



# EMS System in Saudi Arabia

## Strategic Initiatives for National EMS Development

**Khalid A. Abu-Haimed. MBBS. FRCPC. FAAEM**

Consultant, Emergency Medicine & Prehospital Care

Member of Scfhs Scientific Board for Emergency Medicine Specialty

Chairman of EMS Sub-Committee

Kingdom of Saudi Arabia

# Objective



- ▶ Understand The EMS System in Saudi Arabia and its Evolution
- ▶ The contribution of EMS Systems that are used World Wide into Our National Emergency Medical Services (EMS) System Development

Simple Organized Approach

# Share the EMS Common Concept



## National EMS Service



**Readily Accessible System of Emergency Medical Care Specially Designed and Equipped to Respond & Provide Assistance to any Community Unplanned Health Related Event**

# Share Common Drive



**“ People Bleed to Death in the Same Way in any Country in the World”**

**( Monkey Valley EMS Summit, Cape Town, South Africa 1998)**

<http://www.pdf-tools.com>

# Share Other Drives



## ▶ World Wide Drivers for Emergency Care and EMS System Developments:

**New World Order- WTO Agreements**

**Increased Morbidity & its Financial Impact**

**Citizens Demand World Spring**

**Tourism & Business Development**

**Media**

**Political Terrorism Mass Gathering**

Invest in the development of a comprehensive system to Decrease Morbidity Associated with time sensitive illness and injury

# National Challenges



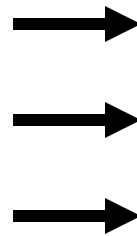
- ▶ **Scarcity of Resources**
- ▶ **Challenges of the second Millennium–Growth of Non–Communicable Diseases:**
  - **CVS, Stroke**
  - **Injuries, MVAs**

# National Failure to Keep Pace



## ▶ Significant Investment on Secondary and Tertiary—BUT— Primary & Emergency Medicine Fail to keep PACE:

- Urbanization
- Industrialization
- Technology

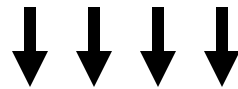


**Produce Time  
Sensitive  
Illness &  
Injury**

# Share EM Common Definition



- ▶ **World Wide Definition of Emergency Care**
  - **Rapid & Appropriate Care of Victims of Medical & Traumatic Emergencies**



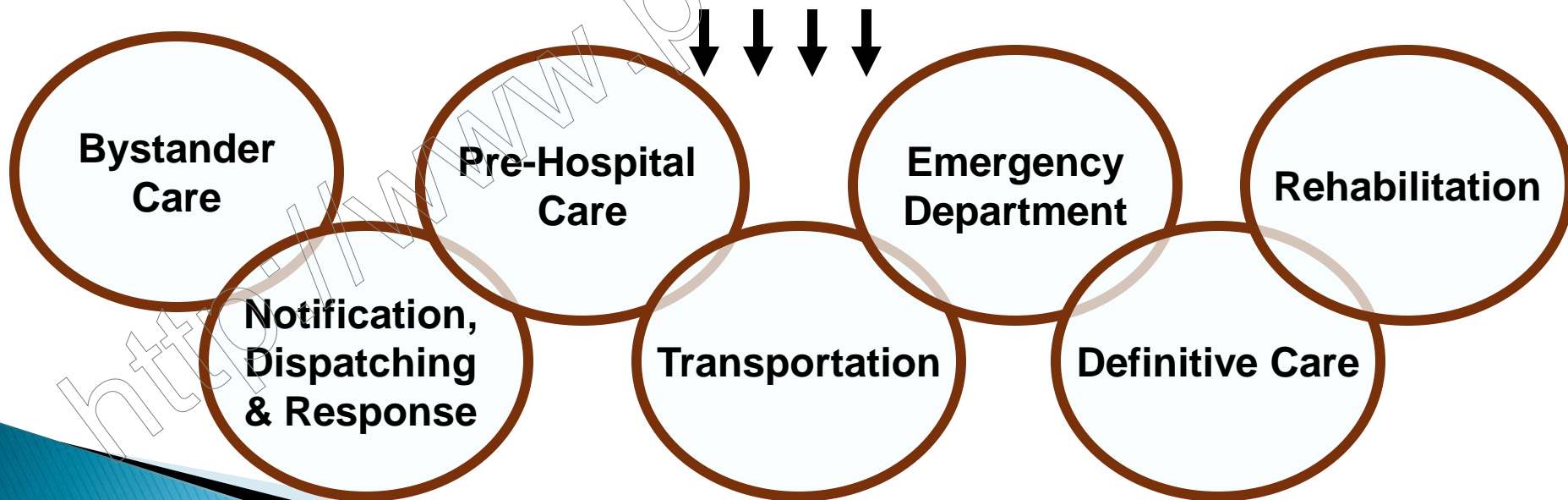
**Time Sensitive Illness &  
Injury**



# National EMS Crises Management versus System



- ▶ **Integrated EMS System– Linked and Part of the National Health Care Cycle**



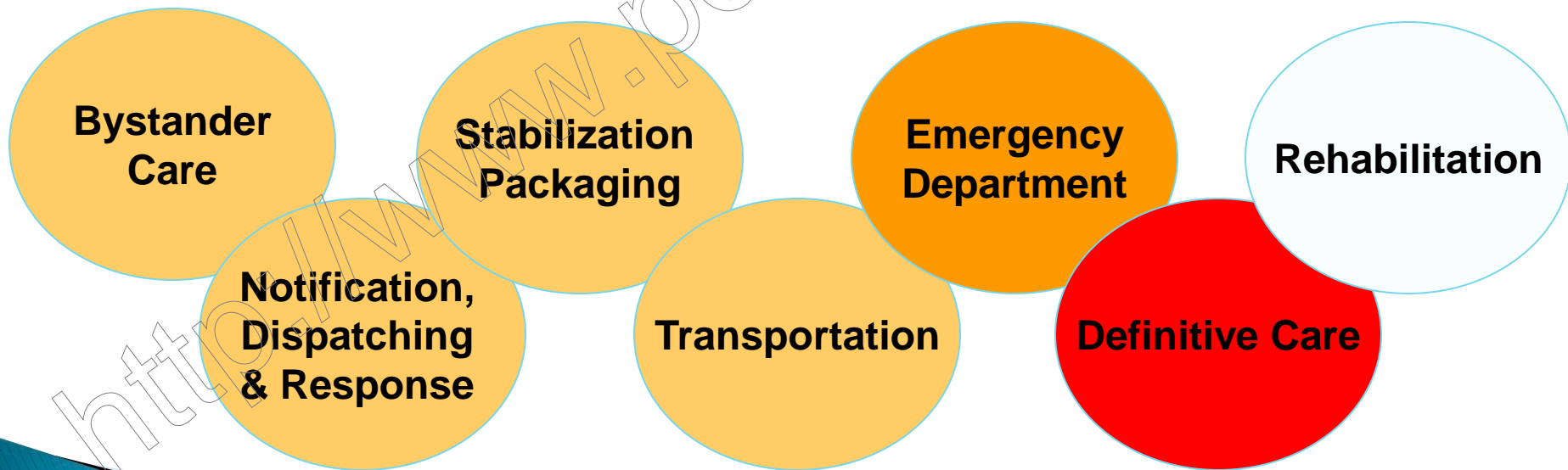
# National EMS

EMS Care is EMS Care Every Where



## ▶ World Wide Definition of EMS

- EMS or Pre-Hospital Care is the component of the system necessary to get the patient **from point of injury or illness to definitive care**

