



April 25-28, 2019
Kaya Palazzo Golf Resort Hotel
www.iemc2019.com



Tricks of Trauma Patients Management

“Trauma System in Qatar”

Monira Mollazehi, Hassan Al-Thani

Department of Surgery, Hamad General Hospital, Qatar

26th April 2019



مؤسسة حمد الطبية
Hamad Medical Corporation

HEALTH • EDUCATION • RESEARCH

صحة • تعليم • بحوث





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I have nothing to disclose



Doha in 1957



Hamad Medical Corporation (HMC) Established in 1982

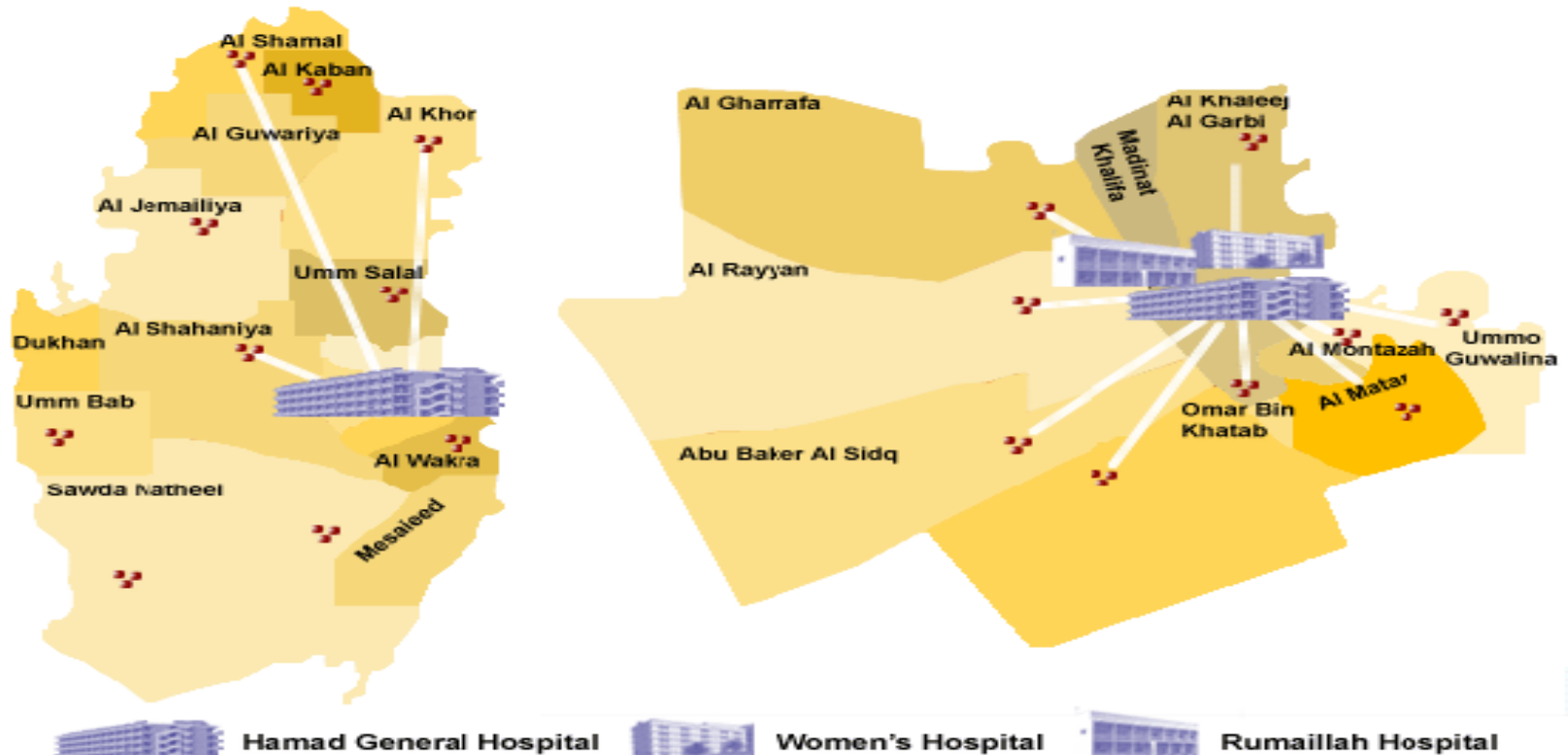
Vision & Mission

**To be an internationally recognized
world-class center for healthcare
excellence**

Hamad Medical Corporation (HMC)

- Our values reflect **RESPECT**
 - **R**eliable service delivery
 - **E**xcellence is our standard
 - **S**afe and clean environment
 - **P**atient-centered care
 - **E**mpowerment, enabling each to be his/her best
 - **C**oncerned with community well-being
 - **T**eamwork, which is interdisciplinary and collaborative

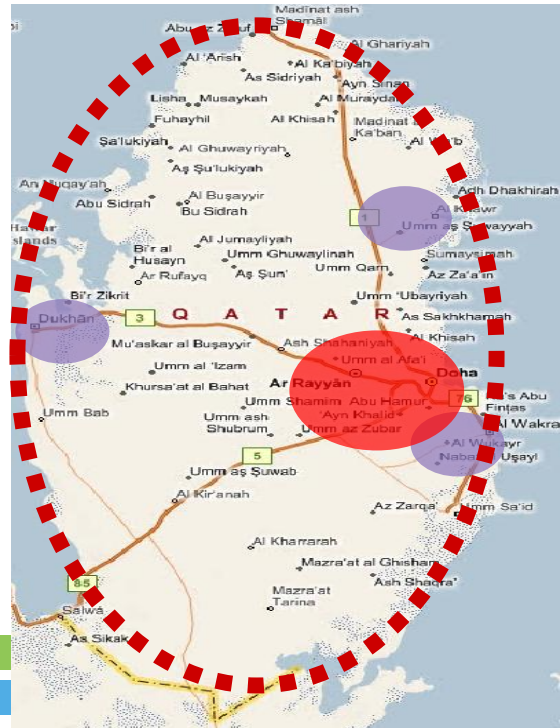
Hamad Medical Corporation (HMC)



Hamad Medical Corporation (HMC)

