



KEMENTERIAN KESIHATAN MALAYSIA

PENDIGITALAN DALAM PROGRAM KESIHATAN AWAM

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BAHAGIAN KESIHATAN DIGITAL

1 Julai 2025

- ❖ Memahami peranan digitalisasi dalam kesihatan awam
- ❖ Mengenal pasti komponen digitalisasi
- ❖ Mengetahui hala tuju penjagaan kesihatan digital
- ❖ Menganalisis kelebihan dan cabaran digitalisasi

Apa itu digitalisasi?



- **DIGITAL TRANSFORMATION**

Menggunakan teknologi baharu yang sedang muncul untuk membina sistem baharu

- **DIGITALIZATION**

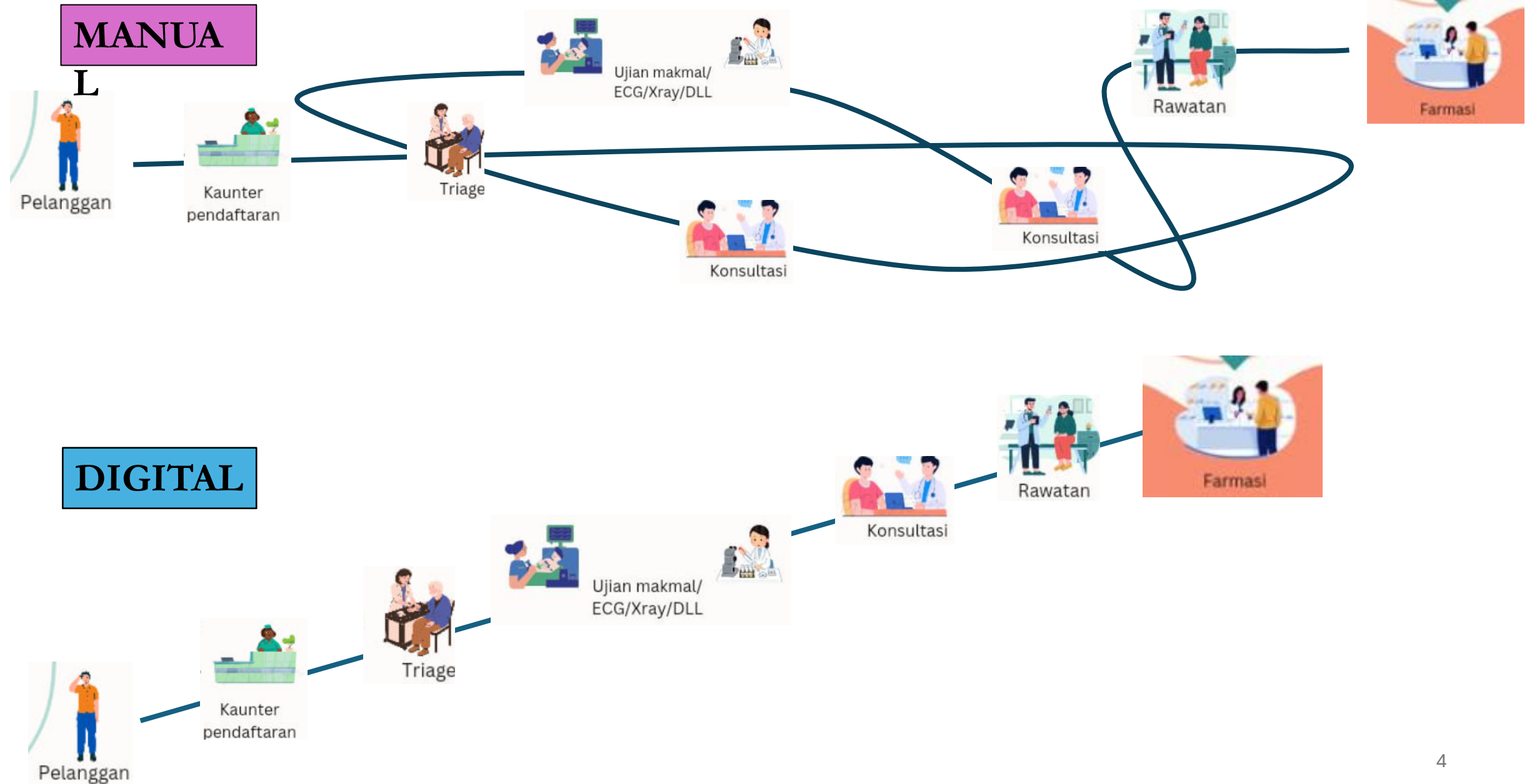


Menambah baik proses kesihatan dengan memanfaatkan teknologi digital

- **DIGITIZATION**

Peralihan daripada manual kepada format digital

PROSES KERJA DI KLINIK KESIHATAN (MANUAL VS DIGITAL)



Evolusi kejururawatan dalam era teknologi

Where Malaysia stands in nursing innovation

Malaysia has made commendable strides in integrating technology into its healthcare system. Notable advancements include the implementation of electronic medical records (EMR) in select hospitals, particularly within the Klang Valley's SMART hospitals. These facilities showcase advanced technologies such as robotic surgery, where nurses play crucial roles in preparation and assistance. Despite these gains, Malaysia still faces challenges in fully embracing digital transformation compared to regional counterparts like Singapore, Hong Kong, and China.

