

Development & Implementation of a Comprehensive Clinical Documentation Improvement (CDI) Initiative

2024-2025

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Introduction

CHI Team



Dr. Wail Yar

Executive Director, Quality & Medical Efficiency

10+ years expertise in health systems and policy, spearheaded value-based healthcare implementation in the private sector—designing and operationalizing outcome-driven payment models that align incentives with patient results and drive measurable improvements in quality, cost efficiency, and population health.



Susan Young

Senior Advisor, Health Information Management

30+ years regional and international experience in Health Information Management and Cancer Data Management and hands-on experience in implementing DRGs. Leading the implementation and maintenance of Saudi Billing System, DRG Implementation, Coding Audit Methodology



Nasser Albluwi

HIM & Coding Section Head

20 years of HIM & Clinical coding experience in the governmental and private sector including Training, Auditing and implementation of VBHC.

HIMAA CCC, CDS, Auditor & Trainer.

Experienced in RCM, EHR, Coding and CDI tools.



Fawaz Alomran

Health Information Management Analyst 1

6 years experience in Health Information Management, and classification systems such as DRGs, ICD-10, ACHI, SBS. Experienced in health registries, and CDI and RCM, EHR and EMR.

Saudi Billing System (V2)

AR-DRG Implementation

Solventum Team



Khaled Al-Othman
MEA Operation
Manager



**Simone Gravesande-
Joseph**
Sr. Manager



Raed Elyas
Project Manager, MEA



Dr. Anadil Assawi
MEA Clinical &
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Racha Naim
HIM/HIS Clinical
Specialist, MEA



Binu Paul
HIM/HIS Clinical
Specialist



Hadeel Harith
Clinical Specialist



Khatoon Albahrani
Clinical Specialist

CHI Vision Mission and Objectives

Vision



- Bring value to the Saudi market
- Incentivize the management of beneficiaries

Mission



- Improve transparency
- Enable innovation
- Promote efficiency in the market

Objective

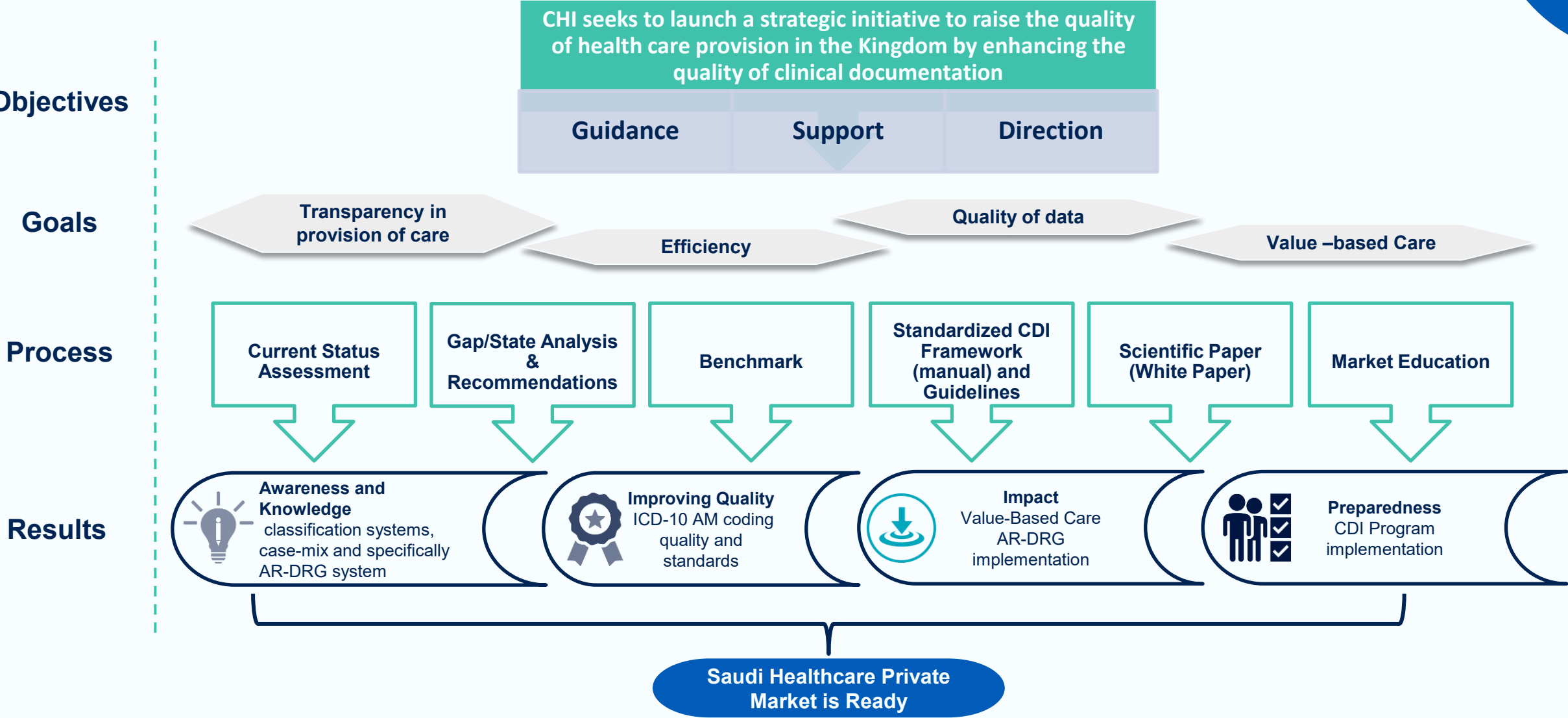


- Develop a standardized framework and guidelines for Clinical Documentation Improvement
- Assure data quality submitted to NPHIES
- Provide recommendations for improvement of quality and processes.

Value Based Health Care (VBHC) Saudi Market



Project Objectives



Current State of Clinical Documentation in KSA



A CDI survey was conducted across five (5) pilot sites in Riyadh and Jeddah to evaluate the current state of clinical documentation within KSA private sector.



Our survey aimed to identify challenges that hinder documentation improvement efforts, review physician documentation via chart audits using the AR-DRG methodology, analyze staffing requirements for supporting a CDI program, assess current technology utilization, gather customer feedback, and provide recommendations to support the implementation of the AR-DRG.



The outcome of the survey validated clinical documentation initiatives are currently in their early stages within the KSA private sector, while some pilot sites have begun documentation improvement efforts, these initiatives are neither fully implemented nor well-vetted structured concurrent processes.

CDI Programs Overview



Accurate and timely physician documentation is essential for the success of a Clinical Documentation Improvement (CDI) program. These programs ensure that a patient's clinical status and the care they receive are precisely represented in the medical record, subsequently converting this information into coded data.



The effectiveness of a CDI program relies on the implementation of a concurrent review process executed by dedicated CDI specialists and the establishment of clear organizational strategic goals aimed at enhancing patient satisfaction and safety indicators. Efficient CDI programs positively impact the coding process.



