

AN ESSENTIAL GUIDE TO CLINICAL DOCUMENTATION IMPROVEMENT

White Paper

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What is Clinical Documentation Improvement (CDI) and Why is it Important?

Because clinical documentation is at the core of every health care encounter, it must be complete, precise and reflective of the full scope of care and services provided. Increasingly, this documentation, as well as the resultant data and information extracted from that documentation, is how providers and organizations are being measured and adjudicated. Assuring consistency in clinical documentation that is accurate, specific, legible and timely is a key quality measure for any organization; at present, many organizations are implementing initiatives to address this challenge. A comprehensive clinical documentation improvement (CDI) program that is accepted and adopted by all clinicians is critical in achieving success.

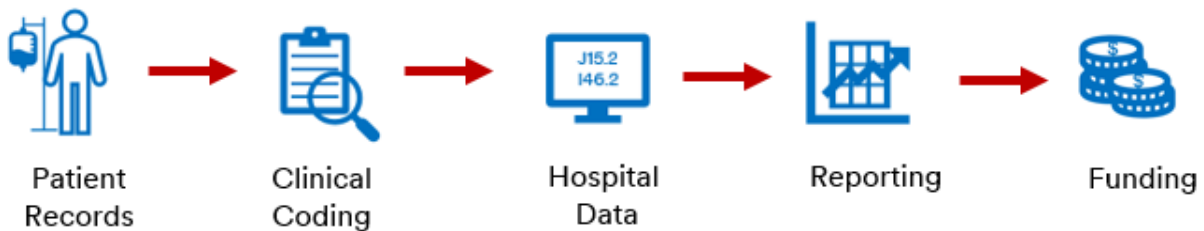
While documentation in the health record has always been critical to the patient, the physician and the health care organization, hospitals are paying an increasing amount of attention to the *quality* of the documentation and the resulting data that is coded, abstracted and submitted to the Canadian Institute for Health Information (CIHI) and provincial ministries. To justify increased resources in the absence of objective and quantifiable data, the adage typically used by physicians that “my patients are sicker” is no longer supported. Studies have shown that improving high quality clinical documentation improves patient outcomes, and allows for better planning, delivery of services and appropriate funding.

Physicians and other health care providers typically are not trained to develop proper documentation skills in medical school and residency. Hospitals and health care systems need to compensate for this lack of training by instituting educational programs and tools that align health care providers with proper documentation practices and by removing barriers to achieving better quality data and information.

Allocating resources to CDI training and development is an investment that will produce future returns for health care organizations, including:

- Robust, concise and complete documentation that reflects the delivery of high-quality health care services - including a more accurate reflection of the complexity of the patient and the care provided to them.

- Support for the coding of health records to their greatest level of specificity and therefore, submission of high quality data and information to CIHI and the provincial ministries.
- Facilitation of a more efficient way of collecting key data elements in order to ensure more accuracy in the reporting and analysis of hospital data and information.
- Greater ability to focus on accountability and quality around patient outcomes or mortality rates, and meet the measures outlined in accountability agreements, activity based funding models and other quality based initiatives.
- Optimization of potential funding and appropriate reflection of costs per weighted case.



In addition to these objectives, high-quality clinical documentation serves the best interest of the patient as it provides better documentation for continuity of care and therefore better patient outcomes. Fundamental attributes of accurate and complete documentation to achieve this goal include:

- Complete description of patient assessment, reasons for admission and tests conducted.
- Confirmation of test results and resultant treatment provided or changes in dose including any corresponding conditions for which the treatment is being provided.
- Documentation supporting the Most Responsible Diagnosis (MRDx) (which is not always the reason the patient sought medical attention), comorbidities (both present upon admission and those developed post-admission), and interventions performed.
- Clarity on whether the condition is a complication of surgery or any changes in diagnosis during the course of their stay.
- Legible, consistent, complete and precise documentation with full dates and signatures on all documentation (to ensure that the health record meets legal standards).



