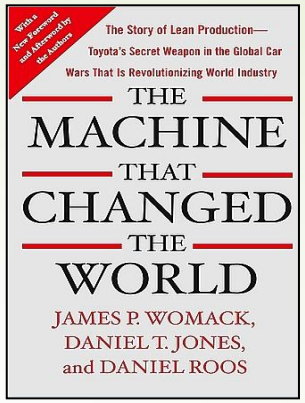
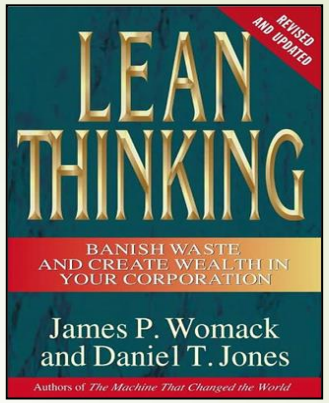
LEAN MANAGEMENT:
A Paradigm Shift in the Service Delivery System

DR ARBAIN BIN LANI
HOSPITAL SULTAN ISMAIL, JOHOR BAHRU

AGENDA

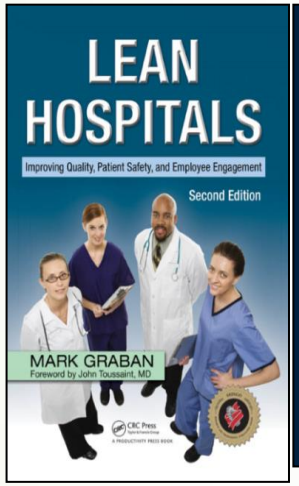
- LEAN
- HSIJB IN BRIEF
- LEAN IN HSIJB: THE BACKGROUND
- ISSUES OF SERVICE WASTAGE
- HSIJB: IMPLEMENTATION OF LEAN INITIATIVES
- LEAN: HSIJB EXPERIENCE 1 ..ORTHOPAEDIC SERVICES
- LEAN : HSIJB EXPERIENCE 2 ONCOLOGY SERVICES
- LESSONS LEARNT.

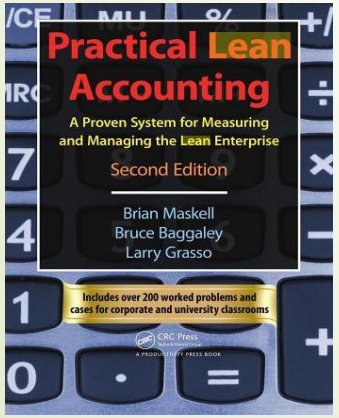


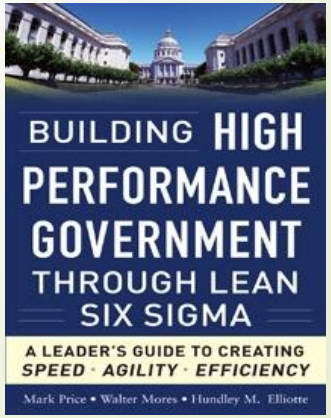


LEAN

Transition from Manufacturing to Service Industry (in the US)







WHAT IS LEAN THINKING ?

" The endless transformation of **waste** into value from customer's perspective"

Source: Womack & Jones: Lean Thinking

LEAN THINKING

VALUE:

See the value from customer's perspective (the patient's).

Anything that helps treat the patient is value-adding.

VALUE STREAM:

Identify all value-added steps across department boundaries (the value stream), eliminating steps that do not create value.

WASTE :

Everything that non value added is waste.

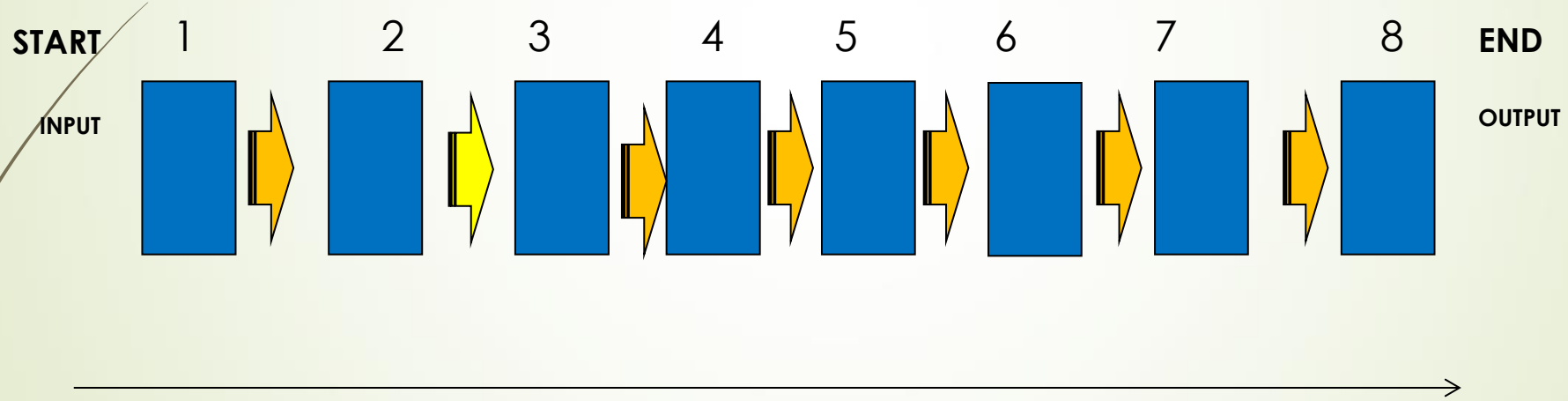
WASTE IN LEAN

- **WASTE** = NON VALUE ADDED PROCESS
- D = Defect Rework
- O = Overproduction
- W = Waiting
- N = Not using staff talent
- T = Transportation
- I = Inventory
- M = Movement
- E = Excessive Process

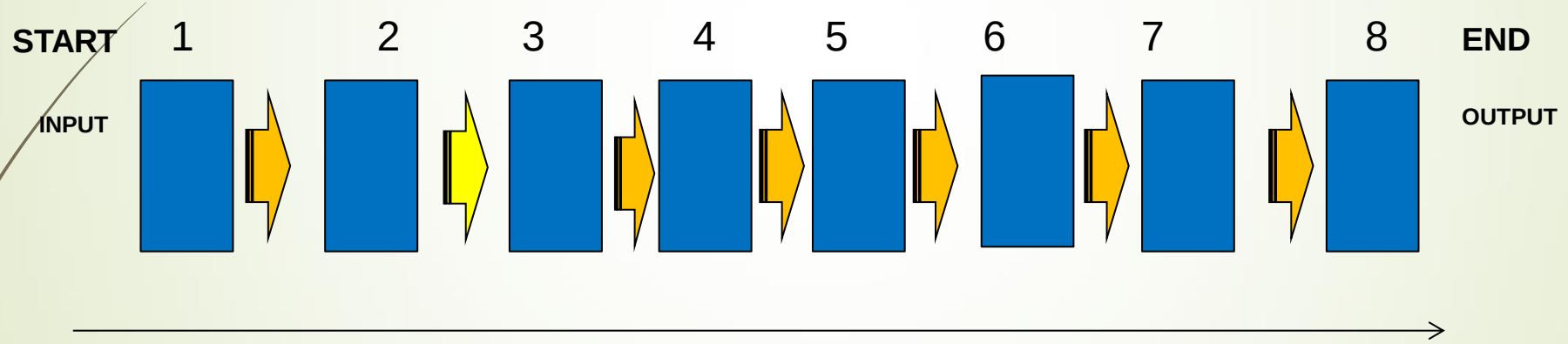
LEAN TERMS

- VALUE
- VALUE STREAM
- WASTE=non value added from customer perspective.
- KAIZEN=improvement
- KAIZEN BURST= improvement activities
- GEMBA=presence at the scene
- KANBAN= inventory control
- HEINJUKA = equal distribution

STEPS IN PATIENT CARE /SERVICE DELIVERY



STEPS IN PATIENT CARE / SERVICE DELIVERY



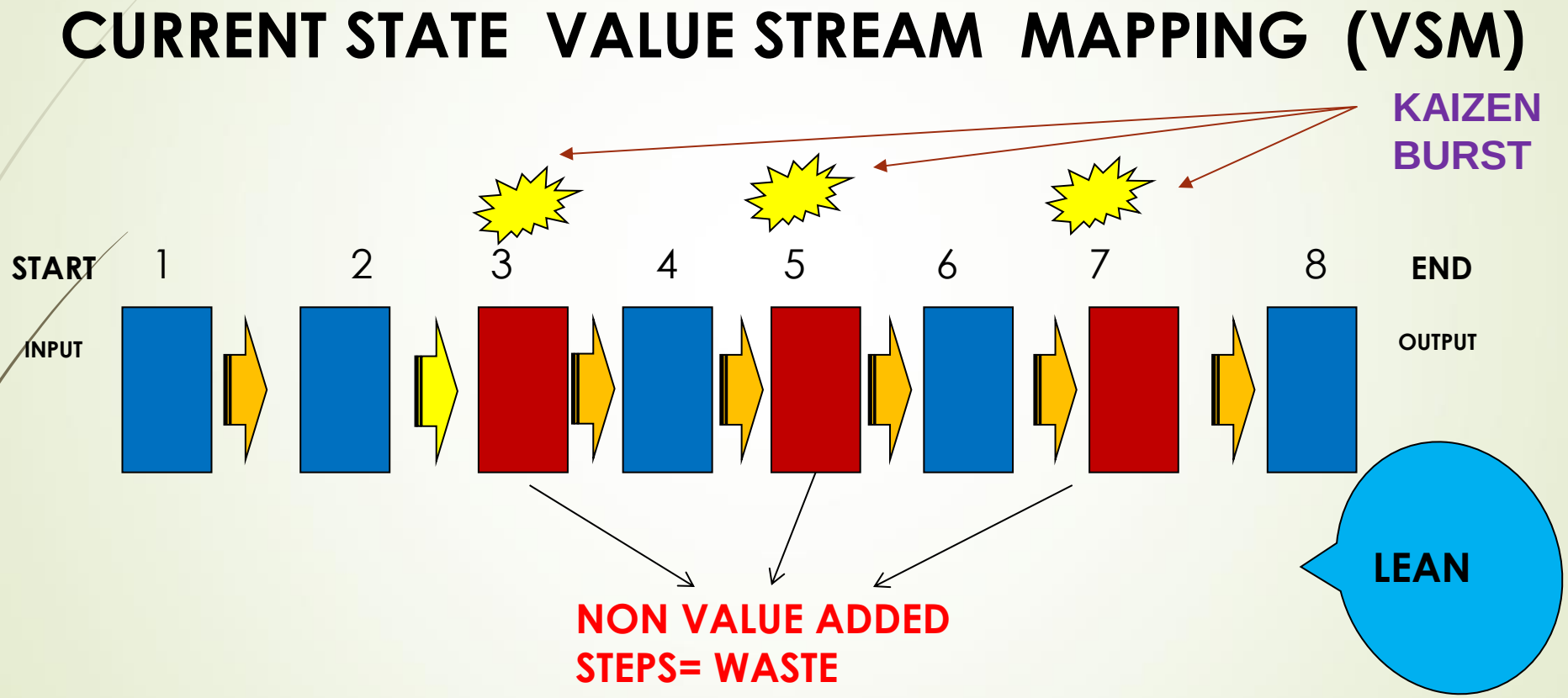
LEAN:
CUSTOMER= MAN + PROBLEMS + PURPOSE
= MAN + ILLNESS + GET WELL
CUSTOMER VIEWS = anything that support to get well soon is NOT WASTE, anything that don't support is WASTE.

CUSTOMER

LEAN IN HEALTH SERVICES

- Focus on patients and design care around them
- Identify value for the patient and get rid of waste
- Minimise time to treatment and through it course

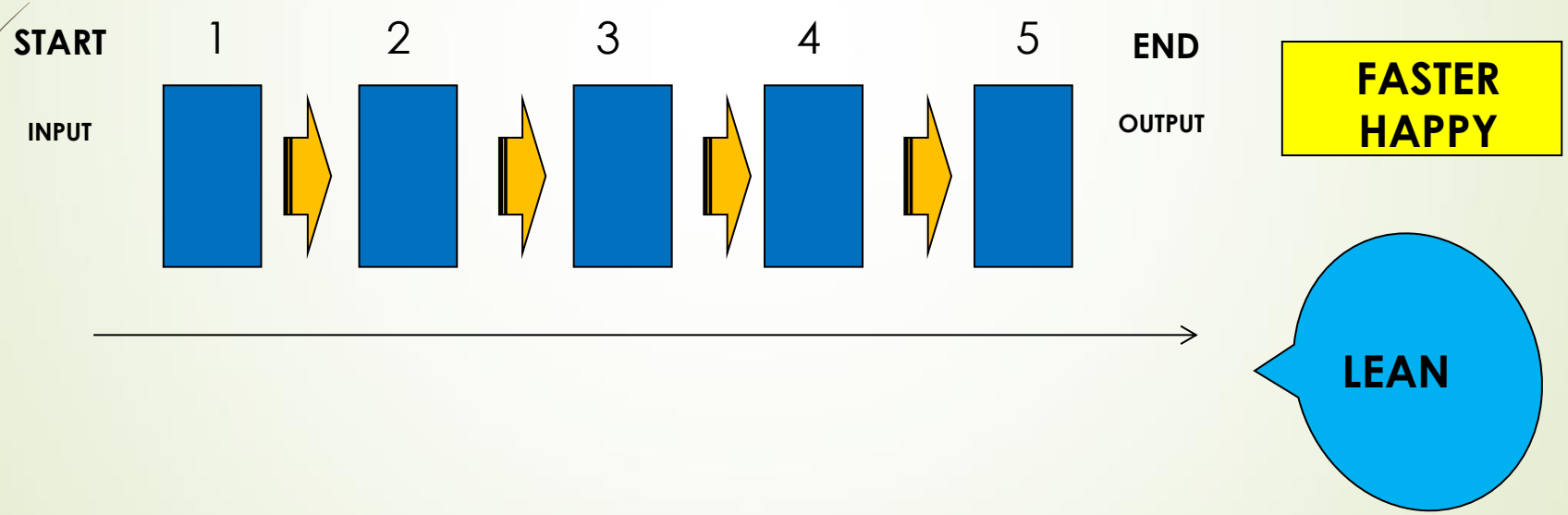
LEAN APPLICATIONS



LEAN method: Continuous improvement activity which focus at non value added in the process given. It is a customer centered approach.

