

Process Improvement : A Real Life Story!

**LESSONS LEARNT FROM A TWO YEAR
FIELD STUDY**

OTF CONFERENCE 30TH JUNE 2011

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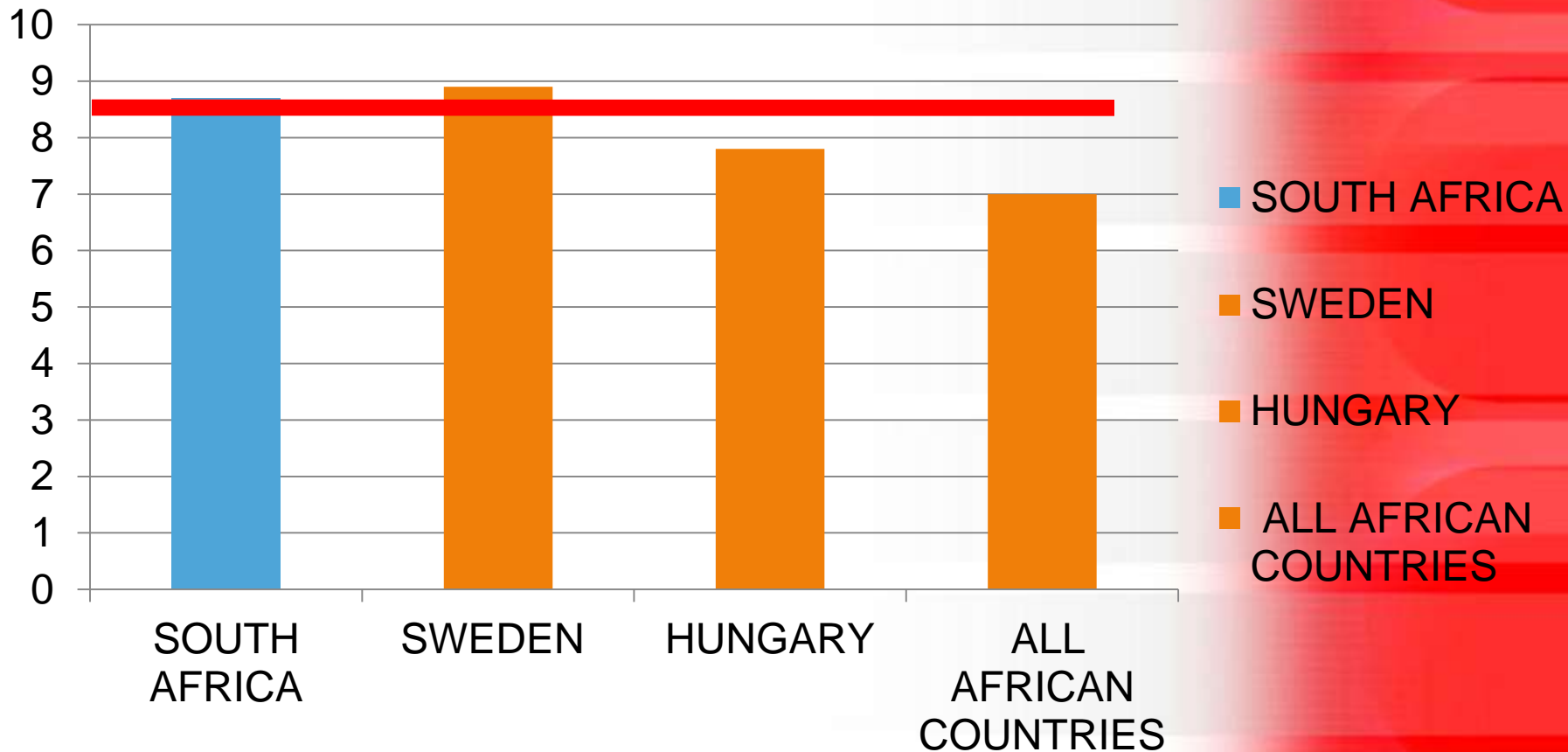
OUTLINE OF PRESENTATION

PRACTICE PERSPECTIVE	RESEARCH PERSPECTIVE
WHAT DID WE DO	WHAT DID WE DO
WHAT DID WE ACHIEVE	WHAT DID WE ACHIEVE
KEY LESSONS LEARNT	KEY LESSONS LEARNT

SOUTH AFRICAN HEALTHCARE LANDSCAPE

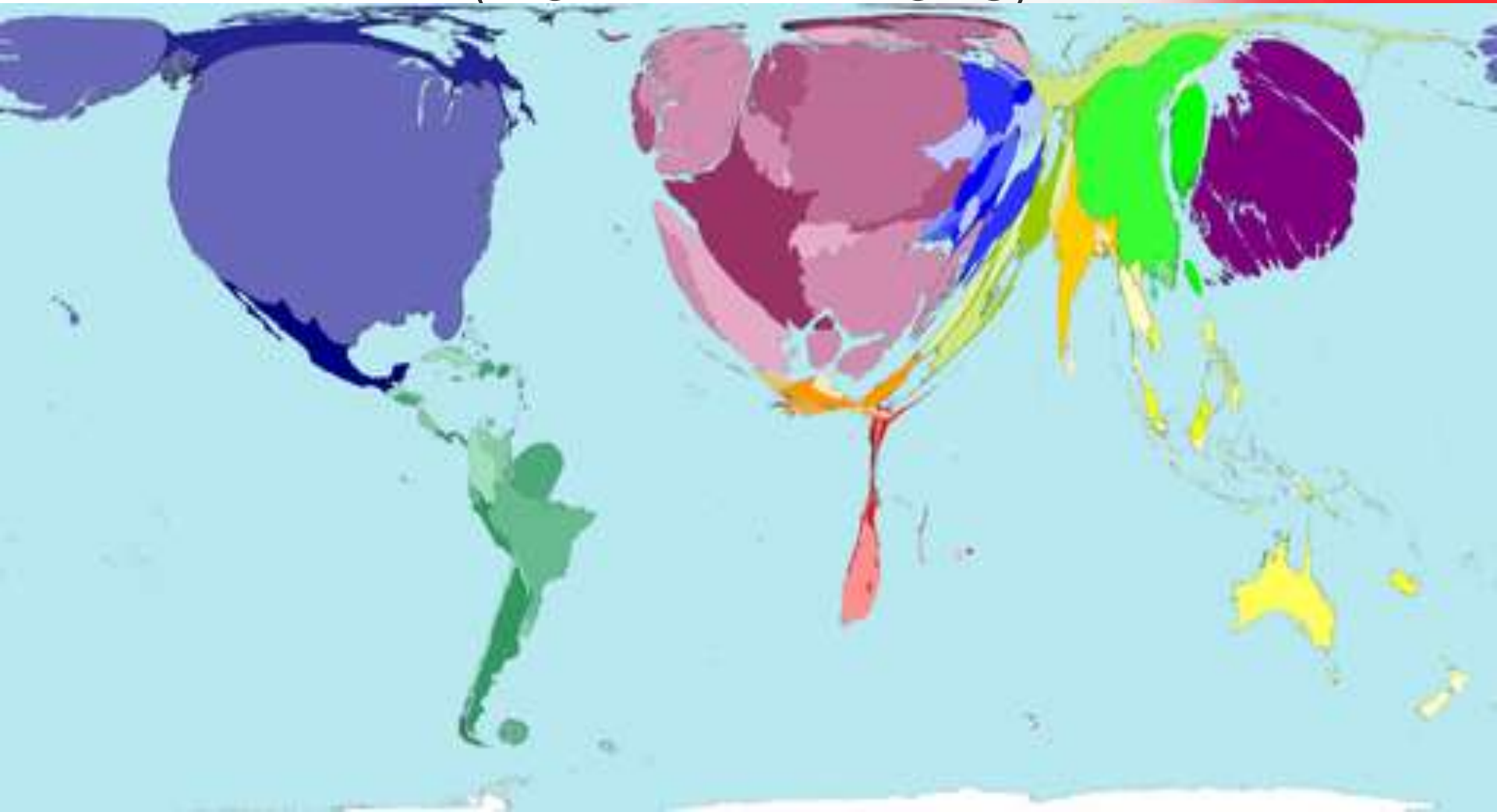
- 🔥 QUADRUPLE BURDEN OF DISEASE
- 🔥 PUBLIC PRIVATE DIVIDE AND
FUNDING STREAMS
- 🔥 VERY POOR OUTCOMES DATA
- 🔥 LOTS OF MONEY IS SPENT