Captures information that benefits patient outcomes

CDI helps drive accuracy and specificity of the diagnosis to ensure all important patient information is captured so clinicians have clarity and coders generate quality data

It is important to understand how gaps in documentation and the corresponding coded data also impacts the patient's expected length of stay, the hospital's mortality rate and many other outcome measures, such as those on the national list of patient harm indicators. Many of these indicators are publicly reported or benchmarked against peer organizations and therefore, it is important that this information be captured accurately and truly reflect the care provided by the hospital.

The importance of articulating the most responsible diagnosis and coding a diagnosis versus a symptom will often increase the value of the resource intensity weight (RIW) and the expected length of stay (ELOS). The table below provides a generic example of the impact on RIW and ELOS for a patient with delirium versus confusion.

	Case Mix Group	RIW	ELOS
<i>Scenario 1:</i> <i>Physician documents</i> <i>confusion</i>	811 GENERAL SIGN/SYMPTOM	0.58	2.98
<i>Scenario 2:</i> <i>Physician documents</i> <i>delirium</i>	671 ORGANIC MENTAL DISORDER	1.54	8.16

In addition to stating the diagnosis, the specificity of the condition and causal relationships between conditions are critical in accurately reflecting the acuity of the patient. Additional information, such as flagged interventions, can significantly impact RIW and ELOS values. The example that follows demonstrates the potential impact on the RIW and ELOS for an individual patient, if the physician provides additional documentation and specificity of diagnoses and interventions.

	RIW	ELOS
Staphylococcus Aureus endocarditis	1.2	7.6
With sepsis/septic shock	2.6	16.8
With acute respiratory failure (hypoxia)	3.9	24.6
With central line and ventilation	6.5	28.4

What are some of the Barriers to Improving Clinical Documentation?

- Physician engagement related to lack of understanding or time.
- Lack of understanding of the importance of clinical documentation of various stakeholders.
- Lack of leadership, training and a streamlined query process. Sending queries is a process whereby clinical indicators and supporting documentation from the chart are sent to the physician for review, not to question his/her clinical judgement but to clarify the documentation.
- Lack of respectful communication and understanding between the Health Information Management (HIM) department professionals and clinician team.

Who should be Involved in Implementing a CDI Program?

A comprehensive and effective CDI program should involve the following stakeholders from across the organization:

Senior Leadership

- Including the Chief Executive Officer, Chief Financial Officer, Chief Information Officer, Chief Nursing Officer, and Chief Medical Informatics Officer.

Physician Leadership and Physicians

- Ultimately a physician advisor(s), one from each service, who can provide advice, sponsorship, and promote the program among his/her peers and colleagues.
- Selected representatives from physician groups such as residents, hospitalists and consultant physicians to support the changes required.

HIM Departmental Directors and Managers

- Provide best practice advice on the content and quality of documentation.
- Provide insight and practical recommendations about health record policy changes and/or process re-design.

HIM Professional Coders

- The coder role focuses on contributions to, and advice on, the quality and content of clinical documentation as this affects their ability to accurately and comprehensively code and abstract the full set of diagnoses and procedures/interventions.

Leaders of Decision Support and Quality Improvement Departments

- Will provide performance metrics that can be used to guide CDI efforts and identify target opportunities in the organizational services or programs where data quality and clinical documentation can be improved.

Information Technology Resources

- To support electronic tools or systems that are used to enhance the CDI program.

Qualified CDI Specialist

- An experienced HIM professional or clinical nurse, as two credible examples.

A qualified CDI specialist is the most critical piece for implementing a CDI Program. It is becoming more common for organizations to include experienced clinical nurses as an integral part of the CDI program. Their skill sets are particularly useful during the documentation review and providing feedback and suggestions to clinicians for improving documentation.

The CDI Specialist

A key aspect of the CDI program is to review documentation in a chart from a clinical perspective, keeping in mind disease processes, symptomology, and appropriate treatment. Physician documentation is often noted in clinical terminology, not always listing the diagnostic equivalent. Often a condition or sign and symptom is recorded, but the question remains: what is the significance? What is the actual diagnosis and was it treated?