LEAN APPLICATIONS

FUTURE STATE VALUE STREAM MAPPING (VSM)



REMOVED/ MODIFIED NON VALUE ADDED STEPS= WASTE, 3,5,7.

6C *COURIOSITY, CARE,COMMITMENT, COURAGE, CREATIVE, COST*

HOSPTAL SULTAN ISMAIL JB (HSIJB) EXPERIENCE

HOSPITAL SULTAN ISMAIL JB

- Built 1999, Started operation 2006
- THIS hospital
- 704 Certified Beds
- 22 wards, 18 OT
- 45,000 Admissions
- 12,000 Births
- 176,944 Specialist Clinic Visits
- 96,561 Emergency dept visits
- 63 resident specialists/ 18 specialist services with 19 subspecialties
- 2000 Employees
-

Southern Region Oncology Center

LEAN IN HSIJB

- As part of public service delivery transformation programme, Hospital Sultan Ismail Johor Bahru (HSIJB) has been assigned by Ministry of Health to implement lean management to improve patient's waiting time.
- Two departments have been chosen to implement lean initiative.
- Department of Oncology has been assigned on the initiatives to reduce waiting time of head and neck cancer patient to receive radical radiotherapy treatment.
- Department Orthopaedic has been assigned to reduce waiting time for patient to see doctor in Orthopaedic Specialist Clinic.
- These initiatives have been started from September 2013 in collaboration with UniKL and PEMANDU.

INITIATIVES

- To improve Waiting time to see doctor at Orthopaedics Specialist Clinic HSIJB.
- To improve Waiting time of head and neck cancer patient to start radiotherapy treatment after first consultation by Oncologists at Oncology Centre HSIJB.

Lean Hospital Team

Hospital Sultan Ismail

Dr Khursiah Binti Daud

LEAN method: Continuos improvement activity which focus at non value added in the process given. It is a customer centred approach.

PEMANDU
PERFORMANCE MANAGEMENT AND DELIVERY UNIT

LERC
Universiti Kuala Lumpur
LEAN EXCELLENCE
Research Center

TRAINING PHASES

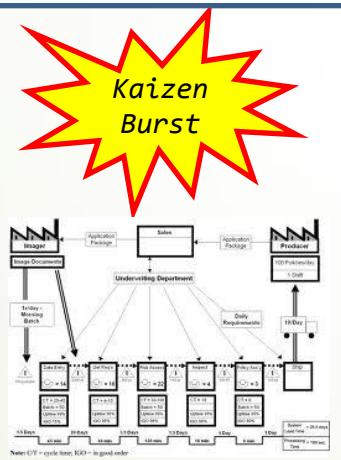
PHASE 1

Lean Thinking

- AWARENESS
- Team charter

PHASE 2

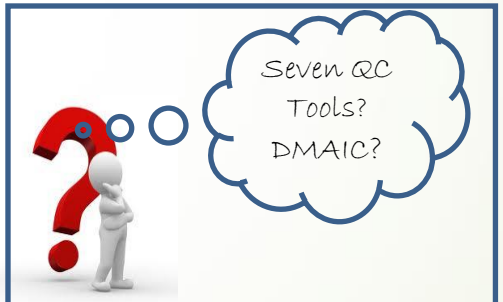
Current state vsm



- Perceive vs. Actual
- Data collection
- Kaizen Burst identification

PHASE 3

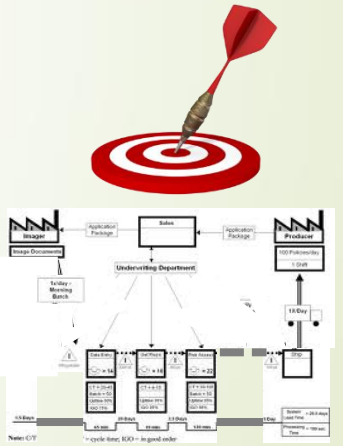
Improvement activities



- Tools and Techniques
- Solution implementation

PHASE 4

Future state vsm

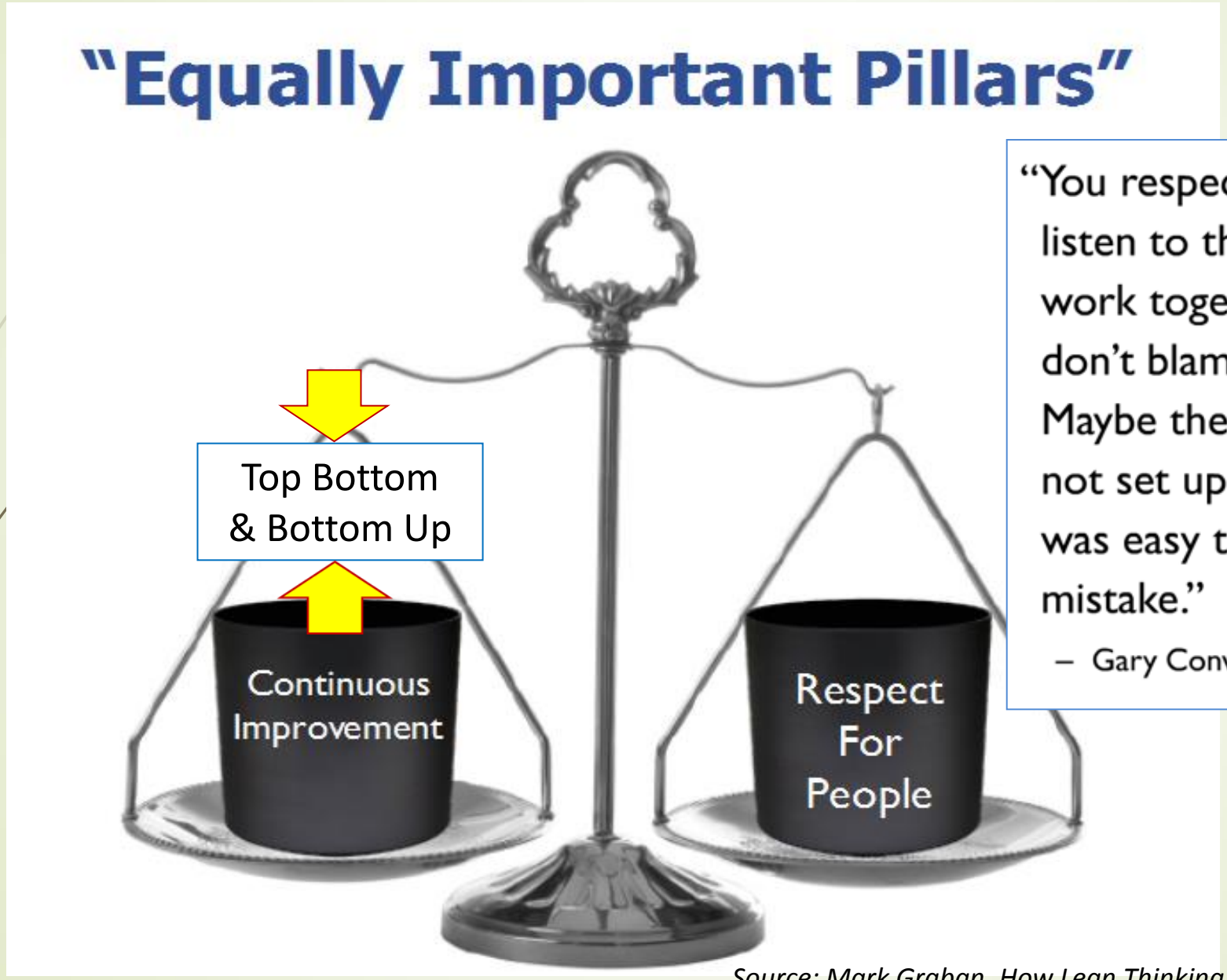


- Project completed
- Monitoring and standardization

Instill Lean Thinking &…… Breaking the Silos

ANYBODY CAN BE A TIME KEEPER

Lean Thinking



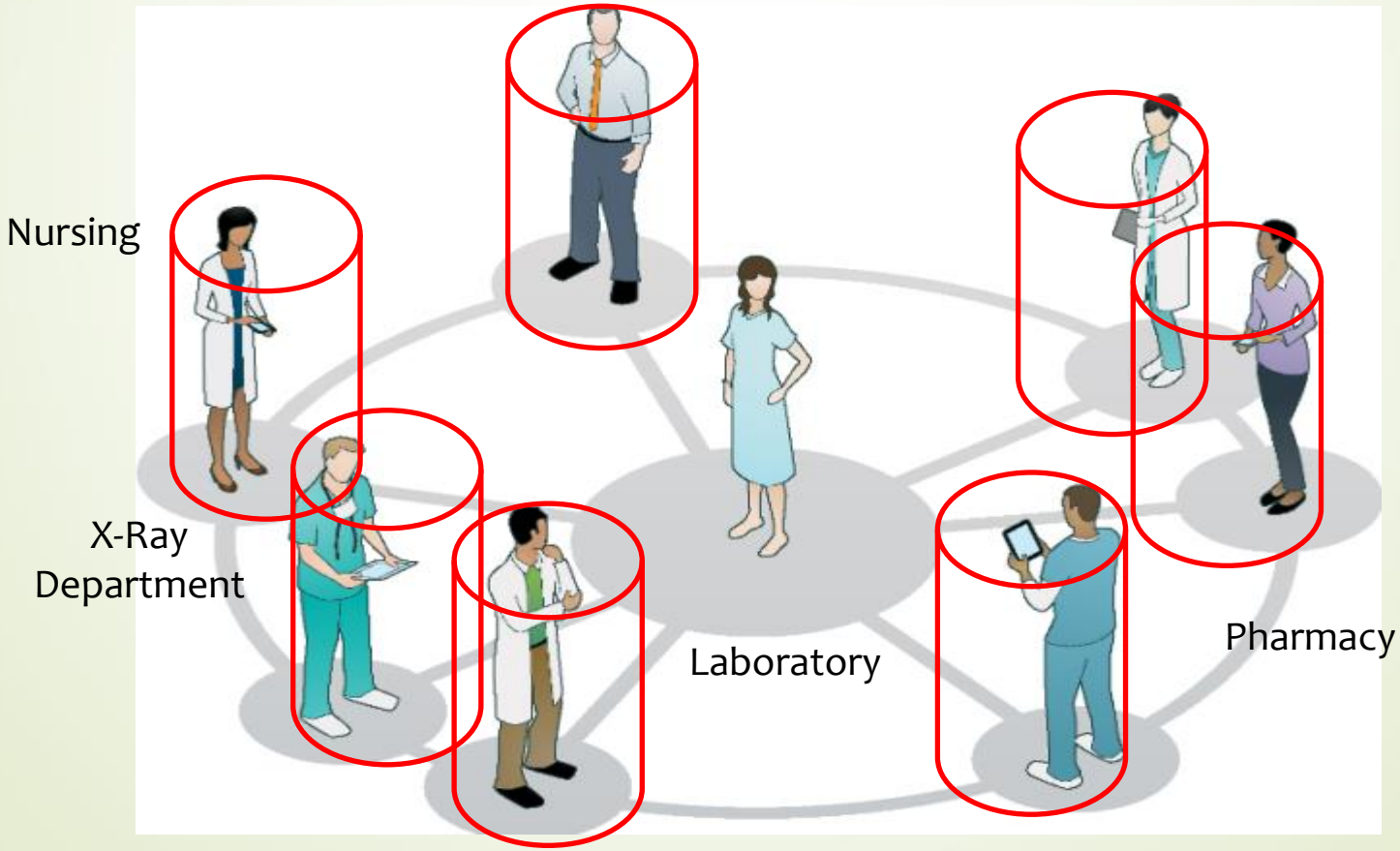
Source: Mark Graban, How Lean Thinking Helps Hospitals

Closing Remarks – Breaking the Silos..

Adopting Lean Thinking towards Patient Centered Care

"We have the very best pharmacy sitting right next to the best laboratory, sitting right next to the very best x-ray department, sitting right next to the very best nursing department….and the hospital doesn't work."

- Dr.Paul Batalden former president of Institute of Healthcare Improvement



Team Charter

ONCOLOGY TEAM

ORTHO TEAM

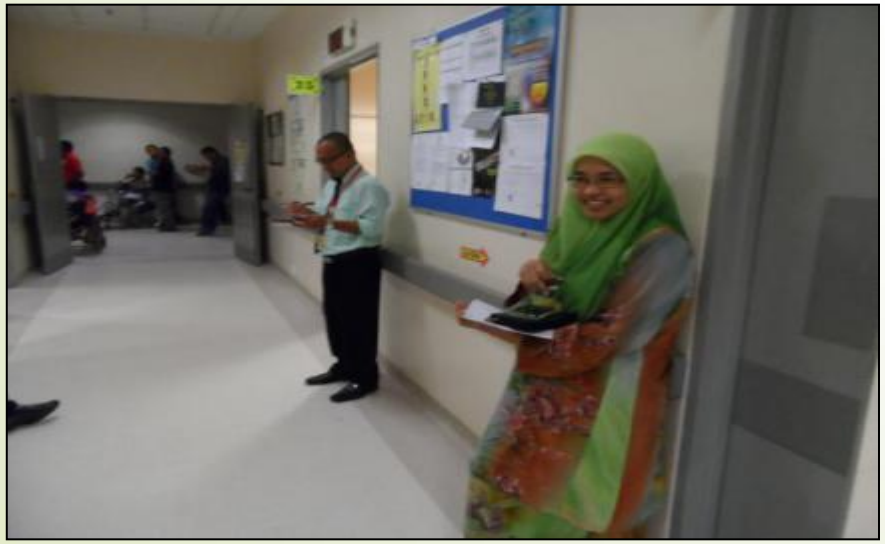
Team Work / care

Think Out Of The Box

Visualize the process before going to the field

Create a real situation about waiting time at the clinic

GEMBA and Collecting Data With Student UniKL



Mapping the ACTUAL processes for Waiting Time at Orthopedic Clinic

Value Stream Mapping for Orthopaedic Clinic

What we think may not what really happen. After we sit and see together we realized that even patient walk to see the doctor is actually a process

Mapping the ACTUAL processes for Radiotherapy Treatment

Value Stream Mapping

20 feet long !!! Even the participants themselves surprise to realize how complex the flow that a patient need to undergo and then to wait for 4 months!!

