

CHI Coding Audit Methodology and Implementation Project

Clinical Coding Audit Whitepaper

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Glossary

AAPC	AMERICAN ACADEMY OF PROFESSIONAL CODERS
ACE	AUSTRALIAN CLASSIFICATION EXCHANGE
ACHI	AUSTRALIAN CLASSIFICATION OF HEALTH INTERVENTIONS
ACS	AUSTRALIAN CODING STANDARDS
AHIMA	AMERICAN HEALTH INFORMATION MANAGEMENT ASSOCIATION
AR-DRG	AUSTRALIAN REFINED- DIAGNOSIS RELATED GROUPS
CCC	CERTIFIED CLINICAL CODER
CHI	COUNCIL OF HEALTH INSURANCE
DOH	DEPARTMENT OF HEALTH (ABU DHABI-UAE)
DRG	DIAGNOSIS RELATED GROUP
FWA	FRAUD, WASTE, AND ABUSE
HCP	HEALTH CARE PROVIDER
HHC	HOME HEALTH CARE
HIMAA	HEALTH INFORMATION MANAGEMENT ASSOCIATION OF AUSTRALIA
ICD-10-AM	INTERNATIONAL STATISTICAL CLASSIFICATION OF DISEASES AND RELATED HEALTH PROBLEMS, TENTH REVISION, AUSTRALIAN MODIFICATION
LTC	LONG TERM CARE
MDK	MEDICAL SERVICE OF HEALTH INSURANCE COMPANIES (GERMANY)
NCA	NATIONAL CODING ADVICE (ICD-10 AM)
NPHIES	NATIONAL PLATFORM FOR HEALTH AND INSURANCE EXCHANGE SERVICES
PHC	PRIMARY HEALTH CARE
SBS	SAUDI BILLING SYSTEM
SBSCS	SAUDI BILLING SYSTEM CODING STANDARDS

Executive Summary

The Council of Health Insurance (CHI) Coding Audit Framework is designed to develop a standardized framework, methodology and guidelines for clinical coding audits to ensure accuracy, consistency, and compliance in the coding process, to assure data quality for providers participating in submitting their data to National Platform for Health and Insurance Exchange Services (NPHIES) and, correspondingly, to provide recommendations for improvement of quality and processes.

The primary focus of CHI will be on improving the quality of healthcare data by:


- Assessing the accuracy of clinical codes assigned to diagnoses, procedures, and services.
- Providing healthcare providers with recommendations on areas of quality of coding.
- Verifying that the coding practices are following the Saudi coding standards.
- Establishing trust between insurance companies and providers by ensuring that the claims submitted are appropriate, complete, and compliant with current regulations.

Achieving high-quality coded data would further strengthen the payer and provider relationship. This approach assists the providers to avoid Fraud, Waste, and Abuse (FWA), especially in minimizing coding errors, which in turn would lead to less frequent payer audits and reduced audit recovery amounts.

The project achieved significant progress in creating awareness in the Saudi Healthcare system about the importance of having robust clinical coding practices that will result in better healthcare data infrastructure. This project is aligned with the broader healthcare reform goals in Saudi Arabia.

The project of Development and Implementation of Coding Audit Methodology in CHI was structured across four workstreams.

1. **Governance and Framework:** A foundational Coding Audit Governance Framework was established to provide oversight, set clear standards, and define the processes of conducting audits for both admitted and non-admitted services across CHI facilities. This framework forms the foundation of CHI's audit initiative promoting consistent application of coding accuracy, compliance, and data quality across the Saudi Healthcare system.
2. **Audit Process:** A comprehensive Clinical Coding Audit Methodology in alignment with CHI coding standards was developed for conducting internal and external audits. To support providers in adopting these standards, four stakeholder educational workshops were conducted.
3. **Internal Pilot Audits:** An initial round of three pilot audits was conducted to test the methodology. Prior to the audits, educational sessions were held to ensure that the



healthcare facilities were familiar with the methodology and the compliance requirements.

4. **External Pilot Audits:** To validate the audit framework and methodology, three external pilot audits were conducted. These audits helped to identify potential areas of improvement within the audit methodology and confirmed the effectiveness of the established framework.



Introduction

This whitepaper outlines the framework and methodology for clinical coding audits in healthcare facilities, specifically designed to improve the accuracy and quality of healthcare data in the Kingdom of Saudi Arabia (KSA). The clinical coding audit process is essential for ensuring the integrity of clinical data used for billing, reporting, and decision-making in healthcare organizations.

