

PERSIDANGAN PENGURUSAN KEMENTERAN KESIHATAN MALAYSIA 2015

**“LEAN MANAGEMENT: A PRADIGM SHIFT IN PUBLIC
SERVICE DELIVERY SYSTEM“**



**LEAN HEALTHCARE IMPLEMENTATION AT MOH
HOSPITALS**

**MEDICAL DEVELOPMENT DIVISION
19 DECEMBER 2014**



CONTENT

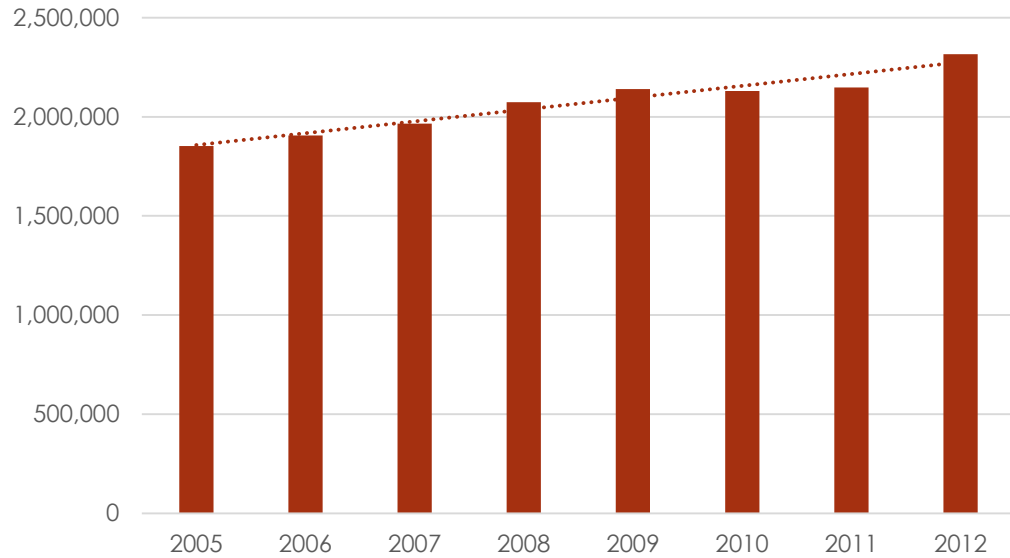
1. Our issue at hand: Hospital Congestion And Waiting Time
2. Why Lean?
3. Where we are now
4. Moving Forward – expansion plan
5. Showcase Lean Healthcare @ HSI JB

MOH HOSPITAL STATISTICS

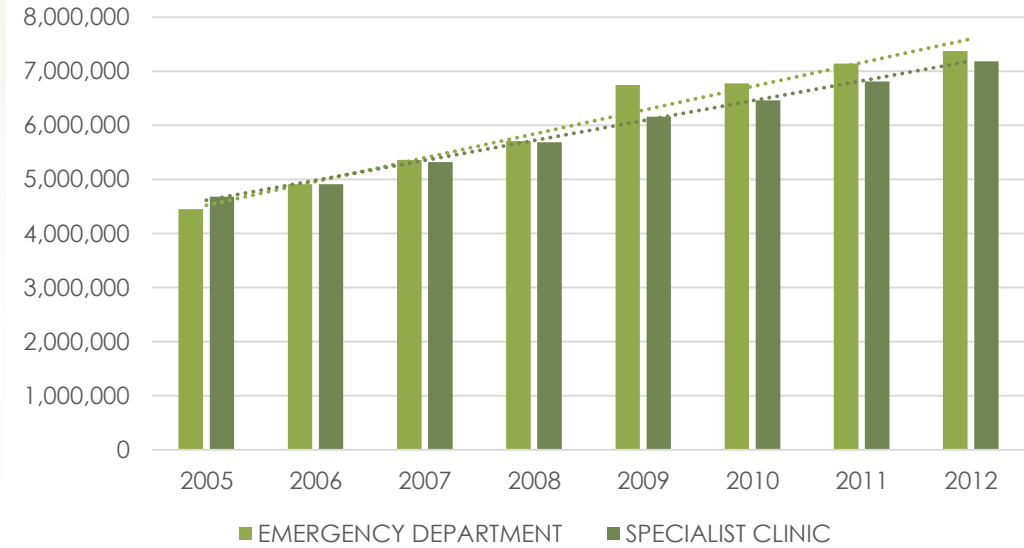
YEAR 2005 - 2012

| Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|------------------|------------------|
| TOTAL NUMBER OF ADMISSION | 1,852,399 | 1,905,089 | 1,964,903 | 2,072,855 | 2,139,906 | 2,130,563 | 2,146,962 | 2,314,860 |
| OUTPATIENT ATTENDANCES | | | | | | | | |
| 1. EMERGENCY DEPARTMENT | 4,447,222 | 4,911,674 | 5,362,143 | 5,706,468 | 6,745,721 | 6,775,712 | 7,143,433 | 7,369,128 |
| 2. SPECIALIST CLINIC | 4,679,474 | 4,913,051 | 5,316,625 | 5,685,183 | 6,161,035 | 6,458,492 | 6,807,243 | 7,183,880 |
| TOTAL | 9,126,696 | 9,824,725 | 10,678,768 | 11,391,651 | 12,906,756 | 13,234,204 | 13,950,676 | 14,553,008 |
| OPERATION | 760,038 | 782,776 | 826,276 | 858,871 | 911,363 | 913,256 | 940,193 | 1,038,792 |
| RADIOLOGY | 3,117,303 | 3,262,248 | 3,692,762 | 4,256,627 | 4,551,580 | 5,134,792 | 5,513,816 | 6,319,258 |
| PATOLOGY | 100,740,760 | 114,062,350 | 102,121,283 | 165,111,851 | 182,795,442 | 189,859,062 | 199,166,111 | 210,187,841 |

