



DEVELOPMENT OF ORAL HEALTH CASEMIX SYSTEM (OHCS)

An Innovation for Quality and Efficiency of Oral Health Care Services in Malaysia



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Oral Health Casemix System

PROJECT COLLABORATION



INTRODUCTION

It is a Patient Classification System specifically for oral health care delivery system.

FUNCTION

To classify patients with common clinical attributes and similar resources use into clinically meaningful groups.

- ❖ Diagnosis Related Groups (DRG).

1st. Phase

Development of Beta version OHCS

- Data Collection of Oral Health Cases
- Retrospective data-mining of dental inpatients and outpatient care records (January 2011 - December 2016)from both Hospital USM & UKM .
 - Basic Minimum Data Set For Casemix System
 - Involved 13 variables:
 - ✓ Patient-level data collection for the development of OHCS.
 - ✓ Resource utilization data at USM & UKM.
 - Analysis
 - ✓ Patient-level data to ensure the patient's demographic and clinical profiles.
 - Costing of major component of Casemix System
 - ✓ to develop cost-weights and to calculate major parameters of Casemix such as Casemix Index, hospital base-rates and Casemix based tariff.

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Result

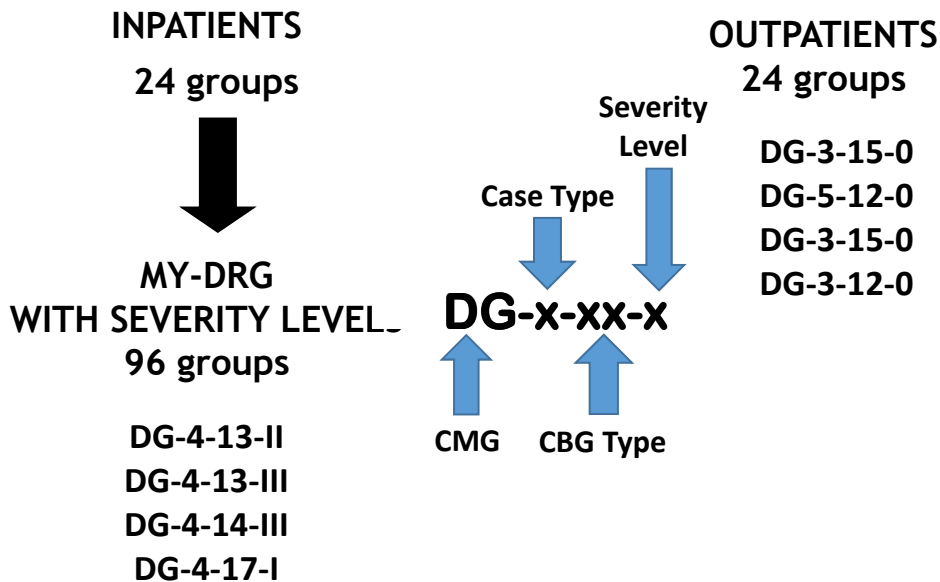
1st Phase

Top 10 MY-DRG (with severity level)

No.	MY-DRG	DESCRIPTION	N
1	DG-3-09-0	DENTAL OPERATIONS	16,376
2	DG-5-01-0	AMBULATORY VISIT FOR DENTAL CONDITION	7,333
3	DG-3-05-0	OTHER EAR NOSE MOUTH & THROAT DIAGNOSTIC INVESTIGATIONS	2,859
4	DG-4-08-I	ORAL & DENTAL DISORDERS - Mild	698
5	DG-3-09-0	AMBULATORY VISIT FOR OTHER CHRONIC MINOR ORO MAXILLO FACIAL DISEASES	466
6	DG-5-05-0	AMBULATORY VISIT FOR OTHER ACUTE MINOR ORO MAXILLO FACIAL DISORDER	115
7	DG-3-02-0	OTHER MINOR EAR NOSE MOUTH & THROAT OPERATIONS	70
8	DG-2-05-0	MINOR MOUTH & TONGUE OPERATIONS	43
9	DG-4-08-II	ORAL & DENTAL DISORDERS - Moderate	41
10	DG-1-08-I	MOUTH OPERATIONS - Minor	22