As the Saudi healthcare sector moves toward more data-driven, value-based care models [1], establishing robust auditing mechanisms becomes crucial to ensure clinical coding practices' accuracy, reliability, and transparency. Clinical coding audits are key in verifying that data submitted to regulatory bodies, such as NPHIES (National Platform for Health Information Exchange), is correct and compliant with healthcare standards. Additionally, clinical coding audits support the adoption of internationally recognized systems like the Australian Refined Diagnosis Related Groups (AR-DRG), which enhances healthcare financial management.

The goal of this whitepaper is to provide a high-level overview of the coding audit process, including its methodology and key components, such as audit governance, stakeholder engagement, and international benchmarking. It aims to highlight the importance of these audits in improving data quality, ensuring compliance with regulations, and fostering a culture of transparency and accountability in healthcare practices. Furthermore, this document discusses the importance of preparing the healthcare market for the successful implementation of coding audits, ensuring that local practices align with international standards.

This document outlines the initiative's strategic vision, mission, and objectives to develop and apply a standardized clinical coding audit framework. The framework will enhance data quality, ensure regulatory compliance, and support continuous improvement in healthcare services across KSA.

Vision

The vision of the clinical coding audit methodology [2] initiative is to bring value to the Saudi healthcare market and incentivize better management of healthcare beneficiaries.

Mission

To improve transparency, enable innovation, and promote efficiency in the healthcare market.

Objective

The objective is to develop standardized frameworks and guidelines for clinical coding audits, ensuring the quality of data submitted to NPHIES and providing recommendations for improving data quality and coding processes.

CHI's approach for implementing Australian Refined Diagnosis Related Groups (AR-DRG) includes key prerequisites, such as clinical coding accuracy, documentation quality, episode grouping, technology integration, and financial impact assessments. Successful implementation of AR-DRG in the private healthcare sector will lead to greater transparency and a seamless integration with NPHIES, paving the way for a value-based healthcare model in KSA.

Refer to [Appendix A](#) for the CHI Clinical Coding Audit Accreditation Roadmap and [Appendix B](#) for the Clinical Coding Audit Planner.


International Benchmarking

The Coding Audit Governance Framework [3] was established after a comprehensive international benchmarking exercise, reviewing the audit practices established in countries like the United States, Australia, the United Arab Emirates, and Germany.

United States of America

The U.S. Office of Inspector General (OIG) [4] oversees healthcare fraud prevention, compliance, and quality assurance across public and private sectors. Various audits, including Health Information Technology, Provider/Facility, and Payer audits, ensure compliance with federal regulations. The Department of Justice (DOJ) enforces penalties for non-compliance.

OIG employs standardized procedures to test transactions, compliance, timeliness, and root causes of noncompliance. Auditors must provide validated reports and impact analyses. The RAT-STATS [5] tool facilitates claim audits by randomly sampling data and



estimating improper payments. While its use is not mandatory, many providers adopt it for compliance.

Germany

Germany's Medical Service of Health Insurance Companies (MDK) [6] conducts inpatient audits at the request of insurers, following strict coding rules outlined in the Social Code Book (SGB V) [7]. The government sets the framework, but various stakeholders manage healthcare regulations and reimbursement policies independently.

MDK audits use AI-driven fraud detection, including deep learning and regression models. Only MDK-appointed physicians can perform audits, ensuring neutrality. Additionally, MDK assesses hospital structural requirements and compliance with national quality standards.

The German Society for Medical Controlling establishes binding coding rules, with the Federal Arbitration Committee resolving disputes. Coding recommendations are updated through ongoing discussions among medical experts, ensuring nationwide consistency and procedural transparency [8].

Australia

The Australian healthcare system emphasizes data quality through the Independent Health and Aged Care Pricing Authority (IHACPA) [9]. State-level audits ensure compliance with ICD-10-AM,ACHI, AR-DRGs, and Australian Coding Standards. Data integrity is maintained through continuous validation processes, accuracy benchmarking, and performance indicators.


The Australian Classification Exchange (ACE) [10] allows public submissions for refining coding standards. Quality indicators guide policy decisions and healthcare service improvements, focusing on clinical documentation, interoperability, and accessibility.

