TITLE: An internationally verified audit methodology to identify opportunities for improvements in casemix data quality and use in the Kingdom of Saudi Arabia (KSA)

Introduction

High quality casemix data can improve health service planning, funding, clinical practice and patient outcomes. KSA is undertaking reforms across government sectors under its Vision 2030 program. A comprehensive clinical coding audit by the Ministry of Health Program for Health Assurance and Purchasing (PHAP) was undertaken in 2021 in collaboration with Beamtree, an Australian company working with healthcare data to improve quality, safety and efficiency. The objectives were to:

- Establish a baseline of coding services and quality of coded data
- Understand the status of coding services and readiness
- Provide national recommendations and guidance to enhance coding quality and accelerate implementation nationwide.

The Beamtree audit methodology has been employed in Ireland, Singapore and Australia. It investigates clinical coding, quality of coded data and use of data by stakeholders, providing guidance and support for comprehensive improvements to a health system's casemix data quality.

Methods

These were:

1. A data maturity index and comparison to international best practice focused on people, processes, tools and stakeholder engagement.
2. Performance Indicators for Coding Quality (PICQ®) – measures compliance with classification coding standards and non-specific code assignment.
3. Relative Indicators of Safety and Quality (RISQ™) – reviews data quality underpinning Hospital Acquired Complication rates, benchmarking with risk-adjusted peers.
4. Benchmarking clinical complexity captured through coding compared to the complexity of peers. This may identify under/over reporting of diagnoses and/or interventions.
5. Physical coding audit of a stratified sample of clinical records which measures coding accuracy through re-abstraction and recoding of sample episodes, comparison to original coding and analysis of differences. Observations are made on quality of clinical documentation, clinical queries processes and educational needs of coding teams.

Recommendations typically relate to data consistency, timeliness, transparency; governance; operational performance; infrastructure support; workforce planning, education and management; and advocacy for use of casemix data by stakeholders.

This multi-perspective approach is superior to standard casemix auditing practices as it provides a comprehensive perspective on data accuracy as well as recommendations for service improvement and enhanced use of casemix data. Results drive confidence in data quality, enhance decision-making and support applications of the data for business intelligence.

Results

The KSA audit has led to an improved focus on coding quality and competencies in clusters and nationally, including increased coder training and an improvement in data capture.

PHAP is implementing the audit recommendations. An expanded number of hospitals are now coding and there has been an increase in hiring of coders across MOH hospitals. Clusters have a clear improvement plan for their coding workforce and data quality.

National coding audit is prioritised with adoption of a continuous process to improve focus on coding quality, competencies, data quality and reliability.

Conclusions

Undertaking a focused study on the underlying quality of casemix data can build trust in and increase the usefulness of administrative data. This requires leadership at MOH level in collaboration with technical specialists. Actions must include change in workforce, governance, standards and analytics, alongside leadership and advocacy. Use of internationally verified tools is helpful at national level and encourages learning and adoption.