Focus in establish improvement activities

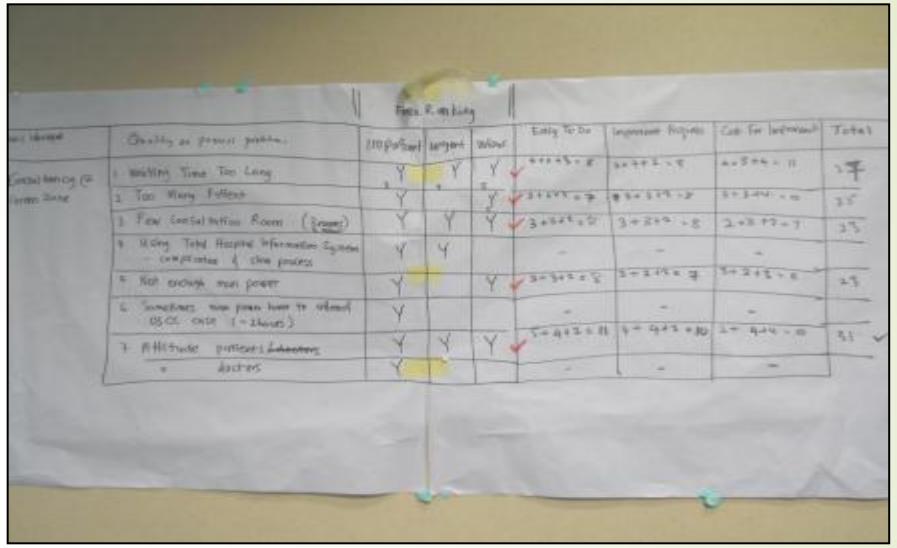
Brain Storming to get more ideas on improvement and develop future state value stream mapping

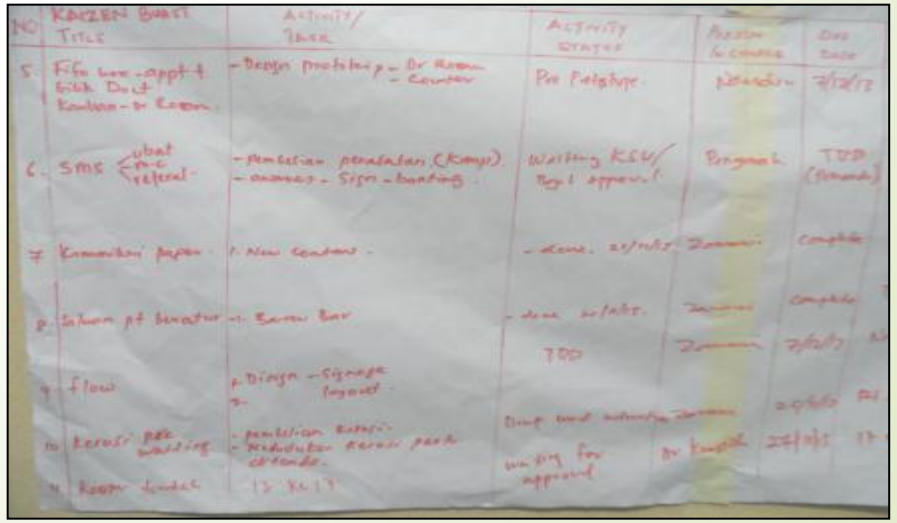
Develop Kaizen Corner For Standing Meeting - continuous improvement

KAIZEN CORNER

STANDING MEETING

Show results, show monitoring and sustainability.....

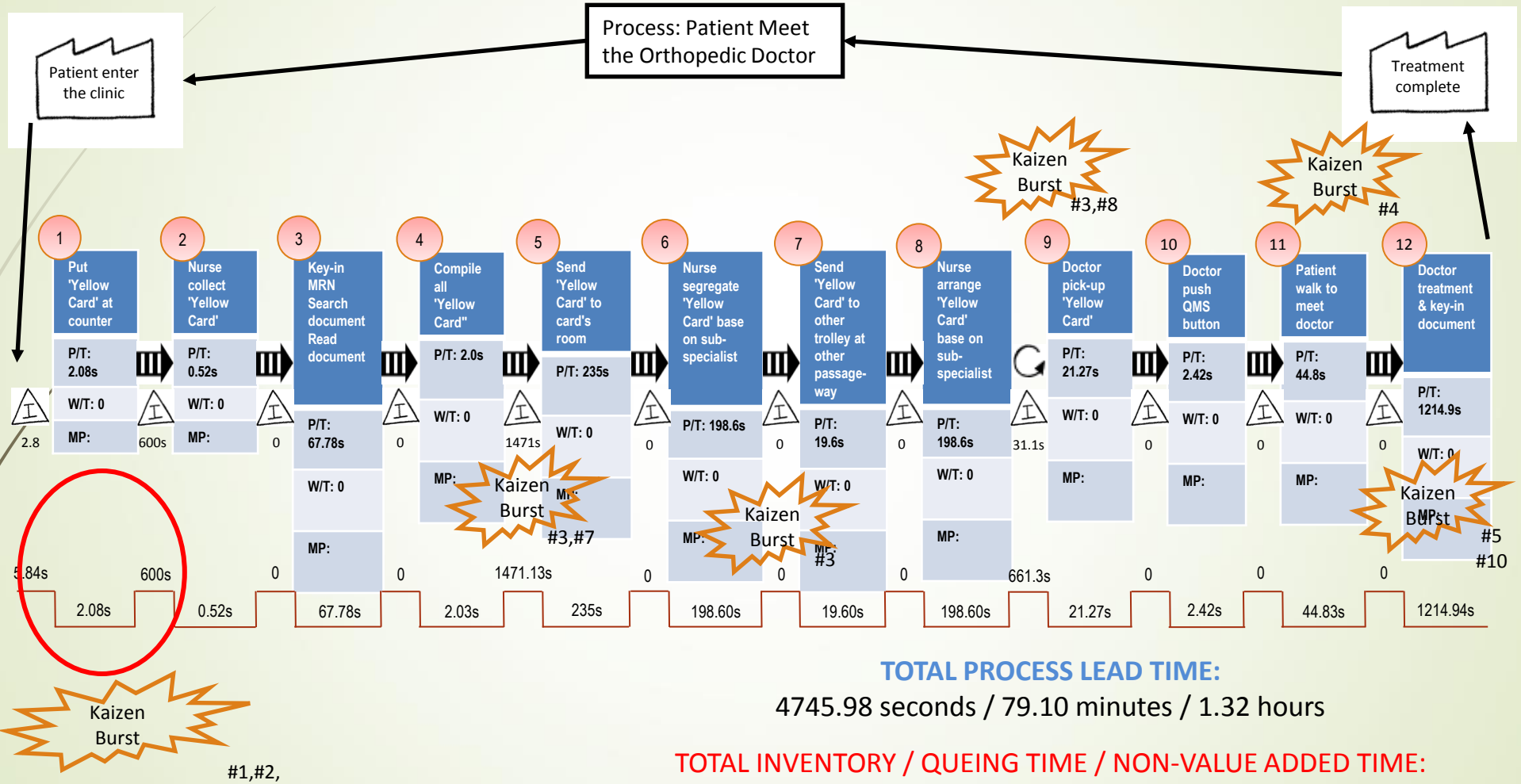




LEAN: HSIJB EXPERIENCE 1 - ORTHOPAEDIC SERVICE

- Orthopeadic Specialist Clinic located at level 3 sharing same location with Surgical Specialist Clinic on alternate day
- 250 patients attendence per clinic session
- The average waiting time for patient to see doctor is about 120 minutes
- The clinic staffs need to work through lunch hour from 8.00 a.m to 4.30 p.m

Current State VSM



Note:
The process above is ideal with below circumstances:

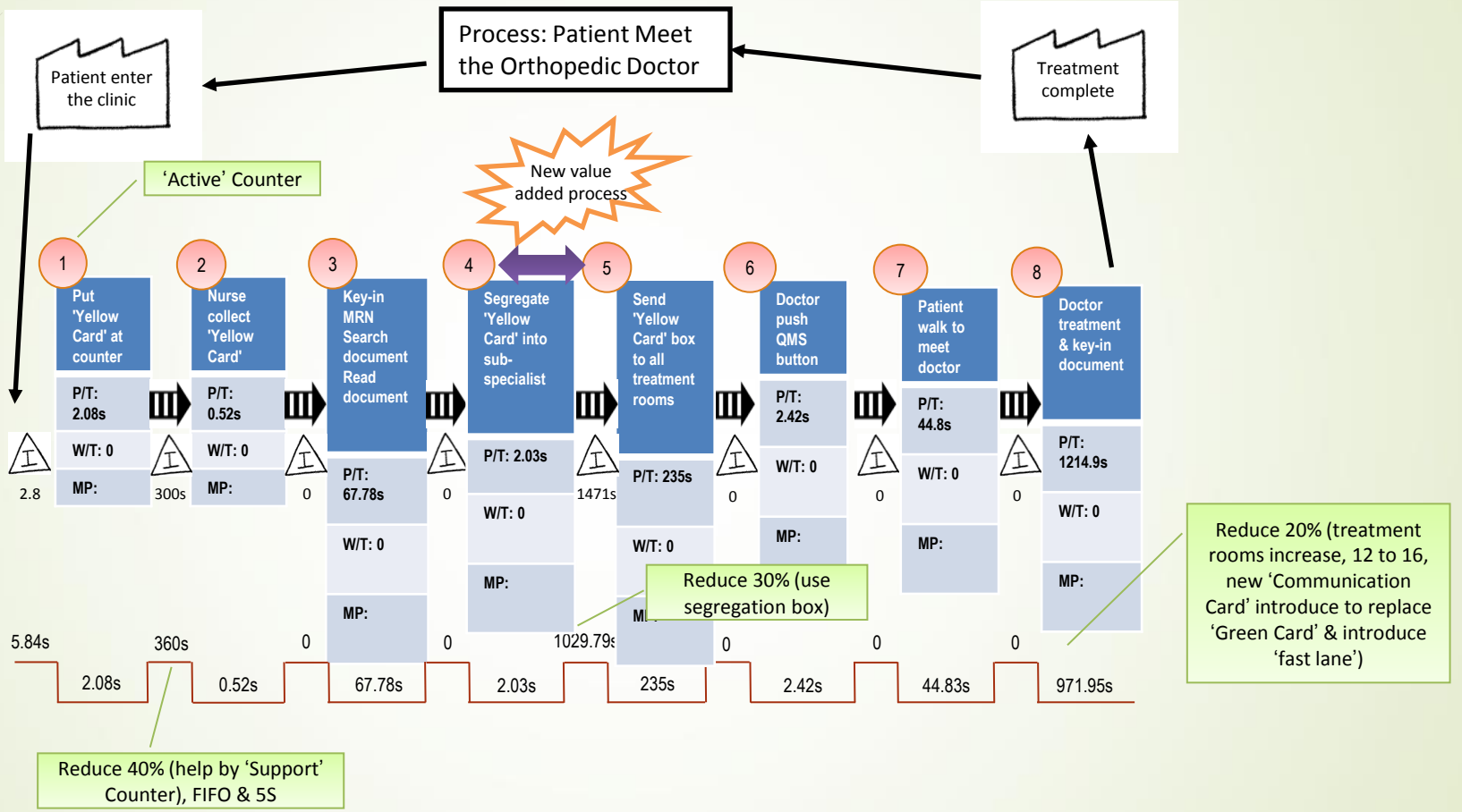
1. Excluding radiological investigation.
2. Average 16 clinical examination rooms (aka 16 doctors) being utilized.

TOTAL PROCESS LEAD TIME:
4745.98 seconds / 79.10 minutes / 1.32 hours

TOTAL INVENTORY / QUEING TIME / NON-VALUE ADDED TIME:
2738.30 seconds / 45.64 minutes / 0.76 hours

TOTAL PROCESS: 12 Processes
KAIZEN BURST: 8 Activities (#1~#8)

Future State VSM



Note:
The process above is ideal with below circumstances:

1. Excluding radiological investigation.
2. Average 16 clinical examination rooms (aka 16 doctors) being utilized.

TOTAL PROCESS (After Improvement) : 8 Processes

Kaizen Burst #1
"5S at Front Counter"

Previous area cause crowded in front of counter

Before

Effective on 21st Nov 13

More sign in front of counter and use of "Barrier Bar" as tool to support patient during queuing.

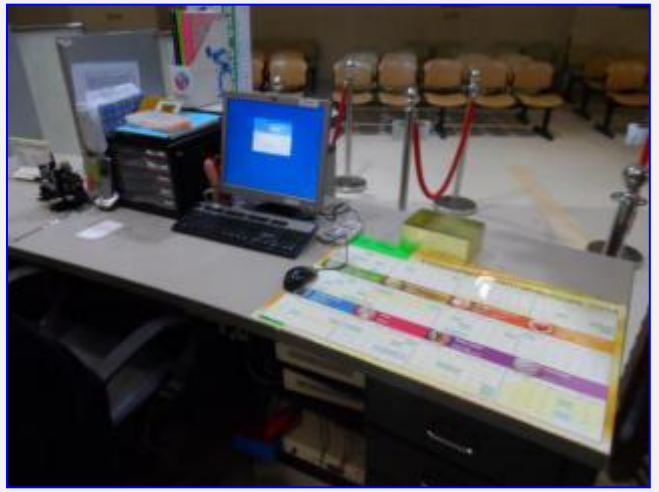
After

Kaizen Burst #1
"5S at Front Counter"

Too many things on the desk without proper arrangement.

Before

Effective on
14th Jan 14



"Selected items only" to be placed on the desk.

Use of tool to "arrange documents", etc.

After

Kaizen Burst #2
"Active Counter" & "Support Counter"

Previously only one counter to treat the patient with various entry of processing task that cause crowded at the counter

Before

Effective on 21st Nov 13

Establish "Support Counter" by utilizing other clinic's counter to support main counter activity at Active Counter

After

Kaizen Burst #3
"Stewardess"

The card represent patient's queue and the flow or sequence is depend on the doctor's selection.