United Arab Emirates (Abu Dhabi)

The Department of Health (DOH) regulates Abu Dhabi's healthcare system, enforcing clinical coding standards and quality improvement initiatives. The JAWDA Data Certification (JDC) process ensures accurate claims documentation and KPI validation [11].

Key aspects of JDC:

- Scope: Covers claims reviews, clinical coding, and KPI validation.
- Certification Body: TASNEEF-RINA Business Assurance (TRBA) conducts audits [12].
- Applicability: Mandatory for all healthcare providers.
- Audit Process: Facilities apply at least two months before their audit date.

- 
- Scoring & Certification: Requires 86% to pass, with follow-up audits for major issues.
 - Renewal: Certification must be renewed before expiration.
 - Leadership Involvement: Facilities must comply with DoH regulations.

JDC replaced previous certification programs, incorporating quality KPI audits alongside coding and claims reviews. It enhances patient safety by ensuring accurate documentation and adherence to global best practices. The framework emphasizes evidence-based practice, accessibility, and clinical effectiveness to optimize patient outcomes.

The Emirate's healthcare system is private-sector-driven, following international standards and ensuring accessibility through a mandatory insurance model. Continuous outcome monitoring and data-driven strategies improve healthcare services and patient experiences.

Importance of Market Preparation for Successful Clinical Coding Audit Implementation

Effective market preparation is crucial to the successful implementation of clinical coding audits. Educating healthcare providers and auditors on the audit's objectives, methodology, and processes fosters a shared understanding and promotes active engagement. A well-prepared market ensures that stakeholders, including healthcare providers and auditors, are aligned in their focus on coding accuracy and data quality. This proactive engagement minimizes resistance to change and supports the seamless introduction of new coding standards and practices.

Market preparation also plays a vital role in ensuring better compliance with coding standards. It helps mitigate potential issues related to coding errors and compliance challenges, leading to more accurate and reliable clinical data. A well-prepared market provides the foundation for an efficient and effective audit process.

Key activities for market preparation include:

Workshops for Stakeholder Education

Multiple workshops, titled “CHI Clinical Coding Audit: Governance and Clinical Coding Audit Process within the Coding Audit Methodology Project,” were conducted for regulators and healthcare providers. These workshops focused on the importance of clinical coding audits and the methodologies to be followed.

AR-DRG Implementation Workshops

In addition to the workshops for coding audits, five workshops were held within the AR-DRG implementation project, reinforcing the significance of coding accuracy, data consistency, and the role of auditing in maintaining high standards.

By strategically defining objectives, engaging stakeholders, allocating resources wisely, and committing to continuous improvement, organizations can significantly reduce risks related to coding errors and compliance issues. This approach not only mitigates potential challenges but also positions organizations for long-term success, ensuring compliance in an increasingly complex healthcare environment.

To be fully prepared, healthcare providers and auditors must possess expert-level knowledge of the current legal context and reporting requirements for clinically coded data. This understanding is essential for maintaining compliance and ensuring that the data meets the necessary regulatory standards.

Understanding the Audit Landscape

To effectively navigate the complexities of clinical coding audits, organizations must establish a clear and structured approach. The following elements are essential for setting up a comprehensive audit process:

1. Defining Objectives and Scope:

It is crucial to clearly define the audit's objectives and scope, ensuring that specific aspects of clinical coding are assessed, such as accuracy, completeness, consistency, and compliance with established coding standards (e.g., ICD-10-AM, SBS). This focus ensures the audit delivers actionable insights for improving coding practices and compliance with regulatory requirements.

2. Stakeholder Engagement:

Engaging key stakeholders early in the audit process is fundamental to its success. By involving stakeholders from the beginning, organizations foster collaboration and ensure all parties understand their roles and responsibilities. Effective stakeholder engagement is essential for obtaining buy-in and facilitating smooth communication throughout the audit.

3. Resource Identification:

Successful audits require the right resources, including skilled personnel and appropriate tools. Organizations should assess their internal capabilities to determine if they have the necessary expertise and capacity to carry out the audit. If needed, consider engaging external auditors with specialized knowledge to address gaps and enhance the quality of the audit process.

4. Continuous Improvement:

Audits should not be seen as isolated events but as opportunities for continuous improvement. Market preparation involves a commitment to refining processes based on audit findings. Organizations should view audits as a valuable tool for improving coding practices, enhancing workflows, and fostering a culture of quality assurance.

