

# CASEMIX PERFORMANCE IN HTP



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Clinical Case mix Coordinator

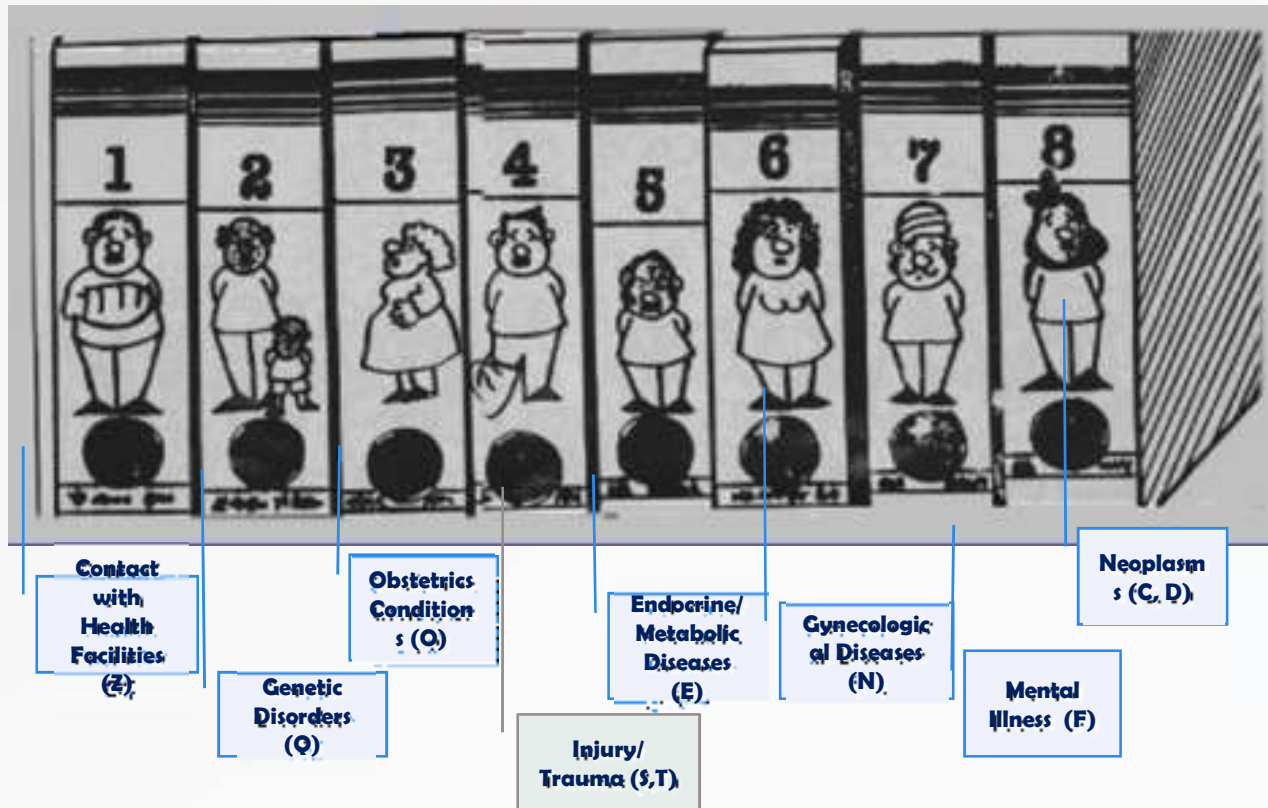
**Langkah 1 KKM:**

Pengkelasan pesakit

- Perincian aktiviti kewangan hospital berdasarkan penyakit dan prosedur

## **Definition of casemix**

# Ways of grouping / classifying hospital outcomes





Main condition :  
Normal Delivery **WITHOUT** Complication



Main condition :  
Normal Delivery **WITH MINOR** Complication

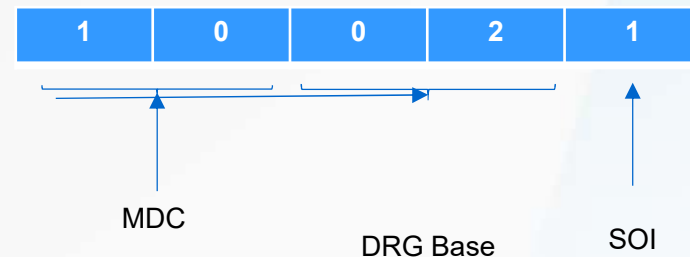


Main condition :  
Normal Delivery **WITH MAJOR** Complication

**CASEMIX**  
**CLASS/GROUP**  
**∞ CLINICAL**  
**CHARACTER (DRG);**  
**\$ CONSUMED**

# Diagnosis Related Group (DRG)

- Major Diagnostic Category (MDC)
  - 23 Main Groups
- DRG Bases
  - Inpatient : 273
- **Severity Of Illness (SOI)**
  - 1 : Without Co-morbidity & Complication (W/O CC)
  - 2 : With Co-morbidity & Complication (W CC)
  - 3 : With Major Co-morbidity & Complication (W MCC)
- Total Inpatient DRG
  - 819



