Honest Conversation: Putting Safety at the Heart of Reform

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Eastern Health Cluster

Negative Correlation: Patient Safety Culture Survey and Patient Safety Events

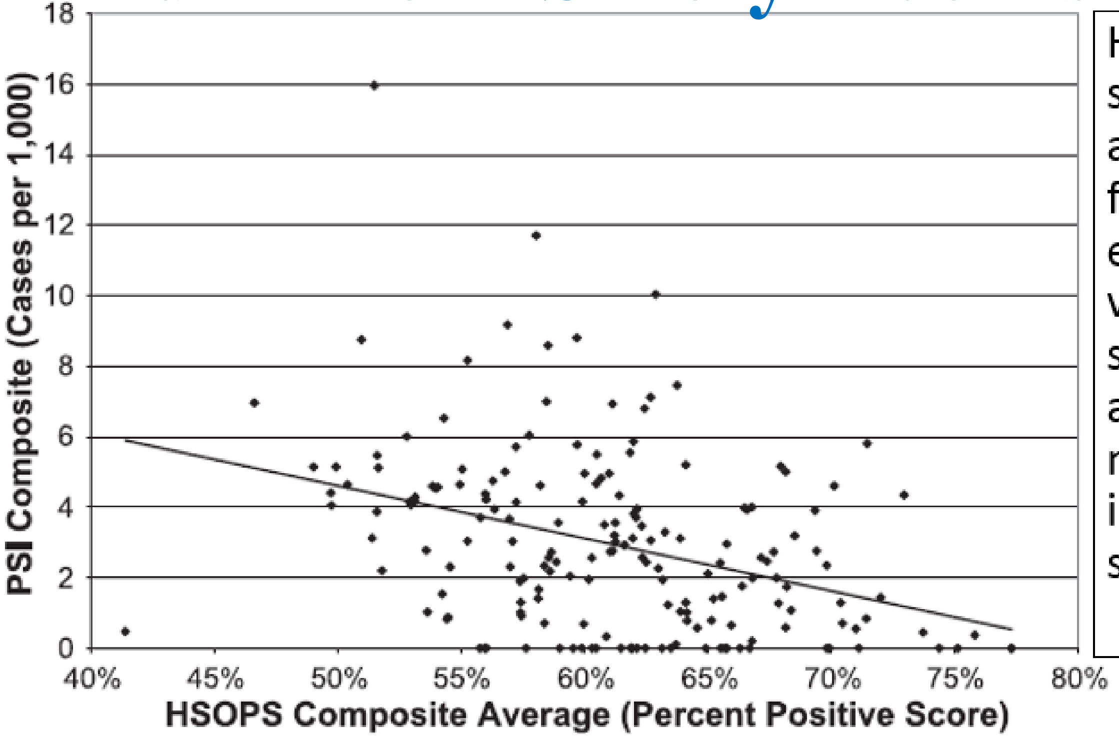
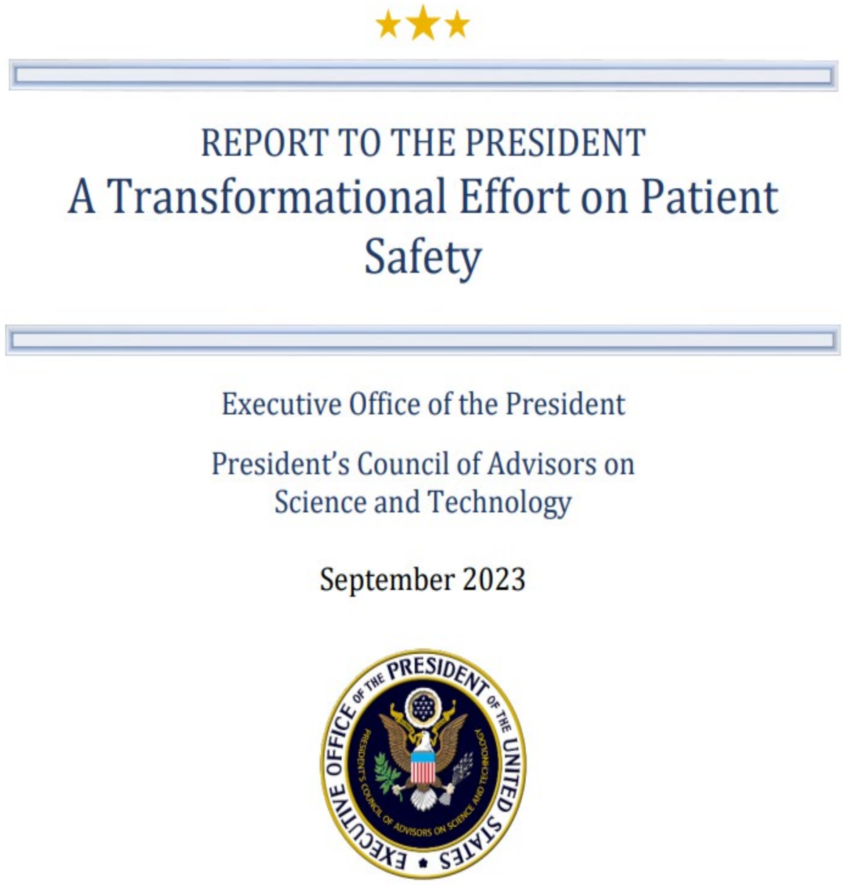


FIGURE 1. Scatter plot of PSI composite versus HSOPS composite average (N = 179).

Higher HSOPS scores are associated with fewer adverse events, which validates patient safety culture assessment as a meaningful indication of the safety of patients.