CDI programs are designed to ensure that the documentation of patient care is comprehensive. By enhancing data accuracy, CDI programs facilitate the proper representation of a patient's complexity and severity. They also enable appropriate payment or reimbursement for services rendered and ensure accurate measurement of patient quality and outcomes.

CDI Programs Overview

The CDI process is designed to capture:

- Intensity of service/resource
- consumption
- Length of stay
- Treatment complexity
- ICD-10-AM coding/SBS
- DRG assignment
- Quality of care

It will also serve as a source for:

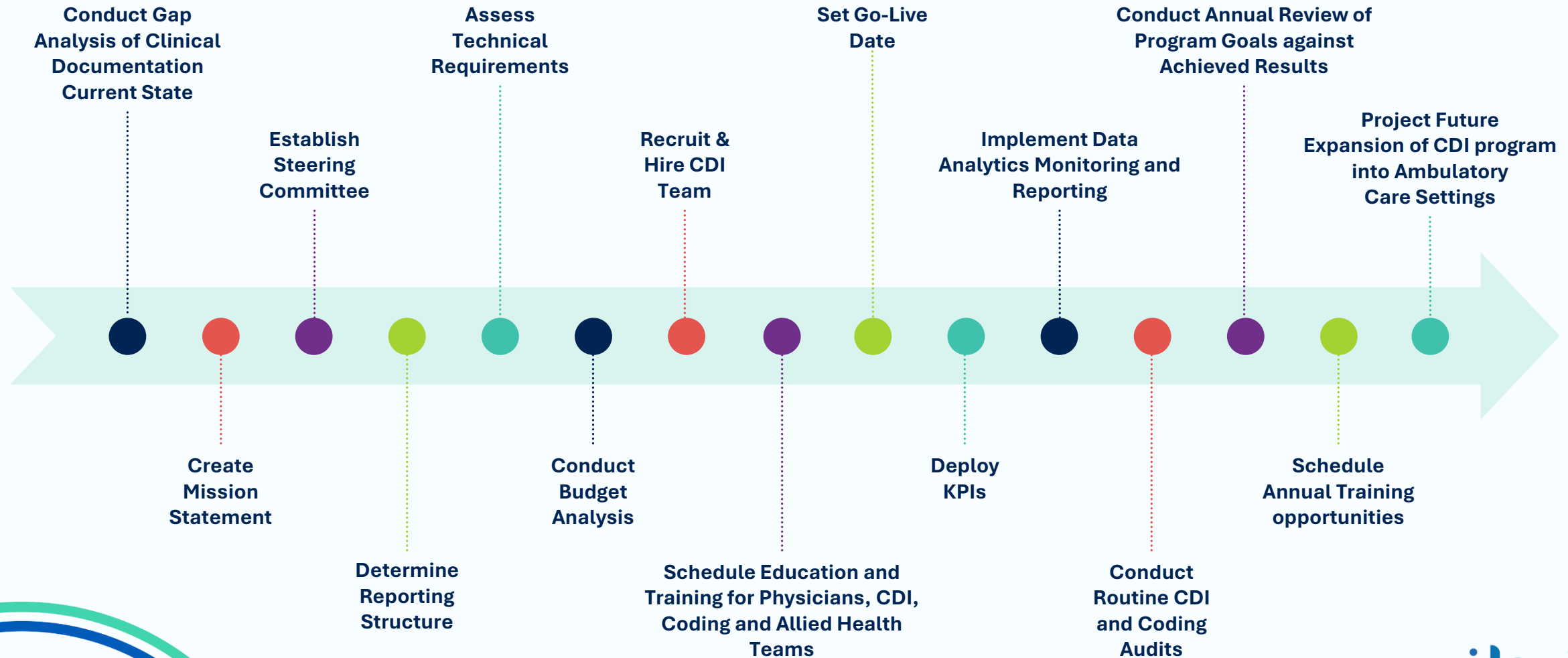
- Data collection
- Data quality
- Outcome measurement
- Appropriate reimbursement
- Policy & procedure recommendations

This goal will be accomplished through:

- A thorough concurrent review of all DRG-based medical records
- Communication with the physician and other clinical staff regarding clarification of documentation to allow for proper assignment of ICD 10-AM/SBS codes and consequent DRG assignment
- Interpretation and application of CBAHI rules, regulations and guidelines

CDI Implementation Roadmap

CDI Program-Providers Roadmap



CDI Program Milestones Recommendations



Gap Analysis

CDI Chart Audit Methodology

Pilot Site Criteria

A total of 250 records across the pilot sites was agreed upon between CHI and Solventum. The distribution of audited records was determined based upon facility size.

- 2 Large facilities 24%, 60 discharged cases
- 2 Medium facilities – 16%, 40 discharged cases
- 2 Small facilities – 10%, 25 discharged cases (One pilot side did not participate)

Chart Selection

The sample was calculated using Solventum's methodology based on a representative distribution of the Pilot hospital's inpatient annual discharge volumes

Data Analysis Selection

Additional data analysis was conducted on the submitted discharged claims from July 2023 to June 2024 to assess the following to determine readiness for DRG implementation:

- Discharge volumes (Overall, Medical, Interventional, by specialty)
- Ungroupable cases
- Case Mix Index (CMI) (Overall, Medical, Interventional)
- Top Principal diagnosis trends
- Unspecified codes trends
- Length of Stay

CDI Chart Audit

Detailed Approach

A Chart Audit was completed using a representative sample of the inpatient records based on annual final billed discharge claims from 5 private sector hospitals

- Potential financial opportunity affecting reimbursement (facility level)
- Potential Case Mix Index (CMI) opportunity pre-audit and post-audit
- Potential Episode Clinical Complexity Score (ECCS) opportunity
- Clinical documentation and Coding opportunities
 - Principal diagnosis (PDx) validation
 - Capture of all documented secondary medical diagnoses
 - Capture of all procedures performed
 - Review of all unspecified codes
- AR-DRG changes
- ECCS changes
- Query opportunities, concurrent and retrospective impacting the AR-DRG and ECCS
- Unlisted codes are reported on claims
- Length of Stay (LOS) opportunities pre and post audit
- Coder and CDI workflows
- CDI team staffing analysis
- Coder team staffing analysis

Gap Analysis



Conduct an Assessment to evaluate the current state of clinical documentation



Begin with a gap analysis that includes a comprehensive audit focused on physician documentation



Establish a baseline for implementing a Clinical Documentation Improvement (CDI) initiative



Identify whether documentation issues are related to coding, specific physicians or service lines, or are prevalent across the inpatient setting



Take into consideration the challenges between coding requirements and clinical language, as well as common trends in denial rates

Gap Analysis

Data analysis & chart audit

- Historical data analysis of admitted cases
 - Discharged volumes (Medical vs. Surgical cases)
 - Average length of stay
 - Case Mix Index
 - Service line trends
- Conduct chart audit to identify documentation gaps and compliance issues related to coding

Assess current state

- Conduct review of existing policies and procedures
- Identify potential gaps that may lead to challenges with regulatory standards mandates

