

CHI Learning & Development System (CHILD)

Project Title

Improving Orthopaedic Inpatient Casemix Index

Project Lead and Members

Project lead: Asst Prof Aravind Kumar

Project members: Fione Gun, Cynthia Xu, Jennie Sun, Flavian Li, Adj A/Prof Fareed Kagda

Organisation(s) Involved

Ng Teng Fong General Hospital

Healthcare Family Group Involved in this Project

Medical, Healthcare Administration

Applicable Specialty or Discipline

Orthopaedics, Clinical Operations, Medical Record Office, Finance

Project Period

Start date: 2017

Completed date: 2018

Aims

To benchmark the inpatient Casemix Index (CMI) of NTFGH Department of Orthopadics with comparable Orthopaedic department of another hospital. To potentially further improve the department CMI, and eventually contributes to the overall growth of NTFGH's inpatient CMI.

Background

See poster attached/ below

Methods

See poster attached/ below

CHI Learning & Development System (CHILD)

Results

See poster attached/ below

Lessons Learnt

It is important that the inpatient journey starts with accurate posting of diagnosis from

clinic visits and operating notes. This requires accurately communication of diagnosis

by senior staff. Clear instructions, timely case reviews and performance measurements,

strong leadership from department HOD, participation from the team as well as good

stakeholder support are key to the success of the department casemix index

improvement project.

Conclusion

See poster attached/ below

Project Category

Care & Process Redesign, Quality Improvement, Value Based Care

Keywords

Inpatient Casemix Index, Clinical Documentation

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IMPROVING ORTHOPAEDIC INPATIENT CASEMIX INDEX

MEMBERS: ASST PROF ARAVIND KUMAR (CLINICIAN LEAD), FIONE GUN, CYNTHIA XU, JENNIE SUN, FLAVIAN LI, ADJ A/PROF FAREED KAGDA (SPONSOR)

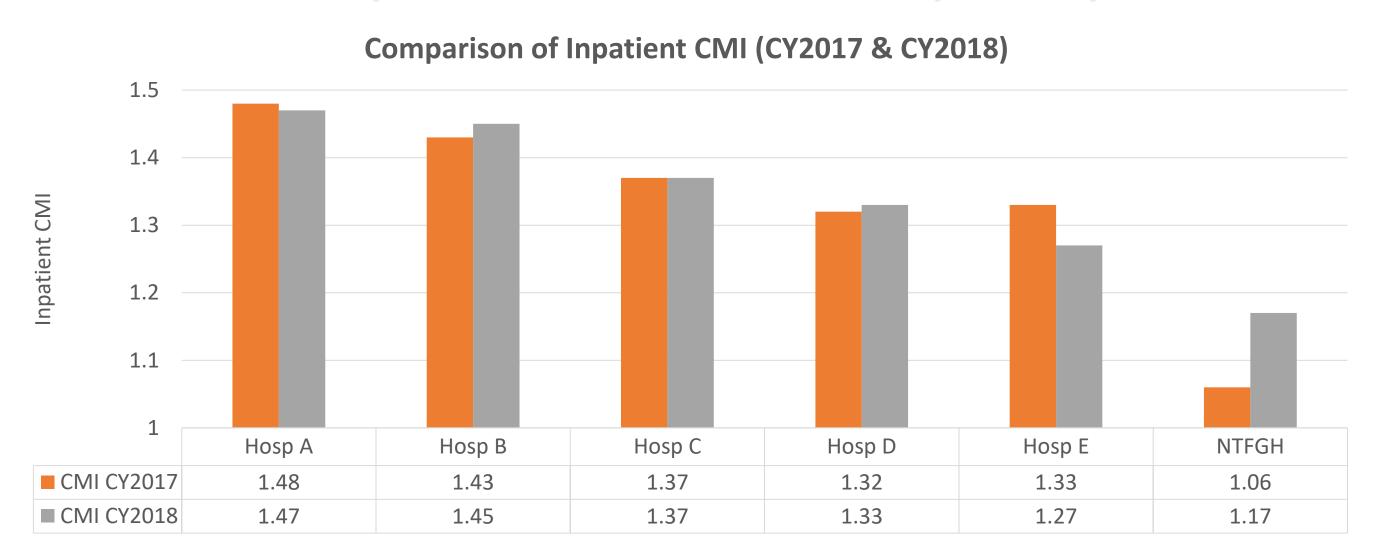


Define Problem/Set Aim

Opportunity for Improvement

Casemix Index (CMI) is the cost weight per admission episode. It is a measure of the subvention that the hospital receives per patient treatment episode.