ARE WE SPENDING TOO LITTLE? % GDP



PROPORTION OF GLOBAL HEALTHCARE SPEND

(WORLDMAPPER.ORG)



WHY SUCH A POOR RETURN ON INVESTMENT

- Ineffective leadership, inexperienced managers and poor insight into health systems (Kleinert and Holton, 2009)
- National Minister of Health :
 - “you don’t need to be extraordinarily rich to run a good health system”
 - Poor managerial skills and failure to act on known deficiencies
- Management Capacity Development (Point 4);
Operational Systems Development (Point 3)

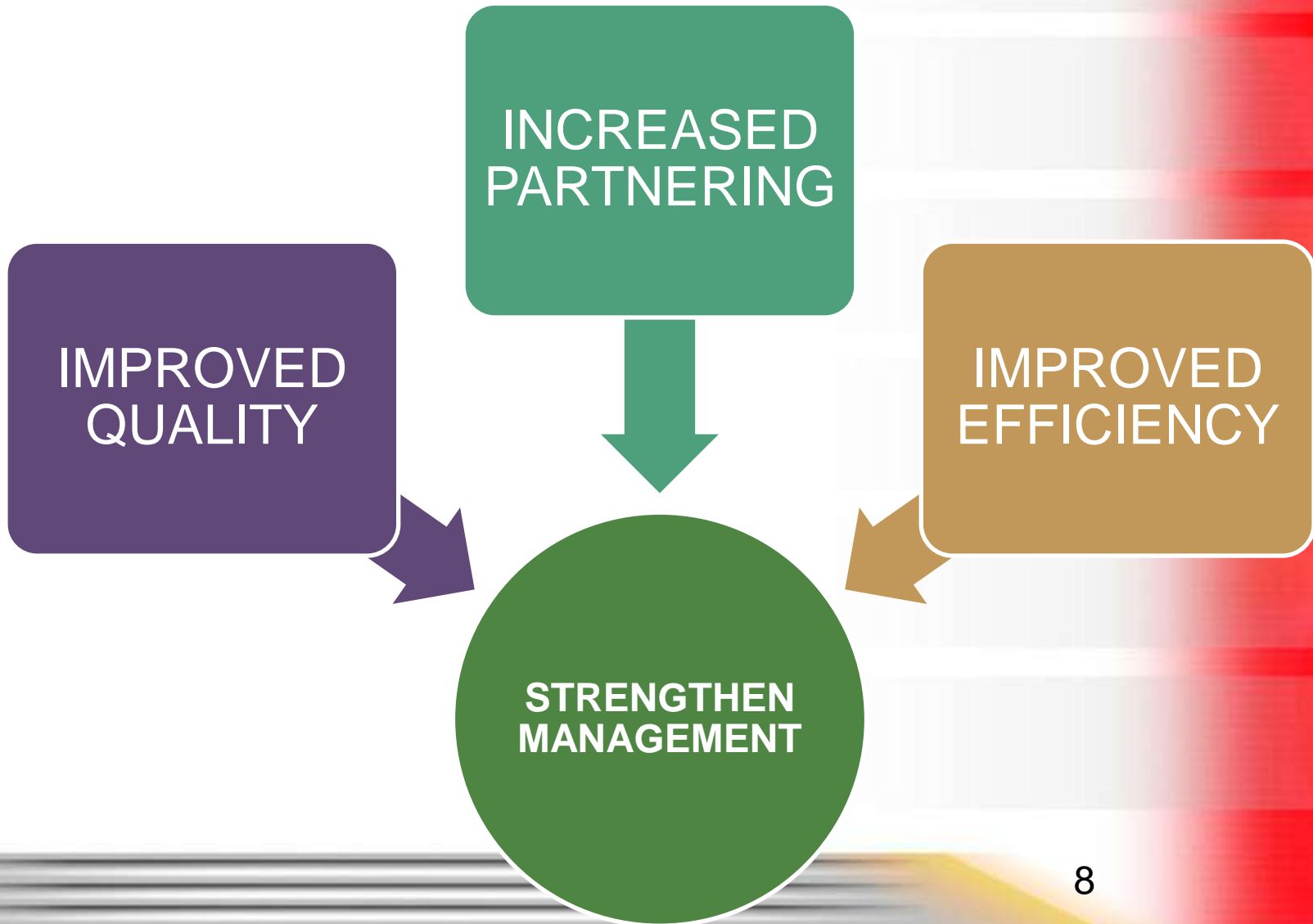
LOTS OF MONEY SPENT

+

POOR OUTCOMES

= TIME TO DO BUSINESS UNUSUAL

WHAT OPTIONS ARE AVAILABLE TO CHANGE THIS?



What is Lean?

WEYOWACI

- IDENTIFY THE CURRENT STATE BY MAPPING THE PROCESS (MEASURE)
- LOOK AT THE SOURCES OF WASTE AND THE BOTTLENECKS
- USE LEAN TOOLS (FISHBONE AND ROOT CAUSE ANALYSIS)
- MAKE IMPROVEMENTS AND THEN MEASURE AGAIN
- STRONG FOCUS ON QUALITY AND PEOPLE

SEEING SYSTEMS AS WE SEE PATIENTS

- START BY TAKING A HISTORY
 - PATIENTS, CARE GIVERS
- EXAMINE THE SYSTEM BY GOING TO SEE
- INVESTIGATE BY MEASURING
- MAKE A CHANGE
- COME BACK AND MONITOR, AND CHANGE IF NECESSARY