Current achievements: Pioneering steps



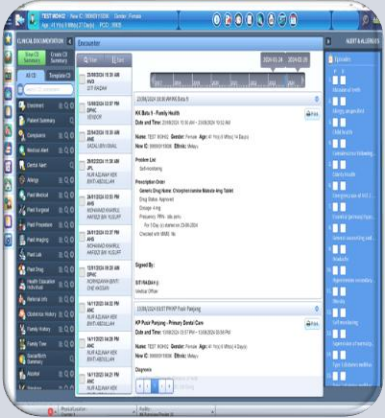
In robotic surgery, Malaysian hospitals are setting benchmarks. 'Although doctors operate the robots, the demand for skilled nurses has increased—now requiring up to six nurses per operating room. This highlights the need for specialized training to adapt to new technological demands,' says Dr Aisyahon Suhaimi (pix), President of the Malaysian Nurses Association.

Additionally, during the COVID-19 pandemic, technology facilitated patient monitoring, enhancing efficiency and convenience.

KOMPONEN DIGITALISASI DALAM KESIHATAN AWAM



KEMENTERIAN KESIHATAN MALAYSIA



Rekod
perubatan
elektronik
(EMR)



Virtual Clinic



Peranti
pemantauan
kesihatan
pintar



Aplikasi
mudah alih
untuk
penjagaan
pesakit



Penggunaan
AI dan Big
Data

- *1 Citizen, 1 Record*
- Interoperabiliti antara sistem kesihatan
- Potensi teknologi baru: AI, robotik, realiti maya (VR) dalam kesihatan
- Penekanan kepada latihan berterusan dan literasi digital
- Kejururawatan sebagai pemacu transformasi penjagaan kesihatan

