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Council of Health Insurance

Clinical Coding Audit Methodology

(Version 2.0)

Document Control and Version History

1. Document Information

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2. Version History

Version	Date/Year	Description of Changes
1.0	2025 - Initial publication of CHI Coding Audit Methodology, Version 1.0	
2.0	1st October 2026 – CHI Clinical Coding Audit Methodology, Version 2.0	Expanded methodology to include Coding Accuracy & Completeness, Clinical Coding Process Review, Audit Governance, Certification Framework, Internal and External Audit Requirements, CHI Standard Audit Template and Regulatory Audit Provisions

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Glossary & Acronyms

Acronym	Definition
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
CDI	Clinical Documentation Improvement
CHI	Council of Health Insurance
DRG	Diagnosis Related Group
EHR	Electronic Health Record
ER	Emergency
FWA	Fraud, Waste and Abuse
HCP	Healthcare 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
IP	Inpatient
KPI	Key Performance Indicator
LTC	Long Term Care
NCA	National Coding Advice
NPHIES	National Platform for Health and Insurance Exchange Services
OP	Outpatient
PHC	Primary Health Care
QA	Quality Assurance
QI	Quality Improvement
RCM	Revenue Cycle Management
SBS	Saudi Billing System
SBSCS	Saudi Billing System Coding Standards
SCFHS	Saudi Commission for Health Specialties
SHC	Saudi Health Council

Introduction

The CHI Clinical Coding Audit Methodology establishes a standardized framework for assessing clinical coding accuracy, completeness, compliance, and governance across Healthcare Providers regulated by CHI. The methodology supports healthcare data quality improvement, regulatory compliance, adoption of AR-DRG methodologies, and Value-Based Healthcare initiatives within the Kingdom of Saudi Arabia. This methodology shall be applied to Healthcare Providers subject to CHI requirements and shall serve as the national framework for conducting Internal and External Clinical Coding Audits across all private healthcare providers.

Objective

The objective of the Council of Health Insurance (CHI) Coding Audit Framework is to establish a standardized methodology, framework, and guidelines for clinical coding audits across healthcare providers (HCPs). The framework is designed to promote accuracy, consistency, completeness and compliance in the clinical coding practices, thereby strengthening the quality, reliability, and integrity of healthcare data submitted through NPHIES.

The framework aims to support continuous improvement in coding quality and related operational processes through the systematic assessment of coding practices and the recommendations to healthcare providers. It further seeks to enhance adherence to the Saudi Coding Standards and applicable regulatory requirements, while fostering transparency and trust among healthcare providers, payers, and other stakeholders of private healthcare sector.

The primary focus of CHI is to improve the healthcare data quality by:

- Assessing the accuracy and completeness of clinical codes assigned to diagnoses, procedures, and healthcare services.
- Evaluating compliance with the Saudi Coding Standards and relevant CHI regulatory requirements.
- Establishing trust between insurance companies and HCPs by ensuring that the claims submitted are appropriate, complete and compliant with current regulations.
- Providing recommendations to healthcare providers to strengthen coding quality, compliance, and operational performance.
- Promoting the submission of complete, accurate, and compliant claims and healthcare data through NPHIES.

The implementation of robust coding audit practices contributes to improving the quality and consistency of coded healthcare data, strengthening relationships between healthcare providers and payers, and supporting the detection and prevention of fraud, waste, and abuse (FWA). Improved coding accuracy and compliance may also reduce coding-related claim disputes, audit findings, and recovery adjustments.

In alignment with CHI's strategic initiatives to support the implementation of AR-DRG and Value-Based Healthcare under Saudi Vision 2030, this methodology outlines the principles, requirements, and processes for planning and conducting coding audits within healthcare entities regulated by CHI.

The requirements of this methodology apply to all health records and claims generated across inpatient, outpatient, day-care, and emergency care settings.

The following sections describe the two principal types of coding audits, External Coding Audits and Internal Coding Audits.

Scope and Applicability

This methodology applies to all Healthcare Providers (HCPs) regulated by the Council of Health Insurance (CHI) that submit healthcare claims and coded healthcare data. The requirements of this methodology are applicable to both Internal and External Clinical Coding Audits and shall be used to assess clinical coding accuracy, completeness, compliance, and coding governance practices.

This methodology applies to healthcare data and claims generated across all applicable encounter types, including Inpatient, Outpatient, Day Case, and Emergency encounters, in accordance with the Healthcare Provider's scope of services and regulatory obligations.

The methodology shall serve as the standardized CHI framework for the planning, execution, reporting, and evaluation of Clinical Coding Audits across the private healthcare sector.

Audit Methodology

This section outlines the standardized methodology for conducting clinical coding audits across healthcare providers. The methodology establishes a structured and consistent approach for evaluating the quality, accuracy, and governance of clinical coding practices within healthcare organizations submitting claims and coded data to NPHIES.

The coding audit will involve three domains:

a. Assessment of the accuracy of coding of diagnosis and procedures by comparing the reported codes against the CHI approved coding guidelines and standards.
b. Assessment of coding completeness i.e. capturing all Diagnoses and procedure codes based on the clinical documentation.
c. Organization’s development, implementation, and updating of Clinical Coding policies and practices.

Coding Accuracy and Completeness Audit

A coding accuracy and completeness audit is a validation process to assess the accuracy, completeness and compliance of reported clinical coded data (claim) against the corresponding clinical documentation generated throughout the patient’s episode of care. This includes but not

limited to physicians documentation, diagnostic and investigative results, nursing records, operative reports, and other relevant clinical documentation.

The objective of the audit is to enhance the quality, integrity, reliability, and consistency thereby supporting high-quality healthcare information, informed decision making, appropriate reimbursement, and improved patient care outcomes.

The audit involves evaluating clinical coding practices against the applicable CHI requirements, Saudi Coding Standards, Australian Coding Standards (ACS), and Saudi Billing System Coding standards (SBSCS), and any other relevant regulatory or coding requirements adopted by CHI. The audit assesses whether all reportable diagnoses, procedures, and healthcare services have been accurately and completely captured and coded in accordance with established standards and guidelines.

The Coding accuracy and completeness audit applies to claims generated from both admitted and non-admitted encounters (inpatient admissions, outpatient clinical visits, emergency visits, and Day Case admissions).

Clinical Coding Process Review

The Clinical Coding processes review is conducted to assess the effectiveness of an organization's clinical coding governance framework, policies, procedures, based on standard and regulatory requirements of CHI and applicable coding standards.

The review evaluates whether appropriate processes have been established, implemented, monitored, and continuously improved to support accurate, complete, consistent, and compliant clinical coding practices.