Refine Revenue opportunities

- Assess potential missed revenue opportunities due to coding and documentation challenges

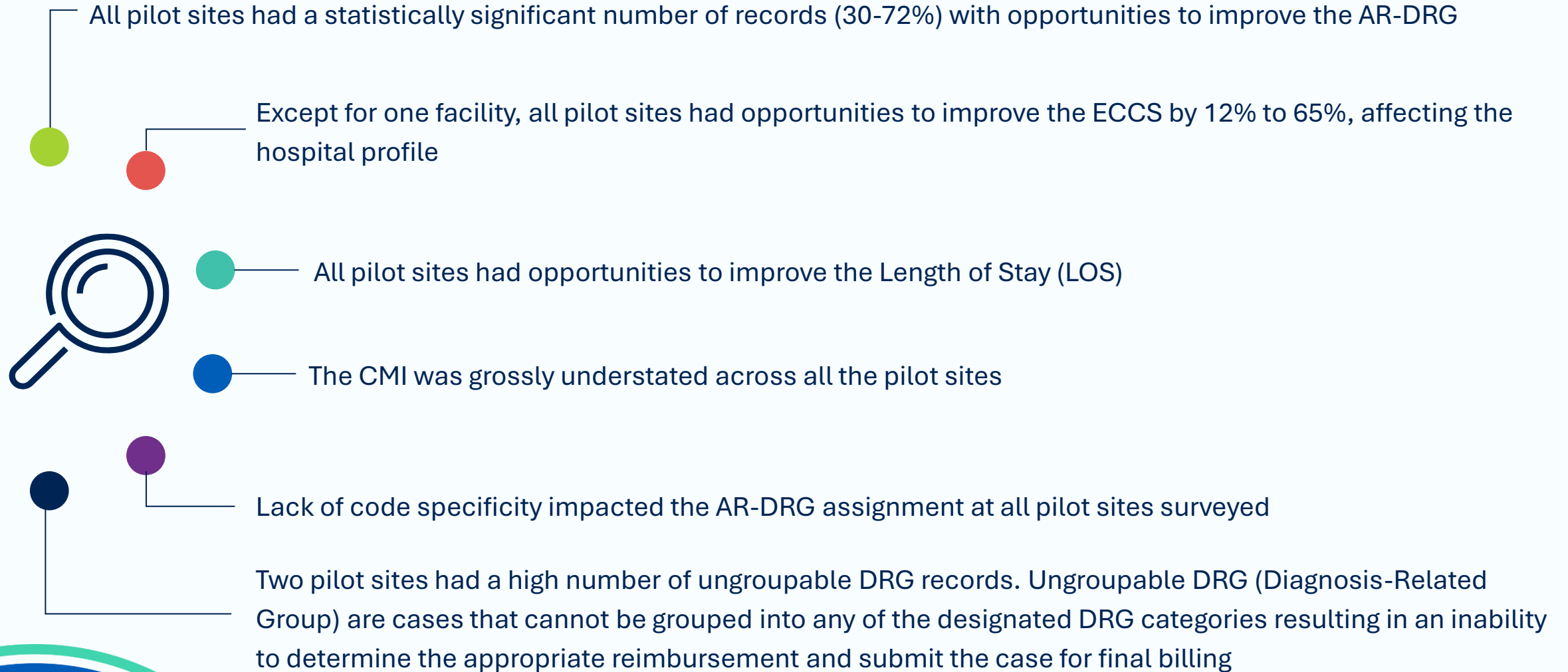
Develop custom plan for implementation

- Resource allocation, technical requirements, reporting structure, training for CDI Specialists and Coders

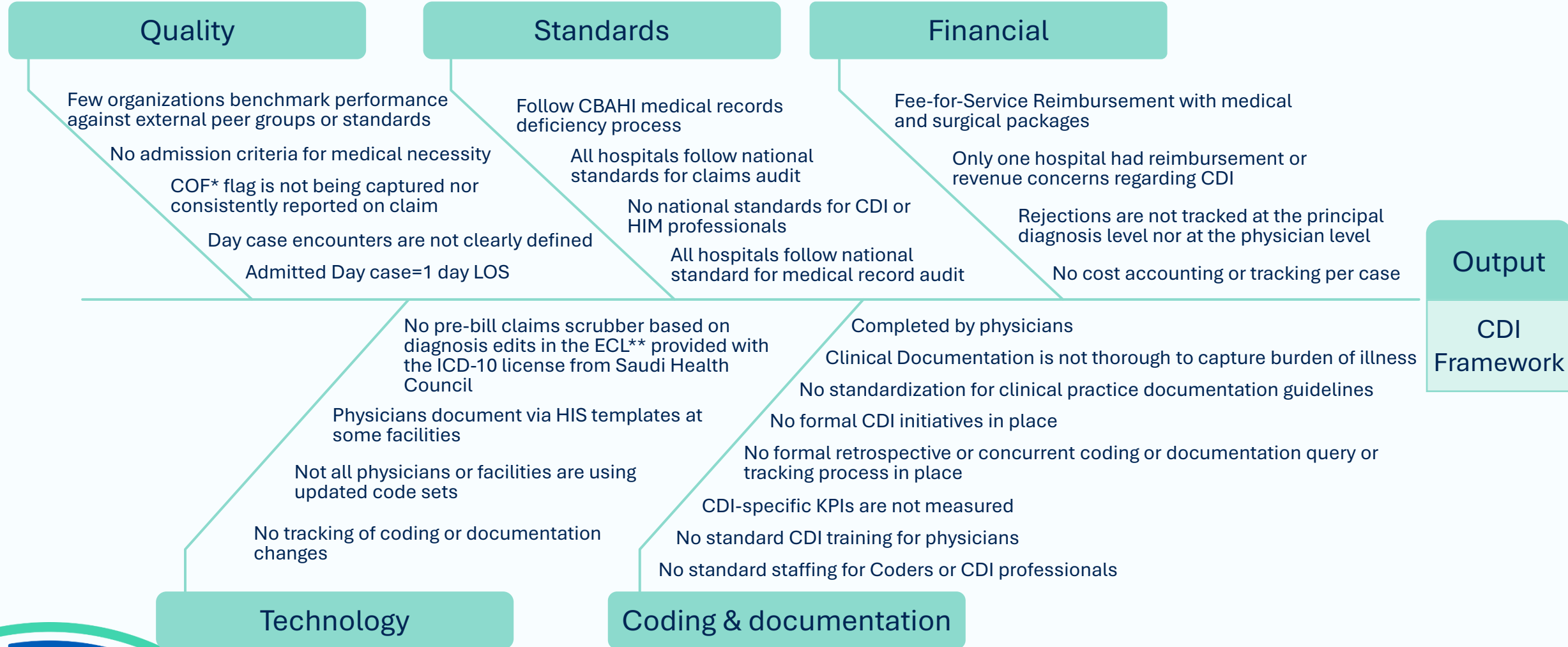
Identify high-volume physicians for training

- Focus on physician with highest medical admitted cases and surgical cases

Pilot Sites Gap Analysis



Pilot Sites Gap Analysis (cont.)



