



KK Women's and
Children's Hospital
SingHealth



Going for **Zero Harm** In Risk **Management**

Alex Sia
Chairman Medical Board
KK Hospital



Singapore
General Hospital



KK Women's and
Children's Hospital



National Cancer
Centre Singapore



National Dental
Centre Singapore



National Heart
Centre Singapore



National
Neuroscience Institute



Singapore National
Eye Centre



Polyclinics
SingHealth



Bright Vision
Hospital

Sengkang
Health

Nurse's suicide highlights twin tragedies of medical errors

Kimberly Hiatt killed herself after overdosing a baby, revealing the anguish of caregivers who make mistakes

By [JoNel Aleccia](#) Health
writernbc.com
updated 6/27/2011

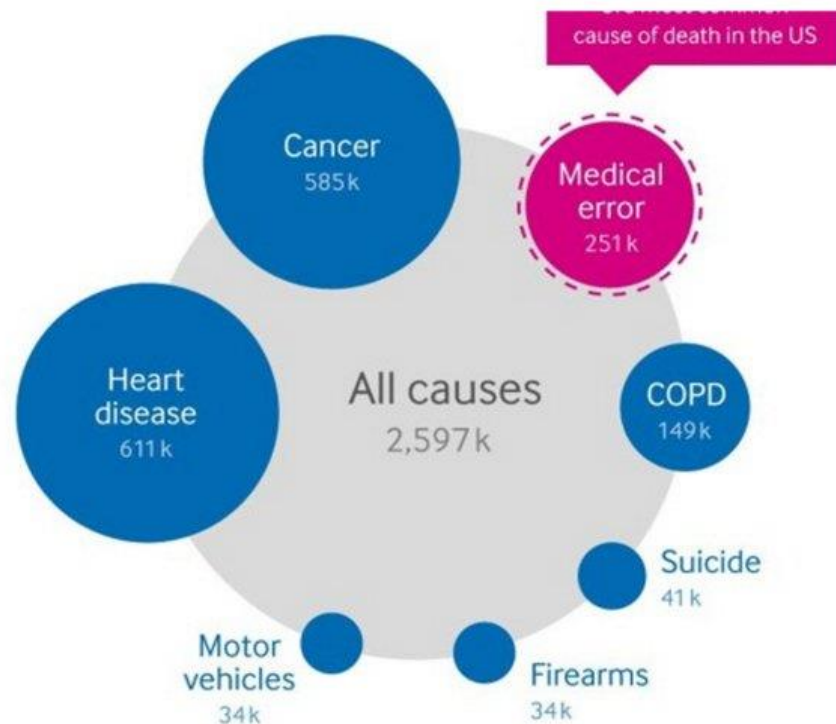
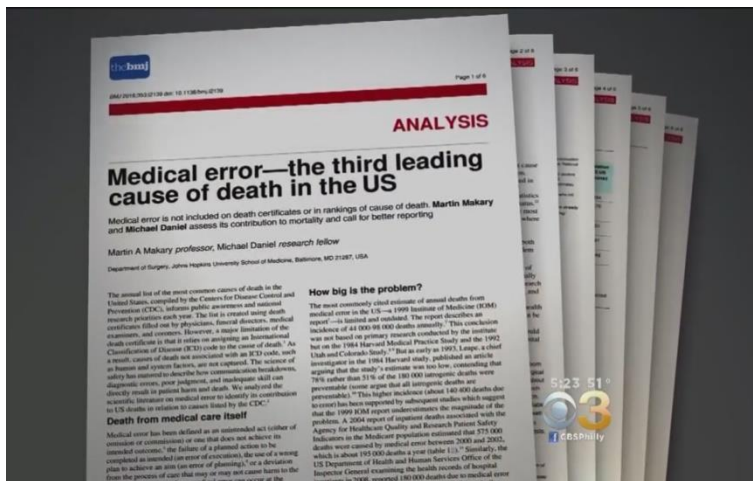
RN K dispensed a 10 times overdose of calcium chloride to a fragile 8-month old baby resulting in DEATH



K was dismissed; she died 6 months after the event - the impact of errors on providers, the so-called “second victims” of medical mistakes.

The first victim is the patient, the person hurt or killed by a preventable error, but the second victim is the person who has to live with the aftermath of making it.

Risk Profiles of Healthcare



‘.between 210,000 and 440,000 patients each year” - suffer some type of preventable harm that contributes to their death.