# SUMMARY OF FRAMEWORK : Malay\$ian DRG

PATIENTS classification

TOP-DOWN COSTING

INPUT 1



OUTPUT



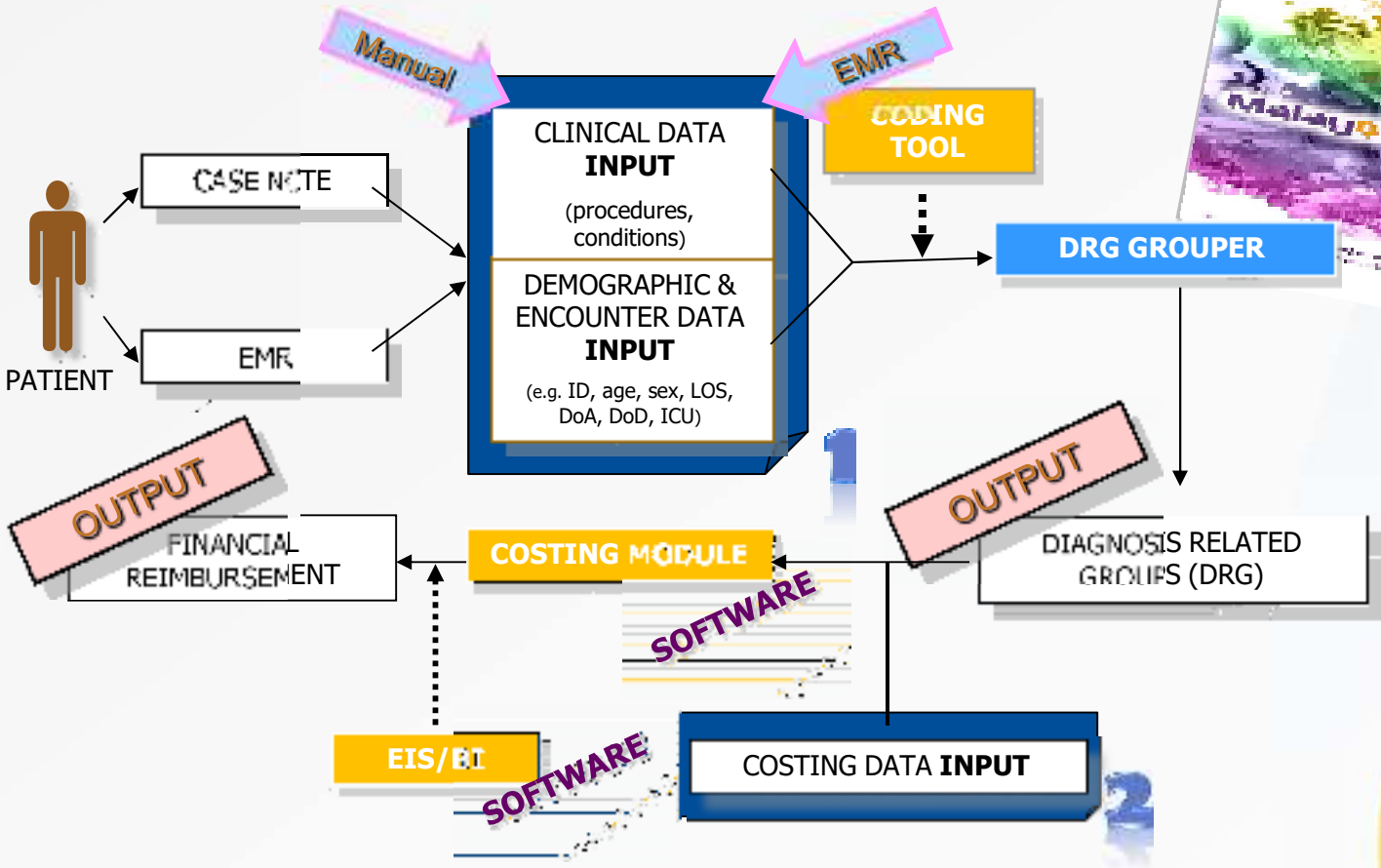
DIAGNOSIS RELATED GROUPS  
- SEVERITY OF ILLNESS 1

DIAGNOSIS RELATED GROUPS  
- SEVERITY OF ILLNESS 3

INPUT 2



# Malaysian DRG application WORK FLOW





# Malaysian DRG DECISION TREE



✓ MAIN CONDITION (ICD-10: 30,000<sup>1</sup>)

<sup>1</sup>MAJOR DIAGNOSTIC CATEGORIES (MDC: 23 GROUPS)

✓ SURGICAL PROCEDURE (ICD-9-CM: 3,900<sup>2</sup>)

NO

YES

<sup>2</sup>MEDICAL SPLIT

MAIN CONDITION

Neoplasms, Specific Conditions  
Symptoms, Others

<sup>2</sup>SURGICAL SPLIT

MAIN PROCEDURE

Major or Minor Surgical Procedure



COMPLICATIONS, CO-MORBIDITIES, MULTIPLE PROCEDURES, ICU STAY, <sup>3</sup>AGE SPLIT

## OBJECTIVES casemix

- TO BUILD USEFUL *CLASSIFICATIONS OF PATIENTS CARE EPISODES*

THESE CLASSIFICATIONS SUBSEQUENTLY BE USED IN THE MANAGEMENT OF HEALTH CARE

- **COSTING** – ALLOCATION OF HEALTHCARE RESOURCES
- **QUALITY IMPROVEMENT** – MAINTAIN QUALITY OF CARE
- White Paper KKM Planning:

**HEALTH INFORMATION MANAGEMENT SYSTEM**



## HEALTH FACTS 2012

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Health Services Department

### 10 Principal Causes of Hospitalisation in MoH Hospitals, 2011

1. Pregnancy, childbirth and the puerperium	25.94%
2. Diseases of the respiratory system	10.36%
3. Injury, poisoning and certain other consequences of external causes	8.98%
4. Certain conditions originating in the perinatal period	7.67%
Diseases of the circulatory system	7.38%
Certain infectious and parasitic diseases	6.86%
Diseases of the digestive system	5.02%
Diseases of the genitourinary system	4.82%
Factors influencing health status and contact with health services	3.57%
Endocrine, nutritional & metabolic diseases	3.32%

### 10 Principal Causes of Death in MoH Hospitals, 2011

Diseases of the circulatory system	25.64%
Diseases of the respiratory system	19.48%
Certain infectious and parasitic diseases	17.02%
Neoplasms	11.12%
Diseases of the digestive system	5.18%
Injury, poisoning and certain other consequences of external causes	5.03%
7. Diseases of the genitourinary system	4.40%
8. Certain conditions originating in the perinatal period	3.74%
9. Endocrine, nutritional & metabolic diseases	1.88%
10. Diseases of the nervous system	1.77%