REPORT TO THE PRESIDENT

A Transformational Effort on Patient Safety

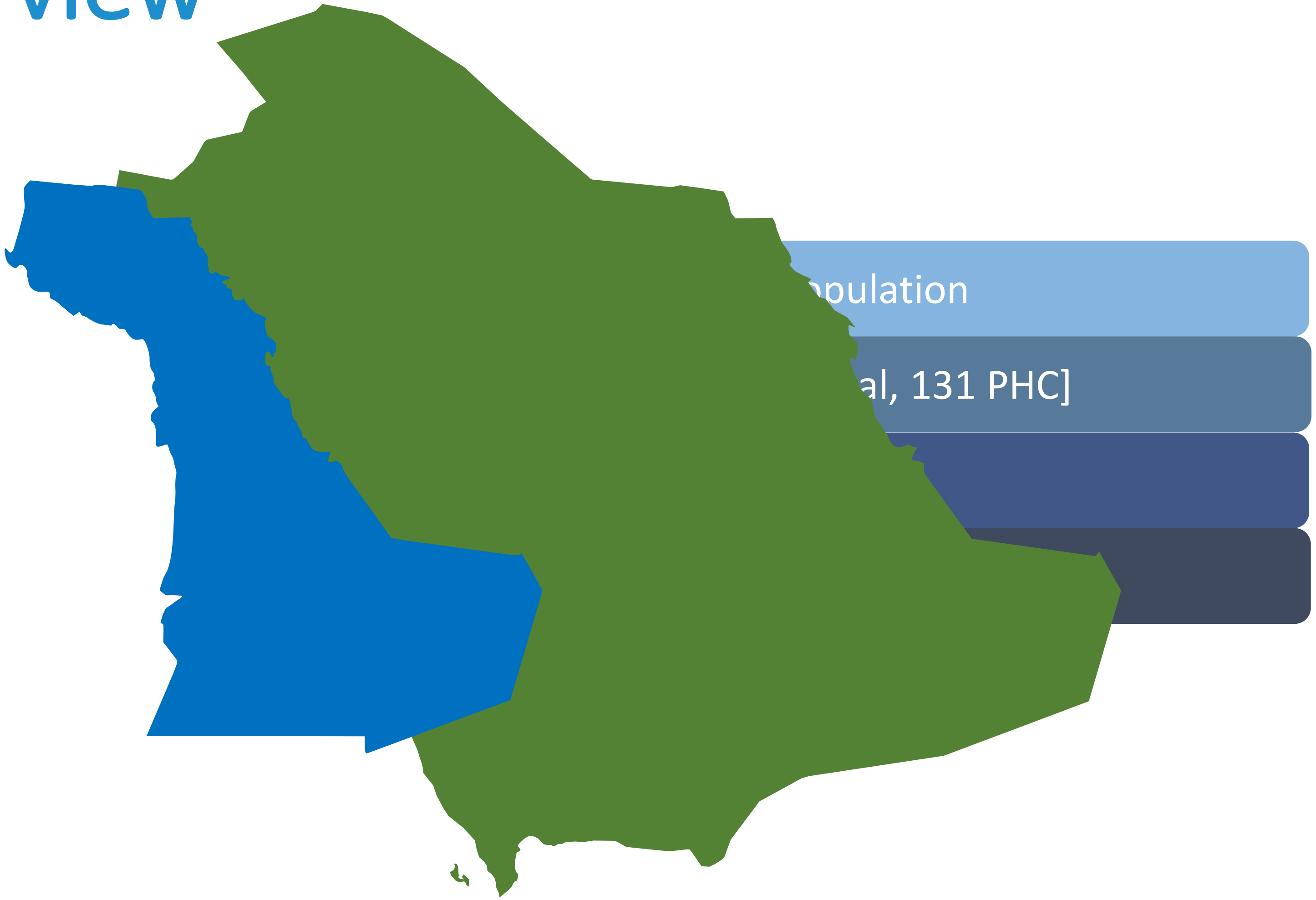
Executive Office of the President

President's Council of Advisors on Science and Technology

September 2023

EHC Overview

EHC Overview



Core Challenges Facing our Healthcare System

- Unhealthy Lifestyle
- Increased chronic Diseases
- Premature Deaths
- Cost Escalation

SUSTAINABLE DEVELOPMENT REPORT 2024

The SDGs and the UN Summit of the Future

Includes the SDG Index and Dashboards

SAUDI ARABIA

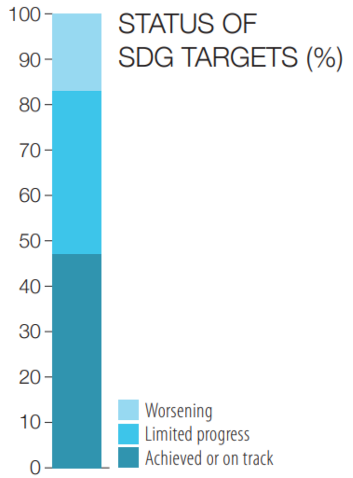
Middle East and North Africa

OVERALL PERFORMANCE

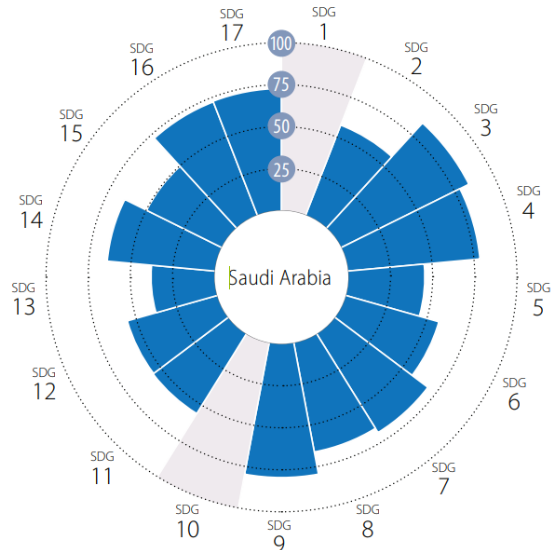
COUNTRY RANKING **103/167**

COUNTRY SCORE

REGIONAL AVERAGE: 65.6



AVERAGE PERFORMANCE BY SDG



SDG DASHBOARDS AND TRENDS

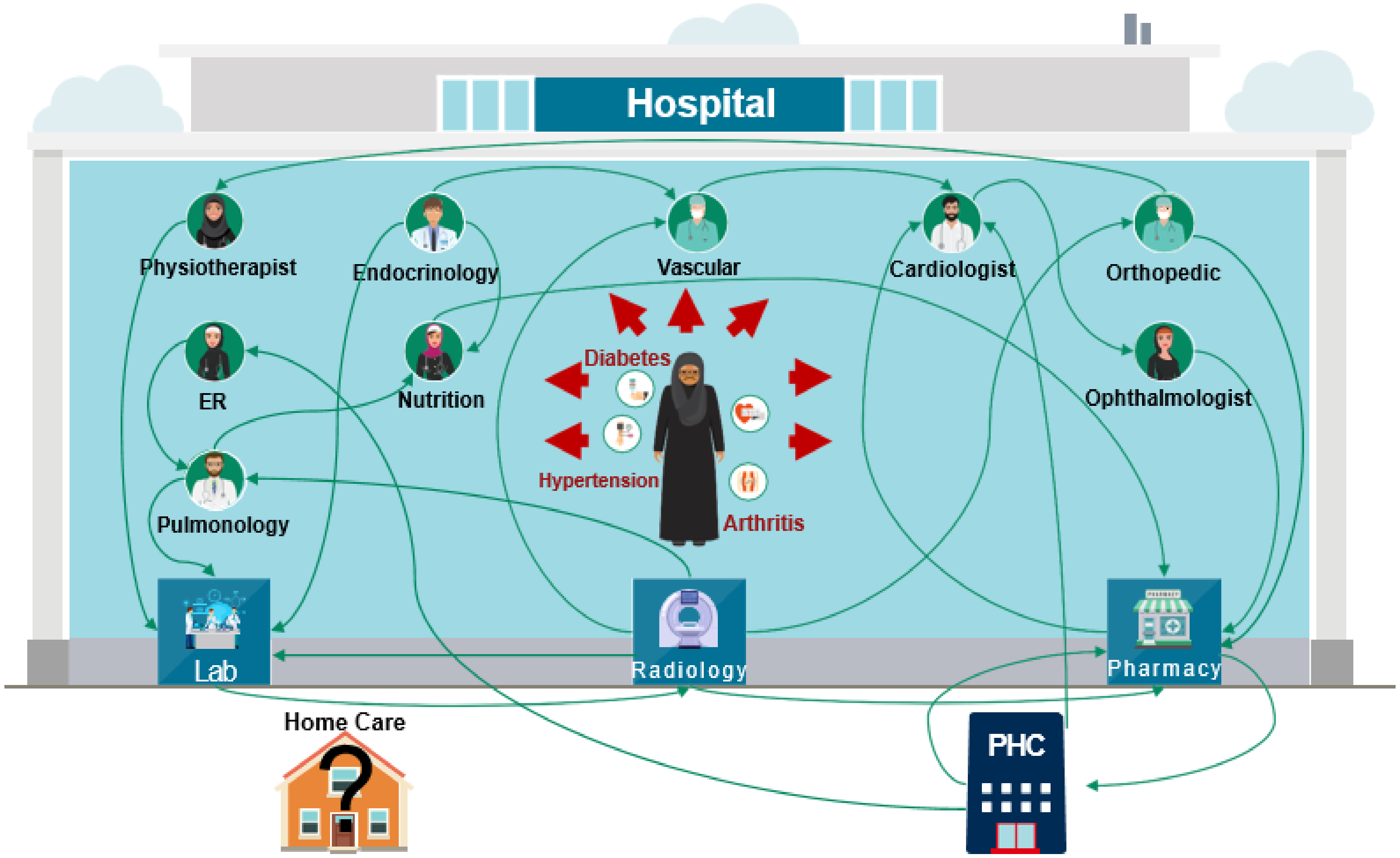
Major challenges | Significant challenges | Challenges remain | SDG achieved | Information unavailable

Decreasing | Stagnating | Moderately improving | On track or maintaining SDG achievement | Information unavailable

Note: The full title of each SDG is available here: https://sdgs.un.org

SDG3 – Good Health and Well-Being

Maternal mortality ratio (per 100,000 live births)	16.2	2020	→
Neonatal mortality rate (per 1,000 live births)	3.1	2022	↑
Mortality rate, under-5 (per 1,000 live births)	6.4	2022	↑
Incidence of tuberculosis (per 100,000 population)	8.2	2022	↑
New HIV infections (per 1,000 uninfected population)	0.0	2022	→
Age-standardized death rate due to cardiovascular disease, cancer, diabetes, or chronic respiratory disease in adults aged 30–70 years (%)	20.9	2019	↗
Age-standardized death rate attributable to household air pollution and ambient air pollution (per 100,000 population)	91	2019	
Traffic deaths (per 100,000 population)	18.5	2021	↑
Life expectancy at birth (years)	76.9	2021	→
Adolescent fertility rate (births per 1,000 females aged 15 to 19)	8.3	2021	
Births attended by skilled health personnel (%)	99.8	2023	↑
Surviving infants who received 2 WHO-recommended vaccines (%)	98	2022	↑
Universal health coverage (UHC) index of service coverage (worst 0–100 best)	74	2021	↗
Subjective well-being (average ladder score, worst 0–10 best)	7.0	2023	↑