In addition to the clinical perspective, the coding perspective is necessary to ensure that the gaps in documentation that are identified are of importance. The focus of the documentation review should primarily be on areas that impact the indicators mentioned earlier. These indicators are based on the diagnosis and procedure codes captured by the HIM professional.

A CDI specialist holds unequivocal value for chart reviews. They are able to “connect the dots” of signs and symptoms to lab/test results and then the treatment, thus identifying opportunities for diagnosis and/or specificity that was not documented by the physician. This type of assessment requires an individual with wide scope of clinical knowledge.

The CDI specialist must also have critical thinking skills and a good understanding of the provincial funding system, clinical documentation principles, quality metrics and coding standards to efficiently derive the required results. The benefit of an audit is identifying the key areas that have the most potential for impact on data, quality metrics and funding, thus providing the facility a point to begin the improvement process.

- The CDI specialist will direct and manage the day-to-day operations and processes of the program, such as: Conduct in-depth chart analysis to review the quality of the clinical documentation and identify the gaps and opportunities for improvement.
- Act as a liaison between the coding team and physicians.
- Gather data and analyze performance metrics to focus CDI efforts.
- Develop tools and resources to support both coding staff and clinicians.
- Provide training materials and deliver educational sessions.
- Implement solutions to leverage technology and the electronic health record.

While a CDI program is typically found in acute care hospital settings, its philosophy, principles and practices can be applied to any health care sector where a clinician provider is documenting a health care encounter in a patient record. The outcome and effects of quality clinical documentation, or lack thereof, are increasingly impacting funding decisions in all health care sectors.

How do I get started? An Essential Guide

There are four key steps to a CDI program:

1. Needs Assessment, Chart Audit and Documentation Review.
2. Analysis of Study Results and synthesis into meaningful information, with recommendations for improvement.
3. Physician / Clinician Engagement and Education.
4. Ongoing Management and Evaluation.

Each of the above steps is detailed below.

1. Needs Assessment, Chart Audit and Documentation Review

To ensure the effectiveness of any program, an assessment of the scope and extent of any existing issues requiring resolution should be conducted. This is particularly true for an effective CDI program. The following activities should be initiated as part of a needs assessment:

- Determine the most common, high risk diagnoses, programs/services, cases which may have the highest potential for documentation improvement, such as:
 - Cases with a “longer than expected” LOS.
 - Cases with a “lower than expected” RIW.
 - Cases where the Most Responsible Diagnosis (MRDx) is a symptom or is unclear.
 - Complex cases which normally require high cost interventions and/or are accompanied by many co-morbid conditions (often are more acute care patients with more risk in proposed treatment).
 - Cases with diagnoses that require specificity (type and acuity) of the condition.
 - Cases where there are strict coding standards that require reporting of specific conditions.

A detailed analysis of the most recent reports from the coded and abstracted data contained in the data set, as well as from previous chart audits, will help to determine which charts are to be reviewed.

As the high-risk groups are identified, it is important to consider improvement from a coding and clinical documentation perspective. The areas selected should be based on those that contain the most impactful diagnoses or conditions related to quality indicators, and their data and financial impact.

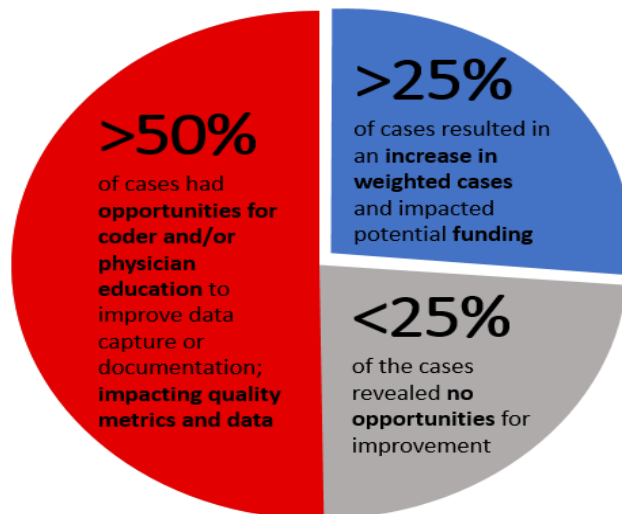
- Other measures that will be evaluated during the chart audit will include items focused more on the process and the quality of coding such as:
 - Coding discrepancies with the most responsible diagnosis or missed flagged interventions.
 - Accuracy of fields representing the discharge disposition and patient stay in special care units.
 - Appropriateness of diagnosis typing and assignment of significance of comorbid conditions.
 - Capture of mandatory coding and combination coding (i.e., dagger-asterisk convention).
- Once the volume or high-risk cases have been identified, a detailed evaluation should occur in the form of a re-abstraction (chart audit) study.