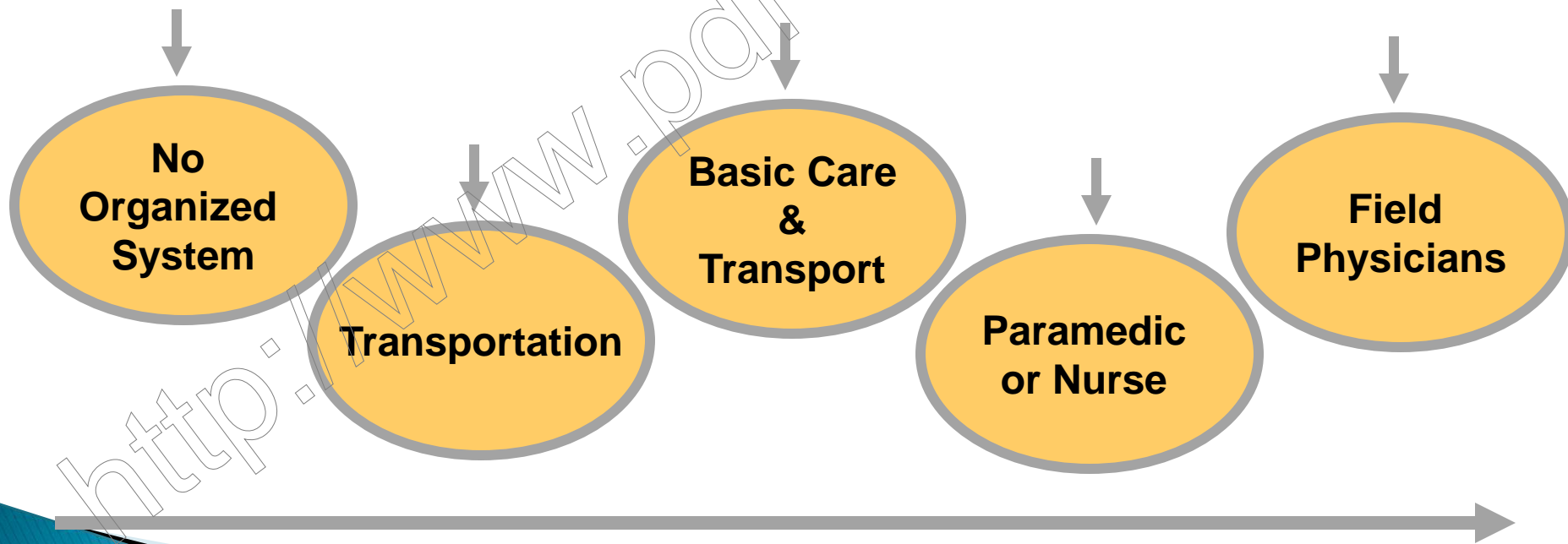


# National EMS

## Disparity of EMS Care



- ▶ EMS or Pre-Hospital Emergency Care Services world wide - Wide Range



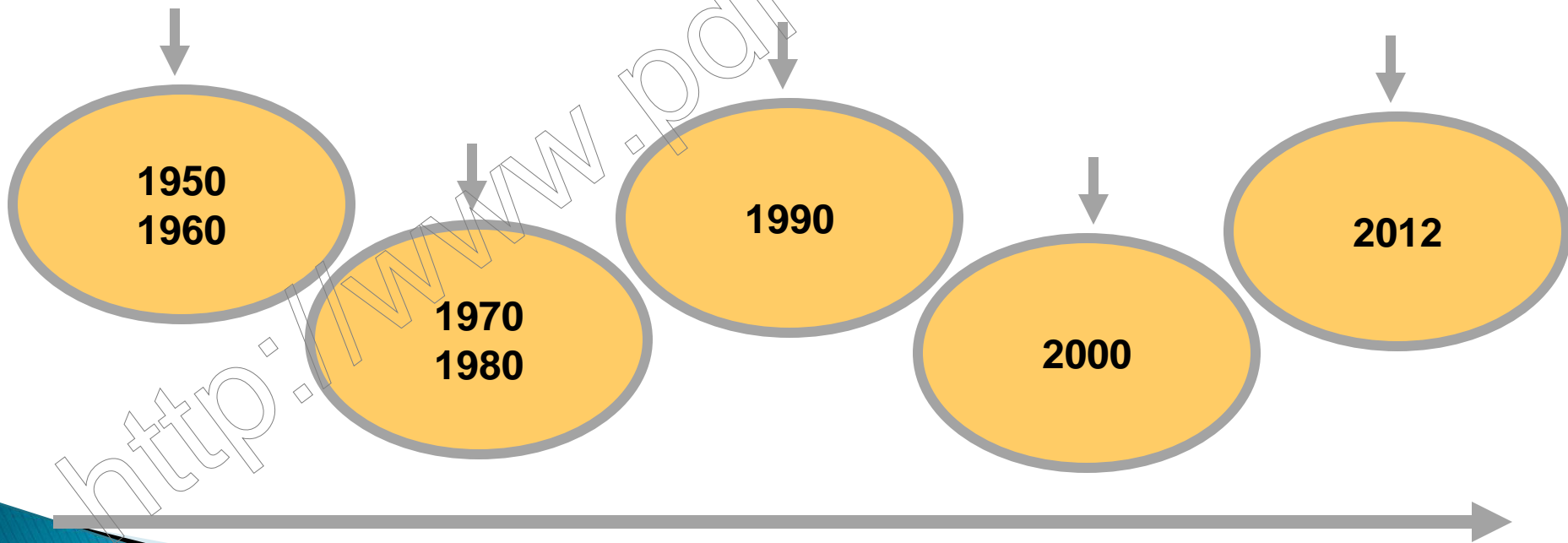
# Government Commitment



# National EMS History



## ▶ EMS or Pre-Hospital Emergency Care Services National Evolvment



# EMS Systems Menu 1950s & 1960



## ▶ First Aid/First Responder

- Minimal Training
- Transport
- Wound Care
- Splinting
- Hajj as the Driving Force



**Mission - Transport Of The Ill & Injured**

# EMS Systems Menu 1970s & 1980s



## ▶ Joint Collaboration with Developed World

- USA– Paramedic Model
- Canada
- Tiered– Paramedic/EMT
- CPR – BLS
- Scholarships for Formal Training