Note : Based on actual 3 digit code grouping, ICD10

### Ten Principal Causes of Hospitalisation in MoH Hospital, 2012

1. Pregnancy, childbirth and the puerperium	27.32%
2. Diseases of the respiratory system	11.02%
3. Injury, poisoning and certain other consequences of external causes	8.22%
4. Diseases of the circulatory system	7.55%
5. Certain conditions originating in the perinatal period	7.55%
6. Certain infectious and parasitic diseases	6.81%
7. Diseases of the digestive system	4.81%
8. Diseases of the genitourinary system	4.41%
9. Factors influencing health status and contact with health services	3.61%
10. Neoplasms	3.31%

### Ten Principal Causes of Death in MoH Hospital 2012

1. Diseases of the circulatory system	24.69%
2. Diseases of the respiratory system	18.80%
3. Certain infectious and parasitic diseases	17.17%
4. Neoplasms	11.64%
5. Injury, poisoning and certain other consequences of external causes	5.31%
6. Diseases of the digestive system	5.07%
7. Diseases of the genitourinary system	4.18%
8. Certain conditions originating in the perinatal period	3.43%
9. Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	1.87%
10. Diseases of the nervous system	1.75%

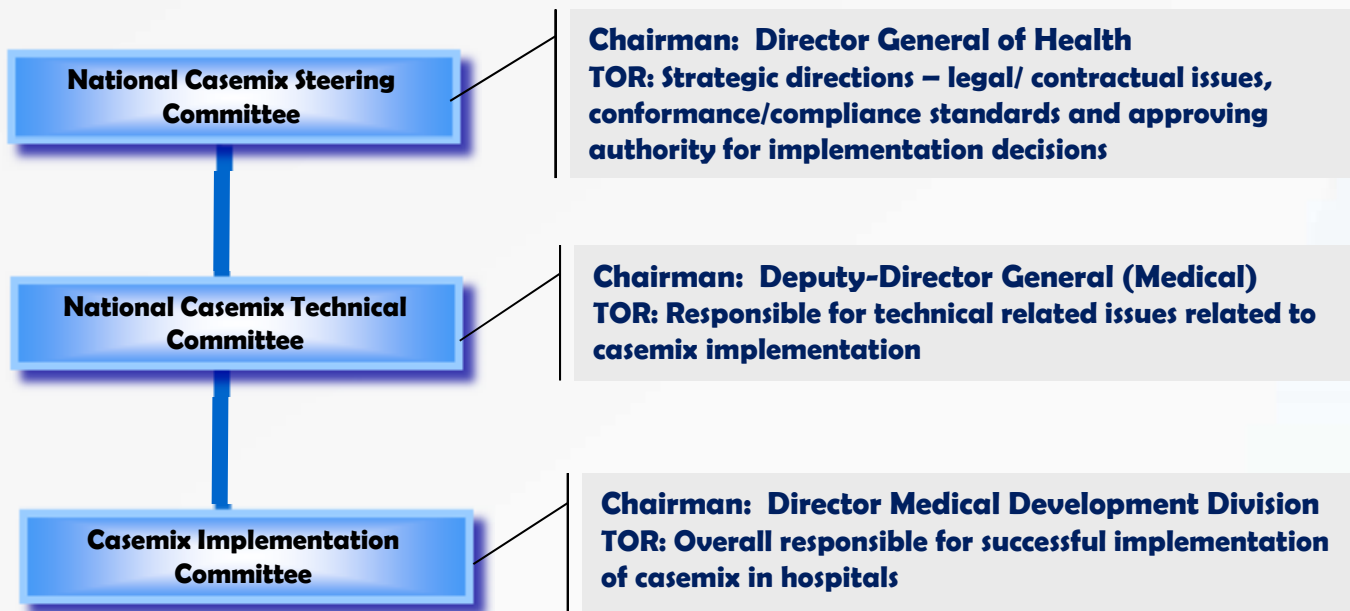
Note: Based on 3 digit code grouping ICD10.



## HEALTH FACTS 2013

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Health Services Department  
කොළඹ 10, ශ්‍රී ලංකාව  
Colombo 10, Sri Lanka

# GOVERNANCE KKM



HTP telah bermula dengan system casemix sejak **Oktober 2018** . Sistem ini hanya tertumpu kepada **Data pesakit Dalam** sahaja.

**SISTEM MAALIHAT PENGURUSAN KESEHATAN  
KEMENTERIAN KESEHATAN MALAYSIA  
BOLANG DAFTAR MASUK DAN KELUAR HOSPITAL**

MS/PH/001  
(Rev. 1/2004)

1. NAMA (SUKSES BERSI): MARI LEE Siew-ee		2. NOMBOR HOSPITAL: 1. NO. KOS: <input type="checkbox"/> 1A <input type="checkbox"/> 100A	
3. NOMBOR PENYAKIT:		3. NOMBOR PENYAKIT (KOD):	
4. ALY TERIMA:		4. ALY TERIMA:	
5. JENIS OPERASI:		5. JENIS OPERASI:	
6. FAKTOR RISIKO:		6. FAKTOR RISIKO:	

7. NAMA:					
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b

# BORANG PER-PD 301

1. Diagnosis utama perlu merujuk kepada diagnosis Morbidity sahaja

2. Sebab kematian dan sebab2 yang menyebabkan kematian untuk kes mortality sahaja.

3. Diagnosis-diagnosis yang lain (jika ada) untuk Morbidity

4. Faktor luaran yang menyebabkan kecederaan

6. Nama Pegawai Perubatan

8. Nama Pakar Perubatan (Verifier)

5. Senarai prosedur yang telah dijalankan ke atas pesakit

7. Tandatangan & cop Pegawai Perubatan

9. Tandatangan & cop Pakar Perubatan

# WHAT CAN IMPROVE SOI

- **1)Co-morbids**
  - Eg : Hypertension , arrhythmias (atrial flutter / fibrillation)
- **2)Complications :**
  - Shock
- **3)Malignancy**
  - Primary cancer +  $\geq 1$  metastases
- **4)Procedure**
  - Central line – long / short ( 38.93: central venous catheterization , ICD9CM), Bilateral tubal ligation ,  $\geq 1$  OT procedure (operations or others , eg endoscope).
- **5)ICU stays**
  - -duration !!! – SIGNIFICANT CHANGE FROM SOI 1 to SOI 3
  - -Ventilation in the ward vs in ICU. In terms of SOI , ICU stays has its own weightage. Regarding ventilation, has its own weightage invasive ventilation - brings its on weightage based on duration the clients requires the treatment, ( $\geq 96$ H will increase SOI.)