5. Documentation and Reporting:

Comprehensive documentation and reporting throughout the audit process are critical for ensuring transparency and accountability. Proper documentation provides a record of the audit findings, methodologies, and corrective actions, which can be referenced in future audits and help drive ongoing improvements.

The audit process will apply to all health records and claims generated from inpatient, outpatient, day-case, and emergency room departments. However, records from Home Health Care (HHC), Primary Health Care (PHC), and Long-Term Care (LTC) departments are outside the scope of this document but will be considered in the future.

Internal and External Audit

Internal Audit

- Conducted by the organization's own staff
- Auditors have deep familiarity with the organization's specific practices
- Limited by the knowledge and expertise of internal staff
- Easier access to medical records and coding data

External Audit

- Performed by independent third-party specialists
- Provide an unbiased, objective perspective
- Offer specialized expertise across many healthcare organizations
- Bring knowledge of the latest coding guidelines and regulations
- Can benchmark against industry standards

Many healthcare organizations use a combination of internal and external audits to get the benefits of both approaches. External audits can validate internal findings and provide an impartial assessment of coding accuracy and compliance.

For more information, refer to [Appendix C: CHI Clinical Coding Audit Methodology](#).

Methodology and Plan for Audit Preparation Period

Organizations must adequately prepare to address the complexities of auditing by ensuring their auditors possess the necessary skills and expertise to navigate the multifaceted architecture of healthcare data systems. Auditors need a comprehensive understanding of clinical coding standards, AR-DRG concepts, and healthcare regulations to conduct a thorough and effective audit. For more detailed information on the Clinical Coding Audit Methodology, refer to [Appendix C](#).

Stakeholder Engagement and Awareness

Stakeholder Awareness in Auditing

Effective auditing begins with identifying and engaging key stakeholders. These stakeholders may include senior management, board members, department heads, and external entities such as regulators and investors. Each group has its own interests, priorities, and influence over the audit process, making it crucial to tailor communication strategies to address these differences.

Engaging Stakeholders Throughout the Audit Process Enhances Understanding

Ongoing communication with stakeholders is critical throughout the audit process. This can be achieved through regular updates, feedback sessions, and meetings to discuss audit findings. Such engagement not only ensures transparency but also promotes a culture of collaboration within the organization. Furthermore, employing adaptive frameworks like Agile Scrum can help maintain effective stakeholder involvement, enabling timely responses to emerging risks and concerns.

Relevance to AR-DRG Concepts

The Australian Refined Diagnosis Related Groups (AR-DRG) is a classification system widely used in healthcare to categorize patients based on diagnoses and treatments for billing and reimbursement purposes. AR-DRG aims to improve resource allocation, streamline operational efficiency, and enhance financial management within healthcare organizations. The success of AR-DRG implementation relies heavily on accurate data collection and reporting—areas where auditing plays a pivotal role.

Auditing's Role in AR-DRG

Audits are essential for ensuring that the data used in AR-DRG classifications are accurate, complete, and compliant with regulatory standards. By engaging stakeholders such as healthcare providers, financial officers, and regulatory bodies, auditors can identify discrepancies in data reporting that may impact reimbursement rates or regulatory compliance. Effective auditing, accompanied by strong stakeholder management, also enhances the understanding of AR-DRG processes, improving organizational performance in both clinical and financial domains.

Benefits of Stakeholder Engagement in AR-DRG Audits

1. **Improved Data Integrity:** Regular audits involving stakeholders help ensure the accuracy and consistency of data, which is critical for correct AR-DRG classification.
2. **Enhanced Compliance:** Engaging regulatory bodies and other stakeholders ensures that organizations remain compliant with the relevant guidelines, laws, and standards.
3. **Informed Decision-Making:** Continuous feedback from stakeholders during the audit process provides valuable insights, helping organizations make more informed strategic decisions regarding resource allocation and patient care management.

In summary, stakeholder engagement and awareness play a crucial role in the effectiveness of the audit process. This is particularly true in the context of AR-DRG, where accurate data management directly affects financial outcomes in healthcare organizations. By building strong relationships with stakeholders, fostering open communication, and employing adaptive frameworks, auditors can significantly enhance the value of their audits, thereby contributing to improved organizational performance and success.