The clinical coding process review applies to all healthcare organizations regulated by CHI that submit coded healthcare data and claims through NPHIES.

The review includes, but is not limited to, the assessment of the following areas:

1. Clinical Coding Policies and Procedures: Existence of approved, current, and comprehensive policies covering coding practices, coding ethics, physician query processes, approved coding references, and quality assurance activities.
2. Coding and Claim Submission Workflow: Defined processes, roles, responsibilities, and controls supporting accurate, complete, and compliant coding and claim submission.
3. Compliance with Coding Standards and Ethical Practices: Adherence to applicable coding standards, regulatory requirements, and recognized coding ethics principles.
4. Coding Workforce Competency: Evidence of coder qualifications, ongoing training, competency assessment, and professional development activities.
5. Physician Query Process: Implementation and adherence to documented processes for resolving incomplete, ambiguous, or conflicting clinical documentation.

6. Internal Coding Audit Program: Implementation of the internal coding audit process and evidence of completion of quarterly internal coding audits with corrective actions and continuous improvement initiatives.
7. Revenue Cycle and Data Quality Awareness: Understanding of the impact of clinical documentation and coding on claims, reimbursement, regulatory compliance, and healthcare data quality.

Frequency of the audit process

Internal Audit:

- All Healthcare Providers (HCPs) shall complete an initial internal coding audit no later than 31 December 2026.
- Thereafter, HCPs shall conduct internal coding audits in accordance with the CHI approved Coding Audit Methodology outlined in this document.
- Internal audit results shall be submitted through the designated CHI portal as part of the audit compliance requirements and in conjunction with the external audit cycle.

External Audit:

- All HCPs shall complete external yearly audits through the CHI approved audit vendors effective from Q1 2027.
- The frequency of subsequent audits shall be determined based on the provider's most recent audit grade, as described in the Grading System section.
- HCPs that do not achieve the minimum required audit outcome shall complete a re-audit within 90 days of the audit report issuance date.
- The CHI Approved audit methodology shall be applied consistently for both internal and external coding audits.

Clinical Coding Auditor Competencies

A Clinical Coding Auditor shall possess advanced clinical coding knowledge, auditing skills and an in-depth understanding of applicable coding standards and regulatory requirements.

To be eligible for accreditation, the auditor shall meet the following requirements:

1. Hold a recognized clinical coding certification from Saudi Commission for Health Specialties (SCFHS) or HIMAA or equivalent, and at least 3 years of experience in coding post-accreditation.
2. If above SCFHS or HIMAA certification are not met, Auditors must have AHIMA/AAPC recognized clinical coding certification with 5 years of post-certification clinical coding experience, with evidence of completion of ICD-10-AM and associated classification systems (SBS/ACHI) training program.

3. Demonstrate advanced proficiency in the application of ICD-10-AM, SBS (latest CHI approved version), and CHI coding standards.

4. Possess coding experience across a broad range of specialties, including general medicine, surgery, trauma and orthopedics, cardiology, and obstetrics is required.
5. Maintain evidence of ongoing professional development and continuing education.
6. Demonstrate effective communication skills for engagement with hospital leadership, clinicians, coders, RCM team and other stakeholders.
7. Possess analytical, report writing and presentation skills sufficient to document findings and communicate recommendations.
8. Demonstrate experience in identifying audit findings, conducting root cause analysis and recommending corrective actions.
9. Have knowledge of applicable CHI Data Security Standards and Saudi Patient Confidentiality and data protection requirements.
10. Demonstrate a thorough understanding of the CHI Audit Methodology, audit criteria, scoring methodology, and reporting requirements.
11. Successfully demonstrate competency in the audit methodology through an assessment, interview, or other evaluation method approved by CHI.
12. For external audits, audits shall be conducted by CHI accredited clinical coding auditor operating through CHI approved external audit company.

Audit Sampling for Coding Audit

1. For External audits, the audit sample shall be selected from the claims submitted during the defined 12-month audit period by CHI approved audit vendor.
2. The sample size shall be determined based on the volume of claims submitted by the healthcare provider and encounter type, in accordance with this audit methodology.
3. For internal audits, HCPs shall apply the same sampling methodology and conduct audits on a quarterly basis, based on the provider category and applicable sample size requirements, for each audit cycle (Refer to table1).
4. Quarterly internal audit samples shall be selected from the discharges within the same quarter period.
   *The sample size shall not be divided across the year.

Sampling by Healthcare Provider Category

CHI will provide a predetermined standardized audit sample size for external audit based on Healthcare Provider's (HCPs) category. CHI reserves the right to review and revise the sampling requirements periodically based on audit comes, claim volumes, provider characteristics and regulatory requirements.

Table 1: Healthcare Provider's (HCPs) Category Sample Size

HCPs with Volume of Encounters Submitted (per License HCP)		
Category	**Annual claims**	**Sample Size**
Category 1	≥ 1,000,001	385
Category 2	500,001 - 1,000,000	300
Category 3	300,001 - 500,000	220

Category 4	100,001 - 300,000	190
Category 5	50,001 - 100,000	160
Category 6	≤50000	120

Claim Distribution Ratio

Encounter Type Distribution

To ensure representative coverage of the healthcare provider's, the audit sample shall be distributed across encounter types as follows:

- Inpatient: 35%
- Day case: 15%
- Outpatient: 30%
- Emergency: 20%

To ensure balanced representation of healthcare activity, the audit sample shall comprise 50% admitted care encounters (Inpatient and Day Case) and 50% non-admitted care encounters (Outpatient and Emergency). Within each care setting, samples shall be distributed according to the encounter-type ratios specified in Table 2.

Table 2: Standardized Audit Sample Allocation by Encounter Type

Standardized Audit Sample Allocation by Encounter Type *(Standard Distribution for an Audit Sample of 385 Encounters)*			
Care Setting	Encounter Type	Distribution Ratio	Sample Size
Admitted Care	Inpatient	35%	135
	Day Care	15%	57
	Subtotal	***50%***	***192***
Non-Admitted Care	Outpatient	30%	116
	Emergency	20%	77
	Subtotal	***50%***	***193***
Total	**All Encounter Types**	**100%**	**385**

Note: The above distribution ensures that the audit sample comprises 50% admitted care encounters (Inpatient & Day Care) and 50% non-admitted care encounters (Outpatient & Emergency).

Special Circumstances and Encounter Distribution Adjustments

Where the standard encounter distribution outlined in this methodology cannot be applied due to the healthcare provider's scope of services or encounter profile, the audit sample shall be adjusted proportionately to ensure representative sampling while maintaining the overall sample size and methodological intent.

The following principles shall apply:

- Where Day Care encounters are not available, the allocated Day Care sample shall be reassigned to Inpatient encounters.

