



Virtual Clinic: MOH's experience

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OUTLINE

- BACKGROUND
- IMPLIMENTATION OF VIRTUAL CLINICS
- EXPENSION OF VIRTUAL CLINICS
- CHALLENGES IN IMPLEMENTING VIRTUAL CLINICS
- WAY FORWARD



KLINIK VIRTUAL

BACKGROUND



GOVERNMENT OF MALAYSIA

Telemedicine Flagship Application

MALAYSIA'S TELEMEDICINE BLUEPRINT

LEADING HEALTHCARE INTO THE INFORMATION AGE

Ministry of Health (MOH)
MALAYSIA, 25 July 1997



Multimedia Super Corridor

PROVIDES THE CONCEPTUAL MODEL AND IMPLEMENTATION ROAD MAP

Specifically this *Telemedicine Blueprint* provides the conceptual model and implementation road map for the roll-out of telemedicine across the nation, and links Malaysia into a global network of ¹virtual* health services.

UTILISING MULTIMEDIA APPLICATIONS, TOOLS, TECHNOLOGIES AND NETWORK

Telemedicine links people and delivers services by utilising multimedia applications, tools, technologies and networks.

(MOH 25TH JULY 1997)

WHAT IS VIRTUAL CLINIC?

A method of
Healthcare Delivery
Including Clinical
Consultation &
Client's Healthcare
Plan