EKOSISTEM KESIHATAN DIGITAL YANG MAMPAN DAN BERFOKUSKAN INDIVIDU



**REKOD KESIHATAN
BERSEPADU**



**PEMERKASAAN
TENAGA KERJA DAN
PENGURUSAN
PERUBAHAN**



**SALING
KEBOLEHKENDALIAN
MENGIKUT
PIAWAIAN
ANTARABANGSA**



**KOLABORASI
PERINGKAT GLOBAL
DAN LOKAL
BERDASARKAN
PENANDA ARAS
STRATEGIK**



**TADBIR URUS, POLISI
DAN REGULASI**



**INOVASI YANG
DIPACU OLEH
PENYELIDIKAN DAN
PEMBANGUNAN**

INFRASTRUKTUR YANG BERDAYA TAHAN DAN KEBOLEHSKALAAN



PENGURUSAN MAKLUMAT YANG DIPERCAYAI, DILINDUNGI KERAHSIAAN & SELAMAT



LITERASI DIGITAL, KESAKSAMAAN, EKUITI DAN AKSESIBILITI



VISION

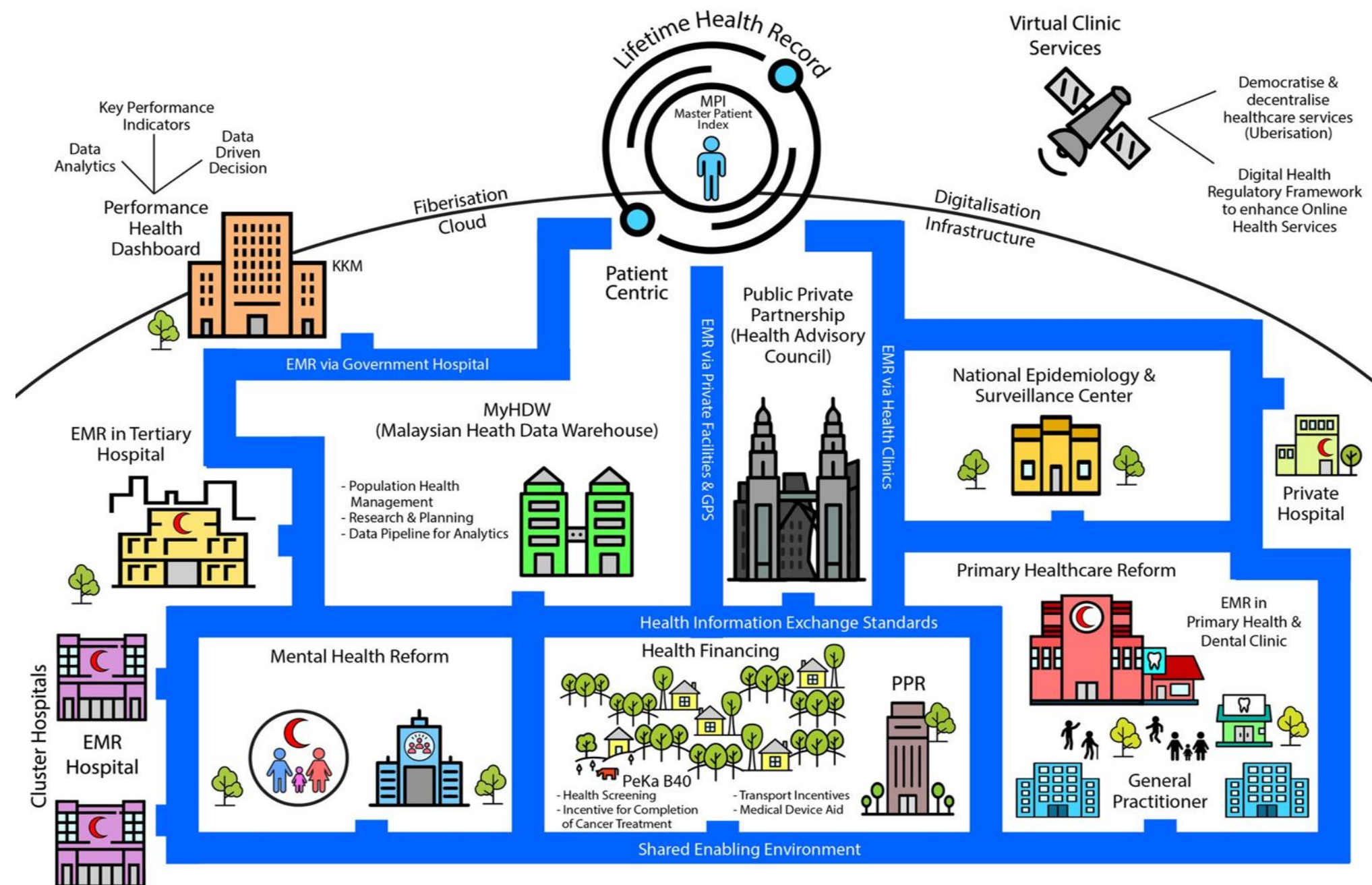
MISSION

STRATEGIES

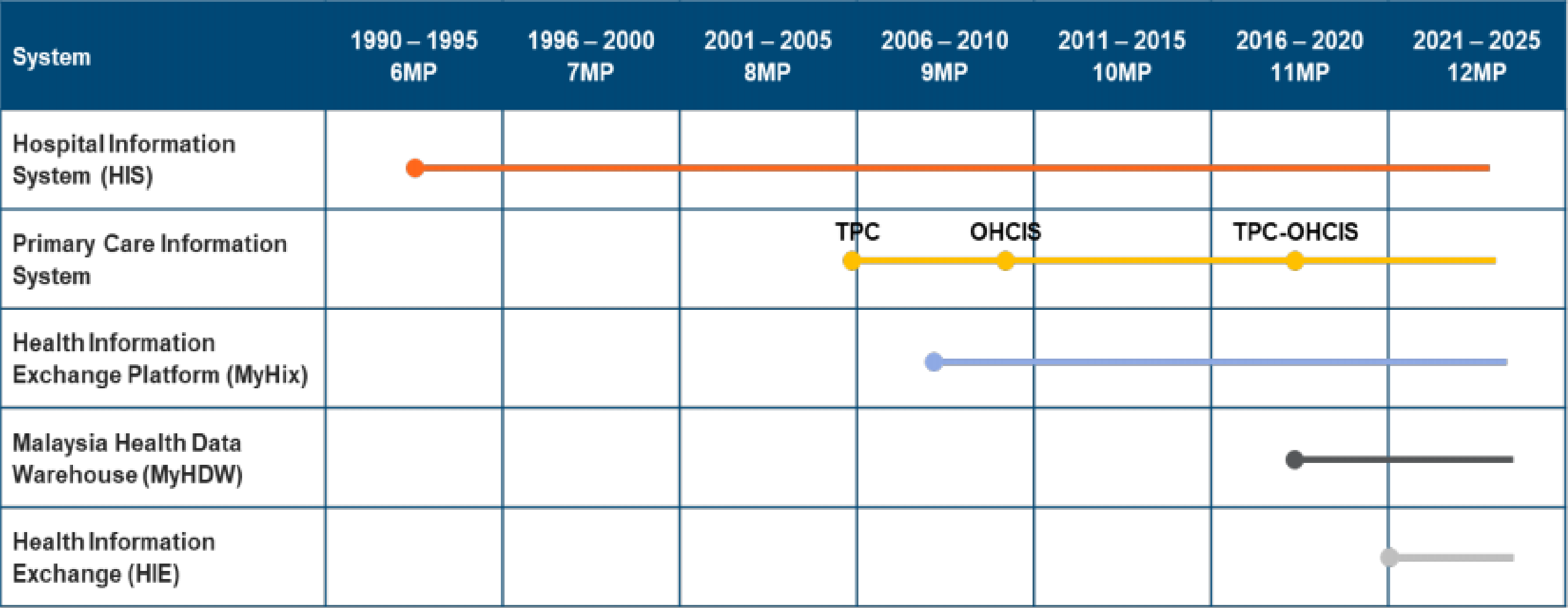
GOALS

OBJECTIVES

ACTIVITIES



EVOLUSI SISTEM MAKLUMAT HOSPITAL KKM



‘The Evolution’: Government Policies / Procurement Models / Strength of Economy

