



MINISTRY OF HEALTH
SINGAPORE

Singapore's Journey Towards High Reliability

- From External to Self-Driven Improvements

Dr Hwang Chi Hong

Director, National Collaboratives, National Improvement Unit

Director, Quality, Innovation & Improvement, Ng Teng Fong General Hospital



MINISTRY OF HEALTH
SINGAPORE

Objectives

- The Singapore Ministry of Health's new Ensure Safety System (ESS) Programme
- Collaboration with Joint Commission International (JCI)
- Transit from Accreditation to High Reliability Programme
- Explore deployment of Programme to the Public Health Care Institutions



What defines Singapore?

- Total Population: 5.6M
- Land size: 734.3km²
- Independence since 1965



Source: 2018 Singapore Resilience Strategy

CONFIDENTIAL



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SINGAPORE

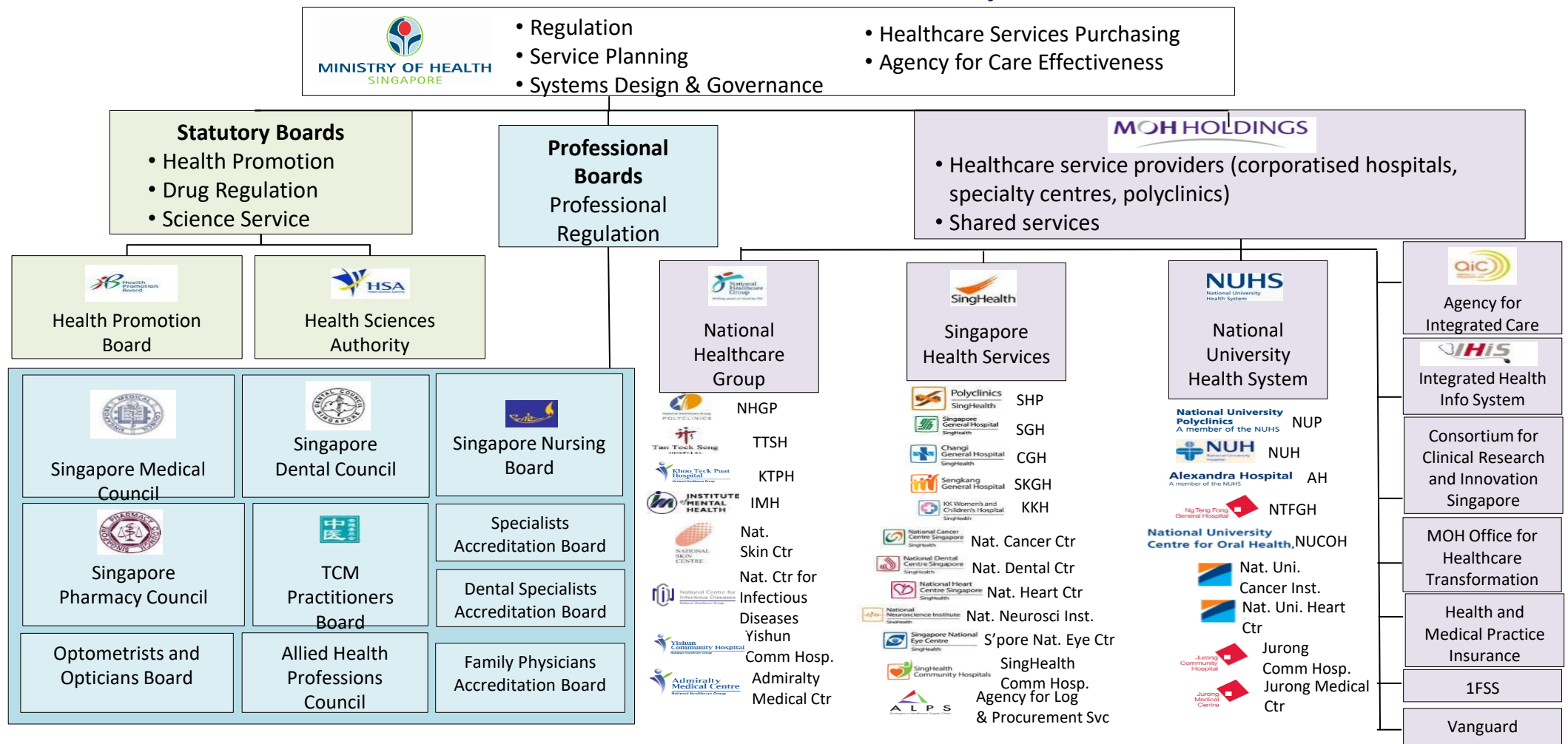


An initiative of

FORWARD SG

The public healthcare family consists of...

MOH and the Healthcare Family



Singapore's Health Performance

Increasing Life Expectancy and Health-Adjusted Life Expectancy

LIFE EXPECTANCY AT BIRTH



HEALTH-ADJUSTED LIFE EXPECTANCY



Source: 2019 Global Burden of Diseases Study



Bloomberg

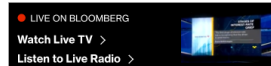
Prognosis

Asia Trounces U.S. in Health-Efficiency Index Amid Pandemic

By [Lee J Miller](#) and [Wei Lu](#)

December 18, 2020, 9:00 AM GMT+8 Updated on December 18, 2020, 9:15 AM GMT+8

- Brazil and Russia also place in bottom tier of global rankings
- Taiwan, New Zealand, Thailand rise to Top 10 on Covid response



Most Efficient Healthcare Systems in Covid Era

Rank	Change	Economy	Score	Expectancy	% GDP	per capita	Mortality	New Cases	1Y%	Rank
1	+1	Singapore	67.79	83.15	4.4	\$2,619	4.96	246.67	-6.00	2
2	-1	Hong Kong	64.89	84.93	6.2	\$2,849	14.94	265.71	-7.47	1
3	+12	Taiwan	51.69	80.69	6.8	\$1,550	0.29	8.65	+0.03	18
4	+2	South Korea	50.79	82.63	7.6	\$2,283	10.63	338.68	-1.88	6
5	-2	Israel	46.44	82.80	7.4	\$3,145	335.72	26,349.82	-5.89	3
6	+1	Ireland	45.22	82.26	7.2	\$4,977	425.07	9,140.75	-3.00	7
7	+3	Australia	42.77	82.75	9.2	\$5,332	35.61	86.67	-4.16	10
8	+10	New Zealand	41.74	81.86	9.2	\$3,937	5.18	66.57	-6.07	18
9	+5	Thailand	41.40	76.93	3.7	\$247	0.86	9.38	-7.15	14
10	-2	Japan	40.21	84.21	10.9	\$4,169	18.30	725.09	-5.27	8
11	+6	Norway	38.79	82.76	10.4	\$7,936	65.30	4,930.27	-2.83	17
12	+13	China	38.02	76.70	5.2	\$441	3.22	1.08	+1.85	25
13	-2	U.A.E.	36.74	77.81	3.3	\$1,357	59.56	10,621.33	-6.57	11
14	-9	Italy	35.05	83.35	8.8	\$2,840	984.32	23,829.46	-10.65	5
15	-11	Spain	34.19	83.43	8.9	\$2,506	989.24	25,789.93	-12.83	4
16	+7	Finland	33.34	81.73	9.2	\$4,206	74.90	3,452.81	-3.98	23
17	-8	Greece	33.28	81.79	8.0	\$1,517	278.42	10,002.01	-9.50	9
18	-6	Oman	33.23	77.63	3.8	\$588	280.99	7,559.62	-10.00	12
19	-6	Turkey	32.19	77.44	4.2	\$445	174.36	3,119.14	-4.99	13
20	-4	Switzerland	32.16	83.75	12.3	\$9,956	558.29	34,781.28	-5.30	16