Hospital
Physiotherapist
Endocrinology
Vascular
Cardiologist
Orthopedic
ER
Nutrition
Diabetes
Ophthalmologist
Hypertension
Arthritis
Pulmonology
Lab
Radiology
Pharmacy
Home Care
PHC

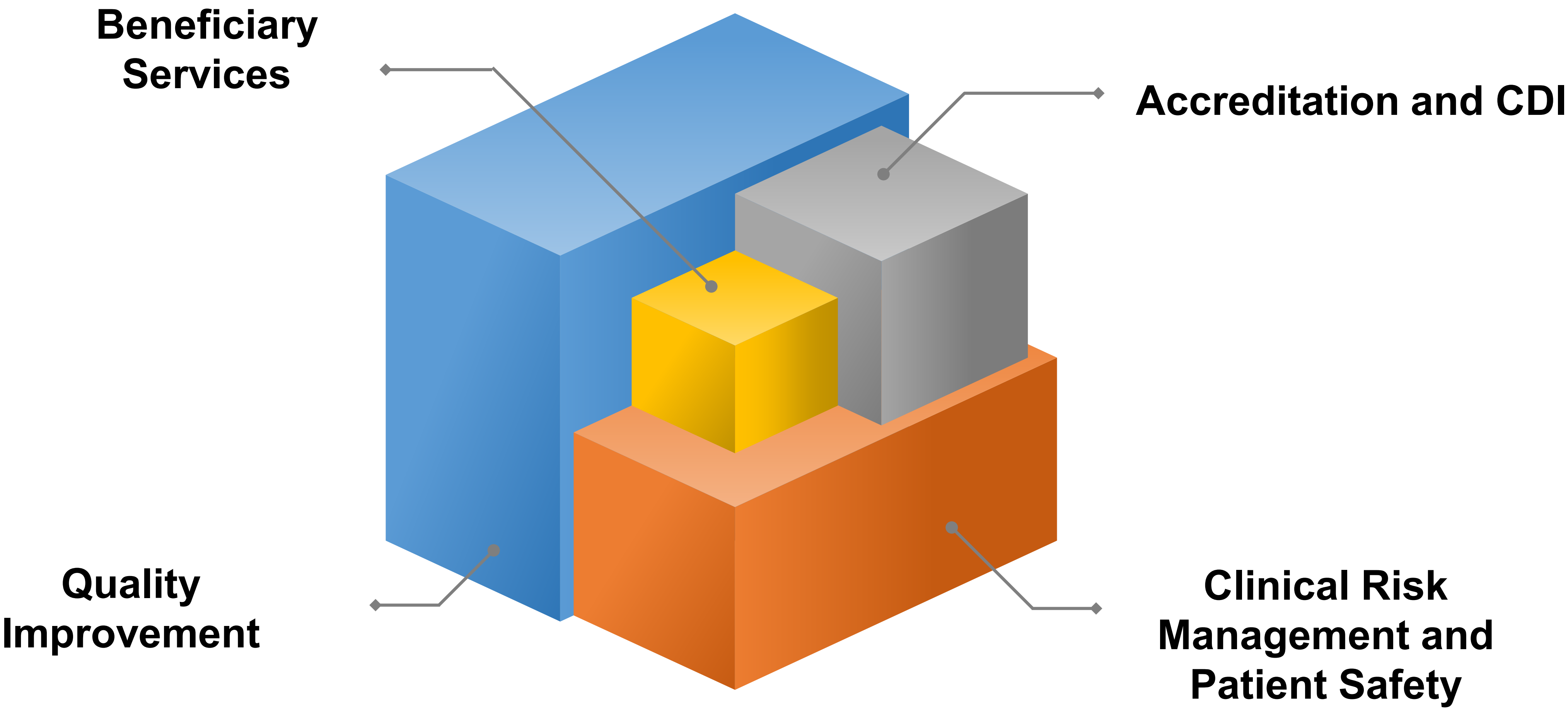
Patient Safety Challenges Pre- Transformation

- Engaging patients and Families
- Rates of Avoidable injuries and non communicable Diseases
- Inadequacy and inconsistency of primary Care
- Significant gap in the quality of services provided to patients

- Fragmented systems, leadership commitment
- Cultural resistance to change
- Significant gaps in workforce capacity and capability
- Lack Continuity of care / Transitions of Care