**Western District Hospital
In Dukhan**

2011
75 beds



**North District Hospital
Al-Khor**

2005
119 beds

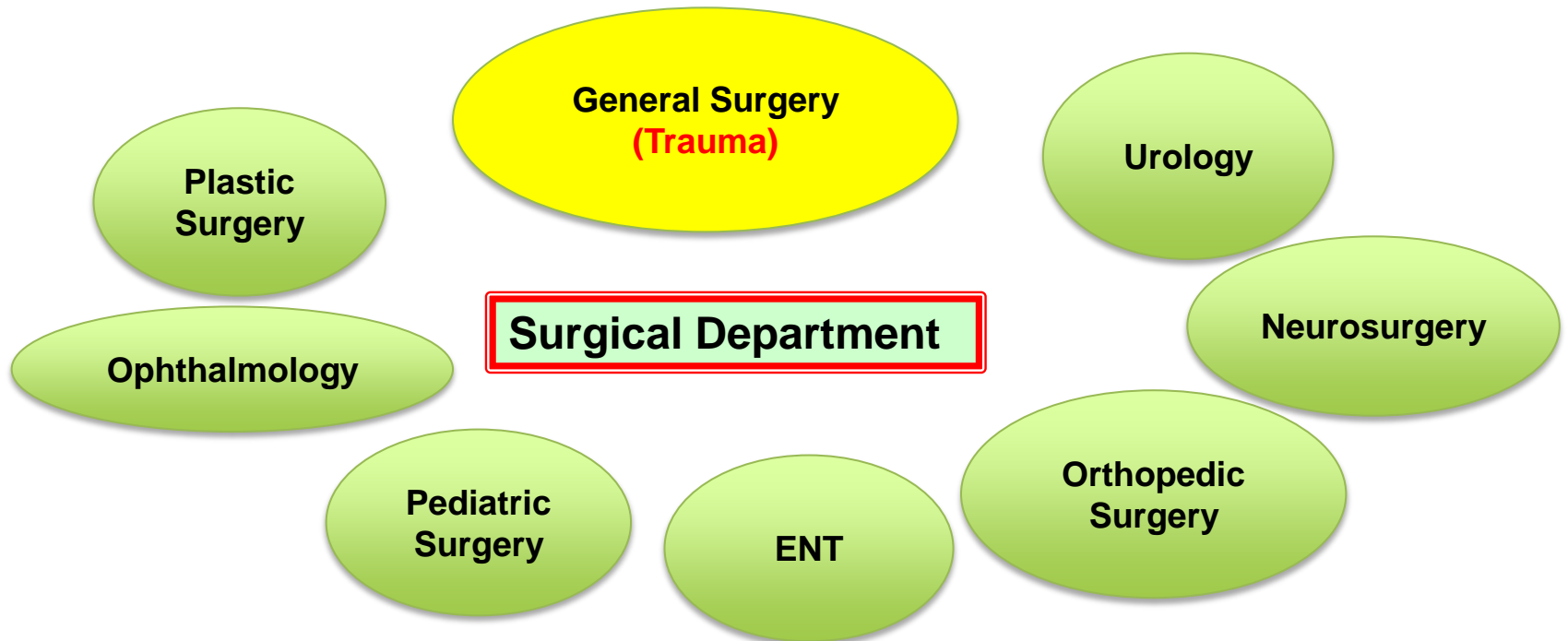


**Southern District Hospital
Al-Wakra**

2011
200 beds



Trauma Care 1982-2007



HMC/ UPMC Partnership

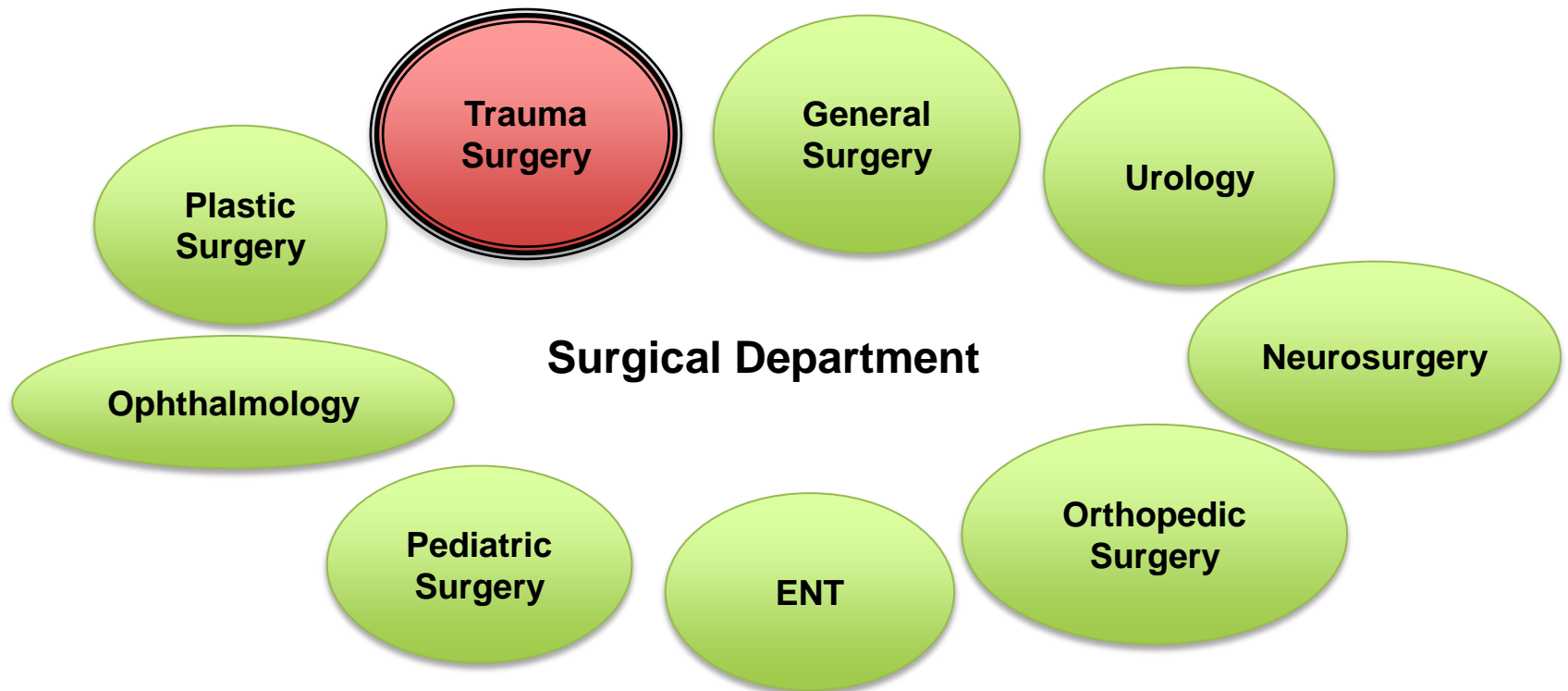
- **Vision**

- Develop a comprehensive, integrated, data driven emergency care system for the State of Qatar

- **Mission**

- To work side-by-side to improve the quality of emergency medical care in the State of Qatar

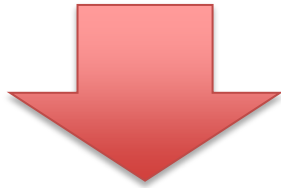
Trauma Service 2007-2010



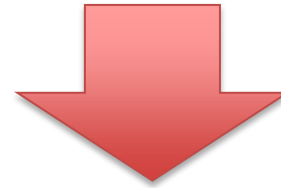
- The Trauma Service has created a more organized framework for the delivery of care:
 - It has increased the training levels of doctors as well as all other members of the **multidisciplinary team** that cares for the injured
 - It has put at their disposal more readily available **equipment** and **supplies**

Trauma Service 2007-2010

Improved structure of care has translated into

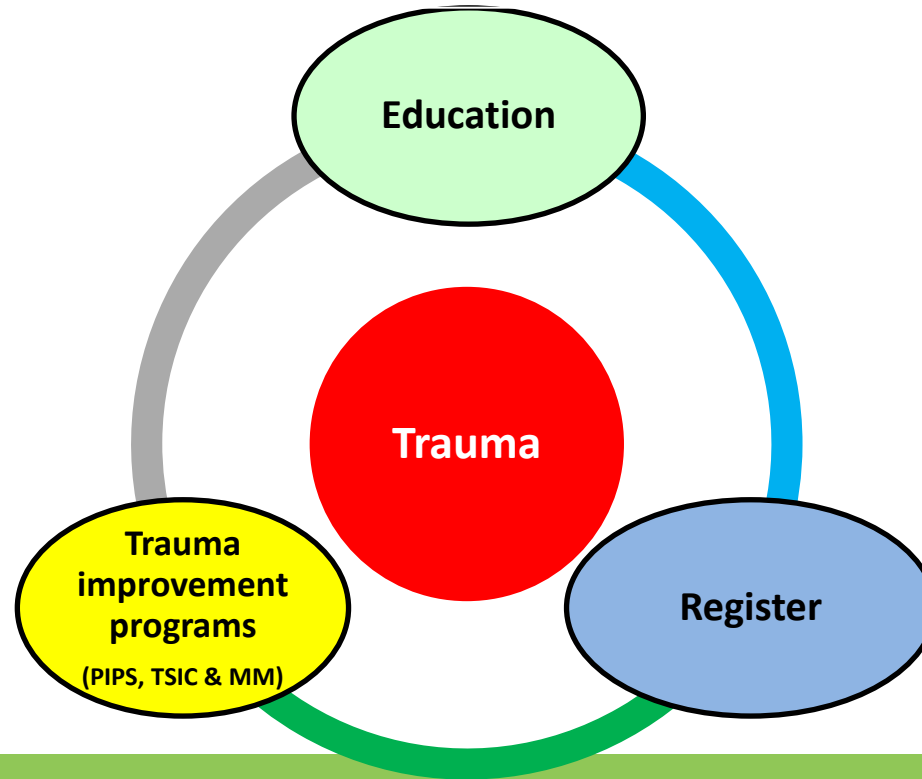


Improved Process



**Improved Medical
Outcomes**

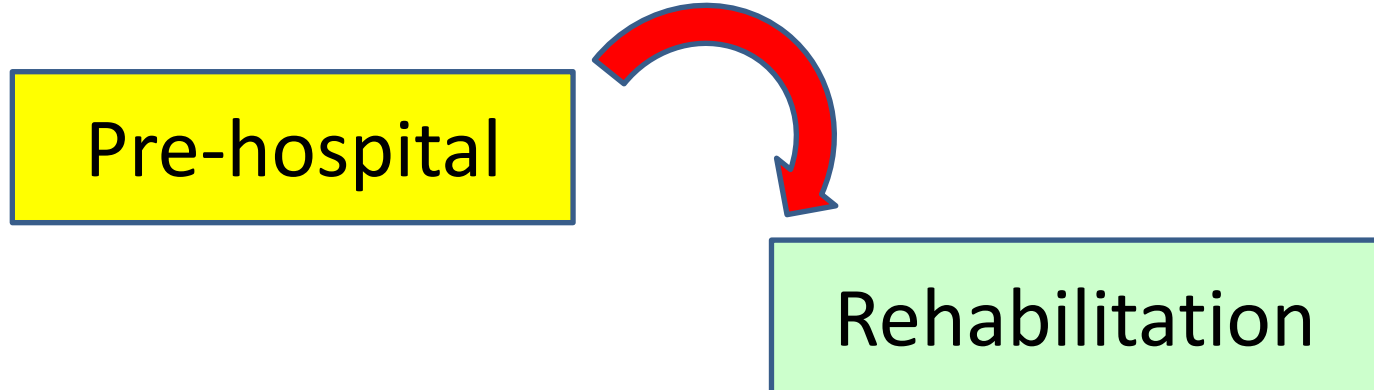
Trauma Service 2007-2010



Trauma System

From 2010 onward

- We move from trauma service to trauma system
 - An organized approach to acutely injured patients that provides full and optimal care



Trauma System

From 2010 onward

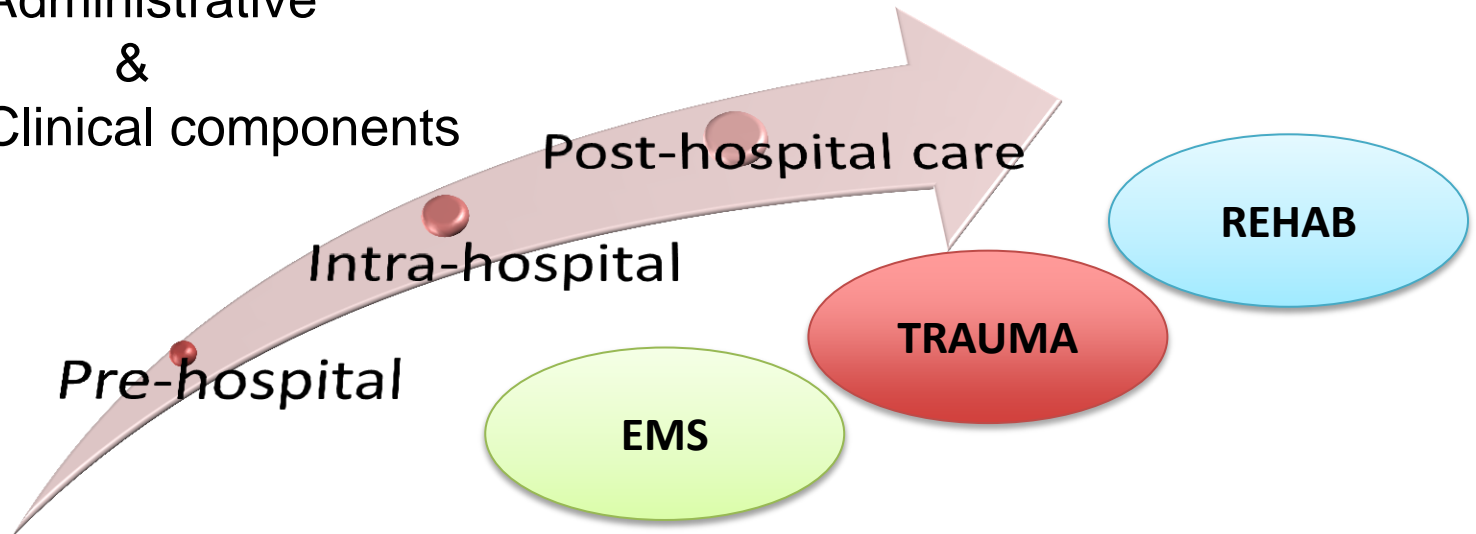
Mission

“Prevent injuries while ensuring that the right patient gets to the right hospital in the right amount of time”