We have been able to achieve good outcomes by focusing on the basics



Pollution Free Campaign



Mobile vaccination

We inherited a legacy of good healthcare services and infrastructure



A ward in old Tan Tock Seng Hospital in 1950s



The Singapore General Hospital in 1919

Strengthened public health
(sanitation & public cleanliness)

Enhanced preventive services –
school health and maternal & child health services (e.g. school milk scheme & comprehensive immunization prog)

Expansion of healthcare institutions

- E.g. Redevelopment of SGH (1981), CGH (1999), TTSH (2000), development of Polyclinics (1980s)

Medical specialisation

- Investment in specialist care
- Development of healthcare workforce (Healthcare Manpower Development Plan)



Key enablers towards achieving good health outcomes

Strong political leadership & will



Public Engagement



SHP Patient Advocacy Network
For Patients, with Patients




Second Minister for Health Masagos Zulkifli speaks to a group of participants at Healthier SG public engagement session on Jun 15, 2022.

Innovation



NHIC Singapore Executive Director Tina Wong, MOH Deputy Secretary of Technology Cheong Wei Yang and Consortium for Clinical Research and Innovation Singapore Chairman John Lim at the launch.

Inter-agency collaboration

 *Reaching everyone for active citizenry @ home*



Home > Participate > Public Consultation

**PUBLIC
CONSULTATION ON
THE PRELIMINARY
RECOMMENDATIONS
OF THE
INTERAGENCY
TASKFORCE ON
MENTAL HEALTH
AND WELL-BEING**



Singapore's journey with JCI¹

2002

- JCI accreditation was first introduced

2004

- National University Hospital (NUH) became the first hospital to be JCI-accredited

2011

- All public healthcare institutions and most private hospitals had attained and maintained JCI-accreditation