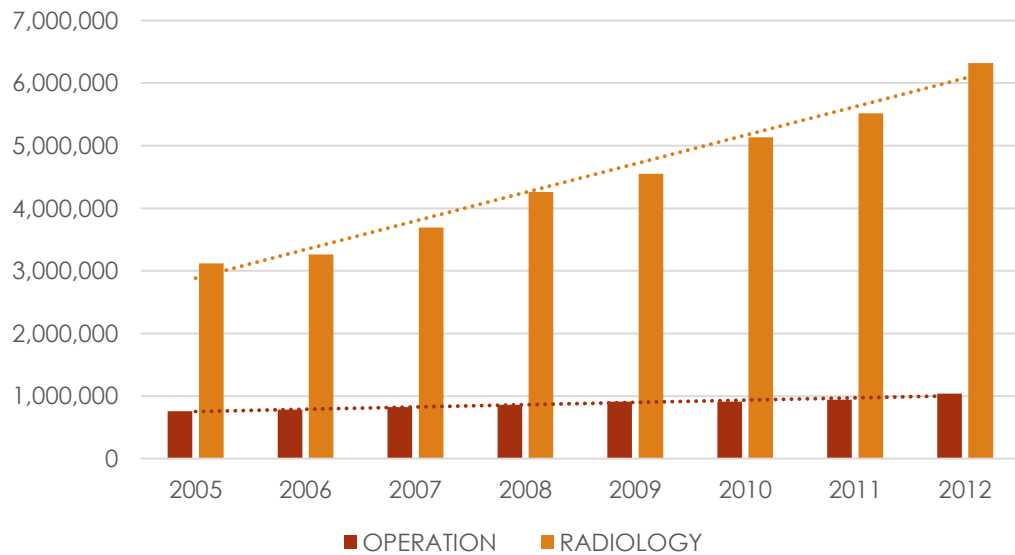
TOTAL NUMBER OF ADMISSION



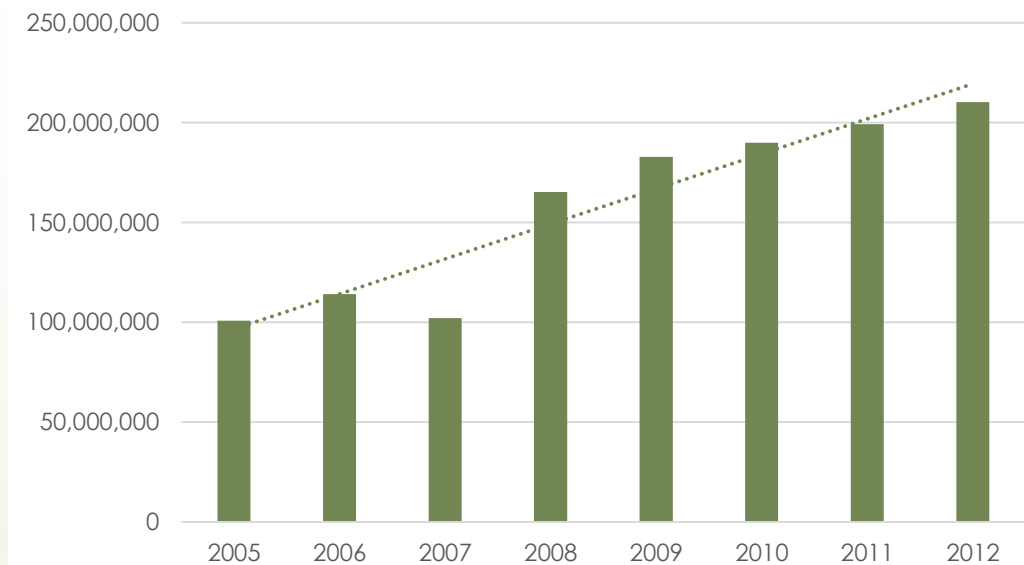
OUTPATIENT ATTENDANCES



RADIOLOGY & OPERATION WORKLOAD



PATHOLOGY WORKLOAD



MOH HOSPITAL STATISTICS

YEAR 2005 - 2012

| Year | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|-------------|-----------|-----------|-----------|------------------|------------------|------------------|------------------|------------------|
| BEDS | 34,119 | 35,660 | 37,149 | 37,836 | 38,059 | 37,793 | 38,394 | 38,978 |
| BOR% | 66.93% | 64.99% | 63.49% | 65.46% | 65.45% | 66.26% | 68.63% | 72.13% |
| ALOS (Days) | 4.49 | 4.45 | 4.37 | 4.36 | 4.25 | 4.20 | 4.21 | 4.22 |
| TOI (Days) | 2.22 | 2.40 | 2.46 | 2.30 | 2.24 | 2.14 | 1.92 | 1.63 |
| DISCHARGE | 1,855,020 | 1,899,580 | 1,970,958 | 2,072,449 | 2,139,768 | 2,128,818 | 2,151,829 | 2,317,722 |
| DEATH RATE | 2.13 | 2.13 | 2.19 | 2.22 | 2.25 | 2.21 | 2.23 | 2.19 |

Outpatient



MEDIA REPORT – Hospital Congestion



No place for patients

Hospitals in the Klang Valley are facing a severe problem with overcrowding and many inpatients are left on extra beds in every available space.



