TECHNOLOGY TO ENHANCE SAFETY IN EMS

Ron Thackery

Disclaimer:
The presenter does not have a significant financial relationship to report.

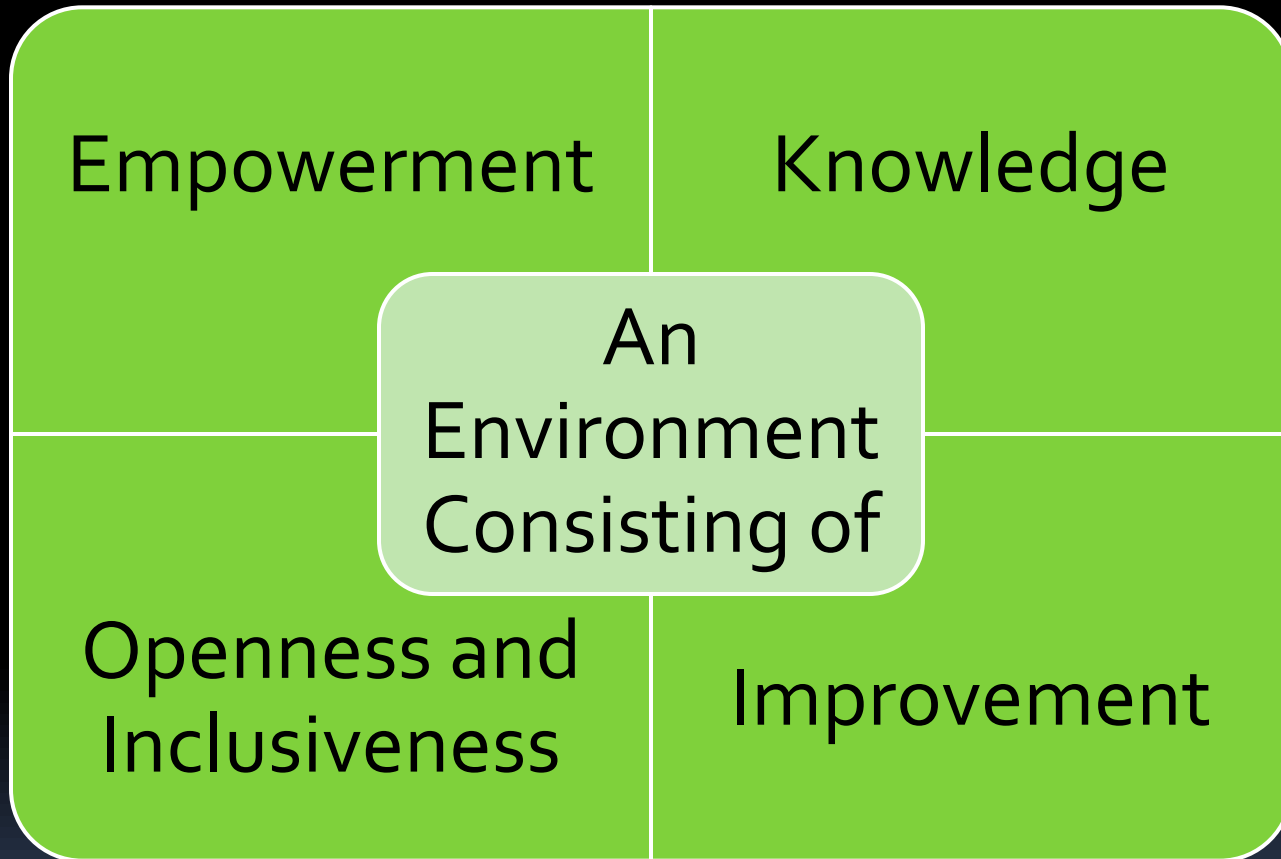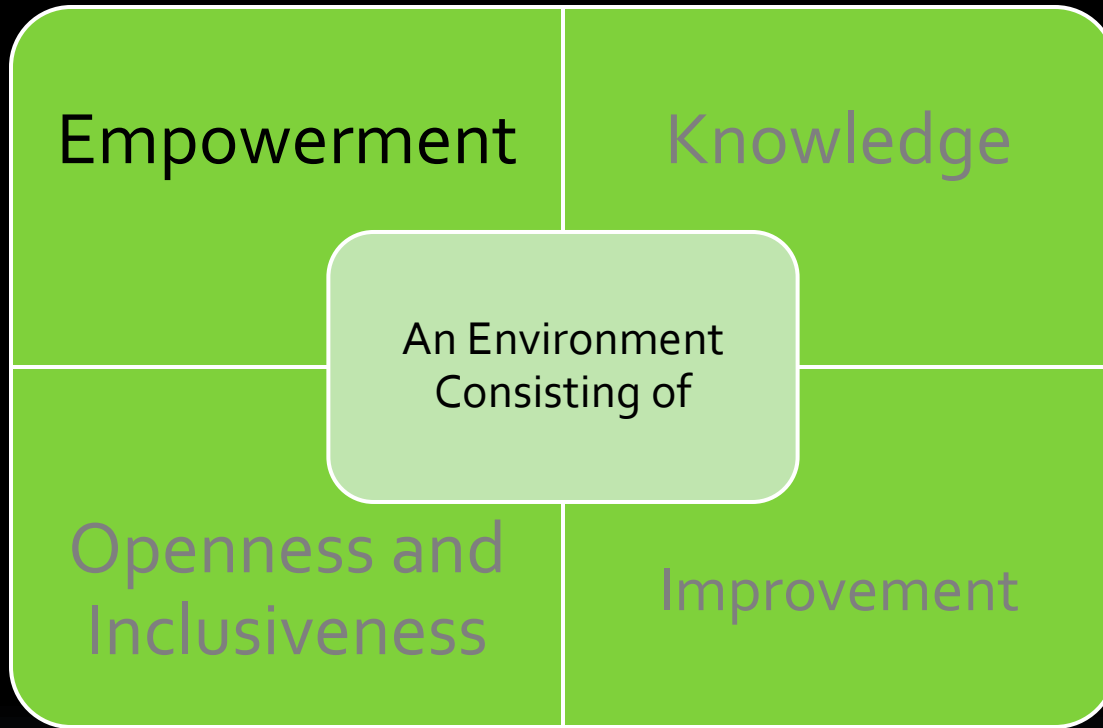# Strategy for a National EMS Culture of Safety