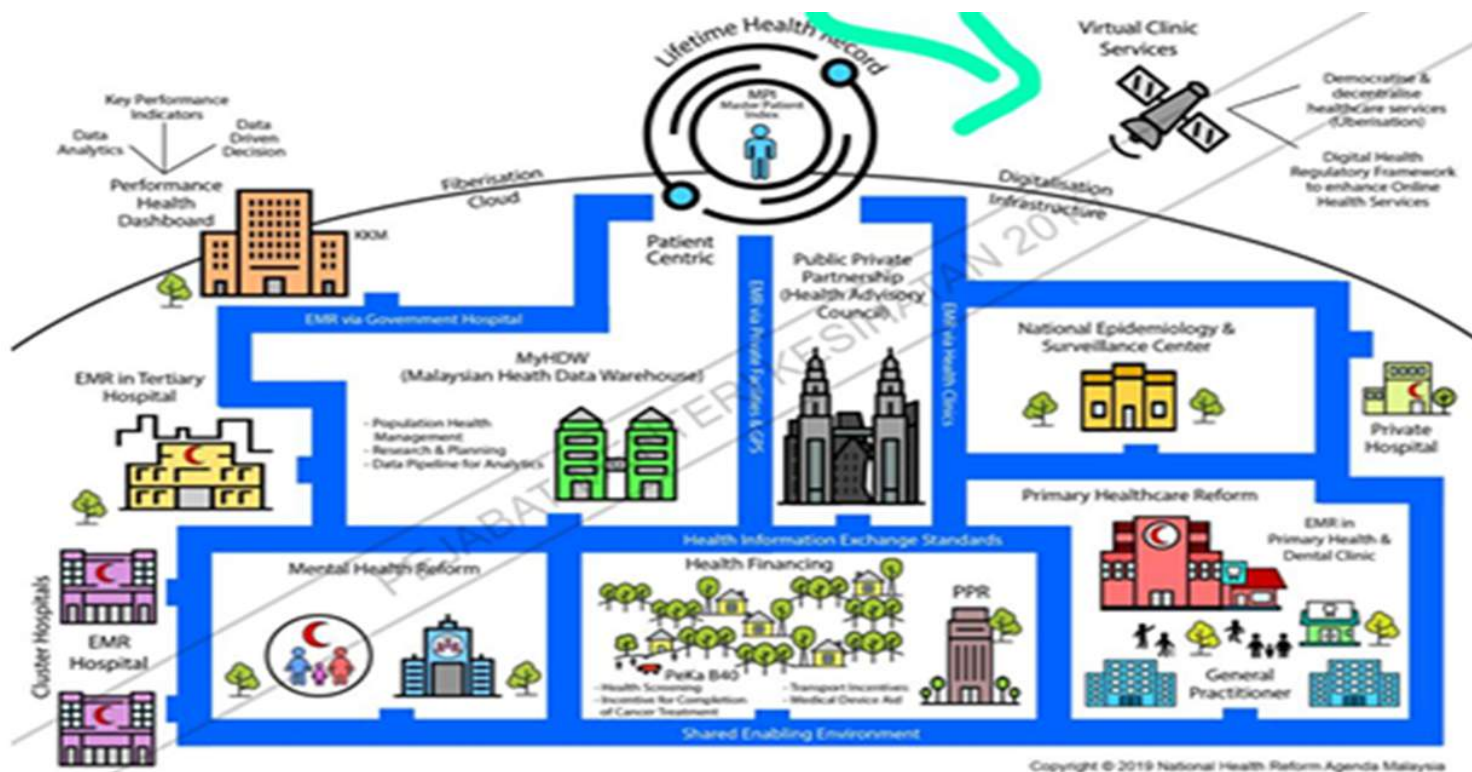
**Virtual.
Clinic**

VIRTUALLY



INTERACTIVE

National Health Reform Agenda Malaysia



OBJECTIVE

INCREASE ASSESIBILITY TO
PRIMARY HEALTHCARE

REDUCE CROWDEDNESS IN
PRIMARY HEALTHCARE CLINICS

PROOF of CONCEPT

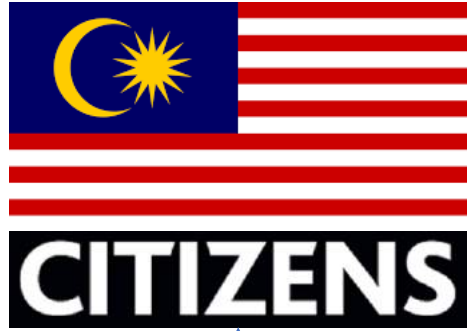
AUG 2019 – AUG 2020



KLINIK KESIHATAN PUTRAJAYA PRESINT 18
KLINIK KESIHATAN SEKSYEN 7 SHAH ALAM
KLINIK KESIHATAN SEBERANG JAYA
KLINIK KESIHATAN LUYANG
KLINIK KESIHATAN TUDAN