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Dental MY-DRG Group



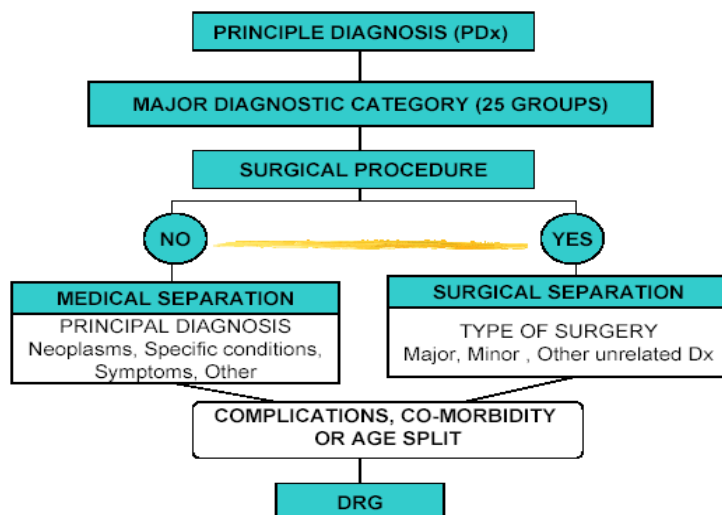
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2nd Phase

Oral Health Casemix System (OHCS) Software Development

- ❖ To develop the Beta-version of OHCS Software.
- ❖ Continuity & further improvement from the 1st. Phase OHCS Project.
- ❖ Based on MY-DRG Grouper logic system