- Where Admitted Care encounters (Inpatient and Day Care) are not available, the corresponding sample allocation shall be redistributed across the available Non-Admitted Care encounters (Outpatient and Emergency) in accordance with the approved CHI sampling methodology.
- Where a healthcare provider's scope of services is limited to a single encounter type, 100% of the audit sample shall be derived from the available encounter type.
- Where one or more encounter types are unavailable, the sample allocation shall be proportionately redistributed among the available encounter types while preserving the intended balance and representation of the provider's service profile.

Table 3: Examples of Encounter Distribution Adjustments

HCPs with Volume of Encounters Submitted (per License HCP)		
Sl.#	**Scenario**	**Sample Distribution**
1	Healthcare Provider offers Inpatient and Day Care services only	70% Inpatient, 30% Day Care
2	Healthcare Provider offers Inpatient services only	100% Inpatient
3	Healthcare Provider offers Day Care services only	100% Day Care
4	Healthcare Provider offers Outpatient services only	100% Outpatient
5	Healthcare Provider offers Outpatient and Day Care services only	50% Outpatient, 50% Day Care
6	Healthcare Provider offers Inpatient, Outpatient, and Emergency services, but no Day Care	50% Inpatient, 30% Outpatient, 20% Emergency
7	Healthcare Provider offers Outpatient and Emergency services only	60% Outpatient, 40% Emergency
8	Healthcare Provider offers Emergency services only	100% Emergency

CHI reserves the right to adjust encounter type distribution and sampling allocations in exceptional circumstances where the standard methodology cannot be applied, provided that the revised approach remains representative of the healthcare provider's services and supports a fair and objective assessment of clinical coding quality and documentation practices.

Sample Distribution by Specialty Based on Claim Volume Contribution

To ensure representative coverage of the Healthcare Provider's clinical activity, the audit sample shall be proportionally distributed across service lines and specialties according to their contribution to the total claim volume during the audit period.

The following example illustrates the allocation of an inpatient audit sample of **135 encounters** based on the specialty claim distribution within the Healthcare Provider.

Table 4: Sample Distribution by Specialty

Service Line	Contribution to Claim Volume	Sample Allocation
Cardiology	15%	20
Obstetrics & Gynecology (OB/GYN)	35%	48
Internal Medicine	18%	24

Surgery	12%	16
Pediatrics	20%	27
Total	**100%**	**135**

Sample Selection and Availability

External Audits

- For Healthcare Providers (HCPs) utilizing Electronic Health Records, the audit sample shall be randomly selected by CHI approved audit vendor through the designated CHI audit platform one (1) business day prior to the scheduled audit date.
- For HCPs maintaining paper-based medical records, the audit sample may be selected and communicated up to three (3) business days prior to the audit date to allow sufficient time for record retrieval and preparation.

Internal Audits

- HCPs conducting internal audits may select the audit sample internally, provided that the sampling methodology outlined in this document is followed.

Record Availability

- All health records included in the audit sample, whether electronic or paper-based, shall be made available to the auditor at the commencement of the audit.
- Failure to provide the requested records within the audit timeframe may result in an incomplete audit and may adversely affect the audit outcome, score, or compliance status, as determined by CHI.

Audit Process

Audit Planning and Registration

To initiate the audit process, HCP shall submit an audit application through the designated CHI website or portal for the selection of a CHI approved vendor.

The application shall include, at a minimum, the following information:

- Healthcare Provider name. HCP's License Number.
- Encounter types
- Volume of discharges in each encounter type
- Nominated audit representative and Contact details
- Any additional information pertinent to the audit planning process.

The application shall be submitted by HCPs designated audit representative, who shall act as the primary point of contact throughout the coding audit process and facilitate communication between the HCP, the audit vendor and CHI (as applicable).

All required information and supporting documents shall be submitted through CHI website or portal.

Audit Renewal

For the audit renewals, HCPs shall initiate audit renewal process by submitting the application to the approved audit vendor, approximately 60 days prior to the expiry of the existing to facilitate planning and scheduling of the subsequent audit cycle.

Re-Audit Following Audit Failure

Where an HCP does not meet the minimum audit requirements (audit failure), a re-audit shall be completed within 90 days from the date of issuance of the audit report or notification or audit outcome.

Engagement of Audit Vendor

Upon receipt of the audit application, the CHI-approved audit vendor shall review the information provided by the HCP, including encounter volume and audit scope, and prepare a commercial proposal in accordance with CHI approved coding audit methodology.

The audit engagement shall be formalized through a contract between the HCP and the CHI-approved audit vendor. The agreed audit fees by HCP and Vendor shall cover all external audit activities, including audit planning, sample selection, audit execution, reporting, and submission of the final audit report to CHI.

Standard Clinical Coding Audit Template

To ensure consistency and standardization in clinical coding audit results across healthcare providers, CHI has established a Standard Clinical Coding Audit Template for documenting and reporting the results of clinical coding audits.

All Healthcare providers and CHI approved external audit vendors shall utilize the official CHI Clinical Coding Audit Template when recording and submitting the results of both internal and external coding audits.

The template shall be made available through the designated CHI website or portal.

Use of the CHI Clinical Coding Audit Template is mandatory. Audit submissions using alternative formats or templates shall not be accepted by CHI.

Coding Audit process

Coding audits may be conducted either on-site or remotely depending on the operation and technical capabilities of the HCP. Where a remote audit is performed, the HCP shall provide the auditor with timely access to all required systems, records, and supporting documentation necessary to complete the audit. The coding audit shall assess the following domains:

- Coding Accuracy

- Code Completeness
- Clinical Coding Process Review

Clinical coding Quality Assessment

The Clinical Coding Quality Assessment consists of two key components:

- Coding Accuracy
- Coding Completeness

Coding Accuracy Score:

The Coding Accuracy Score measures the correctness of diagnosis and procedure code assignment based on applicable coding standards, conventions, and guidelines. Assessment shall be performed through comparison of the submitted codes against the clinical documentation and the requirements of the Australian Coding Standards (ACS), SBS, ICD-10-AM, Saudi Billing System Coding Standards (SBSCS), and CHI Coding Standards.

Coding Completeness Score:

The Coding Completeness Score measures the extent to which all reportable diagnosis, procedures, services, and clinical conditions documented within the health record have been appropriately identified and coded. The assessment aims to identify missed coding opportunities, gaps in coding practices, and deficiencies in clinical documentation. Findings may be used to support education, process improvement, and enhancement of healthcare data quality.

Error Classification and Scoring Methodology

Coding errors shall be classified as accuracy errors and completeness errors. Based on their impact and severity, errors shall be categorized as:

- Major
- Moderate
- Minor

The complete error classification and scoring framework is provided in Appendix B.