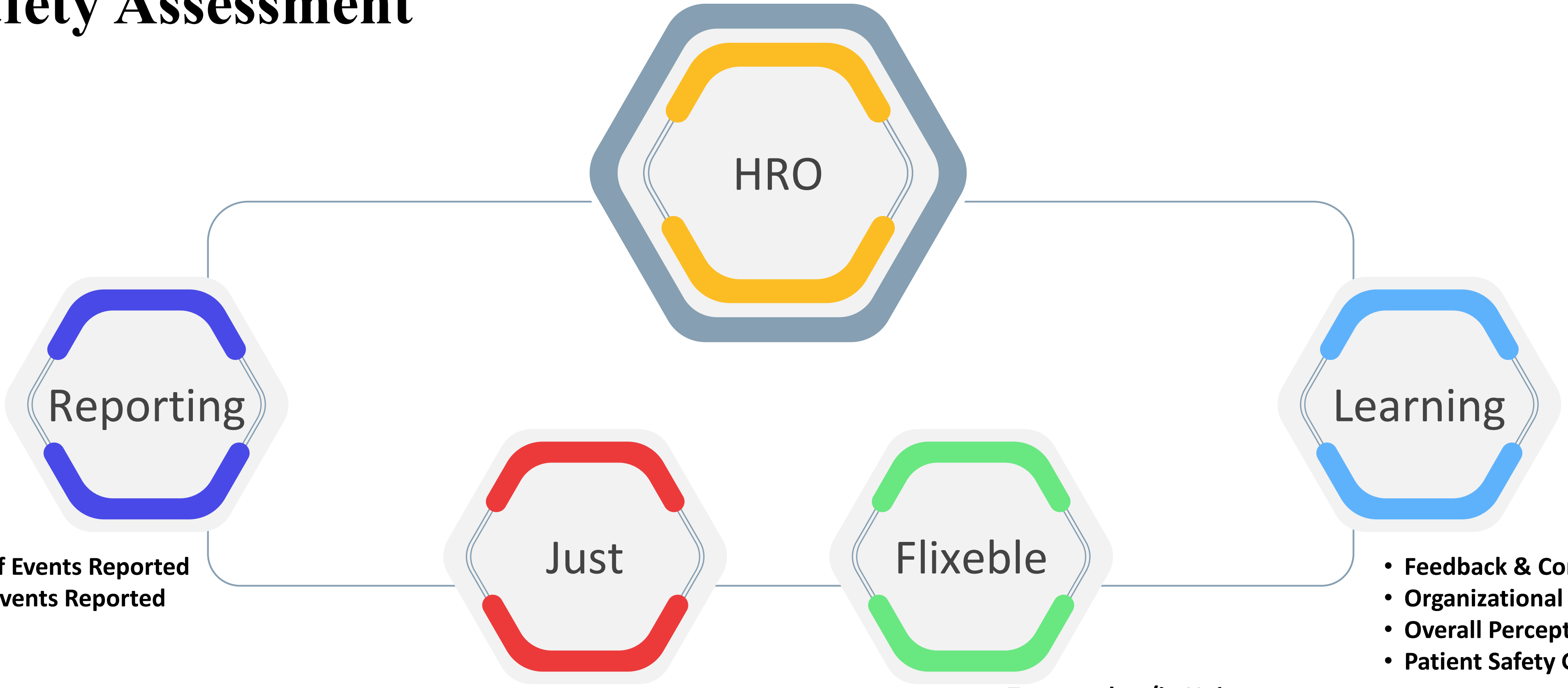
Quality and Performance

Eastern Health Cluster



Safety Culture Reason's Components

EHC Safety Assessment



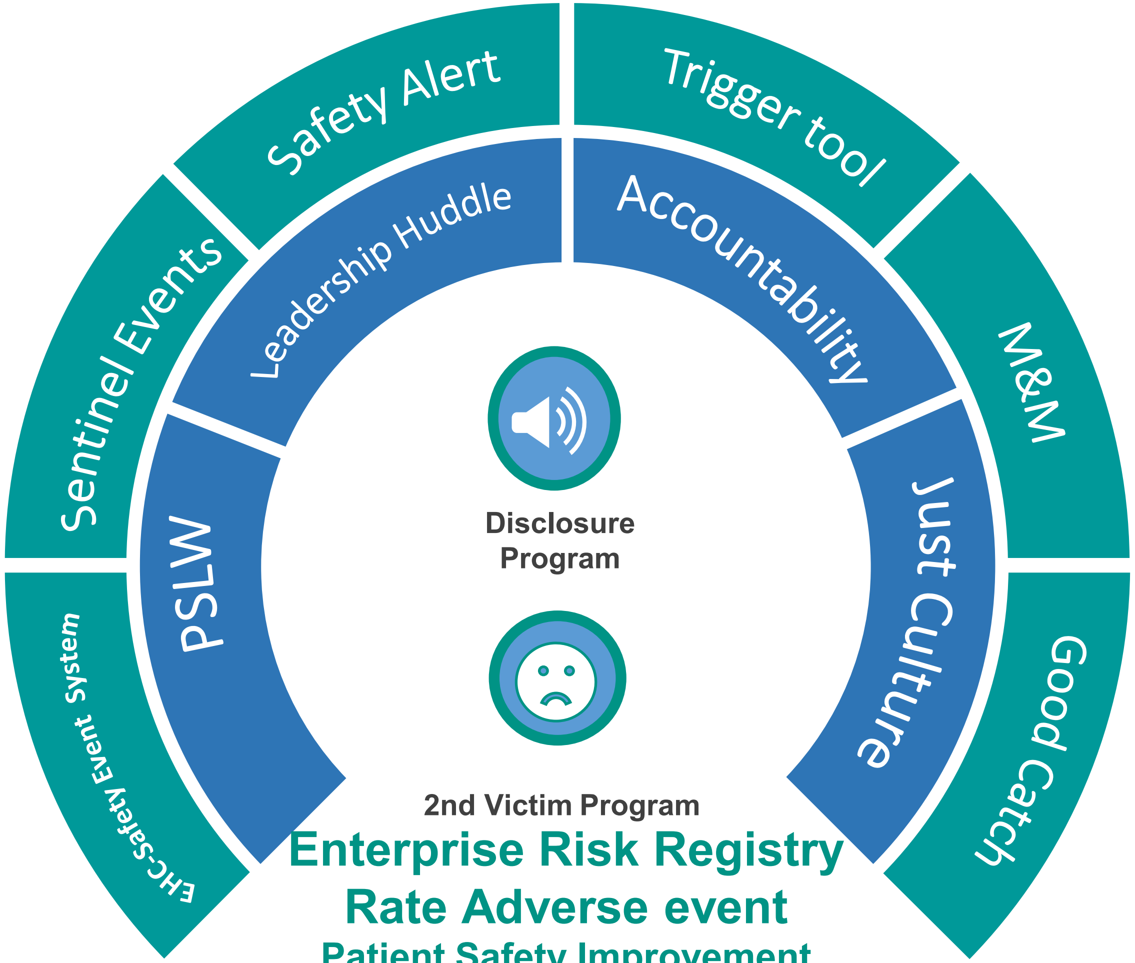
- Frequency of Events Reported
- Number of Events Reported

- Nonpunitive Response to Error

- Teamwork w/in Units
- Staffing
- Communication Openness
- Teamwork ax Units
- Hospital Handoffs
- Hospital Mgt. Support
- Manager Actions

- Feedback & Communication
- Organizational Learning
- Overall Perceptions
- Patient Safety Grade

Quality and Performance Initiatives



Enterprise Risk Registry
Rate Adverse event
Patient Safety Improvement

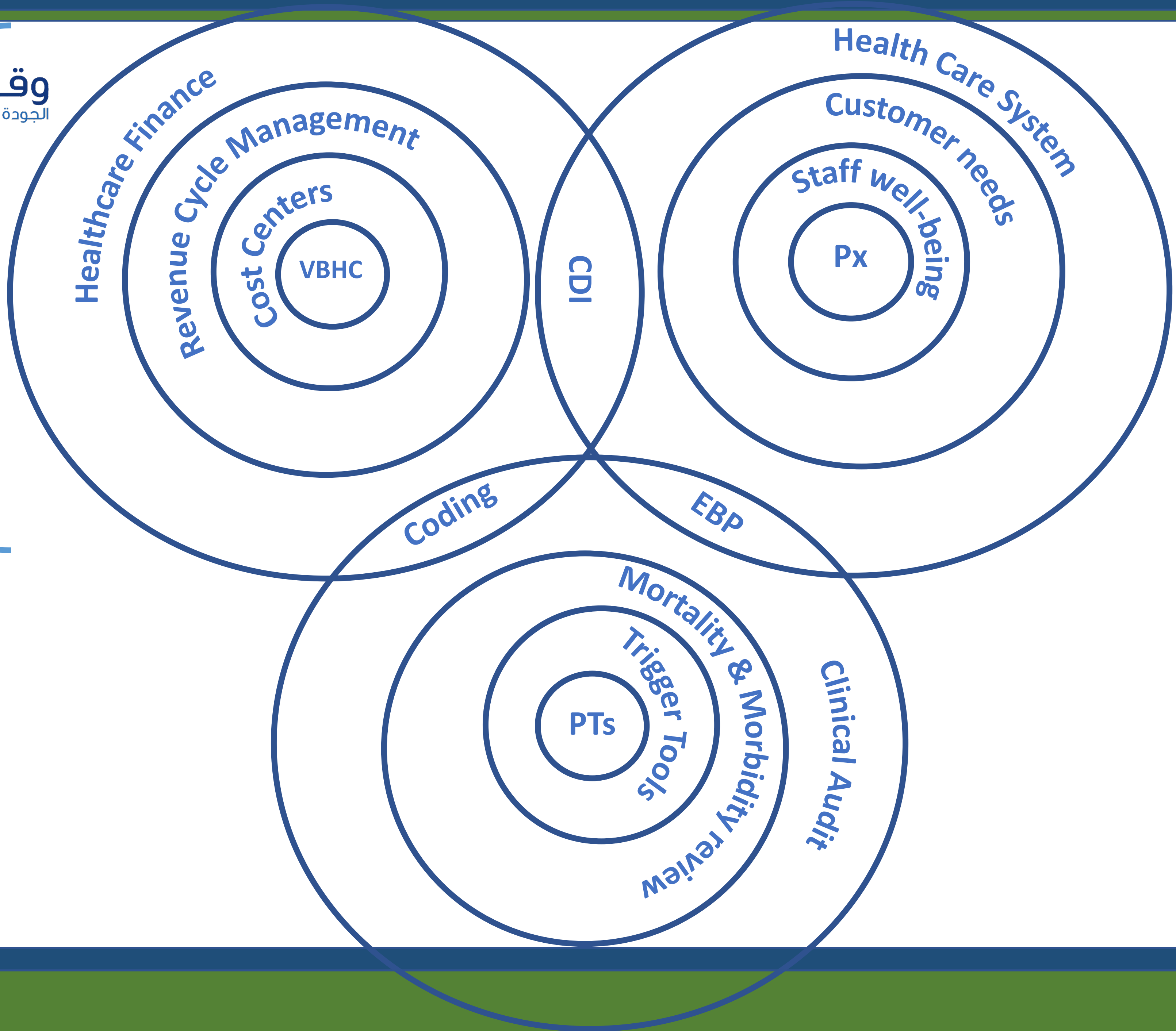
Evolution of Patient Safety & Risk Management ??