**Minimal Onsite Treatment**  
**Get Patient to Definitive Care**

# EMS Systems Menu 1970s & 1980s



**Services in place**  
•Universal- Available to all at all time

## **Formal System**

•Universal

### **Personnel**

•Paramedics Based

### **Training**

•EMS Care Specific

### **Equipment**

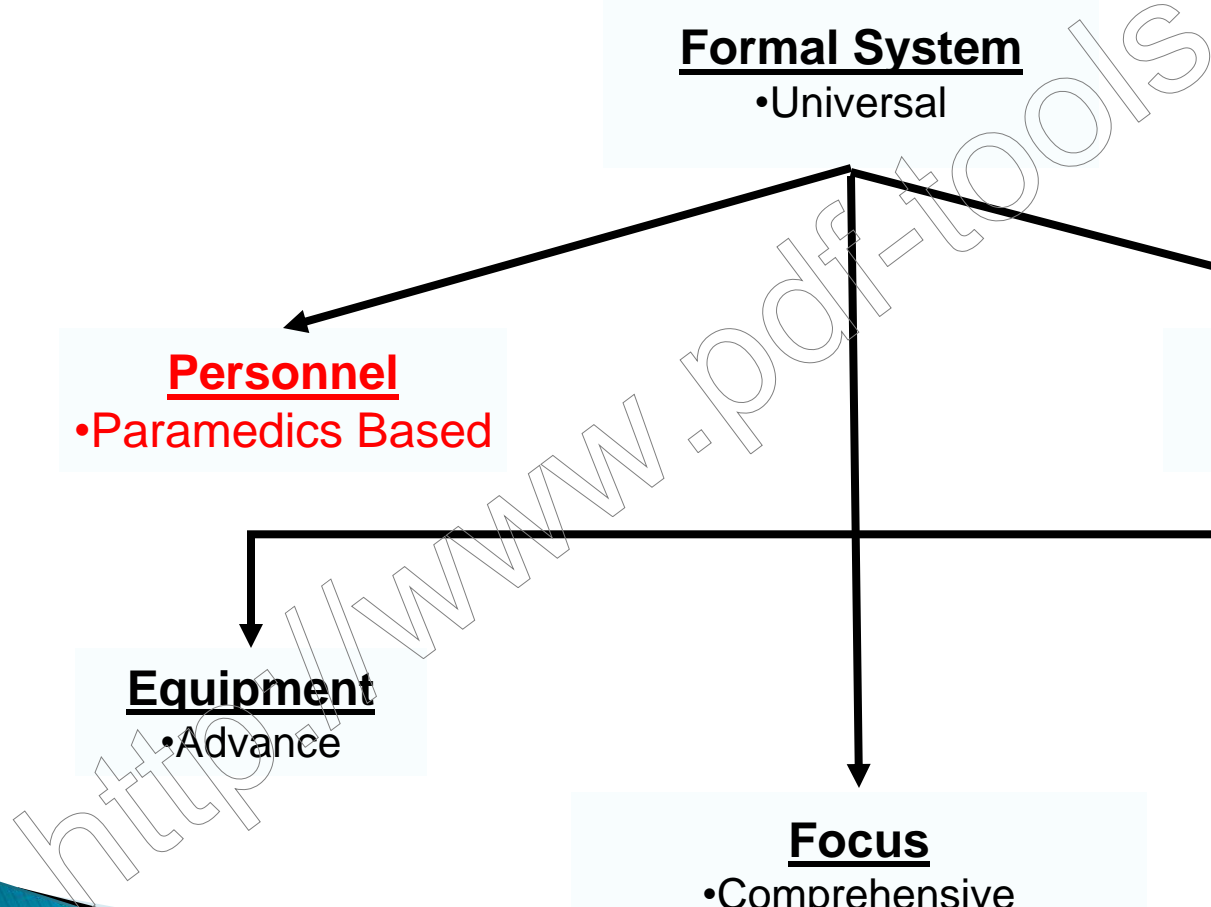
•Advance

### **Service Providers**

•Mixed

### **Focus**

•Comprehensive





# EMS Systems Menu 1970s & 1980s



## ▶ Joined Collaboration with Developed World

- **Europeans– UK French & German**
  - France, Germany, Quebec Canada– Physician Delivered EMS Model
  - Norway– Physician Directed System, Online Hospital based
  - Netherlands, Other Europeans– Nurse Delivered EMS Model

**Extensive Onsite Treatment  
And Stabilization By Passing ED**

# EMS Systems Menu 1970s & 1980s



## Services in place

- Universal- Available to all at all time

## Formal System

- Universal

## Personnel

- First Responder
- Nurse
- Physician

## Equipment

- Extended from Hospitals

## Service Providers

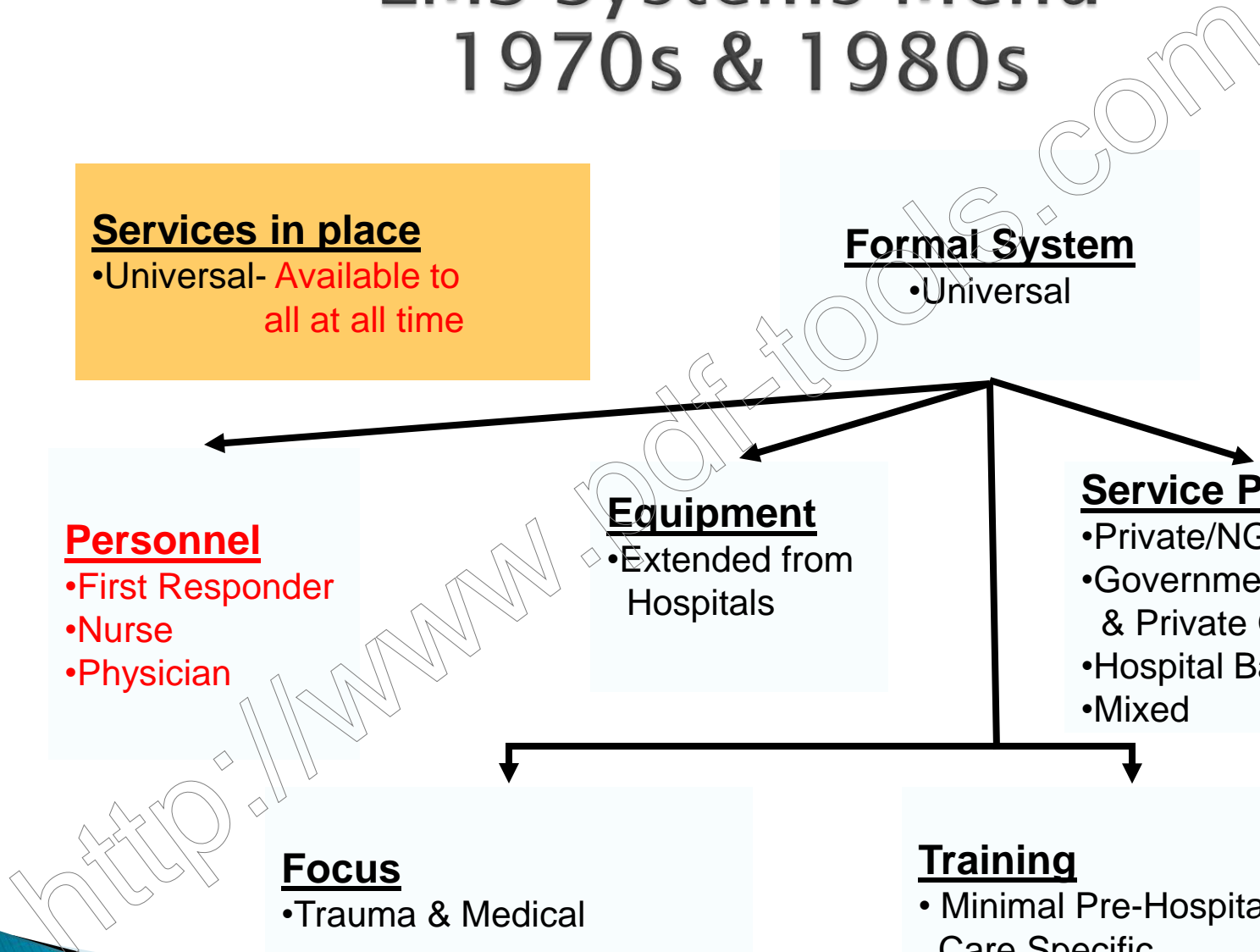
- Private/NGO
- Governmental & Private Gov
- Hospital Based
- Mixed

## Focus

- Trauma & Medical

## Training

- Minimal Pre-Hospital Care Specific



# EMS Systems Menu 1990s



- ▶ **Gulf Wars – Difficulties to Recruit & Retain**
- ▶ **Local Training – SRCs, Scfhs– First EMT Curriculum & Registration & SBEM**
- ▶ **Trainee, Training Institutes and Training Centers Standards**
- ▶ **ACLS & ATLS–PHTLS**
- ▶ **Dispatch & Medical Control Concept**

**More Challenges**

# EMS Systems Menu 1990s



- ▶ Range From Mixed **Incomplete Formal** that is Available to Some to **Formal** First Responder/BLS EMT with AED