The following principles shall apply:

- Each audited record shall begin with a score of 100 points.
- Points shall be deducted based on the type and severity of errors identified during the audit, as defined in Appendix B

Error Assignment Principles

- No code shall receive more than one score error.
- No claim shall receive more than one scored occurrence of the same error category.
- Where a code could qualify for multiple error categories, only the error category attracting the highest deduction score shall be assigned for scoring purposes. Any additional applicable errors shall be documented in the audit report but shall not result in further score deductions.

Example 1:

If a diagnosis code could be classified under two different accuracy error categories, only one error category shall be assigned for scoring purposes. Where both error categories carry the same scoring weight, either category may be selected by the auditor.

- For example, in a claim with codes PDx R42 Dizziness and giddiness and SDx G45.9 Transient Cerebral Ischemic Attack, the code R42 might be associated with two errors - DA1 and DA2. However, during scoring, points are deducted from R42 against only one error. In this scenario, since both error categories have the same score, either one can be assigned.

Example 2:

Similarly, where multiple instances of the same error category occur within a single claim, the error category shall be recorded once and scored once only.

Where several relevant secondary diagnoses have been omitted within a claim and all omissions fall under the same error category (e.g., Missing Relevant Secondary Diagnosis), the error shall be recorded for reporting purposes; however, the corresponding score deduction shall be applied only once for that claim.

- For e.g. If multiple secondary diagnosis were missed in a claim, all of them will be identified as belonging to error category DC2 Missing relevant secondary diagnosis specific to this encounter or specific to performed procedure. *(affecting ECCS). However, deductions will be made only once.

Audit Findings Review and Dispute Resolution

- All identified coding errors shall be supported by reference to the applicable coding standard, guideline, convention, or regulatory requirement.
- Prior to finalization of the audit report, the HCP Coding Manager, Coding Supervisor or designated Coding Lead shall be provided with an opportunity to review and discuss the audit findings.
- Where differing coding interpretations exist, the HCP may present supporting justification based on applicable Australian Coding Standards, CHI Coding Standards, and approved coding references.
- If the matter cannot be resolved between the auditor and the HCP, the dispute may be formally escalated to the CHI Coding Steering Committee (or its designated subcommittee) for review and determination in accordance with the applicable governance procedures.

Clinical Coding Process Review

The Clinical Coding Process Review is one of the core domains in the Clinical Coding Audit. The purpose of this review is to evaluate the effectiveness of the Healthcare Provider's (HCP's) clinical

coding governance framework, policies, procedures, controls, operational practices, and to assess compliance with CHI requirements, applicable coding standards, and regulatory obligations.

To facilitate the review, HCPs shall ensure that all relevant documentation and supporting evidence are available at the time of the audit.

Areas of Assessment:

Clinical Coding Policies and Procedures

The HCP shall maintain approved, current and documented clinical coding policies and procedures that define the organization's coding framework and practices. The policies should address, at a minimum:

- Clinical coding process and responsibilities
- Applicable standards and references
- Access to current coding references and updates
- Coding ethics and professional conduct
- Physician query processes
- Internal coding audit and quality assurance activities
- Training, competency, and continuing education requirements.

Coding process flow chart

HCP shall maintain a documented coding workflow or process flow chart that clearly illustrates the end-to-end coding and claim submission process. The workflow should include key controls and interactions, including:

- Clinical documentation review
- Physician query processes
- Internal quality assurance activities
- Management of incomplete or insufficient documentation
- Coding validation and claim submission processes.

Refer to Appendix A for sample coding workflow diagrams.

Coder competence

Clinical coders shall possess certifications from recognized clinical coding education or certification programs acceptable within the Kingdom of Saudi Arabia or equivalent international programs.

The HCP shall maintain evidence of coder qualifications, certifications, competency assessments, and relevant experience.

1. Training and Internal Audit Program

The HCP shall maintain documented evidence of:

- Orientation and onboarding programs for coding staff
- Continuing professional development activities

- Clinical coding training and certification records
- Attendance at relevant educational programs
- Internal coding audits and quality reviews

2. Corrective actions and follow-up improvement initiatives Internal coding audit reports should demonstrate ongoing monitoring of coding accuracy, completeness, compliance, and quality improvement activities.
3. Coder Interview

As part of the audit process, a clinical coder nominated by the HCP will be interviewed to assess awareness of and compliance with the organization's coding policies, procedures, standards, and quality assurance requirements.
The interview may also assess the coder's understanding of coding guidelines, physician query processes, documentation requirements, and internal audit practices.

Clinical Coding Process Review Assessment

The Clinical Coding Process Review shall be assessed using the following scoring framework:

Criteria for coding process review:

1. Maintenance of coding policies and practices: 40 points
2. Coding Process Flow Chart: 10 points
3. Assessment of coder credentials and competencies: 20 points
4. Training and internal audit program: 20 points
5. Compliance with policies and procedures (coder interview): 10 points

Final Score Calculation

Upon completion of individual record reviews and scoring, the results shall be aggregated using weighting factors corresponding to the encounter type distribution defined within the sampling methodology.

Encounter-type weighting shall be applied according to the prescribed claims distribution ratios (Inpatient, Outpatient, Day Case, and Emergency) to generate the overall Clinical Coding Audit Score for the Healthcare Provider.

The methodology for calculating the final weighted score is provided in Section 9: Final Score Calculation.

Table 5: Example of accuracy and completeness scoring

Example of accuracy and completeness scoring					
Diagnoses / Procedure	**Coder's codes**	**Auditor's codes**	**Error Type ***	**Accuracy Score**	**Completeness score**
Principle Dx.	**N83.2** Other and unspecified ovarian Cysts	**N83.2** Other and unspecified ovarian Cysts			
Additional Dx.1	-	**N99.4** Postprocedural Pelvic peritoneal adhesions	DA7	-10	

Additional Dx.2	-	**Y83.6** Removal of other Organ (partial)(total)	DC2		-10
Additional Dx.3	-	**Y92.24** Place of occurrence, health service area, this facility	DC2		-10
Procedure 1	**35638-04-00** Laparoscopic ovarian cystectomy, unilateral	**35638-04-00** Laparoscopic ovarian cystectomy, unilateral			
Procedure 2		**30393-00-00** Laparoscopic division of abdominal adhesions	PA3	-15	
Total Score				**75**	**80**

** Refer to Error scoring Diagnosis and Error scoring procedure tables in Appendix A*

The overall Clinical Coding Audit Score shall be calculated using the following domain weightings:

1. Domain 1 Coding Accuracy: 70%
2. Domain 2: Coding Completeness: 30%
3. Domain 3: Clinical coding process review: Report Findings Only*