Internal/External Auditor Competencies [2]

1. Qualification and Experience:

- Advanced HIMAA or CCC certification from HIMAA with at least five years of coding experience post-accreditation or an equivalent qualification.
- AHIMA/AAPC Clinical Coder certification with five to seven years of clinical coding experience, including evidence of completion of a formal ICD-10-AM training program.

2. Technical Expertise:

- Expertise and advanced knowledge in the application of the rules and conventions of ICD-10-AM, the Saudi Billing System (SBS), and the Australian Classification of Health Interventions (ACHI).
- A thorough understanding of CHI coding standards for these classifications.

3. Specialty Experience:

- Required clinical coding experience across major specialties, including general medicine, surgery, trauma and orthopedics, cardiology, and obstetrics.

4. Professional Development:

- Demonstrated commitment to continuous professional development and keeping up with advancements in clinical coding practices.

5. Communication Skills:

- Excellent communication skills to enable effective interaction with multi-disciplinary teams, including **hospital managers, physicians, and coders**.

6. Analytical and Reporting Skills:

- Strong basic analytical skills, with proven experience in **report writing** and presenting findings clearly and effectively.

7. Experience in Reporting:

- Evidence of previous written reports, including findings drawn from audits and the recommended corrective actions.

8. Data Security and Confidentiality Knowledge:

- Knowledge of the **Data Security Standards** of CHI and the **Saudi National Patient Confidentiality Protection Laws**.

9. Methodology Understanding:

- In-depth understanding of the **CHI Audit Methodology**, including error criteria, scoring methodology, and report requirements.

10. Audit Committee Competency:

- Ability to demonstrate an understanding of the audit methodology in an interview with the CHI Audit Committee overseeing the audit process.

Process Improvement

Improving clinical coding accuracy in healthcare facilities is essential for ensuring proper reimbursement, minimizing errors, and enhancing overall operational efficiency. To achieve these goals, healthcare organizations should focus on continuous improvement through the following strategies:

1. Continuous Education and Training:

- Implement ongoing education programs for coding staff that cover coding guidelines, regulatory changes, and industry best practices. Regular training ensures that coders stay up to date with evolving coding standards and requirements.

2. Skill Assessments:

- Conduct regular assessments of coding staff to identify knowledge gaps and areas requiring additional training or support. This fosters a culture of continuous learning and helps maintain high standards of coding accuracy.

3. Utilize Advanced Coding Technology:

- Invest in advanced coding software that includes features such as automated checks, validation algorithms, and real-time updates. These tools can significantly reduce manual errors, improve coding efficiency, and ensure compliance with coding standards.

4. Enhance Documentation Practices:

- Ensure that clinical staff provide clear, detailed, and accurate documentation of patient encounters. Comprehensive and precise documentation is essential for accurate clinical coding and minimizes ambiguities that may lead to coding errors.

5. Effective Communication:

- Foster a culture of open and effective communication between clinical teams and coders. Encouraging dialogue helps clarify any uncertainties in documentation and ensures that coding reflects the patient encounter accurately.

6. Coding Standards and Protocols:

- Establish and maintain consistent coding standards and protocols across all departments. Consistency reduces interpretation errors, ensures adherence to best practices, and improves overall coding quality.

7. Regular Internal Audits and Assessments:

- Conduct periodic internal audits to identify common coding errors, monitor trends, and pinpoint areas for improvement. Regular assessments also promote an effective feedback loop, enabling coders to refine their skills and address recurring issues.

Short-term and Long-term Recommendations

Implementing the above strategies can lead to significant improvements in clinical coding accuracy. In the **short-term**, healthcare facilities can see improvements in coding efficiency, error reduction, and documentation practices. **Long-term**, the establishment of a culture of continuous learning, combined with advanced technology and regular audits, can lead to sustained improvements in coding quality, ensuring accurate billing and reimbursement processes.