FEASIBILITY STUDY

CLIENT'S ACCEPTENCE
TOWARDS VIRTUAL CLINIC



at PRIMARY
HEALTHCARE CLINIC



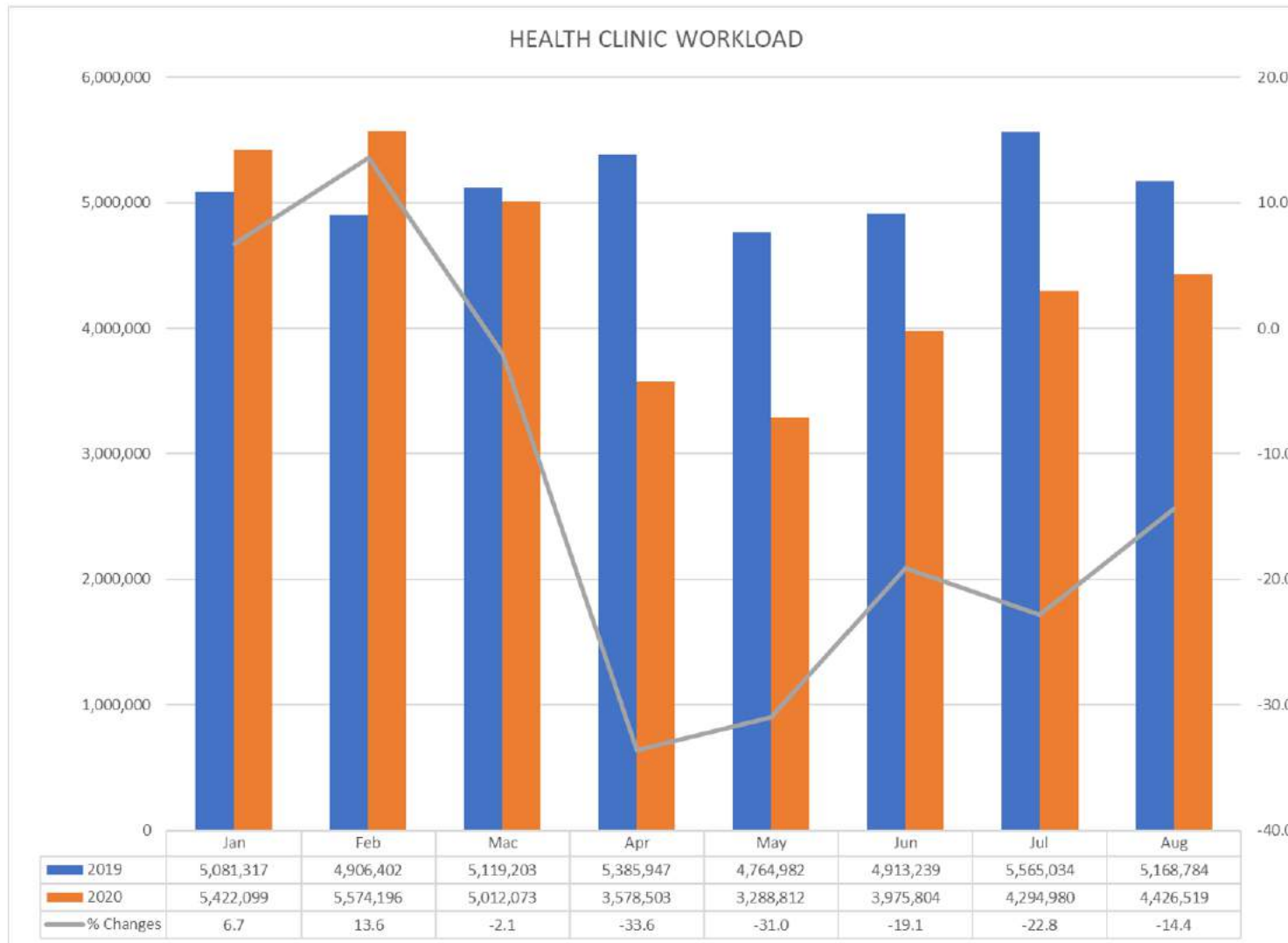
by MEDICAL
PRACTITIONER, AHP &
PHARMACIST



ELIGIBILITY
FOR VIRTUAL CLINIC

Consented

To PARTICIPATE in
VIRTUAL CLINIC



TOTAL ATTENDANCE

2019: 40,904,908



2020: 35,572,986



Kementerian Kesihatan Malaysia

**GARIS PANDUAN
PASCA PERINTAH KAWALAN PERGERAKAN
PERKHIDMATAN DI
KLINIK KESIHATAN/KLINIK KOMUNITI/
KLINIK KESIHATAN IBU DAN ANAK/KLINIK DESA**

**Bahagian Pembangunan Kesihatan Keluarga
Kementerian Kesihatan Malaysia**

17 Mei 2020

4.14. Perkhidmatan Dietetik dan Kaunseling Pemakanan

- i. Kaunseling Individu
 - a. Menggunakan system temujanji berperingkat/dalam talian
 - b. Memastikan penjarakan sosial di antara petugas dan pesakit
 - c. Mematuhi panduan pemakaian PPE mengikut garis panduan sedia ada
 - d. Mematuhi panduan kebersihan diri dan tempat kerja mengikut garis panduan sedia ada
- ii. Kaunseling Berkumpulan
 - a. Diadakan bagi kumpulan yang kecil
 - b. Memastikan penjarakan sosial di antara petugas dan pesakit, mengikut kapasiti ruang klinik yang ada
 - c. Mematuhi panduan pemakaian PPE mengikut garis panduan sedia ada
 - d. Mematuhi panduan kebersihan diri dan tempat kerja mengikut garis panduan sedia ada
- iii. Kaunseling Secara Tele-Konsultasi (Melalui Telefon/Video)/ Klinik Maya
 - a. Menggunakan sistem temu janji secara atas talian
 - b. Menggunakan talian telefon yang dikhaskan untuk konsultasi (bukan talian telefon peribadi)
 - c. Menggunakan platform *video conferencing* yang rasmi dan selamat (Skype for business)/platform *virtual clinic* sedia ada (di klinik dengan pilot VC)
 - d. Memastikan segalanya tele-konsultasi adalah mematuhi kerahsiaan pesakit
- iv. Kelas Pendidikan Maya
 - a. Perluasan capaian kepada pesakit secara menggunakan platform seperti FB live/ webinar dan seumpama
 - b. Berbentuk komunikasi 2 hala
 - c. Memberi panduan umum dan tidak berbentuk konsultasi individu.

COVID-19 PANDEMIC

61% of countries with service disruption used telemedicine

Paradigm shift in healthcare services.

- Increase access to healthcare services
- Reduced clinic visit frequency and waiting time at facilities
- VC scope include consultations, health educations and referral
- During MCO: reduce patients' movement, minimized contact, avoid overcrowd
- Free of Charge

TELEMEDICINE & VIRTUAL CLINIC



KKM cadang perluas 'klinik virtual' di seluruh negara

Bernama
November 21, 2019 04:47 MYT



Dr Lee Boon Chye selepas merasmikan Sidang Kemuncak Kesihatan ASEAN 2019 pada Rabu. -Foto Bernama

Kementerian Kesihatan berhasrat memperluaskan pelaksanaan "klinik virtual" di seluruh negara untuk meningkatkan kecekapan penjagaan kesihatan pesakit luar.

Timbalan Menteri Kesihatan Dr Lee Boon Chye berkata melalui pelaksanaan itu, pesakit mempunyai pilihan untuk mendapatkan perundingan penjagaan kesihatan secara dalam talian dan tidak perlu bersemuka dengan pengamal kesihatan.