*** The Clinical Coding Process Review does not contribute to the overall coding quality score and shall be reported separately as part of the audit findings and recommendations.**

Table 6: Final score calculation

Final Score Calculation							
Encounter type	**Domain**	**Total score**	**Domain Score**	**Domain Weight**	**Weighted Domain Score**	**Encounter weight**	**Final Score**
Outpatient	Accuracy score	100	97.00	70%	67.90		
	Completeness score	100	96.85	30%	29.06		
Outpatient score					**96.96**	**30%**	**29.08**
Emergency	Accuracy score	100	96.00	70%	67.20		
	Completeness score	100	98.00	30%	29.40		
Emergency Score					**96.60**	**20%**	**19.32**
Inpatient	Accuracy score	100	78.10	70%	54.67		
	Completeness score	100	86.55	30%	25.97		
Inpatient Score					**80.64**	**35%**	**28.22**
Day Care	Accuracy score	100	85.00	70%	59.50		
	Completeness score	100	92.00	30%	27.60		
Day Care Score					**87.10**	**15%**	**13.06**
Final Audit Score							**89.68**

Scoring and Certification

Upon successful completion of the Clinical Coding Audit, CHI shall issue a Clinical Coding Audit Certificate to Healthcare Providers that meet the minimum certification threshold. The audit grade and corresponding certificate validity period shall be determined based on the final audit score achieved in accordance with the grading framework defined within this methodology.

HCPs shall maintain compliance with the requirements of this methodology throughout the certification period. Renewal of the certificate shall be subject to successful completion of the subsequent audit cycle within the prescribed validity period.

Table 7: Scoring and Certification

Tier	Final Audit score	Validity of the audit certificate
Tier 1	96% - 100%	18 months
Tier 2	90% - 95%	12 months
Tier 3	86% - 89%	12 months
Tier 4	81% -85%	9 months
Re-audit Required	≤ 80%	Re-audit Required

Audit Failure and Re-Audit

Healthcare Providers that achieve a final audit score below 80% shall be deemed non-compliant with the minimum requirements of the CHI Clinical Coding Audit Methodology and shall not be eligible for certification.

In such cases, the HCP shall implement corrective actions to address the identified findings and complete a re-audit within 90 days of the audit report issuance date, in accordance with the requirements specified in this methodology.

Continuous Improvement

The grading and certification framework is intended to encourage continuous improvement in clinical coding accuracy, coding completeness, and coding governance practices. Higher-performing HCPs may benefit from extended certification validity periods, while providers with lower audit scores shall undergo more frequent reassessment to support ongoing quality improvement and compliance.

Audit Report

Upon completion of the audit, the auditor shall issue a draft audit report to the Healthcare Provider's (HCP's) designated Audit Representative within 2 weeks of the audit completion date. The HCP shall review and formally acknowledge the draft audit report with findings. The acknowledged report shall be endorsed by the HCP’s audit nominee or delegated authority before being returned to the auditor.

HCP may provide comments, clarifications or responses to the audit findings within the designated sections of the report.

Any disagreement with the audit findings shall be supported by evidence and references to applicable CHI standards, policies, coding guidelines, or approved coding references.

CHI reserves the right to review all submitted information and make a final determination on matters related to audit findings, scoring, and compliance.

The auditor shall submit the final audit report to CHI within 1 weeks of receiving the acknowledged report from the HCP.

The final report shall include:

- Coding Accuracy Score
- Coding Completeness Score
- Clinical Coding Process Review Findings
- Overall Audit Score and Certification Outcome
- Identified Findings and Recommendations for Improvement.

Minimum Reporting Requirements

The final audit report shall include, at a minimum, the following information:

Clinical Coding Audit Findings

a. A complete full list of audited encounters for Inpatient, Outpatient, Emergency and Day care settings, submitted in CHI standardized Audit Template, for all encounter type.
b. The encounter identifier used for audit purposes, appropriately anonymized and linked to relevant admission and discharge dates, where applicable.
c. All diagnoses and procedure codes, with code descriptions, reported by the facility
d. Detailed audit findings for each identified error, including:
    - Error category
    - Corrected code(s), where applicable
    - Applicable coding standards or references
    - Encounter-level score
    - Auditor comments and supporting rationale
e. Recommend corrective and preventive actions to address identified findings and support continuous improvement.

Clinical Coding Process Review Findings

The report shall include the outcome of the Clinical Coding Process Review, including:

- Assessment of coding policies and procedures
- Review of coding governance and operational controls
- Evaluation of coder qualifications and competencies
- Assessment of training and internal audit activities
- Identified process deficiencies or improvement opportunities

Audit Report Structure

The final audit report shall include the following sections:

- **Executive Summary**
  A high-level summary of the audit scope, methodology, key findings, overall results, and principal recommendations.

- **Introduction**
  An overview of the audit objectives, scope, audit period, and applicable standards and requirements.
- **Audit Methodology**
  A description of the audit approach, including sample size and selection methodology, encounter types reviewed, audit criteria and scoring methodology, audit team composition. data sources and supporting documentation reviewed.
- **Key Findings**
  A summary of significant findings related to coding accuracy, coding completeness, clinical coding process review, areas of non-compliance, observed trends and recurring issues.
- **Final Audit Results**
  Detailed scoring outcomes, including coding accuracy score, coding completeness score, overall audit score, audit grade, certification status, certification validity period (where applicable)
- **Recommendations and Improvement Actions**
  The recommendations arising from the audit findings include actions related to clinical documentation improvement, coding practice enhancement, workforce competency and training, internal quality assurance activities, process and governance improvements.
- **Conclusion**
  A Summary of the overall audit outcome, key observations and expected areas of improvements to support compliance, coding quality, and healthcare data integrity.
- **Appendices**
  Supporting documentation, detailed scoring sheets, encounter-level findings, reference materials, and other information relevant to the audit.
  Refer to Appendix B and the CHI Standard Clinical Coding Audit Template for detailed reporting requirements.

Re-audit Requirements

Healthcare Providers that do not achieve the minimum certification threshold shall be required to undergo a re-audit within 90 days of the issuance of the final audit report. The re-audit shall focus on verifying the remediation of significant findings and non-conformities identified during the initial audit, including recurring accuracy, completeness, and process-related deficiencies.

The re-audit shall evaluate the effectiveness and sustainability of corrective actions implemented by the HCP and shall be conducted using a new sample of claims submitted through NPHIES subsequent to the original audit period.