2017

- Discussion with leaderships
- MOH paused JCI-accreditation

2018-
2021

- Began development of high reliability goal and framework

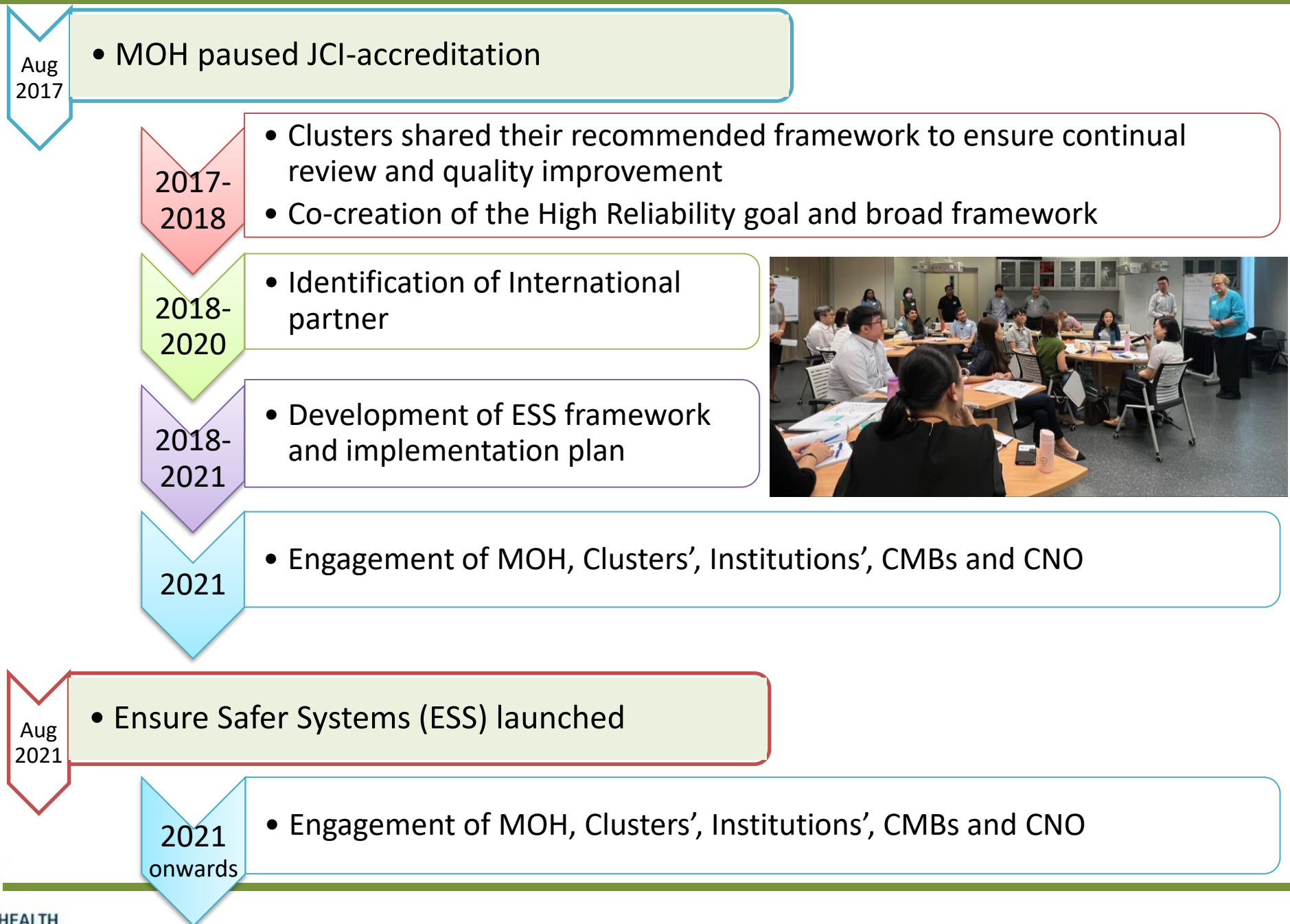
A nation at a key inflection point

Need to address quality goals beyond accreditation

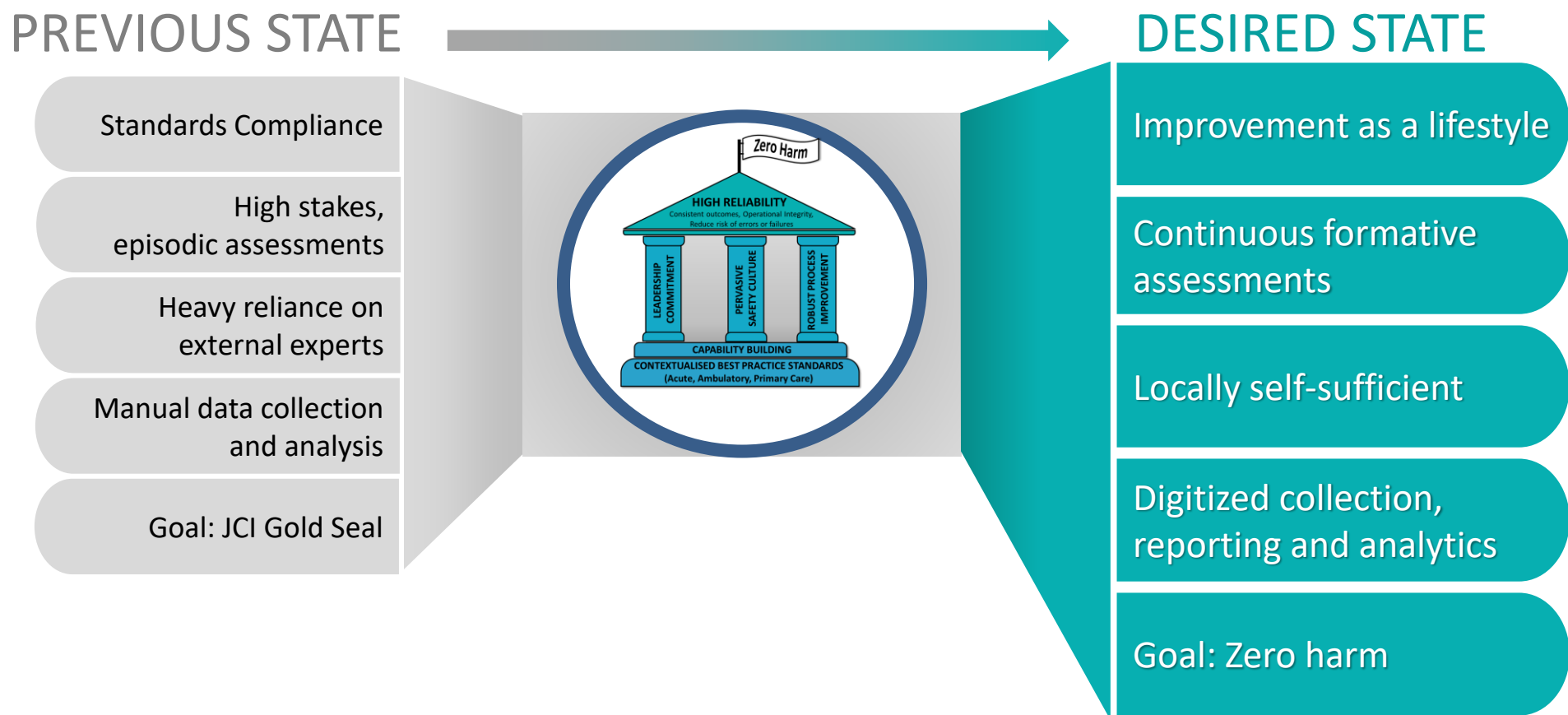
Key gaps identified: safety culture, change management



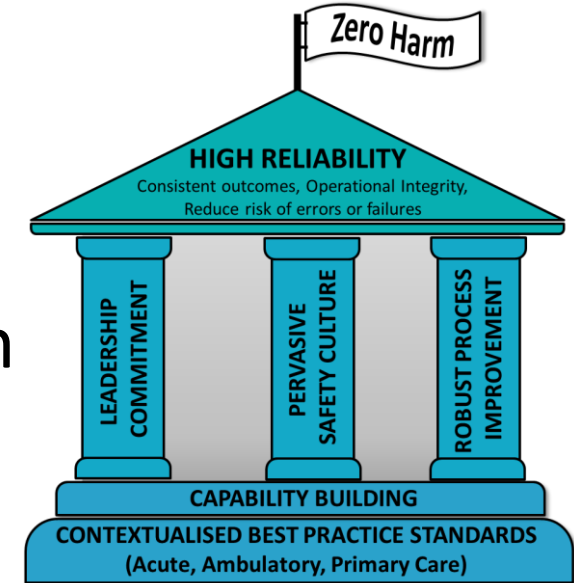
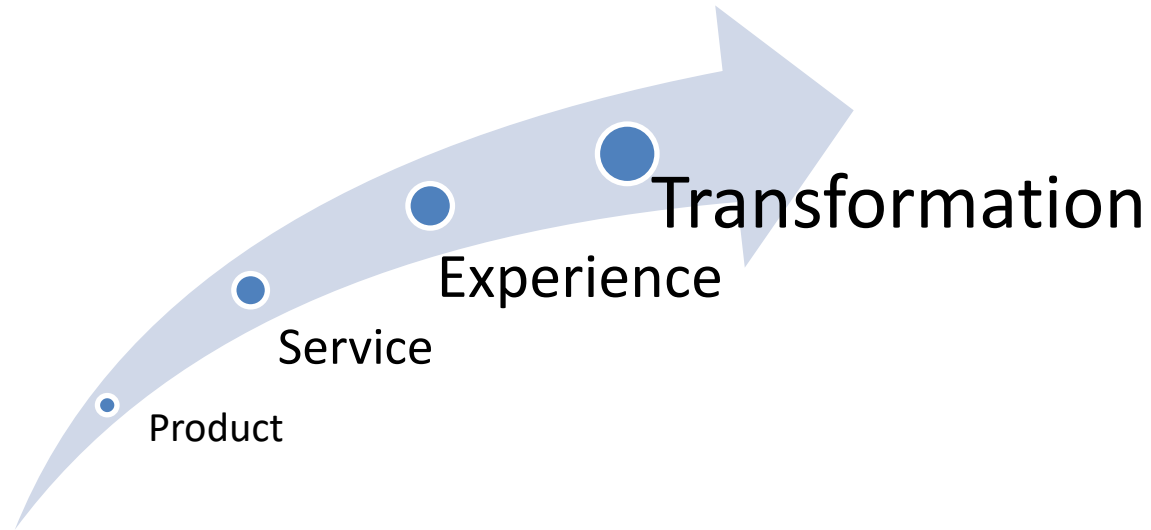
Co-creation journey with public healthcare institutions



¹ESS is a mindset transformation.