- Establishing centralized incident reporting across facilities
- Shifting focus from reporting to learning:
  - RCA → Aggregate RCA → Learning Summits
  - Integration of FMEA for proactive risk
- Dashboards introduced for real-time tracking
- Heat maps used for prioritization
- High-risk alerts + safety rounds introduced
- PSLWR

Impact:

- Rate ↑ in near-miss reporting
- Sentinel event trend reduction ↓
- 100% of RCAs closed with system actions

- Finance
- Cost Management
- Insurance
- Contract Management



- Quality and Patient Safety
- Infection Control
- Supply chain
- Digital Health
- Human Resources
- Academic Affairs
- Facility Management and Safety
- Patient Management Services
- Medical Record

Introducing Unified Safety Event Reporting System for Safer Care

Key Challenges:

Inconsistent and fragmented incident reporting across facilities. 1

Paper-based legacy systems with delays in capturing and escalating safety issues. 2

Lack of standardized classification and data transparency. 3

Underreporting due to fear of blame and absence of a unified safety culture. 4

Key Challenges:

1. Legacy systems lacked usability and were not aligned with international safety standards.

2. Absence of anonymous reporting discouraged transparency.

3. Delayed feedback loops and inconsistent root cause analysis.

4. Siloed facility-level systems failed to support cross-organizational learning.

Strategy for change:

Implementation of a Unified Electronic Safety Reporting System across the Eastern Health Cluster (EHC), standardizing incident reporting, enhancing real-time data analytics, and driving proactive risk mitigation to achieve measurable reductions in preventable harm.

Custom-built in-house

Full Life Cycle

Accessible to all EHC Employees

Standardizing incident reporting

Enhancing real-time data analytics

Allow system-wide learning

Fostering a culture of accountability

Strategy for change:

2022

Need Assessment

Comprehensive needs assessments
Identifying gaps in legacy reporting systems
Governance through a CEO-Led Steering Committee with clinical, digital, and non-clinical leaders.

2022

Design and Development

Co-designed with frontline staff
Change champions appointed
Standardized safety taxonomy created aligned with WHO
Anonymous reporting system with intelligent safeguards

Q1, 2023

Pilot Phase

Deployed at 3 high-volume hospitals
System Refinements
Developed Dynamic role-tailored Dashboards:

Q2 2023-Q4 2024

Full Rollout

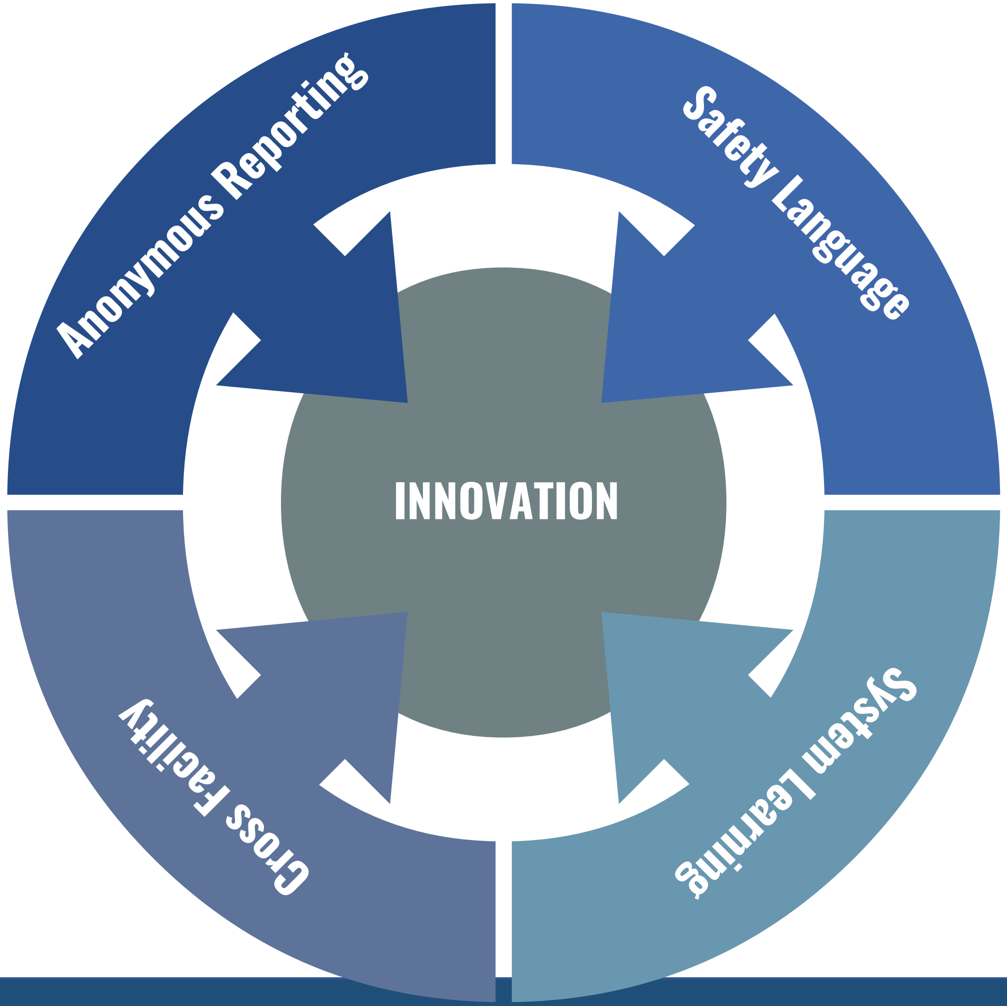
Trained 4,500+ staff via role-specific modules
Appointed 150+ change champions
Integrated with existing systems (EMR, risk management dashboards) to minimize disruption

2024+

Ongoing Improvement

100% deployment across EHC facilities
Informed system enhancements

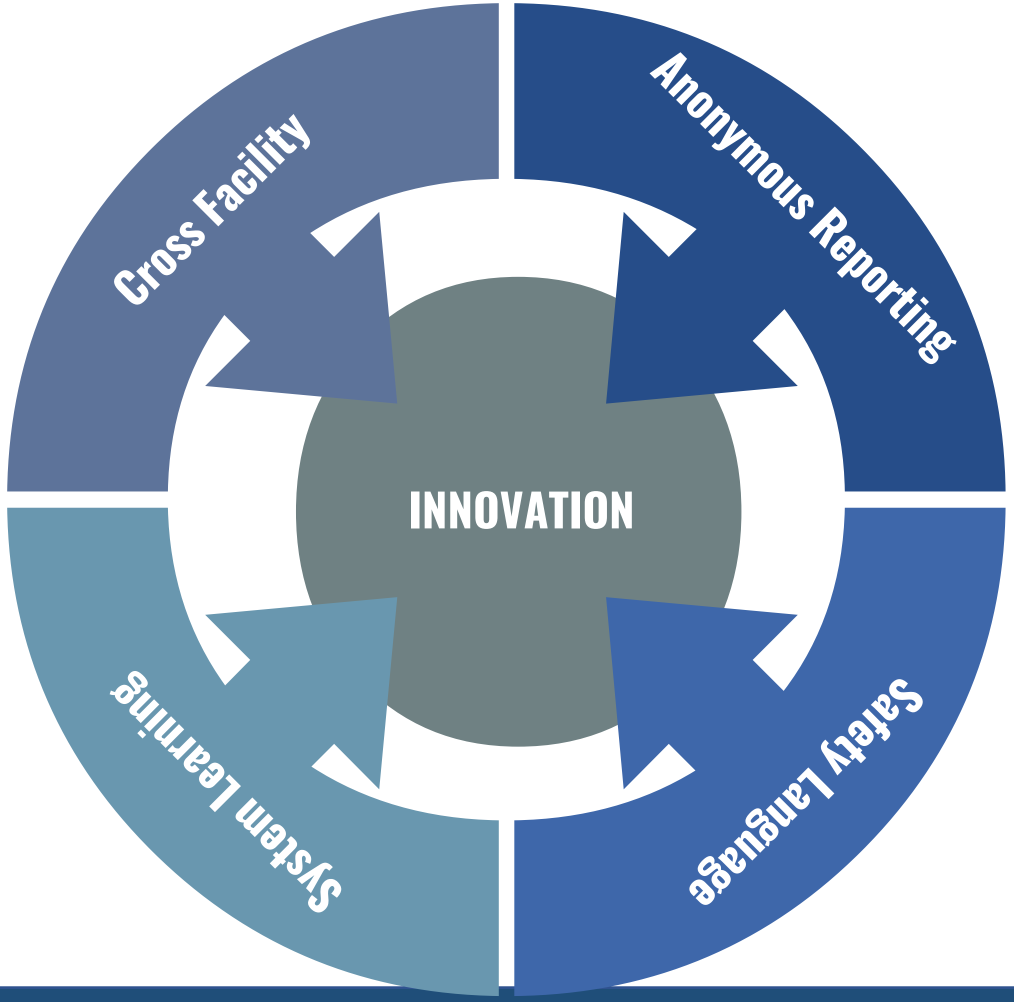
Strategy for change:



Enterprise-Wide Safety Language & Real-Time Visibility:

- Created standardized patient safety taxonomy across all EHC Facilities
- Developed dynamic, role-tailored dashboards
- Chat function

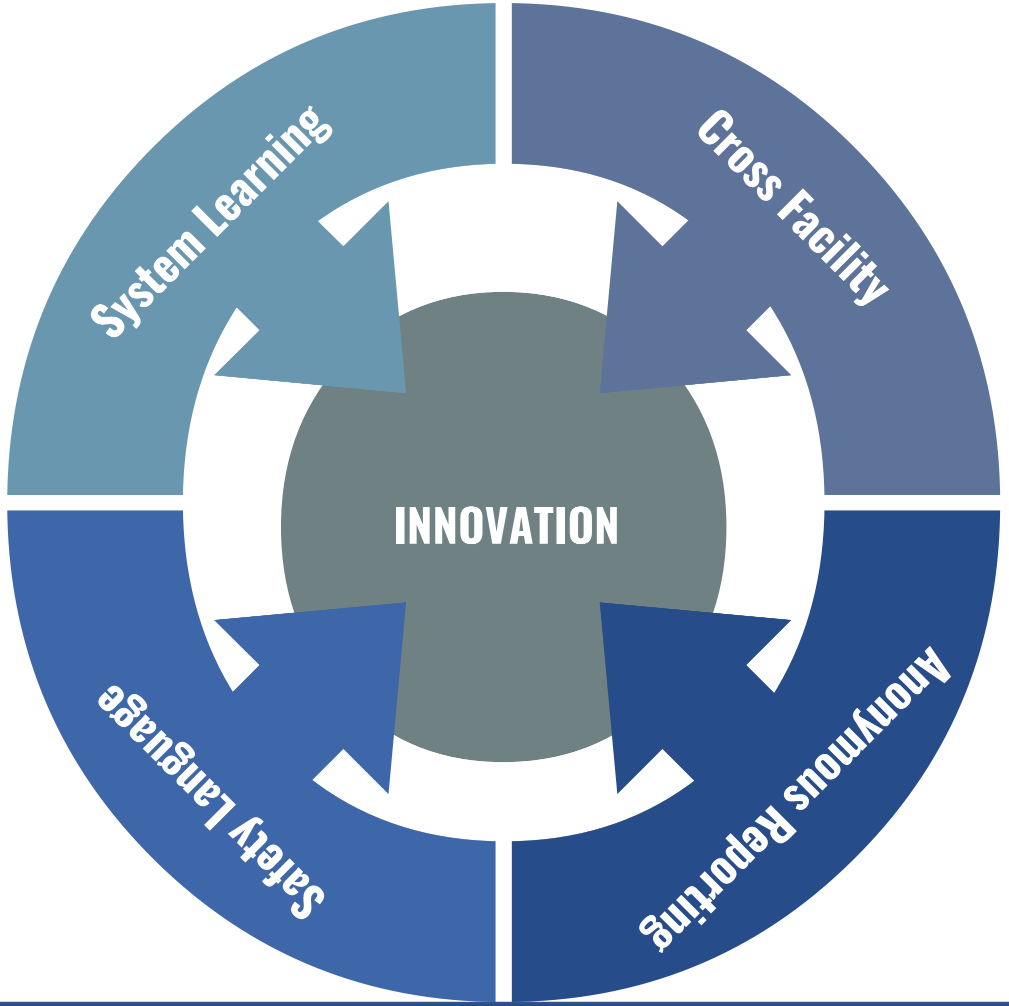
Strategy for change:



Anonymous Reporting (<u>Just Culture</u>) with Intelligent Safeguards

- Guarantees reporter confidentiality while maintaining data integrity
- Unique dual-track system
- Resulted in increase in near-miss reporting to 7.4% since implementation

Strategy for change:

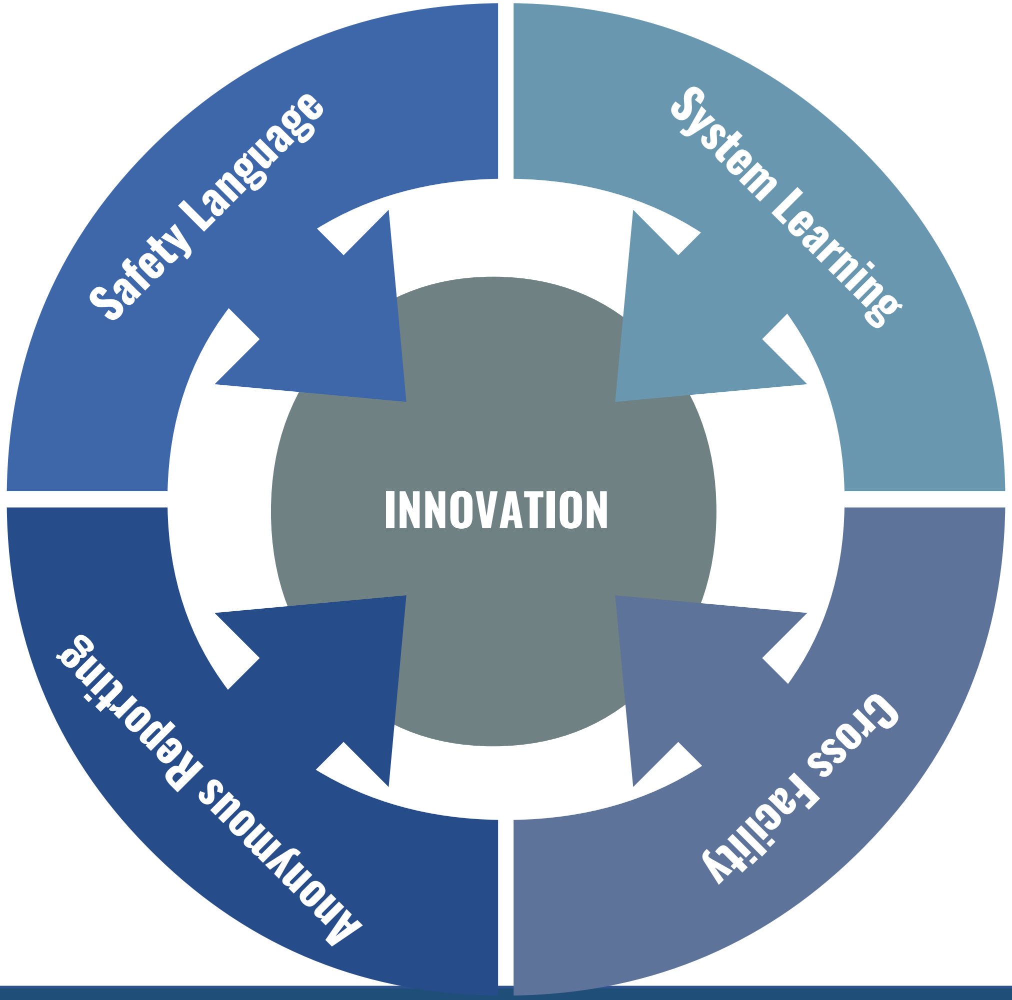


Seamless Cross-Facility Incident Management:

- Pioneered intelligent incident transfer protocols enabling:
  - Automatic routing of events when patients move between facilities
  - Shared ownership of investigations spanning multiple sites
  - Prevention of duplicate reporting while maintaining audit trails

- This innovation alone has reduced investigation time by 35% for transferred patients.