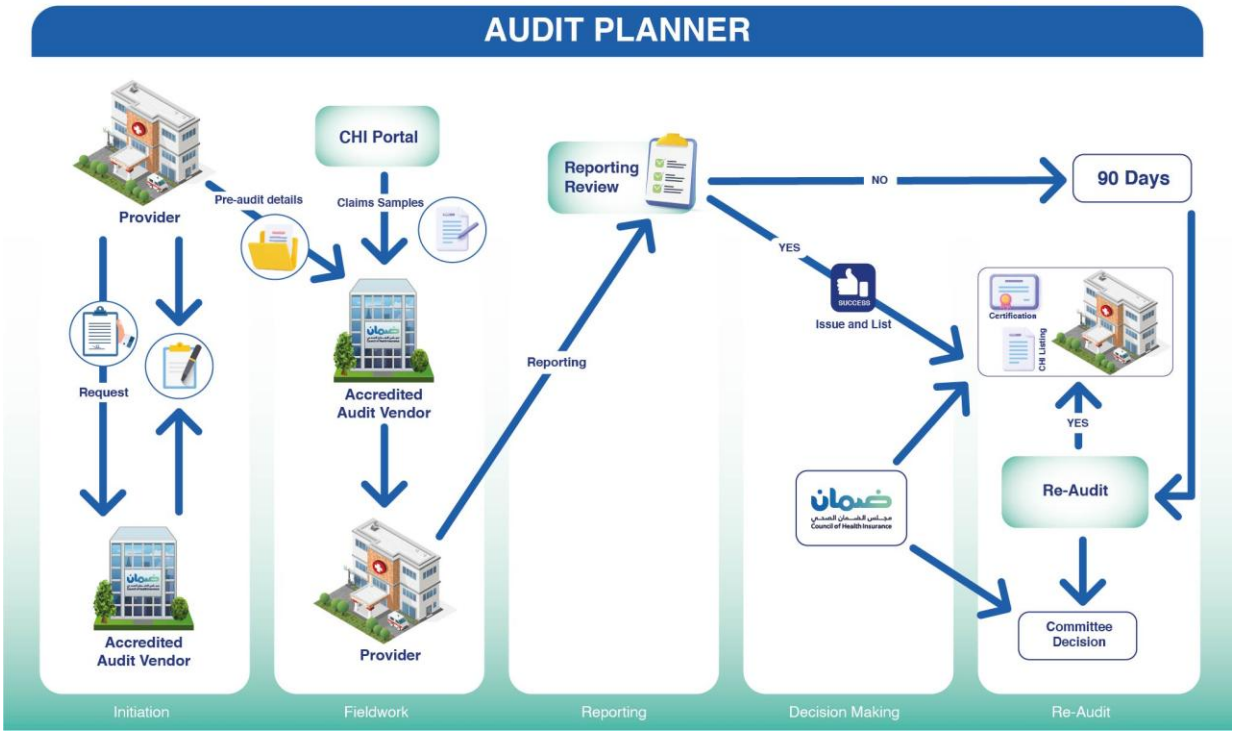
The HCP shall provide documented evidence of corrective actions taken to address the audit findings and demonstrate readiness for re-assessment. Failure to complete the re-audit within the prescribed timeframe may result in non-compliance with CHI Clinical Coding Audit Methodology requirements.

The following requirements shall apply:

- The re-audit shall include all applicable encounter types, regardless of the individual scores achieved in the previous audit.
- The HCP shall submit a re-audit application within the prescribed timeframe.
- The application shall include a summary of the corrective and preventive actions implemented in response to the audit findings, together with confirmation of HCPs readiness for re-audit.
- Where applicable, supporting evidence shall be submitted to demonstrate the effectiveness of corrective actions, including but not limited to:
    - Clinical coder training and competency development activities
    - Physician documentation and awareness programs
    - Revisions to coding policies, procedures, and workflows
    - Enhancements to internal coding audit and quality assurance processes
    - Other corrective actions implemented to address identified non-conformities

The outcome of the re-audit shall determine the HCP's compliance status and eligibility for issuance of a CHI Clinical Coding Audit Certificate.

External Audit workflow



CHI Regulatory Focused & Random Audits:

In addition to routine Internal and External Clinical Coding Audits, the Council of Health Insurance (CHI) reserves the right to conduct focused or random regulatory clinical coding audits of any Healthcare Provider (HCP) subject to CHI regulations and requirements. Such audits may be initiated based on risk assessments, audit outcomes, claims analytics, complaints, suspected non-compliance, unusual coding or billing patterns, or any other indicators identified through CHI's regulatory monitoring and oversight activities.

Focused audits may be undertaken where CHI identifies potential areas of concern relating to but not limited to:

- Clinical coding accuracy and completeness
- Clinical documentation quality
- Billing integrity and claims compliance
- Adherence to CHI Coding Standards and regulatory requirements
- Findings arising from internal or external audit submissions
- Unusual utilization, reimbursement, or coding patterns
- Fraud, Waste, and Abuse (FWA) risk indicators

The scope of a focused audit may be limited to specific specialties, service lines, encounter types, providers, facilities, coding categories, or defined audit periods, depending on the nature of the identified risk.

Healthcare Providers shall fully cooperate with CHI and its authorized representatives during the audit process and shall provide timely access to all records, systems, documentation, reports, and supporting information required to complete the audit.

Regulatory coding audits are intended to promote compliance, strengthen healthcare data quality, support appropriate reimbursement practices, and safeguard the integrity, transparency, and sustainability of the healthcare ecosystem.

Rules Governing Focused and Random Audits

The following rules apply to focused and random regulatory audits:

1. **Mandatory Participation**
   Healthcare Providers shall participate in and facilitate all clinical coding audits and may not decline, delay, or refuse participation.
2. **Audit Initiation**
   CHI may initiate a focused or random audit at any time based on risk assessment outcomes, audit submissions, data analysis, complaints, regulatory investigations or other indicators of potential non-compliance.
3. **Audit Authority**
   Focused or random audits may be conducted directly by CHI or by CHI-authorized personnel, committees, or approved external audit organizations acting on behalf of CHI.

4. **Cost Responsibility**
   The healthcare provider subject to the audit shall be responsible for covering the cost of the external audit, including auditor fees and any associated administrative costs, unless otherwise determined by CHI.
5. **Access to Records and Information**
   Healthcare providers shall provide auditors with timely access to medical records, coding documentation, billing information, policies, procedures, system access, audit reports and any other information required to conduct the audit.
6. **Compliance and Corrective Actions**
   Healthcare Providers shall review all audit findings and implement corrective and preventive actions within the timelines specified. Evidence of implementation will be requested as part of ongoing compliance monitoring activities.
7. **Regulatory Enforcement**
   Failure to comply with audit requirements, failure to provide requested information, submission of inaccurate information, or obstruction of the audit process may result in regulatory actions in accordance with applicable CHI regulations, policies and enforcement procedures.