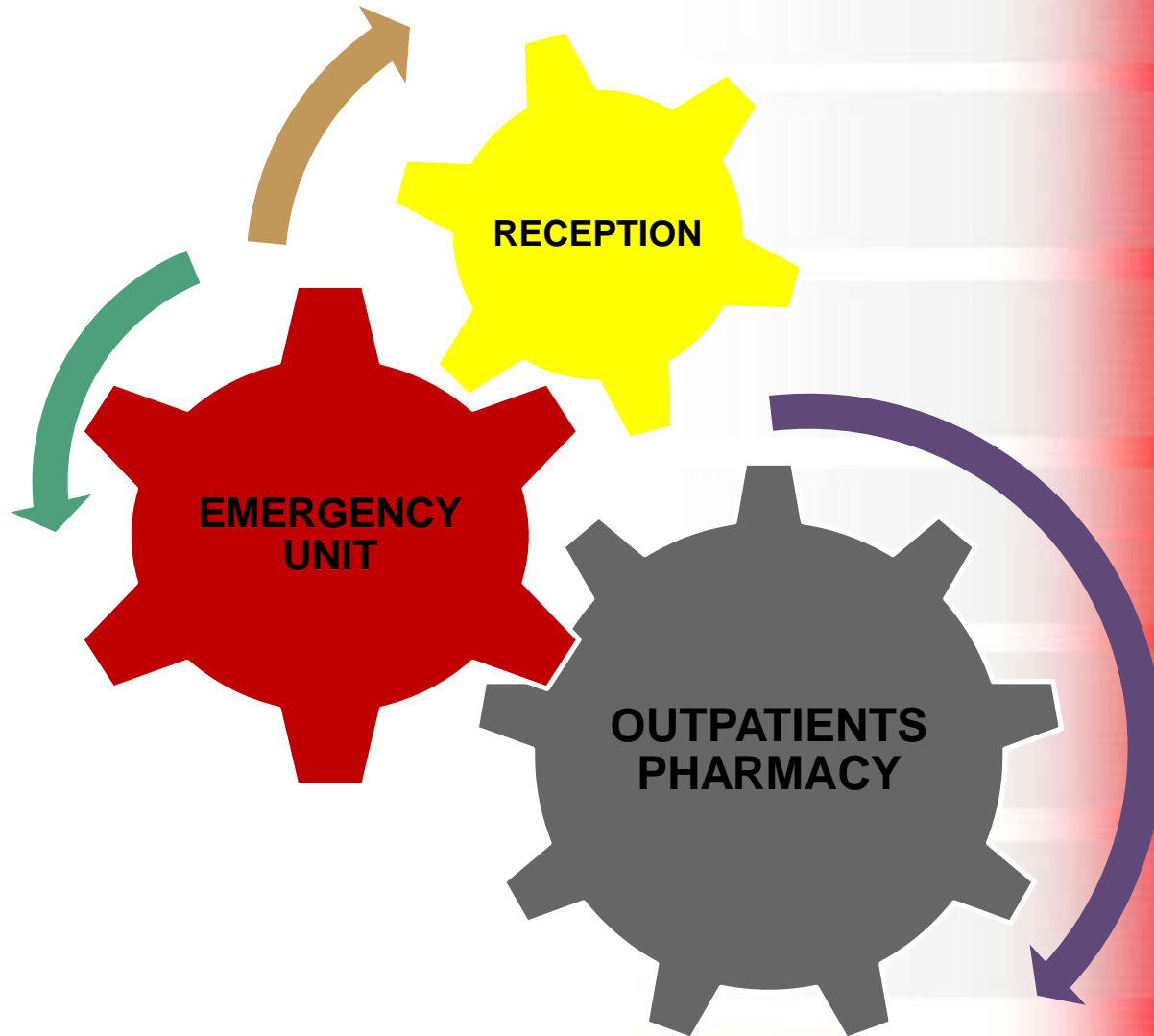
SOME OF THE PROJECTS

- INITIATED BY A FORWARD THINKING CEO
- PLAN TO IMPLEMENT LEAN AT A LARGE TERTIARY INSTITUTION
- THE CONTEXT

THE ROLE

- APPOINTED AS A PROCESS ANALYST AND MANAGER
- TASKED WITH LOOKING AT A FEW OF THE HOSPITALS HOT SPOTS WITH A VIEW TO IMPROVE THEM
- ESSENTIALLY WORKED AS A FACILITATOR AND COACH TO 5 TEAMS (6-16 MONTHS)

THE PROJECTS



OUTPATIENTS PHARMACY

- 400 SCRIPTS PER DAY
- STAFF BURN-OUT AND NO REPLACEMENT
- CONSTANTLY RAISED IN PATIENT SATISFACTION

SURVEY

VALUE STREAM MAP FOR PHARM

ROOM 42

CLERK RECEIVES FOLDER AND GIVES PATIENT A NUMBER

☒

CYCLE TIME-33seconds

UPTIME IN %--100%

TIME AVAIL - 480 MIN

TOTAL TIME SPENT WAITING (AVG.)-3H56MIN

NON VALUE : VALUE **16: 1**

TOTAL TIME FOLDER IS BEING WORKED ON: 14.6MIN

TOTAL TIME FOLDER SPENDS WAITING: 16 MIN

TAKT TIME : 6.4 MIN

CHECKING AND DISPENSING

2ND CHECK

COUNSELS

DISPENSES ☒☒

CYCLE TIME-299sec

UPTIME IN %- 88%

TIME AVAIL IN SEC

17min

44min

TRIAGE

VALIDITY CHECKED

SCRIPTS QUERIED

SCRIPTS SORTED ☒

CYCLE TIME-101sec

UPTIME IN % - 88%

TIME AVAIL IN SEC

34 min

PROCESSING

REGISTER

PREPARE

☒☒☒

CYCLE TIME-126sec

UPTIME IN %- 88%

TIME AVAIL IN SEC

41min

PICKING (±LABELLING)

ASSEMBLE MEDS

☒☒☒

CYCLE TIME-136sec

UPTIME IN %- 88%

TIME AVAIL IN SEC

24min

CHECKING

CHECKS A NUMBER OF PARAMETERS

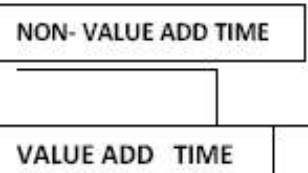
☒☒☒

CYCLE TIME-180sec

UPTIME IN %- 88%

TIME AVAIL IN SEC

WAIT 4 HOURS





HOW DID WE CHANGE THIS?

- ◆ NO ADDITIONAL RESOURCES
- ◆ SYSTEMATICALLY REMOVED WASTE
- ◆ ROOT CAUSE ANALYSIS OF PROBLEMS
- ◆ WEEKLY MEETINGS

LIST OF CHANGES

- TRIAGE QUERIES (60% REDUCTION)
- UNNECESSARY MEDICATIONS (UP TO 80 PER DAY)
- UNNECESSARY WALKING (10000 STEPS PER SHIFT)
- **BUDDY SYSTEM** (MASSIVE WASTE REDUCTIONS-PROVEN)