**DIAGNOSIS DOCUMENTATION  
FOR  
MORTALITY CASE**



27. <b>TUASNEKKA ATOROMORUS :</b> I. <b>KESEKIAN UTAMA</b> (Primary Cause Leading Directly To Death)	28. <b>NOMOR KOD</b>
II. <b>KESEKIAN (KAWATAN)</b> (Cause Of Injury)	
III. <b>KESEKIAN YANG MELUMBUKAN (UNDERLYING CAUSE)</b> (Cause of Accident Leading To Death) DUE TO OR AS A CONSEQUENCES OF	
IV. <b>KESEKIAN (KAWATAN) (KAWATAN) (KAWATAN)</b> (Cause of Accident Leading To Death) DUE TO OR AS A CONSEQUENCES OF	IV)
V. <b>KESEKIAN UTAMA</b>	
VI. <b>KESEKIAN MELUMBUKAN (KAWATAN)</b>	
VII. <b>KESEKIAN MELUMBUKAN (KAWATAN) (KAWATAN) (KAWATAN)</b> (Primary Causes Of Injury)	
VIII. <b>KESEKIAN MELUMBUKAN (KAWATAN) (KAWATAN) (KAWATAN) (KAWATAN) (KAWATAN) (KAWATAN) (KAWATAN) (KAWATAN)</b> (Primary Causes Of Injury)	VIII)

*All those diseases, morbid conditions or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced any such injuries (Column II)*

*(a) The disease or injury which initiated the train of morbid events leading directly to death, or  
 (b) the circumstances of the accident or violence which produced the fatal injury (Column III)*

	Cause of death	Approximate interval between onset and death
<p><b>I</b></p> <p>Disease or condition directly leading to death *</p> <p><b>Antecedent causes</b> Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last</p>	<p>(a) ..... <b>Traumatic shock</b> ..... due to (or as a consequence of)</p> <p>(b) ..... <b>Multiple fractures</b> ..... due to (or as a consequence of)</p> <p>(c) ..... <b>Pedestrian hit by truck (traffic accident)</b> ..... due to (or as a consequence of)</p> <p>(d) ..... due to (or as a consequence of)</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
<p><b>II</b></p> <p>Other significant conditions contribution to the death, but not related to the disease or condition causing it</p>	<p>.....</p> <p>.....</p>	<p>.....</p> <p>.....</p>
<p>* This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.</p>		

# Certain infection and parasitic diseases

## 1) GENERAL INFECTION

- TO SPECIFY THE CAUSATIVE AGENT
- TO MENTION CONDITION (I.E : MENINGITIS, ACUTE GASTROENTERITIS) OR SITE (PULMONARY TUBERCULOSIS)
- TO INCLUDE COMPLICATION WHERE NECESSARY

MAIN DIAGNOSIS	EXAMPLE 1 GROUP A STREPTOCOCCAL (CAUSATIVE AGENT) SEPTICEMIA (CONDITION)
	EXAMPLE 2 HIV (CAUSATIVE AGENT) DISEASE WITH CANDIDIASIS (COMPLICATION)
OTHER DIAGNOSIS	HYPERTENSION DIABETES MELLITUS
MAIN PROCEDURE/SURGERY	BLOOD CULTURE & SENSITIVITY

# NEOPLASMS

- SPECIFY PRIMARY OR SECONDARY SITE
- SPECIFY SITE OF ORGAN INVOLVED (I.E: MIDDLE LOBE OF THE RIGHT LUNG, RIGHT UPPER QUADRANT OF RIGHT BREAST)
- SPECIFY BEHAVIOUR (MALIGNANT, BENIGN)
- SPECIFY MORPHOLOGY (I.E : SQUAMOUS CELL CARCINOMA)
- SPECIFY METASTASIS

MAIN DIAGNOSIS	ADENOCARCINOMA (MORPHOLOGY/BEHAVIOUR) OF HEAD OF PANCREAS (SITE) WITH METASTASIS TO THE LIVER (METASTASIS)
CO-MORBID	CHRONIC PANCREATITIS
OTHER DIAGNOSIS	TYPE II DIABETES MELLITUS