2. Analysis of Study Results and synthesis into meaningful information, with recommendations for improvement.

Upon completion of the chart audit, the CDI specialist will review the study results and identify the clinical areas or programs where clinical documentation improvement is required. These areas are typically identified by the indication of potential changes to the case mix group (CMG), resultant changes in the RIW, specific mandatory coding and lack of documentation that impacts quality metrics.

Based on numerous reviews, the following graph depicts the most common findings from a typical chart audit.

Recent chart audits in Canada show



Of the 25% of cases that were reviewed and resulted in documentation improvement opportunities, there were a number of common themes that were found.

The table below lists the top five areas of concern that CDI specialists encounter when reviewing patient charts.

Opportunity identified by CDI specialist	Specific case example
Most responsible diagnosis discrepancy	Palliative care documented as MRDx, however, treatment directed toward ascites due to hepatic failure and not deemed palliative until the last 20% of their stay.
Lack of specificity of condition/diagnosis	Documentation of pneumonia unspecified; type of respiratory failure (hypercapnia or hypoxia) unspecified.
Symptoms documented without a corresponding diagnosis	Patient with RR 30/min, WBC>14, increased lactate, norepinephrine and vasopressin required despite fluid resuscitation with renal failure. Require documented diagnosis of severe sepsis and septic shock.
Lack of diagnosis for lab/DI results, treatment provided or medications given	Nurses' notes and EKG indicate ventricular tachycardia and patient treated with beta blocker; require physician to confirm diagnosis.
Lack of documented flagged interventions	Documentation for central venous catheter, cardioversion or total parenteral nutrition not provided.

As mentioned, these discrepancies can lead to incorrect CMG assignment, possibly incorrect RIW, and false quality metrics.

3. Physician / Clinician Engagement & Education

To ensure a successful CDI program, physician involvement and support is critical to the acceptance and delivery of the program from its inception. Strong collaboration and evidence of effective leadership between the physicians and the CDI program team will ensure the long-term success of the program. Physicians should be well-informed prior to the start of the program. Each individual program or service area should have their own physician champion and the initial communication should come from the CEO with the expectations regarding the involvement and benefit of the program outlined.

Some key activities as part of delivering physician/clinical education include:

- A key physician stakeholder as an integral part of the CDI program/team. Their role would be to provide input on the population of cases for the chart audit, provide feedback and advice on the audit findings and provide ongoing support and peer leadership to any resultant CDI initiatives. The physician leader must be a well-respected, trusted individual among his/her peers, must be visible and vocal, have a good rapport with their peers, have good leadership skills and be committed to the program.
- Jointly establish measurable goals for the program that are linked to the key performance metrics used to measure outcomes. Provide regular updates on results and performance improvements as reinforcement of the program's progress and success.
- Focus on the common (top 10) clinical diagnoses, applicable to a specific service and deliver customized presentations to that physician group. Provide examples of inadequate documentation and the effect on metrics, including comparisons with other institutions.
- Engage physicians in the use of resources such as query monitoring tools.
- Develop training packages to be used in general orientation of residents and new physicians.
- Invite physicians to be speakers at coding sessions on specific clinical conditions diagnoses and procedures to enhance the understanding and education of the documentation requirements that are necessary to ensure high quality coding.