Diagnosis Coding Accuracy and Completeness Scoring

Accurate and complete diagnosis coding is fundamental to ensuring the integrity of healthcare data, appropriate claims reimbursement, risk adjustment, healthcare planning, quality measurement, and population health analysis. The diagnosis coding audit assesses both the accuracy of code assignment and the completeness of coded clinical information based on the documented patient conditions and applicable coding standards.

The Diagnosis Coding Accuracy Score evaluates whether diagnosis codes have been correctly selected, sequenced, and assigned in accordance with the clinical documentation and the requirements of ICD-10-AM, Australian Coding Standards (ACS), Saudi Billing System (SBS), Saudi Billing System Coding Standards (SBSCS), and CHI Coding Standards. Accuracy assessment focuses on the appropriateness of code selection, code specificity, principal diagnosis assignment, sequencing conventions, and compliance with applicable coding rules and guidelines.

The Diagnosis Coding Completeness Score evaluates whether all reportable diagnoses, comorbidities, complications, and clinically significant conditions documented within the health record have been appropriately identified and coded. Completeness assessment aims to identify omitted diagnoses, under-reporting of relevant clinical conditions, and missed coding opportunities that may impact healthcare data quality, clinical reporting, case complexity representation, and reimbursement outcomes.

The diagnosis coding errors and corresponding scoring criteria outlined below shall be applied to ensure a standardized, objective, and consistent assessment of diagnosis coding quality across all healthcare providers.

The procedure coding errors and corresponding scoring criteria outlined below shall be applied to support a consistent and standardized evaluation of procedure coding quality and compliance across healthcare providers.

Table 8: Error Scoring: Diagnoses

Error Code	Error Description	Severity			Score	Explanation
		Major	Moderate	Minor		
Accuracy Errors						
DA1	Incorrect selection of Principle Diagnosis	√			-20	Correct code for Principal Dx. is listed but sequenced wrong
DA2	Incorrect Diagnosis code (single diagnosis on the encounter)	√			-50	One single diagnosis in the whole encounter.
DA3	Diagnosis codes without documentation	√			-20	Code assigned does not match the patient documentation
DA4	Sign and Symptom codes as principal diagnosis	√			-20	ACS 0001 “Principal diagnosis” prohibits the use of signs, symptoms and ill-defined conditions are PDx when a more definitive diagnosis is established
DA5	Assigned code does not match documentation / Incorrect diagnosis codes	√			-20	Code assigned does not match the documentation or it is an incorrect diagnoses code e.g. coding the acute condition while it is documented as chronic
DA6	Supplementary code assigned as principal diagnosis	√			-20	Supplementary codes should be sequenced following all other ICD-10-AM codes
DA7	Missing relevant secondary diagnosis specific to this encounter or specific to performed procedure. *(affecting ECCS)		√		-10	Complication or a comorbidity is not coded, e.g. a manifestation code without current etiology (underlying cause)
DA8	Specificity error in diagnosis code		√		-10	Code assigned is within the correct code category but not matching the documentation in 4th and 5th digit
DA9	Specificity error in diagnosis code (single diagnosis on the encounter)		√		-20	One single diagnosis in the whole encounter having specificity error.
DA10	Procedures orders do not have corresponding diagnosis code documentation		√		-10	Documentation in patient record dos not support selection of the procedure code.
DA11	Principal diagnosis is not related to the the chief complaint		√		-10	Example, , patient presents with chest pain, but principal diagnosis is Diabetes

DA12	Incorrect code sequencing			√	-5	Codes are not ordered following ACS sequencing standards
Completeness Errors						
DC1	DE6: Possible, Probable etc." conditions not coded	√			-15	Coder did not code possible or probable conditions as per ACS 0012 "Suspected Conditions"
DC2	Additional diagnoses code missing (not affecting ECCS)		√		-10	Missing codes for other diseases that match criteria of additional diagnosis

Procedure Coding Accuracy and Completeness Scoring

Accurate and complete procedure coding is essential for the reliable representation of healthcare services delivered, appropriate reimbursement, activity-based funding, utilization analysis, and healthcare reporting. The procedure coding audit evaluates whether procedures and services performed during the encounter have been correctly captured and coded in accordance with applicable coding standards and documentation requirements.

The Procedure Coding Accuracy Score measures the correctness of procedure code selection, assignment, and documentation linkage based on the clinical record and applicable coding standards, including ACS, SBSCS, and CHI Coding Standards. Accuracy assessment focuses on the appropriateness of the assigned procedure code, procedural specificity, supporting clinical documentation, and compliance with coding conventions and standards.

The Procedure Coding Completeness Score measures the extent to which all reportable procedures, interventions, treatments, and services documented within the patient record have been identified and coded. Completeness assessment aims to identify omitted procedures, under-reporting of services, and coding gaps that may affect activity reporting, healthcare data integrity, resource utilization measurement, and reimbursement accuracy.

Table 9: Error scoring procedures

Error Code	Error Description	Severity			Score	Explanation
		Major	Moderate	Minor		
Accuracy Errors						
PA1	Surgical procedure code assigned without documentation	√			-15	Code added does not match the patient documentation
PA2	Incorrect surgical procedure code	√			-15	for the procedure code does not match the patient documentation. E.g. documentation saying with contrast or with biopsy, but the code does not include contrast, or biopsy
PA3	Missed surgical procedure code	√			-15	Procedure performed has not been coded

PA4	Incorrect non-surgical procedure code		√		-10	The assigned procedure does not match the patient documentation
PA5	Procedure codes without corresponding diagnosis code documentation			√	-5	Assigned Procedure code (treatment, service) does not correspond to any diagnosis code
Completeness Errors						
PC1	Non-surgical procedure code missed	√			-15	Procedure not coded when performed

The error categories and associated scoring deductions have been developed based on the potential impact of coding inaccuracies on healthcare data quality, clinical reporting, reimbursement, case complexity representation, healthcare planning, and regulatory compliance.

Internal Audit

Internal clinical coding audits are an essential component of healthcare provider governance and play a critical role in promoting accuracy, completeness, consistency, and compliance of coded clinical data. These audits provide a structured mechanism for evaluating clinical documentation and coding practices, identifying improvement opportunities, mitigating coding-related risks, and supporting the integrity of healthcare claims and reimbursement processes.

In addition to external coding audits, Healthcare Providers should establish and maintain an internal clinical coding audit program to support ongoing monitoring, quality assurance, and continuous improvement of clinical coding practices. As a minimum requirement, Healthcare Providers shall conduct four (4) internal clinical coding audits annually, with one audit completed during each calendar quarter, in accordance with the CHI Clinical Coding Audit Methodology. The results of each quarterly audit shall be submitted to CHI through the designated online portal within the prescribed reporting timelines.