# COMPONENTS OF CASEMIX

## 1) PATIENT'S CLINICAL CLASSIFICATION

- Coding for diagnoses
- Coding for procedures

## 2) Costing

# Work process at HTP

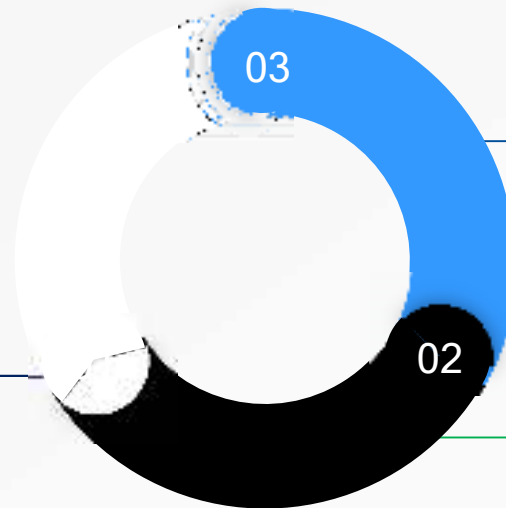


## SYSTEM SMRP

1) MANUAL – PD 301

2) Borang PER-PD 301 dan borang audit manual, signed by second/ senior MO

3) Coding Process by coders at Medical Record



## SYSTEM

**MALAYSIANDRG** My Step  
enter data (audit form) and close case.



## SYSTEM e –SMRP

**LANGKAH 2 KKM:**

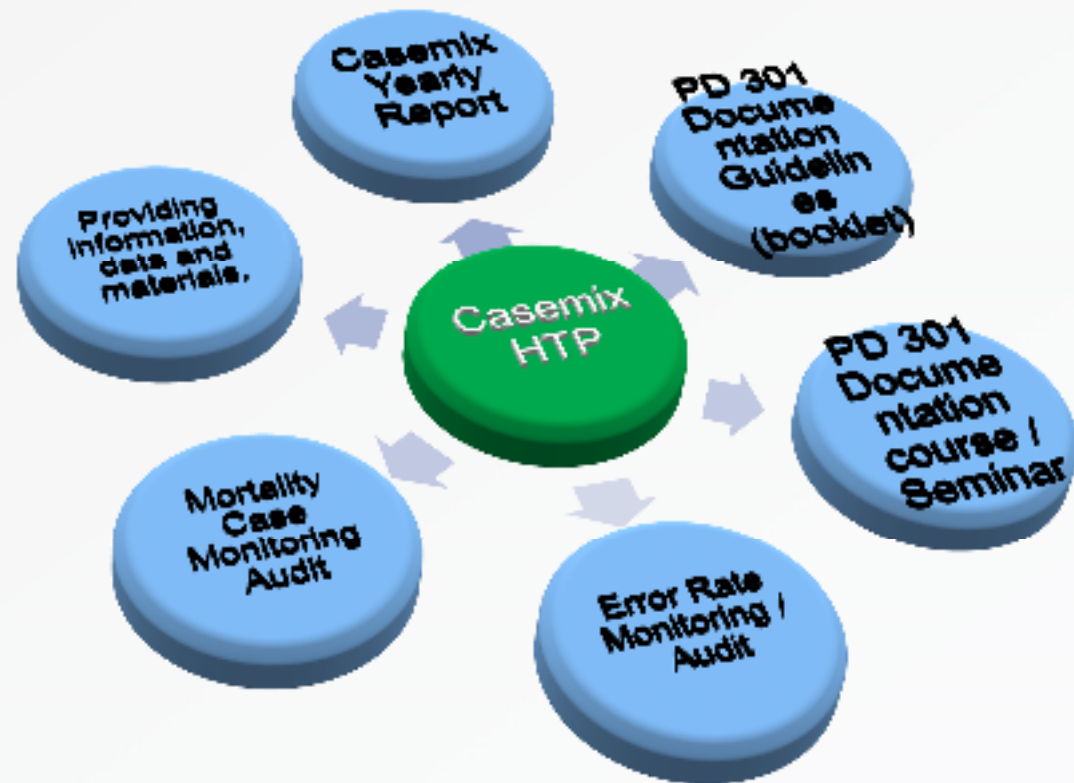
*Pemantauan kualiti*

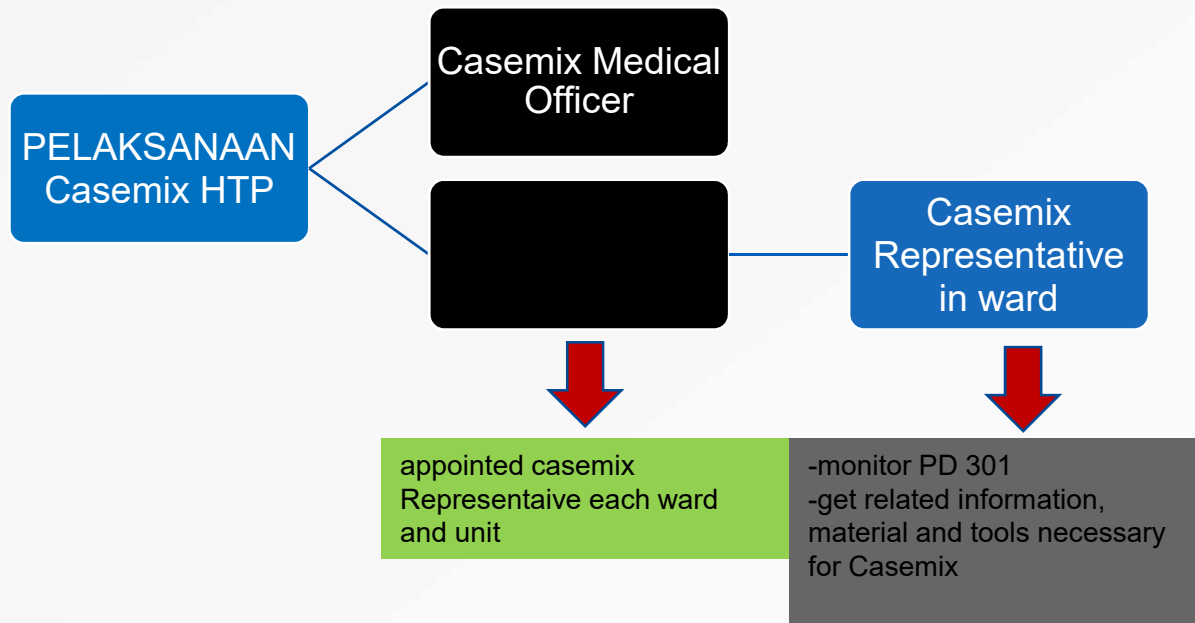
*beban kerja hospital:*

*sebagai kaedah pemantauan terhadap peraturan dan piawaian yang digunakan tetap dipatuhi, bagi memastikan amalan akauntabiliti dan integriti ,**dipenuhi secara berterusan***