KEADAAN Hospital Klang sangat teruk, pesakit terpaksa diletakkan di ruang laluan. Minta pihak kerajaan dan Kementerian Kesihatan melakukan sesuatu agar pesakit mendapat keselesaan.

•RIMAN



Running out of space

Government hospitals in Klang Valley facing a shortage of beds for patients

Exclusive
SARAWAK: The Klang Valley is facing the most severe shortage of beds in government hospitals. Further down the road, the shortage is expected to worsen as the number of patients increases. The shortage is expected to worsen as the number of patients increases. The shortage is expected to worsen as the number of patients increases.



Right: Bedside medical staff attending to a patient in the emergency ward. Below: A view of the ward.



HTAR digesa tangani isu kurang katil

Kelawaran urusan pesakit kritikal ke wad jajaan musta diperhalusi

KUALA LUMPUR: Menteri Kesihatan, Datuk Seri Dr. Noor Hisham Abdullah, berkata HTAR (Hospital Transformation Agency) akan segera menangani isu kekurangan katil di hospital. Beliau berkata, HTAR akan memastikan bahawa pesakit-pesakit yang memerlukan rawatan segera dapat ditempatkan di hospital dengan selamat.



HTAR akan memastikan bahawa pesakit-pesakit yang memerlukan rawatan segera dapat ditempatkan di hospital dengan selamat. Beliau berkata, HTAR akan memastikan bahawa pesakit-pesakit yang memerlukan rawatan segera dapat ditempatkan di hospital dengan selamat.



Hospital sesak
KUALA LUMPUR: Hospital Kuala Lumpur (HKL) mengalami masalah kekurangan katil. Pesakit-pesakit yang memerlukan rawatan segera terpaksa menunggu di ruang laluan. Pihak hospital meminta kerajaan untuk membantu mengatasi masalah ini.

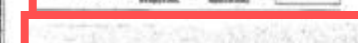
70,000 katil diperlukan tampung keperluan
KUALA LUMPUR: Menurut kajian terbaru, diperlukan 70,000 katil tambahan untuk memenuhi keperluan hospital di Klang Valley. Pihak hospital meminta kerajaan untuk membantu mengatasi masalah ini.



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HTAR padat pesakit
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Town needs a new, better one
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Klang hospital to get better
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CONGESTION

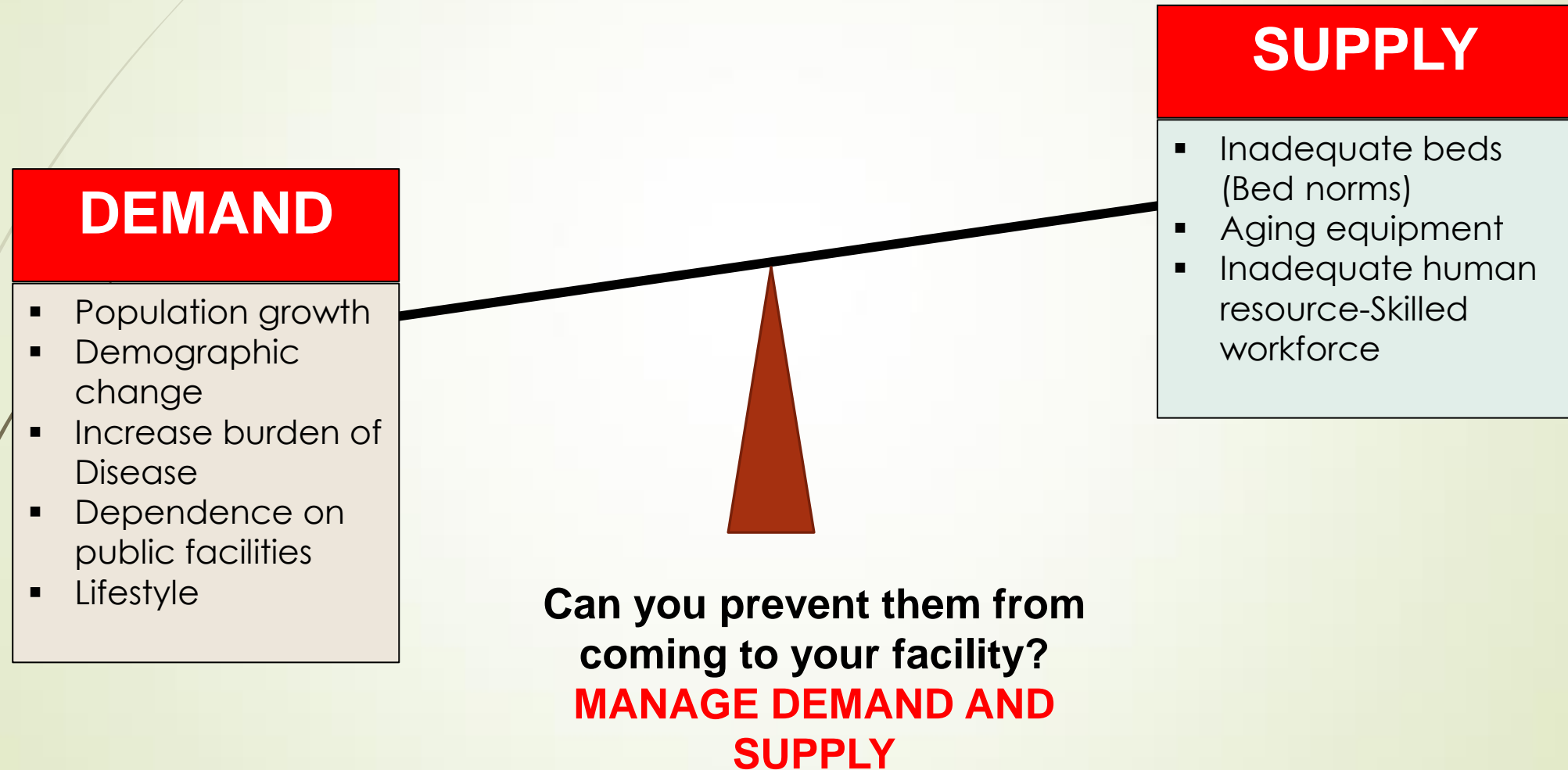


Have we gone this far?