- ➢ Commissioned by NHTSA at the Request of NEMSAC
  - – awarded to ACEP
- ➢ 3 year project to produce a Strategy
- ➢ Consists of a Vision supported by the Strategy
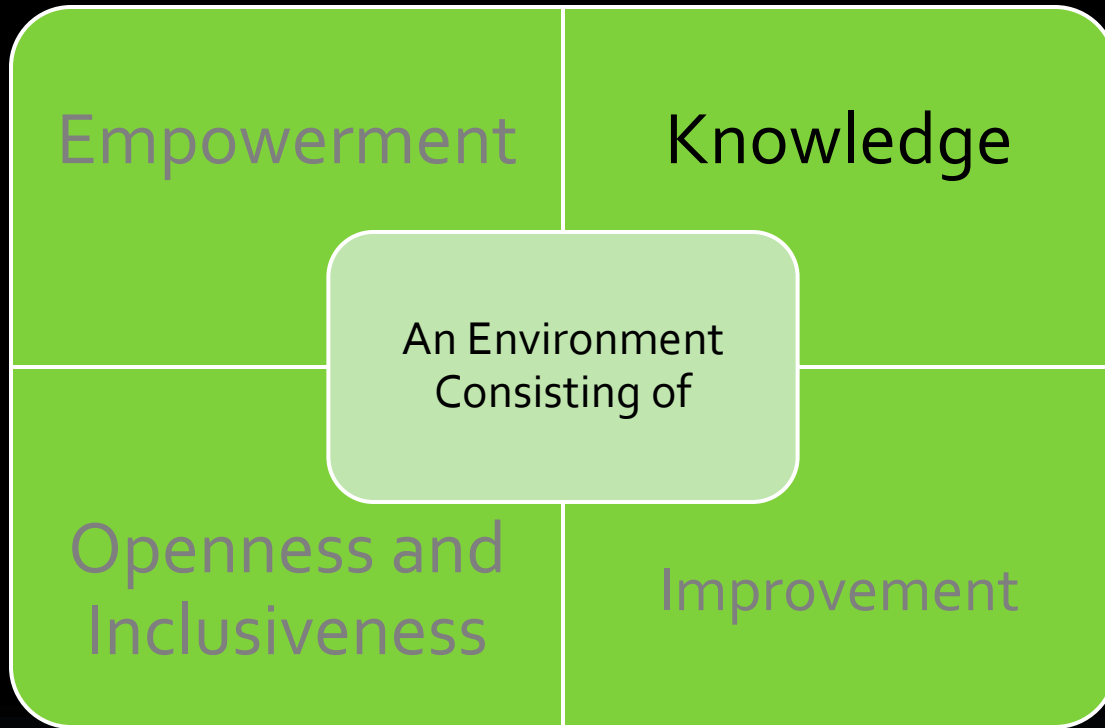
EMS Culture of Safety - Vision