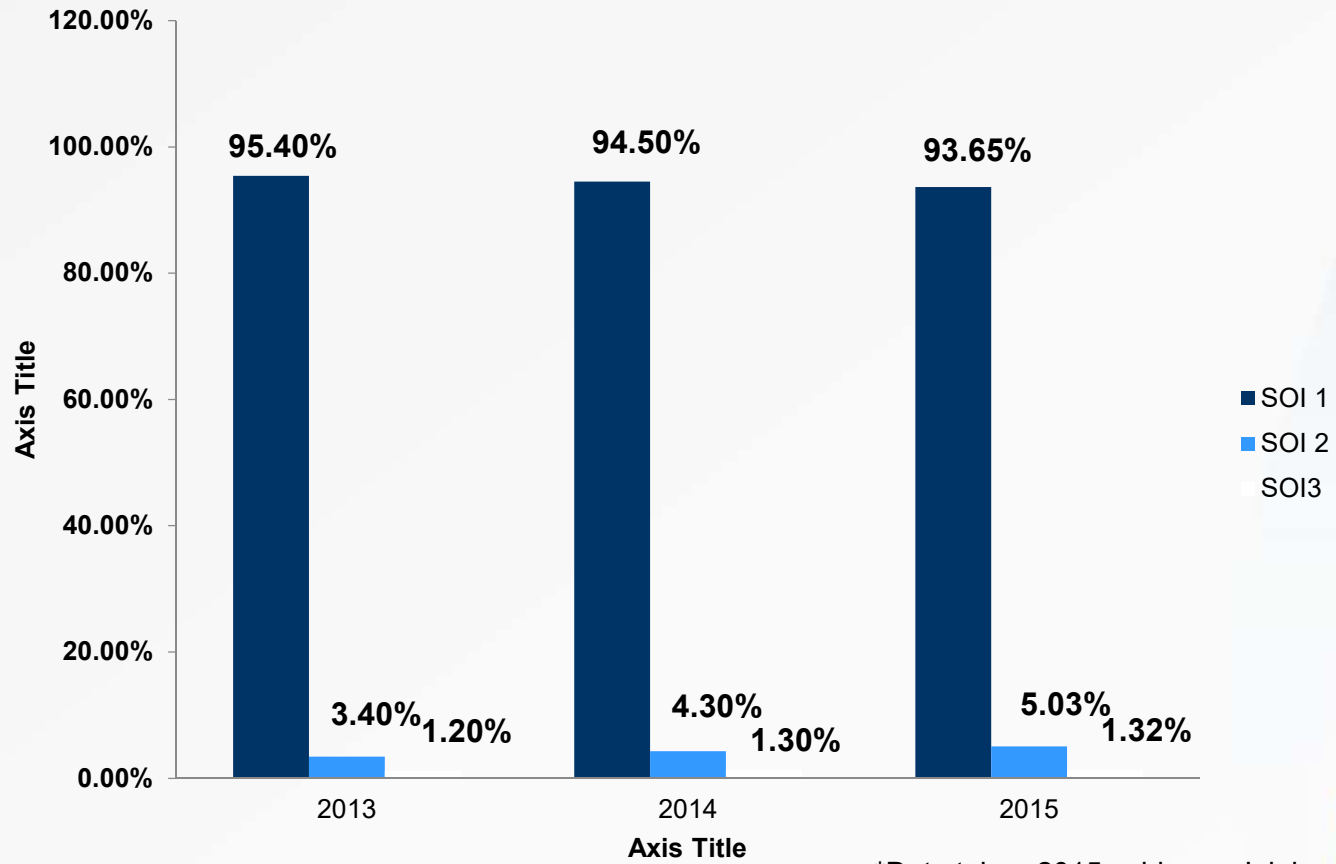
Jenis kematian, SEVERITY OF ILLNESS (Darjah keterukan), Tempoh tinggal lama, dll







## OVERALL SEVERITY OF ILLNESS HTP



**LANGKAH 3 KKM:**

Pengagihan peruntukan  
hospital

Perancangan / Jangkaan  
perbelanjaan kesihatan

Tarif perkhidmatan



## Garis Masa Pembangunan Peruntukan Belanjawan Casemix, Hospital KKM

**April 2022**  
Mesyuarat JK  
Peruntukan  
Belanjawan Casemix  
Hospital KKM  
bil 1/2022.

**2023**  
Deraf pertama Polisi  
Peruntukan Belanjawan  
Casemix, Hospital KKM

**2024**  
Projek rintis  
berdasarkan 'shadow  
budget'

**2025**  
Pelaksanaan keseluruhan  
hospital KKM berdasarkan  
'shadow budget'



**2022**  
Pembangunan Polisi  
Peruntukan Belanjawan  
Casemix, Hospital KKM

**2023**  
Kelulusan Polisi Peruntukan  
Belanjawan Casemix,  
Hospital KKM

**Berkuatkuasa:**  
**JANUARI, 2023**

1. Audit Dokumentasi Diagnosis Klinikal dan Kod Klasifikasi
2. \*\*Kes kematian SOI 1 dalam setiap 1,000 SOI 1 discaj pulang ke rumah
3. \*\*ALOS
4. \*\*Readmission Rate
5. Latihan Casemix

*\*Dibentangkan dan dipersetujui pada Mesy. JK Pelaksana Casemix, KKM 2/2022*

## HALA TUJU CASEMIX KKM

1. Pemantauan proses pelaksanaan inisiatif casemix oleh pengurusan tertinggi JKN dan hospital bagi menerbitkan data berkualiti ALOS, readmission rate, short and long stay, dll
  - Darjah Keterukan (SOI)
  - Anggaran kos rawatan
  - Indeks Casemix (CMI)Anggaran pengagihan peruntukan yang lebih adil dan menyeluruh
  - Pay-for-Performance
2. Membuat perbandingan dan penanda aras bagi fasiliti kesihatan KKM yang berprestasi
3. Pengguna dapat melaporkan pencapaian scorecard secara dalam talian melalui Aplikasi DRG KKM 3.0

## LANGKAH 4 KKM:

Pembayaran


Pemantauan prestasi

- **PENGURUSAN  
DATA**

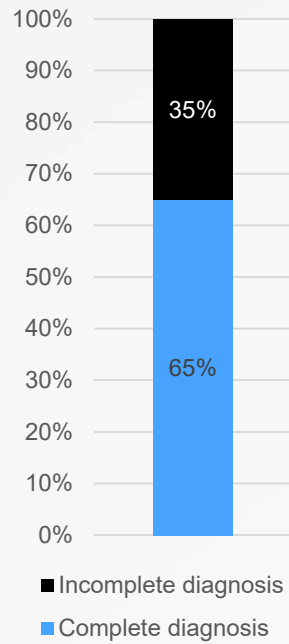
- 1. Pelaksanaan pengagihan peruntukan
- hospital berdasarkan casemix (Shadow Budget) diperingkat JK Casemix Negeri
- 2. Peratus kes ditutup didalam aplikasi DRG KKM