*Condition Onset Flag

**ICD-10-AM 10th Edition Electronic Code List edits

Voice of the customer (VOC): themes across all facilities



**Hospital
Executives**

Benchmarks
need to be
created for
Saudi private
sector market



Physicians

Lack of clinical
practice
guidelines

Coding records
can be very
time
consuming
when codes
are not found in
HIS



CHI

Market
readiness is
critical for a
successful
AR-DRG
implementation



**HIM Leadership
team**

Payer denial
(rejection)
reasons are
inconsistent
and not clear

Lack of
certified coders
in the Saudi
Market



**Nursing
Leadership team**

Lack of nursing
resources in
the Saudi
Market



**Quality
Leadership teams**

Lack of quality
benchmarking
to compare
hospital
performance
across the
private sector
in Saudi

CDI Mission Statement & Program Goals

Mission Statement and Program Goals



Create a Mission statement that incorporates a commitment to continuously improve the standards of care, addresses overall goals, follows best practices and allows for accountability and integrity. Ensure mission statement addresses:

Aspirational goals

Becoming a center of excellence for coding and documentation standards



Re-evaluate program goals annually: CDI programs goals need to include healthcare members working together to be successful. Team members include:

Medical department (Physicians, Medical Directors, Department Chiefs)

Clinical Documentation Team (Nurses/other Clinicians)

Health Information Management/Coding Team

Quality Team

Steering Committee

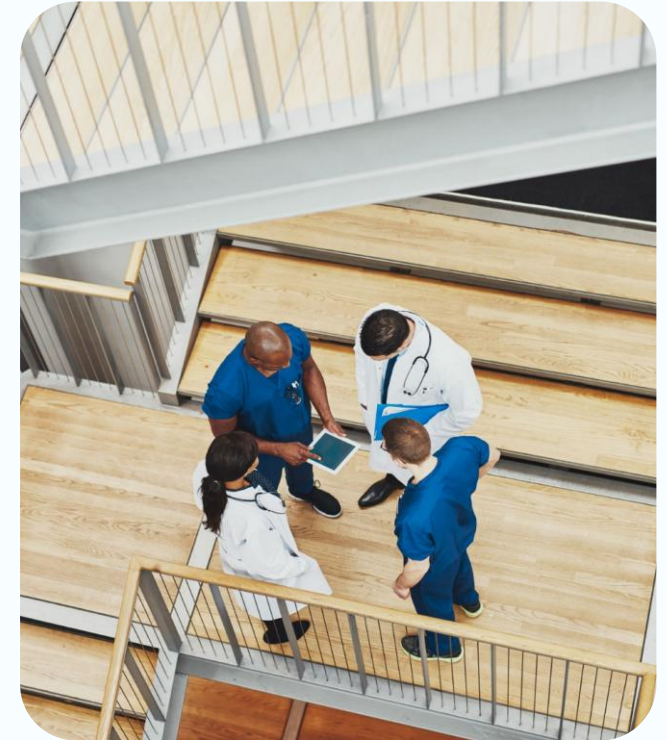
Establish a Steering Committee: Forming a CDI steering committee offers an executive-level forum to oversee the program's progress and activities, ensuring alignment with organizational objectives.

- Begin drafting policies, implementing standards for capturing data and documentation
- Steering committee ensures there are sufficient resources to support the CDI program
- Committee members are responsible for tracking and reviewing KPIs, developing action items as needed, monitoring physician engagement, addressing resistance to change, and helping to foster relationships across multifunctional teams
- Appoint a physician advisor to serve as a liaison between the CDI, coding and medical staff teams



Components of a Successful Program

- Hospital Administration oversight/participation
- Governance Team at each facility with a healthcare system
- Understanding documentation gaps
- Education of Team Members (Coding/CDI/Quality) on the AR DRG and individual DRG concepts related to documentation needs/specificity- initial and ongoing
- Program leadership – Directors/Managers for CDI, Quality and HIM
- CDI Staffing to support inpatient admitted care volumes
- Technology tools to support CDI team
- Physician Champion – liaison to Medical Staff
- Physician engagement/participation
- Education of physicians on documentation gaps/requirements for their specialty
- Escalation process for CDI queries not answered
- Goals/targets for improvement - define success for the organization (operational and financial)
- Key Performance Indicators (KPIs) to measure success (operational and financial)
- Sustainability services (audits, regulatory education as rules change, and targeted education for CDI/Coding/Quality/Physicians to assist in improving KPIs)
- Remains a priority program year after year for the organization



Leadership Commitment



When designing a CDI Program, the strategic goals and visions should align with the organization.

Prioritize CDI as a strategic initiative: Derive establishing CDI department, allocating resources such as hiring of CDI specialists, establishing CDI policies and procedures, and setting goals

Ensure physicians adhere to documentation standards. Leadership should reinforce the importance of accurate documentation by incorporating CDI compliance into physician performance evaluation and ensure adherence to documentation guidelines



Continuous monitoring of the CDI initiative. The performance of the CDI initiative, along with its financial and quality impact, should be continuously monitored.

To support informed decision-making, detailed reports should be generated periodically and shared with C-suite executives at the provider level

Reports will provide key insights into documentation trends, coding accuracy, reimbursement, outcomes, and quality improvements, enabling leadership to take strategic actions that enhance overall hospital performance

Technology Assessment

Technology Assessment



Assess technical requirements to support the CDI program query deployment and CDI workflow



Automated technology is preferred. However, it is appropriate to initiate a paper-based method for tracking CDI reviews and communication between the CDI Reviewer, Coder and Physicians



As an initial step, recommend use of simple electronic tools to track performance (data entry) such as Excel logs or internal IT created platforms, Microsoft Power BI



Long-term, there are multiple tracking tools in the industry to automate reviews, data entry and reporting on key metrics

Require Tools – CDI Review Worksheet

Required Fields Example

Date of Initial Review

Dates of Subsequent Reviews

Patient Information:

- Account Information
- Admission Date
- Bed/Unit location

Attending Physician

Consulting Physician

Case Review:

- Admission information (transfer, direct admit, emergency department)
- Chief Complaint/Reason for Presentation
- Admitting Diagnosis/Differential Dx
- Secondary Diagnoses (chronic conditions)
- Acute conditions (complications)
- Procedures/Diagnostic tests/Treatments
- Medications
- Vital Signs
- Clinical findings (Physician and Ancillary team notes)
- Principal diagnosis
- Working DRG assignment
- Query opportunities
- Date Query sent and Physician Name
- Follow-up review items

Require Tools – CDI Query Form

Required Fields Example

Date:

CDI Specialists Name:

Patient Information:

- Account Information
- Admission Date
- Bed/Unit location

Physician Name

Summary of findings:

- Clinical findings/indicators (Physician and Ancillary team notes)
- Procedures/Diagnostic tests
- Treatment
- Diagnosis options

Instructions for Physician to address their response

- In the medical record – Agreed and Documented
- Disagree with above request
- Unable to determine/unknown
- Need to discuss

Advanced Documentation Tools



- Complete digitization of medical records to enhance CDI efficiency, accuracy, and integration between clinical and administrative processes. This includes structured documentation templates, automated CDI alerts, and seamless query workflows
- Automated query process that streamlines physician responses, ensures efficient resolution of documentation gaps and reduces missed query opportunities
- Dashboards and analytics that track documentation trends, CDI KPIs, hospital performance, quality measures and areas needing improvement
- AI-driven CDI tools with computer assisted coding and computer assisted CDI, and computer-assisted physician documentation

Budget Analysis

Budget Analysis Requirements

Conduct an initial budget analysis to assess current CDI Specialists annual salaries across the industry, for education and training materials, technology to support CDI workflow and the level of effort from the IT team to support technology integration.