NTFGH's inpatient casemix index at 1.06 and 1.17 were the lowest among the restructured hospital in CY2017 & CY2018 respectively.



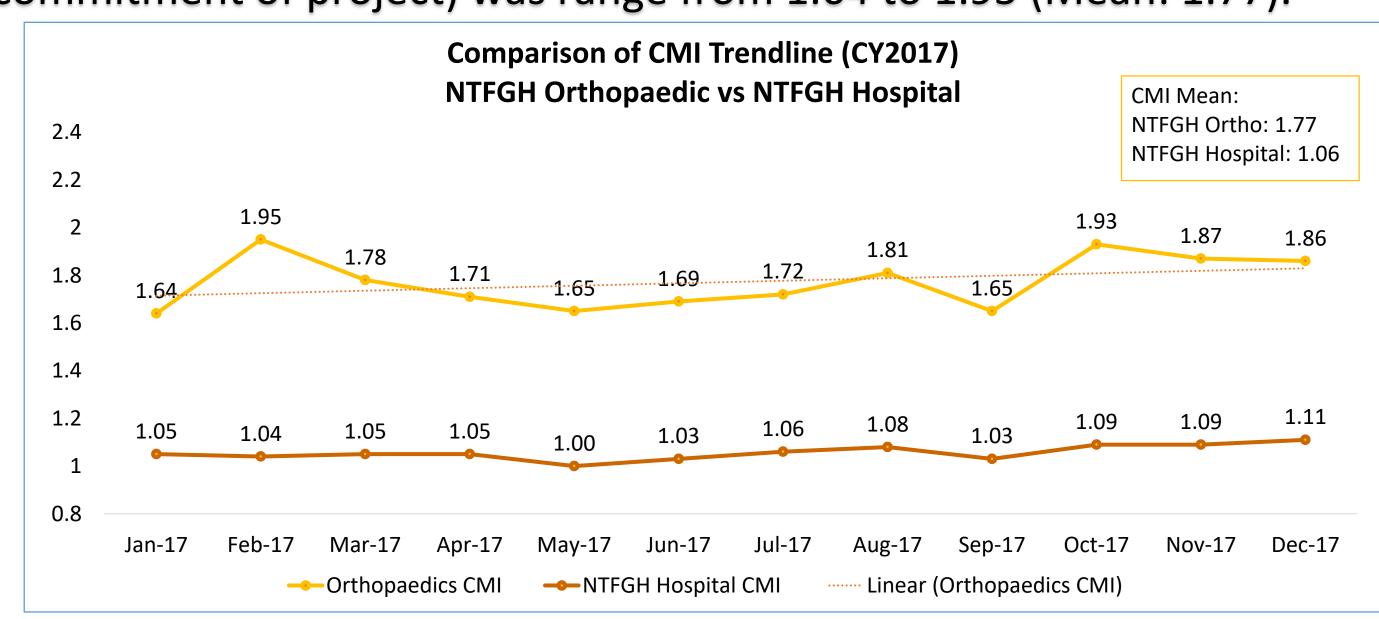
Aim

- To benchmark the inpatient CMI of NTFGH Department of Orthopadics with comparable Orthopaedic department of another hospital.
- To potentially further improve the department CMI, and eventually contributes to the overall growth of NTFGH's inpatient CMI.

Establish Measures

Baseline Performance

The Orthopaedic Inpatient Casemix Index in CY2017 (12 months before commitment of project) was range from 1.64 to 1.95 (Mean: 1.77).