COTS Commercial-off-the-shelf (COTS)	Build own system	Leasing SaaS PaaS IaaS
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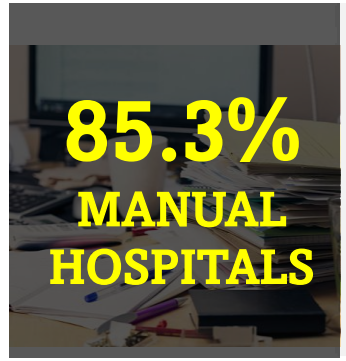
Status Terkini EMR di Fasilitas Kesehatan KKM

CURRENT STATUS AT HOSPITALS

Hospitals:150



- Hospitals: 14.7% (22 Hospitals)



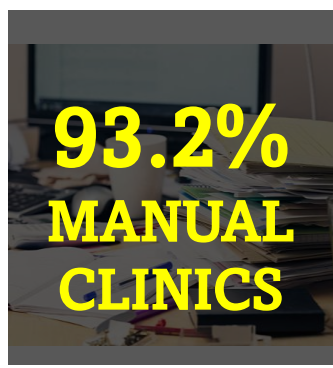
- Hospitals: 85.3% (128 Hospitals)

CURRENT STATUS AT HEALTH CLINICS

Health Clinics: 1,118
MCH Clinics: 78
Rural Clinics: 1,691
Community Clinics: 322
Total Clinics: 3,209



- Health Clinics: 18.4% (206 clinics)
- Rural Clinics: 0.7% (11 clinics)



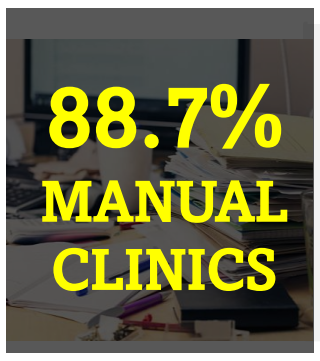
- Health Clinics: 912 (82%)
- MCH Clinics: 78 (0%)
- Rural Clinics: 1680 (99.3%)
- Community Clinics: 322 (0%)

CURRENT STATUS AT DENTAL CLINICS

Dental Clinics: 691



- Dental Clinics: 11.3% (78 Clinics)



- Dental Clinics: 613 (88.7%)