BMJ 2016; 353 : (Published 03 May 2016) Cite this as: BMJ 2016;353:i2139

CHALLENGES IN HEALTHCARE

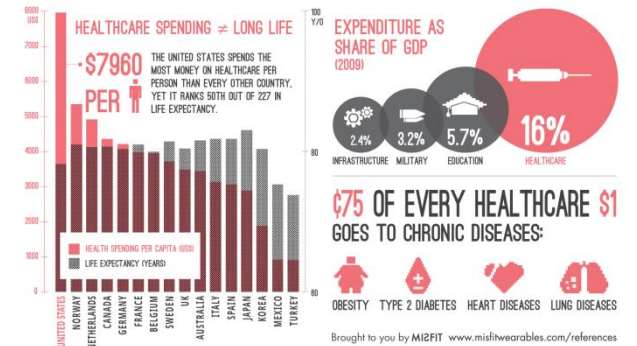
Complexity & stress



Rising costs

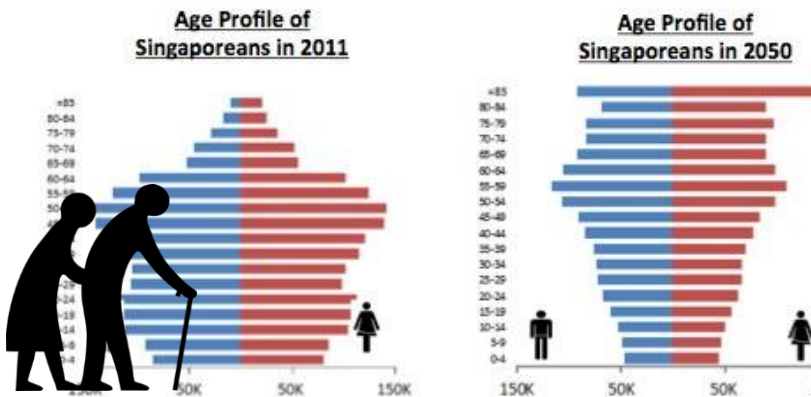


U.S. HEALTHCARE SPENDING



Increasing demand

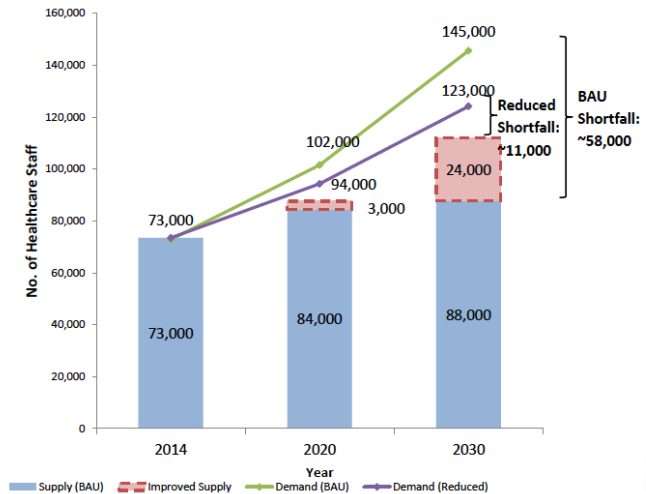
Age Profile of Citizen Population



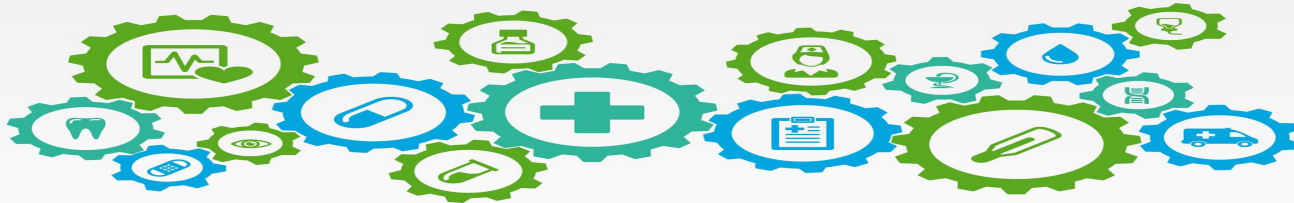
... we could be short of ~ 11k workers in 2030...
 (equivalent to staffing in 2 acute hospitals)

EVEN AFTER

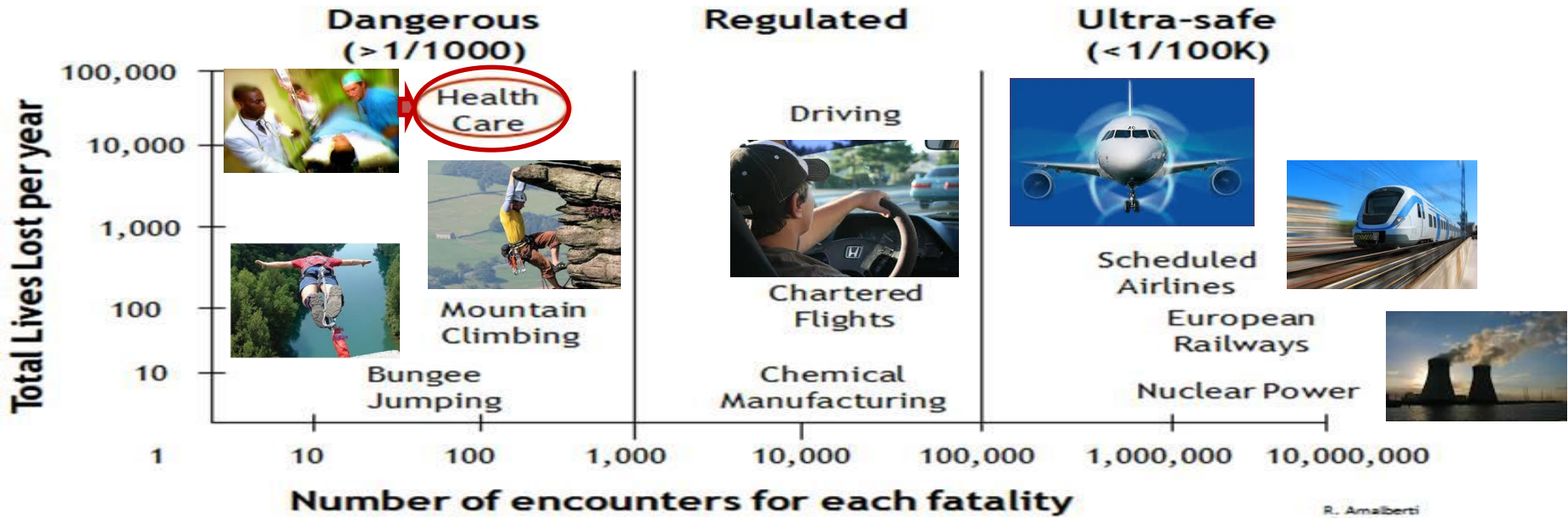
- Successfully attracting more Singaporeans into healthcare
- Achieving moderate success with care transformation efforts
- Achieving annual 2% productivity savings in public acute sector



Complexities of Science – Impact on Medicine and Healthcare (high complexity = high risk)



Healthcare is Hazardous



R. Amalberti & L. Leape



Harm to Patients

Evidence of harm may not become immediately obvious during healthcare interventions, examples:

- A lapse in attention while **inserting a central line may result in a blood stream infection** that becomes apparent days later.
- An **incorrect dosage of medication may not be recognized** until an adverse drug event occurs.
- A **wrong site surgery may go unnoticed** until after the effects of anaesthesia subside.