EXTENSION of VIRTUAL CLINIC

OBJECTIVE

INCREASE ASSESIBILITY TO PRIMARY HEALTHCARE

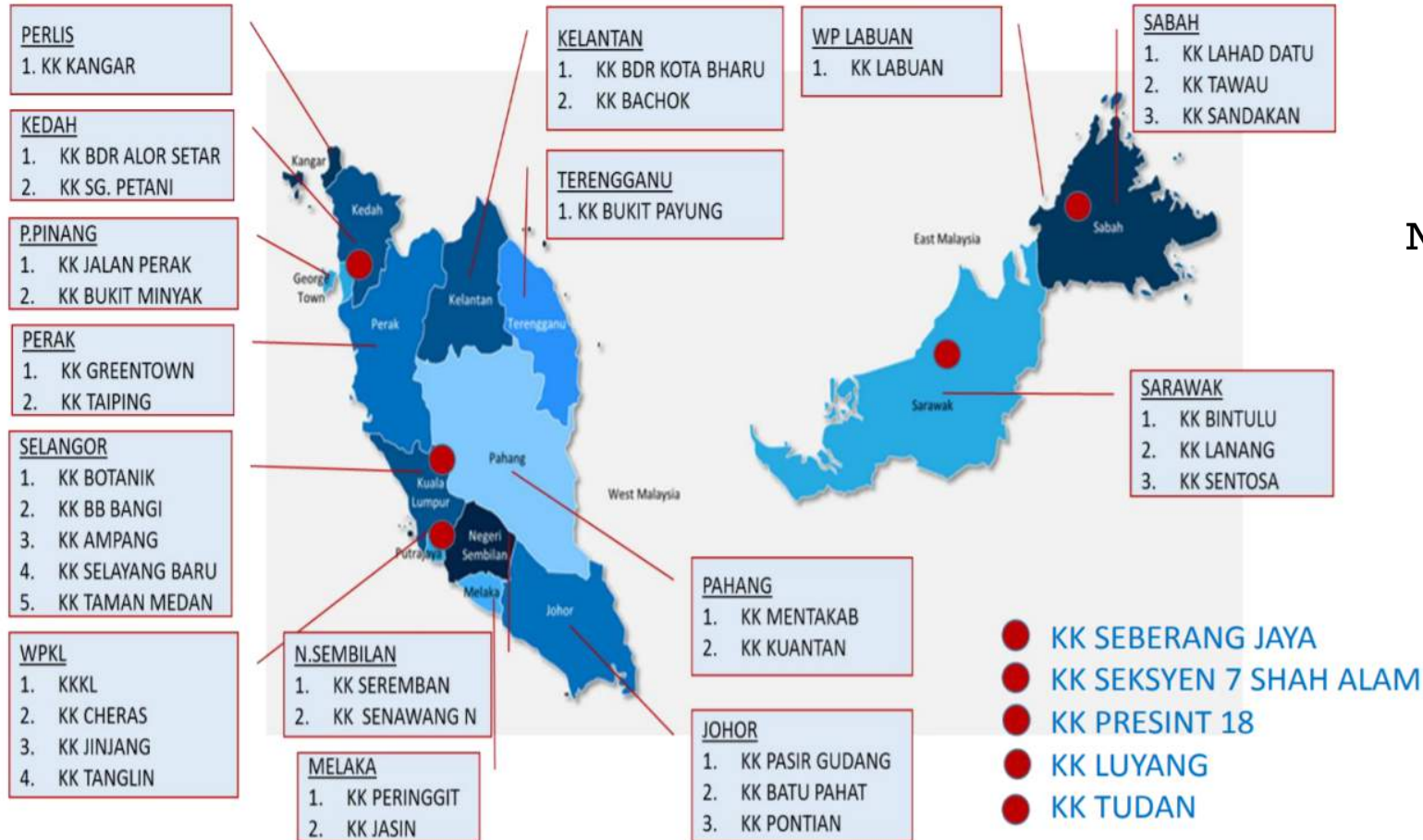
REDUCE CROWDEDNESS IN PRIMARY HEALTHCARE CLINICS

COVID-19 PANDEMIC

COMPLY TO NEW NORM: PHYSICAL DISTANCING

REDUCE CLINIC ATTENDANCE TO FLATTEN THE COVID-19 CURVE

VIRTUAL CLINIC IMPLEMENTATION



AUG 2019 – AUG 2020: POC in 5 KK

OCT 2020: EXTENDED SCOPE & INCREASE NO of CLINIC

No of MNT Cases consulted via Virtual Clinic 2020

MOHTH	VIRTUAL CLINIC	NO OF PROGRAM	NO OF PARTICIPANTS
PERLIS	69	0	0
P. PINANG	861	0	0
PERAK	46	4	107
SELANGOR	2,947	1	12
WPKL & PUTRAJAYA	87	0	0
NEGERI SEMBILAN	236	0	0
MELAKA	7	0	0
PAHANG	2	0	0
TERENGGANU	0	0	0
KELANTAN	598	0	0
SABAH	32	0	0
TOTAL	4,885	5	119

Official platform: 709 (14.6%)

Other platform: 4,178 (85.5%)



**GARIS PANDUAN BAGI PERLUASAN
PELAKSANAAN KLINIK VIRTUAL (VIRTUAL CLINIC)**

**BAHAGIAN PEMBANGUNAN KESIHATAN KELUARGA
KEMENTERIAN KESIHATAN MALAYSIA**

2020





GARISPANDUAN PELAKSANAAN KLINIK VIRTUAL & TELE-KONSULTASI PERKHIDMATAN DIETETIK

BAHAGIAN PEMBANGUNAN KESIHATAN KELUARGA
KEMENTERIAN KESIHATAN MALAYSIA

2020

ADOPTED FROM *GARISPANDUAN PERLUASAN PELAKSANAAN
KLINIK VIRTUAL, BAHAGIAN PEMBANGUNAN KESIHATAN
KELUARGA KKM*

ADDITIONAL DIETETICS SCOPE AND SERVICES INCLUDING:

- GROUP CONSULTATION,
- HEALTH EDUCATION CLASS,
- MULTI-DISCIPLINARY TEAM
- TELE-CONSULTATION

SCOPE & DEFINITION

Konsultasi Individu ertinya intervensi diet yang diberikan secara khusus kepada individu pelanggan. Terdapat penilaian pemakanan dan perancangan pemakanan diberikan khusus untuk individu/pelanggan berdasarkan penyakit dan keadaan pelanggan.