**GO LIVE
JANUARY
2023**

**TOTAL SLOTS
83,544,878**

**HEALTH
CLINICS
962**

**DENTAL
CLINICS
679**

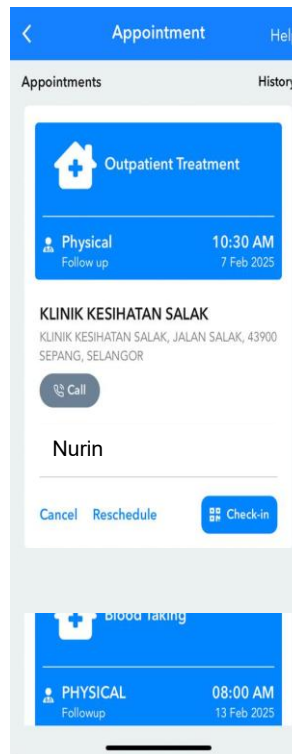
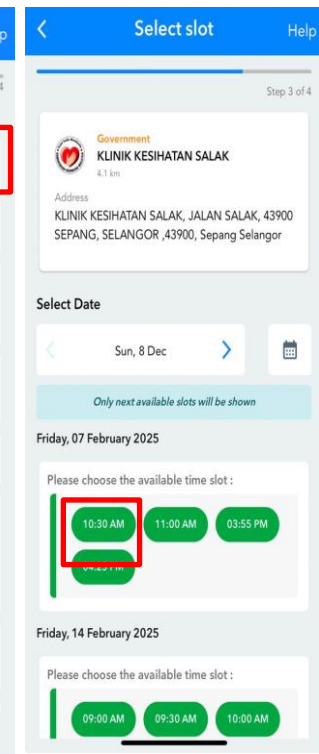
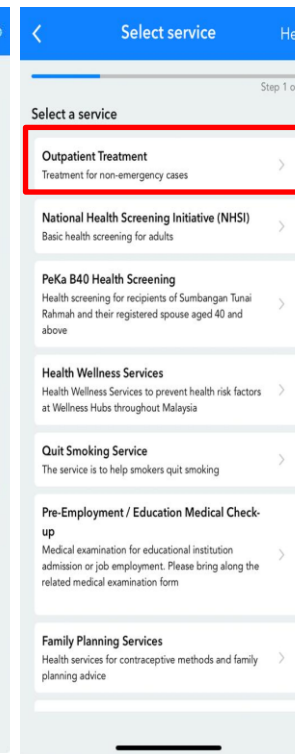
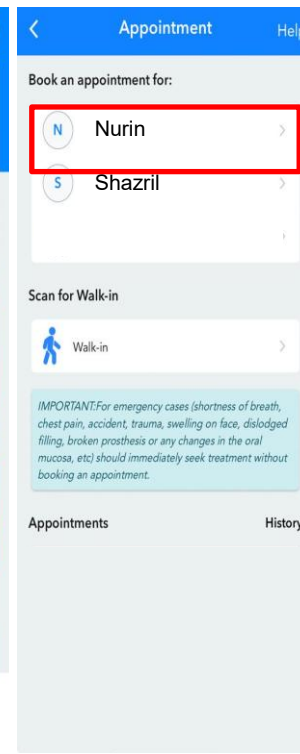
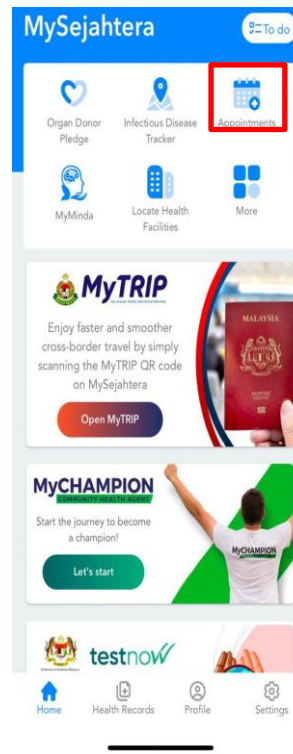
MAIN HEALTH SERVICES

16

ALLOCATED HEALTH SERVICES

291

State	Number of KK	Number of KK using Appointment System	Percentage (%)
Perlis	13	13	100
Selangor	86	86	100
WP KL & Putrajaya	22	22	100
Negeri Sembilan	51	51	100
WP Labuan	2	2	100
Melaka	37	37	100
Johor	99	99	100
Pahang	93	93	100
Pulau Pinang	38	37	99
Kedah	71	70	99
Terengganu	52	51	99
Kelantan	114	112	98
Perak	89	87	98
Sabah	113	81	72
Sarawak	220	121	55
TOTAL	1100	962	87