VALUE STREAM MAP FOR PHARM WITH IMPROVEMENTS

ROOM 42

CLERK GIVES PATIENT A NUMBER

☒

CYCLE TIME-15s

UPTIME IN %---100%

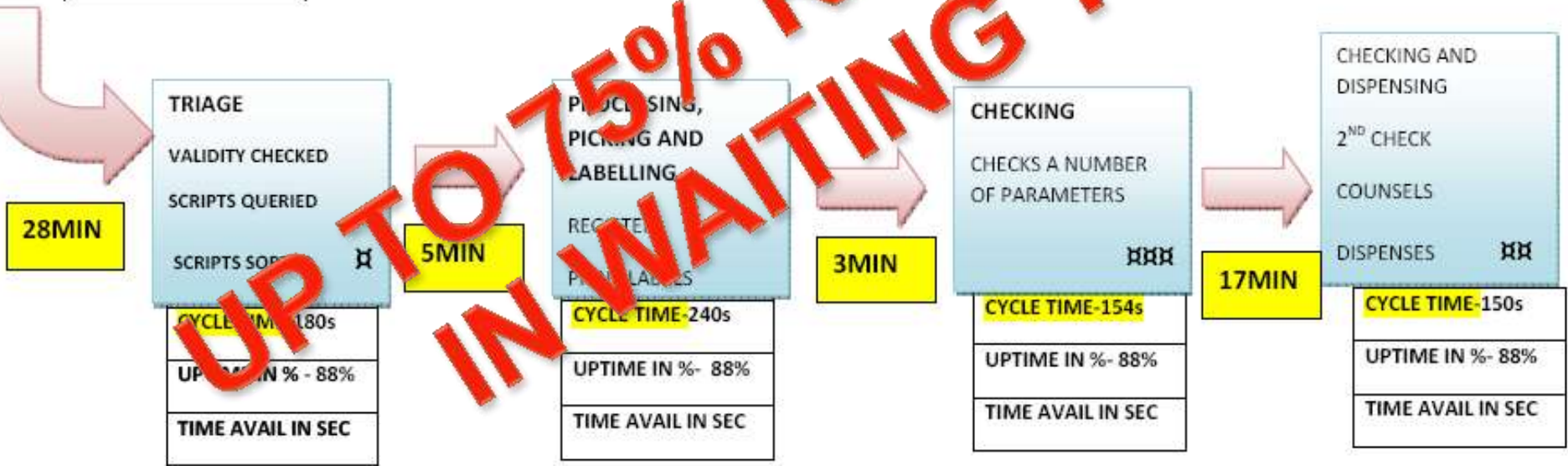
TIME AVAIL - 480 MIN

TOTAL TIME SPENT WAITING (AVG.)-**55MIN**

NON-VALUE:VALUE RATIO **5.7**

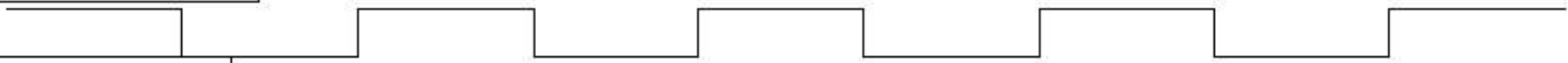
TOTAL TIME FOLDER IS BEING WORKED ON
13.5MIN

TOTAL TIME FOLDER SPENDING WAITING: **28MIN**



NON- VALUE ADD TIME

VALUE ADD TIME



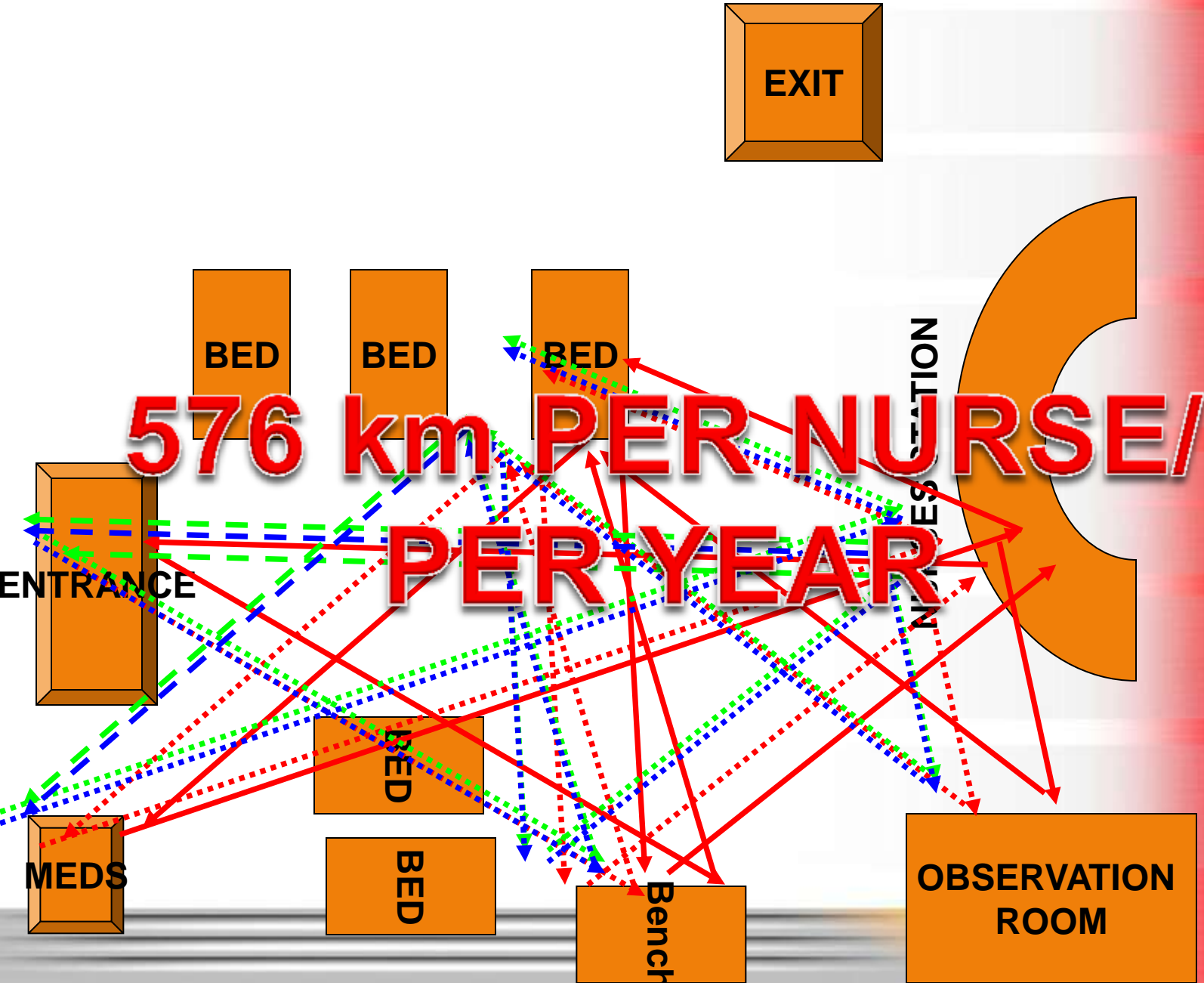
RESULTS

- ◆ PREMIERS EXCELLENCE AWARD
- ◆ HAPPIER PATIENTS (**300000hr SAVING IN A YEAR**)
- ◆ HAPPIER STAFF (OBJECTIVE REPORTS)
- ◆ **INFECTING** OTHER PHARMACIES TO COMMENCE IMPROVEMENT PROJECT