Annual budget considerations are required for continued support of the CDI program, these include vendor software license renewals, external CDI and coding audit support, annual certification requirements along with reimbursement for continuing education and conferences.



CDI Team Salaries



Annual Certifications,
Continuing Education &
Conferences



Technology to Support
Workflow



Technology License
Renewals



Education and Training
Materials



External Audit
Support

CDI Reporting Structure, Staffing Requirements, Training & Education

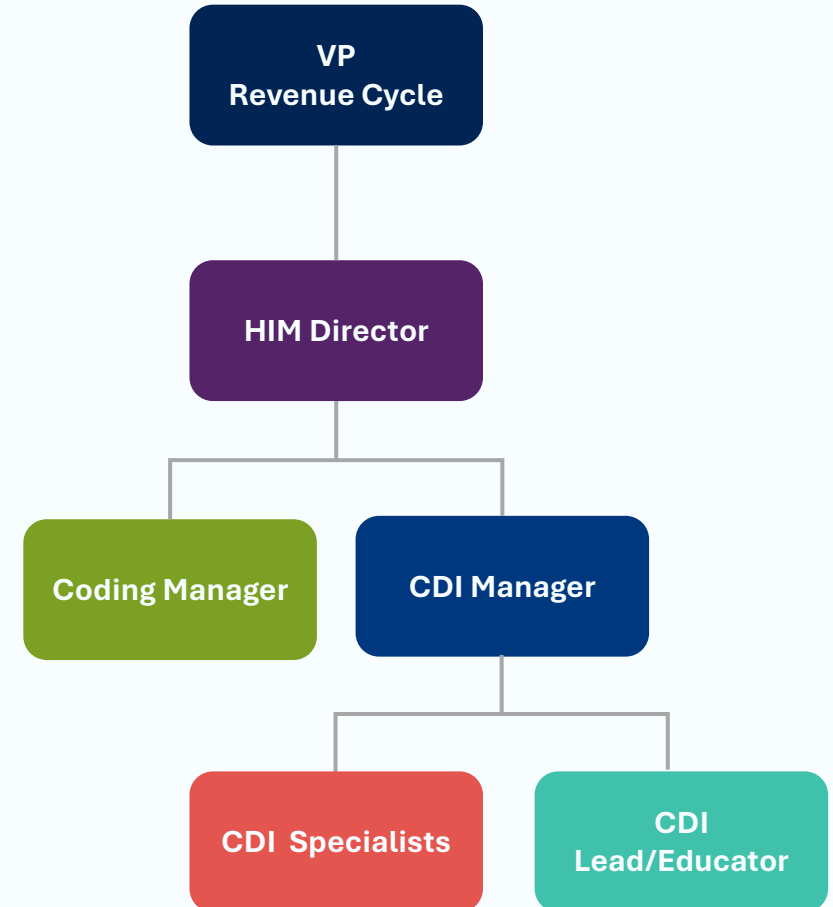
CDI Reporting Structure Options – Revenue Cycle

Benefits

- Allows for consistent reporting structure
- Shared vision and goals
- Ensures communication lines between Coding and CDI teams are on-going
- CDI team gain a more in-depth knowledge of revenue cycle and denials management

Challenges

- CDI program may be viewed as financially driven
- New department, need to gain the trust and establish a working relationship with physicians



CDI Reporting Structure Options – Quality

Benefits

- Collaboration between quality and revenue cycle can lead to an effective and stronger relationship if visions are aligned
- Easier to incorporate patient safety quality indicators into CDI Program KPIs
- Quality team has an established working relationship and communication lines with physicians
- Unit based or service line team assignment is easier to implement

Challenges

- Unique challenge managing a CDI department with financial metrics tied to revenue cycle management
- Possible misalignment of duties. Other quality duties may overshadow CDI workflow
- Visions and goals may defer from Revenue Cycle



CDI Leadership Team

Director/Manager Workflow Process

Quarterly

- Review quality metrics related to severity (ECCS), length of stay and mortality cases
- Provide feedback to Medical Leadership
- Track potential compliance trends
- Provide updates to Executive team

Monthly

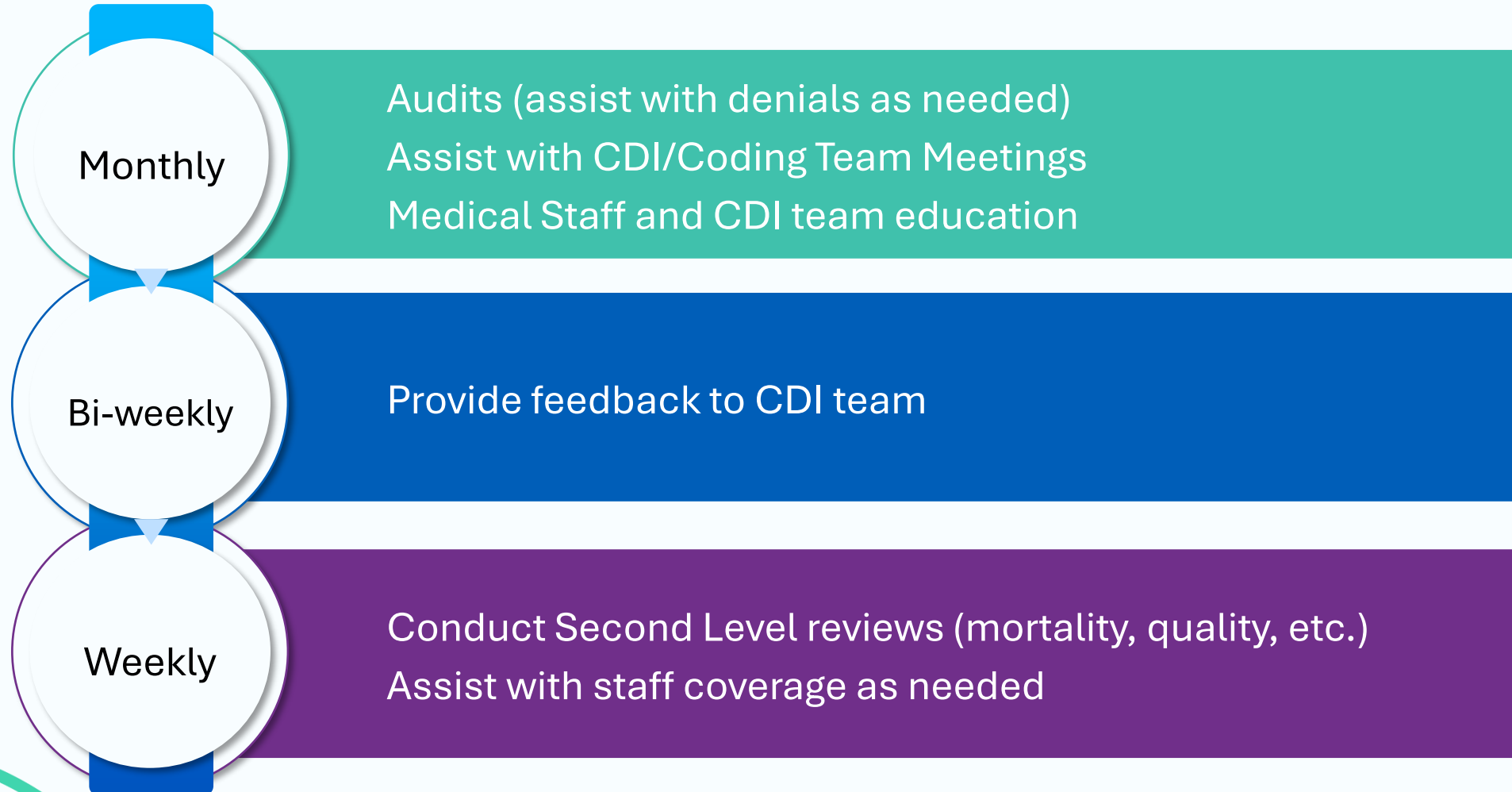
- Perform analysis of financial impact (CMI)
- Provide feedback to Executive team, Steering Committee/MD Advisor
- Monitor operational trends