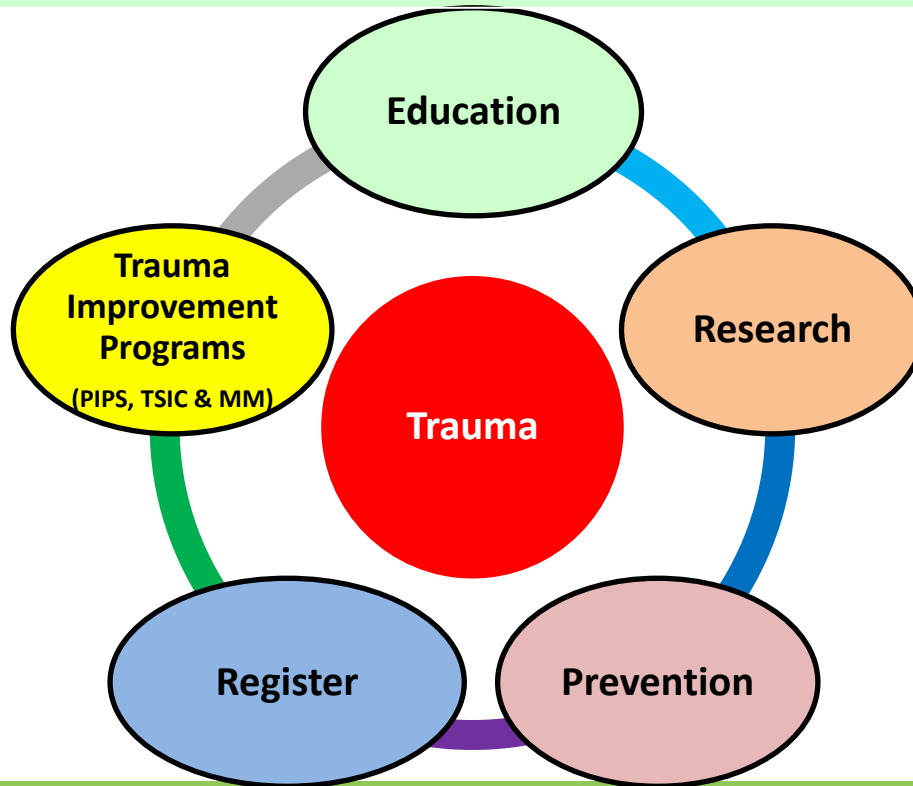
Trauma System

From 2010 onward

- Trauma care in Qatar is structured as an inclusive system
- HMC provides:
 - Administrative
 - &
 - Clinical components



Trauma System



Pre-Hospital



- EMS / Ambulance; System in Qatar

Vision

To provide a national service that places Qatar among leaders of pre-hospital professionals around the world

Pre-Hospital



- **Ambulance Service**
 - Provides pre-hospital emergency care (both ground ambulance and air ambulance) and inter-facility transfer services within the borders of the State of Qatar, and occasionally beyond
 - In keeping with HMC's mandate, these services are **provided free of charge to all the people of Qatar**, whether resident or visiting

Pre-Hospital



- **Staffing Configuration** Old
- Every ambulance carries 1 EMT, and 1 intermediate paramedic
 - There is 1 paramedic backup unit available
 - Every emergency ambulance has an Arabic speaker
 - Communications Center always has three different languages represented
 - Arabic
 - English
 - Tagalog



Pre-Hospital



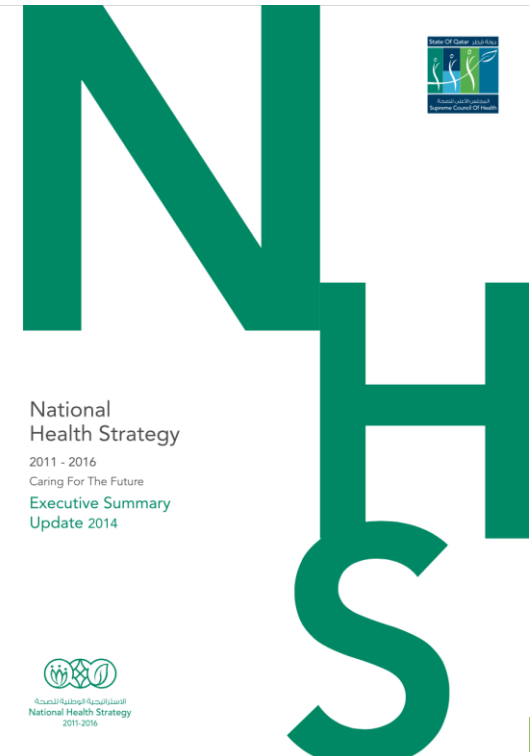
- **Staffing Configuration** **New**
- Every ambulance carries paramedic
 - There is 1 Critical Care Paramedic backup unit available
 - Every emergency ambulance has an Arabic speaker



Pre-Hospital



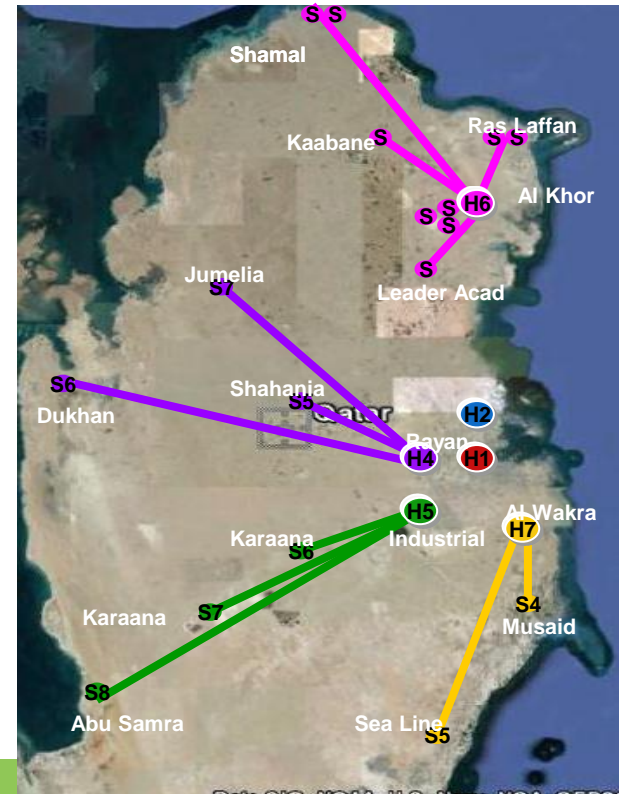
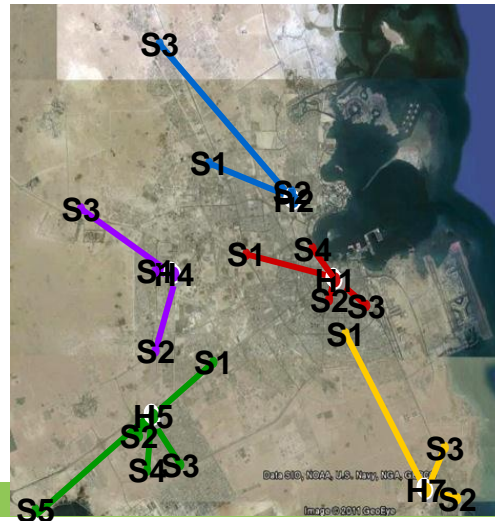
- **National Health Strategy Response Targets**
 - **75%** of life-threatened patients in urban areas should receive an ambulance within 10 min
 - **75%** of life-threatened patients in rural areas should receive an ambulance within 15 min
 - **95% percentiles also reported**



Pre-Hospital



- In a 'Hub and Spoke' arrangement
 - 6 Hub Stations
 - 29 Dispatch Points



Pre-Hospital



- The Ambulance Service is accredited by the **Joint Commission International**



Pre-Hospital

999 call transferred from MOI



HMCAS identifies incident **Location**

HMCAS triages and allocates **MPDS Code**

The THREE CRITICAL CAD questions:

1. **Location** - where is the incident?
2. **MPDS Code** - how serious is the incident, what resources need to be dispatched and how quickly do we need to get there?
3. **Nearest** - which are the nearest (by road speed) Alpha, Delta, Charlie units (and is LifeFlight required)?