JCI's suite of expertise met Singapore's goal



Accreditation
Standards

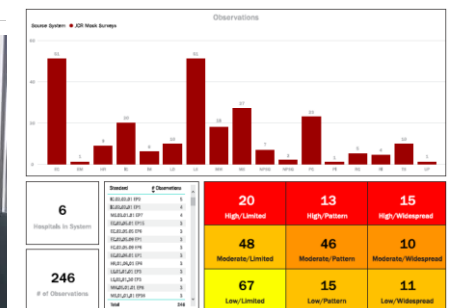
High
Reliability
services

Advanced
Tracer
Training

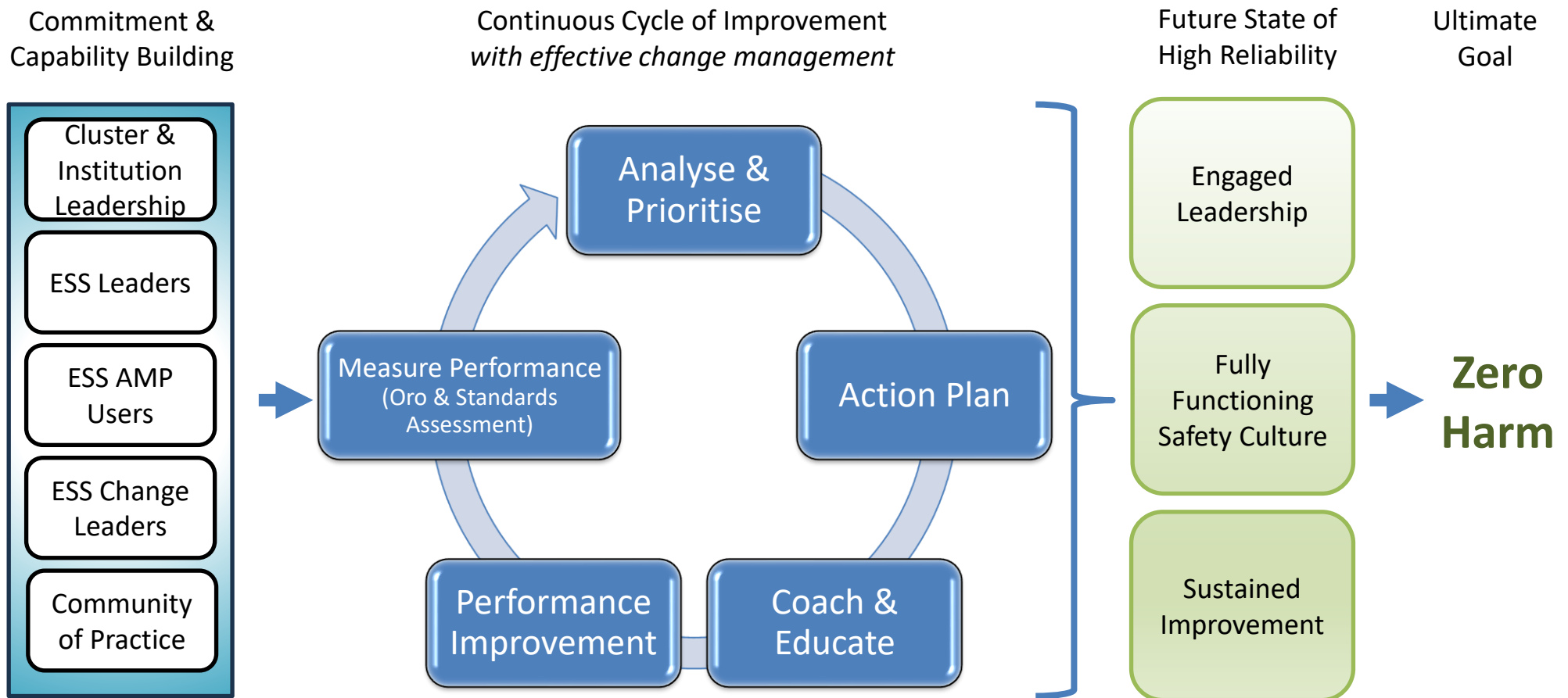
Facilitating
Change®

Advisory
services

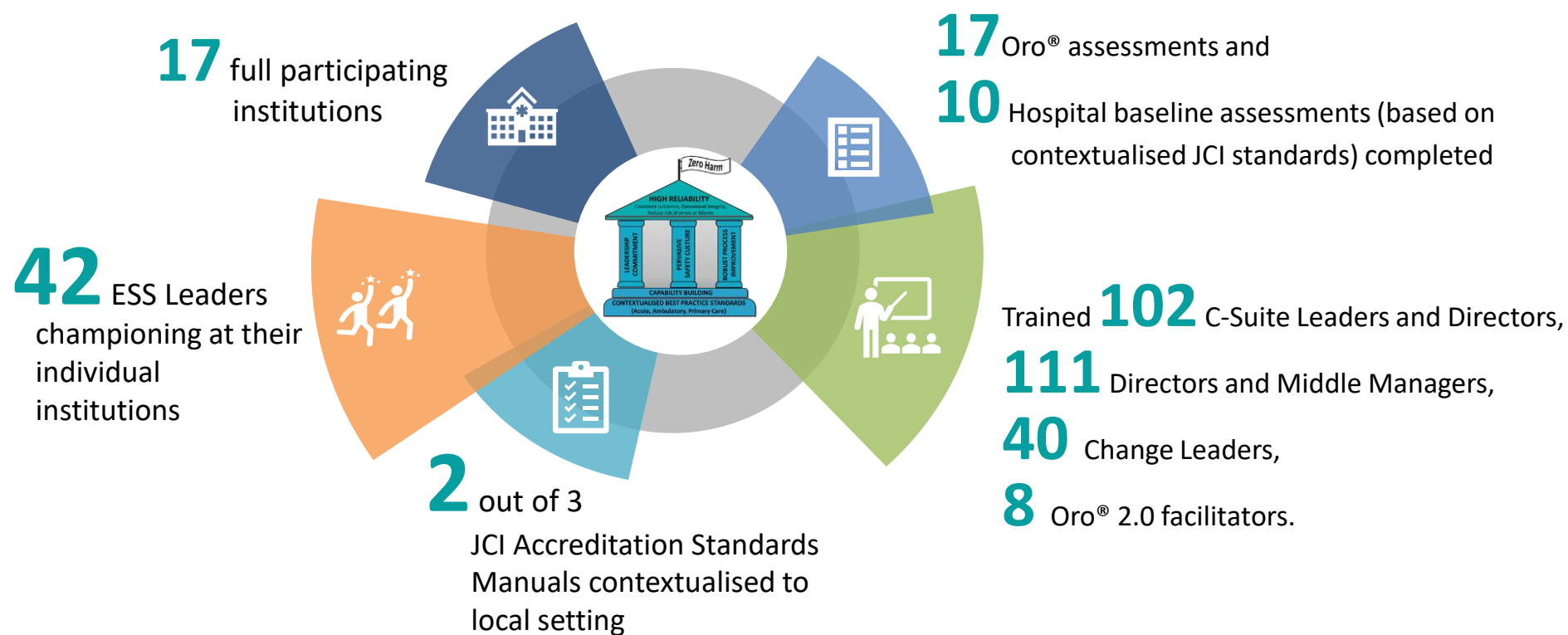
JCI AMP®
software



Ensure Safer Systems: A 5-Year Collaboration



Ensure Safer Systems to date



Ensure Safer Systems Deliverables (in progress)