**ALS Yet to Develop**

# EMS Systems Menu 1990s



## Services in place

- Universal- Available to all at all time

## Formal System

- Universal

## Personnel

- Drivers
- First Responder
- Basic EMT

## Equipment

- Basic
- AED

## Service Providers

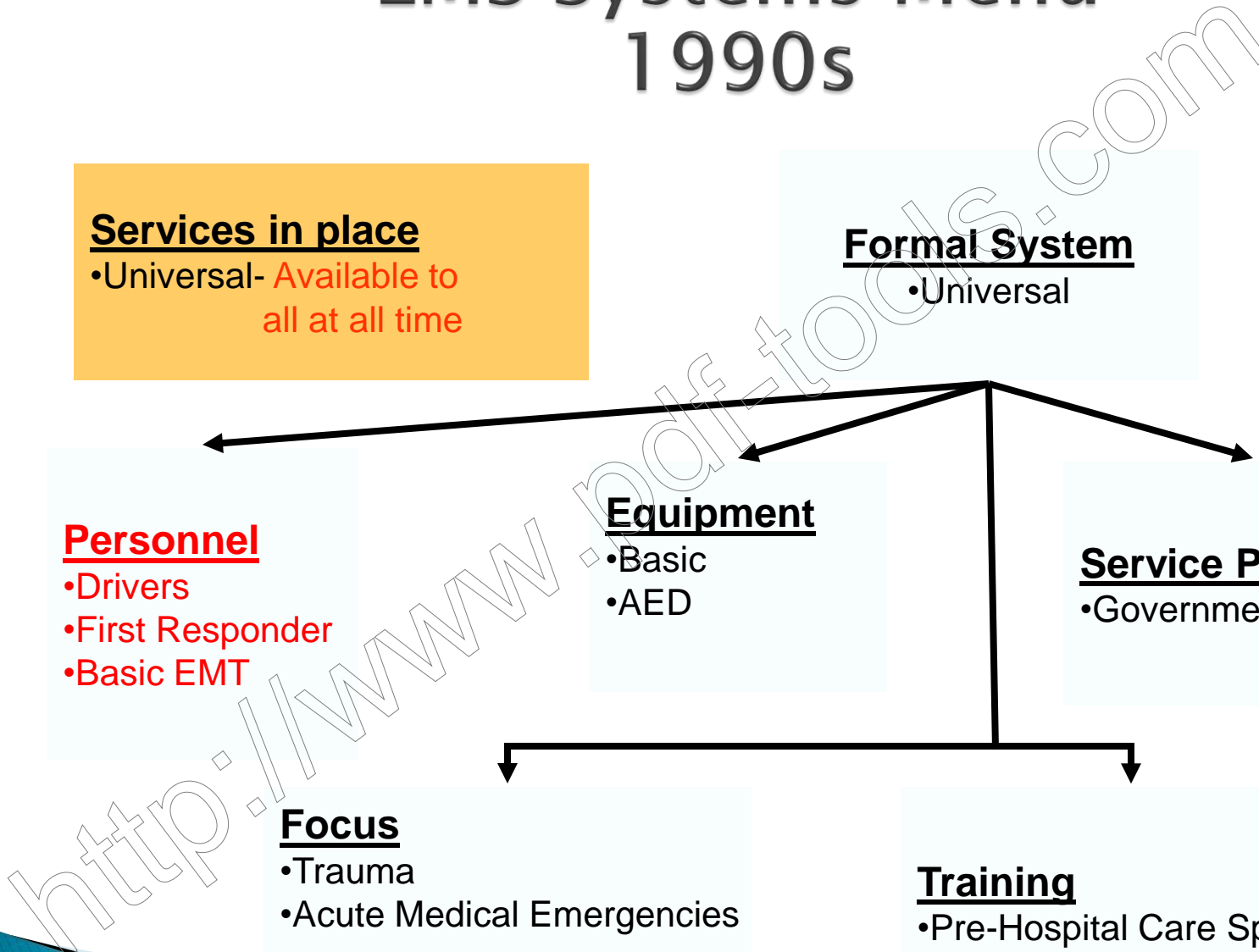
- Governmental

## Focus

- Trauma
- Acute Medical Emergencies

## Training

- Pre-Hospital Care Specific



# EMS Systems Menu 1990s



<http://www.pdf-tools.com>

# EMS Systems Menu 1990s



## Services in place

- Incomplete- Available to Some at Some time

## Formal System

- Incomplete

## Personnel

- Drivers
- First Responder
- Basic EMT
- Paramedic
- Nurse
- Physician

## Equipment

- Rudimentary
- Basic
- Advance

## Service Providers

- Private/NGO
- Governmental
- Hospital Based
- Mixed

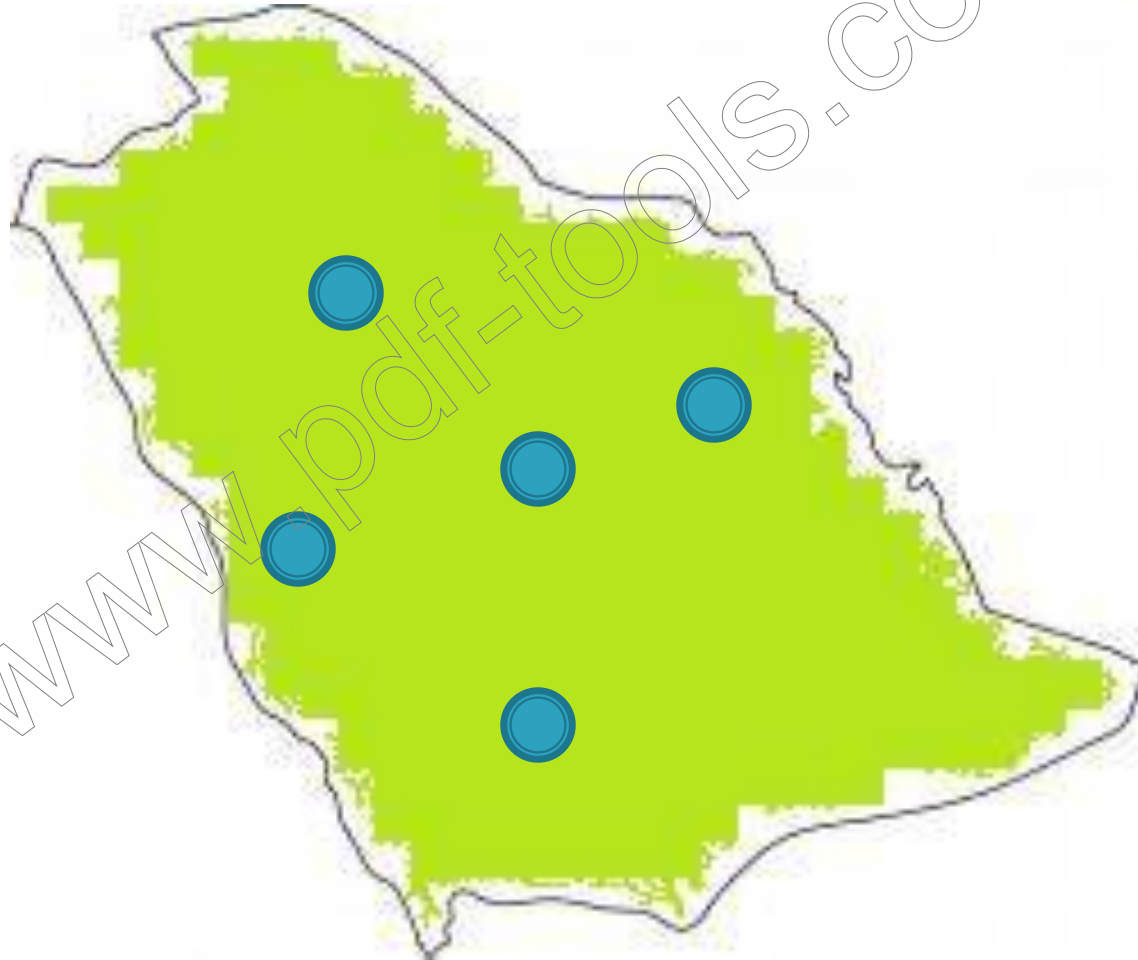
## Focus

- Trauma
- Acute Medical Emergencies

## Training

- Limited training
- Non Pre-Hospital Specific
- Pre-Hospital Care Specific

# EMS Systems Menu 1990s



<http://www.pdf-tools.com>



# EMS Systems Menu 1990s



- ▶ Dispatch with no or Minimal Priority Protocol
- ▶ Minimal Criteria Based Dispatch



## Services in place

- Access Number
- Call-Taking System
- Dispatch System
- Response care
- Transportation