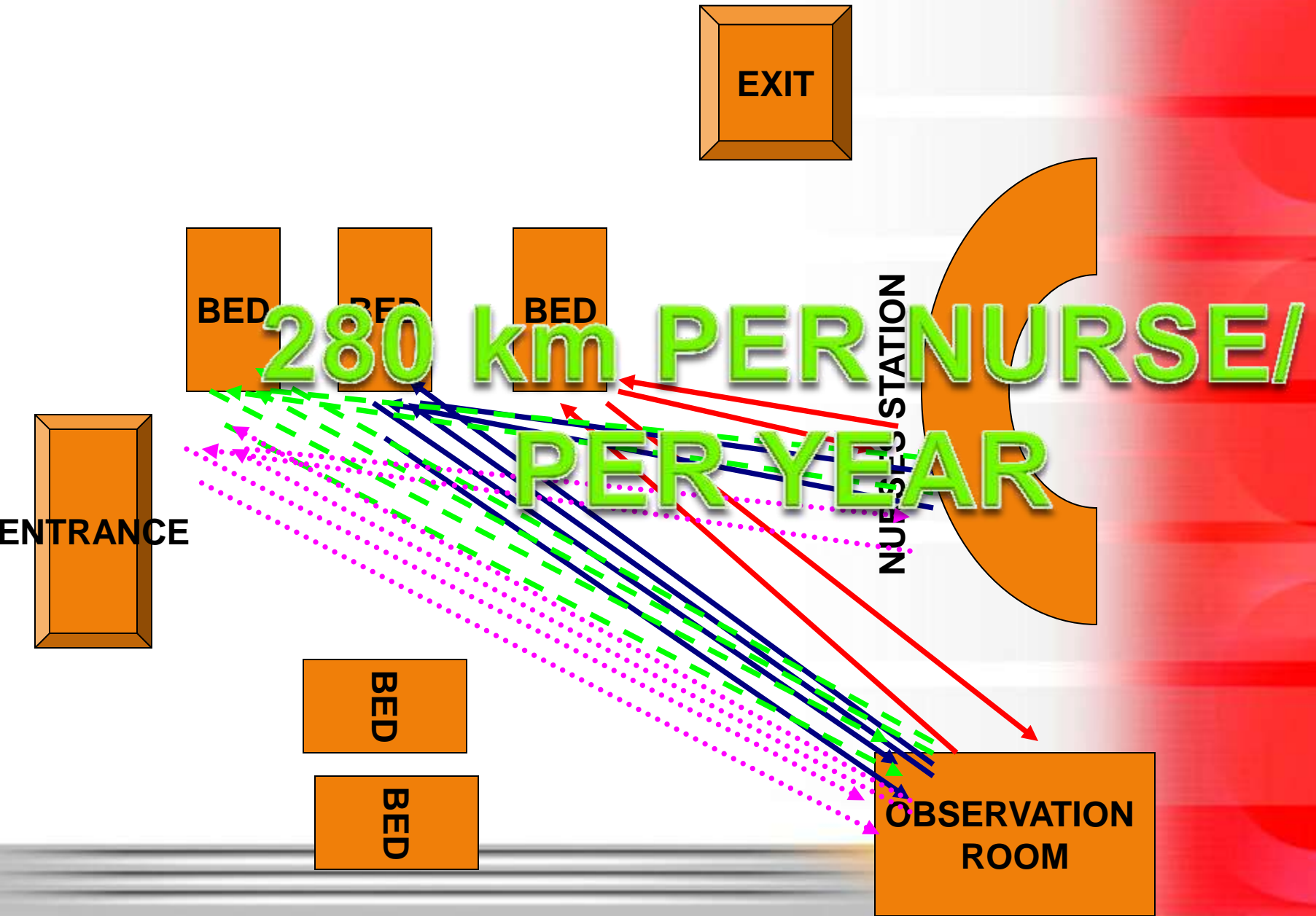
SOME OTHER EXAMPLES



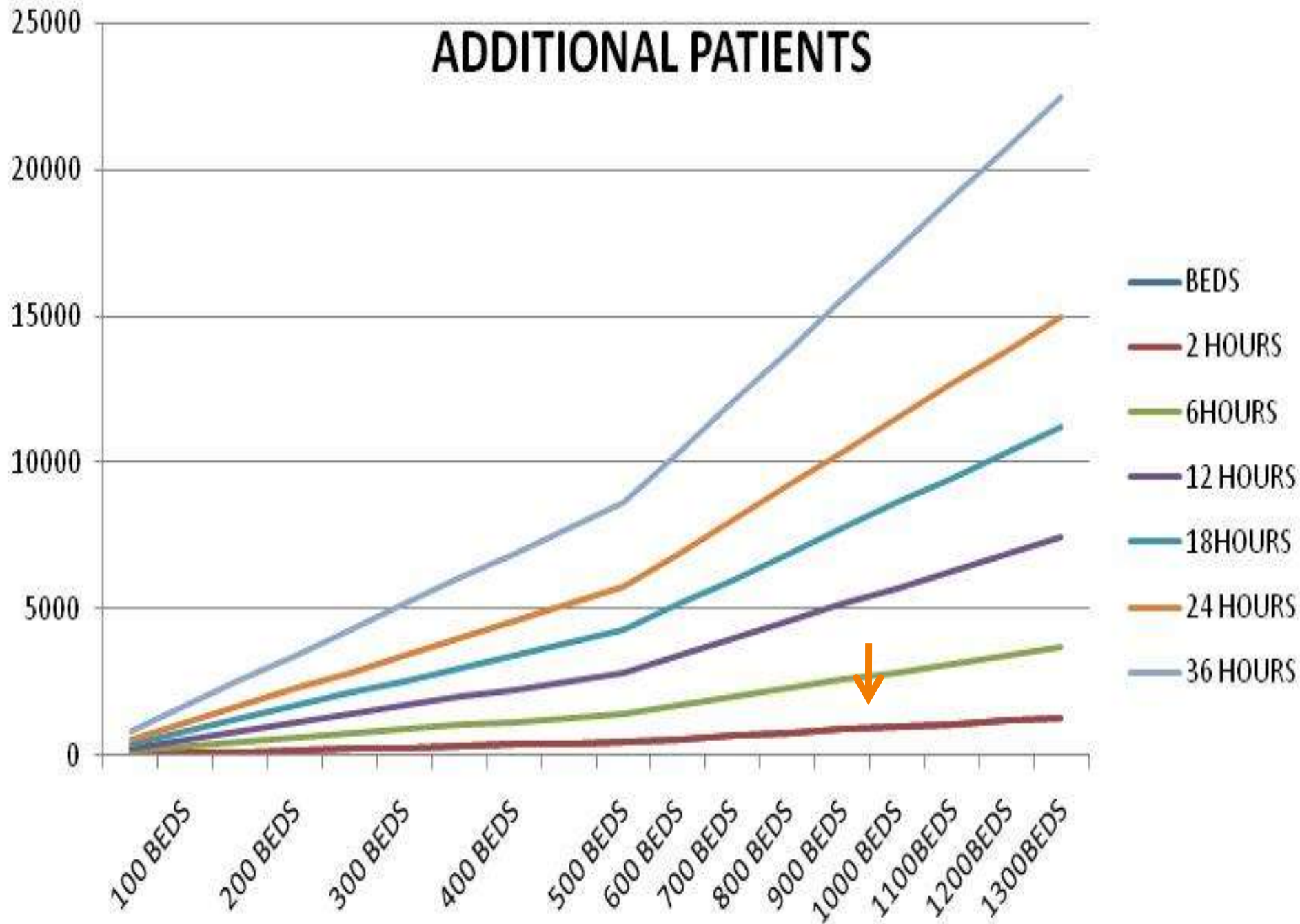
WALKING BEFORE CHANGES



WALKING REDUCED AFTER CHANGES



ADDITIONAL PATIENTS



RESEARCH PERSPECTIVE

- NEED TO CONTRIBUTE TO STRONG EVIDENCE BASE LOCALLY (ebm)
- OPPORTUNITY TO COMPLETE PHD IN A FIELD IM PASSIONATE ABOUT
- POSSIBLE POLICY IMPLICATION

RESEARCH OVERVIEW

- QUESTION: WHAT ARE THE ENABLERS AND INHIBITORS OF LEAN IMPLEMENTATION?
- LITERATURE:
 - » INCREASING FOCUS ON HEALTHCARE BUT MOSTLY CASE STUDY TYPE WITH FEW SYSTEMIC ISSUES ADRESSED
 - » PAUCITY OF EVIDENCE ON PEOPLE ELEMENT OF LEAN IMPLEMENTATION
 - » VERY LITTLE (<10% FROM DEVELOPING COUNTRIES)

RESEARCH OVERVIEW

- **METHODOLOGY:**

- » GROUNDED THEORY AND CASE STUDY APPROACH
- » ACTION RESEARCH AS METHOD
- » QUALITATIVE STUDY
- » 1000 PGS OF OBSERVATIONAL DATA (MEETINGS, INTERACTIONS, OUTCOMES) AND 54 INTERVIEWS WITH INVOLVED PARTICIPANTS

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CONSTANT
COMPARISON

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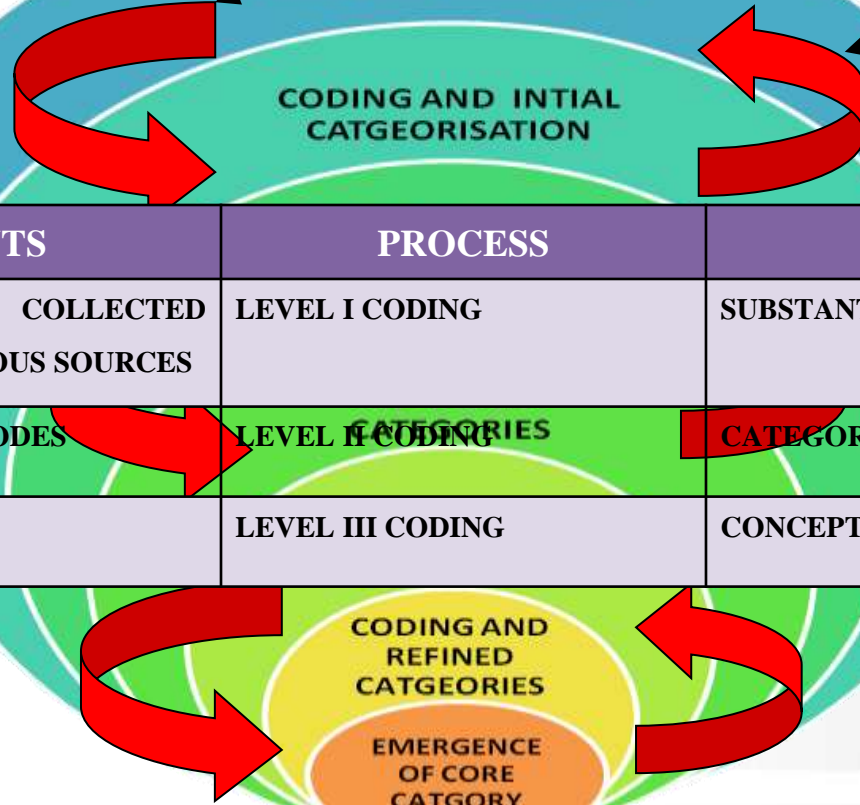
INITIAL DATA COLLECTION