CONGESTION & WAITING TIME

Demand vs Supply



CONGESTION: OTHER FACTORS

Patient Flow

- Inefficient processes
- Wastage – MUDAs of Health care; Transportation , Motion, Waiting, Over processing, Inventory, Defects, Over production

Patient expectation

- Specialist care
- Bypassing phenomena
- Imbalance in bed utilization

Maldistribution of Resources

- Urban vs Rural



CONTENT

1. Understanding Hospital Congestion And Waiting Time
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WHY LEAN?

- Continuous effort by Ministry and innovation at facility level to improve service delivery. Looking at ways to improve service delivery.
- Lean was introduced to the MOH Hospitals as part of a PSDT initiative (Public Service Delivery Transformation).
- Developed by as the Toyota Production system 50 years ago. Basically, **Lean looks at process and eliminate waste.** Early 2000 – Lean Healthcare
- Partnership with PEMANDU



LEAN HEALTHCARE IS GOOD FOR...

PATIENT

- Improvement in clinical quality
- Reduce waiting time. Lean values waiting time.

STAFF

- Decrease walking, waste, frustration. Solve everyday problem
- More time for value added work

ORGANISATION

- Reduce cost through eliminating waste
- Building strong organisation. Attracting and keeping good employees.

LEAN PHILOSOPHY

- Lean thinking is not a manufacturing tactic or a cost reduction programme,
- but **a management strategy that is applicable to all organisations because it has to do with improving processes.**
- All organisations – including healthcare organisations – are composed of a series of processes, or sets of actions, intended to create value for those who use or depend on them (customer/patients)

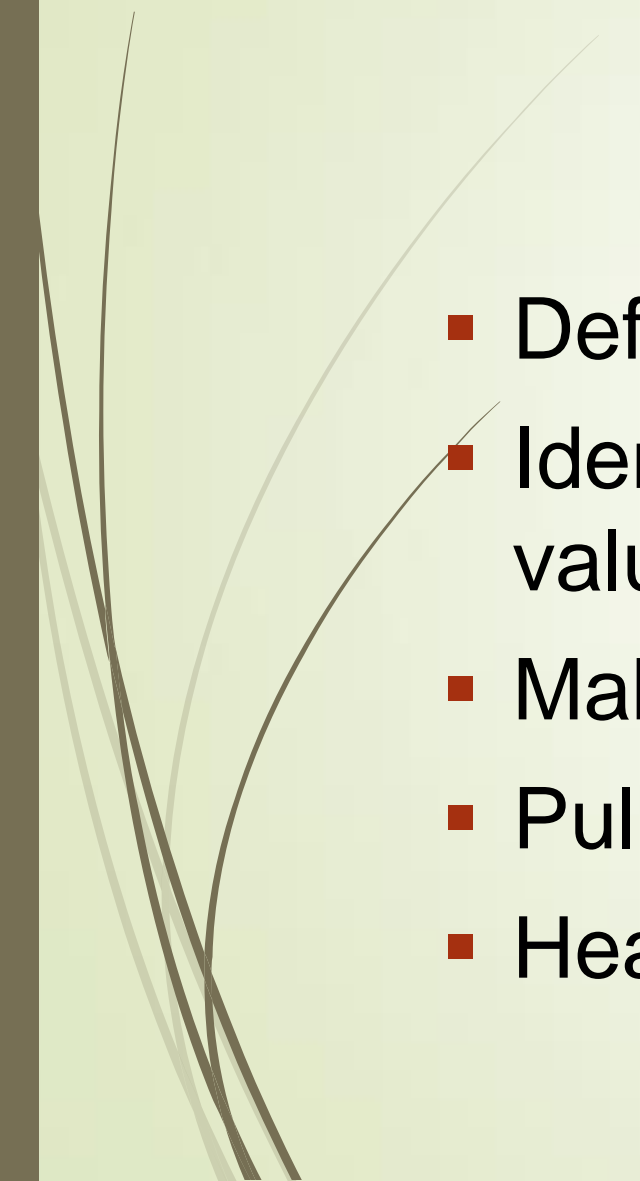
LEAN PRINCIPLES

Jones & Womack, Lean Thinking 2000





THE 5 PRINCIPLES OF LEAN THINKING

- Define value from the customer perspective
 - Identify the value stream (key process):
value stream analysis
 - Make the process flow
 - Pull from the customer
 - Head toward perfection
- 

IMPROVING PATIENT'S EXPERIENCE WHILE BALANCING EFFICIENCY



Patient's demand



LEAN's Seven Types of Waste

| | |
|------------------------------|---|
| Overproduction | <ul style="list-style-type: none">• Extra copies of forms• Repeating a procedure when not required or sooner than is necessary |
| Waiting | <ul style="list-style-type: none">• Patients waiting for discharge• Equipment not fully used |
| Excess inventory | <ul style="list-style-type: none">• Lab samples batched for analysis• Doing things before they are needed |
| Unnecessary transport | <ul style="list-style-type: none">• Excessive e-mail copies• Excessive travel of specimens for lab |
| Unnecessary movement | <ul style="list-style-type: none">• Tasks and equipment are not adjacently places for optimum workflow• Walking about by staff not minimized |
| Defects | <ul style="list-style-type: none">• Procedure errors• Redraws |
| Over or incorrect processing | <ul style="list-style-type: none">• Excessive bed moves• Explicate questions to patients |