Based on Trauma Transfer Agreement, Policies, Protocols, and Guidelines

Dispatch Response Process

X-Ray
Normal Drive



Nearest Alpha



Nearest Delta

Yankee
Lights & Sirens



Nearest Alpha



Nearest Delta

Zulu
Lights & Sirens



Nearest Alpha



Nearest Delta



Nearest Charlie
(Urban)
and/or



LifeFlight (Rural)



Pre-Hospital



ECG Telemetry System



**SMS Notification
System for the
Trauma Team**



Trauma Center

- The Trauma Center of HMC is based at Hamad General Hospital (HGH)
- Trauma Team leadership is provided by Trauma Surgeons from the Department of Surgery

Trauma Center

- Within HGH, special components are dedicated to trauma care:
 - Trauma Resuscitation Unit
 - Trauma Intensive Care Unit
 - Trauma Ward
 - Trauma Registry
 - Trauma Research and Development Unit
 - Injury Prevention and Outreach Program
 - Trauma psychology program
 - Trauma Performance Improvement and Patient Safety Program
 - Trauma Critical Care Fellowship Training Program and Trauma Educational Program

Intra-Hospital

- **Trauma Team:**

**Trauma Resuscitation
Unit
(TRU)**

**Trauma Intensive Care
Unit (TICU) & Step
Down Unit**

In Patient Trauma Unit

**Operating Theater
Care**

Outpatient Care

**Transfer & Escort
Patient Care within
Qatar & Abroad**

Trauma Team

- **Trauma Team:**

- Made of:



The diagram shows three stacked ovals representing the core members of a trauma team. The top oval is orange and labeled 'Trauma Surgeons'. The middle oval is yellow and labeled 'Trauma Critical Care' with a subtitle '(covered by Trauma Critical Surgeons and Anesthesiologists)'. The bottom oval is blue and labeled 'Nurses'. A red bracket on the right side of these ovals points towards a list of other specialists.

Trauma Surgeons

Trauma Critical Care

(covered by Trauma Critical
Surgeons and Anesthesiologists)

Nurses

**Working with others
specialists including:**

- Emergency Physician
- Orthopedic Surgery
- Neurological Surgery
- Radiology
- Anesthesiology
- Surgical Critical Care
- Infectious Disease
- Blood
Banking/Coagulation
- Lab medicine
- Among Others

Trauma System



- Hamad International Training Center (HITC) started with a vision of improving the overall health care through:
 - Quality training in trauma management
 - Disaster management
 - Resuscitation
 - Public training and awareness programs

Trauma System

Saving lives together



Hamad International Training Center



Trauma and Critical Care Fellowship Program

Total Number of TCC Fellows
2008-2018

Number of Trauma Surgery Specialists
who have completed the TCC Fellowship

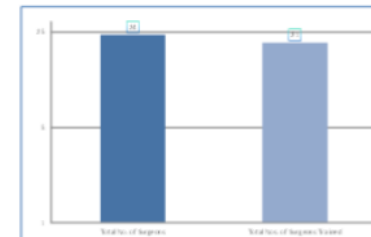
Number of trained HMC-Trauma, Emergency
Medicine and Critical Care Physicians



Total number of HMC surgeon's specialist trained in
Trauma , Emergency and Critical Care Medicine.

Trauma & Critical Care Fellowship Program

Total Number of Trauma Surgeon Specialist Trained as of December 2016



Trauma System

- **Trauma Registry**
 - The HMC Trauma Registry (Registry) is a disease-specific data source composed of uniform data elements that describe the entire spectrum of injured patients and their care, which includes injury events, demographics, pre-hospital information, diagnosis, care, and outcomes.

Trauma System

- Trauma Registry



قاعدة بيانات الحوادث في قطر
Qatar Trauma Registry



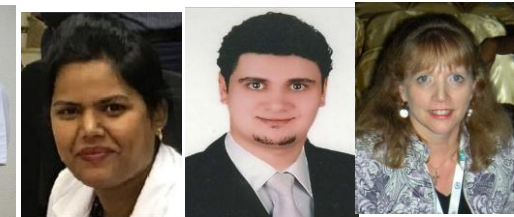
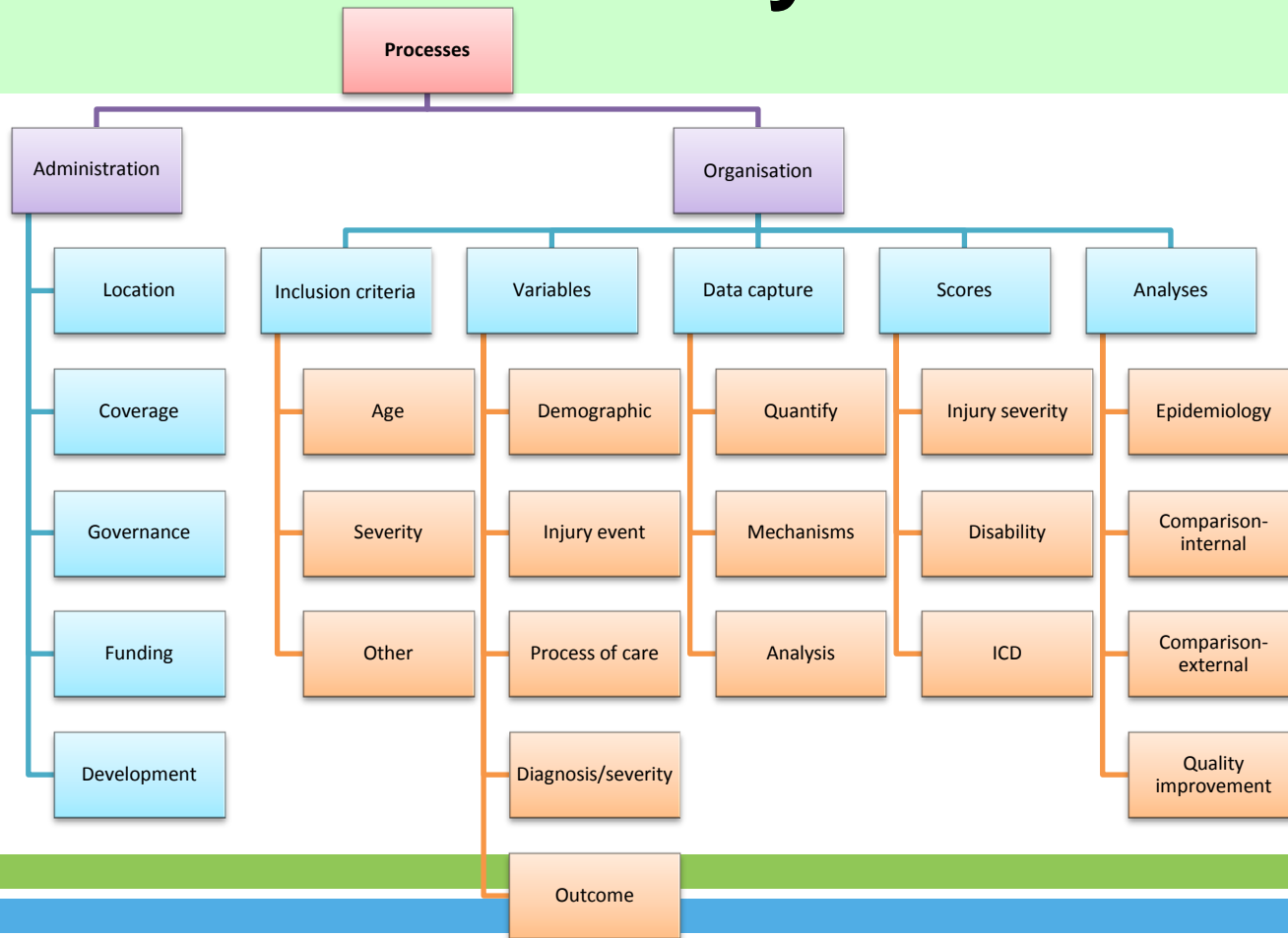
Trauma System

- **Qatar Trauma Registry**
- **Objectives:**
 1. Benefits the entire population of Qatar
 2. Brings value to clinicians and healthcare providers
 3. It is made to measure for Qatar's needs and vision
 4. Fosters collaboration
 5. Promotes research and innovation
 6. Aligns with the national health strategy
 7. Develops national workforce capacity

Trauma System

- **Qatar Trauma Registry**
- **Functions:**
 - Implements data quality
 - Provides strong data governance
 - Protects and secures health data
 - Leverages international terminology standards

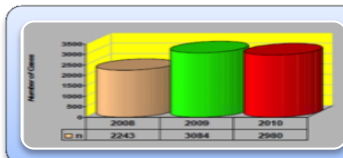
Trauma System



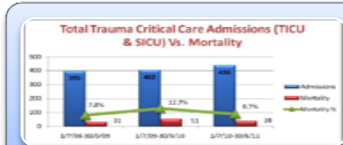
Trauma System

- **Trauma Registry**

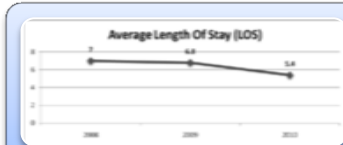
- Improving trauma care must be based upon a clear and detailed understanding of:



Causes



Treatments



Outcomes of injury

Trauma System

- **Performance Improvement**
 - **Internal**
 - **External**

Trauma System

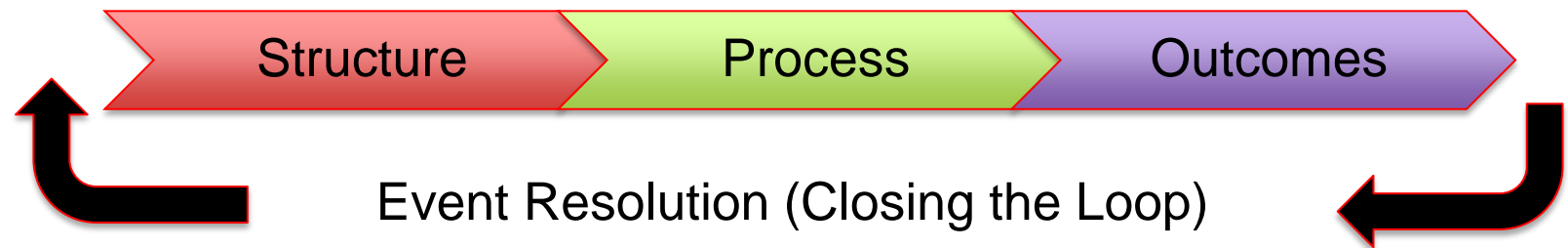
- **Trauma System Committee:**
 - A multidisciplinary Trauma Operations Committee began in 2007 but has evolved over the years and, in 2014, was recognized as the interdisciplinary **Trauma System Advisory Committee**
 - It functions as an interdisciplinary trauma advisory committee
 - **The purpose of the Committee is to:**
 - Assess
 - Address, and
 - Correct trauma center and system issues