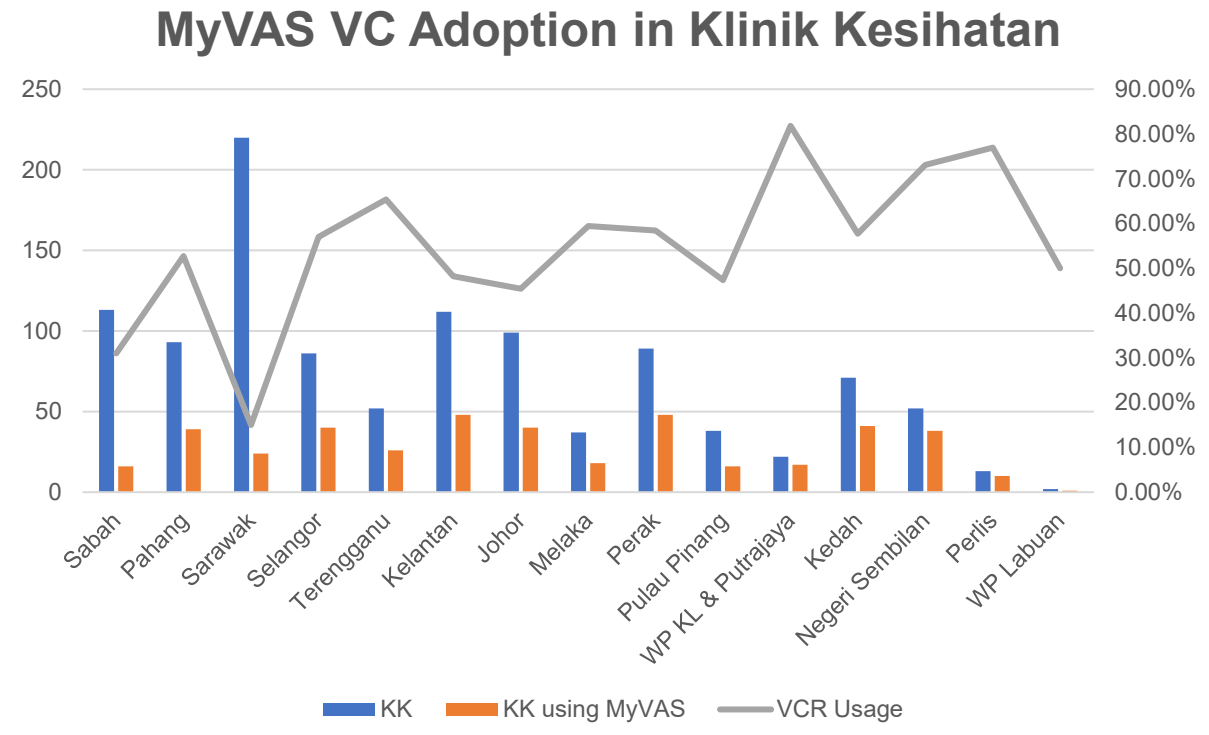
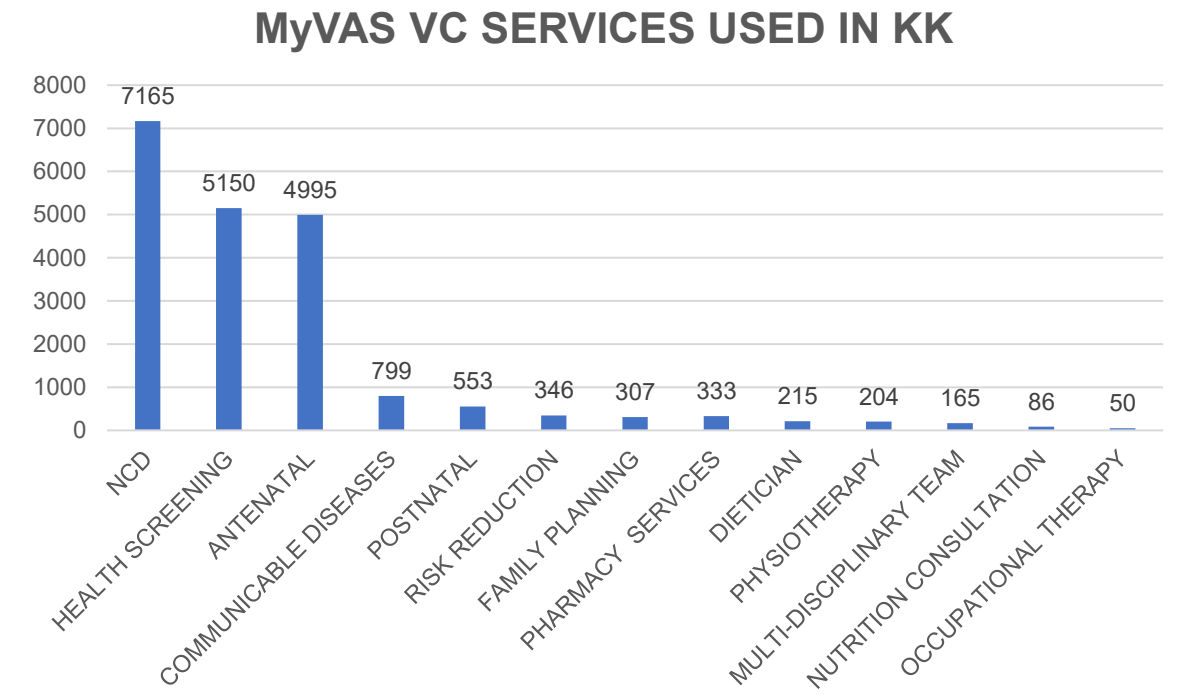
Pelaksanaan Klinik Maya MyVAS Daripada Julai 2024

436 FACILITIES

21,241 COMPLETED TRANSACTIONS

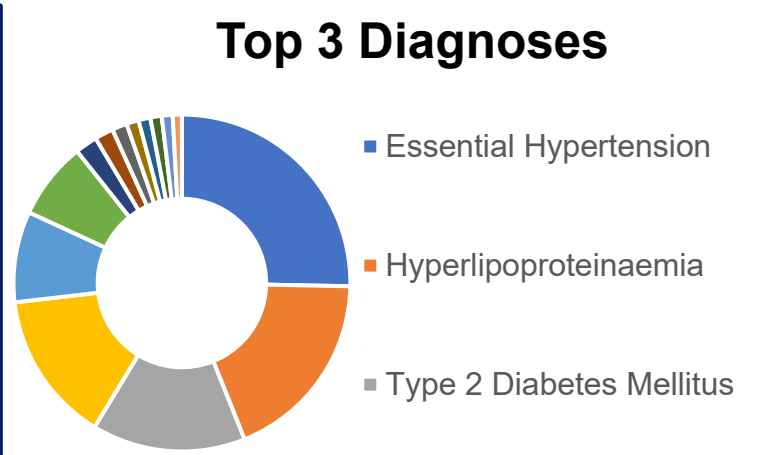
HIGHEST TRANSACTIONS

- I. KK Hiliran, Terengganu (1647)
- II. KK Kota Jembal, Kelantan (1029)
- III. KK Bukit Minyak, Pulau Pinang (978)