**Best Available Response**

# EMS Systems Menu 1990s



## Services Need

- Base Hospital
- Could be mitigated in a Physician-Based

## Formal System Personnel

- Staffing Model

## Physician-Based

- Taking the Physician to the Patient

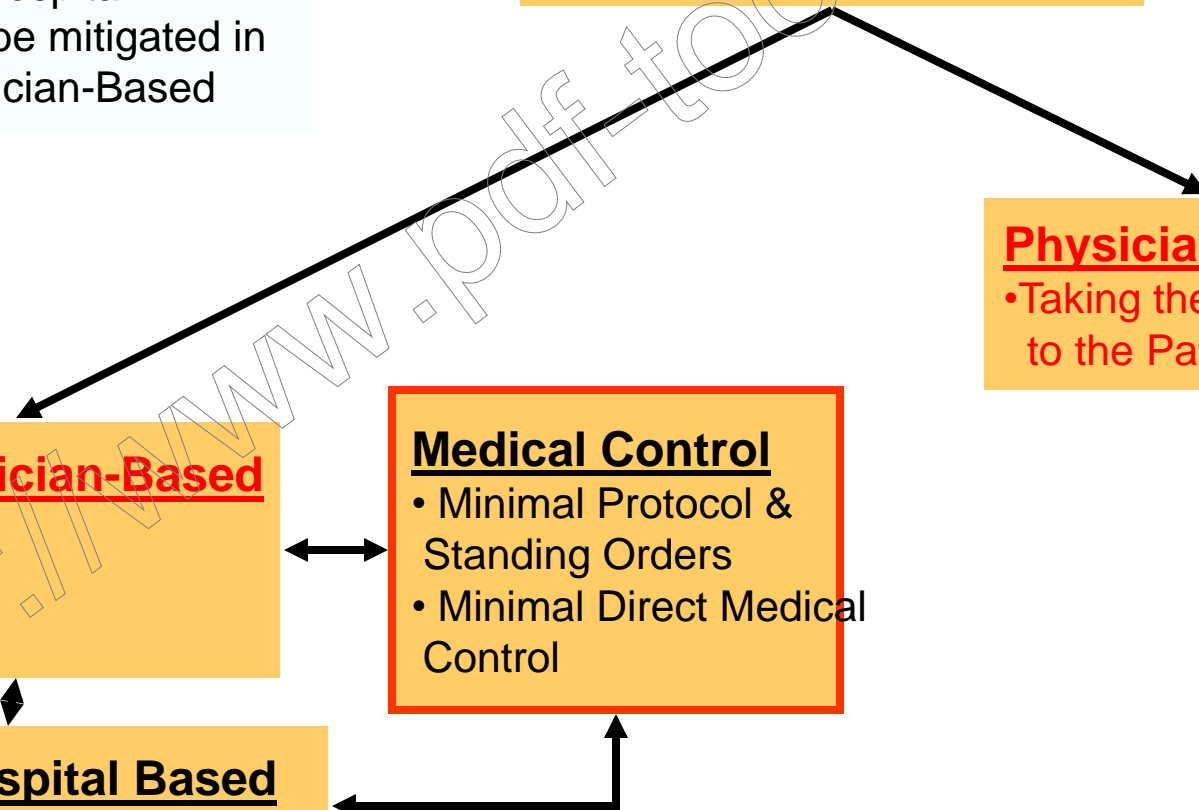
## Non-Physician-Based

- Basic EMT
- Paramedic
- Nurse

## Medical Control

- Minimal Protocol & Standing Orders
- Minimal Direct Medical Control

## Station & Hospital Based Physicians



# EMS Systems Menu 1990s



## Resources & Maintenance

### Requirement

- Ongoing Maintenance
- Specific Training for some equipment

### Formal System Level

- Training of Personnel
- Adequacy of equipment

### Basic Level

- Basic EMT Training
- Basic ambulance
- Backboard
- Cervical Collar
- Splint & Bandages
- Oxygen & AED

### Advance Level

- Trained Physician
- Paramedics
- Well equipped ambulances
- Advance Trauma & Cardiac life Support
- Resuscitation Drugs
- Cardiac Monitor
- Defibrillator & External Pacer
- Ventilator

# EMS Systems Menu 2000s



- ▶ **911 – Scholarship Fading**
- ▶ **Local Training – Competencies of Trainee, Training Institutes and Training Centers Standards**
- ▶ **Saudi Board Emergency Medicine & Saudi EM Society**
- ▶ **Upgrade Public Provider to Authority**
- ▶ **National EMS Advisory Group for Training & Operation**

**More Challenges**

# EMS Systems Menu 2000s



## Requirement

- Ongoing Maintenance
- Specific Training for some equipment

## Informal or Incomplete Formal System Level

### Rudimentary

- Drivers & First Responder
- Vehicle with Bed and O2 Tank
- First Aid Kit

### Basic Level

- Basic EMT Training
- Basic ambulance
- Backboard
- Cervical Collar
- Splint & Bandages
- Oxygen & AED

### Advance Level

- Trained Physician
- Paramedics
- Well equipped ambulances
- Advance Trauma & Cardiac life Support
- Resuscitation Drugs
- Cardiac Monitor
- Defibrillator & External Pacer
- Ventilator

# EMS Systems Menu 2000s



## Legislation

### Standard of Care

Laws, Roles & Regulations

Policies & Procedures

Job Description

Authorized Body

Funding Resources

Manpower

Training

Communication

Transportation

Facilities

Critical Care Units

Public Safety Agencies

Consumer Participation

Accessibility

Transfer of Patients

Standard Medical Record Keeping

Public information

Evaluation

Disaster Linkage

Mutual aid agreement

# EMS Systems Menu 2000s



**Comprehensive Public Health  
Prevention & Public Health Surveillance**

**Acute Emergencies  
Medical & Trauma**

**Trauma Care**

<http://www.painpools.com>

# National EMS Systems Menu

## Models Providers



- ▶ **Saudi Red Crescent Authority**
- ▶ **Private Governmental NG, Saudi Aramco,**
- ▶ **Hospital Based**