Double Whammy to Patient Harm



- Institute of Medicine (IOM) defines patient safety as “freedom from accidental injury.”
- Goal of risk management = target at zero harm

Our Purpose



Beyond the Knowledge and Theory...

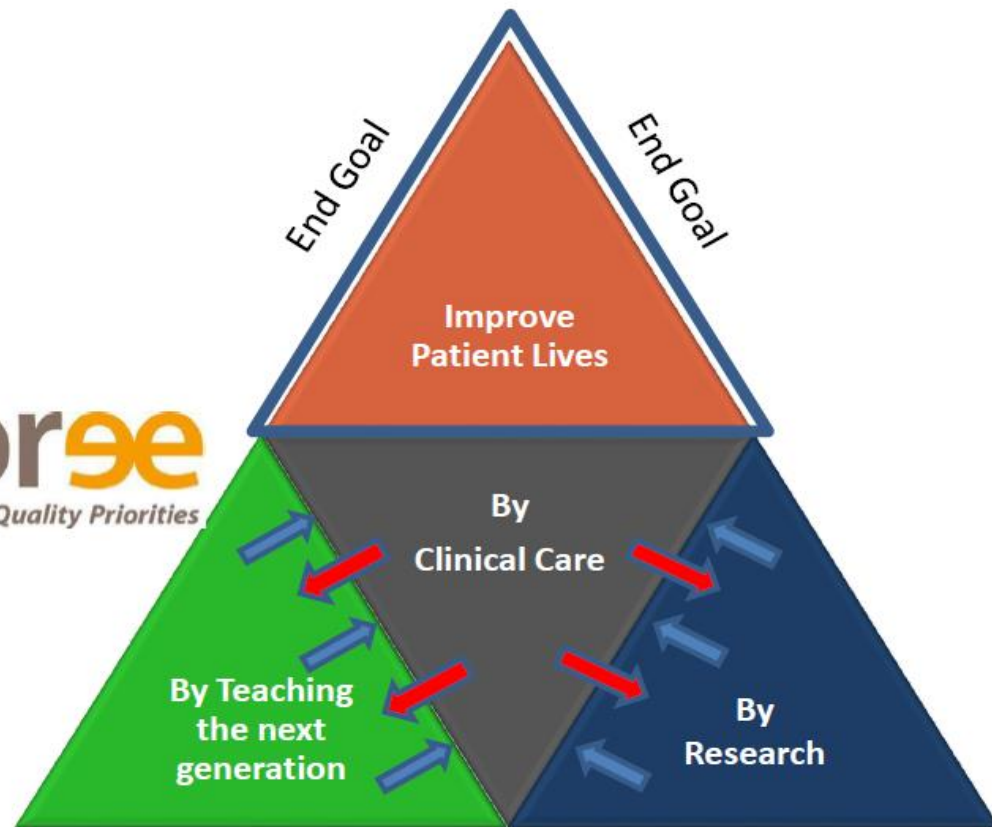
First, Do Not Harm

The End Goal we want to achieve:

Improve Patient Lives

PATIENTS. AT THE HEART OF ALL WE DO.®

spre
Quality Priorities



The Anatomy of Errors in Healthcare

Blunt End of the System

Sharp End of the System



Organisation Factors – culture, policies, procedures, regulation

Environmental Factors – equipment, staffing, resources, constraints

Human Factors – competency, communication skills, problem solving skills

I died because of a preventable medical error

Understand the Value of Proactive Risk Management

- **Know about the uncertainty** that could interfere with the planned objectives.
- Selection of risk management or mitigation strategies








Value of Proactive Risk Management

ERM - Proactive

Reactive

Benefits of Applying Proactive Measures in Managing and Mitigate Risks

Defects found at:	Own Process Step	Next Process Step	Later Process Step	Before Reaching Customer	Defect Reach the Customer
Cost:					
Impact:	\$1 Very Minor	\$10 Minor Delay	\$100 Rework Re-schedule of Work	\$1,000 Significant Rework Delay in Delivery Additional Inspection	>\$10,000 Direct and Indirect Cost Impact Wavier Cost Service recovery Reputation Legal Loss of Market Share

Proactive Risk Management

Scope of Risk Management

No Information
(Unknown unknowns)



Partial Information
(Known unknowns)



Complete Information
(Knowns)

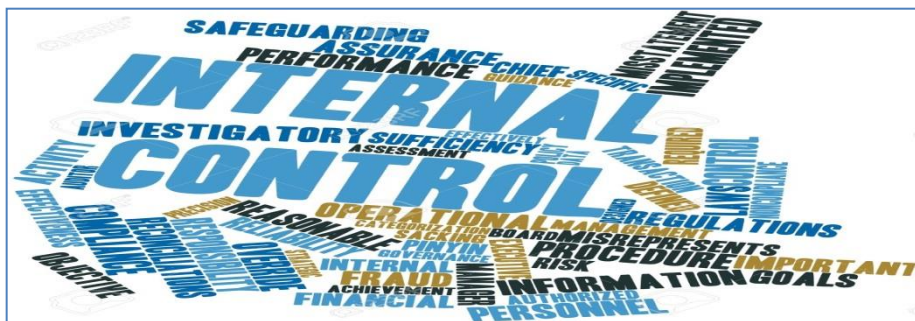
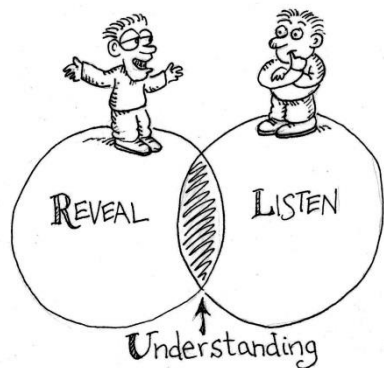
TOTAL UNCERTAINTY