WAY FORWARD

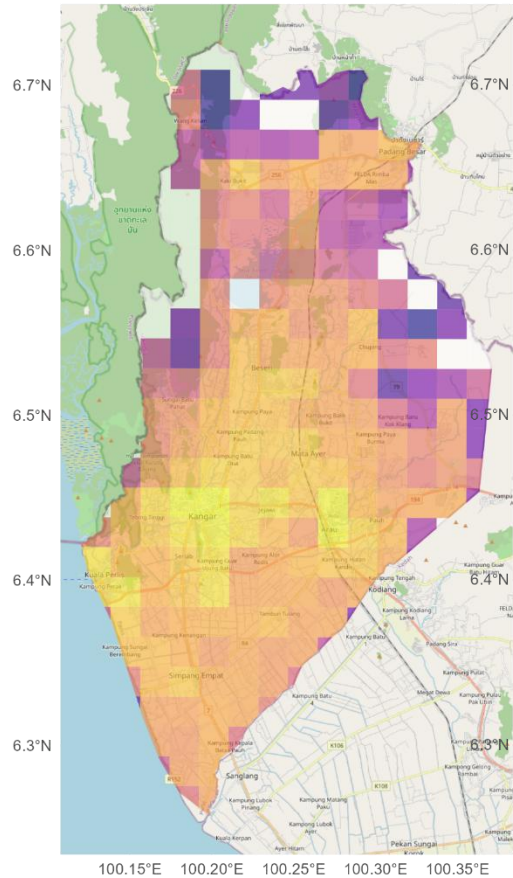
HOSPITALS AND
NADI (MCMC)
COLLABORATION TO
INCREASE
HEALTHCARE
ACCESSIBILITY



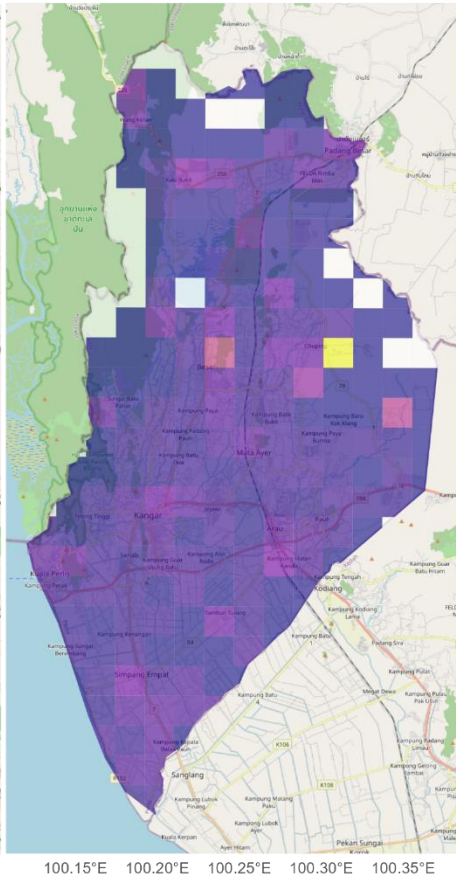
Inisiatif Precision Public Health Data

Perlis Risk Profiling- National Health Screening Initiative Data

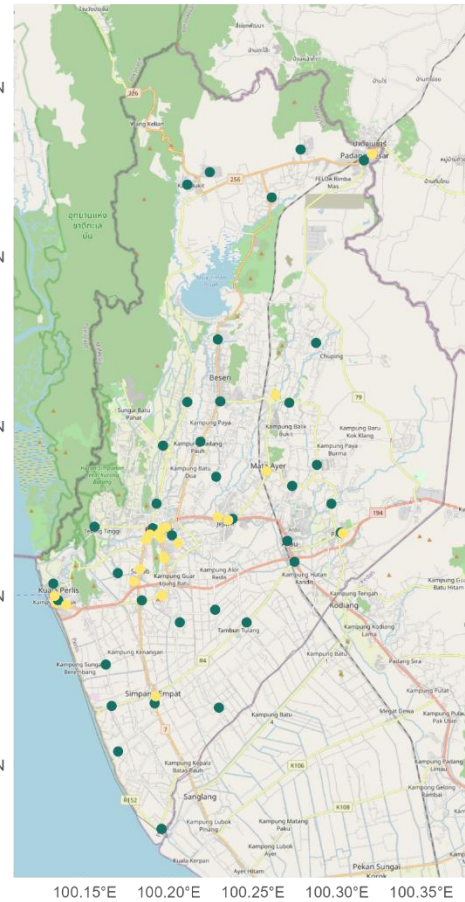
Population Density per Grid in Perlis



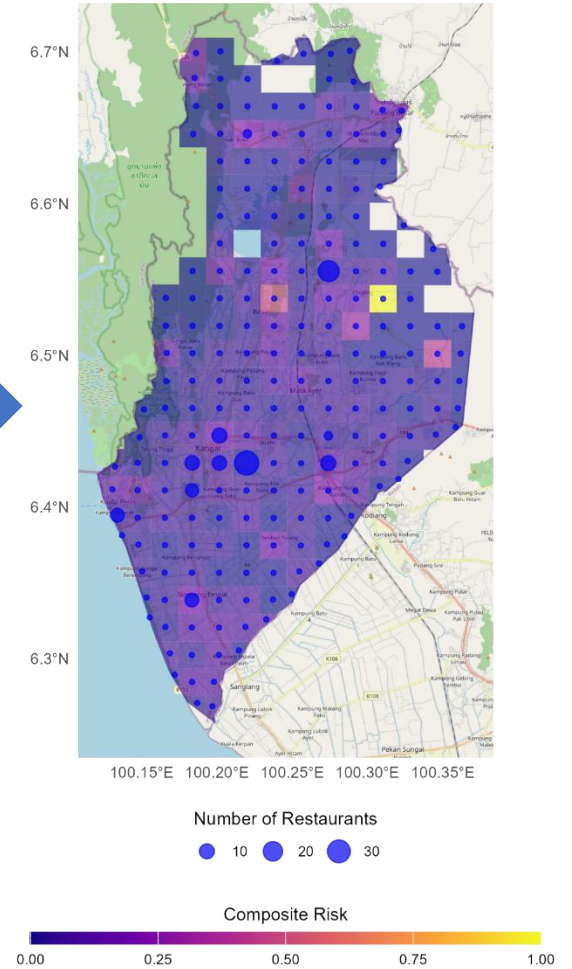
Composite Risk Score per Grid in Perlis



Healthcare Facilities in Perlis



Composite Risk Score and Number of Restaurants



Aim to Profile individuals in Perlis into its smallest spatial denominator- **precise** delivery of care
Right intervention, **Right** population, **Right** time- optimise resources, improve outcomes

KELEBIHAN DIGITALISASI DALAM KESIHATAN AWAM



KEMENTERIAN KESIHATAN MALAYSIA



Leadership and Governance



Strategy and Investment



Services and Applications



Standards and Interoperability



Infrastructure



Legislation, Policy and Compliance



Workforce



Source: National eHealth Strategy Toolkit, WHO / ITU (2012)

STRATEGI & PELABURAN