Before

Effective on
19th Nov 13

Dedicated staff ie "Stewardess" to delegate or levelling (Heinjuka Concept) the patient to each doctors. Thus "doctors don't need to pick up the card".

After

Kaizen Burst #4
"Pit Stop"

Patient walk to clinical examination room to meet the doctor. Walking distance require time to be included in process time.

Before

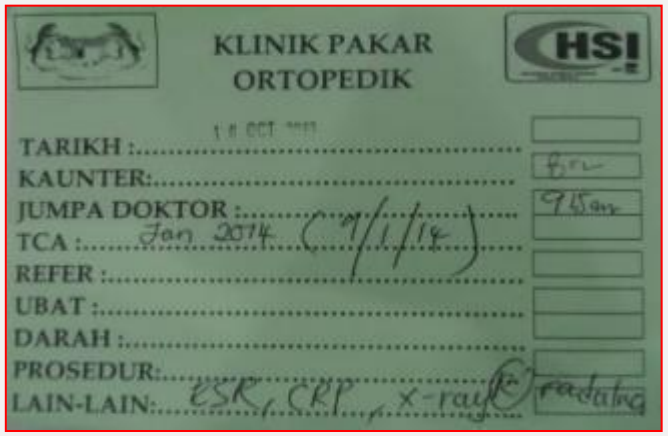
Effective on 14th Jan 14

Reduce walking time by preparing chair ie "Pit Stop" in front of doctor's room.

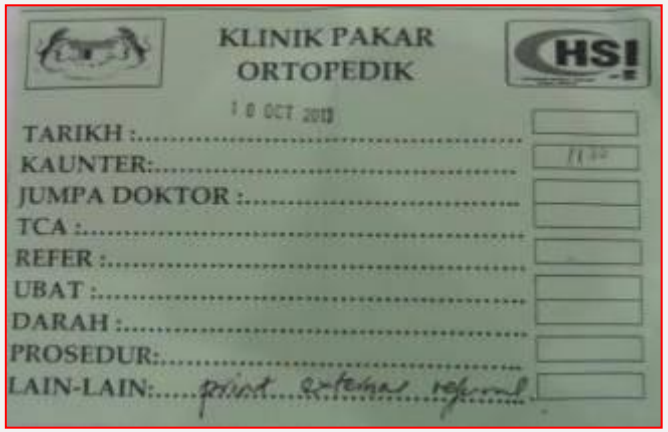
After

Kaizen Burst #5
"Communication Paper"

Green paper used to expedited the information from doctor's to active counter but most of time was not filled up due to confusion of content


KLINIK PAKAR ORTOPEDIK

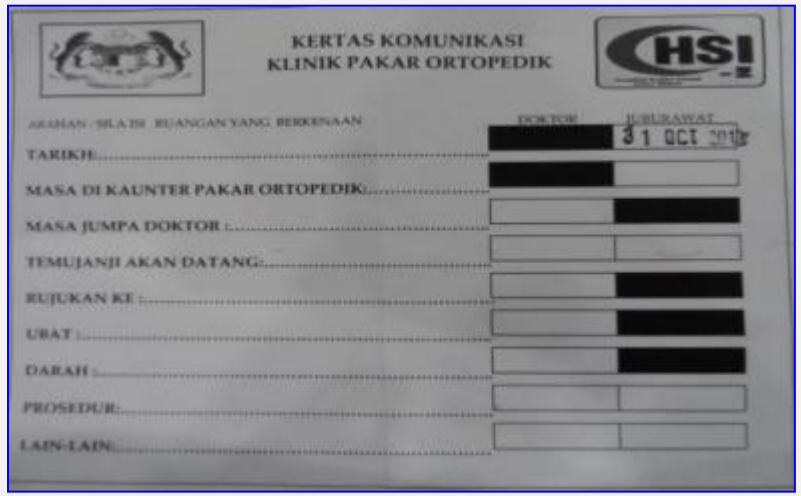
TARIKH :
KAUNTER:
JUMPA DOKTOR :
TCA : Jan 2014 (9/1/14)
REFER :
UBAT :
DARAH :
PROSEDUR:
LAIN-LAIN: ESR, CRP, x-ray (x-radang)


KLINIK PAKAR ORTOPEDIK

TARIKH :
KAUNTER:
JUMPA DOKTOR :
TCA :
REFER :
UBAT :
DARAH :
PROSEDUR:
LAIN-LAIN: print external referral

Before

Effective on 19th Nov 13


KERTAS KOMUNIKASI
KLINIK PAKAR ORTOPEDIK

TARIKH:
MASA DI KAUNTER PAKAR ORTOPEDIK:
MASA JUMPA DOKTOR :
TEMUJANJI AKAN DATANG:
RUJUKAN KE :
UBAT :
DARAH :
PROSEDUR:
LAIN-LAIN:

New paper call as "Communication Paper" to show the intent of this exercise. New content to clearly separate person in charge to fill in the form.

After

Kaizen Burst #6
Heinjuka Box

The appointment card being kept inside the box before being transfer to trolley.

The appointment card being arrange on the trolley. Arrangement of the appointment card on the trolley is sort by nurse.

-Heinjuka box to be created to segregate the appointment card equally and appropriately, thus the number of patient to be treated by doctor nearly equal.
-About 16 compartment or container require that equivalent to number of treatment room.

Kaizen Burst #6
Stagged Box

The appointment card being kept inside the box before being transfer to trolley.

The appointment card being arrange on the trolley. Arrangement of the appointment card on the trolley is sort by nurse.

-Staged box to be created to segregate the appointment card equally and appropriately followed the block system in scheduling.

Kaizen Burst #8

Title
New Design of FIFO Box for Appointment Card at Clinic's Counter

Background
- There is only one box to for patient to drop their appointment card to before meet the doctor as well as appointment card after meet doctor to set next appointment date. The box is located at clinic's counter and the label to show the purpose of box is quite vague.

Current Condition/ Situation

Current design of appointment box will cause;
1. Not follow first in first out.
2. Patient change their sequence or pick up their card personally to meet the doctor.

Analysis and Goal
- **Analysis:**
  - Known root cause: Design of box is inappropriate.
  - Method analysis: Verify through Gemba and interview the nurse.

- **Goal:**
  To design new box for patient to drop their appointment card at clinic's counter.

Action Items / Counter measure
- To provide new box for appointment card that will follow first in first out (FIFO) arrangement by design.

Check/ Follow-up / Recommendation

Items	PIC	Date
1. To design and create FIFO box (prototype)	En Zawawi	4th Nov 13
2. Pilot test	Pn Rozita	7th – 12th Nov 13
3. Review result and confirm effectiveness	Team member	14th Nov 13

Prepared by: Date: 25th Oct 2013 Rev 1.0

Orthopedic Department
HOSPITAL SULTAN ISMAIL JOHOR BAHRU

Kaizen Burst #10
"Knowledge Sharing"

There are Six (6) Specialist (Jusa C, UD54, UD52) and ten (10) Medical Officer (UD 44). Until early Feb 14 only support staff and HOD involve in the implementation of Lean activity especially Kaizen.

Before

Effective on 23rd Feb 13

Knowledge sharing and get feedback with Doctors, and greeting from Director and HOD.

After

Kaizen Burst #11

Title

New patient scheduling (for next appointment) in IT system (Power Chart)

Background

- **Nurse will arrange the next appointment schedule for patient in Power Chart (IT based system). Basically it will effect the patient's congestion during early day (especially from 8am~10am) at Orthopedic Clinic as most of them will come over since before 8am.**

Current Condition/ Situation

Current appointment scheduling will cause;

1. Patient congestion in early day (8am~9am) as some of doctors will round at ward first.
2. Patient need to wait until the sub-specialist treatment room open after 9am.

Analysis and Goal

- ***Analysis:***
  - ***Known root cause: Patient's scheduling need to map with sub specialist availability.***
  - ***Method analysis: Verify through Gemba and interview the nurse.***
- ***Goal:***

To establish the new patient's scheduling that tally with doctors/sub-specialist availability.

Action Items / Counter measure

- ***Create blocking inside power chart 8am-9am***
- ***To educate all respective nurse & liaise with IT Dept for blocking system (8am~9am).***

Check/ Follow-up / Recommendation

Items	PIC	Date
1. To discuss with nurse the new scheduling implementation	En Zawawi	3rd Mar 14
2. To discuss with IT Dept the scheduling blocking requirement & implementation	Pn Rozita	3rd Mar 14
3. Pilot test for new scheduling system.	Team member	April 14

Prepared by: Date: 1st March 2014 Rev 1.0

Orthopedic Department
HOSPITAL SULTAN ISMAIL JOHOR BAHRU

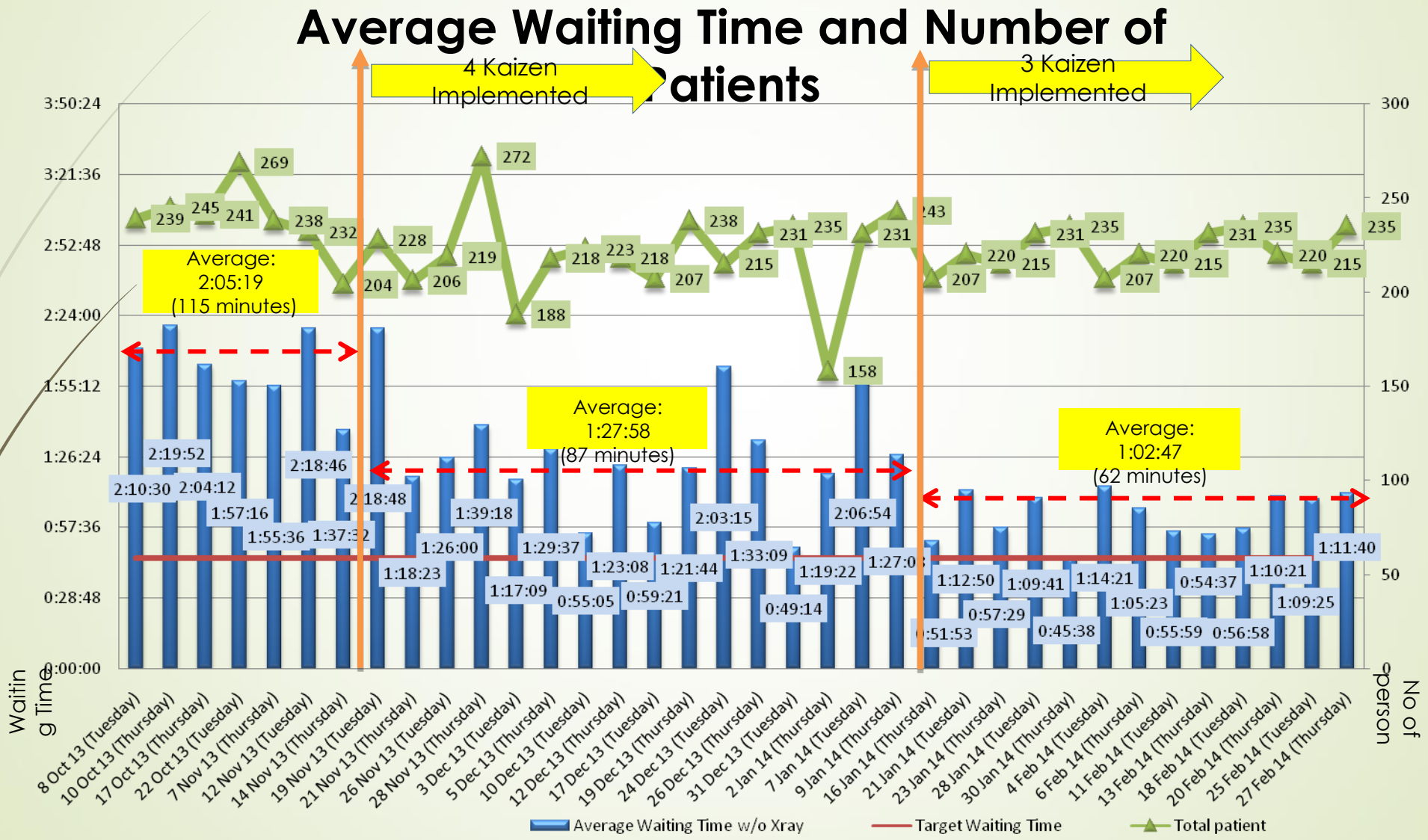
KAIZEN BURST SUMMARY

No.	Kaizen #	Effective Date	Avg Waiting time (Before)	Avg Waiting time (After)	Time Reduction	% Reduction
1.	Kaizen #5 -Communication Paper	19th Nov 2013	115 minutes	87 minutes	28 minutes	24.3%
2.	Kaizen #3 -Stewardess	19th Nov 2013				
3.	Kaizen #1 -Barrier Bar& 5S counter	21st Nov 2013				
4.	Kaizen #2 -Active and Support Counter	21st Nov 2013				
5.	Kaizen #4 -Pit Stop	14th Jan 2014				
6.	Kaizen #7 -Segregate Box	4th Feb 2014				
7.	Kaizen #10 -Knowledge Sharing	23rd Feb 2014				
			Total Reduction		**53 minutes**	**46.0%**

KAIZEN BURST SUMMARY

No.	Kaizen #	Update
8.	Kaizen #7 -Fast Lane for Senior Citizen and OKU	Implemented on January 2014
9.	Kaizen #8 -FIFO Box	Prototype completed
10.	Kaizen #9 -**SMS communication for continuing medicine & MC**	To be implemented on January 2015
11.	Kaizen #11 -Patient Scheduling	Implemented on Apr 2014
12.	Kaizen #12 -Sub Specialist on Sunday, Tuesday & Thursday	Implemented on January 2014