GENERAL UNCERTAINTY

SPECIFIC UNCERTAINTY

TOTAL CERTAINTY

SCOPE OF PROJECT RISK MANAGEMENT



Our Commitment...Our Pledge

TARGET
ZERO HARM



**I will keep our
Patients Safe!**

I will...

Act Now!

Speak Up!

Be **A**ccountable

And **P**artner

everyone

For Patient Safety

Patient Safety ASAP



- Actively identify and mitigate risk to prevent harm – **Speak Up!**
- Have **open and honest sharing** of best practices, observations within our teams and beyond.
- Continue to build a culture in which **everyone** accepts he or she is accountable for safety.
- Accept that “good enough” is simply not enough – **we can do better!**

Patient Safety and Risk Management Network

Formally Launched the Patient Safety & Risk Management Network Program -18 Feb 2014

Collaborative Structure

Patient Safety and Clinical Quality

Patient Safety Council
Chairman - Prof Tan Kok Hian

Patient Safety and Risk Management Network Program
• Program Director – Ms Pang Nguk Lan
• Patient Safety Officer – Ms Helen de Chavez

**Division Chair/
Department HOD**

Patient Safety Leads (58)
Medical, Nursing, AHS,
Admin, Ops, Ancillary



*Partnership
with 59
patient Safety
Leads from
Medical,
Nursing, AHS,
Ancillary*

Roles of Patient Safety Leads



Safety is like a lock and
YOU are the key!



SPEAK UP
EVEN IF
YOUR VOICE
SHAKES

**Drive Patient
Safety &
Promote Risk
Awareness
Culture**

**To work in
partnership to
champion
patient safety
initiatives &
quality
improvement
activities**

**To Lead &
Advocate
safety by
promoting
safety
awareness in
work
environment**

**To provide a
platform for
Department/
Division
frontline
employees to
raise or voice
out their needs
& concerns
regarding
safety**

Patient Safety Leads' Network Session

- Designated **Patient Safety Leads** in every department/unit
- Formed **Patient Safety Groups** within Divisions with the support from Division Heads
- Division/Department Meeting - Incorporate patient safety as a regular forum, discuss issue on safety and share lesson learnt.



AGENDA			
PATIENT SAFETY AND RISK MANAGEMENT NETWORK SESSION			
02 June 2014 from 11 am – 1 pm at KKH Auditorium			
S/N	Time	Title/ Topic	Presenters
1	11.00 – 11.10 am	UPDATES •Patient Safety	DD Pang Nguk Lan
2	11.11 – 11.25 am	Paediatric Surgery – Medical/ Nursing/ MOT •Administration of Intravenous (IV) Medication Course for RNs in MOT & Day Surgery Recovery Rooms	NM Thuraiya Bte Jais NC Nah Siew Noy
3	11.26 – 11.40 am	MSW/ Nutrition & Dietetic/ PSS/ Catering •Correct Patient, Correct Diet	Ms Mavis Teo Ms Phuah Kar Yin Ms Cheryl Tan
4	11.41 – 11.55 am	Delivery Suite •Delivery Suite Patient Safety Initiatives	SNM Juay Siew Ngoh
5	11.56 – 12.10 pm	Paediatric Anaesthesia •Prerogatives, Projects and Proposals: A Bird's Eye View	Dr Kavitha Raghavan
6	12.11 – 12.25 pm	DDMS/ IS •Duplication of Medical Records – A Patient Safety Issue	Ms Yasa Yap Mr Teo Kian Kian
7	12.26 – 12.40 pm	O & G and MIS unit •Use of Pneumatic Calf Compression and Prevention of Deep Vein Thrombosis on Elective Surgeries	Dr Siraj
8	12.41 – 12.55 pm	Breast Department •The Anatomy of An Error - Musings of a Patient Safety Lead	Dr Lim Swee Ho
9	12.56 – 1 pm	AOB •Reminder for Patient Safety Lead-Led Rounds & for August presenters	PSO Helen de Chavez
10	1 pm	END	

Patient Safety Lead Walk Rounds



Lessons Learned

Allow our staff to



- **Improve patient safety by opening a line of communication between senior staff and frontline caregivers**
- **Staff are more willing to speak up and report near-misses**
- **Mechanism to engage staff to enhance patient safety and promote safety culture**
- **Support the development and implementation of preventive strategies to solve patient safety issues.**

Enterprise Risk Management (ERM)- Initiated in Sept 2011

A proactive risk management model - internal process of **coordinated risk management** which cuts across the entire organisation.



Emphasis on partnership among divisions and departments to manage risks as a whole.



Everyone is a Risk Manager

Cross Functional Collaboration – Remove Silos

- A cross functional team is necessary as different **technical expertise or skill** is needed to support the redesign or reengineering of the system.