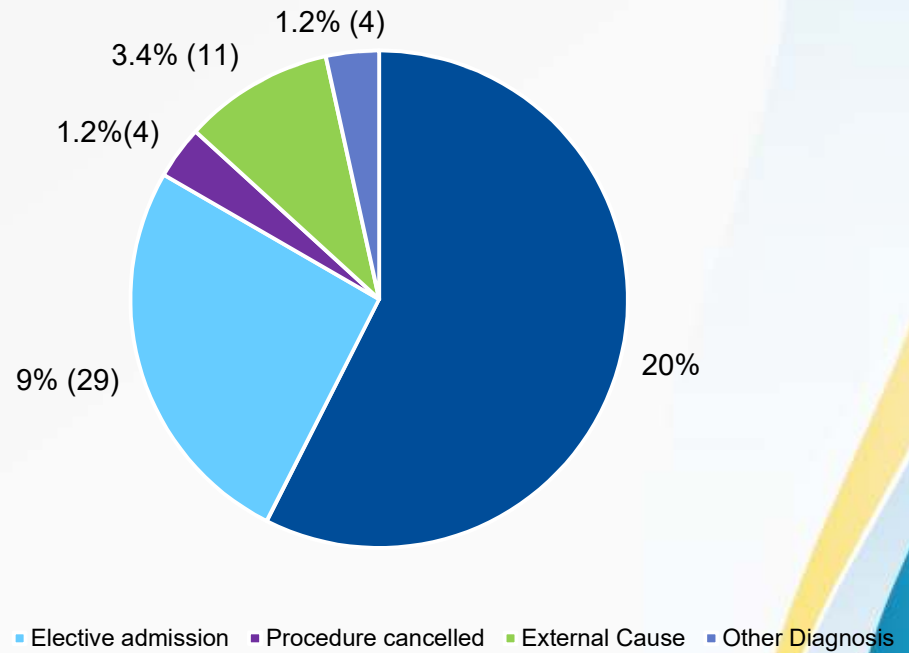
**CASEMIX  
PERFORMANCE  
FROM CROSS  
AUDIT JKNK IN  
HTP**



### OTHER DIAGNOSIS



### INCOMPLETE DIAGNOSIS





**KEMENTERIAN PENGURUSAN KESIHATAN  
BORANG DAFTAR MASUK DAN KELUAR HOSPITAL**

**NAMA PASIEN :** SUHAIMI RIN MOHD DAWA  
**NAMA (DIA BIKI) SEKANGKAP :** IKA GUNTAMU MAHAR

**NO. 7. JANTIK:**  LELAKI  PEREMPUAN  
**8. TARikh LAHIR :** 16/06/50  
**9. UMUR :** 47

**10. WARGANEGARA (PERUMPAH) :**  WARGANEGARA (PERUMPAH)  TANAKA (PERUMPAH)  
**11. CARILAJI PERKENALAN :** 154723  
**12. AGAMA :** ISLAM  
**13. PEKERJAAN :**  
**14. BERAT BADAN (Beri Diet 5 - 30 hari dalam 50kg)**  
**15. NAMA SAUDARA / WARIS :**  
**16. ALAMAT :**  
**17. HUBUNGAN KEKELUARGAAN :**  
**18. NOMBOR TELEFON :**

**20. DISCAJ :**  
 SALAK KE PULAK  
 BANGKAR MASUK  
 TANPA KESERAN  
 TUKANG KE HOSPITAL  
 BAKI  
**Step up care**  
**Step level care**  
**Step down care**

**28. NOMBOR KOD UCD100 :**  

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**29. NOMBOR KOD ICD9C :**  

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**30. JENIS PEMBEDAHAN :** LEFT KNEE SOFT TISSUE INJURY  
**31. KELAS :** ALLIED MVA ROB SKIDDED  
**32. NOMBOR KOD ICD9C :** VALERATION WOUND EYE CORNER  
 LACERATION WOUND EARLOBE  
 TRANSLAMINATI  
 CEREBRAL CONCUSSION  
**33. NOMBOR KOD ICD9C :** TKS  
 XRAY  
 XRAY



KEMENTERIAN KESIHATAN MALAYSIA  
 BAGIAN PERKEMBANGAN PERUBATAN  
 AUDIT ON CLINICAL DOCUMENTATION AND CODING  
 DATA COLLECTION FORM

Hospital	Specialty/ Subspecialty	Service Unit	Attending Clinician	Coder	Case Number
Machang	med	M4			

FORM NO: \_\_\_\_\_

Patient Particulars:

- Patient Name: Mohd Yusran Abdul Manaf
- Patient ID: 870123-29-5445 / 1403
- DOB: 26.3.27
- DOB: 26.3.27
- Discharge Outcome: Home / Transfer to Other Hospital / Death

Main Condition / Cause of Death

Diagnosis - as PER-PO 301 / as per OPD card	Code as PER-PO 301	Actual Code	Coding Accuracy (for office use)	Diagnosis as Audit Definition	Actual Code	Coding Accuracy (for office use)
Bilateral endometriosis with Hydronephrosis				Case step down from Hospital Terengganu for continuation of treatment		

Other Condition / Antecedent Causes

Diagnosis - as PER-PO 301 / as per OPD card	Code as PER-PO 301	Actual Code	Coding Accuracy (for office use)	Diagnosis as Audit Definition	Actual Code	Coding Accuracy (for office use)
1. Bilateral Hydronephrosis				Bilateral endometriosis with Hydronephrosis		
2.				Bilateral Hydronephrosis		
3.				Transurethral		
4.						
5.						