- KEKURANGAN PEMBIAYAAN UNTUK ICT
- PERANCANGAN STRATEGIK YANG LEMAH



PERKHIDMATAN & APLIKASI

- MASIH MENGGUNAKAN KEMUDAHAN KESIHATAN SECARA MANUAL
- PERKHIDMATAN KESIHATAN TIDAK OPTIMUM
- LAPORAN KESIHATAN MANUAL

STANDARD & INTEROPERABILITI

- DATA TIDAK STANDARD
- TIADA INTEGRASI EMR (REKOD PERUBATAN ELEKTRONIK)



INFRASTRUKTUR

- KELEMAHAN RANGKAIAN
- INFRASTRUKTUR KEMUDAHAN KESIHATAN YANG LEMAH
- KESELAMATAN YANG RENDAH

PERUNDANGAN DASAR & PEMATUHAN

- TIADA STANDARD DATA KESIHATAN UNTUK INTEROPERABILITI ANTARA SISTEM
- TIADA UNDANG-UNDANG KESIHATAN DIGITAL



KEPIMPINAN & TADBIR URUS

- KEPIMPINAN YANG LEMAH
- TIDAK MEMBERI SOKONGAN
- KEKURANGAN PEMANTAUAN DAN PENILAIAN
- PENGURUSAN OPERASI YANG LEMAH



TENAGA KERJA

- KEKURANGAN LATIHAN
- KADAR PERTUKARAN KAKITANGAN YANG TINGGI
- PENGURUSAN PERUBAHAN YANG LEMAH



- Kepentingan digitalisasi dalam kesihatan awam
- Adaptasi, inovasi dan latihan berterusan
- Jururawat sebagai pemacu dalam revolusi kesihatan digital



KEMENTERIAN KESIHATAN MALAYSIA

TERIMA KASIH

BAHAGIAN KESIHATAN DIGITAL

18
September
2024