**All Can Be Effective**

<http://www.pdf-tools.com>



# National EMS Systems

## Models Providers



- ▶ Saudi Red Crescent Authority



**EMT Basic- Intubation, IV & AED**

# National EMS Systems

## Models Providers



- ▶ Saudi Red Crescent Authority



**Challenges of Traffic- Hajj & Rush Hours**

# EMS Systems Menu 1990s



# National EMS Systems

## Models Providers



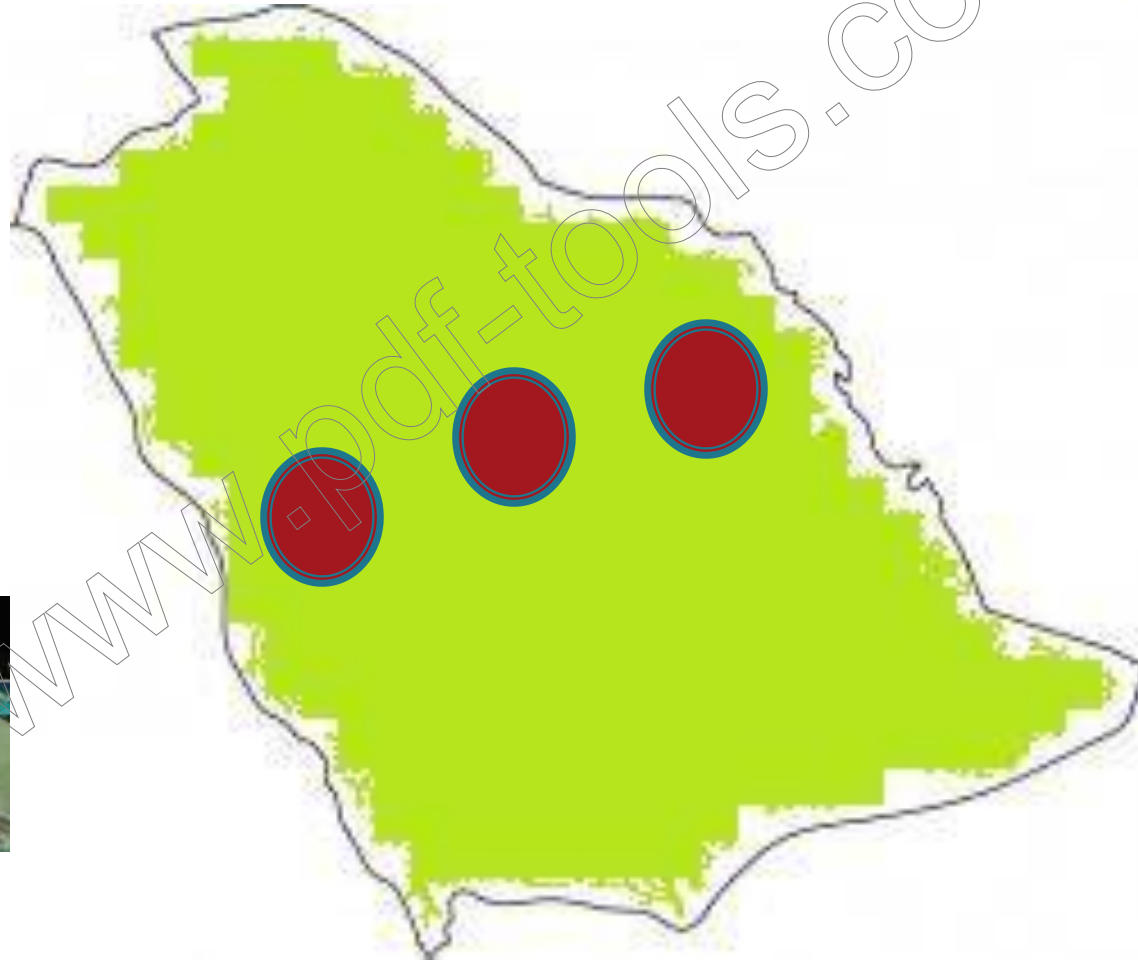
- ▶ Saudi Red Crescent Authority



**Medics- ALS**

<http://www.gettools.com>

# EMS Systems Menu 2000s



<http://www.pdf-tools.com>

# National EMS Systems

## Models Providers



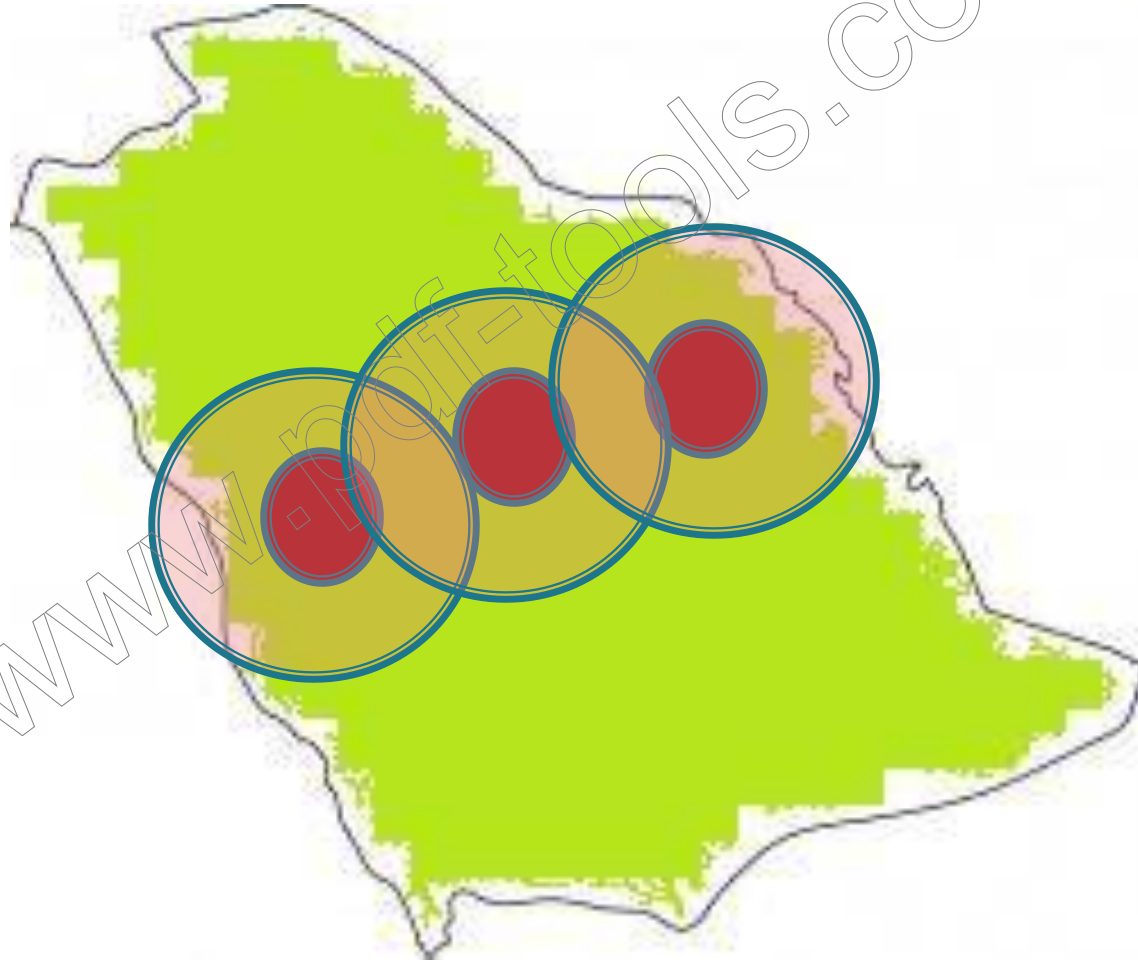
- ▶ Saudi Red Crescent Authority



## Acute Care Transport

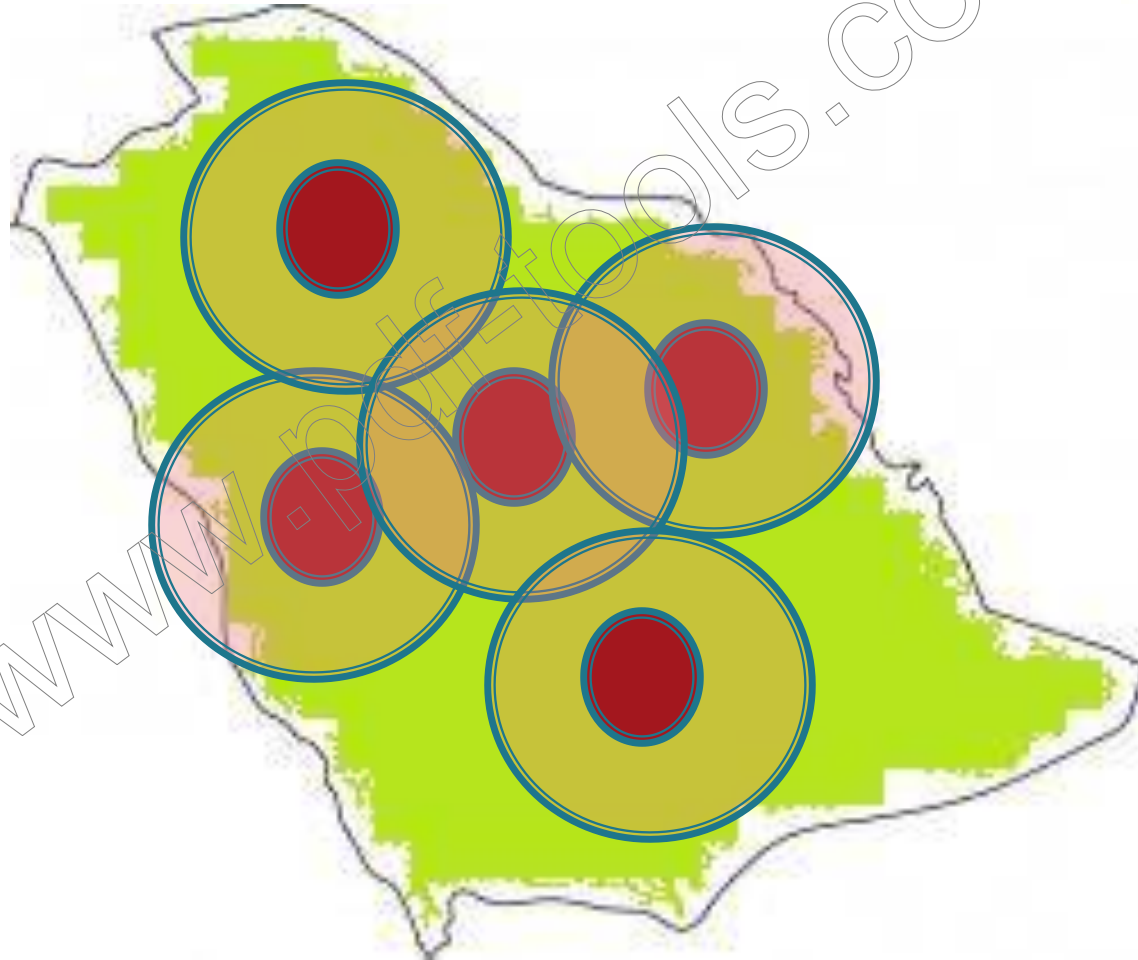
<http://www.pdf-tools.com>

# EMS Systems Menu 2012s



<http://www.parosoftools.com>

# EMS Systems Menu 2020s



<http://www.parosools.com>



# EMS Systems Menu 2012s



- ▶ **Data Driven Change**
- ▶ **Integration & Overall System Evaluation**
- ▶ **Cultivate New Solutions**
- ▶ **Competency Based System Evaluation**
- ▶ **Provide & Upgrade at the same time**

**New Thinking New Direction**

# EMS Systems Menu 2012s



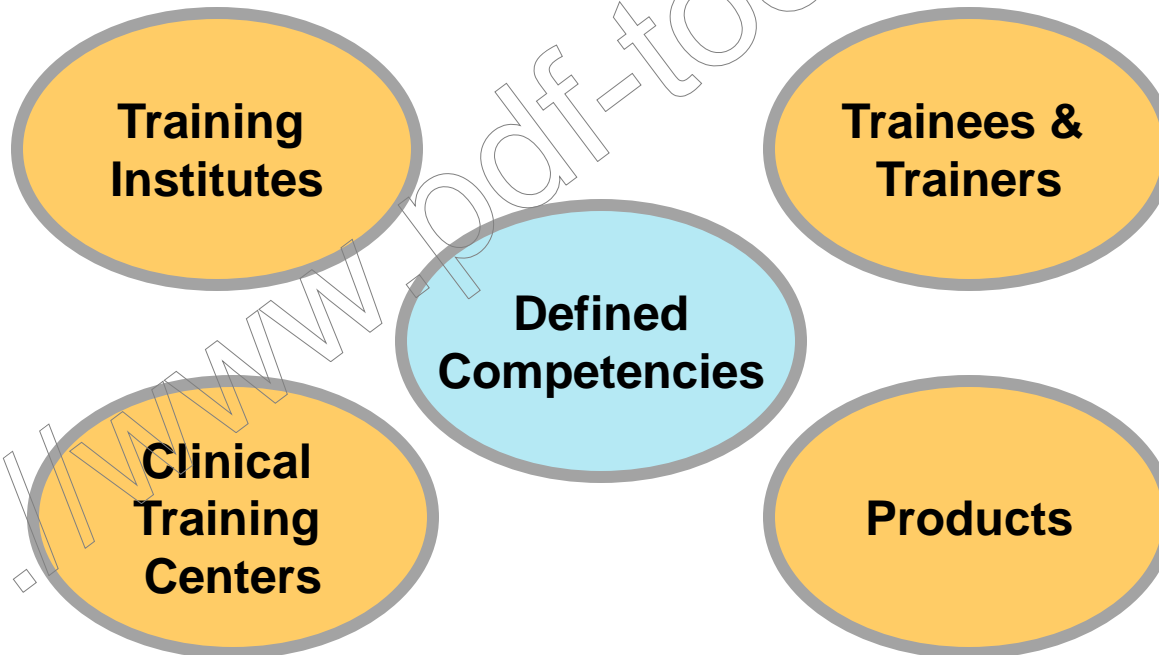
- ▶ **National EMS Scientific Board – Set the Standards Based on Competencies**
- ▶ **National EMS Society – Support the implementation of the Standards Set**
- ▶ **National EMS Council – Build up the over all System**

**New Thinking New Direction**

# EMS Systems Menu 2012s



## ▶ NEMSSB-Competency Based System



# Saudi Council For Health Specialties



## EMS Education Blue Print

### ▶ Saudi National EMS Program:

- Ensure that graduates from the Emergency Medical Technology (EMT) program are competent and qualified to provide pre-hospital care
