

1. Introduction

The project aims to design and implement a clinical coding quality dashboard for the Royal United Hospital (RUH), to improve the accuracy and completeness of clinical coded data. Clinical coding is the translation of medical terminology into standardised classification codes, which are crucial for healthcare data analysis, patient outcome monitoring, and hospital reimbursement.

The RUH currently generates over 120,000 patient admissions but do not have a system to check the validity of the clinical coding assigned to the episodes

Diagnosis	Description
I25.1	Chronic ischaemic heart disease
I25.2	Atherosclerotic heart disease
I25.2	Chronic ischaemic heart disease
I10	Old myocardial infarction
E11.9	Essential (primary) hypertension
E11.9	Type 2 diabetes mellitus
M10.9	Without complications
M10.9	Gout
I50.0	Gout, unspecified
I50.0	Heart failure
I50.0	Congestive heart failure

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WHO [1]

2. Aim and Objectives

The is to create a dashboard to improve the accuracy and completeness of the coded clinical data in the RUH.

The objectives are to :

- Create SQL scripts to integrate the database for potential errors to display in a dashboard
- Create an automatic notification system to alert the coding staff of potential errors
- Provide the management team with a dashboard to monitor productivity

3. Research & Methodology

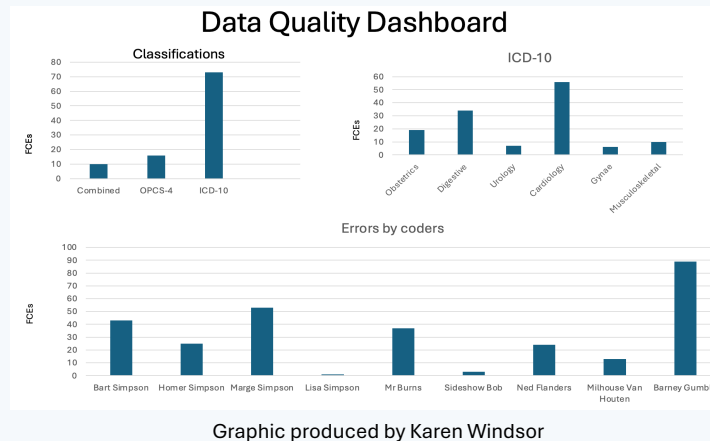
Clinical coding has its origins in the 17th century, in London's Bills of Mortality. Over time this has evolved into the World Health Organization's International Classification of Diseases (ICD-10) and NHS England's OPCS-4. The research proved that clinical coding is a highly complex skill and currently, there is no solution for checking the validity of the Finished Consultant Episodes (FCEs) generated by the RUH.

The methodology used was Positivist and Deductive focusing on the objective measurement of data quality dimensions such as accuracy, completeness and validity

4. Design

The design process included creating a new data set to populate a table within the data warehouse. Then working out what type of queries were possible to transform into SQL scripts.

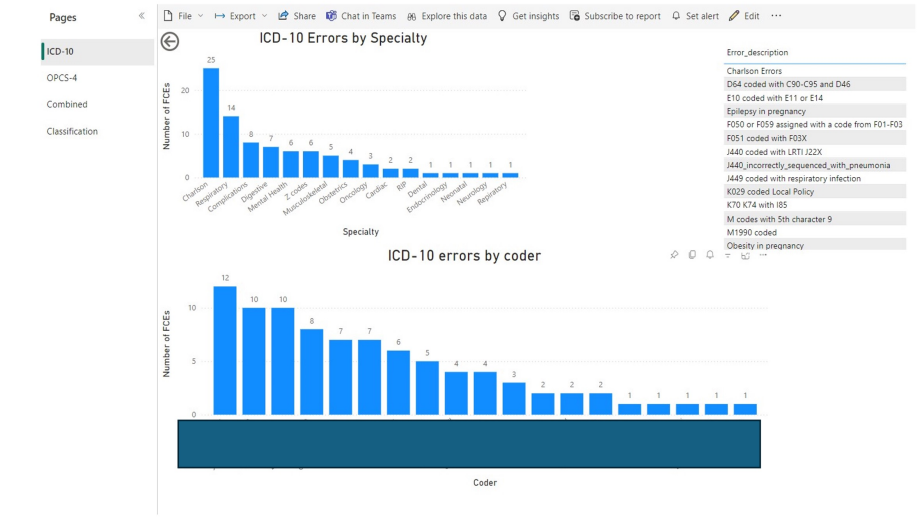
It was also necessary to create wireframes to plan how the data would be displayed



5. Implementation

The implementation will involve several key steps:

- Prioritising the creation of the validation checks using the MoSCow method
- Writing the SQL scripts to extract and validate the clinical coding assignments from the warehouse
- Developing dashboards in PowerBI to send out automatic notifications and display the errors and the department's productivity
- Implementing a robust validation process to ensure the accuracy and reliability of the SQL scripts and dashboard outputs.



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6. Conclusion

The implementation of the dashboard has resulted in a reduction in error rates from over 200 per week to under 100. It has also highlighted areas for improvement and has allowed the department to enhance the training program

7. References

[1] World health organization, ICD-10.available:<https://www.who.int/home/search-results?indexCatalogue=genericsearchindex1>. [Accessed 25th July 2024].