

Project Title

Improving Clinical Documentation & DRG Coding Accuracy

Project Lead and Members

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Organisation(s) Involved

Ng Teng Fong General Hospital, Jurong Community Hospital

Healthcare Family Group(s) Involved in this Project

Medical, Allied Health, Healthcare Administration

Applicable Specialty or Discipline

Medical Records Office, Medical Informatics, Finance, Epidemiology, Quality, Innovation & Improvement

Project Period

Start date: Mar 2018

Completed date: Mar 2021

Aims

To understand the reason for our low CMI and to mitigate the problem(s) in order to improve our hospital's CMI to 1.32 (on par with hospitals with similar inpatient complexity).



Background

See poster appended / below

Methods

See poster appended / below

Results

See poster appended / below

Lessons Learnt

With the experience gained from the project, the DRG coding project learnings will also be shared across the cluster to help NUH and AH through the change in processes when they move onto the NGEMR system

Conclusion

See poster appended / below

Project Category

Care & Process Redesign, Quality Improvement, Job Effectiveness, Value Based Care, Functional Outcome

Keywords

Clinical Documentation, Casemix Index, Coding Accuracy, Knowledge Sharing

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[Restricted, Non-sensitive]

IMPROVING CLINICAL DOCUMENTATION & DRG CODING ACCURACY



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A. Define Problem, Set Aim

Opportunity for Improvement

In 2017, NTFGH's inpatient casemix index (CMI) of 1.05 was the lowest among all public hospitals in Singapore (Figure 1). However, taking reference from other acute hospitals with similar inpatient complexity (Hospitals A & B), our hospital's CMI should be about 1.32.

Inpatient CMI of Public Hospitals in Singapore (2017)

B. Analyse Problem

2 pilot studies were conducted where cases with high cost but low costweights were reviewed by doctors and clinical coders. 10%-40% of these cases had incomplete or unclear discharge summaries, and had lower cost-weight DRG codes. Improving clinical documentation of these cases led to 3%-60% increase in cost-weight. Based on the findings from the retrospective case reviews, the project team identified clinical documentation, coding accuracy and knowledge sharing as key problem areas that needed to be addressed.



Figure 1: Inpatient CMI of Public Hospitals in Singapore (2017)

Aim

To understand the reason for our low CMI and to mitigate the problem(s) in order to improve our hospital's CMI to 1.32 (on par with hospitals with similar inpatient complexity).

C. Implement & Spread Changes

The project team worked closely through department representatives to implement 5 key interventions for all departments to improve clinical documentation and accuracy in DRG coding overall for the hospital.



With the effective implementation of the interventions, a marked increase in average CMI from 1.16 (2018) to 1.55 (Jan-Mar2021) was achieved (Figure 2). This surpassed our initial target of 1.32 and is now in the same league as tertiary hospitals in Singapore (Figure 1: Hospitals C & D). Changes from the project have indirectly helped to improve patient care as we continue to see better clinical documentation which provides a more accurate representation of the complexity of inpatient cases being treated at our hospital. Corresponding increases in subvention were also observed.



Primary Drivers

Improve

Clinical

Documentation

Key Interventions

1. Problem list management

The doctors were coached to actively curate and update the problem lists. Automatic pulling of the problem lists to discharge summaries was enabled in our Electronic Medical Records (EMR) system.

2. Improve quality of discharge summaries

The co-signing of discharge summaries by senior doctors was made mandatory, and a dashboard was built in our EMR system to monitor compliance. A list of best practices for good clinical documentation was also compiled & shared with the doctors.

3. Clinical Coders code using lab values

Standing instructions were issued for clinical coders to interpret certain clinical conditions & code based on lab reference values (e.g. hyponatraemia, respiratory acidosis etc). This practice has led to 15% increase in cases coded with higher cost-weight DRG codes.

4. Real time ongoing reviews by Clinical Coders & Doctors

Figure 2: NTFGH CMI Trending (Jan 2018 to Mar 2021)

E. Learning Points

Key learning points

- Having a multi-disciplinary project team comprising members who are familiar with different aspects of the system was essential in our ability to identify and effectively implement interventions
- Systems level changes (e.g. process, IT) are necessary for improvement to be self-sustaining

NTFGH's inpatient CMI and subvention is indicative of care provided

Ensure

Aim

Accurate DRG Coding

Knowledge Sharing

Clinical Coders flag cases with unclear documentation to doctors for review. Timeliness of reviews was included as clinical departments' team bonus key performance indicator (KPI).

5. Department performance monitoring & reference guide

A clinical documentation resource toolkit, and an automated CMI trend report were developed to share good practices with the clinicians and ensure interventions are sustained by the departments.

With the experience gained from the project, the DRG coding project learnings will also be shared across the cluster to help NUH and AH through the change in processes when they move onto the NGEMR system

Acknowledgements:

CEO; CFO; COO; VCMB (CRM&CQ); Snr Dir Allied Health; All inpatient doctors Departments of Medicine, Orthopaedics, General Surgery; Casemix Section, Medical Records Office; Medical Informatics; Finance; Epidemiology; Quality, Innovation & Improvement