CODING AND INITIAL
CATEGORISATION

INPUTS	PROCESS	OUTPUTS
RAW DATA COLLECTED THROUGH VARIOUS SOURCES	LEVEL I CODING	SUBSTANTIVE CODES
SUBSTANTIVE CODES	LEVEL II CODING CATEGORIES	CATEGORIES
CATEGORIES	LEVEL III CODING	CONCEPTS TO FORM THEORY

CODING AND
REFINED
CATEGORIES

EMERGENCE
OF CORE
CATEGORY



V10 TRYING V2 I THINK - ATLAS.U

File Edit Documents Quotations Codes Memos Networks Views Tools Extras A-Docs Windows Help

P-Docs P 61 EU {963} Quotes 61456 And for th Codes CHANGING THE WAY STAFF DO DAY-TO-DAY TASKS {20-0} Memos ME - 09/12/09 [12] {1-Me} - Super

02537 patients in a big way. This was really brave of her to state this in a public forum that in my opinion was by no means a safe space

02538 20 I did get some feeling that people were starting to talk about systems and there was a more awareness around systems

02539 21 And just to go back to the CCCC meeting I want to quote what KL said

02540 22 "We can't keep doing things the way we are in C15 it is a major issue that require the response from space staff and facilities perspective

02541 23 It requires a high level plan

02542 24 We are working with Zameer on working on an action plan to respond to this crisis"

02543 25 There was credit given from both KL and QR for the work that A1 was doing

02544 26 I also had a discussion with ST who basically said the space meeting was an absolute waste of time and that they were looking forward to the minister coming next week

02545 27 However that has been canceled unfortunately

02546 28 I think ST is pretty much reach breaking point and considering leaving which is terrible. I feel I need to motivate with all the good work he is doing here and that we need him to stay desperately

02547 29 That is reality

02548 30 And for the first time ever have I seen patients lying on the floor in the GSH casualty waiting to be seen. This was rock bottom!!!!

02549 31 Psychiatry patient hit a staff member yesterday

02550 32 Set another patient clothes a light and is reeking havoc in the unit

02551 33 There is no quick solution in sight and sadly I must report that management is not acting appropriately

02552 34 Our patients are being compromised

02553 35 And I am frustrated because I have volunteered my assistance at a number of occasions and I am not utilized

- AN APPRECIATION OF THE WHOLE
- RAISING AWARENESS OF THE PROBLEM THROUGH QUESTIONS, DISCUSSIONS
- I THINK THE FACILITATOR CAN HELP US HERE ON THE FRONTLINE
- STAFF ARE VERBALLY SALUTED FOR THEIR EFFORTS
- SUPPORTING OPERATIONAL STAFF THROUGH CHANGE

- FACILITATOR REFLECTIONS THAT IMPROVE UNDERSTANDING OR PROBLEMS /
- PAYING ATTENTION TO THE INFORMAL, CAMOUFLAGED DYNAMICS

- DESCRIPTION OF WHAT IS ACTUALLY HAPPENING
- IM SICK AND TIRED OF THIS-MANAGEMENT DOESNT UNDERSTAND
- SENSE OF URGENCY TO IMPROVE AND CHANGE THE WAY WE WORK

'SOFT' PROBLEMS RELATING TO PEOPLE AND ORGANISATION HAVE 'HARD' IMPACT

APPLAUDING STAFF EFFORTS AND IDEAS

DEEP DOWN WHAT IS CAUSING THIS PROBLEM

FACILITATOR ASKS INCISIVE QUESTIONS TO GET STAFF THINKING

HOME GROWN EXAMPLES THAT RESONATE WITH INDIVIDUALS

HOW CAN STAFF BE PUNISHED FOR BEING EFFICIENT

I KNOW THE BOAT IS SINKING BUT THE VIEW FROM HERE IS NICE

IMPROVED INITIATIVES WRAPPED UP IN RED TAPE

PAYING ATTENTION TO THE INFORMAL, CAMOUFLAGED DYNAMICS

STAFF ARE VERBALLY SALUTED FOR THEIR EFFORTS

THIS IS MY ISLAND SO GET OFF!

WHILE WE HAVE MANAGEMENT'S EAR LETS TRY TO GET SOME RESOURCES

USING AN ILLUSTRATIVE THREAD

THIS IS MY ISLAND SO GET OFF!

[6:551][3739]

There is no dumping
If there is any kind of dumping you nip it
butt and that is it
Because the last thing we need is dumping
it got the potential to dump big time
If any one is starting to dump nip it on th
so that they not ever dump again

[6:1197][413]

Another concerns that was raised is that the
medical rounds are not being done often enough
in the wards. there was much 'externalisation'
of the problems from the management quarter.
It is quite obvious to all working in the casualty
unit that the HOD's are doing many rounds
during the day

[1:44][94]

Some of the looks like it was tick adequately
some of it did not
I left a message for her to kind of get the
nursing staff to tick off
A concern was that nurses just tick off at
random and inflate the number of times they
down to kind of bolster the motivation for a
messenger
I will have a look at that next week, which w
be part of my plan for next week

[7:254][5067]

Unfortunately in large health care systems we
tend to work in cylose and so there is a war
component a lab component and an icu
component and it is difficult to get interventions
of success across the cylose
A patients journey is almost always horizontal
were as we working is vertical cylose
Like with the H1N1 outbreak
There was a proposal to place a couple of more
icu beds
That is fine but then what happens when the
patients come out of icu
There is no ward beds for them to go or how
does that deal with the pressure on casualty
and so on
We discussion the infection control system and
we talk about specific people
May be one way of handling this is to follow
up on how far our task teams

[6:1056][1709]

So I ask for a bed status.
There were between 20 beds on the G floor,
11 in oncology, 4 in G17, 3 in G5 and 2 in G12.
Still patients were waiting here overnight.
Point in case that in fact patients don't move to
during the night as they should. But I didnt feel
like I could make a fuss about it cos I didn't
have the authority to act.
There was an issue this morning because the
intern had found which I didn't know
And so I think the authority issues having a big
impact on the res of all of our care

[6:99][1050]

We should not have that area packed like
sardines in the morning when there are beds still
available. I agree holding often becomes a
dumping ground.

[4:19][87]

Then what we started to pick up in the meeting
was the blue board and TTO functioned as
separate silos
So wasn't cross capacity
Initially there was a feeling
F1 felt that the floor layout wasn't suitable for
Blue boards and TTO later
We thought that it may actually worked

[3:189][11]

This will meant that they want to look at a
lean project for the wards and then another for
the kangaroo mother care unit. The processes
are massively different and I am very sceptical
to take on another project. The difficulty here is
that the HOD neonatology is wanting us to
drive a project that is in fact in the obstetrics
arena. This has the potential to become
problematic.