Empowerment

Knowledge

An Environment Consisting of

Openness and Inclusiveness

Improvement

AMR

EMS Culture of Safety - Vision

|	
Empowerment	Knowledge
Openness and Inclusiveness	Improvement

An Environment Consisting of

❖ Speak up
❖ Unsafe practices
❖ Propose ideas for safer work
❖ Act in the interest of safety
• Responder
• Patient
• Community

AMR

EMS Culture of Safety - Vision

Empowerment	Knowledge
	An Environment Consisting of
Openness and Inclusiveness	Improvement

❖ Informed Leaders
❖ Informed Caregivers
❖ Safety Education
❖ Gather and analyze safety data
❖ Caregiver and Patient Safety

EMS Culture of Safety - Vision
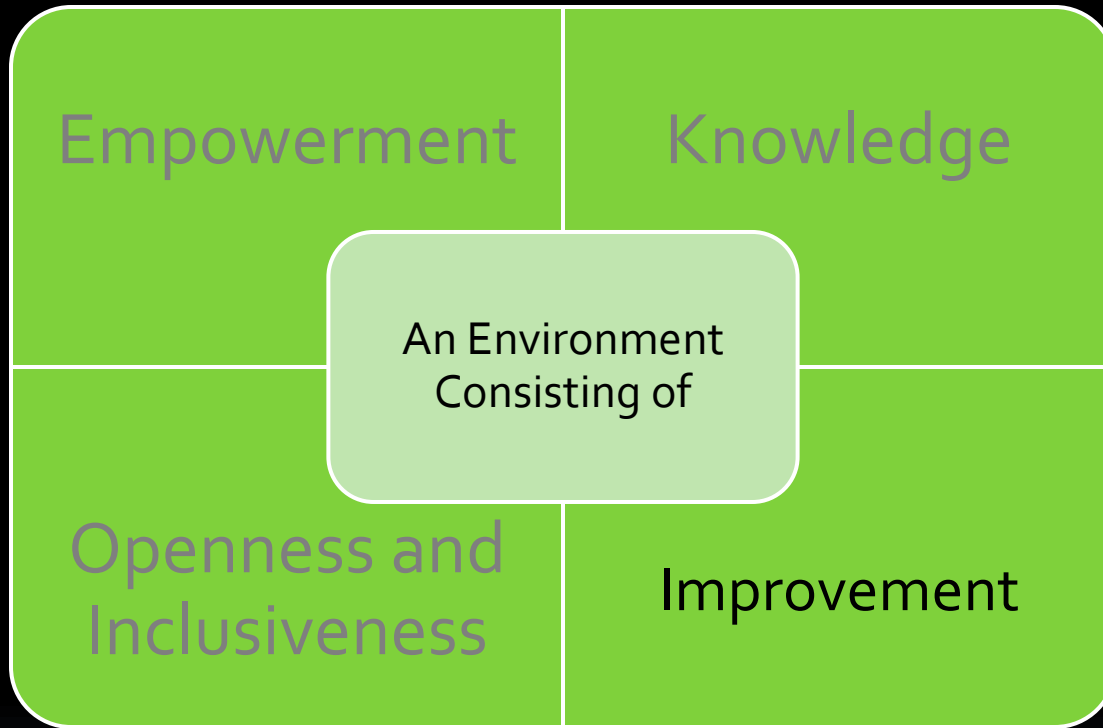
Empowerment	Knowledge
An Environment Consisting of	
Openness and Inclusiveness	Improvement
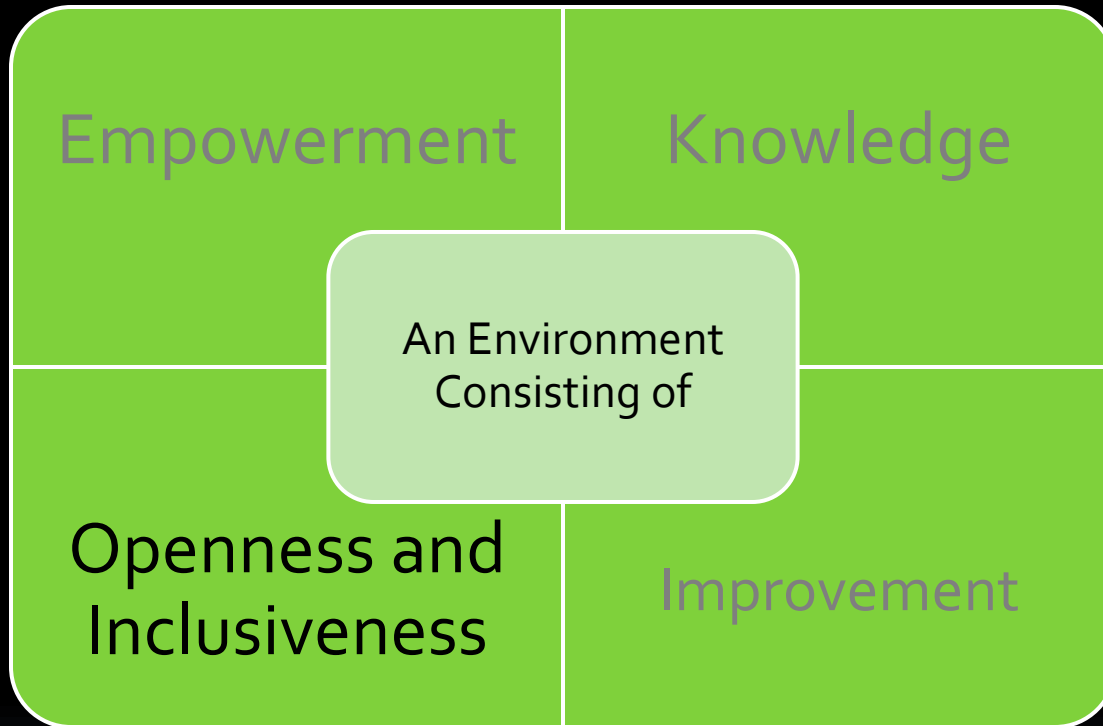
❖ Openly admit mistakes