Konsultasi berkumpulan ertinya intervensi diet yang diberikan kepada 1 kumpulan pelanggan dalam satu-satu masa. Terdapat penilaian pemakanan asas dijalankan secara ringkas dan pelan pemakanan yang memenuhi kumpulan sasaran tersebut diberikan.

Kelas Pendidikan ertinya pendidikan diet yang diberikan secara berkumpulan, tiada penilaian dan perancangan intervensi khusus untuk setiap individu dijalankan. Maklumat yang disampaikan adalah maklumat asas yang standard bagi pengurusan diet dan penyakit tersebut.

Multi-disciplinary Team (MDT) ertinya intervensi yang dijalankan bersama beberapa profesion kesihatan secara bersepadu terhadap satu atau lebih pelanggan dalam satu masa yang sama.

Perkhidmatan tele-konsultasi ertinya penilaian dan intervensi pemakanan yang diberikan melalui talian telefon atau aplikasi *mesenger*

6.3. Data Rekod Perubatan Pesakit (RPP)

6.3.1. Tatacara Penyimpanan rekod pesakit

- 6.3.1.1. Maklumat pesakit perlu didokumenkan mengikut tatacara di dalam Garispanduan Pengendalian dan Pengurusan Rekod Perubatan Pesakit bagi hospital-hospital dan institusi perubatan Bil 17/2010 dan garis panduan yang berkaitan.
- 6.3.1.2. RPP perlu di simpan dan dilupuskan mengikut Jadual Rekod Perubatan 2016 di Fasiliti Kementerian Kesihatan Malaysia.
- 6.3.1.3. Secara dasarnya, video atau audio sepanjang sesi konsultasi virtual tidak boleh dirakam. Sekiranya rakaman dibuat, ia dibuat bagi tujuan tertentu seperti audit perkhidmatan dan penyelidikan, penyimpanan dan pelupusannya masih juga tertakluk kepada garis panduan pengurusan RPP yang berkuatkuasa.

6.3.2. Keselamatan Data (Security):

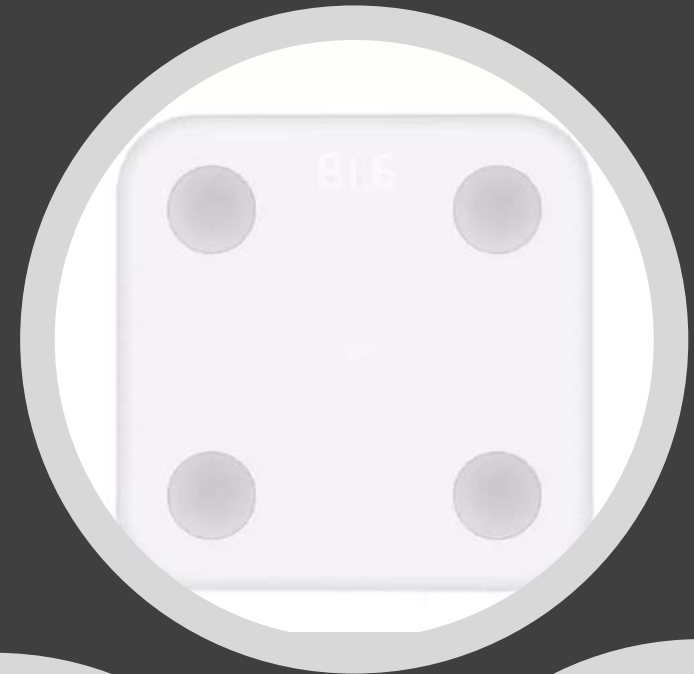
- 6.3.2.1. Pengendalian data pesakit dan sesi konsultasi virtual hendaklah mematuhi Dasar Keselamatan ICT semasa, yang terkini Dasar Keselamatan ICT KKM Versi 5.0 keluaran 2019.



COMMUNITY EMPOWERMENT

SELF MONITORING

- HEALTH TECHNOLOGIES DEVICES
& APPLICATION



DEVICE & SYSTEM RELATED TO NUTRITION & DIETETICS

- Encourage public and patients to do self monitoring using available tools and apps
- All information will be useful in managing cases and program development