Strategy for change:



Data-Driven System Learning:

Enabled the first truly cluster-wide improvement projects through:

- Automated identification of patterns across facilities
- Risk-prioritized action planning at enterprise level
- Standardized measurement of intervention effectiveness

Strategy for change:

Just Culture and Accountability Model

Stakeholders' Responsibilities

Quality and Patient Safety

- Ensure that patient safety investigation is conducted to identify the underlying causes.
- Ensure that the "Just Culture Algorithm" is available and applied consistently by the manager.
- Provide training on how to apply the "Just Culture Algorithm " effectively.
- Identify Just Culture "Champions " to coordinate and facilitate the just culture processes over the healthcare institution.

Human Resources

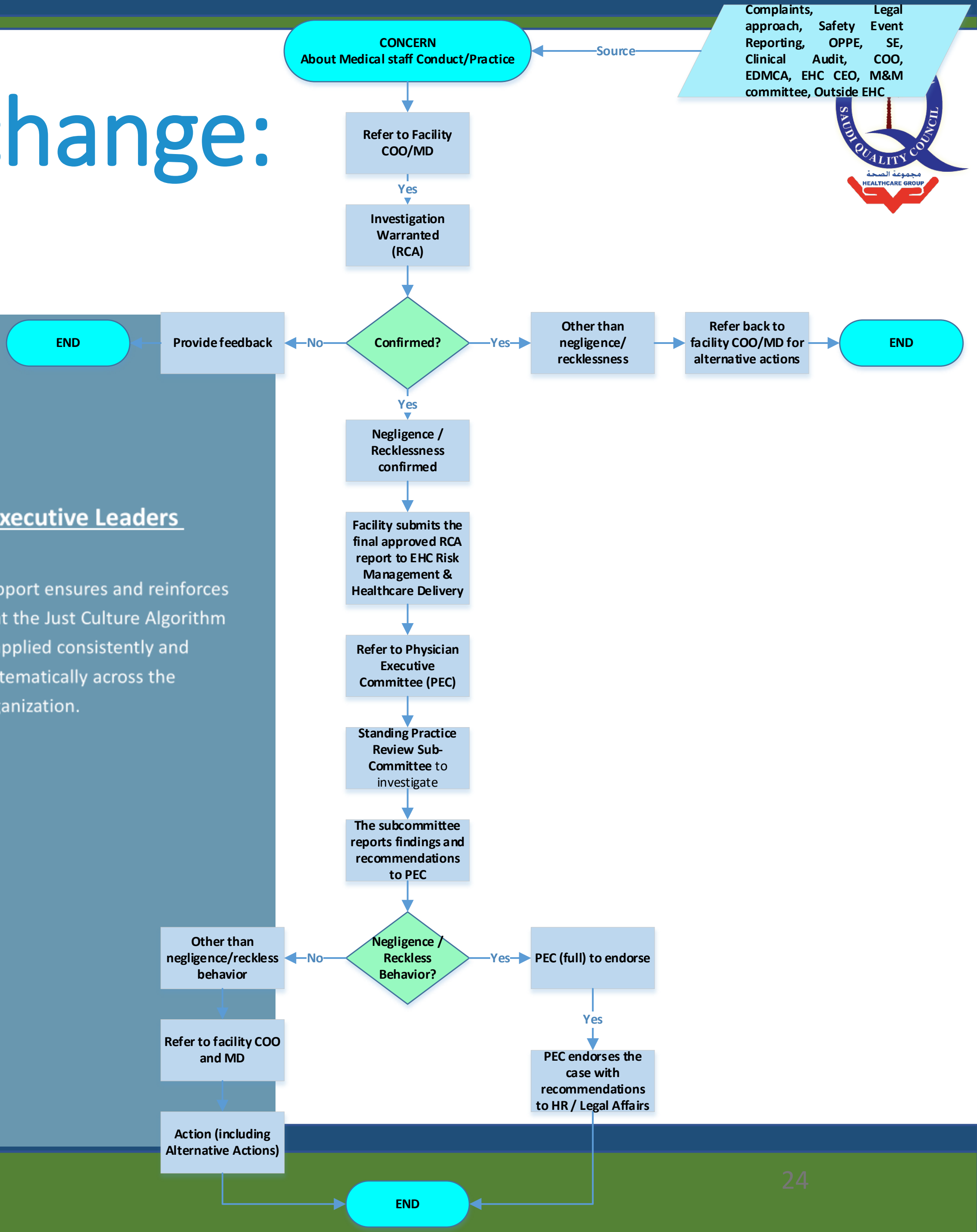
- Supervises and validates documentation produced throughout the investigation process to ensure the accuracy of the 'manager's evaluation of the staff-associated behavior.
- Ensure that Just culture is applied before any disciplinary action.
- Ensure that Just culture principles are integrated as part of the General Orientation Program.

Middle Managers

- Ensure that the "Just Culture Algorithm Tool" is understood by all staff.
- Teach staff about just culture to increase the effectiveness of staff feedback.
- When the investigation of a patient safety event is completed, the Just Culture Algorithm should be applied to determine system issues and human behaviors.

Executive Leaders

- Support ensures and reinforces that the Just Culture Algorithm is applied consistently and systematically across the organization.



Deployment:

Translating Data into Action:

The platform's data Captured data has provided actionable insights that have directly influenced patient safety improvements across the Eastern Health Cluster.

Ongoing Evolution:

- Scaling to primary care centres (2025 target: 100% coverage).
- Incorporating AI-driven analytics to predict high-risk trends (pilot underway)

Dedicated Business Unit for System Scalability

Established a Patient Safety Technology Unit (2024) to market the platform and customize implementations for diverse facility types

Current Status & Outcomes

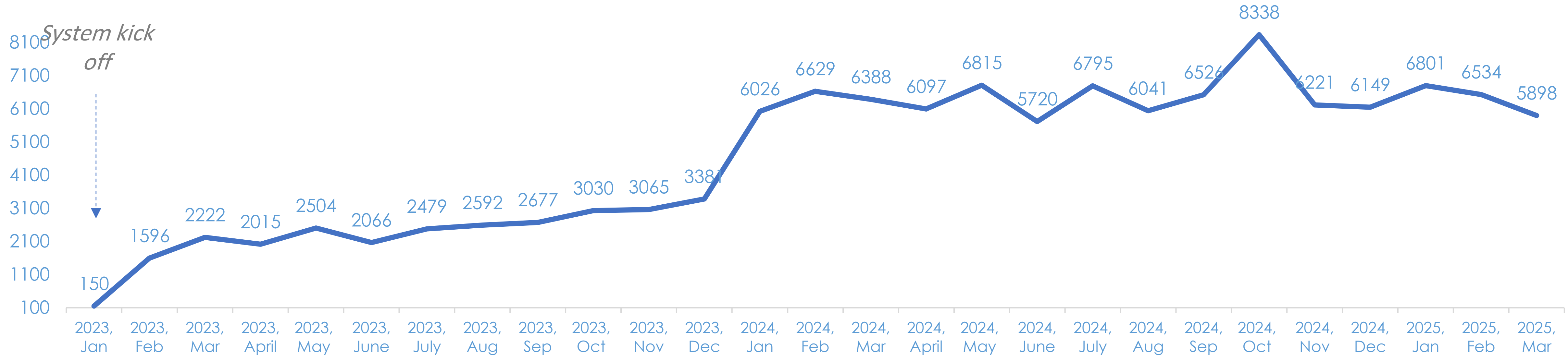
- 100% deployment across EHC facilities as of Q4 2024, with:
- 40% faster incident reporting compared to legacy systems.
- 35% increase in reporting volumes, demonstrating improved psychological safety.

Continuous Improvement:

- Biweekly user feedback reviews inform system enhancements.
- Quarterly audits show 95% compliance with standardized classification.