Outcome Indicators



Primary indicator

- Reduction in rate of hospital acquired complications

Pressure ulcers

Surgical complications

Falls

Respiratory complications

Hospital acquired infections

Venous thromboembolism

Medication complications

Secondary indicators

- Improved Patient Safety Index (AHRQ Patient Safety Culture Survey)
- Improved Care Delivery Index (Patient Engagement Survey)
- Improved scores on Staff Engagement Surveys



Hospital Operations began in 2015

6-year journey to get the new NTFGH¹ and JCH² ready



- Long & narrow site: 600m x 100m
- Site Area: 53,983 m²
- Plot Ratio: 3.5
- GFA: 171,831 m²
- New 7 lane road cutting through the plot
- Highly urbanised
- Surrounded by commercial buildings/ malls
- Flanked by busy roads with high traffic noise

1 - NTFGH: Ng Teng Fong General Hospital
2 - JCH: Jurong Community Hospital



JurongHealth Campus

Part of the National University Health System Cluster

[insert data classification]

Known as the JurongHealth Campus, NTFGH and JCH are **Singapore's first integrated healthcare development** designed and built together from the ground up.

• **Jurong Community Hospital**

Total of 9 levels

286 beds (11% Private, 89% Subsidised)

- **Level 1**
Admission & JCH Specialist Outpatient Clinics
- **Mezzanine Level**
Clinical and Administration Space
- **Level 2 and 3**
Private Wards
- **Level 4 to 9**
Subsidised Wards

• **Ng Teng Fong Hospital**

Total of 16 levels

700 beds (25% Private, 75% Subsidised)

28 Intensive Care Unit beds and 42 High Dependency beds

15-bed Isolation Ward next to Accident & Emergency Department

18 Operating Theatres

- **Level 1 to 4**
Diagnostics and Treatment
- **Level 5 to 10 (West Wing)**
Private Wards
- **Level 5 to 16 (East Wing)**
Subsidised Wards

• **Specialist Outpatient Clinics**

Total of 8 levels

Training Centre

Auditorium

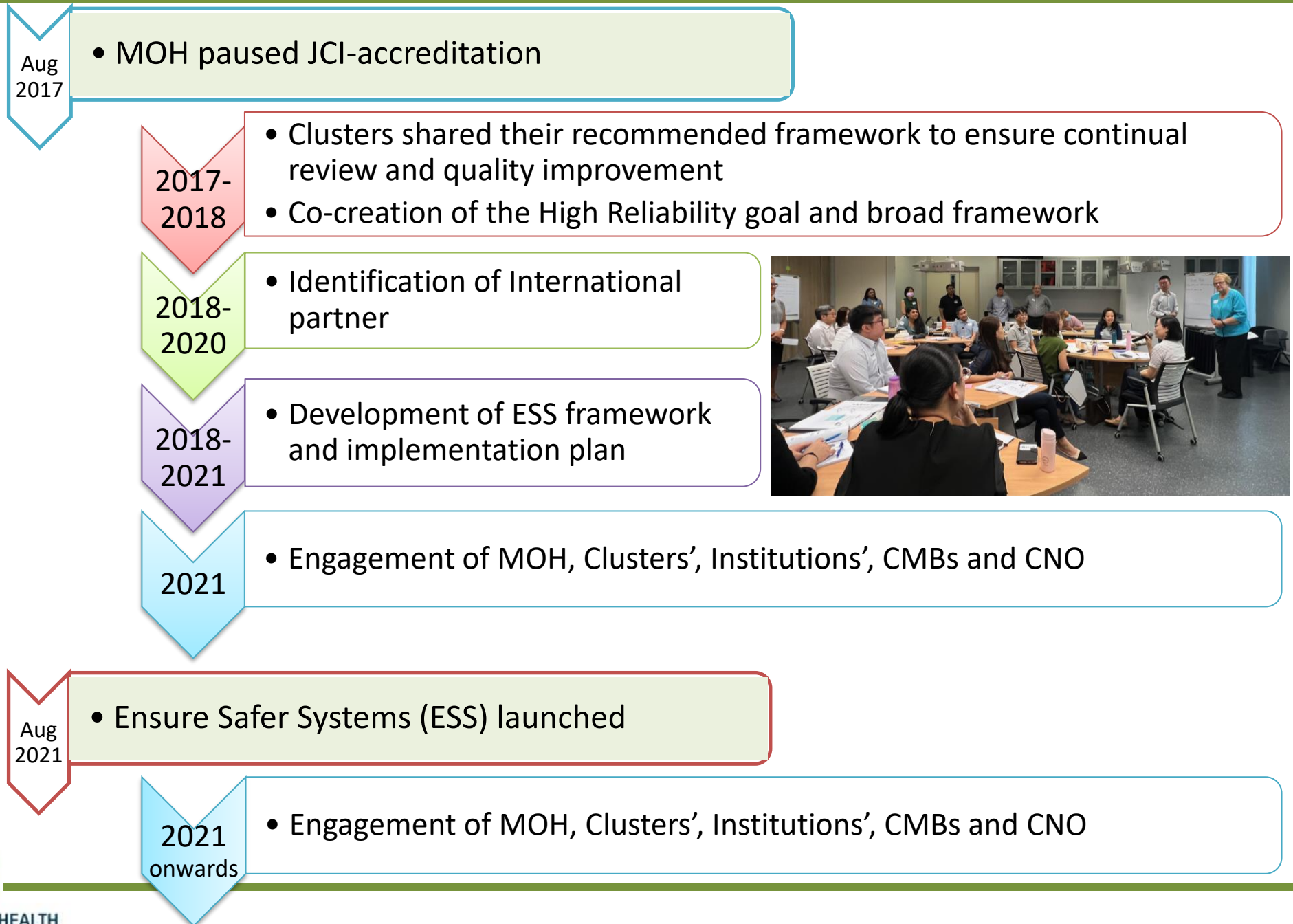
Diagnostic services

Pharmacy on every clinic floor

- **Level 1**
Training facilities (including an auditorium) and Diagnostic Imaging services
- **Level 2**
Pre-admission testing, Medical Social Services and retail
- **Level 3 to 7**
Specialist Outpatient Clinics (120 consult rooms)
- **Level 8**
Administration



Co-creation journey with public healthcare institutions



Key enablers towards Ensure Safer Systems (ESS)