Wearable Health Technologies



Enabled activity and fitness tracking



Tracks oxygen levels and easy way to track pulse

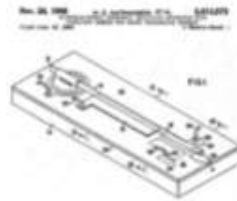


Adds more measurements to track fitness

Increased health through patient awareness



Tracks electrical activity of heart



Enables miniaturization of electrical systems



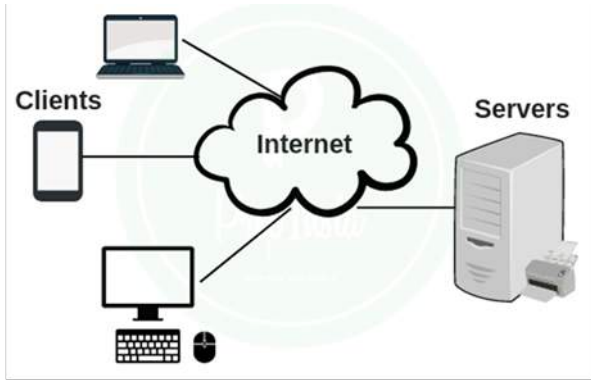
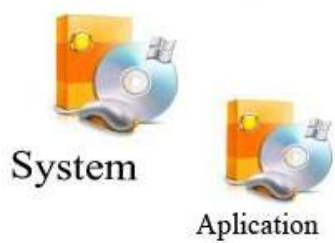
Tracks electrical activity of heart and potential diagnosis

Wearables can be used to collect data on a user's health including:

- Heart rate
- Calories burned
- Steps walked
- Blood pressure
- Release of certain biochemicals
- Time spent exercising
- Seizures
- physical strain

Software

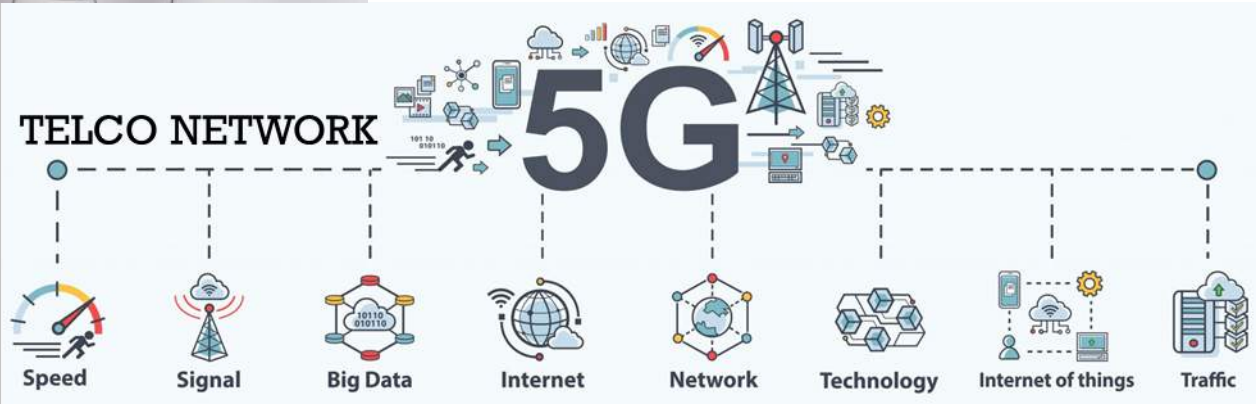
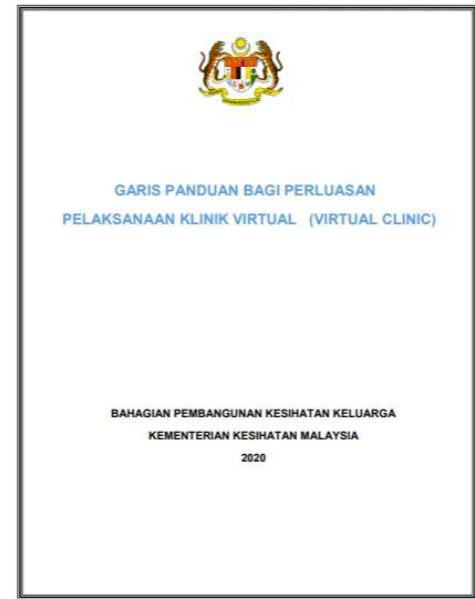
Hardware



NETWORK OPERATING SYSTEM



ISSUES IN IMPLEMENTATION: TELEMED & VIRTUAL CLINIC



ELECTRONIC MEDICAL RECORD (EMR) & ELECTRONIC HEALTH RECORD (EHR)

EHR and EMR: the difference

- **Electronic Medical Record (EMR):**

- An electronic record of health-related information on an individual that can be created, gathered, managed, and consulted by authorized clinicians and staff **within one health care organization.**

- **Provider-oriented**

- **Electronic Health Record (EHR):**

- An electronic record of health-related information on an individual that conforms to nationally recognized interoperability standards and that can be created, managed, and consulted by authorized clinicians and staff **across more than one health care organization.**