On-going

- Collaborate with Quality and HIM departments on efforts related to Quality outcomes and Coding trends
- Assess staffing requirements
- Conduct Performance evaluations

CDI Leadership Team

CDI Educator/Auditor Responsibilities



Recruitment of CDI Team

- Ideal candidates for a CDI Program are healthcare professionals with a quality or strong medical/surgical and critical care clinical backgrounds
- Due to current nursing staffing shortages in KSA, internally recruiting nurses and qualified allied health professionals for the CDI Specialists position will reduce time and effort spent during the hiring process and creates opportunities for career advancement
- Internal candidates have vested interests within their organization and contribute to new initiatives in ways external candidates may not because they are familiar with organization values



Staffing a CDI Program



Appropriately staffing a CDI team is directly tied to the success of the program to ensure appropriate coverage of the patient population for the initial review and re-reviews. Insufficient staffing may lead to a quantity over quality concurrent process.



To determine the number of FTEs (full-time employees) required for a CDI program, the following should be taken into consideration:

Total work hours per year, excluding vacation and national holidays

Total discharge volume of the inpatient patient population

Average LOS for the patient population

HIS system (Paper vs. EMR)

Reconciliation duties

Other possible duties

For healthcare system, expectation to assist with coverage at other facilities



A contingency plan should be established to address unexpected sick leave, retirements, terminations, and other unplanned absences

CDI: Preparing KSA for DRG Adoption

Key considerations for recruiting CDI Specialists

Criteria for Clinical Concurrent Reviewer	Required knowledge, skills, and abilities/working conditions
<p>A Clinician (e.g., physician, registered nurse) with a minimum of 5 years recent experience in the hospital setting, a HIM professional with coding experience or other allied health professionals with coding and clinical background with the following skills sets required for this function:</p> <ul style="list-style-type: none">• Respect and recognition by the medical staff• Excellent communication skills• Clinical knowledge of disease process (strong clinical skills)• Ability to acquire knowledge of coding rules and regulations (from training)• Detail oriented• Highly motivated• Function independently• Problem solving skills (critical thinking skills)• Knowledge of organizational goals and beliefs• Ability to recognize need for action and intervene quickly• Demonstrate assertiveness with physician communication• Demonstrate follow through skills	<ul style="list-style-type: none">• Knowledge of care delivery documentation systems and related medical record documents• Knowledge of age-specific needs and the elements of disease processes and related procedures• Strong broad-based clinical knowledge and understanding of pathology/physiology• Excellent written and verbal communication skills and critical thinking skills• Working knowledge of inpatient admission criteria• Ability to work independently in a time-oriented environment• Computer literacy and familiarity with the operation of basic office equipment• Assertive and respectful personality traits to facilitate ongoing physician communication• Ability to move within the work setting, as needed• Working knowledge of a DRG reimbursement system and coding structures preferred, but not required

CDI: Preparing KSA for DRG Adoption

CDI Specialists Role and Responsibilities

General statement of duties

Maintains the ability to be flexible, and prioritizes daily responsibilities:

- Provides concurrent review of the clinical documentation in the medical records
- Queries the physician via written/verbal communication to obtain accurate and complete physician documentation that supports the reason for admission, DRG assignment and severity of patient illness
- Performs a thorough chart review to identify comorbidities/complications, and documents these appropriately on the CDI tracking form
- Demonstrates an understanding of the importance of, and makes an effort to capture, all potential secondary diagnoses for profiling purposes
- Demonstrates creativity and enthusiasm while pursuing the goals of the department and the organization

CDI: Preparing KSA for DRG Adoption

CDI Specialists Role and Responsibilities (cont.)

Weight	General statement of duties
30%*	Collaborates with physician, nurse, utilization reviewer and HIM coder to identify principal diagnosis options, secondary diagnoses and procedures, to assign working DRGs for at least 80 -85% of identified populations. Able to utilize inpatient admission criteria to assign only diagnoses that meet acute care criteria. In the advent that diagnosis does not meet admission criteria, communicates with appropriate staff regarding site of service.
30%*	Identifies need to clarify documentation in records, and utilizes strong communication skills with physician, utilization reviewer, nurse or other healthcare professionals, utilizing appropriate tools to capture needed documentation. Works collaboratively with the healthcare team to facilitate documentation within the medical record that supports patient's severity of illness.
25%*	Conducts initial and extended-stay concurrent reviews on all selected admissions, and documents findings on CDI review tracking form, denoting all key information utilized in the tracking process.
5%*	Utilizes monitoring tools to track the progress of the CDI program, through interpretation of available CDI reports and other pertain quality data. Shares findings with upper manager during structured meetings. Able to identify areas of focus through report analysis. Serves as a resource to physicians and administration regarding issues related to the appropriateness of inpatient DRG assignment.
5%*	Assists in the development of DRG/query response physician reports. Maintains complete confidentiality of patient information, in addition to hospital and individual physician practice pattern data.
5%*	Provides information and in-services as necessary to physicians and ancillary staff.