Analyse Problem

Current Process

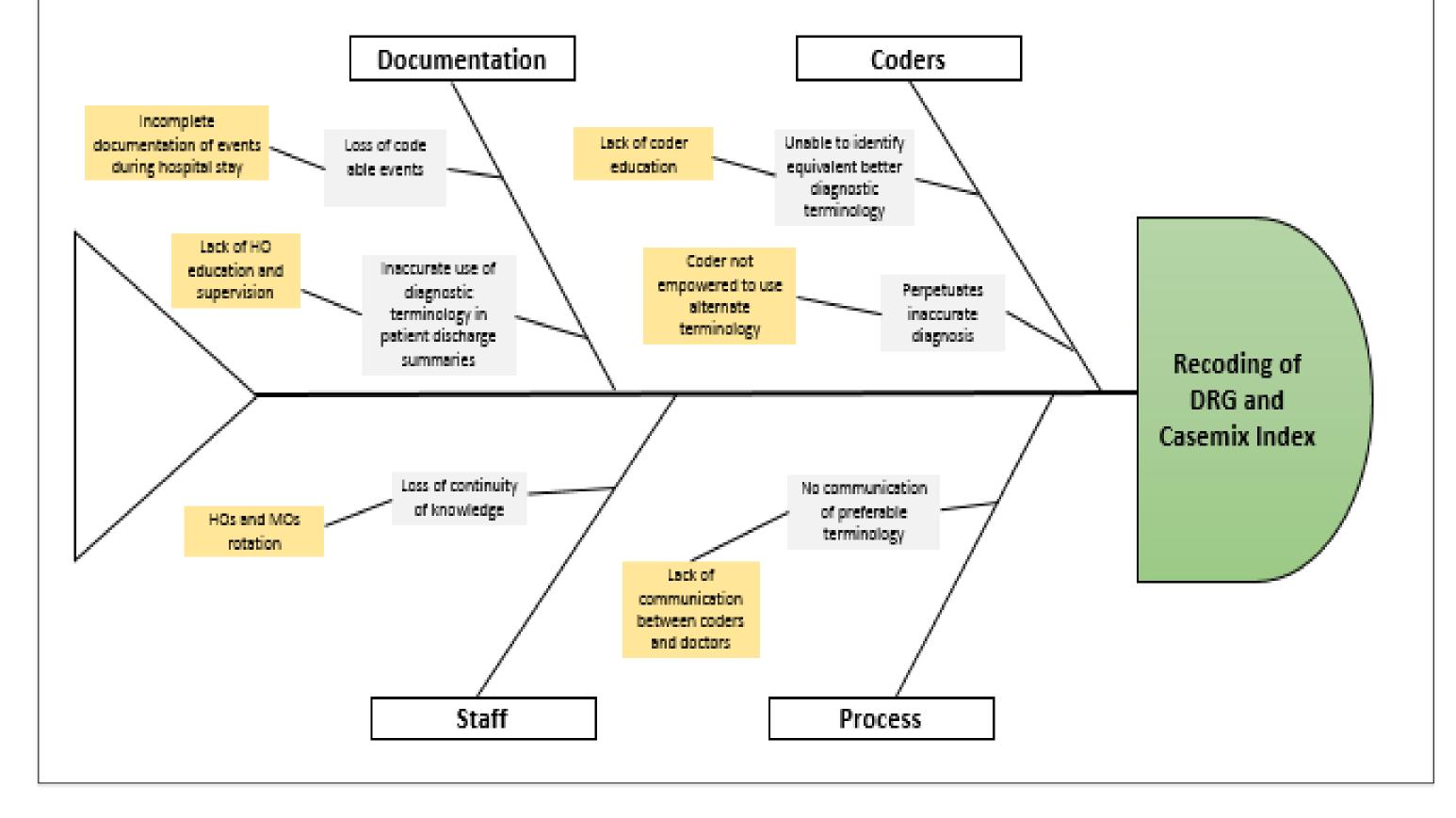
After patient discharge, the case flows to MRO Coder