- Initiate small physician group discussions, develop an informative physician video or conduct one-on-one education, which has shown to be more successful than large group sessions.
- Introduce web-based searchable application tools and physician queries as a quick reference and for ongoing education.

4. Ongoing Management and Evaluation

As with any program or initiative, it is important to build in structures and processes to manage and evaluate the CDI program on an ongoing basis. Key elements of this management and evaluation include the following:

- Identify a CDI Specialist to manage the program and direct (or conduct) the re-abstraction studies and subsequent analysis. This resource acts as the organizational lead and champion of the program, working closely with the physician lead and sponsor.
- Formalize the program by creating a governance structure, including a steering committee and working group.
- Develop the programs overall strategy, timelines and scope. Identify measurable program goals and metrics to demonstrate progress and improvement. Regularly monitor reports and have established targets and benchmarks. An initial chart audit serves as a baseline for improvement opportunities and therefore a way to measure success. Examples of metrics may include: case mix index measured over time, change in physician query response rate, and rate of reported discrepancies.
- Conduct regular meetings with the steering committee, working groups, physician groups and other forums to report on progress, discuss findings, and determine ongoing actions and recommendations.
- Implement new recommendations, working closely with all impacted stakeholder groups.
- Evaluate effectiveness of recommendations and changes on physician and HIM department workflow and processes. These evaluations can be done through a survey, direct feedback or a collection of performance metrics, i.e., reduction in the number of charts audited or physician queries required for sending.

Leveraging EHR Technologies and Tools to Enhance your CDI Program

As electronic health records (EHRs) have become prevalent in most health care organizations, there is an increased opportunity to leverage those tools for a CDI program. While the components of quality clinical documentation remain the same

regardless of the method of documentation (paper, electronic, hybrid), the level of maturity of many EHR systems and other supporting technologies is now enabling improved clinical documentation. The capture of structured and standardized data within an EHR/health information system (HIS) system has been occurring for many years and is now stable and integral; the narrative documentation component of the health record is the “last mile” on the EHR journey.

An example of standardizing data collection is the development of structured templates that are integrated in the EHR. These templates can be specific to a service or program or used generally by all clinicians, such as a standardized discharge summary. While they should be developed with physician input, the focus should be on improving the accuracy and completeness of the clinical information.

These structured documentation forms should include identification of discrete data elements, either specific to a condition, disease state or general clinical data. Building these elements into the forms will allow standardization of terms and narrative, resulting in the use of common terminology that can be “documented once and used many.”

Manual entry of data into the EHR is one method of documenting clinical information. There are a number of speech recognition systems that are integrated with dictation and transcription tools, including post transcription physician self-edit and authentication processes.

Once an organization has built a fairly robust EHR, there are tools that can process the digital information to identify gaps in the documentation. Natural language processing (NLP), also known as computational linguistics, processes digital information directly from the EHR. The technology mines the data to extract information that can then be used by a CDI Specialist.

‘Rule-based’ NLP uses deterministic rules to identify key words, such as diagnoses, interventions, medications, etc. in the documentation and displays them for the end-user. When reviewing patient charts to identify potential gaps, this tool could be used to focus attention to conditions that lack specificity or highlight clinical indicators that are missing a corresponding diagnosis.

‘Statistical’ NLP relies on the system itself learning to identify and present information based on statistics from a large amount of input from experts. For example, the system “presents” lab values out of range or test results without definitive diagnoses and suggests opportunities to seek further clarification from the physician.

Once the CDI specialist is presented with possible options for querying physicians, they can analyze the information and decide to build and send a query. Many of the newer software systems that are emerging in Canada, provide a library of query templates that the CDI specialist can further customize or modify to add patient-specific information. Future systems may also automate the entire query process by sending the query directly to the physician without any intervention of the CDI specialist.

Hospitals will soon be looking at ways to automate the management of the query process, by having the system send reminders to physicians with outstanding queries. The system will also monitor metrics such as number of queries sent, by whom and to whom, number of responses received and the resulting impact of those responses (such as an increase in weighted cases).

