess the technical knowledge to implement these terminologies within the EHR, mapping local terms to standard codes, and ensuring they are used in structured data fields. Their joint effort moves documentation from unstructured, narrative text to structured, computable data, dramatically enhancing its completeness for secondary use and interoperability [25].

7. Measuring Outcomes and Sustaining Improvement

The impact of collaborative efforts on documentation completeness must be measured to demonstrate value and guide ongoing improvement. Key Performance Indicators (KPIs) should be co-developed by the three disciplines. These may include process metrics like the percentage of

records with completed nursing assessments within 24 hours of admission, the rate of unsigned orders, or the frequency of specific CDI query types. Outcome metrics are equally important, such as the correlation between documentation completeness scores and hospital-acquired condition rates, denials due to insufficient documentation, or the time spent by clinicians on documentation outside of patient care hours [26].

Health informatics plays a leading role in building the data infrastructure to track these KPIs through automated reports and real-time dashboards. However, nursing leadership must help interpret the clinical relevance of the data, and HIM must ensure the metrics align with compliance and data quality standards. Regularly reviewing these dashboards in collaborative meetings transforms data into actionable intelligence. For instance, if a dashboard shows consistently low completion rates for discharge planning documentation on a particular unit, the collaborative team can investigate. The nurse manager might identify a staffing or knowledge gap, the HIM professional might clarify the policy, and the informaticist might simplify the documentation screen or add a reminder alert [27]. Sustaining a culture of complete documentation requires ongoing collaboration embedded into the organizational fabric. This includes joint educational initiatives. HIM and informatics staff can participate in nursing orientation to explain the "why" behind documentation standards and how to use the EHR effectively. Nurse informaticists can train HIM staff on clinical workflows to make their audits more meaningful. Leadership from all three areas must consistently communicate the shared importance of documentation, not as an end in itself, but as a vital component of safe, high-quality, and efficient patient care. Celebrating improvements driven by collaborative projects reinforces the model and encourages continued participation [28].

8. Future Directions

The future of clinical documentation will continue to evolve, driven by technological advancements and shifting care models, further emphasizing the need for deep collaboration. The rise of artificial intelligence and machine learning offers transformative potential. AI-powered tools for ambient documentation, automated coding suggestion, or predictive alerts for missing information could revolutionize completeness. However, their success will depend entirely on collaborative development and governance. Nurses must ensure these tools capture nuanced clinical judgment and do not distort the patient narrative.

HIM professionals must establish governance for AI-generated content within the legal record. Informaticians must ethically implement, validate, and monitor these complex algorithms [29].

Similarly, the expansion of telehealth, patient-generated health data (PGHD) from wearables, and integrated data from community-based organizations present new opportunities and challenges for record completeness. Collaboratively defining what data from these novel sources is clinically relevant and how it should be integrated into the EHR will be crucial. Nurses will assess the utility of PGHD for care management. HIM will develop policies for validating and managing this data. Informatics will build the technical pipelines for integration. This triad ensures the record remains a coherent, complete, and trustworthy source amid an ever-growing data deluge [30].

9. Conclusion:

In conclusion, the completeness of patient clinical records is a complex, multi-dimensional challenge that cannot be resolved by any single healthcare profession working in isolation. It demands a concerted, strategic, and ongoing partnership between Nursing, Health Information Management, and Health Informatics. Nursing provides the indispensable clinical context and is the primary source of data integrity at the point of care. Health Information Management establishes the essential governance, policies, and quality control mechanisms that ensure data reliability and compliance. Health Informatics creates and optimizes the technological environment to make complete documentation an efficient and supported outcome of the care process. Through structured collaboration in committees, CDI programs, system design, and quality improvement initiatives, this triad can transform documentation from a persistent problem into a strategic asset. By leveraging their combined expertise, healthcare organizations can ensure that the patient record fulfills its ultimate purpose: to tell a complete, accurate, and actionable story that facilitates optimal patient outcomes, supports clinical reasoning, enables robust analytics, and upholds the highest standards of care quality and safety. The journey toward perfect completeness may be ongoing, but it is a journey that must be taken together.

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