[6:1198][736]

That is a 30% increase across EMS and so this
is the cause for the increase demand on the
services
I think it is still speculation about the Mitchell's
Plain drainage area but I can disprove this
without data. At this meeting also people tend
to externalise the problem and work in silos.
The chc's seem to be extricated from the
healthcare system

[4:213][5341]

I think the doctors...
ing it as all
...ing please
contact us for your queries don't send scripts
back it wastes time
So I send the note back saying do you realize
how long you...
A... if you d...
Surely you have a special... which you just
didn't bother to put on it
I think they also just expecting a bit to much of
us to contact them for every thing
Contacting them would be easier if it is a
smaller portion

[6:513][3056]

...er the... here
... an o... it... ing... here
... 2th... the... h... are v...
... be... G... and... but... use...
Hematology patient

[6:985][883]

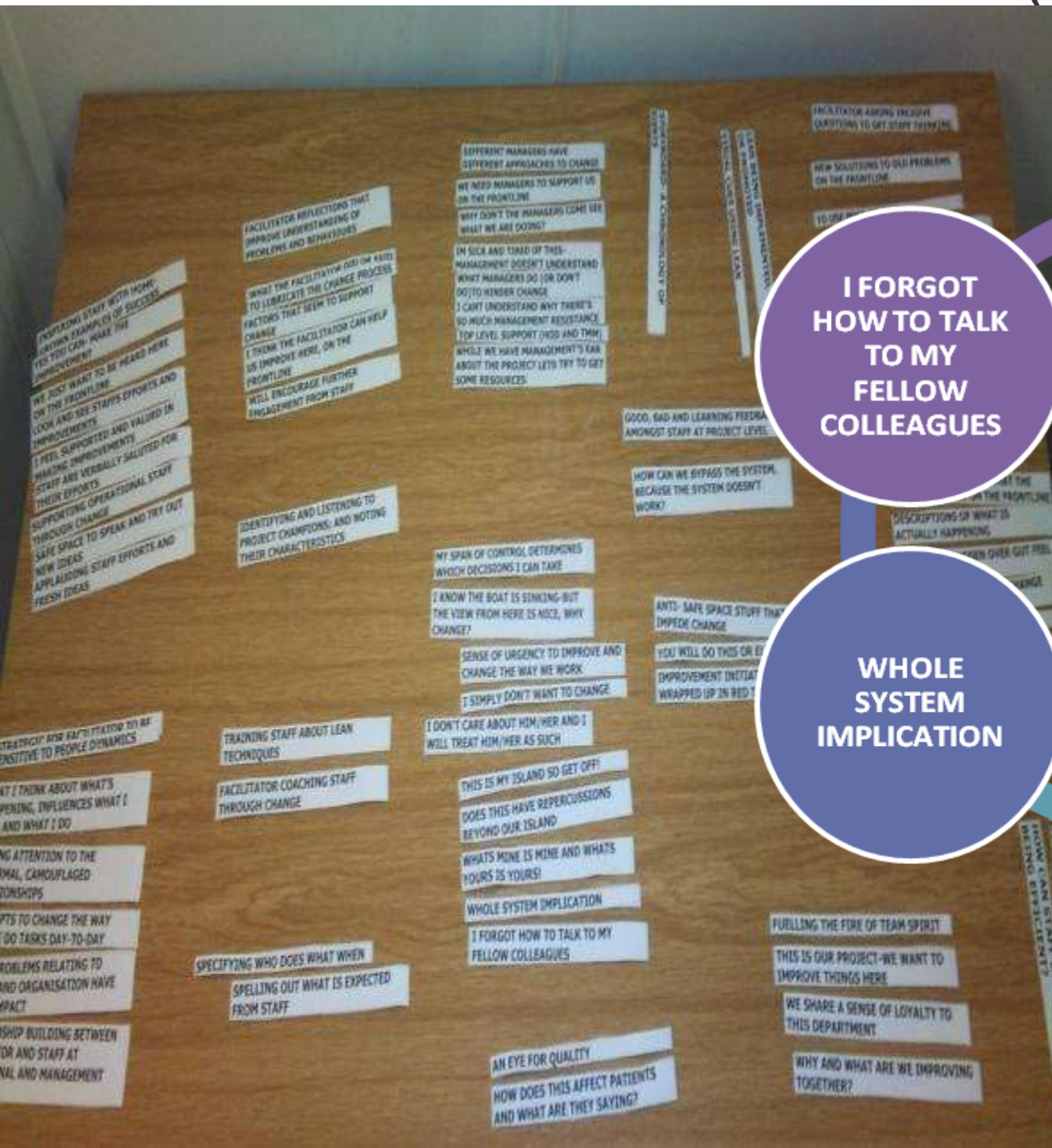
Whether they have been transferred from other
hospitals can go upstairs
That would be one
That would also put pressure for them to see
the patients more frequently

[6:247][939]

But one there is a porter issue for starters
-externalising and silos
The second thing is either they saying but the
visitors are coming there now and somebody
needs to see the visitor
There is always sort of patty issues
So there is no policy at all written or unwritten
that says patients may not be transferred from
the C floor or the C floor or whatever to the G
floor
As long as there is a bed

Surgeons don't communicate to casualty plan.

LEVEL II CODING (4 CYCLES-18)



I FORGOT HOW TO TALK TO MY FELLOW COLLEAGUES

THIS IS MY ISLAND SO GET OFF

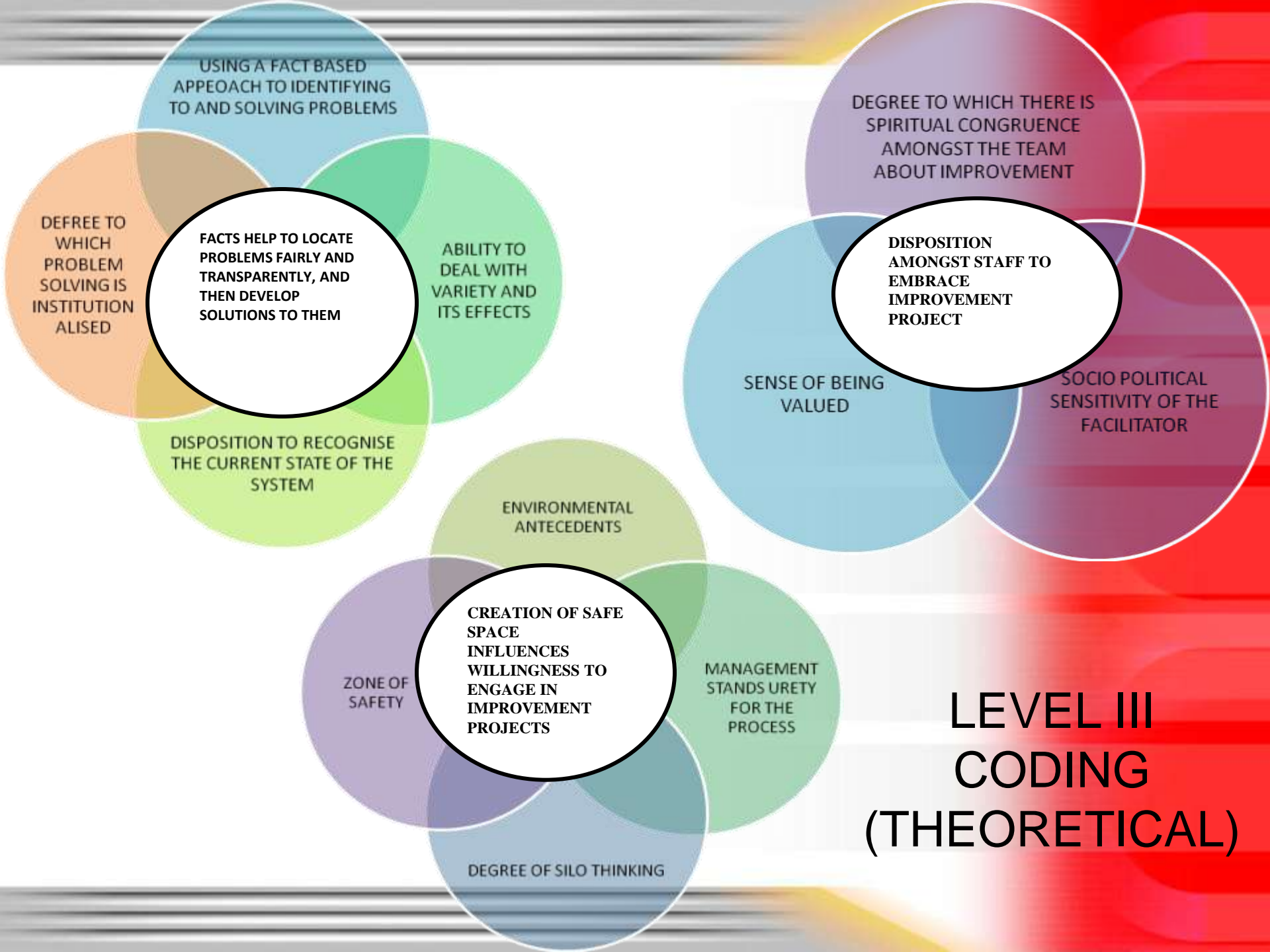
AN APPRECIATION OF THE WHOLE

DEGREE OF SILO THINKING

WHOLE SYSTEM IMPLICATION

WHATS MINE IS MINE AND WHATS YOURS IS YOURS!