Mura

gemba

Poka-yoke

5S

RIE

kanban



Kaizen

Six Sigma

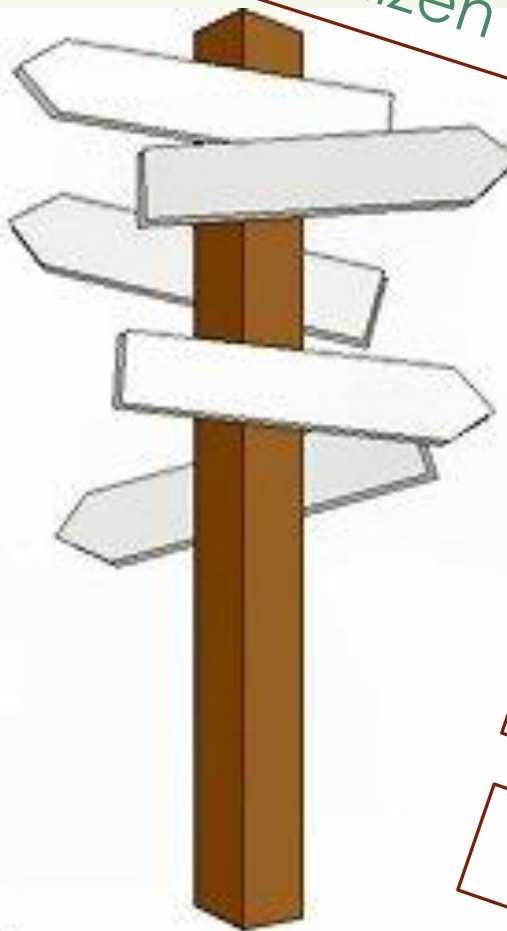
JIT

MBB

FMEA

A3

SMED





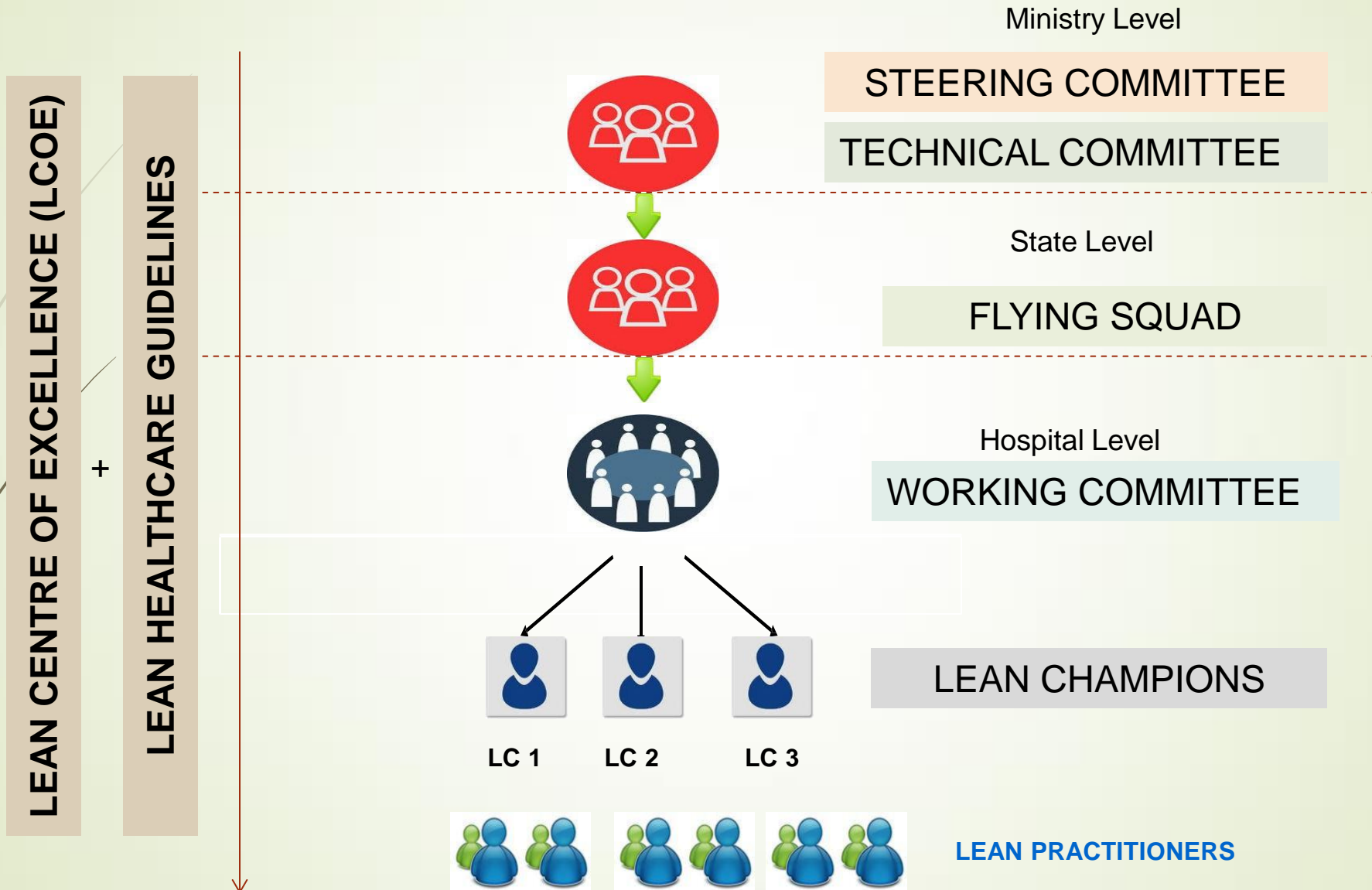
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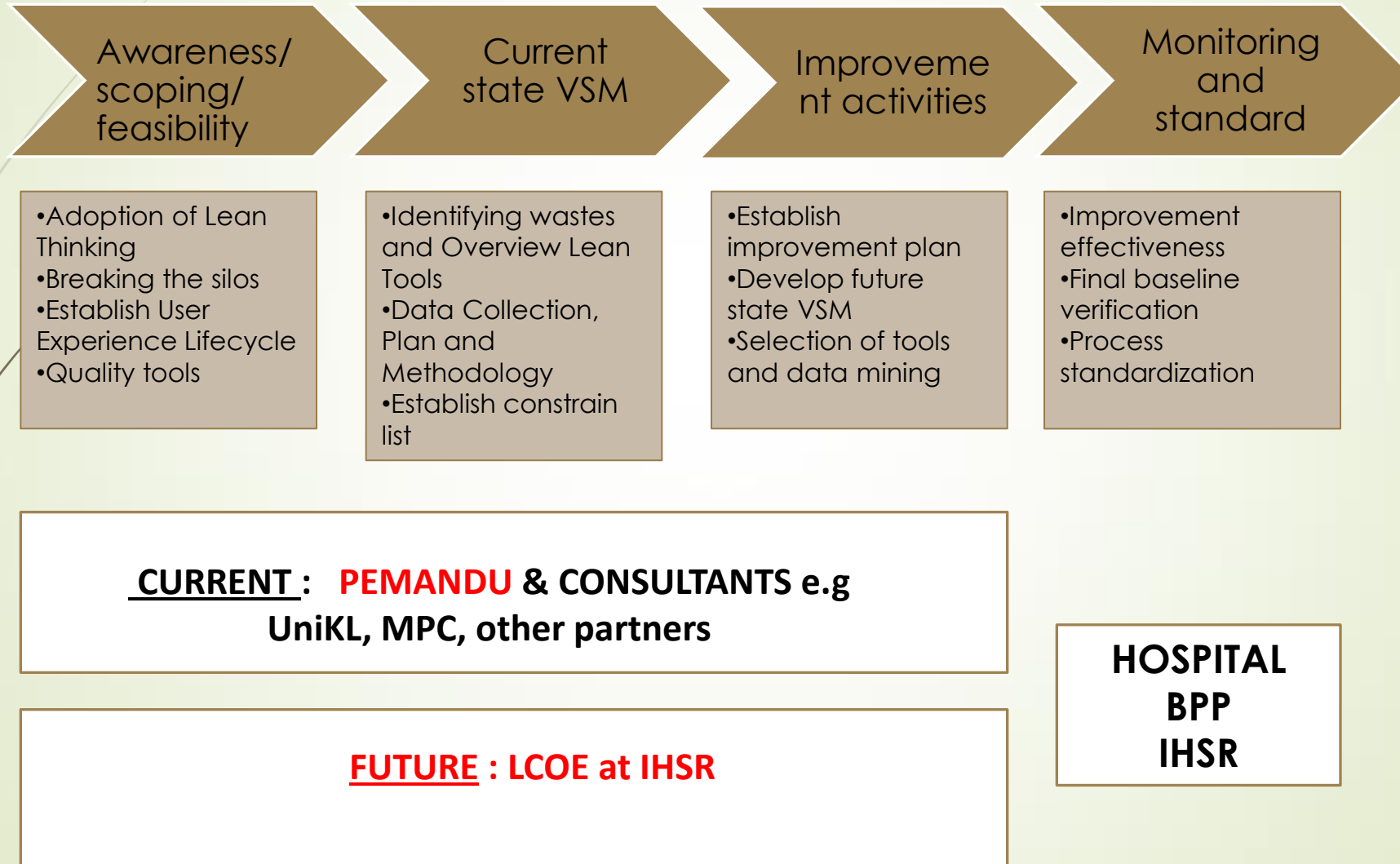
LEAN HEALTHCARE INITIATIVE's JOURNEY

- Introduced in MOH to have more *patient-centered care* by improving work processes, efficiency, and the patient's journey.
- Currently, the focus of Lean Healthcare initiatives in MOH facilities are **to reduce congestion, and reduce waiting time.**
- First introduced in MOH hospital **Oct 2013** at Hospital Sultan Ismail, JB.
- **AIM: To ensure a smooth implementation journey and sustainability of *Lean Healthcare* at facility level**

LEAN GOVERNANCE AND SUSTAINABILITY FRAMEWORK



PROJECT IMPLEMENTATION



Hospital Raja Perempuan Zainab II

- Waiting time at general medical outpatient clinic
- Waiting time to discharge patient in medical ward
- Time for urgent BUSE result
- Completion of medical report within 28days
- Process time for submitting complete document to TBP for funding of prostheses

Hospital Selayang (Jan 2015)

Hospital Tengku Ampuan Rahimah

- Waiting time at ED Green Zone.
- Congestion in Medical Ward

HCARE EXPANSION PLAN

Hospital Sultanah Nur Zahirah

- Waiting time at general medical outpatient clinic
- Waiting time for discharge at antenatal and postnatal ward
- Serving the first dose of medication in Medical Ward