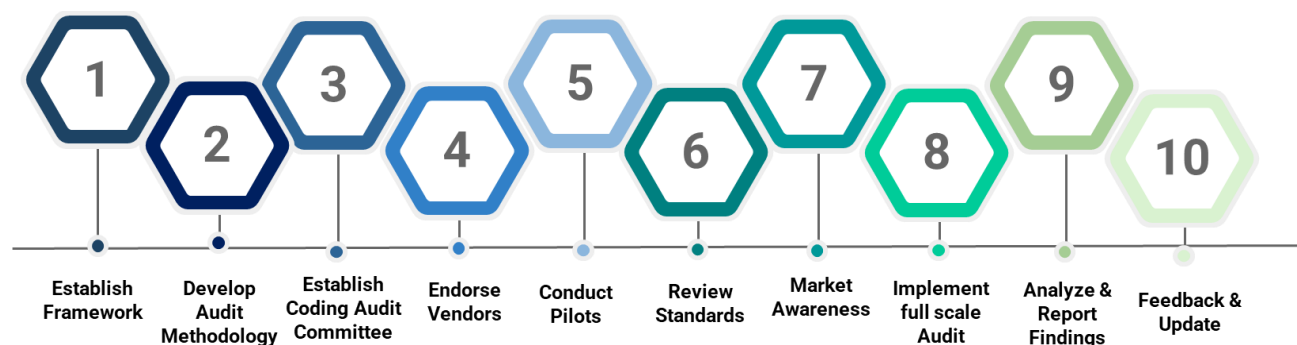
The ongoing monitoring and tracking of audit performance is vital to preparing the market for a successful transition to standardized coding practices. Over time, these efforts will not only enhance the revenue cycle but also improve patient care by ensuring timely, accurate, and compliant billing processes.

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Appendices

Appendix A: CHI Clinical Coding Audit Accreditation Road Map



Step 1: Establish Framework

- Develop audit governance, including regulations, penalties, and corrective actions for non-compliance.
- Define auditor competencies and eligibility criteria for third-party audit firms.

Step 2: Develop Audit Methodology

- Set coding classifications, guidelines/standards, and requirements for accuracy and completeness of coding.
- Define audit types, frequency, and sample selection criteria.
- Provide examples of errors, scoring methods, and develop standardized tools and forms/templates.

Step 3: Establish Coding Audit Committee

- Set goals and objectives for the committee, recruit skilled coders and auditors, ensure diverse expertise, and train on framework and methodology.

Step 4: Approve Vendors

- Select eligible vendors with adequate market capacity.
- Develop an approval process with application, evaluation, and certification.
- Publish an approved vendor list, establish monitoring, feedback channels, and renewal/revocation criteria.

Step 5: Conduct Pilots

- Pilot the audit on selected facilities, gather feedback, and refine the process, methodology, and tools as needed.

Step 6: Market Awareness

- Create detailed training, hold workshops, and launch a public awareness campaign.
- Engage with the industry's professional associations and promote success stories or develop recognition programs for providers who were successful in the audits and contributed to improving the audit process.

Step 7: Implement Audit

- Officially announce implementation dates and go live with the audit process.

Step 8: Analyze and Report Findings

- Collect and analyze audit data to identify common coding issues, market trends, and compliance levels.
- Summarize findings to highlight strengths and areas for improvement.

Step 9: Feedback and Update

- Gather feedback from audited facilities and vendors, communicate audit findings to stakeholders.
- Develop educational programs based on the findings for providers to improve coding practices.
- Regularly review and update audit methodology and guidelines based on new regulations and findings.

Appendix B: Clinical Coding Audit Planner

Diagram 1: Audit Planner



Appendix C: CHI Clinical Coding Audit Methodology

A comprehensive Coding Audit Methodology was developed in alignment with the objectives of CHI to achieve high-quality reporting, improve coding practices, establish trust between payer and provider, and CHI's goal of implementing AR-DRG and Value-Based Health Care following Saudi Vision 2030.

The methodology includes guidance on performing external and internal audits in a healthcare facility.

External Audit Methodology

According to the CHI's Coding Audit Methodology, the coding audit will involve two domains:


- **Coding Accuracy:** Assessment of the accuracy of coding of diagnosis and procedures by comparing the reported codes against the agreed and documented coding standards of CHI, Australian Coding Standards (ACS), and Saudi Billing System Coding Standards (SBSCS). Coding accuracy audit will be applicable for claims generated from inpatient admissions, outpatient clinical visits, emergency visits, and daycare admissions.
- **Clinical Coding Process Review:** Organization's development, implementation, and updating of Clinical Coding policies and practices. Various aspects of Clinical Coding process review include:

Authorized and updated Clinical Coding policy that addresses the coding practices followed in the organization including coding ethics, physician query process and a list of approved references that coders utilize and their accessibility including internal quality control activities.