Result Monitoring



Value Creation Matrix Orthopedic

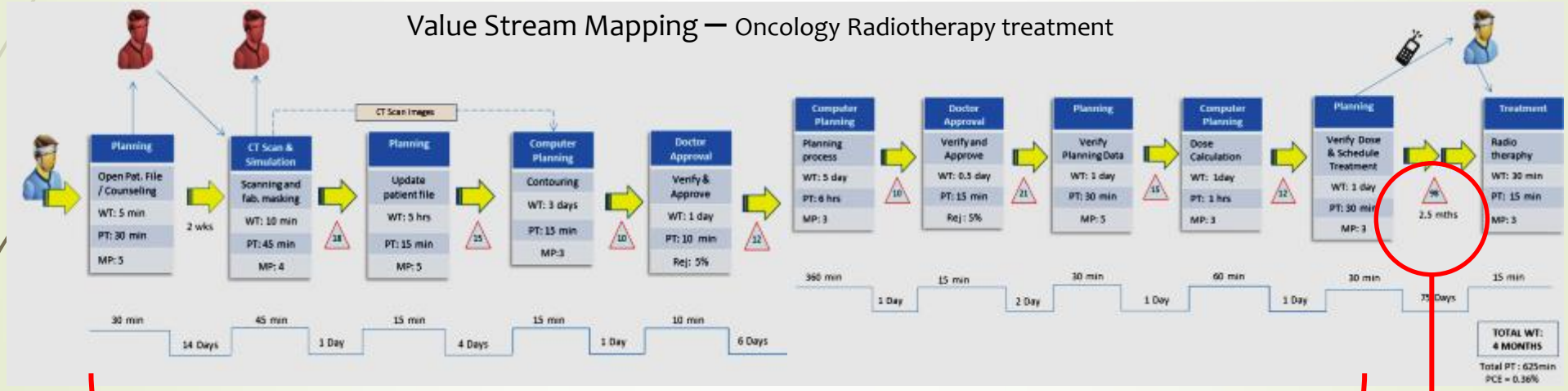
No.	KPI / Value Creation	Current indicator	Target
1.	Reduce waiting time	1 hour 55 minutes	45 minutes
2.	Optimizing of clinical examination room	12 rooms	16 rooms
3.	Reduce/eliminate non value added process (i.e. waiting process) or redundant process.	12 process	4 process removed
4.	Caring for senior citizen and OKU	No specific treatment room.	1~2 treatment rooms
5.	Improve orthopaedic team communication	Green Paper	Communication paper with new content
6.	Faster response time at front counter/clinic's counter.	1 counter	2 counter (active and support) utilize from other clinic.
7.	Optimize doctor's time for treatment by reduce/eliminate unnecessary process.	Doctor need to walk to pick up the appointment card.	Appointment card will be sent to doctor.
8.	Patient/Customer oriented process	Basic flow chart	VSM – patient process flow based.

LEAN: HSIJB EXPERIENCE 2 -ONCOLOGY SERVICE

- Hospital Sultan Ismail Johor Bahru(HSIJB) was built as Tertiary Oncology Centre of Southern part Malaysia.
- According to journal of the European Society for Therapeutic Radiology and Oncology: 2007, in head and neck cancer there were demonstrated a 62% increased in tumour volume over interval of 28 days.
- In HSIJB patient has to wait of an average 120 days after seen oncologist before receiving radical radiotherapy treatment. This will increase the risk of morbidity and mortality to patient.
- With the above statement Oncology department has been chosen to implement LEAN initiatives.

Using LEAN techniques, we converted the complex process flow into a simplified Value Stream Mapping (VSM)

Value stream mapping is a lean manufacturing technique used to analyze the flow of materials and information currently required to bring a product or service to a consumer.



~ 6 weeks (planning work)

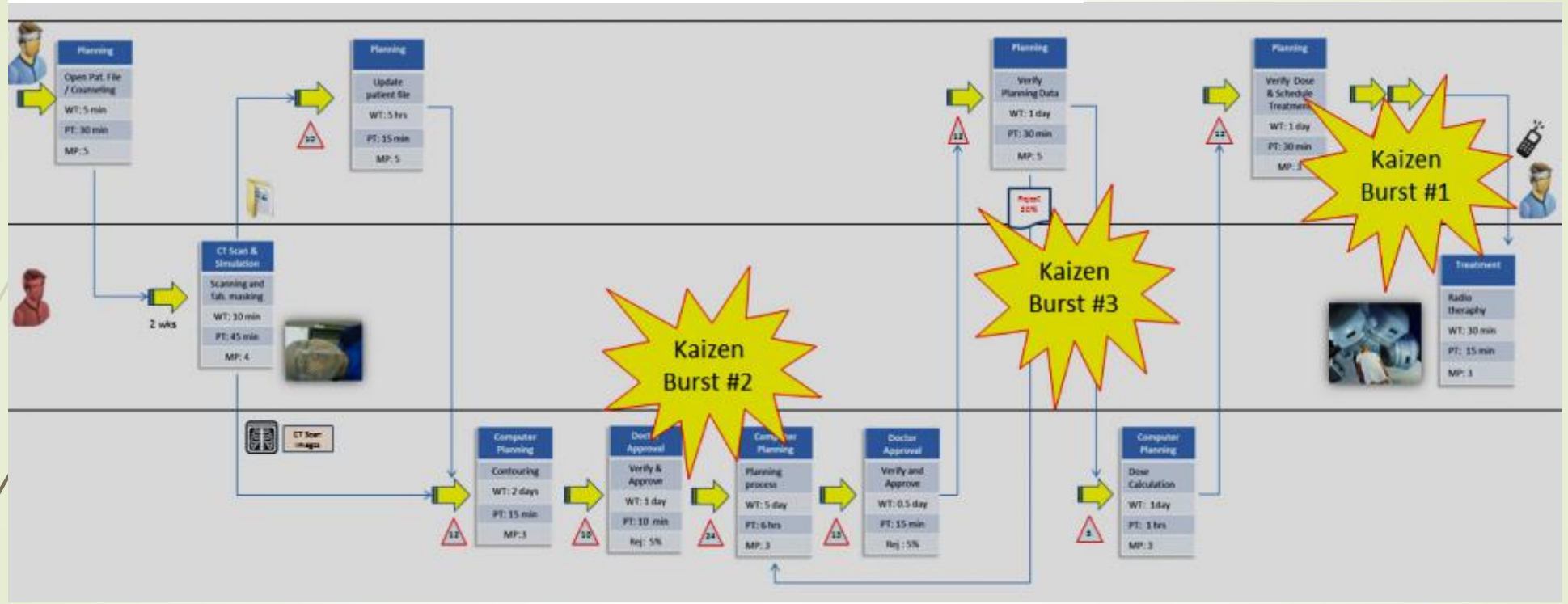
~ 10 weeks (waiting queue for treatment)

We then identified Kaizen Bursts on areas for improvement

Current State VSM for Oncology Treatment at Hospital Sultan Ismail

using "swim-lane" technique

Improvement Areas !!!

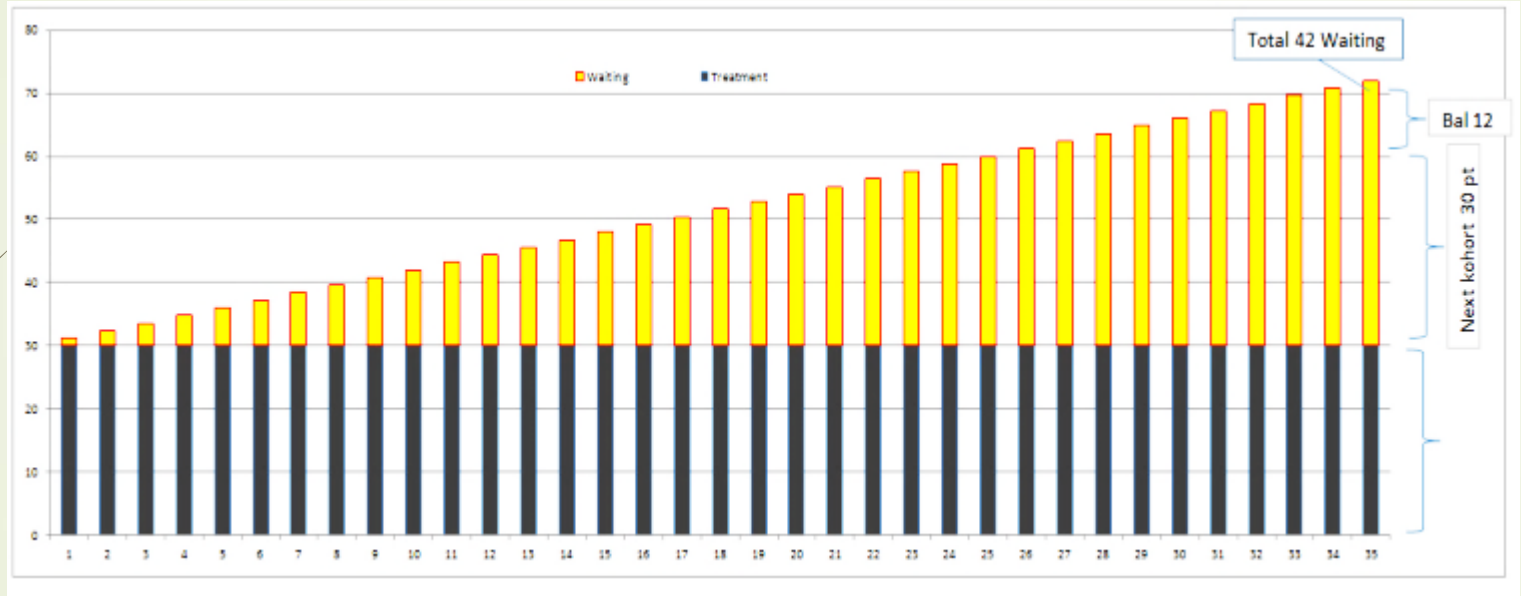


- **Kaizen Burst #1 :** **To increase Clinac machine capacity** --> Goal to reduce treatment waiting time from current 10weeks to at least 5 weeks
- **Kaizen Burst #2 :** **To reduce backlog files (inventory)** from current 120 files to less than 5 files at any station --> Goal to reduce planning work from 6 weeks to 3 weeks
- **Kaizen Burst #3 :** **To reduce re-plan works** (rework) from 30% to less than 10%

Study #1: Why Clinac's waiting time is more than 16 weeks

- Every patient must undergo 35 consecutive treatments @ 1.75 mths
- Ave. Machine capacity = 30 patients/ daym operating 8 hrs/day @ 5day/wk
- Daily there are 1.2 new cases added to Clinac

Findings:



GOAL: To increase machine capacity from 30 to 42 patients /day

OPTIONS:

1) **Plan for daily overtime (3 hrs)** → constraint: Need Physicist to stand-by
2) **To run 2-shifts** → constraint: Inadequate radiation therapist (JXRT – U29)

Note: a) Limited radiation therapist graduate from Kolej Sains Kesihatan Bersekutu, Sg.Buloh
b) New graduate → mostly consumed by IKN (Institiut Kanser Negara)

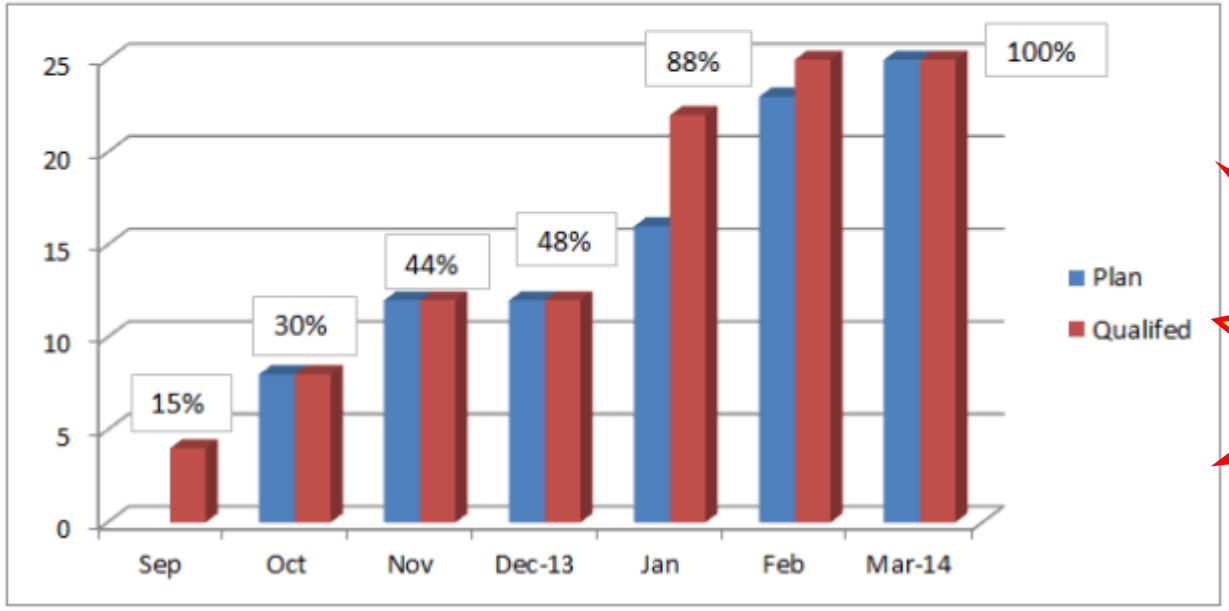
Kaizen Activities conducted at HSI

Kaizen #1 – Increase Radiation Therapist Skills and Capability

Cross training was conducted -to privilege (qualified) ALL Radiation therapist (JXRT) to capable handling ALL types of machines.