Trauma System

- Trauma System has its own ongoing formal peer-review programme
 - The **Performance Improvement/ Patient Safety (PIPS) programme** for the Trauma Service uses information gathered from aggregated data pools, as well as from individual events

Trauma System


- The **Morbidity and Mortality Conference** meets monthly and reviews all deaths and complications




Trauma System



**The American College of Surgeons
Committee on Trauma
Recognizes
HAMAD GENERAL HOSPITAL
for
2014 Participation in the National Trauma Data Bank**


Avery B. Nathens, MD, PhD, FACS
Chair, NTDB Committee

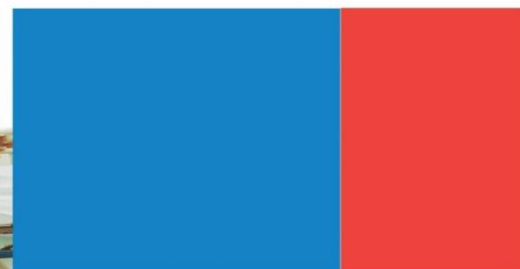

John Fildes, MD, FACS
Medical Director, Trauma Program

This certificate confirms your participation in the NTDB through June 2015 for ACS Verification purposes

Trauma System

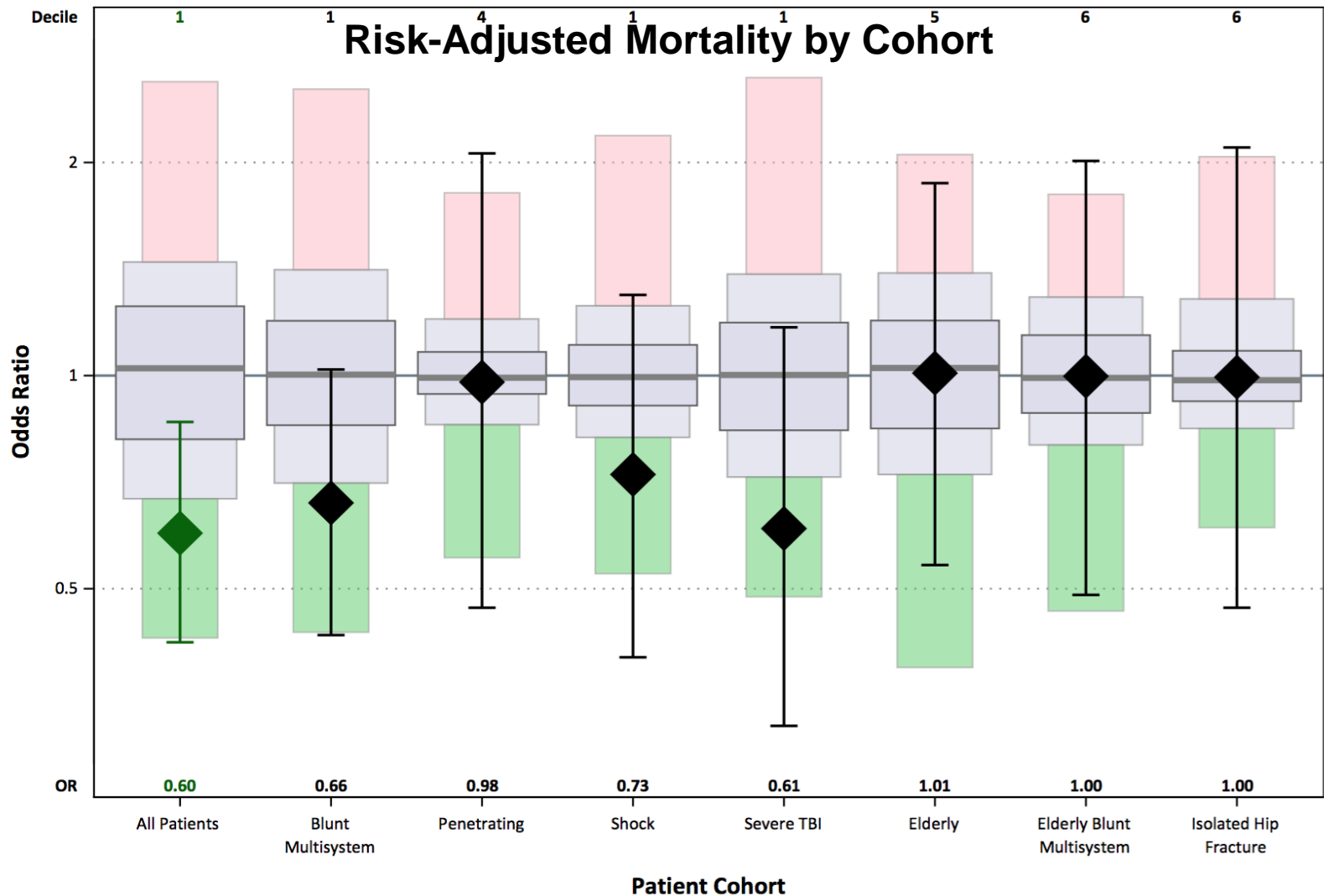
ACS TQIP BENCHMARK REPORT:

Spring 2017

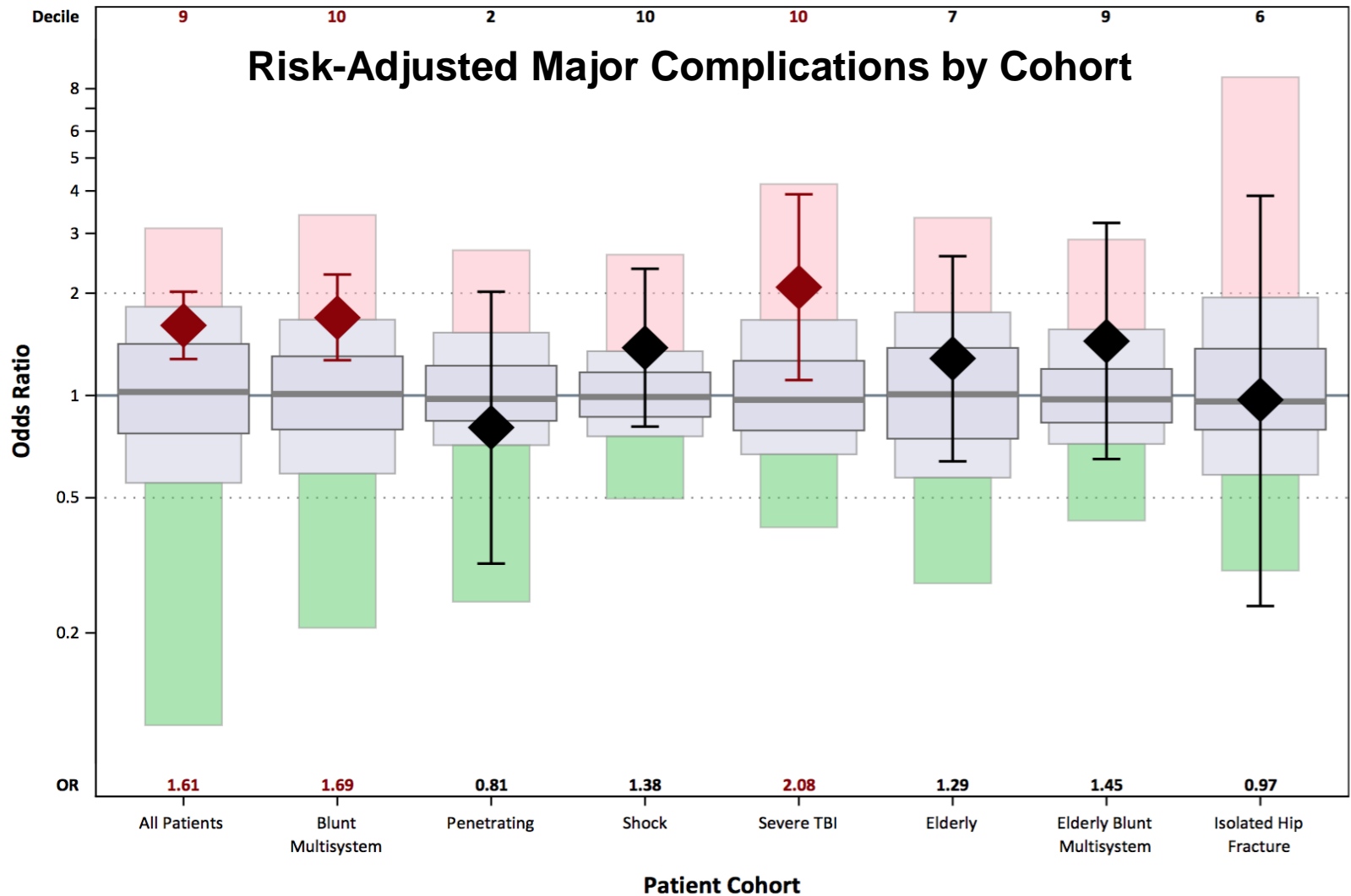


This report is based on admissions from 2015 and the first three quarters of 2016, including a total of 329,321 admissions that meet TQIP inclusion/exclusion criteria from **441 TQIP centers**.