Hospital Tengku Ampuan Afzan

- Waiting time at Ophthalmology Specialist Clinic.
- Waiting time for discharge at orthopaedic ward
- Waiting time at Cardiology Clinic



Hospital Sultanah Aminah

- Waiting time for minor surgery
- Waiting time at Ophthalmology Specialist Clinic

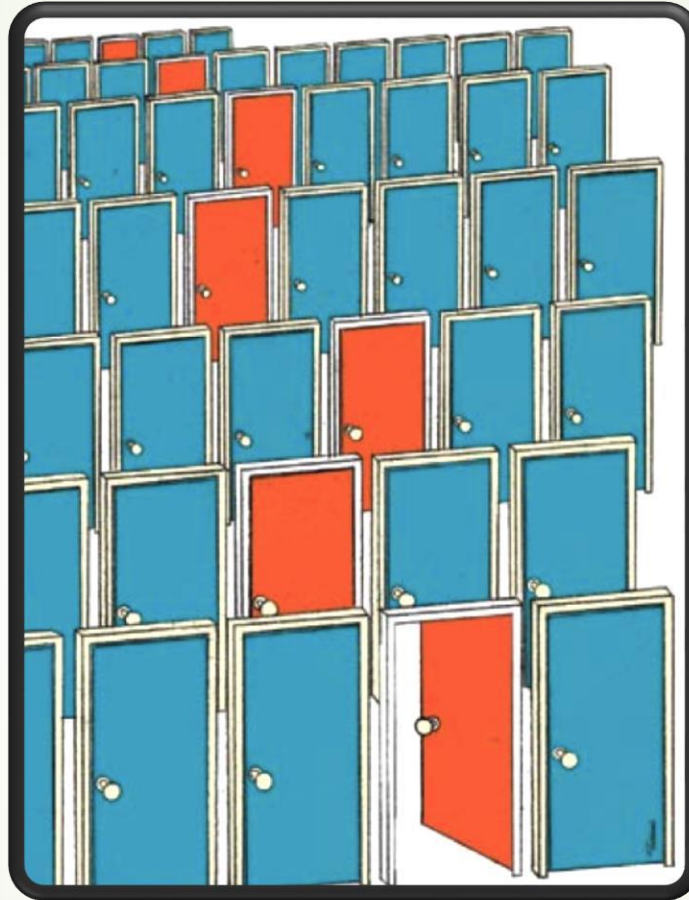
Hospital Sultan Ismail

- Waiting time for radiotherapy treatment (Oncology Dept)
- Waiting time at Orthopaedic Clinic

TWO APPROACHES IN GOING FORWARD

1

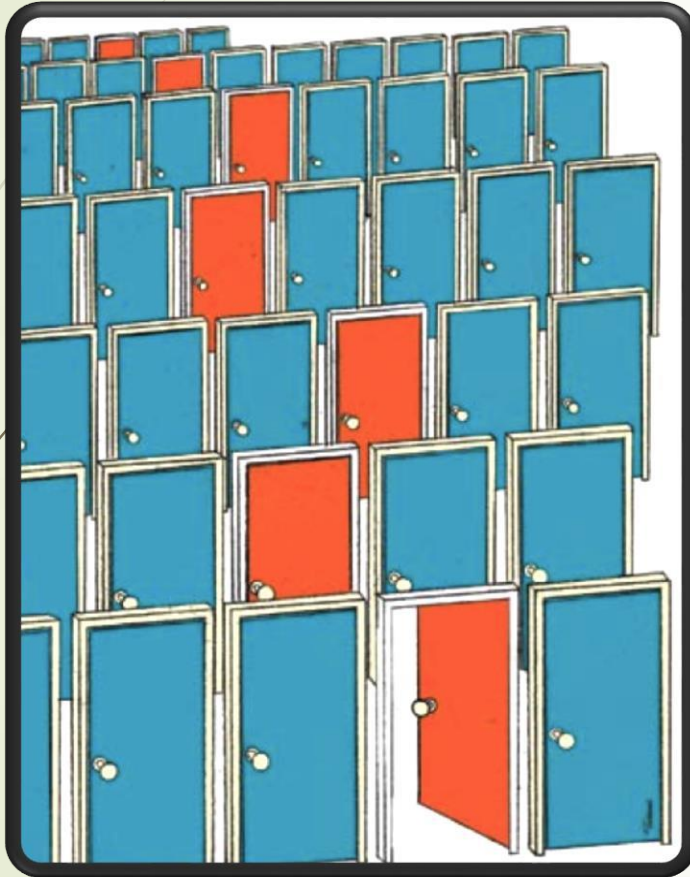
Take a **sequential approach** – hospital by hospital



2

Take an **agile approach** – one pilot process and repeat at other hospitals (**RED** doors)

TWO STEPS TO THE AGILE APPROACH



1

Stability 1st

Some form of LEAN improvement & standardisation (using LEAN methodology)

2

Re-design

Better flow, pull & perfection system (using DESIGN thinking approach)