DRG Decision Tree



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Objective

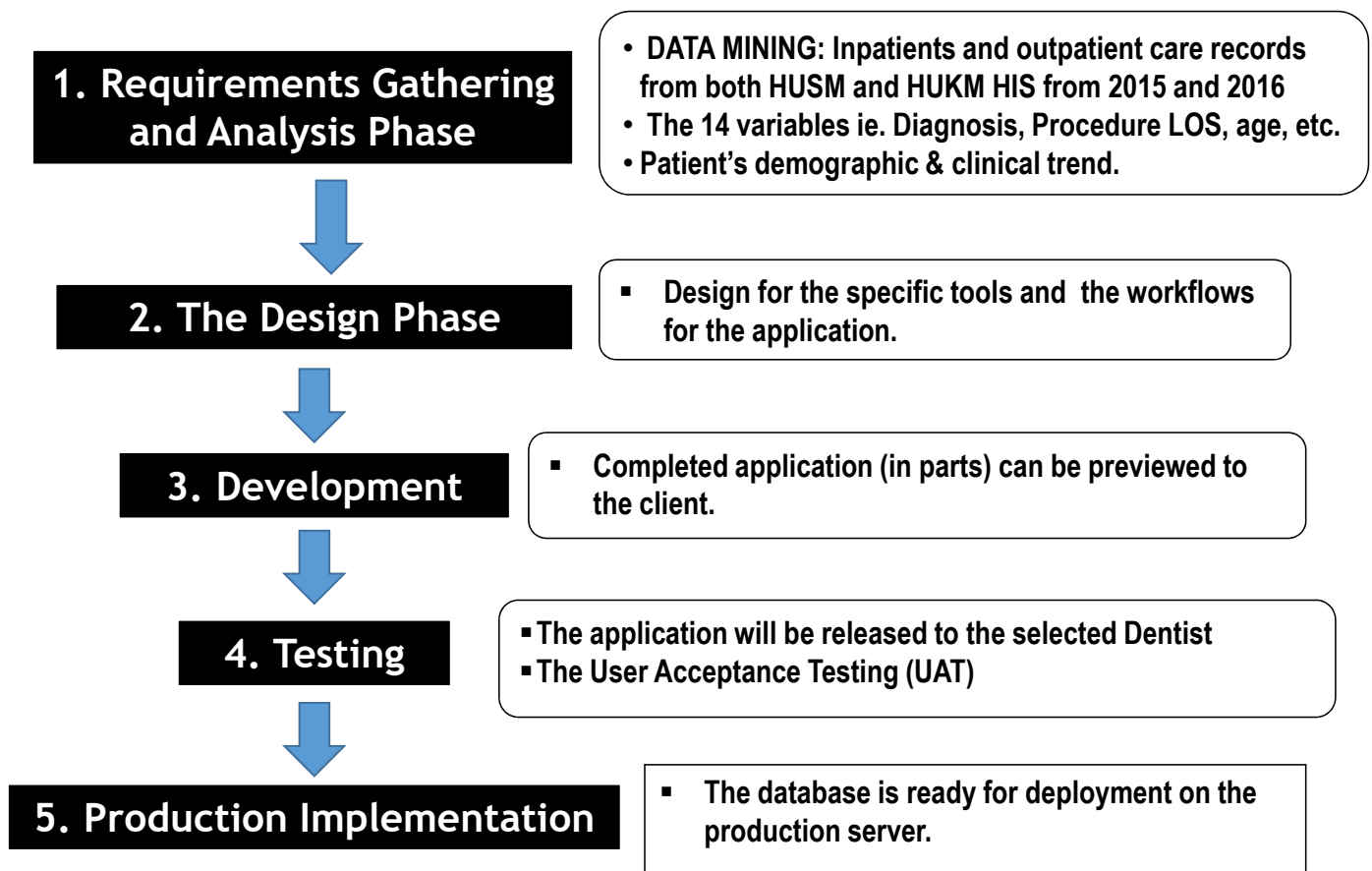
2nd Phase



1. Data Tool Pro software as simulator and auditing tool for OHCS.
2. Code Assist software as a data collection tool under Casemix assignment.
3. Grouper software that can be utilized to group oral health care patient
4. Clinical Costing Modelling software as a calculation tool for CBG cost weight, Casemix Index, hospital base rate and hospital tariff.
5. To piloting the those softwares at Hospital USM and UKMMC.

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Software Development Life Cycle (SDLC) Process



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Result: 2nd Phase

The OHCS Tools



Code Assist

Assigning clinical & procedure codes to each patient.



MY-DRG Grouper

Grouping the patient into homogenous group (DRG)

Similar clinical criteria & resources use to treat the them



Clinical Costing Modelling (CCM)

Calculating the the hospital tariff



Oral Health Casemix System

THE USEFULNESS OF OHCS

Improve Efficiency & Increase quality

Cost Savings for dental care provision.

- ❖ Save at least 20% of the annual hospital operational cost ±RM 80million or USD 27 million per year.
- ❖ Reduce wastages.
- ❖ Enhance efficiency.



Intelligent Data

- ❖ Better Decision Making
- ❖ Support Benchmarking



Provide a quality oral health care services.

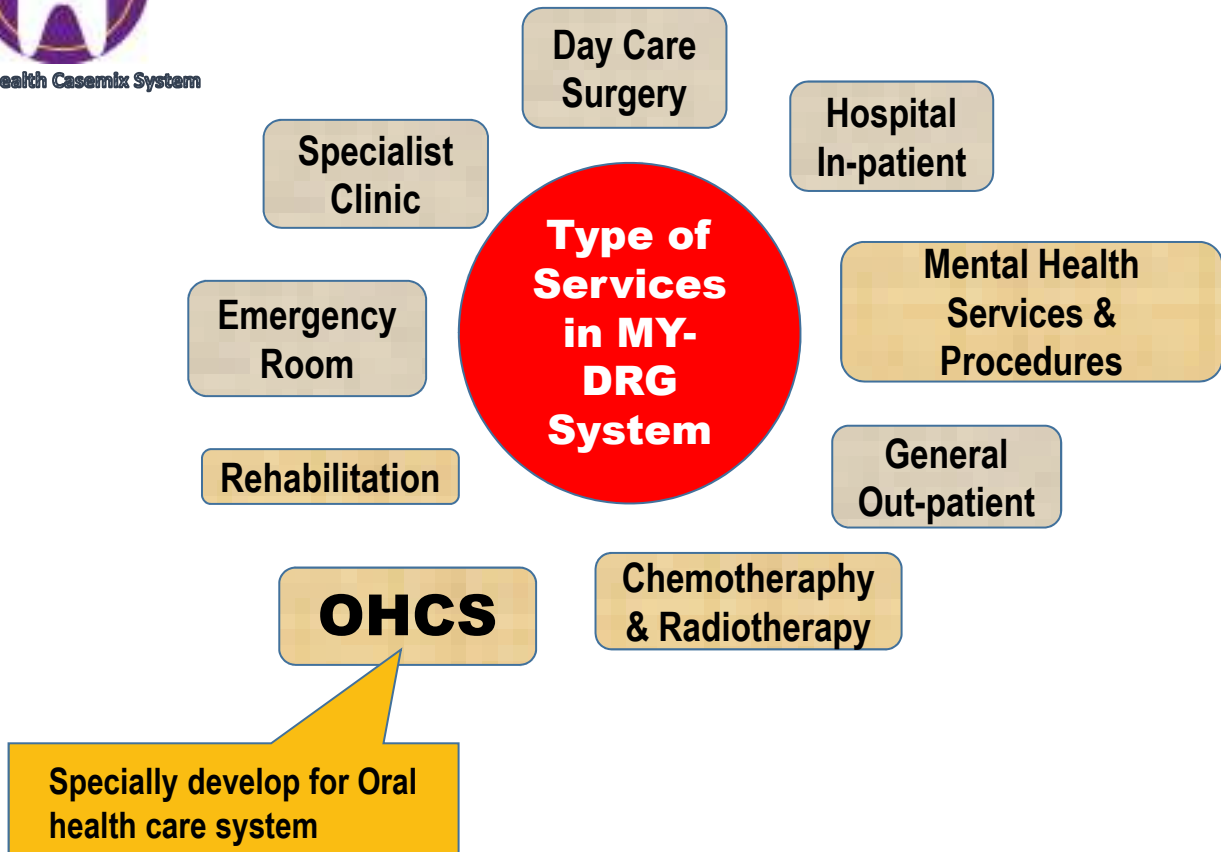
- ❖ Improve patient documentation.
- ❖ Improve efficiency of oral health care services
- ❖ Improve quality of inpatient Coded Data