Cross Training : JXRT Trained and Privileged to Operate Clinac machine

Month	Sep	Oct	Nov	Dec-13	Jan	Feb	Mar-14
Plan		8	12	12	16	23	25
Qualifed	**4**	**8**	**12**	**12**	**22**	**25**	**25**
Total JXRT	27	27	27	25	25	25	**25**
Percent Qualified	15%	30%	44%	48%	88%	100%	100%



	CLINAC	MLC	PRIMUS
FAIRUL	√	√	√
JAMIL	√	√	√
FIFI	√	√	√
AZRUL	√	√	√
WAN ANUAR	√	√	√
SHAFAZAWA	√	√	√
BAZILAH	√	√	√
ANA		√	√
			√
			√
MD N			√
ALI		√	√
UMAIRAH		√	√

100% JXRT Trained and Privileged

Kaizen # 2 : Proposal running 2 shifts at Clinac

Current manpower

- 2 Radiotherapists to handle system console
- 2 Radiotherapists to handle machine and patient

Proposed manning
1st shift @ 7am -2pm

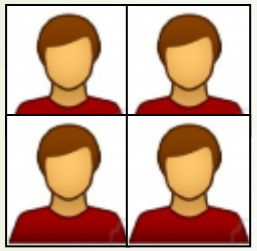
- 2 Radiotherapists to handle system console
- 1 Radiotherapists to handle machine and 1 "PPK" to handle patient

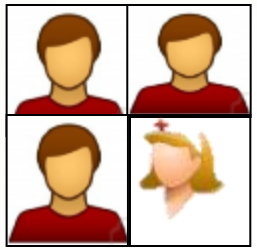
PPK – Pembantu Perawatan Kesihatan

Proposed manning
2nd shift @ 2pm -9pm (Clinac only)

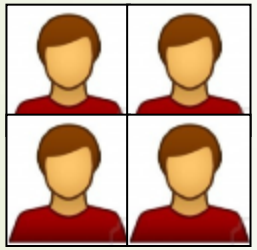
- 2 Radiotherapists to handle system console
- 1 Radiotherapists to handle machine and 1 "PPK" to handle patient

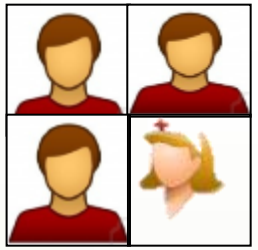
Primus



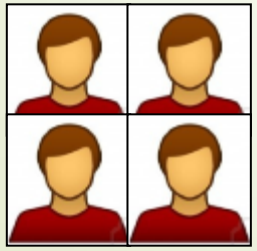


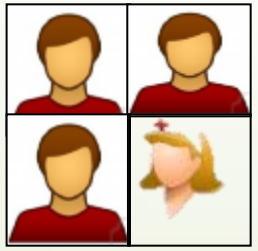
Primus MLC

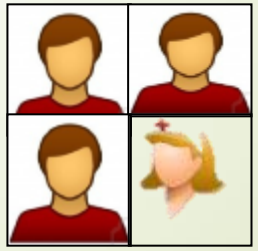




Clinac





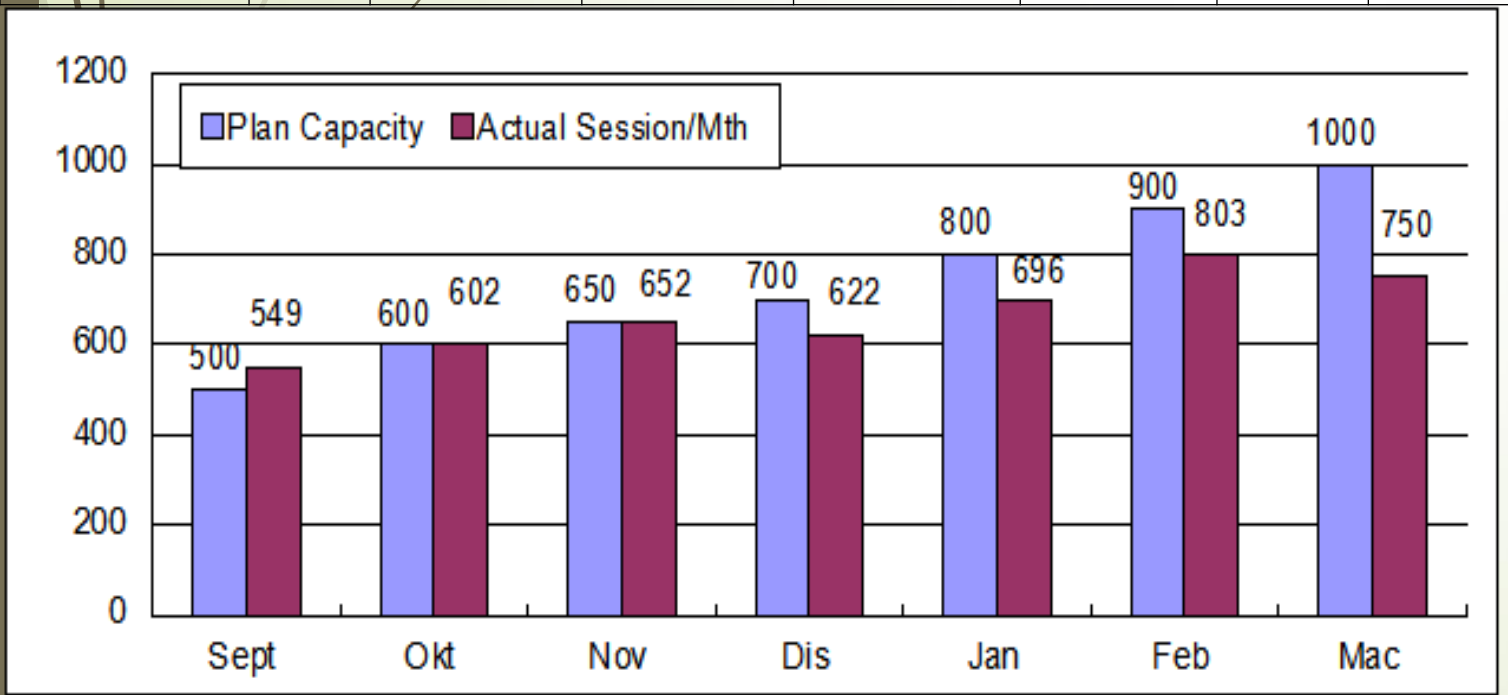


Kaizen Activities conducted at HSI

Kaizen #2 – Increase Clinac machine capacity to 2 shifts

Number of Sessions treated on Clinac Machine

Month	Sept	Okt	Nov	Dis	Jan	Feb	Mac
Plan Capacity	500	600	650	700	800	900	1000
Actual Session/Mth	549	602	652	622	696	803	750
Average Patient/day	27	30	33	31	35	40	33
Remarks		Overtime	Overtime	Overtime	2nd Shift	2nd Shift	2nd Shift



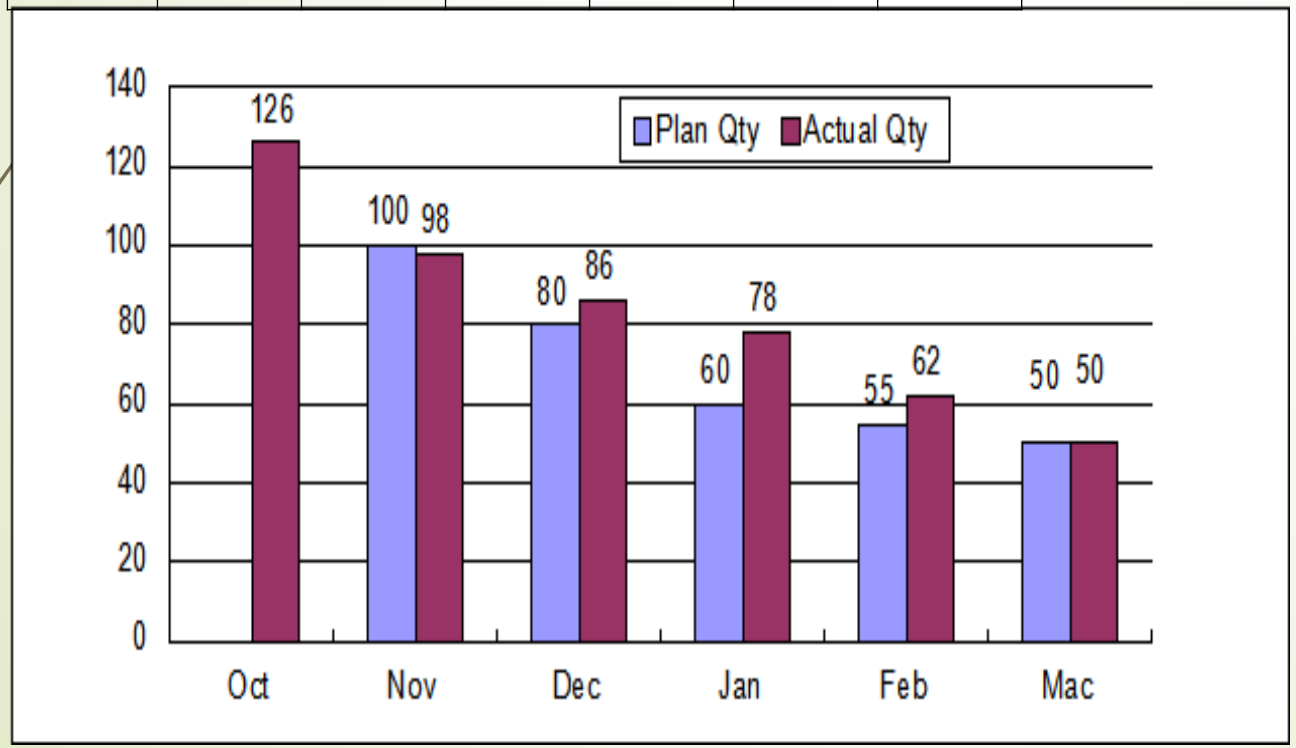
High variance from planned capacity versus actual treatment due to High not-turn up (15%) and frequent machine down-time (due to power trip etc..)

Kaizen Activities conducted at HSI

Kaizen #3 – Reduce patient backlogs awaiting planning works

Number of inventory (Patients in queing) from reg to complete planning (Awaiting Treatment)

Month	Oct	Nov	Dec	Jan	Feb	Mac
Plan Qty		100	80	60	55	50
Actual Qty	126	98	86	78	62	50



Issue on Physicist shortage at Computer Planning stage .. Due to long medical leave and physicist occupied more time to solve machine down.

Kaizen Activities conducted at HSI

Kaizen #3 – Reduce patient backlogs awaiting planning works

BEFORE – Patients status kept in files

Difficult to know and trace planning work status – only relevant staff know patient status…

NOW – Display and Visualize to Everyone !!

Able to know each patient status clearly..
Where the file stuck.. Which unit .. Who resp ???

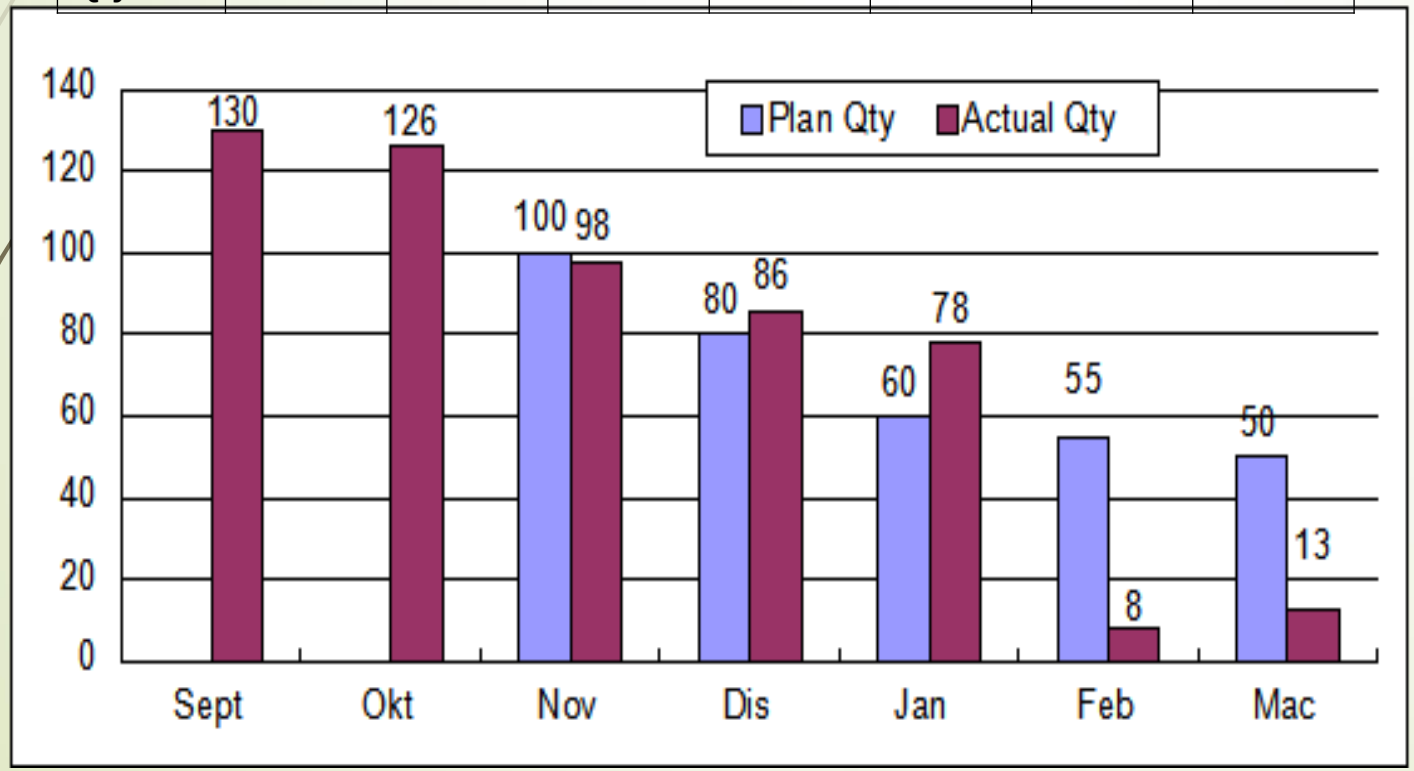
Easy to plan based on monthly and FIFO ☺

Kaizen Activities conducted at HSI

Kaizen #3 – Reduce patient backlogs awaiting planning works

Number for Inventory (Patients in queing)- from reg to complete Awaiting treatment

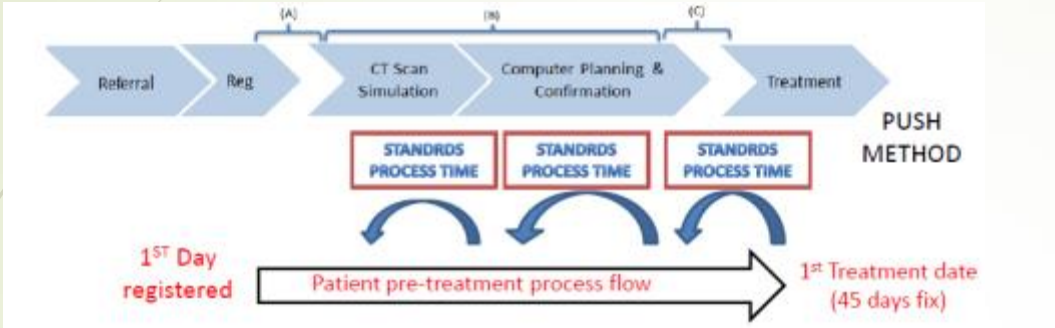
Month	Sept	Okt	Nov	Dis	Jan	Feb	Mac
Plan Qty			100	80	60	55	50
Actual Qty	130	126	98	86	78	8	13



All backlogs for Aug, Sept and Oct 2013 have been Cleared !!!