Trauma System



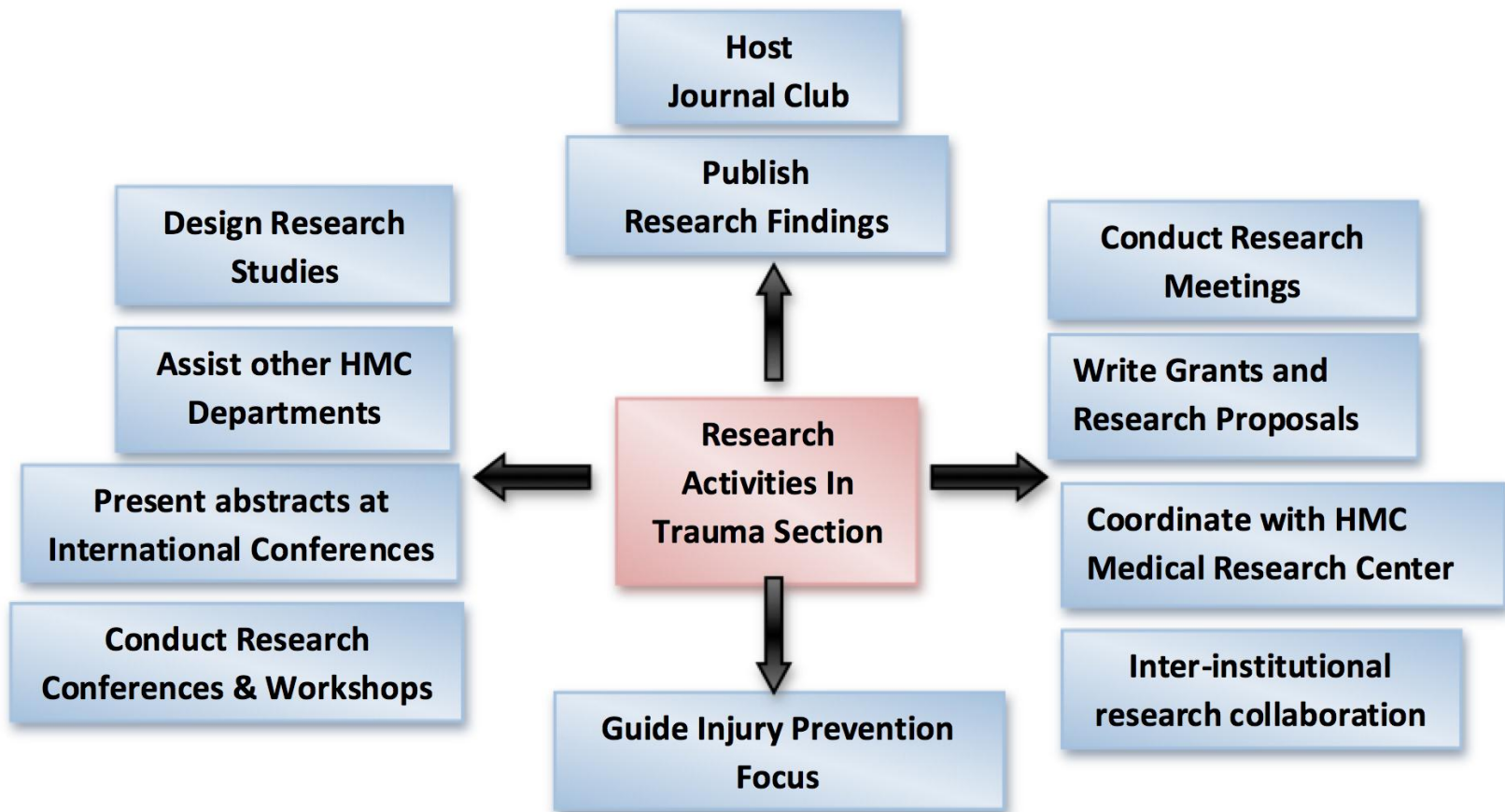
Trauma System



Increased funding for trauma research

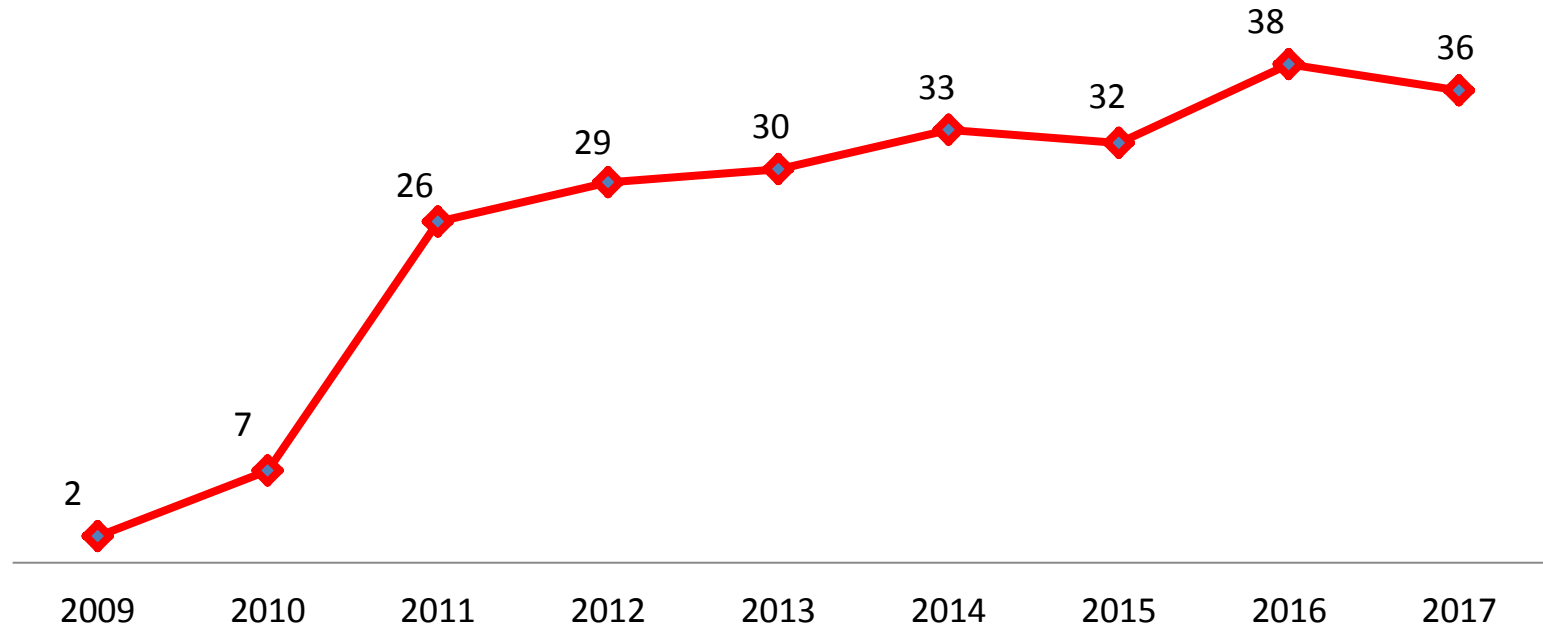
Trauma System

Research and Development Program Activities



Trauma System

- Research



Peer-reviewed Publications from Trauma Surgery Section (2009-2017) (N=233)

Trauma System

- **Hamad Injury Prevention Program (HIPP)**



Development state wide strategy



Decrease the incidence and severity of trauma



Prevent unnecessary deaths & disabilities from trauma

Trauma System

- **Hamad Injury Prevention Program (HIPP):**
 - Continued its work on four priority areas for safety:
 - **Young drivers**
 - **Child passengers**
 - **Pedestrians**
 - **Occupational injuries**

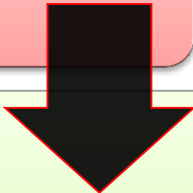
Trauma System

- **Hamad Injury Prevention Program (HIPP):**
 - Based on research findings,
 - **These four areas need:**
 - Advocacy
 - Policy improvement and formulation
 - Public awareness
 - Research collaboration

Trauma System

- **Rehabilitation**

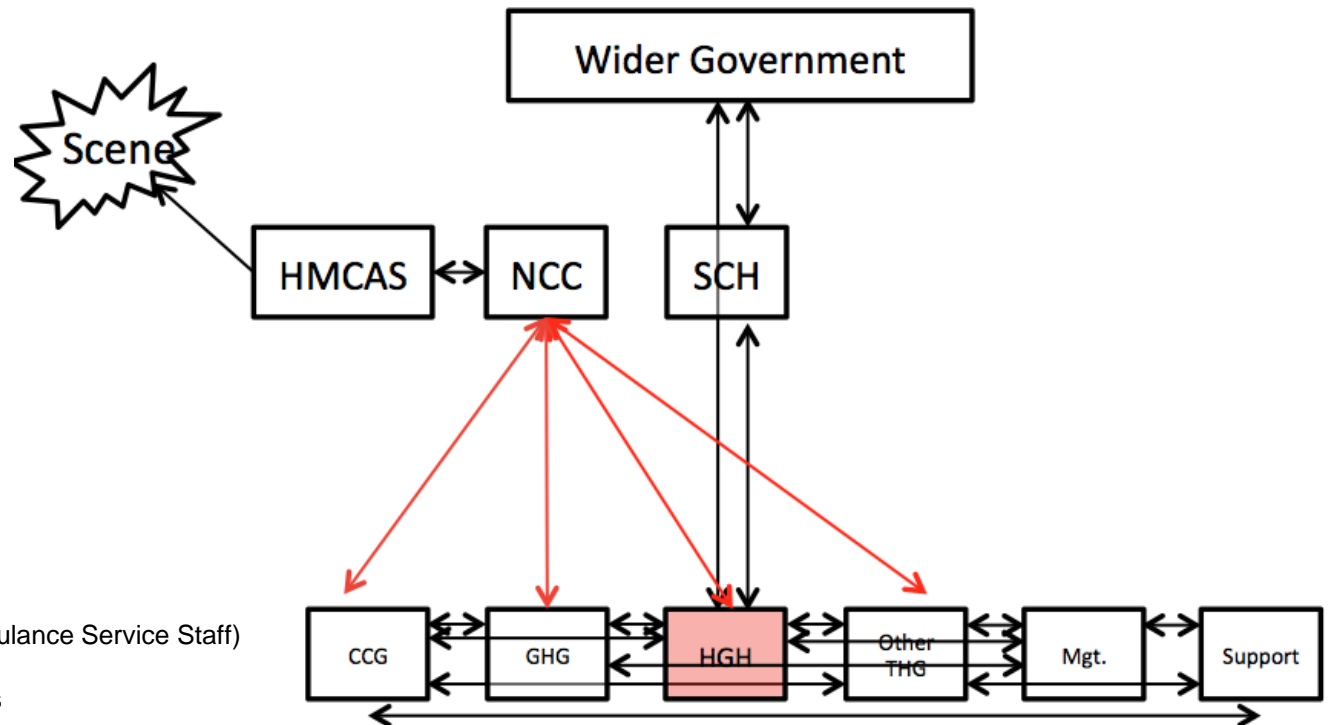
To prevent disabilities among patients with health conditions