Oral Health Casemix System

MY-DRG Grouper



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PIONEER FOR MY-DRG TARIFF



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Oral Health Casemix System

INTELLECTUAL PROPERTY STATUS

Receipt number: RST/PNG-000296-2019
Date: 7 February 2019



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INVAKSI CIKRAF DIPERMUDAHKAN



RESIT RASMI

NO	QTY	AMOUNT
100073	100000	100000
100074	100000	100000
100075	100000	100000
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100086	100000	100000
100087	100000	100000
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KNOWLEDGE MANAGEMENT

APEX INITIATIVE GRANT 2015

UMM ONLINE

SCHOOL OF HEALTH SCIENCES OFFICIAL WEB PORTAL

USM, UHM cipta sistem peragaan

USM telah melaksanakan penggantian Sistem Database dan Sistem Perisian... (Text describing the system replacement project)

... (Additional text and images related to the grant and university activities)



Organized an International Case Conference 2015

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Presentations & Publication

7TH International Casemix Conference 2015.

Publication in BMC 2012

USM National Nursing Conference 2017.



Oral Health Casemix System

Oral Health Casemix System Launching 4 August 2018



14710/2018
REKLAMASI USM - USM HASILKAN MODEL SISTEM (SALURAN) RES KESEHATAN
PERTAMA DI DUNIA

CHELAN, KUALA LUMPUR, 8 Jula 2018 - Sangat dengan usaha untuk meningkatkan kesihatan
oral, universiti penyedia alat pernafas insurasi berkesan, penyedia perkhidmatan Persekitaran
Kualiti (PPQR) Kemajuan Kesihatan, Universiti Sains Malaysia (USM) dan penyedia perkhidmatan
Hospital Casemix Tuanku Muhiyah (HCTM) telah mengambil langkah untuk menggabungkan kekuatan
masing-masing dalam melaksanakan satu projek perkhidmatan bersekolah yang bertujuan mempromosikan
perkhidmatan untuk pengurusan kesihatan gigi yang akan datang Sistem Saluran Kesihatan
Penggunaan (Oral Health Casemix System).



Menurut Ketua Projek, Dr. Rosminah Mohamed, konsep dalam ini adalah untuk menyediakan proses
pengaliran pesakit yang sama mengikut jenis kesertaan dengan menggunakan pesakit
sebagai teras kepada satu sistem diagnosis yang sama untuk semua klinikal berdasarkan nombor
yang sama dalam kesertaan yang diberikan.

"Perancangan dalam ini mengambil masa selama lima tahun untuk melaksanakan pengiraan data
pesakit pesakit dengan Hospital USM dan HCTM di analisis untuk pengiraan pesakit
dalam kesertaan MY-DRG-Oral."

"Salah satu pengiraan akan dilaksanakan secara automatik untuk setiap pesakit yang diberikan
dan melalui pengiraan ini, tarif pesakit pengiraan untuk setiap pesakit di Hospital USM dan
HCTM akan diberikan dengan mudah", jelasnya.

Ini, hanya Hospital USM dan HCTM yang melaksanakan pengiraan sistem
ini yang pertama di dunia melibatkan pesakit dalam bilik pengiraan.