Education and Training for CDI Specialists and Coders

Coordinate and schedule tandem training for CDI, Coding, Physicians and allied health teams

Training for physician needs to be coordinated with Physician advisor and the Chief Medical Officer (CMO)

Education for CDI specialists and coders may be conducted in a variety of ways:

- Bootcamps – these can be done on-line or on-site
- Onsite or remote facility level training lasting from two to 4 weeks depending on training needs
- Centralized training for multiple facilities

Training for CDI specialists and coders should be structured and comprehensive, covering both didactic and clinical sessions. It must include basic and advanced coding concepts and guidelines as well as common documentation issues impacting coding

Training should comprehensively cover Major Diagnostic Categories (MDCs), human anatomy and physiology, alongside clinical disease management and treatment procedures

Clinical sessions are designed to provide practical learning opportunities and hands-on experience, including chart reviews and query writing exercises

Each concept and chapter require a skills assessment test to evaluate the retention of knowledge acquired based on training objectives and concepts covered during the education sessions

Explore organizations and companies that provide a variety of training modalities

CDI Education and Training Options

Training Modalities	Descriptions
Bootcamps	<ul style="list-style-type: none">• High paced training, generally take place over the course of a week• Most are small class size to maintain a low participant-teacher ratio• Ideal for new CDI employees or those that need a refresher training with access to an experienced CDI mentor following their initial training
Online modules	<ul style="list-style-type: none">• Self-paced, allows learners to balance their schedule• Affordable compared to large classroom settings• Access to content without location constraints
Classroom trainings	<ul style="list-style-type: none">• Customized to meet training needs of organization• Onsite clinical practice sessions with live records• Allows for query practice sessions with real time feedback from Physicians• Centralized training for multiple facilities that are part of a Healthcare systems

Physician Advisor Role

Physician Advisors/Champions key roles include:

- Support data integrity – this includes but is not limited to providing input and feedback to the CDI and Coding team in the development of query templates and helping to craft internal practice guidelines for diagnoses definitions based on approved national standards
- Assist with creating CDI Policies and Procedures
- Identify documentation opportunities for the medical staff by participating in internal audits
- Educate the medical staff by increasing knowledge regarding the impact of clinical documentation on quality metrics and reimbursement
- Help to enhance competency related to documentation requirements to support medical necessity, length of stay, management of chronic conditions and complications that occur during the inpatient episode of care, readmissions and denials management
- Establish ongoing medical staff education on coding and documentation concepts as well as changes in reimbursement and quality reporting guidelines and/or regulations
- Collaborate with various teams including but not limited to the CDI and Coding teams, Physicians, Executive leadership, Quality and Nursing departments
- Facilitate improvement of the quality of the medical record
- Assist with the claim denials process

Physician Role in Query Process

The query process is a crucial component of CDI, allowing physicians to clarify or add missing details to documentation before coding and billing.

To streamline this process, hospitals should:

Implement structured query templates within the medical records to standardize physician responses

Develop policies that integrate CDI queries into clinical workflows, minimizing disruption to physicians' schedules

Monitor physician response rates, identifying areas where additional training or engagement may be required, tailor support and resources to enhance physician participation

Foster a positive query culture where queries are viewed as opportunities to improve documentation rather than as burdens, emphasizing the value of accurate documentation in supporting quality patient care

Physician Training Options

General Sessions Training CDI Program Overview	Department Specialty Training	1:1 and Small Groups Training
<ul style="list-style-type: none">• Review of benefits, objectives and goals of the Clinical Documentation Improvement (CDI) program for the hospital and physician• Specialty specific curriculum• Case samples illustrating documentation impact on AR DRG, severity, mortality, reimbursement and quality outcome	<ul style="list-style-type: none">• Specialty based documentation tips• Education is guided by client specific and specialty specific data• Structured sessions to cover identified key topics• Flexibility to address CDI program identified needs• Inclusion of chart review findings and Performance Data Monitoring metrics as available	<ul style="list-style-type: none">• Targeted education for:• High impact physicians or groups previously completed general session training• Opportunity for documentation improvement• Training presentations contain physician-specific data and case samples• Provided 1:1 or in small groups

CDI Key Performance Indicators (KPIs)

Key Performance Indicators (KPIs)

Benchmarking in healthcare systems serves several key purposes:

Establishing Standards

It assists in setting internal or external standards to measure against, fostering a culture of continuous improvement.

Identifying Best Practices

By comparing with top-performing organizations, healthcare providers can learn and adopt best practices that lead to better patient outcomes and operational efficiency.

Enhancing Quality of Care

Benchmarking provides insights into areas for improvement, enabling healthcare providers to enhance the quality of care rendered.

Improving Financial Performance

Benchmarking helps identify inefficiencies and areas where cost savings can be achieved, thereby improving the financial performance of healthcare organizations

Key Performance Indicators (KPIs)

Outcomes measures and metrics are the foundation for effective enterprise planning and outcomes management. CDI KPIs should be tracked at least monthly.

Specific KPIs require daily and weekly monitoring, while others can be tracked monthly and quarterly. Measuring certain KPIs too frequently can skew data.

Creation of management and enterprise-wide CDI dashboards is recommended for sharing with key stakeholders which includes members from the Executive team, CDI Steering Committee, Quality, HIM and CDI management team.

CDI coverage and query rates	CDI coverage and query rates
Weekly monitoring	CDI coverage, query, physician response and agreement
Monthly monitoring	<ul style="list-style-type: none">• CDI coverage, query, physician response and agreement rates• CMI• Episode Clinical Complicity Score (ECCS)• DRG split capture rates• Length of stay (actual to expected)• Discharged volume analysis• Actual mortality rates
Quarterly monitoring	<ul style="list-style-type: none">• CDI coverage, query, physician response and agreement rates• CMI• ECCS• DRG split capture rates• Length of stay (Actual to expected)• Discharged volume analysis• Actual mortality rates

CDI Best Practices

Goals

The optimal Goals for a CDI Program should include meeting or exceeding the following metrics:

CDI Best Practice

Interaction with physicians should be face to face during the initial implementation phase of a CDI Program. This creates an opportunity for relationship building and establishes trust between the Physicians and CDI team.



Reviewers should review 15-20 records, new and re-reviews, daily



Coverage rate should be maintained or exceed 85 – 90% each month



Physician response rate should be equal to or greater than 80% each month



Physician agreement rate, maintain 90% or greater each month



An average Query rate of 20 – 30% each month. Query rates will vary overtime and during the first year of a CDI program, query rates may exceed 30% for an average of 35 – 45%, this is largely due to education efforts of the CDI and Coding teams, expanding their clinical and coding knowledge. With maturation, query rates may decrease overtime as Physicians become more acclimated to documentation requirements.