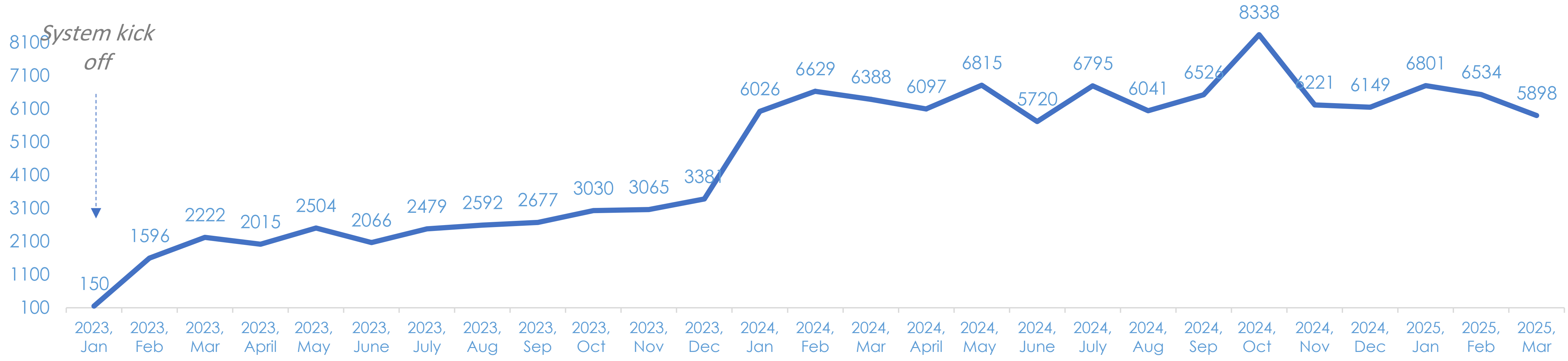
Measurement of Improvement

Transformational Benefit



Measurement of Improvement

Transformational Benefit



185%

***Increase** in overall incident reporting rates (12-month post-implementation)*

7.4%

***of total reports** represent near-miss events comparing to 2.1% pre-implementation*

4.7 FTE

Reduced processing time** by 8 min per report, saving **844.9 staff hours monthly

100%

***Standardized taxonomies** eliminated inconsistent classifications.*

92%

***Cross-facility incident** follow-up completion rates (from 58%)*

48 hrs

***Identification of emerging risk through Dynamic dashboards** (from **14 days**)*

Measurement of Improvement

Transformational Benefit

Benefit	Value USD (SAR)	Source
Cost savings (system consolidation)	$4M (15M SAR)	Eliminated legacy system licensing/maintenance
Productivity gains	$625K/year (2.3M SAR)	4.7 FTE efficiency savings
Logistics optimization	$1.1M/year (4.1M SAR)	Reduced redundant investigations, printing & travel
Harm reduction (estimated)*	$3.2M/year avoided costs	28% decrease in severe preventable events

**Harm reduction metrics are calculated based on observed reductions in the rate of reported severe preventable events following implementation, compared to 2022 baseline data. As the average cost per adverse event in Saudi Arabia is not readily available in public sources. Given the absence of a unified benchmark, we used the case-mix costing methods, which estimate the cost of healthcare services based on the types and quantities of resources consumed. This approach allows for a more tailored estimation of costs associated with adverse events, considering the factors of increasing length of stay.*

The Lessons Learnt

01 Standardization requires engagement, persistence, and executive support.

02 Technology is enabler, true change rely on culture, trust, & user empowerment.

03 Incident transfer across facilities proved vital to close safety gap.

04 Feedback loops are essential for ongoing refinement and user adoption.

05 A centralized, anonymous, and data-driven reporting system facilitate to transform safety governance.

06 Investing in frontline involvement drives adoption & sustainability.

07 Cross-facility dashboards enable enterprise-wide learning and prioritization.

08 The system scalability & adaptability crucial for national-level replication.

Blueprint for Excellence

1

EHC's **Unified Safety Reporting** System is strategic pillar of **“Zero Harm Journey”**.

2

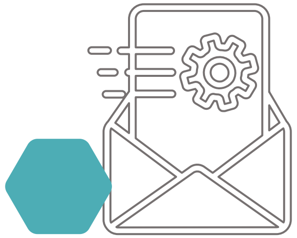
Combination of **Technology, Governance, & Culture**

Ensure sustainable safety improvement.

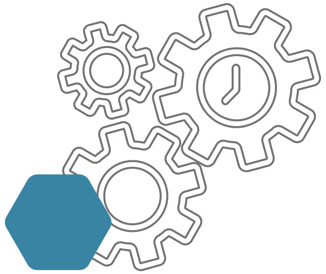
3

A replicable model of **Digital Transformation** to drive excellence in patient safety.

Key Takeaways from Our Journey



Inter-facility incident transfers filled a critical gap.

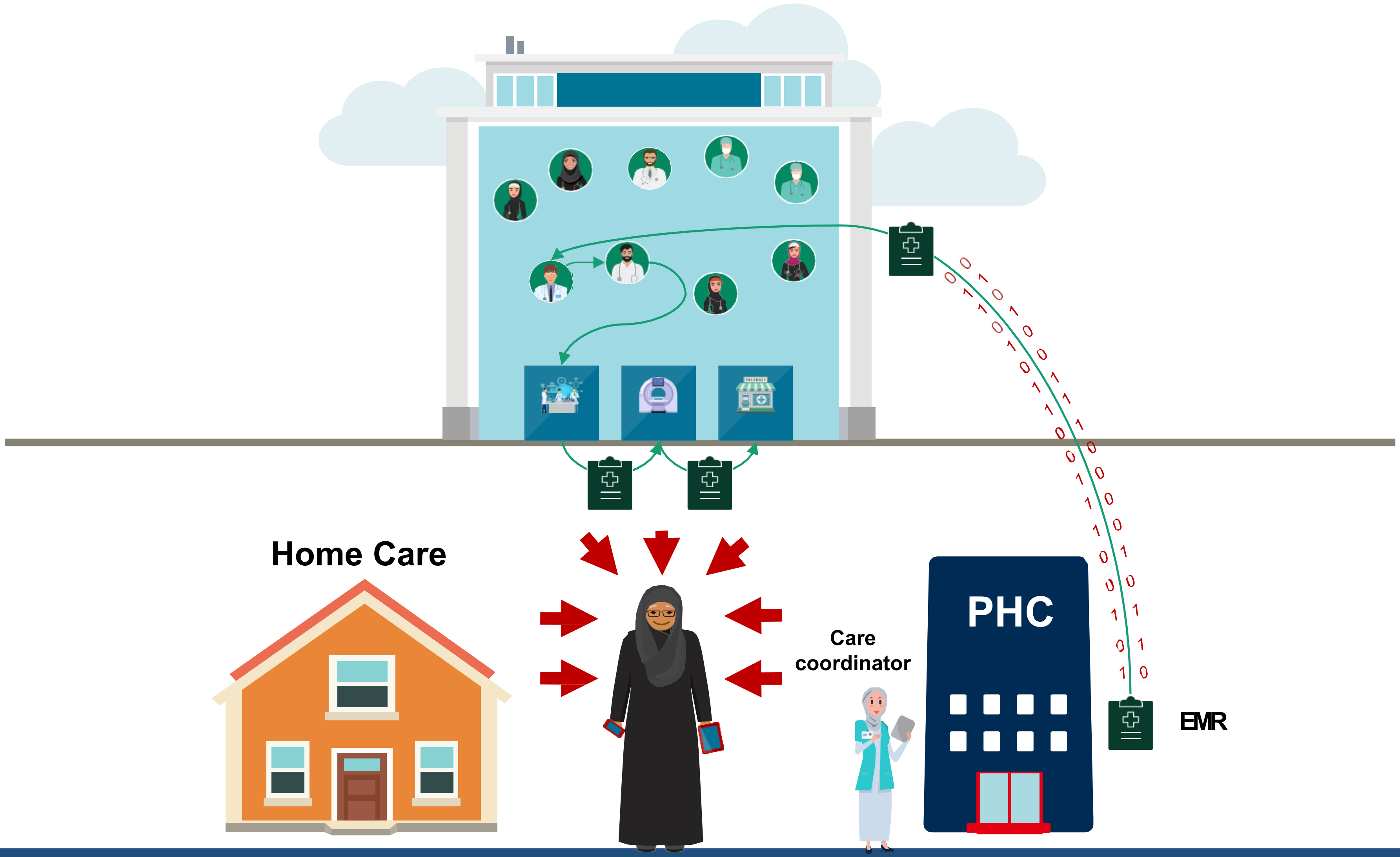


Technology alone doesn’t create change.

Standardization is powerful, yet takes time.

Feedback loops are key to sustainability.

EHC's health system following the implementation of LTSP



Thank You