Salah satu kelebihan Persekitaran ini dapat dibuktikan bukan sahaja oleh orang awam
tapi ramai-ramai pesakit yang telah baik tetapi juga mampu menjadi teras untuk
satu pengiraan nombor dan kesertaan pesakit untuk setiap pesakit.

Program ini telah disempurnakan oleh Himpunan Kesihatan, Dr. Scullyly Ahmad. Yang
menjadi seorang ahli Timbalan Naib-Casemix (NAC) Sistem Kesihatan dan
NAC Persekitaran (NAC) Dr. Mohd Marzuki Mustafa, Presiden Masyarakat Health Economics
dan Dr. Syed Mohd Ali Jamal, Ketua Persekitaran Sistem Pengiraan (PPQR)

dan mewakili Naib-Casemix USM, Persekitaran Dr. Ahdan Hasmid serta pegawai-pegawai
Persekitaran / Timbalan Rosminah Mohamed.

CONCLUSION

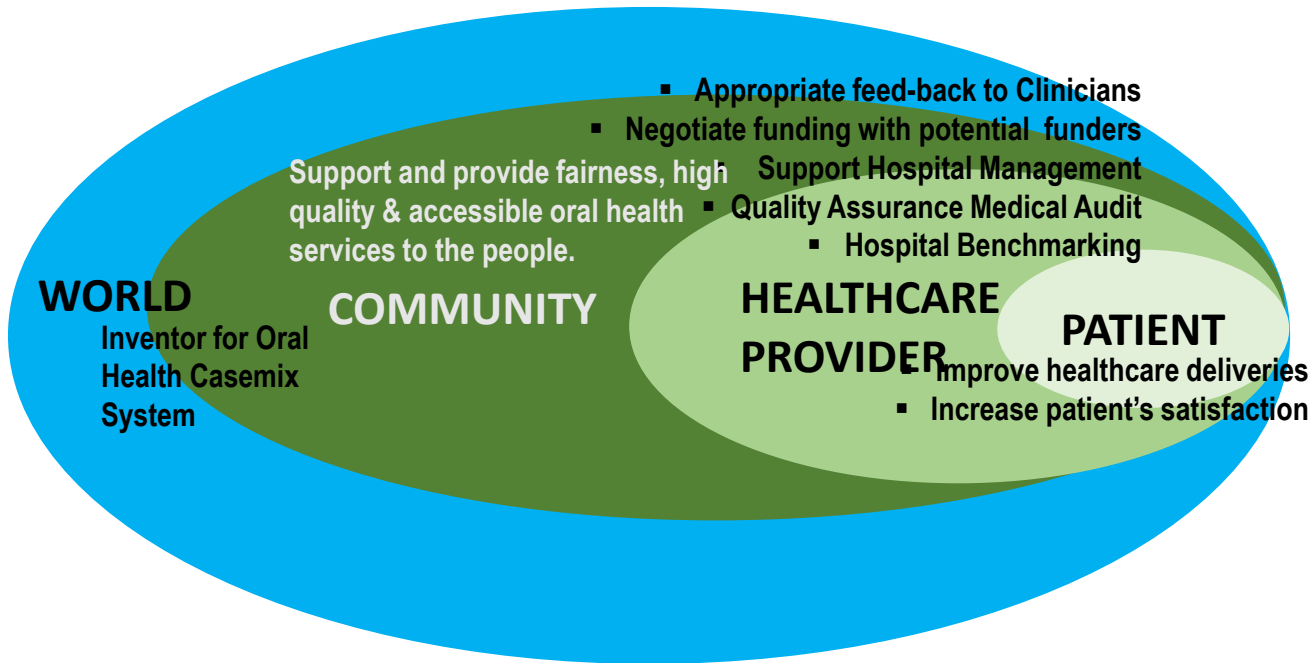
- Oral Health Casemix system is a powerful hospital management tool to enhance efficiency and quality of oral health care.
- MY-DRG is a Casemix system based on UNU-CBG customized for oral health care at Hospital USM and HTMUKM..



- Implementation of OHCS in Hospital USM has shown positive impact on the enhancement in efficiency and quality of care.
- Development of OHCS is a brilliant step-forward in the Casemix System invention.

BENEFITS

OHCS Development



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TEAM MEMBER



Oral Health Casemix System



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Thank You *Mahalo*
Tack **Kiitos**
Grazie **Thanks**
Takk **Gracias** **Merci**

..... for your attention

Project Leader

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