Coder: \_\_\_\_\_ Date: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Auditor: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Signature: \_\_\_\_\_  
 Date: \_\_\_\_\_

1. Audit Code  
 2. Audit Code  
 3. Audit Code  
 4. Audit Code  
 5. Audit Code

Main Condition / Underlying Cause of Death

Diagnosis - as PER PD 301/ as per OPD card	Code as per PER PD 301	Actual Code	Coding Accuracy (for office use)	Diagnosis as Audit Definition	Actual code	Documentation Accuracy (for office use)
NEWLY DIAGNOSED ESRF	N18.5	N18.5	A	Newly diagnosed ESRF		A

Other Condition / Antecedent Causes

Diagnosis - as PER PD 301/ as per OPD card	Code as per PER PD 301	Actual Code	Coding Accuracy (for office use)	Diagnosis as Audit Definition	Actual code(s)	Documentation Completeness (for office use)
1.				1) E/A for hemodialysis		K
2.			0	2) Diabetes mellitus		
3.				3) Hypertension		
4.				4) Anemia 2° chronic illness		

## Documentation impact on imbursement

		Severity Of Illness (SOI)	Imbursement (RM)
1) Documentation in PD301	Right ovarian cyst	SOI 1	RM 2500.14
Audit finding	Right ovarian cyst -Diabetes mellitus -Hypertension	SOI 2	RM 3162.00
2) Documentation in PD301	Pleural effusion	SOI 1	RM 6700
Audit finding	Advanced left breast invasive carcinoma. -ovarian tumor -multiple metastases -pleural effusion	SOI 3	RM 10,000

## Documentation impact on imbursement

		Severity Of Illness (SOI)	Imbursement (RM)
3) Documentation in PD301	Intracranial hemorrhage -Pneumonia	SOI 1	RM 3150.00
Audit finding	Massive left basal ganglia bleed -aspiration pneumonia	SOI 3	RM 9500.00
4) Documentation in PD301	STI	SOI 1	RM 4600
Audit finding	G1P0 @ 15w with multiple abrasion -alleged mva -young HPT -GDM	SOI 2	RM 4791



SISTEM MAKLUMAT PENGURUSAN KESEHATAN  
KEMENTERIAN KESEHATAN MALAYSIA

PEB-09 (01)  
(Rev. 3/2005)

BORANG DAFTAR MASUK DAN KELUAR HOSPITAL

1. Nama (Jenis Bilik): Nama Unit (Bilik):		1. Bilik Pendaftaran:	
2. No. Pendaftaran:		3. Pemeriksaan Kesihatan:	
3. No. Pendaftaran:		4. No. Pendaftaran:	
5. Jenis Penyakit:		6. No. Pendaftaran:	
7. No. Pendaftaran:		8. No. Pendaftaran:	
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97. No. Pendaftaran:		98. No. Pendaftaran:	
99. No. Pendaftaran:		100. No. Pendaftaran:	

3. Diagnosis-  
diagnosis yang lain  
(jika ada) untuk  
Morbidity

4. Faktor luaran yang  
menyebabkan  
kecederaan

6. Nama Pegawai  
Perubatan

8. Nama Pakar  
Perubatan (Verifier)

1. Diagnosis utama perlu merujuk kepada diagnosis  
Morbidity sahaja

2. Sebab kematian dan sebab2 yang menyebabkan  
kematian untuk kes mortality sahaja.

5. Senarai prosedur yang telah  
dijalankan ke atas pesakit

7. Tandatangan & cop  
Pegawai Perubatan

9. Tandatangan & cop  
Pakar Perubatan

# 1) General Rules



Select  
main  
condition

Record  
other  
conditions



1. Acute Sinusitis, Adenocarcinoma of Endocervix, Metastase to ovaries, Hypertension.

- Specialty: Gynecology
- Procedure: Total hysterectomy

- **Main Condition:** Adenocarcinoma of endocervic
- **Other condition :** Acute sinusitis, Metastases to ovaries, hypertension

2. E/A for hemodialysis

- Underlying : Hypertension, Diabetes Mellitus Type 2, ESRF
- Specialty: Nephrology
- Procedure: Hemodialysis

- **Main Condition:** End Stage Renal failure
- **Other condition:** E/A for hemodialysis, Hypertension, Diabetes Mellitus Type 2

example

# *SUMMARY..Main Condition*

## Definition

xthe diagnosis established at the end of the episode of care to be...

xthe condition primarily responsible for the patient receiving treatment or being investigated

Or

xthe condition that is determined to have been mainly responsible for the episode of health care

# RU S R S C MA C

1. The condition **diagnosed at the end of episode of healthcare** primarily responsible for patient need for treatment or investigation.
2. If there is **more** than one such condition, the one held most responsible for the **greatest utilization of resources** during patient's stay should be selected.
3. The condition that **best justify the length of stay**

example

*A patient with diabetes type II admitted because of urinary tract infection. He took a month in ward for optimization his diabetic condition.*

Main diagnosis: diabetes type II: E11.9

Other diagnosis: urinary tract infection: N39.0

**Justification main diagnosis: condition justifies length of stay**

# *Other Condition*

a diagnosis that either...

x **co-exists** with the Main Condition at the time of admission (**co-morbidities**)

a disease that accompanies the Main Condition and requires treatment and additional care, in addition to the treatment provided for the condition for which the patient was admitted

OR

x which **appears during** the episode of **care** (**complications**)

a disease that appears during the episode of care, due to a pre-existing condition or arising as a result of the care received by the patient

# WHAT CAN IMPROVE SOI

- **1)Co-morbids**
- Eg : Hypertension , arrhythmias (atrial flutter / fibrillation)
- **2)Complications :**
- Shock
- **3)Malignancy**
- Primary cancer +  $\geq 1$  metastases
- **4)Procedure**
- Central line – long / short ( 38.93: central venous catheterization , ICD9CM), Bilateral tubal ligation ,  $\geq 1$  OT procedure (operations or others , eg endoscope).
- **5)ICU stays**
- -duration !!! – SIGNIFICANT CHANGE FROM SOI 1 to SOI 3
- -Ventilation in the ward vs in ICU. In terms of SOI , ICU stays has its own weightage. Regarding ventilation, has its own weightage invasive ventilation - brings its on weightage based on duration the clients requires the treatment, ( $\geq 96$ H will increase SOI.)



# Thanks!

## Any questions?



*Casemix &rekod*