- **Patient-oriented**



ELECTRONIC HEALTHCARE SYSTEM IN MOH

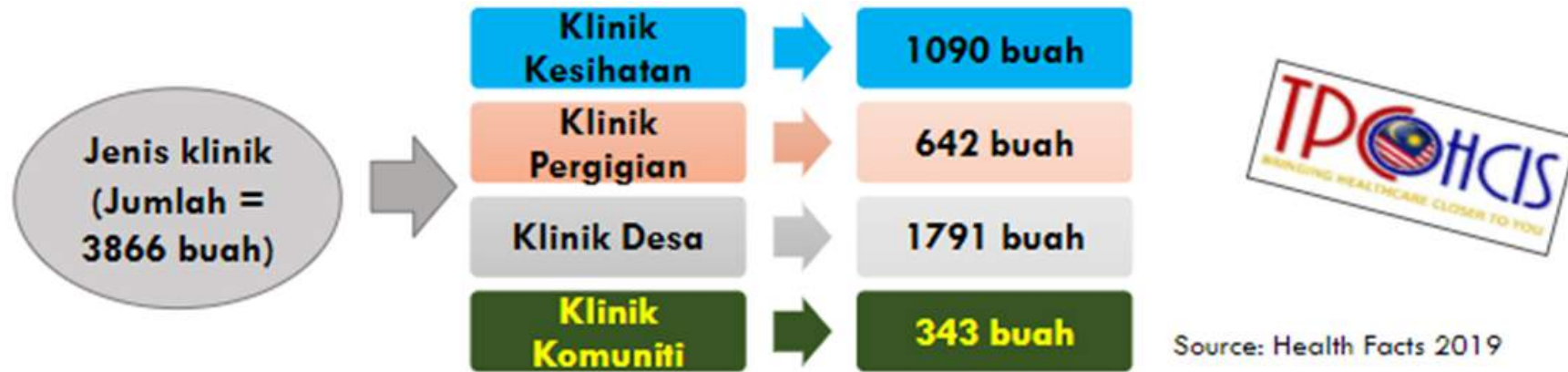


EMR Di Fasilitas Penjagaan Kesehatan Primer



Oral Health
Clinical
Information
System

CLINICAL SYSTEM LANDSCAPE in PRIMARY HEALTHCARE



Product	TPC (Teleprimary Care)	OHCIS (Oral Healthcare Information System)	TPC-OHCIS (new, integrated)	Manual
Taburan	89 Klinik Kesihatan (di 7 Negeri) (<10%)	13 Klinik Pergigian (2%)	6 Klinik Kesihatan 10 Klinik Pergigian (Daerah Seremban) (Lokasi Rintis)	Selebihnya (perancangan bagi peluasan TPC-OHCIS)

SOURCE: BAHAGIAN PEMBANGUNAN KESIHATAN KELUARGA, KKM

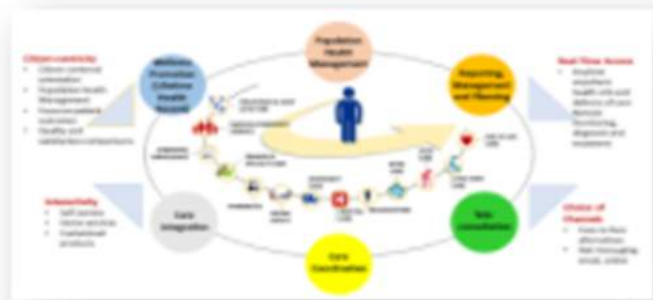
EMR PROJECT



Nationwide EMR implementation in MOH Hospitals/Clinics Establish Lifetime Health Record for all Malaysians

Vision

Malaysia is to be a nation of healthy individuals, families & communities.....