- Coding process flow chart reflects the flow of activities involved in coding and claim submission.
- Adherence to the ethical coding practices of HIMAA.
- Coding practice workflow and adherence to the coding practice policies.
- Evidence of continuous training of clinical coding staff.
- Adherence to the documented physician query process.
- Implementation of the internal coding audit process.
- Coder's awareness of the entire revenue cycle process.

Frequency of the Audit Process

All healthcare providers licensed under CHI will be mandated to go through an initial audit before December 2025. The frequency of the consecutive audits depends on the grade obtained in the previous audit.



The Clinical Coding Audit Methodology outlines the essential competencies required for external clinical coding auditors and auditing companies. It specifies the comprehensive criteria that external auditors must satisfy to be eligible for accreditation. This guidance ensures a high standard of expertise and consistency in auditing practices, thereby supporting the accuracy and reliability of clinical coding audits. The sample selection process is explained comprehensively. It takes into consideration the volumes of claims submitted by a facility and their claims distribution ratio, which ensures that the sample selected is proportional to the distribution of the encounter types in the population and the contribution of every service line (specialty) spread across different months of the audit period. Claims that were submitted 12 months before an audit date will be considered for sampling.

The clinical coding accuracy domain comprises the accuracy and completeness score. The accuracy score will be determined by reviewing coded data to assess the correctness of diagnosis and procedure code assignments. The completeness score reflects the diagnosis and procedures missed by the coders which could have provided more information on the patient's status. This information will be used to identify education opportunities, gaps in the coding process, and deficiencies in physician documentation.

Coding errors are categorized as accuracy and completeness errors and classified by severity as minor, moderate, or major. Each record begins with 100 points, with points deducted based on identified errors per the error tables. Only one error is scored per code or error category within a single claim. If a code fits multiple error categories, it will be assigned the error with the highest score, with any additional errors noted in the audit report. The clinical coding accuracy domain accounts for 90% of the total audit score.

The following table shows how a single claim or encounter would be audited and scored based on the different error categories. Refer to Error scoring Diagnosis and Error scoring procedure tables in Appendix B of the CHI Coding Audit Methodology.

Table 1: CHI Coding Audit Methodology


Dx/Px	Coder's codes	Auditor's codes	Error Type *	Accuracy Score	Completeness score
PDx	N83.2 Other and unspecified ovarian Cysts	N83.2 Other and unspecified ovarian Cysts			
ADx 1	-	N99.4 Postprocedural Pelvic peritoneal adhesions	DE7	-10	
ADx 2	-	Y83.6 Removal of other Organ (partial)(total)	DE9		-10
ADx 3	-	Y92.24 Place of occurrence, health service area, this facility	DE9		-10
Proc 1	35638-04-00 Laparoscopic ovarian cystectomy, unilateral	35638-04-00 Laparoscopic ovarian cystectomy, unilateral			
Proc 2	-	30393-00-00 Laparoscopic division of abdominal adhesions	PE3	-15	
			Total Score	75	80

The clinical coding review is a process by where the facilities' current coding processes will be audited to evaluate the implementation of policies in accordance with the standards and regulations outlined in the CHI coding standards. During the review, the healthcare facility must produce its coding department policies and procedures, coding flow chart, internal audit policy, and training documents. The review also includes a coder interview to understand the adherence to coding policies and procedures followed in the facility. Points are assigned to each review component and the clinical coding process review score accounts for 10% of the total score.

At the end of the audit, the healthcare provider is awarded a CHI coding audit certificate. The final audit score is graded. The validity of the certificate is determined by the "tier" to which the Health Care Provider (HCP) is categorized. The pass score also changes depending on the number of audits the HCP has undergone. For example, for the first year, the minimum pass score is 70, and in the second year, it is 80. From the third year onwards, if your score is above 96, your audit certificate will be valid for an extended period of 18 months, whereas if it is between 90-95, it will be valid for 12 months only.

HCPs who do not pass the audit will undertake a reaudit within three months. The methodology provides clear guidance on how to conduct a re-audit.

Audit reports should be delivered to the HCP audit representative within 2- 3 weeks of the audit completion. The facility may add comments on the audit findings, substantiating concerns with CHI's published guidelines, while CHI retains the final decision authority.



The final report, submitted to CHI within four weeks, will include scores for accuracy, completeness, and process review. A Microsoft® Excel list of audited encounters, anonymized identifiers, diagnoses and procedures audited, error details with corrections, references, encounter scores, and actions.