- Proactive risk mitigation enables the **a culture to drive Zero Harm.**



Key Elements ERM Implementation

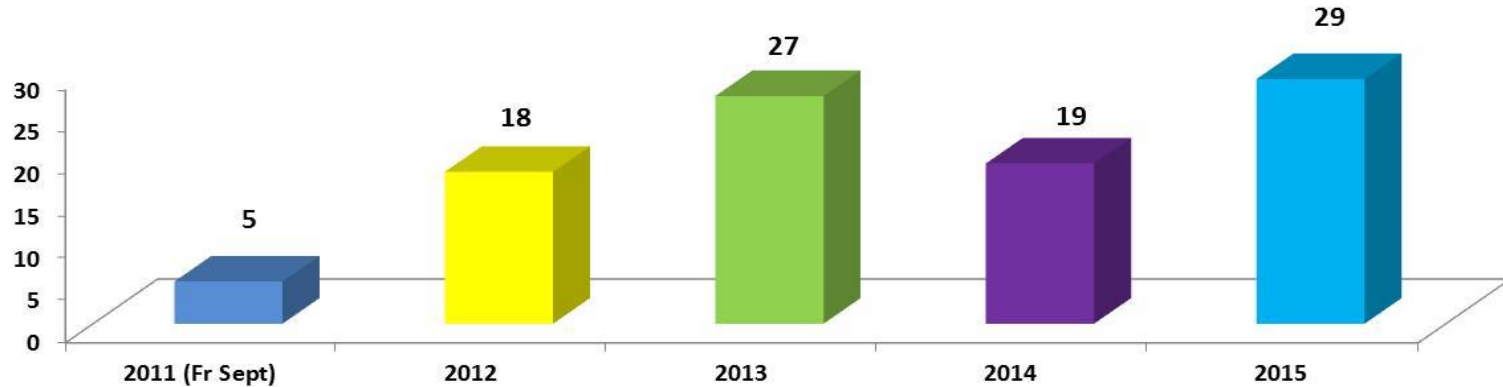
- Senior Management commitment in effecting ERM Implementation by setting clear objectives (expected outcomes and alignment)



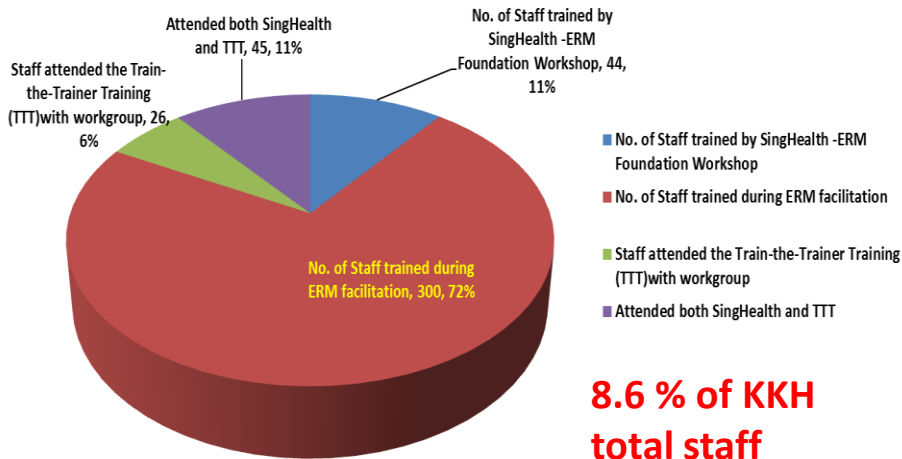
- **Communication** to create understanding, approval and **enable people to relate.**
- **Sharing information** from ERM workgroups to convey the results and goals in each implementation stage.

KKH ERM Journey – Breaking down the Silos

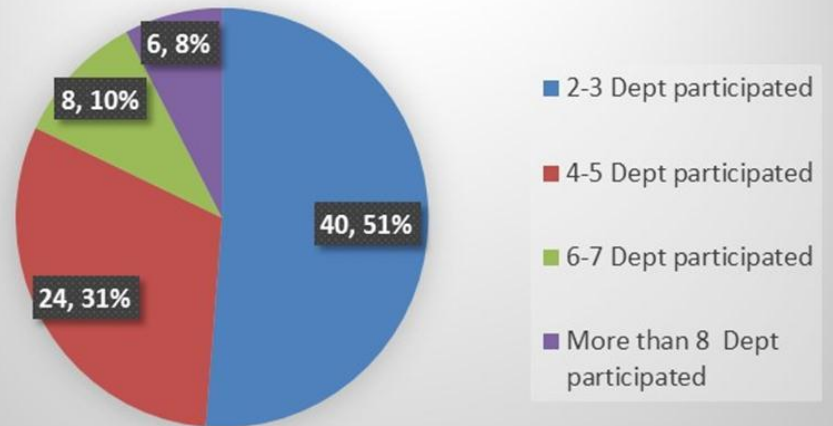
No. of ERM Work Plans Initiated Per Year