Goals

Care coordination & continuity of care



Clinical, operational & financial efficiency



Improve quality & health outcomes



Data driven insights

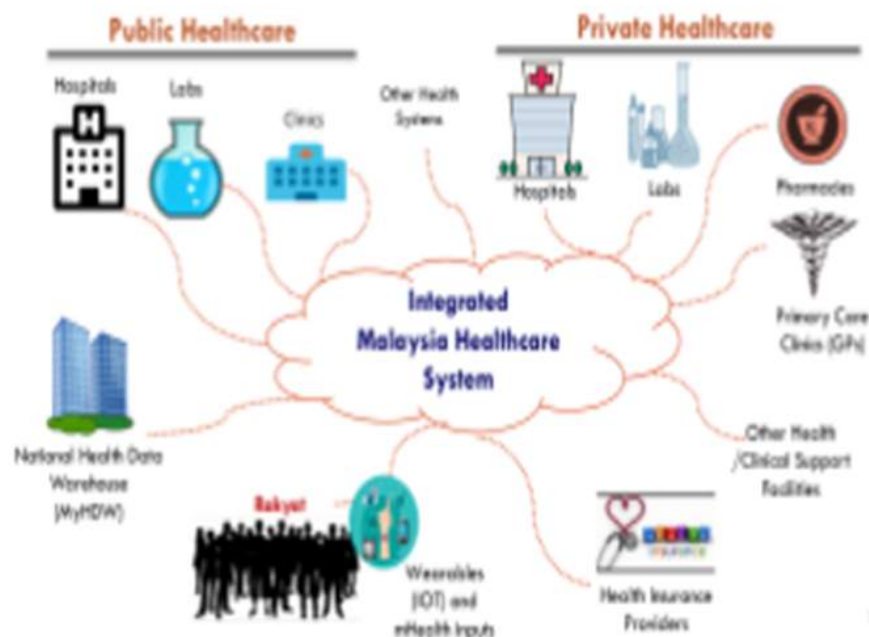


Better patient/customer experience



Outcome

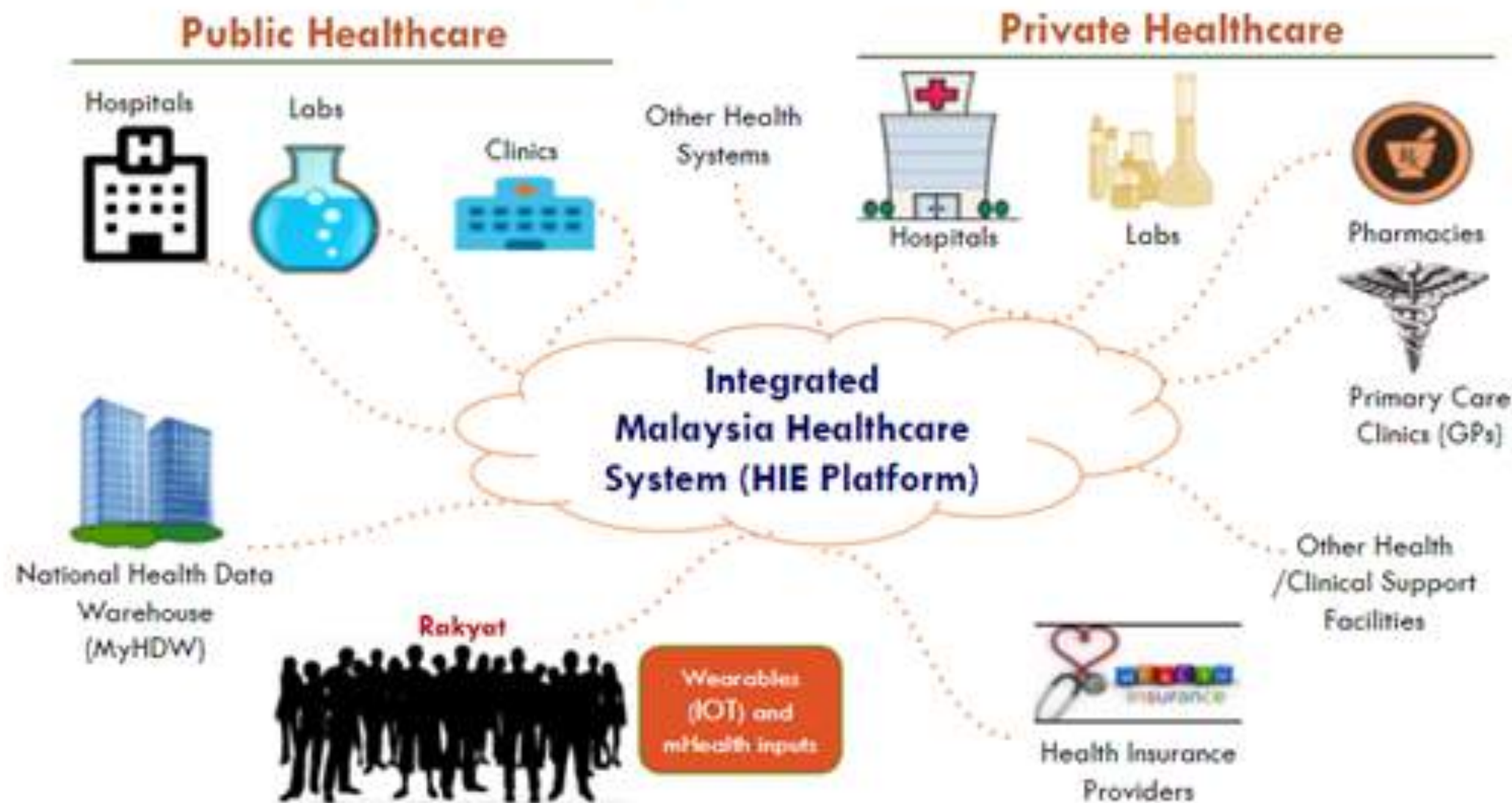
Integrated healthcare delivery system towards *Healthy Malaysia*





THE VISION

An Interoperable Health Ecosystem



Opsyen Pelaksanaan Projek EMR Kebangsaan: Projek Perintis

Opsyen I Negeri Sembilan	Opsyen II Kluster Hosp Seremban	Opsyen III Kluster Hospital Ipoh
Keseluruhan Negeri Sembilan 7 Hospital 44 KK 13 KP (termasuk integrasi pilot site TPC-OHCIS - 6KK+10KP)	Negeri Sembilan 4 Hospital 23 KK 11 KP	Negeri Perak 4 Hospital 32 KK 13 KP
Sistem KKM® 	Sistem KKM® 	Sistem KKM® 

*Telah mengambilkira keperluan komponen berkaitan untuk projek perintis:

- Hospital/Clinic Information System
 - Peningkatan Produk TPC-OHCIS
 - Peningkatan produk HIS@KKM
- Platform Integrasi
 - Peningkatan Produk MyHIX

- Teknologi Cloud
- Online registration & Payment Gateway
- Virtual Clinic

THANK YOU