- Improve the status and quality of emergency medical care in our communities
- Supply highly Educated and trained Paramedics.

## National EMS Scientific Program

# Saudi Council For Health Specialties



## EMS Standard Curriculum

Appendix I: EMT-Paramedic Diploma Curriculum Overview							
Preparatory Year- Year 1							
Year/Level	Course	Theory	Writing	Introduction to Biology	Introduction to Computer	Introduction to Fundamentals of Pathology & Epidemiology	Introduction to Health Services & Professional Career
				EMSC 101	EMSC 102	EMSC 103	EMSC 104
English Language (16 weeks)			Health Orientation (EMSC 105) (16 weeks)				
Year 2							
Introduction to Emergency Medical Technology	Paramedic I	Pathophysiology for Paramedics	Paramedic Assessment I	Medical Emergencies I	Trauma Emergencies I	Pharmacology I	Paramedic Assessment II
EMSC 110	EMSC 111	EMSC 112	EMSC 113	EMSC 114	EMSC 115	EMSC 116	EMSC 117
FIELD (EMSC 118)				FIELD (EMSC 119)			
Year 3							
Special Consideration in EMS	Medical Emergencies II	Trauma Emergencies II	Introduction to Advanced Prehospital Emergency Medical Operations	Medical Emergencies II	Critical Care Emergencies	Hospital Transfer	
EMSC 200	EMSC 210	EMSC 220	EMSC 230	EMSC 240	EMSC 250	EMSC 260	
FIELD (EMSC 201) (EMSC 202)				FIELD (EMSC 241) (EMSC 242)			
Semester 1 & 2			BLS, EVOC				
Semester 3 & 4			ECLS/PHLS & AMLS				
Semester 5 & 6			ACLS, PALS & NRP				

# Saudi Council For Health Specialties



## EMS Core Competencies

- ▶ **Saudi National EMS Program :**
  - ▶ Require 100 % fulfillment of all required competencies of EMT at Basic and Paramedic Level
  - ▶ Reflect all requires knowledge, skills, and behavior needed to provide emergency medical care under medical control