Percentage and No. of Staff ERM Trained

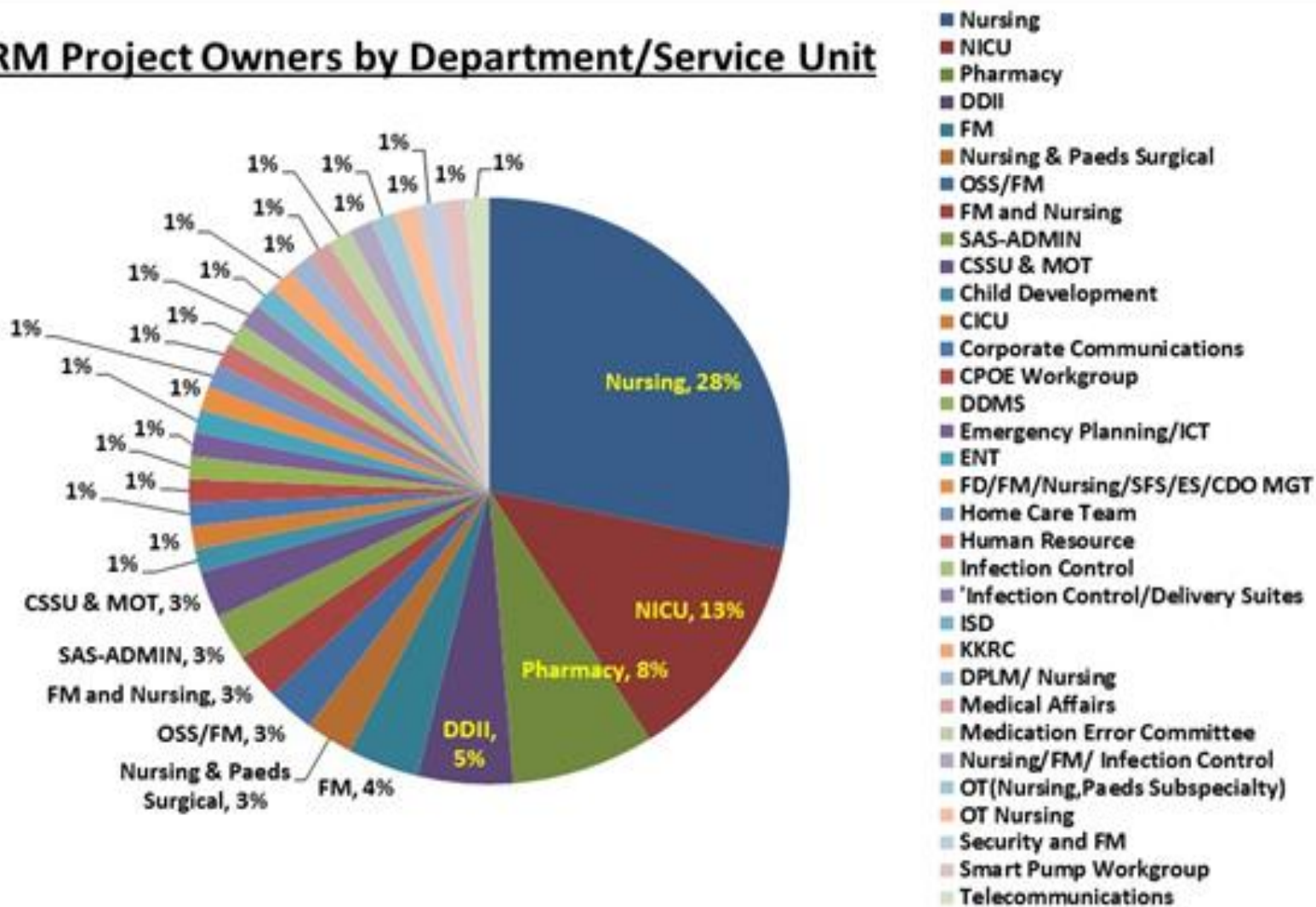


Multidisciplinary and Cross-departmental Participation



Promote Multidisciplinary Collaboration

ERM Project Owners by Department/Service Unit



E.g. of some ERM Work Plans Initiated in 2015

2015	Renovation of clinic C & decanting	23/01/2015
2015	OPAS Pharmacy	24/02/2015
2015	RFID Ward 32,34,81 and 82	05/03/2015
2015	Abscondment	30/03/2015
2015	Swab Retention	30/04/2015
2015	Pyxis	15/05/2015
2015	Environmental Infection Control	18/05/2015
2015	Competency on used of Suctioning and Wall Oxygen	17/06/2015
2015	Positron Emission Mammography-DDII	02/07/2015
2015	Disruptive Behaviour	08/07/2015
2015	Vinyl Corridor -Ward 34,43,44	20/07/2015
2015	KKIVF Satellite Unit Renovation & Relocation	21/07/2015
2015	Utilise Rehab rooms for CE consultations	21/07/2015
2015	DDII replacement of CT and Fluoroscopy Unit	03/08/2015
2015	Ward 46 Renovation	03/08/2015
2015	Post RFID Ward 32,34,81 and 82	12/08/2015
2015	Hospital Wide AGV replacement	13/08/2015
2015	RFID in Ward 55 and 56	26/08/2015