NEW Kaizen for Sustainability Planning Tracking Sheet

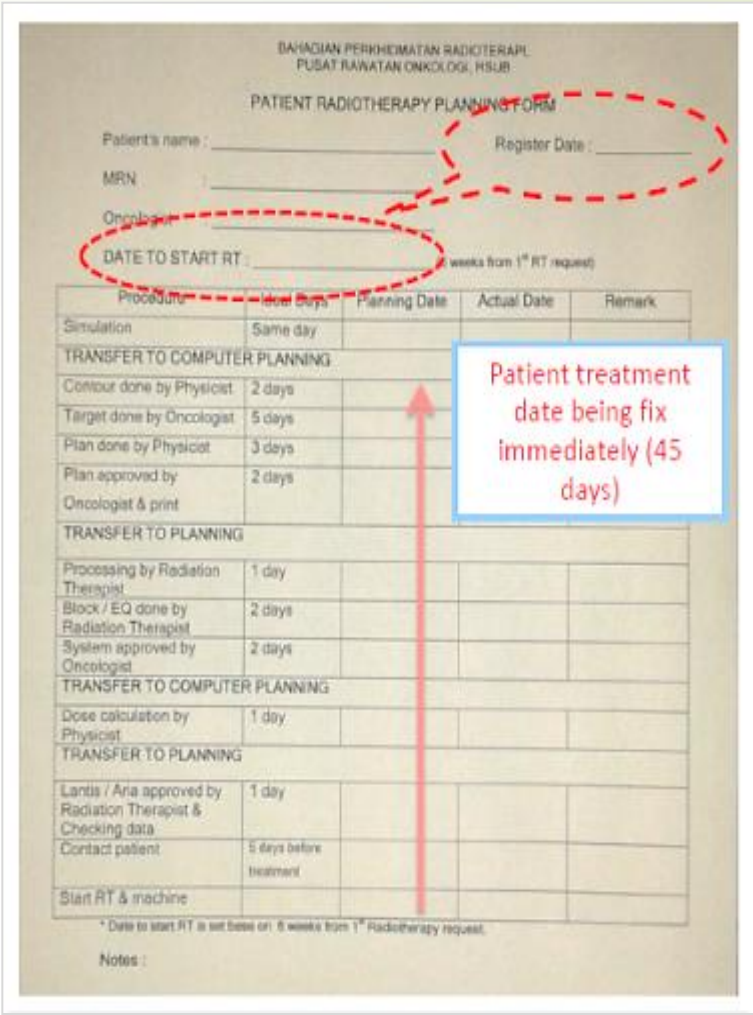
Using Pull System



New mechanism :

- New Patient monitoring Box – FIFO system
  - Function – FIFO system, monitoring patient progress and patient record control mechanism
  - Very useful to ensure all patient get their treatment during the stipulated period.
  - All active patient record and folder will be control based on the movement in the Patient Monitoring Box – no more folder missing or miss location

* Card can only be move to the next section upon all patient listed in the same batch has been undergo the specific process.



BAHAGIAN PERKHIDMATAN RADIOTERAPI
PUSAT RAWATAN ONKOLOGI, HSUB

PATIENT RADIOTHERAPY PLANNING FORM

Patient's name :
Register Date :
MRN :
Oncologist :
DATE TO START RT : (6 weeks from 1st RT request)

Procedure	Total Days	Planning Date	Actual Date	Remark
Simulation	Same day			
TRANSFER TO COMPUTER PLANNING				
Contour done by Physicist	2 days			
Target done by Oncologist	5 days			
Plan done by Physicist	3 days			
Plan approved by Oncologist & print	2 days			
TRANSFER TO PLANNING				
Processing by Radiation Therapist	1 day			
Block / EQ done by Radiation Therapist	2 days			
System approved by Oncologist	2 days			
TRANSFER TO COMPUTER PLANNING				
Dose calculation by Physicist	1 day			
TRANSFER TO PLANNING				
Lantis / Aria approved by Radiation Therapist & Checking data	1 day			
Contact patient	5 days before treatment			
Start RT & machine				

* Date to start RT is set base on 6 weeks from 1st Radiotherapy request.

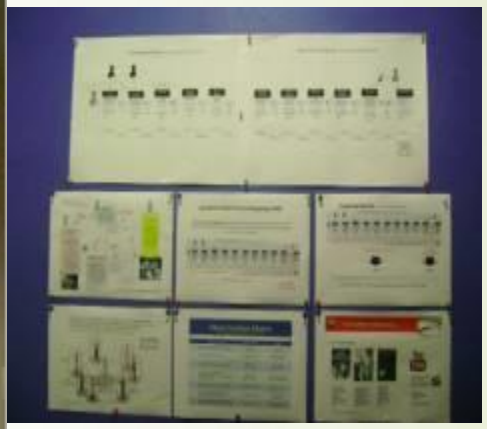
Notes :

Patient treatment date being fix immediately (45 days)

Kaizen Activities IN-PROGRESS

Kaizen Activities	Resp
Kaizen# 4- Improve filing management system using kanban (Done)	Planning Reg
Kaizen#5 - To reduce re-plan error at Computer planning from 30% to 10% [Oncologist and Physicist to establish common planning criteria] (In-progress)	Computer planning
Kaizen #6 – Improve layout at Radiation treatment room [To relocate monitor which currently too far to be seen] (Pending)	Treatment (Clinac JXRT)
Kaizen# 7 – Improve process time during patient and machine set-up [To use half beam block to avoid couch alignment] (Pending)	Treatment (Clinac JXRT)
Kaizen #8 – Improve on patients turn-up for treatment NEW [To minimize loss of capacity due to patient not turn-up @ 20%]	Planning
Kaizen #9 – Implementation of TPM (Total Productive Maintenance) NEW [To minimize loss of capacity due to machine downtime]	Maintenance

Kaizen Board at HSI

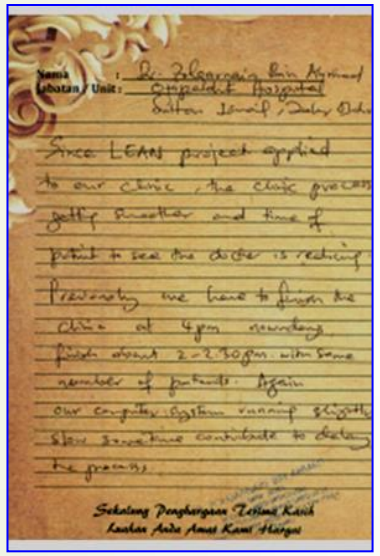


Value Creation Matrix

Lean Healthcare at Oncology Department

No.	KPI / Value Creation	Current indicator	Target
1.	Reduce waiting time and complaints	4 months (16 weeks)	6 weeks
2.	Increase patient survival rate	Mortality rate	Zero while awaiting for treatment
3.	Optimizing asset/ machine capacity	8am - 5pm (8 hrs / day)	7am - 9pm (16 hrs/ day)
4.	Optimize machine capability -Enable HSI to perform new treatment ex: IMRT, SRC, SRT	Use only for basic treatment	To perform advanced types of treatments
5.	Optimizing human capital utilization	4 Radiation Therapist	3 JXRT + 1 PPK
6.	Improve Oncology Teamwork and Communication & Creativity	Number of Kaizen	2 Kaizen/ year for Every units
7.	Patient/Customer oriented process - Towards PCC (Patient Centered Care)	Basic flow chart	VSM – patient process flow based.

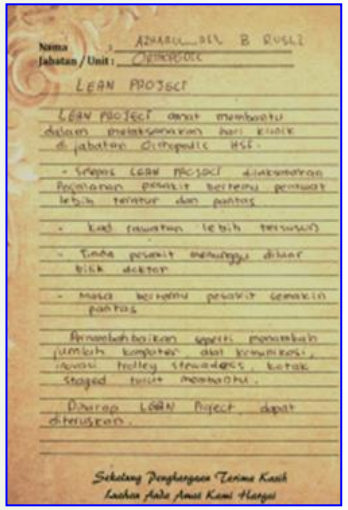
STAFF FEEDBACKS



Dr Zolqarnain Bin Ahmad

Orthopedic Oncology Specialist

“ Since LEAN project applied to our clinic, the clinic process getting smoother and time of patient to see the doctor is reducing. Previously we have to finish the clinic at 4.30pm nowadays finish about 2 – 2.30pm with same numbers of patient. Again our computer system running slightly slow sometime contribute to delay in the process.”

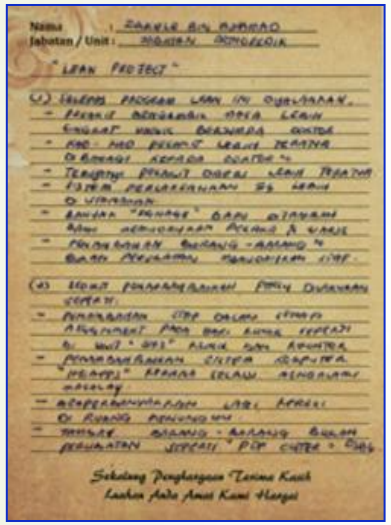


PPP Azharulai Bin Rusli

“ LEAN PROJECT amat membantu dalam melaksanakan hari klinik di Jabatan Ortopedik HSI. Selepas LEAN Project dilaksanakan perjalanan pesakit bertemu perawat lebih teratur dan pantas. Kad rawatan lebih tersusun. Tiada pesakit menuggu di luar bilik doktor. Masa bertemu pesakit semakin pantas.

Penambahbaikan seperti menambah jumlah komputer, alat komunikasi, inovasi troli, stewardess, kotak staged, turut membantu.

Diharap LEAN Project dapat diteruskan.

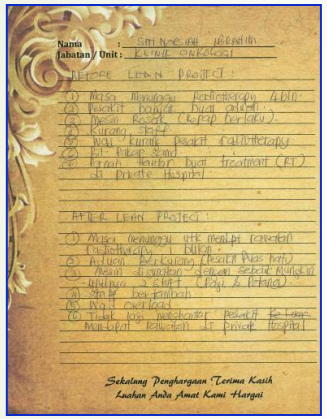


PPP Zulkifle Bin Muhamad

Jabatan Ortopedik

“LEAN PROJECT”

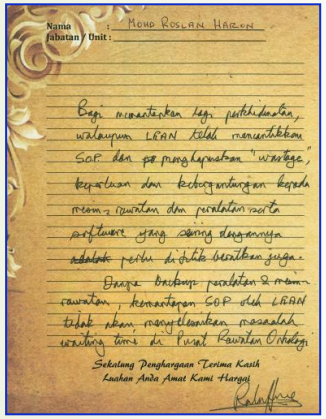
“1. Selepas program LEAN ini dijalankan, pesakit mengambil masa yang lebih singkat berjumpa doktor. Kad-kad pesakit lebih teratur di bahagi kepada doktor-dokror. Temujanji pesakit diberi lebih teratur. Sistem perlaksanaan 5S lebih diutamakan.



Mohd Khairee Aripin JXRT

Jabatan Onkologi

“ LEAN merupakan satu program yang sangat baik bagi meningkatkan keberkesanan dalam sistem pengurusan sesuatu institusi melalui LEAN Healthcare kita dapat mengetahui masalah yang berlaku dan seterusnya mengatasi masalah tersebut dengan cara yang terbaik. Disamping itu juga kita boleh meningkatkan produktiviti dengan membuang apa yang tidak perlu atau dianggap sebagai “waste” dalam LEAN.”


Nama : MOHD ROSLAN HARON
Jabatan / Unit :

Bagi memantapkan lagi perkhidmatan, walaupun LEAN telah mencantikkan SOP dan menghapuskan "wastage", keperluan dan kebergantungan kepada mesin-rawatan dan peralatan serta software yang seiring dengannya adalah perlu di titik beratkan juga.

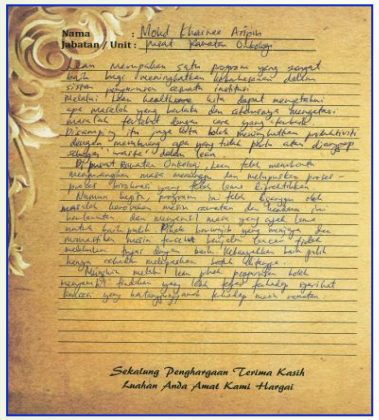
Dengan backup peralatan & mesin-rawatan, kemantapan SOP oleh LEAN tidak akan menyelesaikan masalah waiting time di Pusat Rawatan Onkologi.

Sekalung Penghargaan Terima Kasih
Luahan Anda Amat Kami Hargai

Dr Mohd Roslan Bin Haron

Pakar Onkologi

“ Bagi memantapkan lagi perkhidmatan, LEAN telah mencantikkan S.O.P dan menghapuskan wastage, keperluan dan kebergantungan kepada mesin-mesin rawatan dan peralatan serta software yang seiring dengannya.”