I DON'T CARE ABOUT HIM/HER AND I WILL TREAT HIM/HER AS SUCH



USING A FACT BASED
APPEOACH TO IDENTIFYING
TO AND SOLVING PROBLEMS

DEFREE TO
WHICH
PROBLEM
SOLVING IS
INSTITUTION
ALISED

FACTS HELP TO LOCATE
PROBLEMS FAIRLY AND
TRANSPARENTLY, AND
THEN DEVELOP
SOLUTIONS TO THEM

ABILITY TO
DEAL WITH
VARIETY AND
ITS EFFECTS

DISPOSITION TO RECOGNISE
THE CURRENT STATE OF THE
SYSTEM

DEGREE TO WHICH THERE IS
SPIRITUAL CONGRUENCE
AMONGST THE TEAM
ABOUT IMPROVEMENT

DISPOSITION
AMONGST STAFF TO
EMBRACE
IMPROVEMENT
PROJECT

SENSE OF BEING
VALUED

SOCIO POLITICAL
SENSITIVITY OF THE
FACILITATOR

ENVIRONMENTAL
ANTECEDENTS

CREATION OF SAFE
SPACE
INFLUENCES
WILLINGNESS TO
ENGAGE IN
IMPROVEMENT
PROJECTS

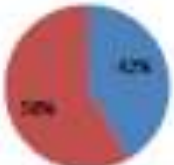

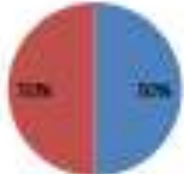


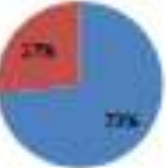
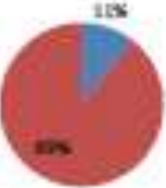
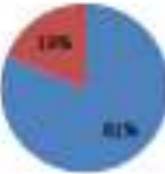


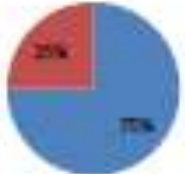
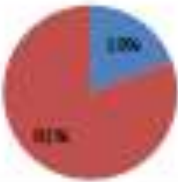

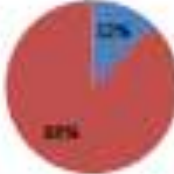
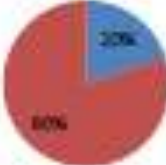
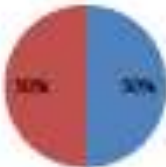
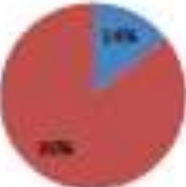
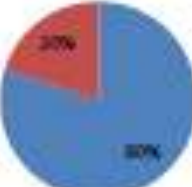
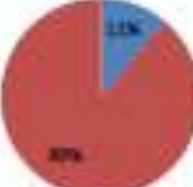

ZONE OF
SAFETY

MANAGEMENT
STANDS URETY
FOR THE
PROCESS

DEGREE OF SILO THINKING

LEVEL III
CODING
(THEORETICAL)

A1

	MEDICAL WARD - FAIL	EMERGENCY UNIT - SUCCESS	INPATIENT PHARMACY - FAIL	OUTPATIENT PHARMACY - SUCCESS	NEONATAL ICU - PREMATURE ENDING
A1					
A10					
A2					
A3					

RED IS POSITIVE
BLUE IS NEGATIVE

LITERATURE REVIEW

ORGANISATIONAL CHANGE

INNOVATION
(PROCESS TYPE)

LEAN HEALTHCARE

3 CONCEPTS:

- A) USING HARD FACTS TO IDENTIFY AND SOLVE PROBLEMS
- B) WILLINGNESS OF STAFF TO ENGAGE
- C) SAFE SPACE CREATION

COMMON
THREADS

KOTTER'S EIGHT STEP PROCESS (1996)	KANTER ET AL (2002) TEN COMMANDMENTS FOR EXECUTING CHANGE	LUECKE'S SEVEN STEPS (2003)	RELEVANCE TO THE THEORY IN THIS STUDY (discussed in more detail in Section 2.3)
	Analyze the organization and the need for change	Mobilize energy and commitment through identification of business problems and solutions	This is discussed in Relation to Concept A, the need to use data to identify problems and develop solutions
Develop a vision for the change	Create a vision and common direction	Develop a shared vision of how to organize and manage competitiveness	This is linked to Concept B and using teams to develop a shared spirit of working towards a goal
	Separate from the past		
Establish a sense of urgency	Create a sense of urgency		This is closely related to Concept A of using data to create a sense of urgency and kick start action
Support a strong leader role		Identify leadership	
Line up political sponsorship	Creating a guiding coalition		
Craft an implementation plan			This is linked to an aspect of Concept A: using a structured plan for improvement
Develop an enabling structure	Empower broad based action		Concept B speaks to the element of participation by staff and Concept C speaks about creating the space that enables participation
Communicate, involve people and be honest	Communicate the change vision		A core component of Concept C (creating a safe space) relates to clear

- **‘Disposition in staff to embrace improvement projects’**

- Estimates of 80-90% of Lean challenges relate to people (Graban, 2008)
- Provides empirical support for the importance of people in Lean implementation
- Teamwork aids Lean implementation and ‘buy-in’
- Much emphasis on small wins (Kotter, Senge, McGregor)
which could be PDCA

The creation of a Safe Space to improve willingness to engage the change process:

- Study defines 'safe space' referred to in the literature (acknowledgement; staff comfort in giving their ideas; regular meetings and positive regular communication)
- Recognition is necessary but not sufficient
- Empiric evidence for meetings
- Reinforces importance of communication

IMPLICATIONS

- Identification of specific elements that enable or inhibit Lean implementation
- Possibility to transfer thinking to other kinds of change programmes
- Opportunity to now develop quantitative testing of concepts before projects
- Actually making a difference not talking about it or thinking about it...

GETTING STARTED

YOU **DONT** NEED A LEAN EXPERT

1. IDENTIFY A PROCESS TO BE IMPROVED
2. COLLECT SOME BASELINE DATA
3. MEET WEEKLY TO DISCUSS PROGRESS
4. JOINTLY DECIDE ON A **SINGLE** INTERVENTION
5. MEASURE IMPACT AND FEEDBACK TO ALL

IT'S ABOUT PEOPLE AND PEOPLE

PARTING PEARLS OF WISDOM

- INVOLVE ALL IF THE AIM IS COMPLETE SUCCESS


GO SEE, ASK WHY

IT'S ABOUT MOTIVATING PEOPLE AND CREATING A SAFE SPACE

AND RESPECT

- FIRST 3 QUESTIONS STAFF ASK ABOUT CHANGE INITIATIVES

- » ARE YOU SAYING I DON'T WORK HARD ENOUGH?
- » WE NEED RESOURCES NOT LEAN?
- » WHAT'S IN IT FOR ME?



**“THERE IS NO FAILURE EXCEPT IN
NOT TRYING” –
KIN HUBBARD**

Skylight Photo

**THANK YOU
FOR YOUR ATTENTION**



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