Healthcare Providers are encouraged to supplement the mandatory quarterly audits with additional routine or targeted audit activities based on organizational risk assessments, performance indicators, and quality improvement objectives. Such activities may include random coding audits, focused reviews of high-volume diagnoses or procedures, specialty-specific audits, documentation quality assessments, coding validation reviews, and coder performance evaluations.

Internal coding audits may be performed by qualified in-house auditors or independent external audit organizations. Individuals conducting coding audits shall possess appropriate clinical coding qualifications, relevant auditing competencies, and demonstrate knowledge of applicable classification systems, coding standards, and CHI regulatory requirements, including ICD-10-AM, ACHI, ACS, SBS, and SBSCS. Auditors shall apply professional judgment and standardized audit practices to ensure that audit findings are accurate, objective, consistent, and reliable.

Healthcare Providers should utilize internal audit findings to implement corrective actions, strengthen coder competency, improve clinical documentation quality, and enhance compliance with coding standards and regulatory requirements. Healthcare Providers are also encouraged to

establish Clinical Documentation Improvement (CDI) programs to support the completeness, clarity, and accuracy of clinical documentation.

Internal coding audit programs, including audit policies, audit reports, corrective action plans, evidence of remediation, and ongoing quality improvement activities, shall be subject to review as part of external clinical coding audits. External auditors may assess both the design and implementation of the provider's internal audit program and consider the effectiveness of these activities as part of the overall external audit evaluation.

Forms and Templates

1. Initiation of Audit by HCP's by contacting CHI approved Clinical Coding Audit Company/vendor.
2. CHI Standard Clinical Coding Audit Template (including Audit Summary) for both Internal & External Audits.

Conclusion

The CHI Clinical Coding Audit Methodology establishes a standardized national framework for assessing clinical coding accuracy, completeness, compliance, and governance across Private Healthcare Providers operating within the Kingdom of Saudi Arabia. The methodology supports CHI's strategic objectives of enhancing healthcare data quality, strengthening regulatory compliance, promoting transparency and accountability, and enabling the successful implementation of AR-DRG, and Value-Based Healthcare initiatives.

Healthcare Providers are expected to maintain robust coding governance structures, implement continuous quality improvement practices, and ensure ongoing compliance with the requirements set forth in this methodology. Through collaborative engagement between CHI, Healthcare Providers, and approved audit organizations, this framework aims to foster a culture of excellence in clinical coding and documentation, ultimately contributing to improved healthcare outcomes, reliable health information, and a sustainable healthcare system aligned with the goals of Saudi Vision 2030.

References

Regulatory and Coding Standards References

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- Independent Health and Aged Care Pricing Authority (IHACPA), Australia. *ICD-10-AM/ACHI/ACS Classification System*. Latest edition adopted by CHI.
- Australian Consortium for Classification Development (ACCD). *Australian Coding Standards (ACS)*. Latest edition adopted by CHI.

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- Department of Health Abu Dhabi (DOH). *JAWDA Data Certification (JDC) Methodology for Healthcare Providers*. 2019.
- World Health Organization (WHO). *International Classification of Diseases (ICD)* and Health Information Management Publications.
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- Krejcie, R.V. and Morgan, D.W. (1970). *Determining Sample Size for Research Activities*. Educational and Psychological Measurement, Vol. 30, pp. 607-610.
- Cochran, W.G. (1977). *Sampling Techniques*. 3rd Edition. John Wiley & Sons.
- University Hospitals Bristol NHS Foundation Trust. (2009). *How To: Set an Audit Sample and Plan Your Data Collection*.

Governance, Compliance and Audit

- Institute of Internal Auditors (IIA). *International Professional Practices Framework (IPPF)*. Latest edition.
- ISACA. *Audit and Assurance Standards and Guidelines*. Latest edition.

Table 10: Data Set

Data field	Definition	Data type
Bundle ID	Autogenerated unique number for each claim submitted to NPHIES	Alphanumeric
Unique physician ID	A valid unique identification code provided by the Saudi Commission for Health Specialties and practitioners for the healthcare provider	Alphanumeric
Admission Date	The date the patient was admitted at the start of an admitted encounter, expressed as DD/MM/YYYY	Date
Discharge Date	The date the patient was discharged at the end of an admitted encounter, expressed as DD/MM/YYYY	Date
Service Date	The date the patient was rendered a service, e.g. a consult, ED visit or OP follow up visit, expressed as DD/MM/YYYY	Date
Encounter Type	The type of encounter/visit designated as Inpatient, Day Case, Emergency, Outpatient Clinic, Home Health Care, or Primary Health Care as represented by a code	Numeric
Discharge disposition	This field contains a code which defines the circumstances under which a patient left hospital. For most patients this is when they are discharged by the consultant.	Numeric
Principal diagnosis	The diagnosis established after study to be chiefly responsible for occasioning an episode of admitted patient care, an episode of residential care or an attendance at the health care establishment, as represented by a code. This is equivalent to a final diagnosis as determined by the physician at the conclusion of the visit.	Alphanumeric
Additional diagnoses	A condition or complaint either co-existing with the principal diagnosis or arising during the episode of admitted patient care, episode of residential care or attendance at a health care establishment, as represented by a code. External cause codes should be sequenced together with the additional diagnosis codes	Alphanumeric

Condition Onset Flag	A qualifier for each coded diagnosis to indicate the onset of the condition relative to the beginning of the episode of care, as represented by a code. E.g. if the diagnosis was admission or made after admission.	Numeric
Procedure/services (SBS)	A standardized code assigned to each healthcare intervention or service provided. These codes are designed to classify and describe healthcare procedures and services consistently across the Saudi healthcare system, facilitating accurate reporting, billing, and data analysis.	Numeric
Service Units	The quantity of each service defined in "units" provided for the treatment of ill health during this encounter	Numeric
AR DRG	A patient classification scheme which provides a clinically meaningful way of relating the number and types of patients treated in a hospital to the resources required by the hospital, as represented by a code.	Alphanumeric
Hours Of Mechanical Ventilation	Hours of Mechanical Ventilation for Intensive Care stays	Numeric
Admission Specialty	Admitting Consultants' Specialty	Numeric
Admission Weight	The birth weight of the live birth or the weight of the neonate or infant (under one year of age) on the date admitted, if this is different from the date of birth, in grams.	Numeric
Discharge Specialty	Discharging Consultant's Specialty	Numeric
Cause of Death	The Cause of death to be entered on the medical certificate of cause of death are all those diseases, morbid conditions or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced any such injuries. (ICD-10-AM).	Alphanumeric