<http://www.prof-tools.com>

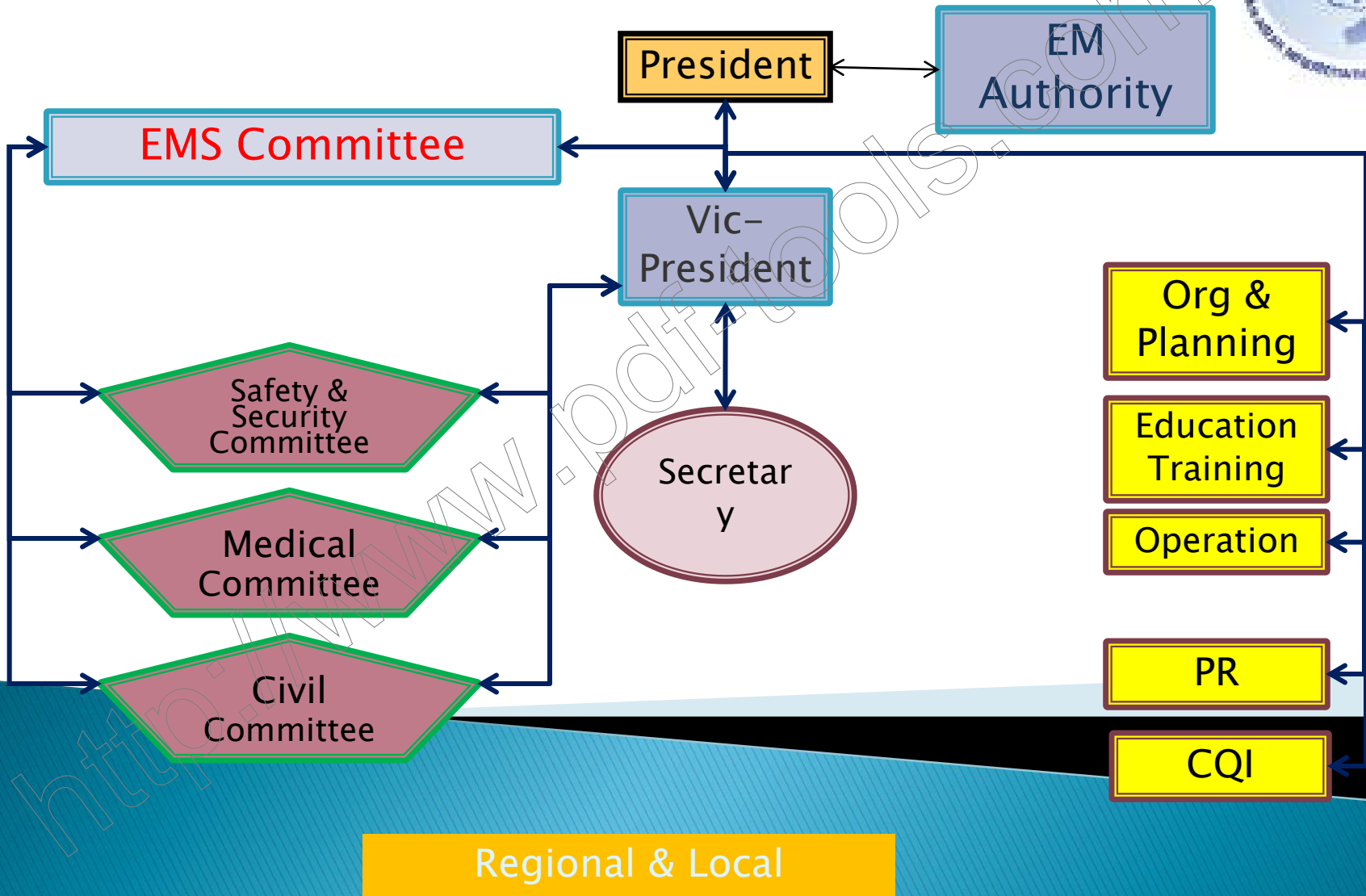


# Saudi Council For Health Specialties

## EMS Standard for Accreditation

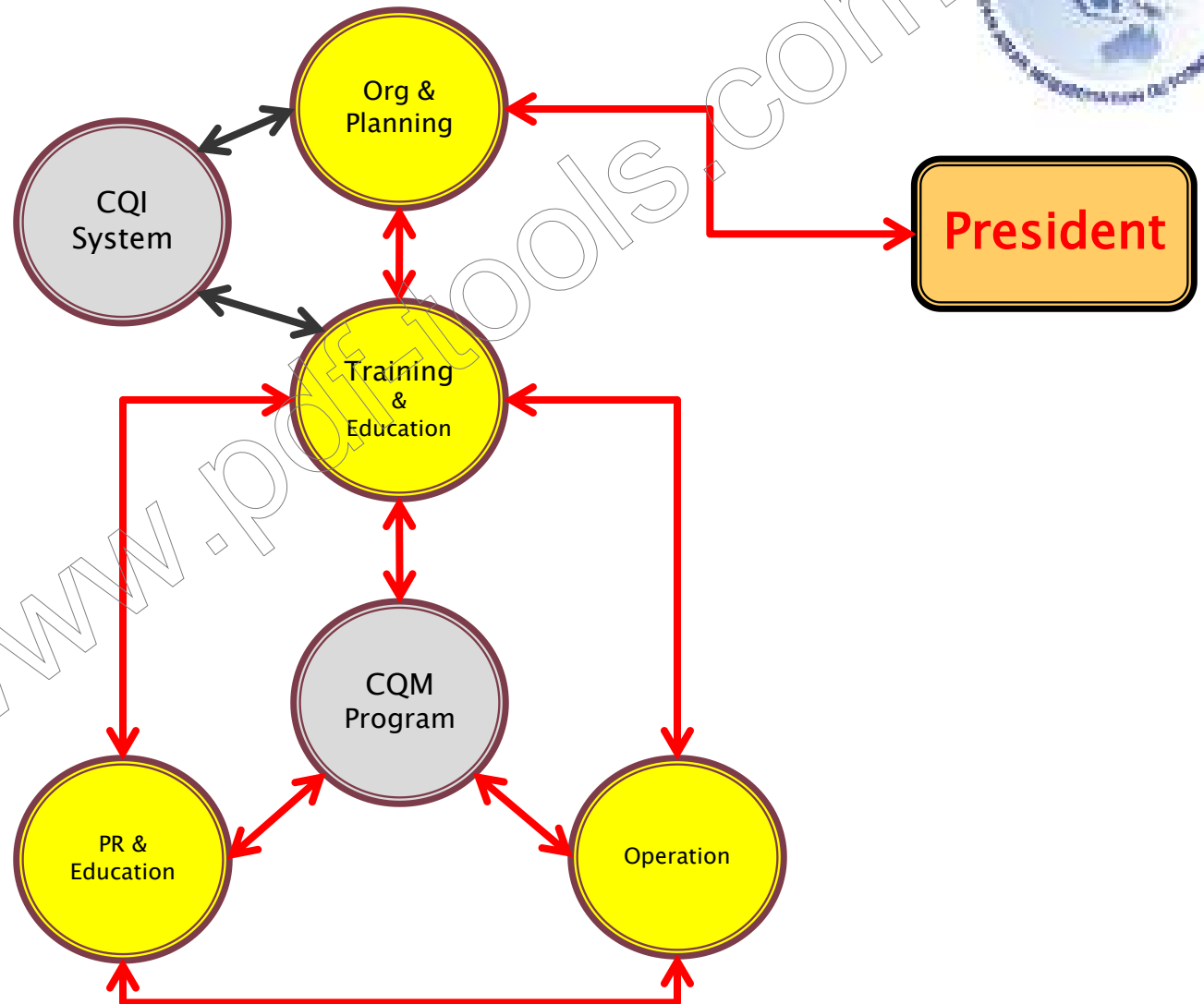
- **Saudi National Registry: Competencies**
  - EMT Basic
  - Paramedic

# Saudi National & Regional EMS Council Organization Structure





# Implementation Platform



# PAROS & Saudi Arabia



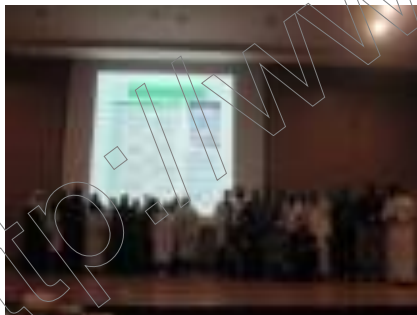
- ▶ **Data Driven Change– Measurement of what we are doing**
- ▶ **Resuscitation– Hajj Acute Care Committee– 5 Min Emergency Assessment Pathways:**
  - **Critical Medical & Surgical**
  - **Trauma– Trauma Service**
  - **Cardiac–ACS– PTCA– Cardiac Sweets**
  - **Heat Stroke– New Treatment Modalities**
  - **GI– GI Sweets**
  - **Renal Failure–Dialysis Centers**

**New Thinking New Direction**

# PAROS & Saudi Arabia



- ▶ Hajj Chapter under Saudi Society of Emergency Medicine – Managing Emergency Medicine Services provided by the Department of Hajj & Omrah Medical Services under the Ministry of Health
- ▶ 1433 Hajj Plan already submitted with many elements to support PAROS Cause



**New Thinking New Direction**

# PAROS & Saudi Arabia



- ▶ **First Mass Gathering Training Curriculum-  
Piloted for Modular Development**

**[kah@abhgroup.net](mailto:kah@abhgroup.net)**

**[info@em.sa](mailto:info@em.sa)**

<http://www.pdf-tools.com>



<http://www.pdf-tools.com>

# Thank You