Internal Audit Methodology

This is an internal clinical coding auditing process conducted by healthcare providers as a proactive measure to address the effectiveness of the clinical documentation and the accuracy of the clinical coding practice and potential loss of revenue.

The internal audit methodology explains the competencies required to become an internal auditor and the different audit types – routine, focused, and random audits. In internal audit methodology, apart from the diagnosis and procedure error types, the DRG errors are also considered and categorized.

While scoring a case, every correct code is considered a point, and the number of correct codes coded by a coder becomes the Coder Score.

The coder's accuracy is calculated with the following formula:

$$\text{Coder Accuracy} = \frac{\text{Coder score}}{\text{Auditor Total \# codes}} \times 100$$

Table 2: Internal Audit Methodology

	Original	Revised	Error Type	Score
PDx	N83.2 Other and unspecified ovarian Cysts	N83.2 Other and unspecified ovarian Cysts		1
ADx 1	-	N99.4 Postprocedural Pelvic peritoneal adhesions	ACS or NCA not applied	0
ADx 2	-	Y83.6 Removal of other Organ (partial)(total)	Omission	0
ADx 3	-	Y92.24 Place of occurrence, health service area, this facility	Omission	0
Proc 1	35638-04-00 Laparoscopic ovarian cystectomy, unilateral	35638-04-00 Laparoscopic ovarian cystectomy, unilateral		1
Proc 2	-	30393-00-00 Laparoscopic division of abdominal adhesions	Omission	0
			Total	2

Appendix D: Feedback and Corrective Measures

- **Comprehensive Reporting & Analysis:** Prepare a detailed report outlining specific errors by severity and frequency, review findings with key teams, and conduct root cause analysis.
- **Targeted Training & Standards Reinforcement:** Provide focused training for coders, issue regular reminders on coding standards, and offer clinician feedback to improve documentation quality.
- **Technology & Process Improvement:** Assess technology-related issues, consider enhancing coding software, and collaborate with providers to ensure clinical documentation supports accurate coding.

Scope: Definition of the Project Scope

A clinical coding audit is a validation process to review the reported clinical coded data (claim) against the clinical documentation generated by physicians and other clinical documentation within the care delivery process.

Findings

- Gaps and challenges of current state in the market (providers/payers/regulators)
- Market Readiness
- Compliance with regulations and standards recommendations
- Existing standards, processes, and workflows (accreditation standards)
- Establishment of a clinical coding criteria – including adherence to classification requirements, access to clinical documentation, clinical coding education, and new clinical coding practice quality framework

Piloted Report and Outcomes

Table 3: Piloted report and outcomes

Data Quality Errors	Count
Duplicate of principal diagnosis	677,649
Invalid diagnosis code	666,913
Age conflict	10,939
Sex conflict	1,537
Grand Total	1,357,038

Gaps and Challenges

- **Readiness of Technology:** Technology plays a crucial role within clinical coding and auditing. Sufficient technology offers numerous benefits for patient care, healthcare operations, and overall health outcomes.
- **Awareness:** The key to understanding the benefits and implications of clinical coding audits can hinder the successful implementation of auditing programs, as buy-in from staff is crucial for effective execution.
- **Insufficient Infrastructure and Resources:** Infrastructure and inadequate resources within health information systems can lead to ineffective data collection and analysis, which are essential for meaningful audits.
- **Financial Management Issues:** Healthcare providers often encounter problems related to the financial management of audit funds. Uncertainty regarding funding can impede the planning and execution of audit programs, leading to under-resourced initiatives that fail to achieve their goals.
- **High Workload and Time Constraints:** Healthcare professionals frequently experience high workloads, which can limit their ability to engage in audit activities. Time constraints may prevent thorough data collection and analysis, undermining the effectiveness of the auditing process.
- **Interdepartmental Coordination:** Effective auditing requires strong coordination between different departments within healthcare organizations. Communication and collaboration are key to success.
- **Resistance to Change:** Resistance to changing established workflows or skepticism about the value of audits may impede the adoption of auditing practices among healthcare staff.
- **Need for Training and Capacity Building:** There is a pressing need for training programs that enhance the skills of healthcare coding professionals in conducting audits. Without adequate training, staff may lack the competencies required for effective auditing.
- **Absence of a Unified Strategy:** The absence of a unified strategy can result in fragmented efforts that lack direction and purpose, ultimately affecting the overall success of audit initiatives.