Strong leadership & will



HRO Leadership Workshop Batch 1 used Fist-to-Five to reach consensus

Clusters and Institutions Engagement



Change Management



Inter-institutions collaboration

ESS Community of Practice

(Rotating Chairs from each Cluster)

Ground-up movement tackling national areas of concern

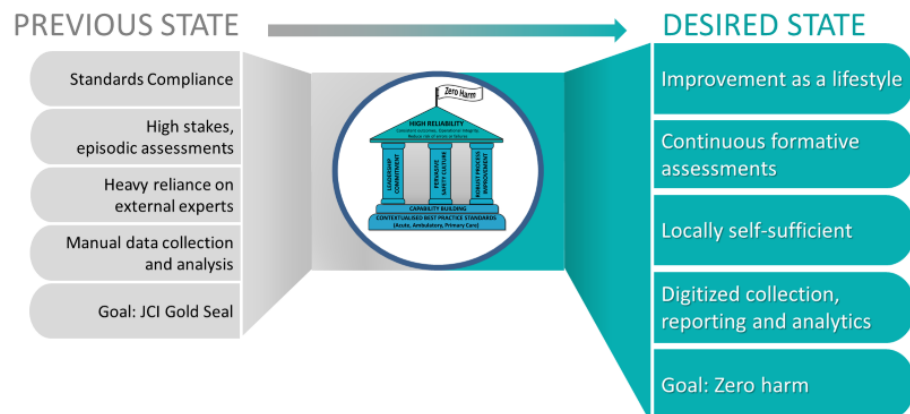


ESS Leaders of each Cluster/PHIs



Key challenges towards Ensure Safer Systems (ESS)

Changing Mindsets



Fostering Trust

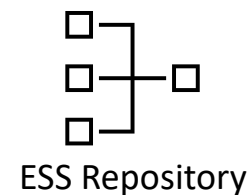


Measure for Success

Balancing Trade-offs



Infrastructure, IT, hardware



THE STRAITS TIMES

IT system outages at public healthcare institutions due to failure of hardware devices: Janil



Cyber-security specialists are monitoring the network and systems for threats in Singapore's public healthcare network round the clock. PHOTO: ST FILE



Overcoming the “Exams” Mindset

Kiasu PARENTS PRE-SCHOOL PRIMARY SECONDARY TERTIARY GENERAL DIRECTORIES FOR

HOME / ARTICLES / WHAT SINGAPORE PARENTS AND STUDENTS WANT TO KNOW ABOUT EXAMS: HOW TO DO WELL

What Singapore Parents and Students Want To Know About Exams: How To Do Well and More!

Submitted by KiasuEditor

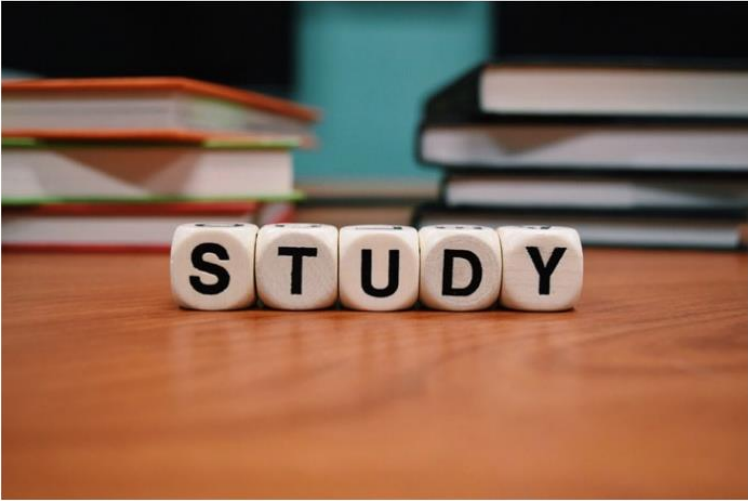


Photo courtesy of Pexels

By 2023, there will no longer be mid-year exams for Singapore's primary and secondary school students.

In fact, we have already been shifting towards a less exam-centric system for several years — today's Primary 1 and 2 students do not have to sit for tests and exams at all.

But will the year-end exams carry much more weight, and be even harder to prepare for?

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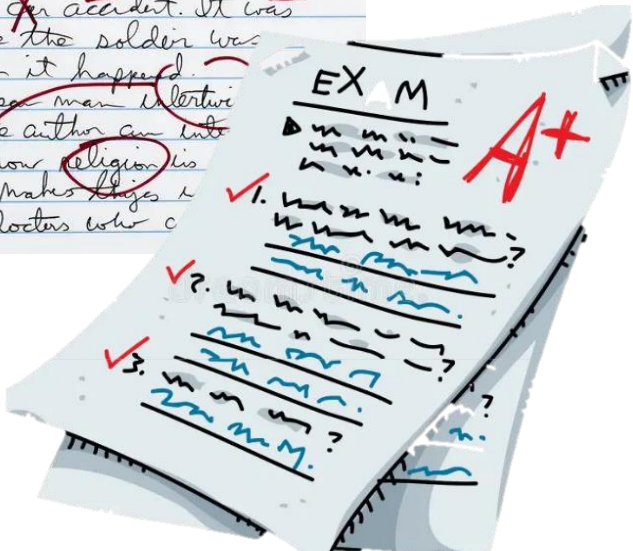
Johny Steven

My Book Report

The man in the book was a very mean person in the way he treated other people. For example, when he bought the groceries for the poor family, he threw the food at them. This symbolized the greed of humanity. Also, the man would make prank phone calls. He would call people and say he was the police and someone had run over their dog. They needed to come and get the animal and they would be paid for having a stray animal. This became a metaphor for relationships between men and women and how they would always turn out bad.

I think the author is trying to tell us about how war is bad and not a good thing. You can see this when the soldier got into a car accident. It was just a coincidence the soldier was driving a car when it happened.