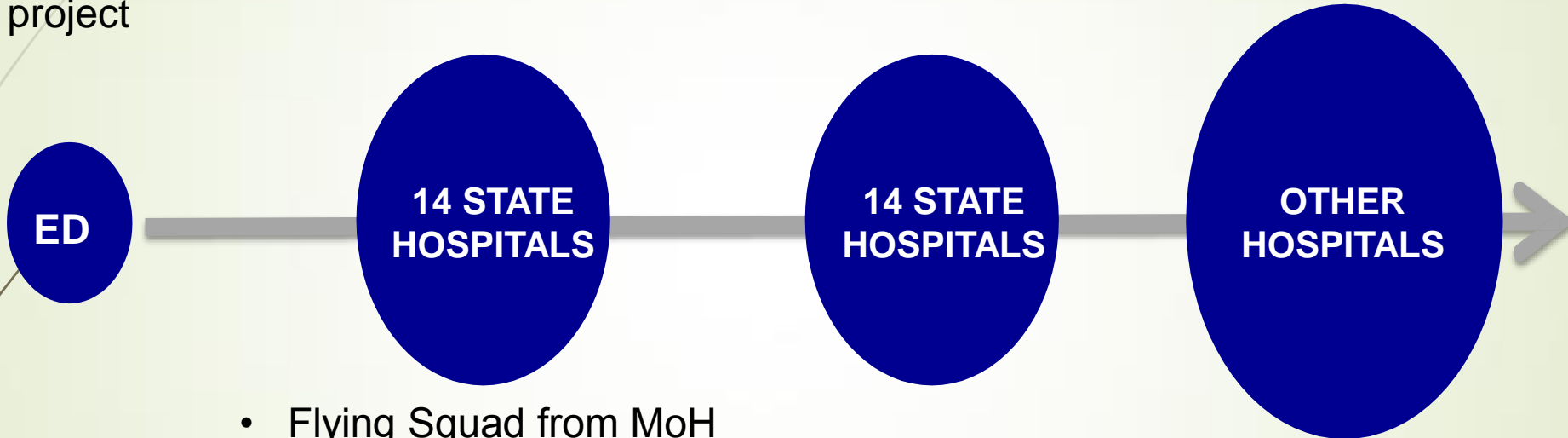
THE AGILE APPROACH IN PERSPECTIVE...

Take one process from the LEAN pilot project

Share the improvements & re-design it to an "ideal ED"

After 6 months, refine for roll-out to the rest of hospitals

Roll-out to other hospitals in batches

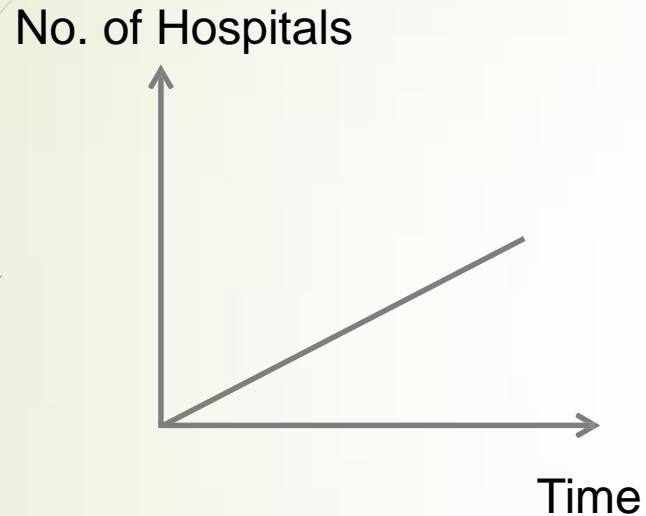


- Flying Squad from MoH
- UniKL / consultants
- PEMANDU officers
- 2-3 key officers from each state hospital

THE TWO APPROACHES IN SUMMARY...

1

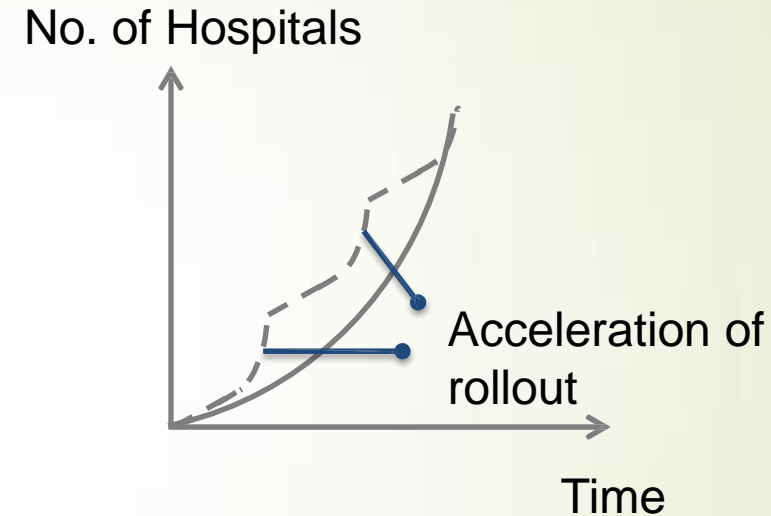
Sequential Approach



- Sequential rollout of LEAN to hospitals
- Amplification of initial successes will only happen if there are overlaps and even then, it is likely to be limited

2

Agile Approach



- Accelerate and amplify initial successes by leveraging on the collective experience and knowledge of senior healthcare practitioners to design and pilot 'ideal' operating units at multiple hospitals in parallel.
- Once successful, the model will be replicated at the remaining hospitals.



Building a Lean Culture

- Means Winning “One Heart And Soul At A Time” until a critical mass is reached
- Lean Leaders must be identified. Senior Managers / Heads of Department / Clinical Specialist. Leaders at all level.
- Top-down / strong leadership support
- Continuous Improvement.
- Training



Building a Lean Culture

- You know you're there when all employees engage in identifying and eliminating waste every day; question everything they do; to act on fact and not on opinion, and to work together and not in SILOS!
- Continuous improvement is hard work and hardwork doesn't sustain itself! Requires continuous leadership support.



FOR YOUR ATTENTION