Total: 29 ERM Work Plans



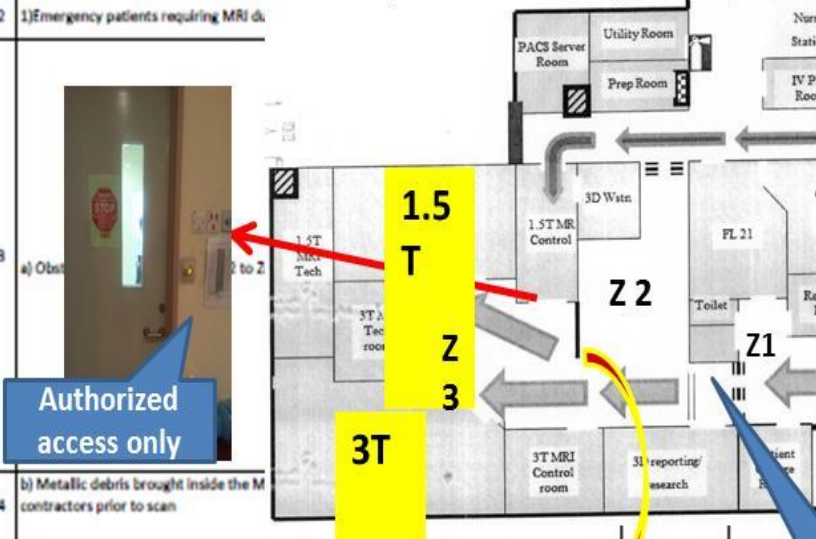
Services or
projects



MRI Safety - Risk of Projectile



Risks	Potential Consequences of Control Failure	Impact	Likelihood	Current Management and Mitigation	Existing Control Effectiveness	Risk Rating
1						
2	Emergency patients requiring MRI di			<ol style="list-style-type: none"> Referring Dr will inform radiologist on-call and will activate the team if there is a need for emergency MRI. Radiographer and team will come down. MRI door will be accessed by MRI staff Patient will be brought to MRI and screened by radiographer (non critical patients) Scan will be performed and upon completion of the scan, radiographer will be calling the ward. For critical patients, the ward nurse and the HO will accompany the patient. Radiographer and DI nurse will screen the patient and the accompanying staff with reference to the checklist. Transfer of patient to MRI bed done at Zone 2 Transfer of patient to the MRI scan area 	Moderate	Potentially under-controlled
3	a) Obst					
4	b) Metallic debris brought inside the M contractors prior to scan			The MRI scan room is locked after office hours and re-open for emergency case	Minimal	Under-controlled



Authorized access only

Installed a sliding door in May 2013 with authorized access

Prisoner Warden only allow access at entrance of zone 2 and communicate via intercom

Mitigating Risk of Falls

Project On Shortening Of Curtains Used To Screen Round Patients' Beds

Control Measures - Decentralized Nurse Station to improve patient observation, additional grab bars installed in toilet and shower room



BEFORE

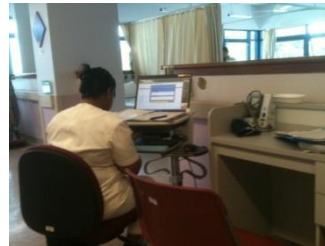


AFTER

Reduction in fall due to the length of the curtains used to screen around the patients' beds



Parental supervision is required at all times



Multi-disciplinary team:

- Nursing
- Environmental Services – Housekeeping
- Facilities

Risk assessment for NICU Expansion and Renovation Work

Construction of an extended neonatal facility from 16 to 40 cots

Key considerations:

- **Decant Plan of NICU to SCN patients** – Facilities available matching care management need
- Space and NICU cots to cater to **workload**
- **Impact while caring for patient in relocated facilities** - minimizing the impact on the babies being care for, their families and the staff in the unit.



Mitigating Risk Impact - NICU RENOVATION

Risk	Control Measures	Control Effectiveness
Transferring level 3 care babies total decant patients to SCN blue 22 beds	<ol style="list-style-type: none"> 1.. Require internal dept to take-in some specific cases 2. Identify nursery ward 71 to accommodate SCN stable growing prem babies 	Adequately controlled
Physical set up in alternate site, SCN able to manage level III babies	<ol style="list-style-type: none"> 1.Portable gas outlet and duplex oxygen and air outlet 2. Increase the capacity of gas cylinders 	Potentially under-controlled
Use of portable gas cylinders	<ol style="list-style-type: none"> 1. Increase the par level 2. Assign a designated staff to do daily checking of stock 	Adequately controlled
Vacuum outlet availability	There are 30 vacuum outlet for 22 pts	Potentially over-controlled
Electrical powerpoint	There are 12 powerpoints per bed space and the usual requirement is 8-12 per ICU bed	Adequately controlled
Wash basin	<ol style="list-style-type: none"> 1. There are 2 wash basins for each cubicle 2. Availability of hand rubs for each cot 	Adequately controlled
Power trip	<ol style="list-style-type: none"> 1.UPS back up 2.KFMO had checked on site and there is a sufficient capacity to take the load 	Adequately controlled
Air quality of SCN(infection control)	<ol style="list-style-type: none"> 1. Control of visitors 2. Wearing of mask (No existing air quality measure)	Adequately controlled
Transferring of babies from OT and DS	Nil	Under-controlled
Transporting of babies to OT	Unstable patients can go to prep room (ie. PDA patient)	Potentially under-controlled

Mitigating Risk Impact - NICU RENOVATION

Risk

Control Measures

Control Effectiveness

Transferring level 3 care babies total decant patients to SCN blue 22 beds

- 1.. Require internal dept specific cases
2. Id

Adequately controlled

Physical set up in alternate able to manage level III ba

Sharing detailed Work Plan (pre, during, post)

Potentially under-controlled

Use of portable gas cylinder

- Use of portable gas cylinders
- level
- designated staff to do daily checking of stock

Adequately controlled

Vacuum outlet availability

- There are 30 vacuum outlet for 22 pts
- There are 12 powerpoints per bed space and

Potentially over-controlled

Electrical p

ntrolled

Wash basin

ntrolled

Power trips

ntrolled

Air quality

ntrolled

Transferring

olled

Transporting

(patient)

-controlled



Adoption of Key Risk Mitigation (KRM) Workplan

- Form KRM workgroup
- Risk Assessment
 - Identify **controls to mitigate risks**
 - Evaluate the effectiveness of **controls**
 - Make recommendations for **change**
 - Implement **Change Controls**
 - **Accountable** person/department
 - **Monitor and implement**
 - **Evaluate control effectiveness**



KRM Workgroup

Members:

- Nursing (Domain Owner)
- Medical (Domain Owner)
- Facilities Development
- Construction - vendor

Support:

- FM, BME, Environment Services
- Infection Control
- Corporate Com.
- Service Quality
- Senior Leaders

Facilitator:

- RMO



Risk Identification

Various aspects of risk:

- **Patient transfer and relocation** – operation, clinical
- **Physical layout and facilities support** – gas, power and vacuum, point of care testing, phone lines
- **IT support**
- **Infection control** – ventilation system, air circulation, dust control, prevention of disease outbreak in alternative allocated place (SCN)
- **Communication** – staff, caregivers, public
- **Service Quality Issues** – inconvenience, information gaps
- **Training** -Staff support and familiarization to new environment
- **Patients Management** – OT route, PDA ligation, X-ray, Emergency codes
- **Training facilities** for caregiver – mothercare facilities

Poster Display



**SPEAK UP
FOR
HAND HYGIENE**

Clean Hands Save Lives

Patient Safety

A.S.A.P

Act now, Speak Up, be Accountable, and Partner everyone for patient safety.