By having a mean man interact with a soldier, the author can use metaphors about how religion is made up how it makes things like the economy and doctors who c



Fear of Failure &
Fear of Scoring Less
Than Perfect Scores



Integrate the Goal

Restricted, Non-Sensitive



Our Commitment towards Zero Harm



**RIGHT
CARE
RIGHT**

FIRST TIME, EVERY TIME

21



Identify the Resources (Count the Cost)

Completed
Scheduled



Standards & Assessment



Zero Harm

Measurable outcome: To reduce Acquired Hospital Complications (MOH uses this as baseline data)



High Reliability

MOH ESS Baseline Assessment

One-time snapshot of current state and identify improvement opportunities

- Participants: NTFGH Staff
Assessment Period:
- 2023 Quarter 1 (by JCI)
 - Annually thereafter (by ESS Leaders) – plans TBC (based on the report MOH presented at DMS CMB)
 - Pre-baseline Assessment Training (1 day) – separate session (not too long before Baseline Assessment) – concise ESS Leaders training

- After 6 PHIs complete their MOH ESS Baseline Assessment, MOH will present findings with identified themes at DMS CMB meeting (without identifying the PHIs)
- MOH, Clusters, PHIs can then decide on the themes (from 2024) to focus on

Train-the-Trainer Model

ESS Leaders Training

Standards Training & JCI Tracer Methodology
Participants: ESS Leaders (appointed by MOH)
Training Date: 12 to 16 Jul 22
Trainer: JCI (One-time)

Self-Assessor Training

ESS Leaders training self-assessors on Standards & JCI Tracer Methodology (Trained to be JCI Surveyor/ESS Leader equivalent)
Participants: Selected Staff (T1 & T2)
Training Date: TBC
Trainer: ESS Leaders (no training by JCI)

Frontline Staff Training

Training staff on understanding of JCI Tracer Methodology
Participants: Selected Staff (T0 & T1)
Training Date: TBC
Trainer: JCI (One-time), ESS Leaders for subsequent trainings

AMP Tracer Tool

- JCI Surveyor will use the tool during MOH ESS Baseline Assessment
- After MOH ESS Baseline Assessment, PHIs can then use tool for self assessment
- License distributed to users. Access on internet, using desktop or mobile
- AMP Programme Administrator can:
 - Create users, no limit to number of users created

AMP Programme Administrator Training

- Technical Training on use of platform
 - Account creation
 - Entering of scores (Need understanding of JCI Stds, to determine whether observations entered by staff member is a finding)
- Participants: ESS Leaders and/or designee, preferably trained in Standards & JCI Tracer Methodology
Training Date: TBC (end Sept 22 to Dec 22)
Trainer: JCI (One-time), subsequent training (in-house)

AMP Staff Member Training

- View Measurable Elements (MEs)
 - Enter tracer observations (or middle level)
 - Generate reports
- Participants: Chapter Leads and Workgroup Members, trained self-assessor
Training Date: TBC (end Sept 22 to Dec 22)
Trainer: JCI (One-time), subsequent training (in-house)

(Note) MOH Appointment

- ESS Leaders (2 years term –might extend to 5 years)
- Cluster Deployment Leaders

Separately, Institutes are encouraged to train a pool of staff of all the various appointments.

HRO Leadership Training

Change management at C-suite level
Participants: C-suite (CEO, CMB, COO, CN, CFO, CHRO, SD Allied Health)
Training Dates: 2 days within period of 14 to 25 Jul 22

Oro HRO Self-Assessment

Annual Self-assessment survey to measure maturity in High Reliability
Participants: C-suite (CEO, CMB, COO, CN, CFO, CHRO, SD Allied Health)
Assessment Type: Online Survey

Oro HRO Assessment

Facilitator-led session on the organisation strengths, opportunities, and potential strategies for achieving highly reliable performance & action planning
Participants: C-suite (CEO, CMB, COO, CN, CFO, CHRO, SD Allied Health) + Cluster Deployment Leader
Facilitators: 2 CTH Consultants & 2 Oro Facilitators
Assessment Type: 17 Aug 22, 8am to 4pm at NTFGH

Facilitates

Oro Facilitator Training

Trained facilitator for Oro HRO Assessment, works with C-Suite in action planning*
Participants: Designee working closely with C-suite and/or looking at maturity of organisation (8 pax only)
Training Structure: 17 Institutions (in Jul & Aug 22) > facilitator combination might differ

- 1st Session – 2 JCI CTH facilitators, trainee observe (in Jul 22)
- 2nd Session – 1 JCI CTH & 1 trainee facilitators (in Aug 22)
- 3rd Session – 2 trainee facilitators, JCI CTH to observe virtually (in 2023)

*Refer to Oro Facilitator Roles & Responsibilities

Train-the-Trainer Model

Master Change Leader Training

Trained trainer to conduct HRO Leadership Training & Leaders Facilitating Change & Change Leader Training
Participants: 2 Appointed Staff per Cluster (8 pax only) – can be same or different from Oro Facilitators training
Training Structure: TBC

Leaders Facilitating Change

Leaders learn and role model change management skills / tools (one-time by JCI) – Role models to spread the use of change management tools
Participants: Appointed T1 & T2 Staff (NTFGH 9 pax trained)
Training Dates: Feb and Mar 22

Change Leader Training

In-depth, hands-on change management training for change facilitators
Participants: Appointed Staff (any level)
Training Dates: TBC
Starting 2023, JCI conducts 1st and 2nd runs, subsequently run by Master Change Leaders



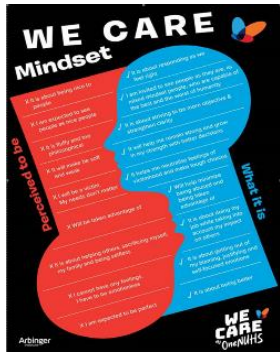
MOH has no visibility on ORO assessment as only CTH and Oro Facilitators are involved



Integrate the Programmes & “Dosing” of Training



We CARE



MINDSET CHANGE:
“How can I help each other succeed?”
Rules of Engagement (How)



High Reliability Organisation / Oro / JCI



CHANGE MANAGEMENT:
Tools to equip leaders to manage change
Substrate of Engagement (Why and What)



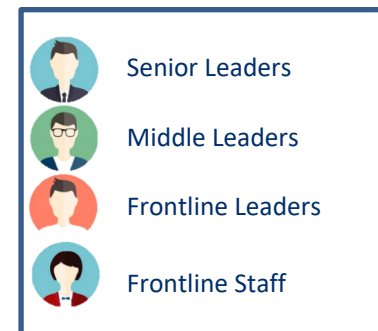
Small Steps to Big Changes



MINDSET CHANGE: SOLUTION FOCUSED
Courage to Speak Up and Take action
Substrate of engagement (What)



Organisation wide engagement:
Why change
What to change
How to collaborate
(How to Change through QI and Innovation Framework) to achieve
We CARE



Nevertheless, “Tuition” was still necessary (JCI Consultants)

**Every Moment Counts –
Right Care Right, Every Patient, Visitor and Staff; First Time, Every Time**



33 Tracer Activities

37 units

67 improvement opportunities identified

System Tracer

Building Tour

Patient Tracer

Action Planning

**NTFGH JCI
Consultant
Baseline
Assessment
14 to 18 Nov 2022**

We observed RIGHT CARE RIGHT from you all

Showed how you complied to policies and procedures

Learn from best practices

Open-minded

**THANK YOU
Leaders!**



MOH ESS Baseline Assessment on 20 to 24 Feb 2023

1

What happened during the assessment?

5

days of assessment
from 20 - 24 Feb

4

assessors from
JCI came down
on campus

More than
60
areas visited

More than
200
staff directly
involved

More than
222
policies
reviewed

2

The JCI Assessors were very impressed!