Summary

A clinical documentation program will address the quality of the patient's care, quality and outcome metrics, statistics and research which affect all Canadians. Having knowledge of the specific deficiencies in documentation and/or coding within an organization is the first step in identifying the need and requirements for quality clinical documentation improvement. The next steps can then be initiated to ensure proper education, engagement and process. Ultimately the goal is improved health care.

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Author Biographies

Akeela Jamal

Akeela is certified by the Canadian Health Information Management Association (CHIMA), as a CHIM professional and has served on the CHIMA Board of Directors. Akeela has over fifteen years of health care experience in both the public and private sectors, primarily in improving and leveraging health information for planning, funding and patient care. She has developed province-wide business intelligence tools, launched a provincial health information management advisory committee to improve the quality of clinical data and coding, established the provincial physician expert panel on clinical documentation, and is the author of "Guide to Better Physician Documentation". Akeela has a Bachelor of Science in Anatomy from McGill University and an MBA from McMaster University with a focus on Health Services Management. In her current role as Senior Engagement Manager with 3M, Akeela is assisting in bringing emerging technologies such as Computer-Assisted Coding and Clinical Documentation Improvement Systems to Canada.

Cindy Grant

Cindy is certified by CHIMA, as a CHIM professional and is an experienced project director. Leveraging her extensive consulting and hospital operations experience, in particular in the area of Health Information Management, implementation and use of clinical systems and project management. Cindy leads the project management and business development areas for CHIM Consulting. She is an experienced presenter to a wide variety of industry and sector groups on a variety of HIM practice areas. In her HIM career, Cindy has led several multi-stakeholder projects, such as initiating and managing a complex, multi-year clinical documentation design and implementation project in the United States. She managed the procurement, vendor engagement and initiation activities and early implementation of the Client Registry solution for the province of Ontario. She lead a Chronic Disease Management Project for the province of Alberta. She served as the Interim CIO at a Complex Continuing Care and Rehabilitation facility in Kingston, Ontario.

Kim Myrick

Kim has over twenty years of experience in the field of nursing, with a background in medicine, neurology ICU, community and trauma intensive care from various hospitals throughout Canada. With extensive medical and community knowledge as well as management and project management experience, including development of regionalized EHR templates and implementation of an EHR system, Kim continues to focus on the development of best standards and improving safety outcomes through the development and education of a CDI program as a clinical nursing specialist with 3M Canada.

About CHIMA

The Canadian Health Information Management Association (CHIMA) represents approximately 5,000 Health Information Management (HIM®) professionals across Canada.

HIM® professionals are trained to capture, utilize and manage health information within health facilities and community agencies across the health system. They are the only professionals certified by the federally chartered Canadian College of Health Information Management (CCHIM). CHIMA is the certifying body for HIM programs in Canadian colleges and universities.

CHIMA was established 75 years ago to ensure sound record management principles in Canada. CHIMA's four Domains of Practice are Data Quality; Privacy of Health Information; Electronic Health Information Management (eHIM), and Health Information Management Standards for the paper, hybrid and the EHR. CHIMA's renewed strategic plan for 2018-2021 involves four focused areas, all designed to strengthen the HIM's contribution towards supporting a healthy Canada enabled by quality health information.

About CHIM Consulting Inc.

The CHIMA Board of Directors researched the health care industry in response to a gap analysis and requests for consultative services; this research indicated a shortage of qualified expert HIM professionals available for consulting work in the Health Information sector. Accordingly, CHIM Information Consulting Inc. (CHIM) was established in December 2002.

CHIM Consulting holds one of the most extensive HIM® consulting resource databases in Canada and provides a full complement of efficient and reliable health information management expertise and solutions.

CHIM Consulting consultants are selected from the most senior and experienced HIM professionals in Canada to provide informed, inspired and incisive advice and consultative services to the Canadian health care industry. Many of the CHIM staff are experienced adult educators and have experience in creating and delivering standard and customized education courses and workshops on many subjects.

The success of our organization is built on the talent and energy of outstanding people.