With the ultimate goal of helping them reach their fullest physical, psychological, social, vocational and educational potential

Trauma System

- Disaster Planning & Management



SCH = Supreme Council of Health
NCC = National Command Centre (Ambulance Service Staff)
CCG = Continuing Care Group Facilities
GHG = General Hospital Group Facilities
HGH = Hamad General Hospital
THG = Tertiary Hospital Group Facilities
Mgt. = Corporate Management
Support = Support Services

Hamad Medical Corporation Trauma System Organizational Chart

Qatar Government Agencies



HMC Ambulance Service
Emergency Medical
Service

Hamad General Hospital
Level I Trauma Center
Lead Trauma Hospital

Al Khor Hospital
Level V Trauma Center

The Cuban Hospital
Level V Trauma Center

Al Wakra Hospital
Level V Trauma Center
& Burn Center

**Qatar Rehabilitation
Institute**

Rumailah Hospital
Long Term Care

Sidra Hospital
Pediatric Surgery Trauma

**Pediatric Emergency Care
Centers**

The Psychiatric Hospital

STRENGTHENING CARE FOR THE INJURED: SUCCESS
STORIES AND LESSONS LEARNED FROM AROUND THE
WORLD (2010)

Qatar: Initiating a new, formalized trauma service



**Trauma teams assembled at morning report of the Trauma
Service, Hamad General Hospital**

**Strengthening care
for the injured:**

**Success stories and
lessons learned
from around the
world**

Trauma System

**Hamad General Hospital Trauma Center
ACS-COT/VRC Consultation Visit**



**Doha- Qatar
March 11-14, 2013**

Trauma System



AMERICAN COLLEGE OF SURGEONS

Inspiring Quality:

Highest Standards, Better Outcomes

AMERICAN COLLEGE OF SURGEONS COMMITTEE ON TRAUMA

International Trauma System and Trauma Center Consultative Report

State of Qatar

**Doha, Qatar
March 12 – 14, 2013**

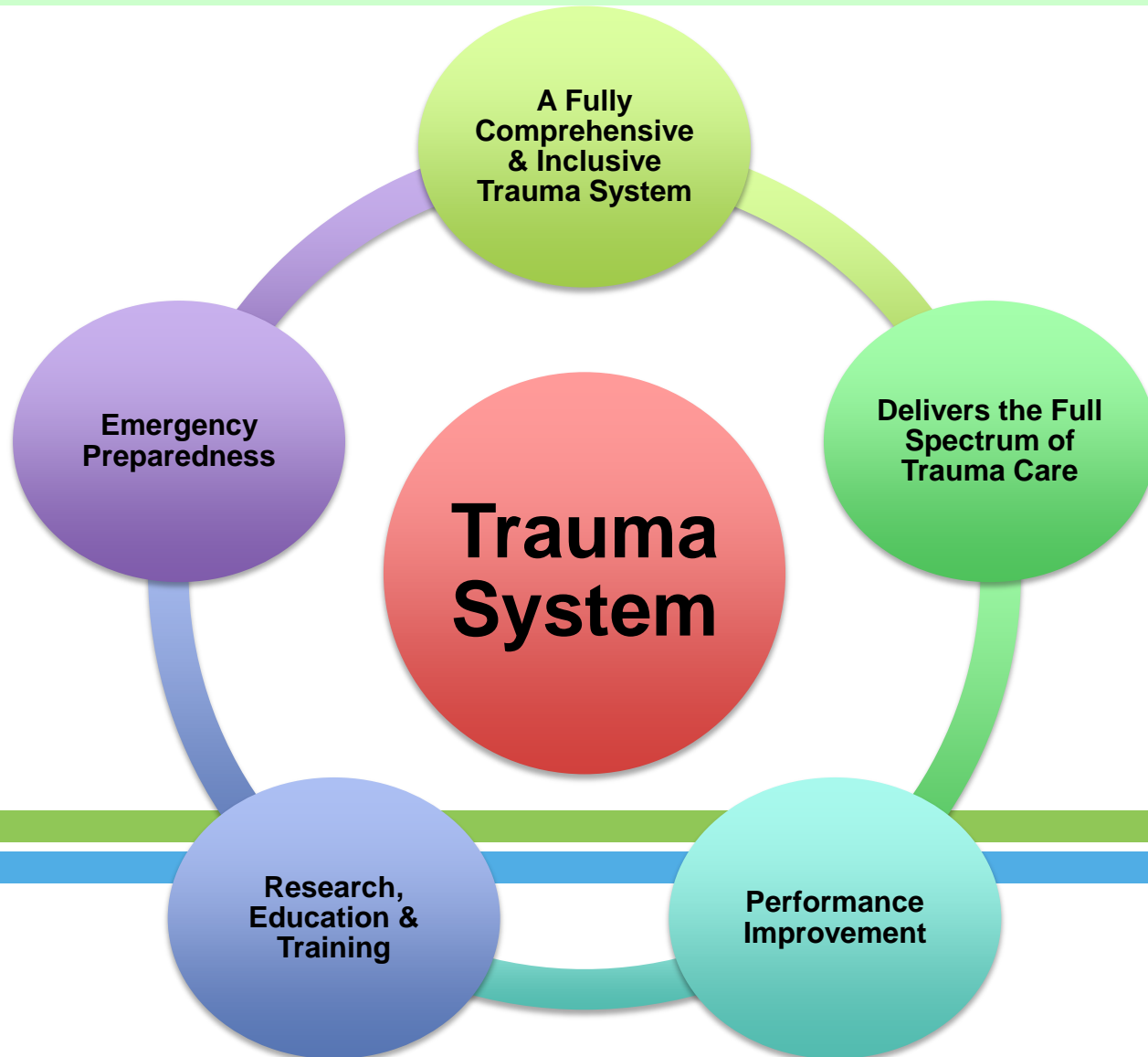


(Ottawa, Canada – January 29, 2015) Accreditation Canada International (ACI) is proud to announce that the Hamad Medical Corporation (HMC), the largest care provider in Qatar, is the first international organization to earn the Trauma Distinction Award of Excellence. ACI Chief Executive Officer, Sébastien Audette presented the award to the HMC at the Trauma Distinction Award Ceremony today in Doha, Qatar.

“This accreditation represents years of hard work from an entire team to build **a Level 1 Trauma Center and Trauma System for the State of Qatar**, based on the highly regarded evidence-based North American models of care,” explained Dr. Hassan Al Thani, Chair of Trauma System at Hamad General Hospital. “Since we set out on this journey, we have seen dramatic improvement in trauma patient care. Injury is the leading cause of death in Qatar and has a devastating effect on individuals, families and healthcare. This is why it is so important to have a world-leading trauma system for the country. We will continue to strive to improve and innovate to ensure the best possible care for our patients.”

Re-Accreditation in December 2019 as the Trauma Distinction Award of Excellence.