5 Moments for Hand Hygiene in a Clinical Setting

We take hand hygiene very seriously and we are committed to ensure the health and safety of our patients. The next time you see a healthcare staff perform the 5 moments, thank them!

1 Before touching a patient
When?
Clean your hands before touching a patient when approaching him / her.

2 Before clean / aseptic procedure
When?
Clean your hands immediately before performing a clean / aseptic procedure

3 After body fluid exposure risk
When?
Clean your hands immediately after an exposure risk to body fluids (and after glove removal).

4 After touching a patient
When?
Clean your hands after touching a patient and his / her immediate surroundings, when leaving the patient's side.

5 After touching patient surroundings
When?
Clean your hands after touching any object or furniture in the patient's immediate surroundings, when leaving - even if the patient has not been touched.

It's not "What's the matter?"
It's "What matters to you?"

Maureen Bisognano
President and CEO
IHI

A systematic review of evidence on the links between patient experience and clinical safety and effectiveness

To cite: Doyle C, Lennox L, Bell D. A systematic review of evidence on the links between patient experience and clinical safety and effectiveness. *BMJ Open* 2013;3:e001570. doi:10.1136/bmjopen-2012-001570

Cathal Doyle,¹ Laura Lennox,^{1,2} Derek Bell^{1,2}

Article focus

- Should patient experience, as advocated by the Institute of Medicine and the NHS Outcomes Framework, be seen as one of the pillars of quality in healthcare alongside patient safety and clinical effectiveness?
- What aspects of patient experience can be linked to clinical effectiveness and patient safety outcomes?
- What evidence is available on the links between patient experience and clinical effectiveness and patient safety outcomes?

Key messages

- The results show that patient experience is consistently positively associated with patient safety and clinical effectiveness across a wide range of disease areas, study designs, settings, population groups and outcome measures.
- Patient experience is positively associated with self-rated and objectively measured health outcomes; adherence to recommended medication and treatments; preventative care such as use of screening services and immunisations; health-care resource use such as hospitalisation and primary-care visits; technical quality-of-care delivery and adverse events.
- This study supports the argument that patient experience, clinical effectiveness and patient safety are linked and should be looked at as a group.

Lessons Learned

- **Structured and systematic approach**, identify potential risks that may arise
- **Allow team to examine potential problems/issues.**
- Go through a **thought process to identify changes** that can be implemented **to reduce risk**
- Provide opportunity to **rationalize effectiveness of control measures**
- **Decision of action plan** – by process owner
- **Build in contingency** -Option B when option A fails



Conclusion

Establishing a risk management program is not a simple task,
BUT it is not a choice; it is a need....

..if we want to make ZERO harm a reality

Healthcare will continue to evolve and become more complex....



Communicate Effectively

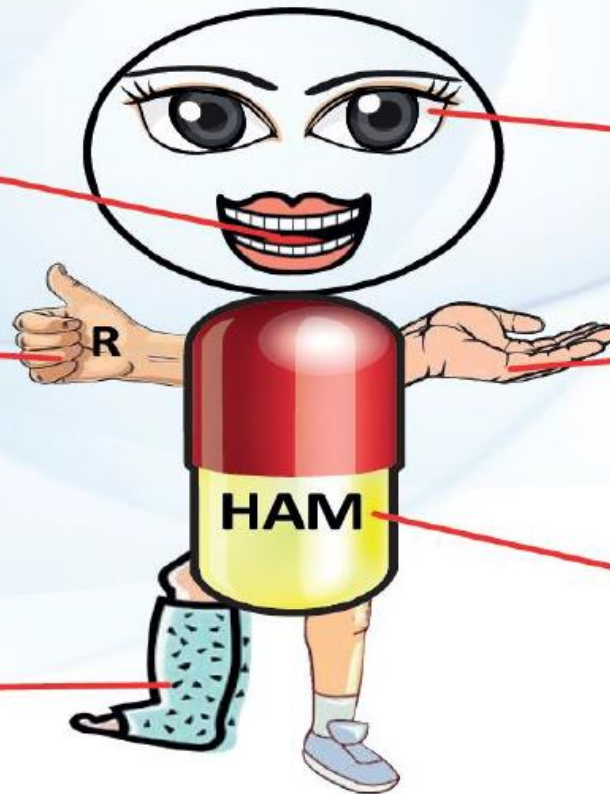
Identify Patient Correctly

Correct Site, Correct Procedure, Correct Patient Surgery

Prevent "HAI"
Health Care Associated Infection

Prevent Falls

Improve the Safety of High Alert Medications
(Chemo, Heparin/ warfarin, Insulin, Ketamine & K+ (electrolytes), Muscle-blocking agents)



Think Safety
Act Safely



International Patient Safety Goals (IPSG)

Conclusion

- Creating Risk Awareness and Safety Culture
 - risk management extends to more than risk mitigation initiatives
- Commitment from all levels of the organization - may take time but can be achieved with a structured plan.
- Translating plans into functional risk management processes requires ownership, collaboration and support.

'Harmfree'care*

A new mindset in patient safety improvement

Build a
Zero Harm Culture



TARGET ZERO
ELIMINATING PREVENTABLE HARM



KK Women's and
Children's Hospital
SingHealth