Jt Siti Norsiah Binti Ibrahim

Klinik Onkologi

“ Before LEAN Project –

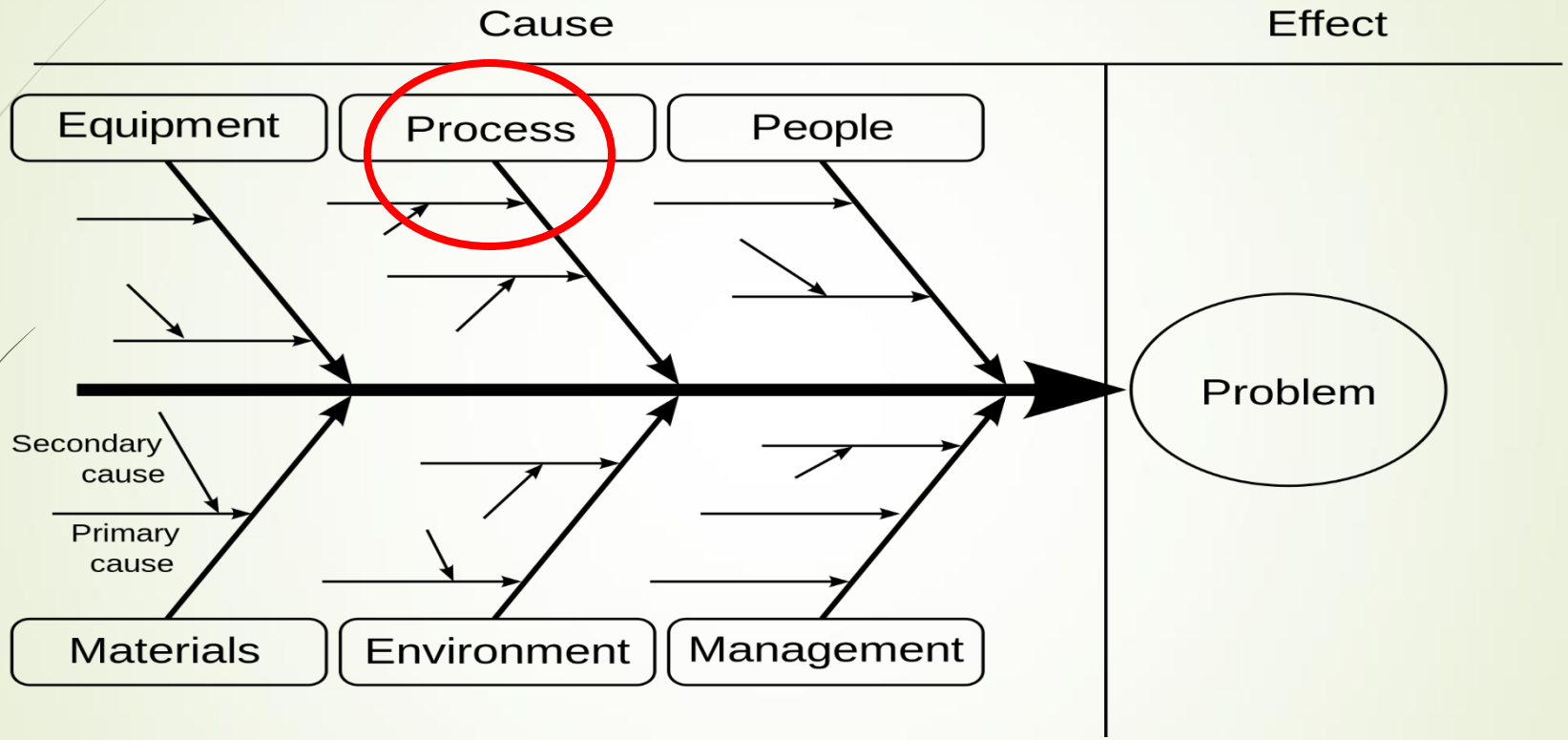
Masa menuggu Radioterapi 4 bulan. Pesakit banyak buat aduan. Kurang staff. Wad kurang pesakit radioterapi. Bilangan pakar sama.”

“After LEAN Project – masa menunggu untuk mendapat rawatan radioterapi 1 bulan. Aduan berkurang. Staff digunakan sepenuhnya.”

LESSONS LEARNT FROM LEAN

THE CHANGING PERSPECTIVES ON….

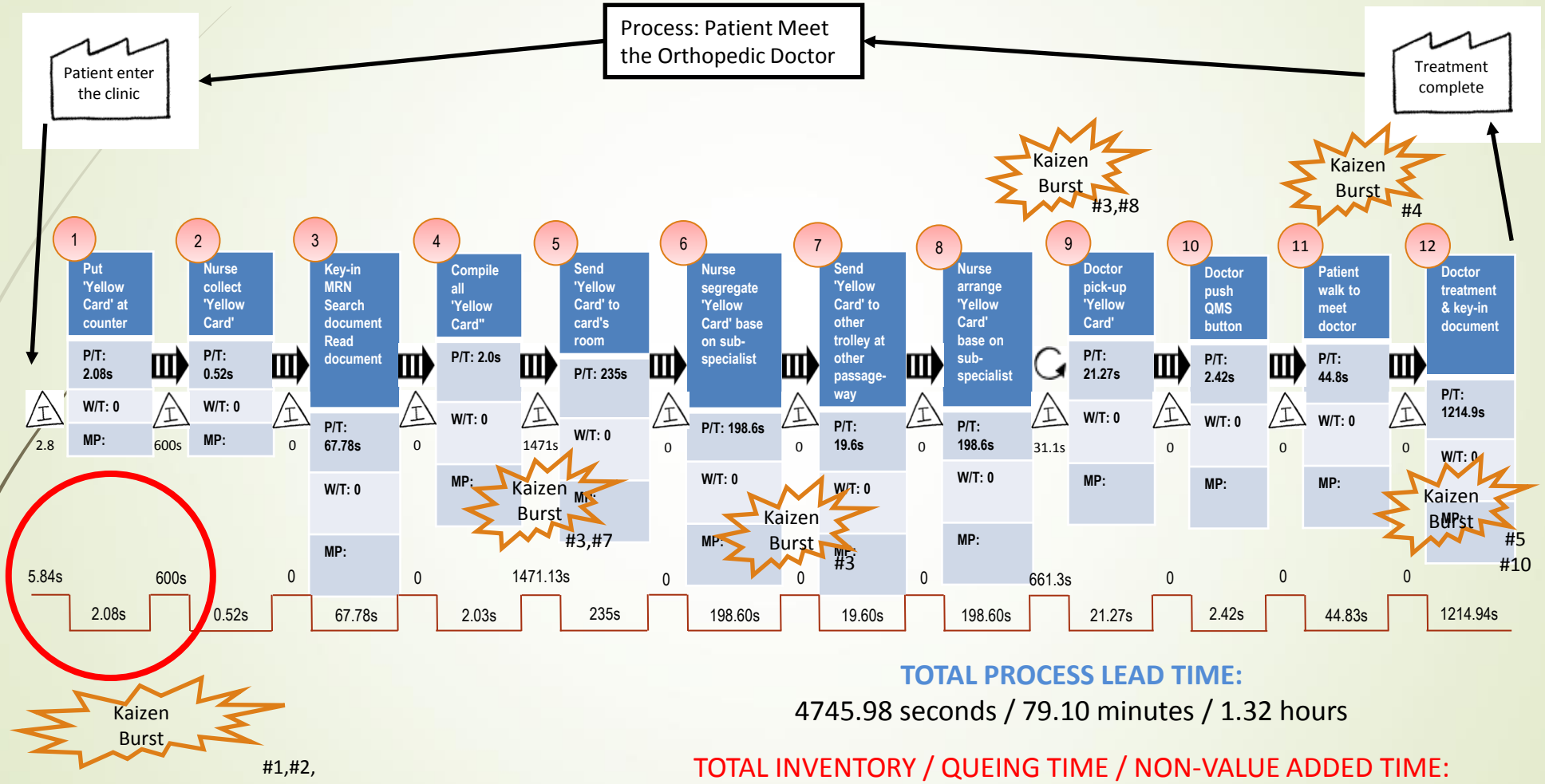
Fishbone Diagram



Ishikawa diagram, in fishbone shape, showing factors of Equipment, Process, People, Materials, Environment and Management, all affecting the overall problem. Smaller arrows connect the sub-causes to major causes.

Ishikawa Kaoru

Current State VSM



Note:
The process above is ideal with below circumstances:

1. Excluding radiological investigation.
2. Average 16 clinical examination rooms (aka 16 doctors) being utilized.

TOTAL PROCESS LEAD TIME:
4745.98 seconds / 79.10 minutes / 1.32 hours

TOTAL INVENTORY / QUEING TIME / NON-VALUE ADDED TIME:
2738.30 seconds / 45.64 minutes / 0.76 hours

TOTAL PROCESS: 12 Processes
KAIZEN BURST: 8 Activities (#1~#8)

WASTE IN LEAN

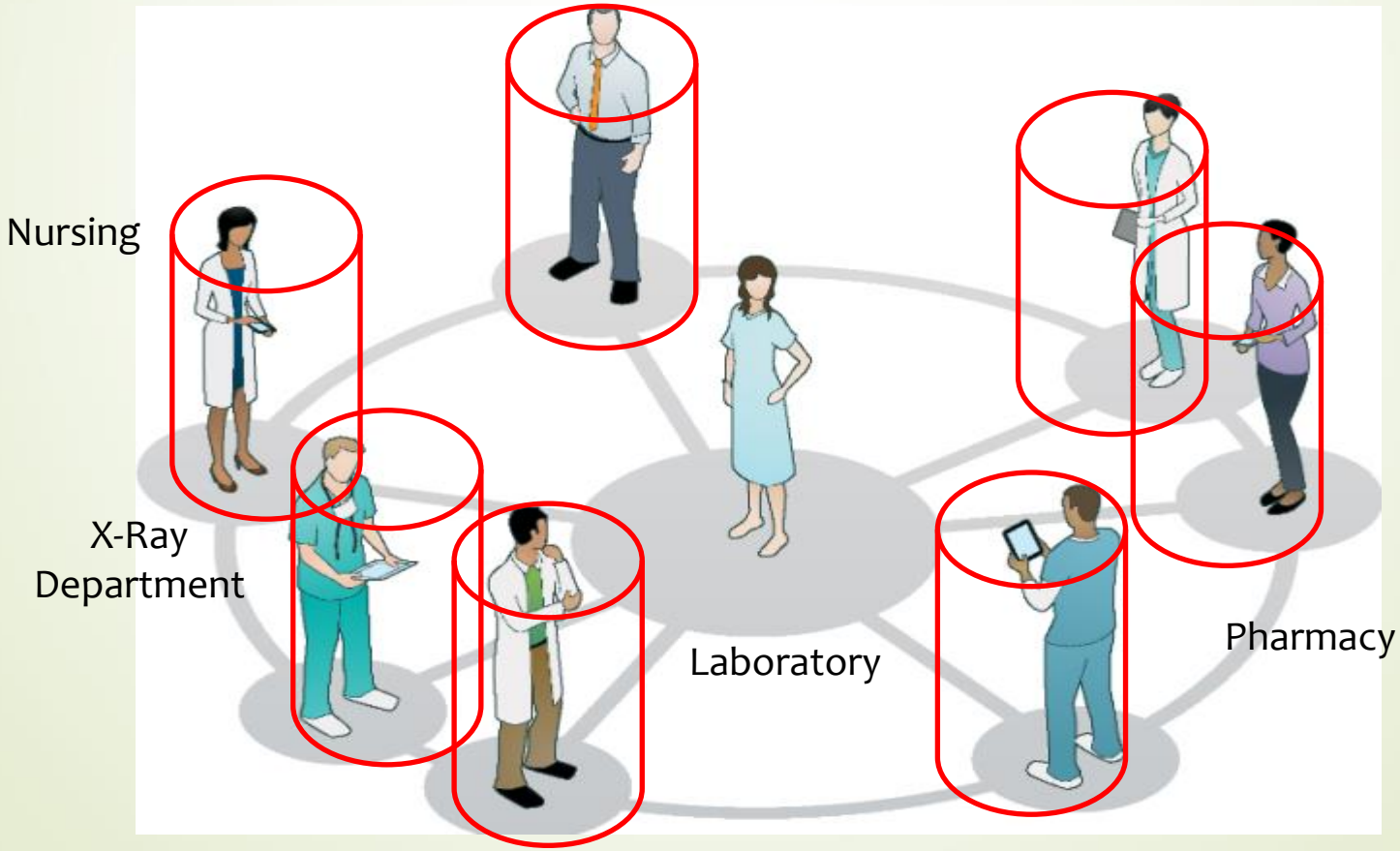
- **WASTE** = NON VALUE ADDED PROCESS
- D = Defect Rework
- O = Overproduction
- W = Waiting
- N = Not using staff talent
- T = Transportation
- I = Inventory
- M = Movement
- E = Excessive Process

Closing Remarks – Breaking the Silos..

Adopting Lean Thinking towards Patient Centered Care

"We have the very best pharmacy sitting right next to the best laboratory, sitting right next to the very best x-ray department, sitting right next to the very best nursing department….and the hospital doesn't work."

- Dr.Paul Batalden former president of Institute of Healthcare Improvement



THE RESULT

- SHIFT OF PARADIGM IN SERVICE DELIVERY

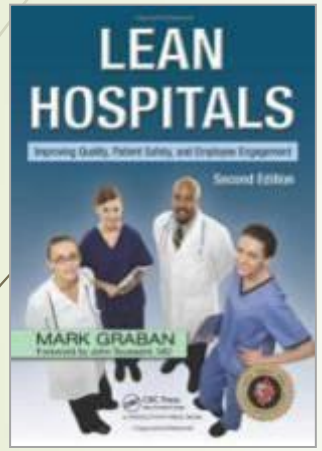
The Iceberg of Lean

Final Thought…

- "Lean doesn't succeed or fail…….Lean is just a set of principles."
- What succeeds or fails is the organization or the leaders who try
- Lean success isn't guaranteed — it requires hard work and…even a little creativity to figure out how Lean will work in your setting.

For further references…

LIST OF REFERENCES



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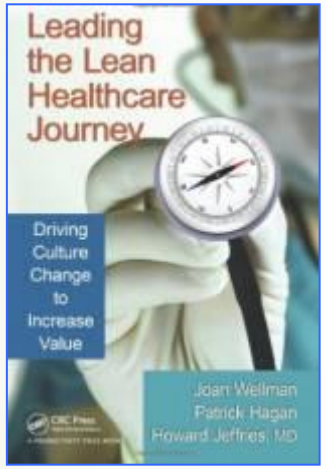

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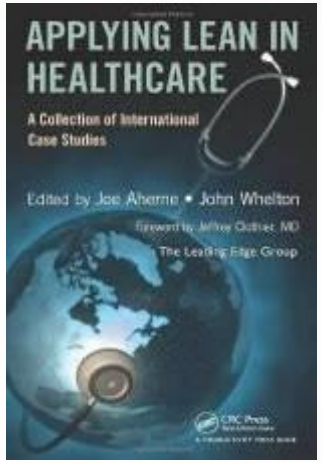

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http://www.youtube.com/watch?v=sSRWbQSJ2A4

* Refer books review at Amazon.com

THANK YOU