Trauma System in Qatar



The Future Trauma System in Qatar

Sustaining an Expert Trauma Care Workforce will Require

Creating Expertise Trauma
Care Workforce



```
graph TD; A["<u>Creating</u> Expertise Trauma Care Workforce"] --> B["<u>Retaining</u> of the Trauma Care Workforce"]; B --> C["Team Communication"]
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Retaining of the Trauma
Care Workforce

Team Communication

Qatar's National Vision

“Sustaining an Expert Trauma Care Workforce”

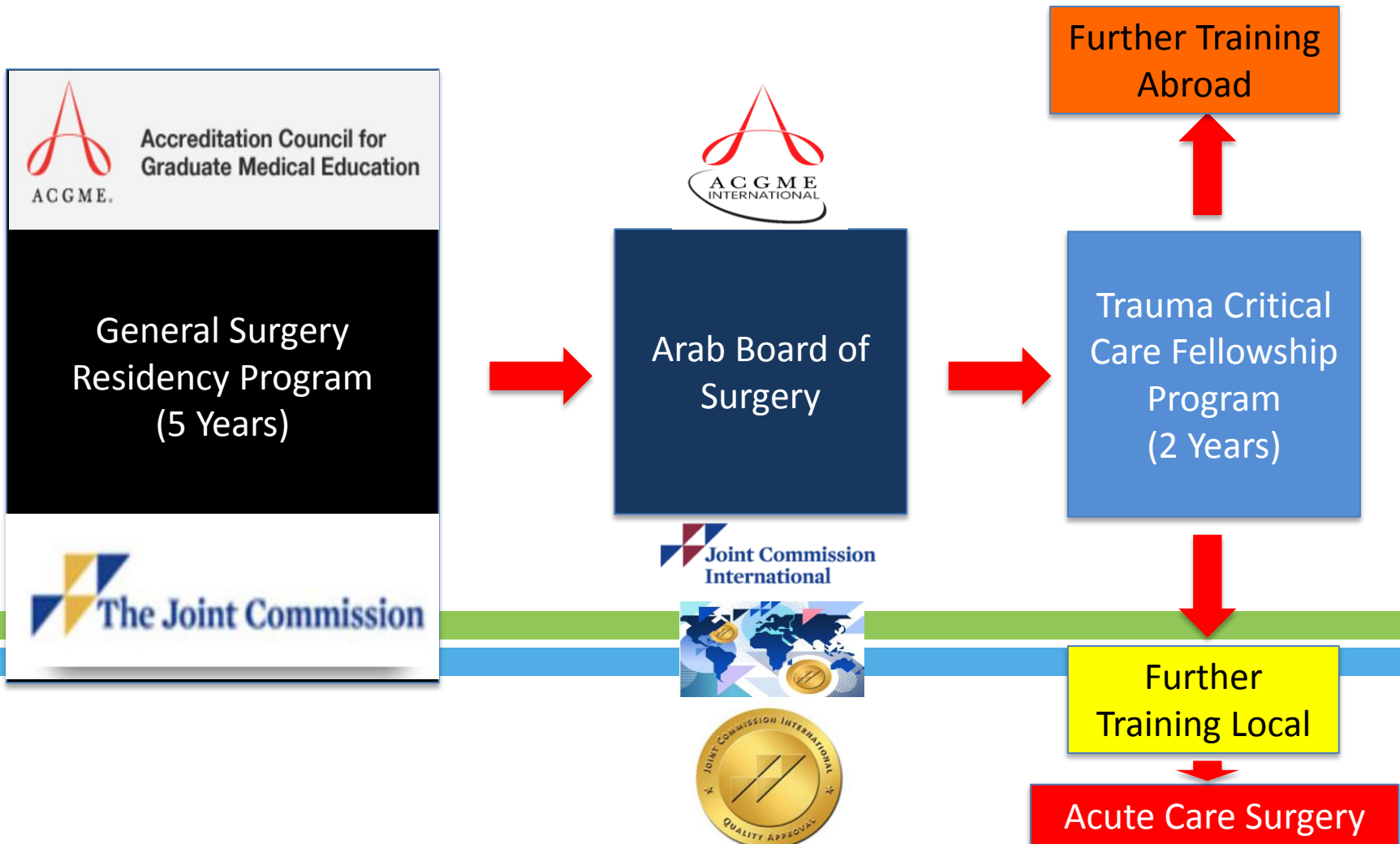


First in 2022

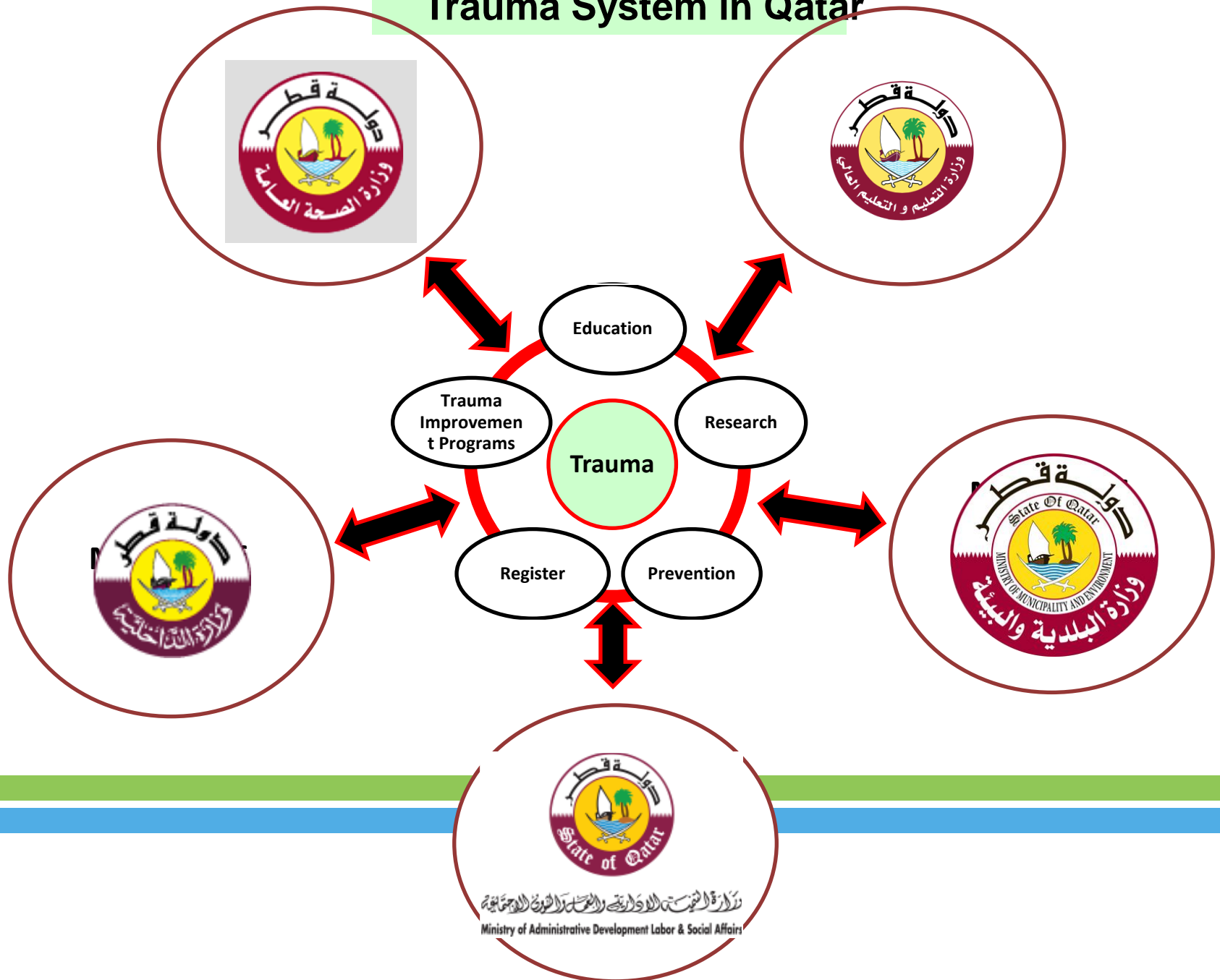


Qatar's National Vision

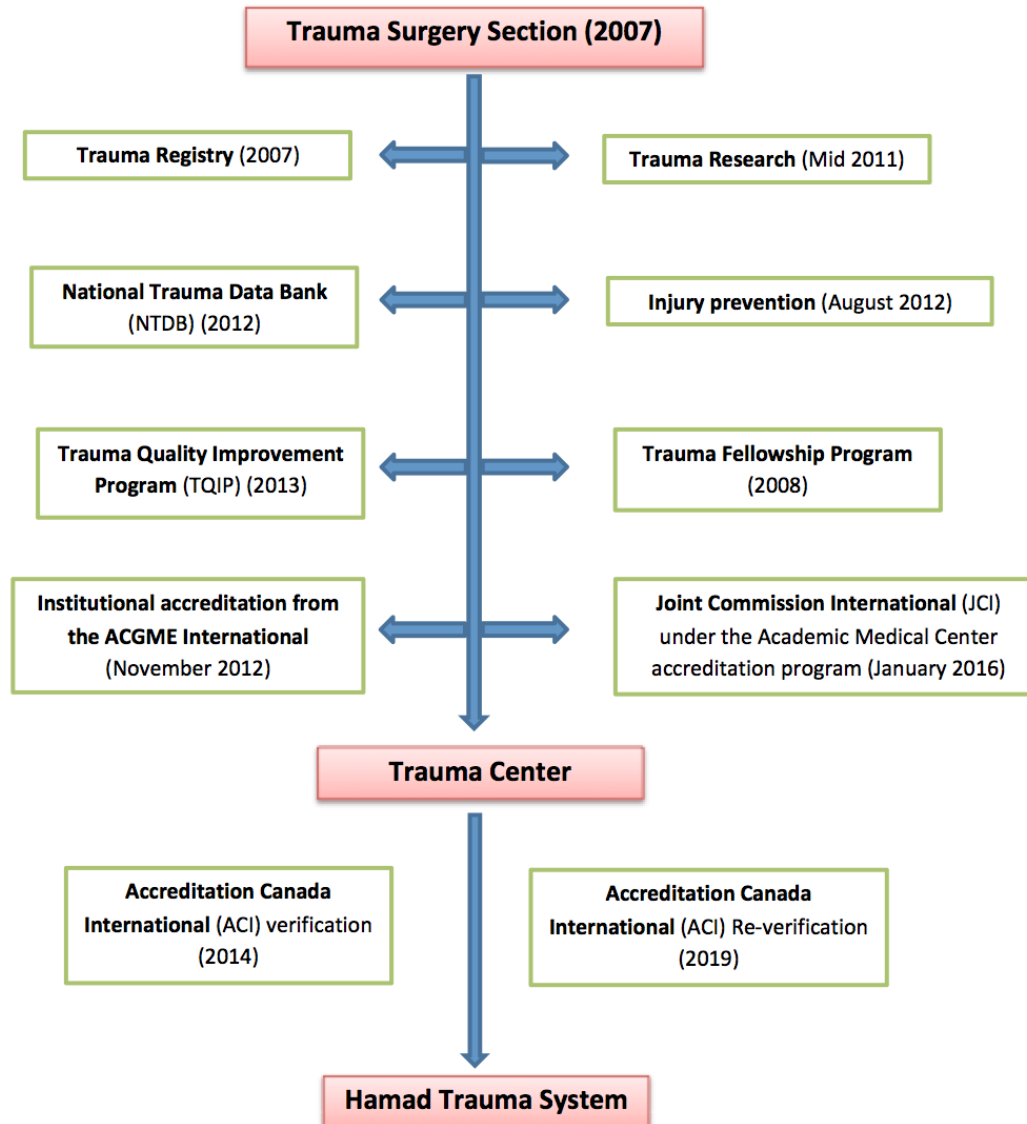
“Sustaining an Expert Trauma Care Workforce”



Trauma System in Qatar



Time-Based Development of Trauma System



15TH
**NATIONAL
EMERGENCY
MEDICINE
CONGRESS**

6TH
**INTERCONTINENTAL
EMERGENCY
MEDICINE
CONGRESS**

6TH
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CRITICAL CARE AND
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Thank you