Coder review clinical notes, discharge summary and problem list

Coder inputs
diagnoses and
interventions into
3M software to
generate DRG and
export it to SAP

Finance submit data to MOH for hospital subvention

Root Cause Analysis



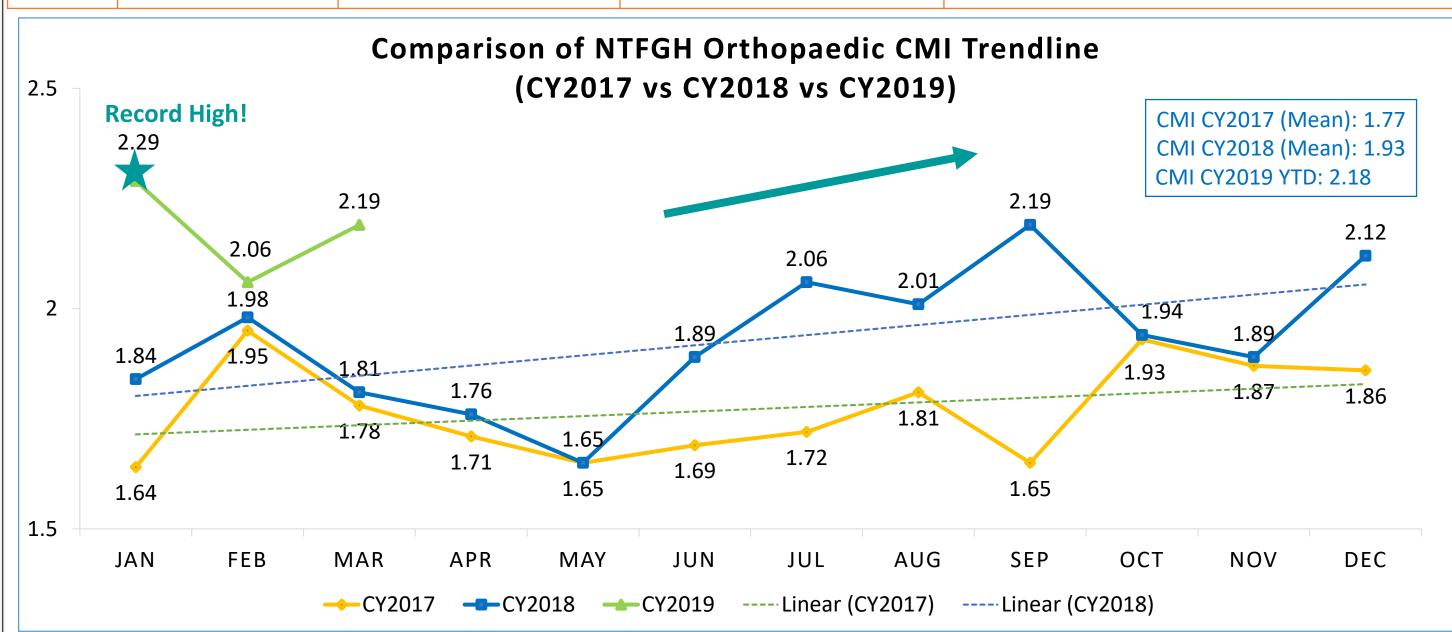
Select Changes

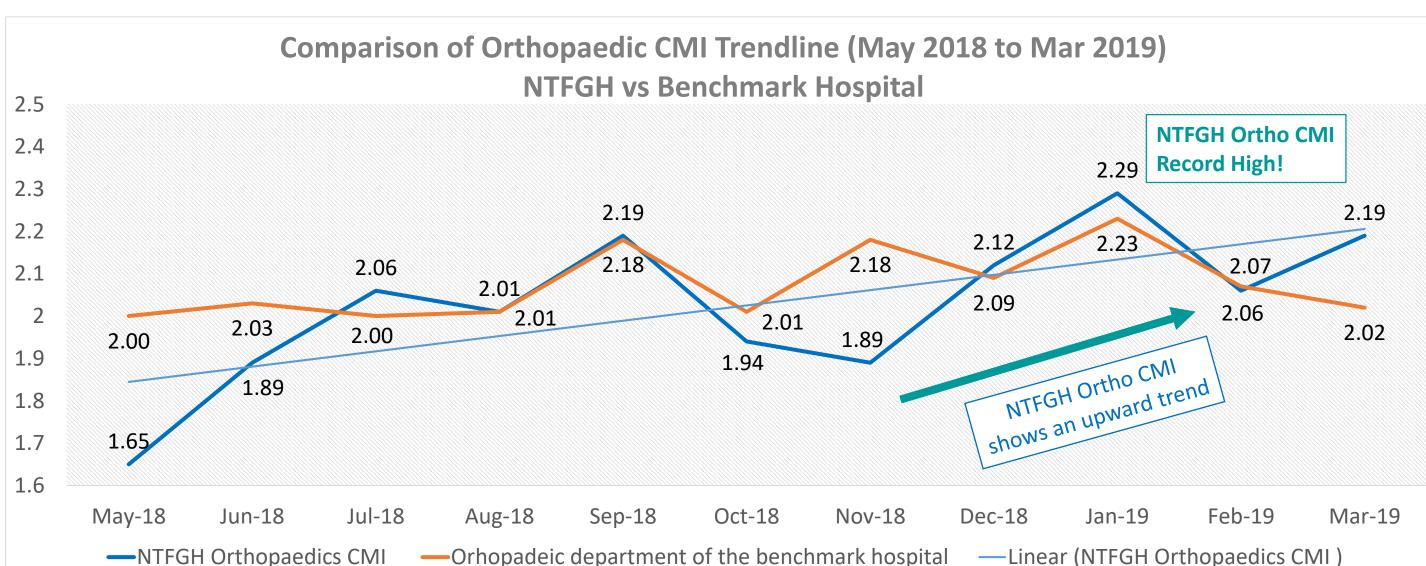
Probable	e So	<u>lutions</u>

Flobable Solutions								
Root Cause	Solution							
No communication on the preferable terminology used	Continuous improvement of clinical documentation and DRG coding through							
Coders are unable to identify equivalent better diagnostic terminology	regular case reviews.							
Inaccurate use of diagnostic terminology in clinical documentation	Emphasising on "Co-sign by Specialist" and sharing of guidelines for clinical documentation at the department level.							
Loss of continuity of knowledge due to HO and MO rotation	Continuous education of HOs and MOs							

Test & Implement Changes

Cycle	Plan	Do	Study	Act	
1	Retrospective review of Inpatient DRG coding exercises in CY2018.	A clinician lead was assigned to review 107 cases together with MRO, Finance and Clinical Operations.	14 (13.1%) cases were re-coded to higher acuity DRGs (an estimated subvention of \$66k).	Clinical documentation guidelines were shared with the department (hard copy are placed at the Orhopaedic Ward Office.	Section 1. The section of the sectio
2	Conducted the same exercise in Q1CY2019	8 cases with high cost and low cost weight were selected for review	2 (25%) complex cases were re- coded to higher acuity DRGs (an estimated subvention of \$12k.	Department of Orthopaedics has taken the proactive approach for on-going case review instead of retrospective exercise with effective from July 2019.	





Spread Change/Learning Points

Spread Change

- 1. Continuous improvement in clinical documentation and DRGs coding.
- 2. Educate all staff on importance of recording diagnoses and interventions, including surgeries accurately.

Learning Points

- 1. It is important that the process starts at the start of patient journey with accurate posting of diagnosis from clinic visits and operating notes.
- 2. Diagnosis needs to be accurately communicated by senior staff.
- 3. Clear instructions, timely reviewing of cases and performance measurement, strong leadership from department HOD, enthusiastic participation from Orthopaedic team, and good support from stakeholders such as MRO, Finance & Clinical Operations are key contributing factors to success of the department casemix index improvement project.

Ng Teng Fong General Hospital
Jurong Community Hospital
Jurong Medical Centre