Initial reviews should be completed within 24 hours after admissions



Continued stay reviews should occur every 2 days until discharge



If a query is pending, those cases should be reviewed daily until answered

Audits

CDI Program and Coding Audits



CHI developed an audit methodology that outlines the process for internal coding audits conducted by healthcare providers, ensuring compliance with CHI's accreditation standards. This methodology is aligned with standard "HI.4" from CHI Providers Accreditation and Classification Program; which mandates accurate clinical coding as a foundation for correct medical claims and fair reimbursement. The standard requires healthcare organizations to maintain their coding certification with the Saudi Health Council and ensures that certified coders perform timely coding for all beneficiary episodes



To improve the coding quality, a senior coder must conduct monthly audits, with findings incorporated into the quarterly risk management report with corrective actions as needed. Senior coders are expected to audit a sample of 5% of medical records, with organizations setting an acceptance threshold based on coder experience, ideally at 95%. In addition, CHI will update the Classification Standards, mandating an External Coding Audit on an annual basis



Recognizing the critical role of clinical documentation in coding accuracy, CHI has extended this framework to include Clinical Documentation Improvement (CDI) under "HI.4.5," which requires providers to implement a CDI program led by a certified CDI specialist. Evidence of compliance with this requirement is demonstrated through We will also update the CHI Classification standards to include the External Audit - which will be mandatory annually

CDI Audits

Routine auditing of the CDI program is essential to ensure regulatory compliance

Internal audits should be conducted frequently, ideally monthly, but at least quarterly

External audits can be carried out annually

CDI audits should focus on cases that are final billed and have undergone concurrent review by a CDI specialist

The assigned working DRG should be compared against the final coded DRG, missed query opportunities and query compliance should be assessed

The appropriateness of the selected principal diagnosis should be analyzed

The proper assignment of COF (condition onset flag) , documented surgical procedures, and identification of ongoing educational opportunities for Coders, CDI Specialists, and Physicians should be reviewed

Coding Audits



Internal and external coding audits are crucial for compliance with coding requirements and regulatory standards, in addition to focused audits for the CDI team. Alongside CHI's recommended audit methodology that outlines the process for conducting internal coding audits by a senior coder, Providers should form a dedicated internal coding audit team to regularly audit the medical record



Internal coding audits are time-consuming, routine audits help the audit team improve proficiency in their approach and further enhance their methodology



Audits should focus on a sample of the final bill discharged medical records monthly, quarterly, and at least semi-annually



Cases that are service line level specific helps build a cohesive relationship with physicians and their leadership teams; de-identified cases can be used as examples to educate physicians.



Use trends from the audit findings to shared with the coding and CDI teams to enhance their knowledge

Coding Audits (cont.)



External coding audits should be conducted on an annual basis



Audits should be carried out by highly trained professional consultants with extensive knowledge of coding and industry standards. Auditors offer an objective perspective to help hospitals address coding issues that may be missed during internal audits, educate the coding team on regulatory changes, and provide executive summary reports detailing their findings and recommendations



Assessing coding KPIs are also required as part of the audit process, these include but are not limited to coding accuracy rates

Data Analytics & Reporting

Data Analysis and Reporting

- Data analytics reporting assesses performance improvement, compliance risks, and identifies opportunities for CDI prioritization and pre-bill audits, in addition to tracking operational KPIs
- Performance should be evaluated against a baseline period and best practices
- Monitoring performance gauges changes in overall documentation practice improvement over time. This allows hospitals to identify focused areas, determine subsequent steps, create actionable and achievable plans, and target specific areas for education
- Implement data analytics monitoring and reporting after 30 days post the go-live date, this allows for sufficient final coded data collection within the EHR, coding and billing systems



Performance Data Reporting

- Performance data monitoring elements includes:
- CDI metrics (Coverage rate, number of days between reviews, query rate, physician response rate, physician agreement rate)
- Comparative benchmark data analysis
- Identifying actionable variances within key KPIs
 - CMI, Severity (ECCS), Length of Stay, Mortality rate
- Operational and executive dashboard reports that highlight key indicators requiring attention
- Developing strategies for CDI case review prioritization

Examples for Analytics Reports

Query Volume: Number of queries issued to physicians

Response Time: Average time taken by physicians to respond to queries

Query Response Rates: Percentage of queries responded to by physicians

Query Impact: Financial impact of queries on hospital revenue

Case Mix Index (CMI): Changes in CMI due to CDI efforts over a period

DRG Shifts: Diagnosis-Related Groups (DRGs) due to improved documentation

Staff Productivity: Productivity metrics for CDI specialists

Query Types: Breakdown of queries by type (e.g., clinical validation, specificity)

CDI Expansion Considerations

Future Expansion into Ambulatory Settings

Globally, successful inpatient CDI programs have become an integral component of the Revenue Cycle.

With more focus on Population Health Management and Value-Based Healthcare documenting the full picture of the patient is critical.

Clinical documentation initiatives should not be limited to the inpatient settings. In other countries, organizations are investigating options for expanding documentation improvement efforts into ambulatory settings:

- Emergency departments
- Observation units/ Day Case
- Clinics
- Physician offices

Ambulatory setting allows for the measurement of global resource consumption as opposed to episodic-based costs of care; this in essence can help to achieve better management of patients and outcomes.

The recent expansion of Clinical Documentation Improvement (CDI) into other countries is now encompassing inpatient rehabilitation and psychiatric units. This development is driven by a recognition that documentation in these settings can similarly benefit and improve overall quality of care.

Keys to Success

Keys to Success

- To facilitate a smooth adoption of a CDI Program to accelerate goals
- Conduct tandem education across all specialties (Coding/CDI/Physicians/Allied Health)
- Schedule technology expansion/adoption at initiation of CDI program go-live
- Establish KPIs and begin measurement at the first month of go-live
 - Determine a baseline period to measure KPIs against
- Schedule routine internal and external audits of the CDI Program within the first three months of the go-live period, followed by regular cadence (e.g. six months, annual)



Keys to Success (cont.)

Prioritize CDI

Prioritize CDI as a strategic initiative:

- Derive establishing CDI department, allocating resources such as hiring of CDI specialists, establishing CDI policies and procedures, and setting

Documentation Standards

Ensure physicians adhere to documentation standards:

- Leadership should reinforce the importance of accurate documentation by incorporating CDI compliance into physician performance evaluation and ensure adherence to documentation guidelines

Monitoring

Continuous monitoring of the CDI initiative:

- The performance of the CDI initiative, along with its financial and quality impact, should be continuously monitored. To support informed decision-making, detailed reports should be generated periodically and shared with C-suite executives at the provider level
- Analytics reports provide key insights into documentation trends, coding accuracy, reimbursement outcomes, and quality improvements, enabling leadership to take strategic actions that enhance overall hospital performance

Questions

Clinical Documentation Improvement Roadmap



Considerations for starting a CDI Program

- Conduct a Gap analysis (audit) of current clinical documentation
- Create Mission Statement
- Implement a Steering Committee
- Determine reporting structure
- Assess technical requirements
 - Hardware & Software
- Conduct budget analysis
 - Training, CDI and coding Certification, Technology installment, IT Support
- Recruitment for CDI team
- Training and education
- Deploy Key Performance Indicators (KPIs) Measurements
- Conduct audits of CDI Program
- Data analysis and reporting
- Project future expansion of CDI program into ambulatory settings



Thank you