"I observed that the hospital has the shortest Emergency Department to ICU turnaround time, and this is incredible!"
- Dr Patricia O'Shea (Physician Assessor)

"NTFGH leverages on new technologies to achieve greater energy efficiency within the hospital which is commendable."
- Dr Ozlem Yildirim (Administrator Assessor)



"If I need medical treatment, I would want to visit your hospital and be treated by your staff."
- Dr Mahyar Sadeghi (Clinician Assessor)

"Staff dedication can be seen through detailed annotations of all the processes that are in place."
- Ms. Ann Watkins (Nursing Assessor)



3

Overall Feedback on MOH ESS Baseline Assessment

Overall Experience Score	Number of Responses for each score	Percentage	Sum of Percentage
1	3	2%	21%
2	0	0%	
3	0	0%	
4	4	3%	
5	10	8%	
6	9	7%	
7	6	5%	79%
8	39	31%	
9	20	16%	
10	35	28%	
Total Responses	126	100%	100%

4

Verbatims from Post MOH ESS Baseline Assessment Feedback (refer to Annex for details)

Am **very encouraged by the thinking of JCI assessors**. They speak positively and were very encouraging. They apply safety 2 concepts well (Human factor). There is **more learning and sharing and less stress**. We are not 'drilled'. **They have a way to bring out the best in our people**. Was prepared for a tiring week, especially with high BOR, must say I received a booster from the assessors, feeling recharged. Following this, compliment my team, did some reflection on the works to be done and continue the journey in pursuit for better care for our patients and staff. An area to improve is for the debrief info to be summarized and sent to all soon after.

I think moving forward since this is an assessment (and not an audit), **how to get the staff to actively follow up on the issue raise will be critical**. As perception painted will be this is a guide, to staff, does it really matter if it is do or not done, followed up or now? what is in it for them and what is the repercussion if not done. however I think there is a need to finely balance the push for follow ups and giving leeway for the assessment that they have just went through.

Can consider scheduling **not to many assessments (aka audits) on the same month** with very lean manpower on the ground. Double whammy - still recovering from the effects of pandemic and so many issues remain unresolved. We should not be doing things for the sake of doing. **Snr Management** should continue engaging the staff on the forefront (and really listen). We acknowledge the good intentions of the ESS, but we think that its done too soon and not a priority at this point in time.

Need to relook at some policies and work instruction. **Policies should be written according to the workflow**. Overall we have well. Thank you.

It's good to have audits so that we can improve. **Share with us where we need to improve** so that we can achieve the best



Findings / Overview of Clinical and Non-Clinical Observations

Category	Description	Patient Centered Standards	Management Standards
Compliance	Requires staff <u>compliance</u> with Process / Programme.	2	0
Documentation of Process/ Programme	Requires <u>formal documentation</u> . Process / Programme is present.	0	1
Creation of Process/ Programme	Requires a <u>new</u> Process/Programme.	3	5
Refinement of Process/ Programme	Existing process/Programme can be <u>improved</u> .	13	12
Number of Observations (Total <u>36</u> Observations)		18	18



Thematic areas that warrants Leadership's attention

Strengths of organisation

1. Staff could articulate well very detailed processes
2. Innovative Solutions by Staff on the ground
3. Staff and leaders are compassionate; to patients as well as fellow colleagues

Thematic Areas for Improvement

Governance Structure

- Central oversight of key clinical processes

Policies

- Readable and usable policies

Consistency in practices

- Consistency of process across different areas

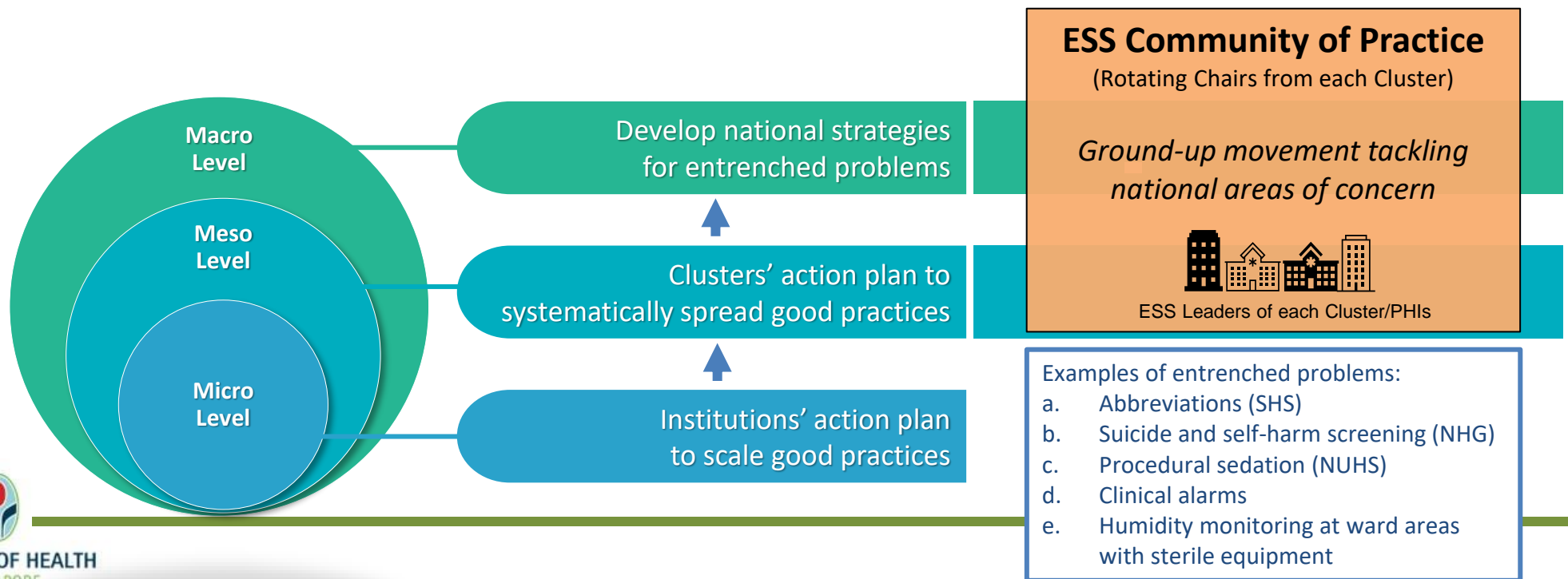
Benefits:

- Identification of blind spots (Positive and Negative)
- Staff feel validated by the assessors' positive feedback
- Leadership have control over priorities for improvement



Key Learning Points

- Leadership commitment and action pave key to successful mindset transformation
- Self-Driven Safety culture and Change management imperative for meaningful, sustained improvement
- Validation of Staffs' Good Work as important as Finding Opportunities for Improvement
- Collaborations with experts and frontline workgroups essential for strengthening national capabilities towards high reliability





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Thank you



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Patient Safety & Quality Improvement Division