❖ Examine processes & environments leading to them

❖ National resources for support

*Punishing people for mistakes merely encourages then to hide unsafe behaviors and adverse outcomes*

OKAMA
OKLAHOMA
AMBULANCE
ASSOCIATION
Improving Oklahoma EMS by Enhancing Cooperation Between Industry Providers

AMR

EMS Culture of Safety - Vision

| Empowerment	Knowledge
An Environment Consisting of	
Openness and Inclusiveness	Improvement

❖ Continuous Improvement
❖ Learn from data and quality measurement systems
❖ Quality metrics linked to reimbursement
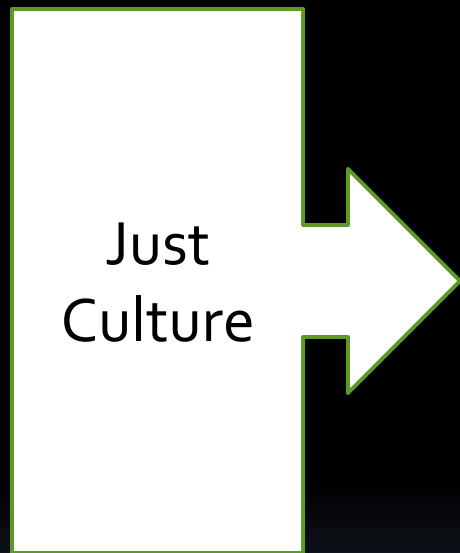
Substantial Cultural Change Takes Time

Empowerment

Knowledge

An Environment Consisting of

Openness and Inclusiveness

Improvement
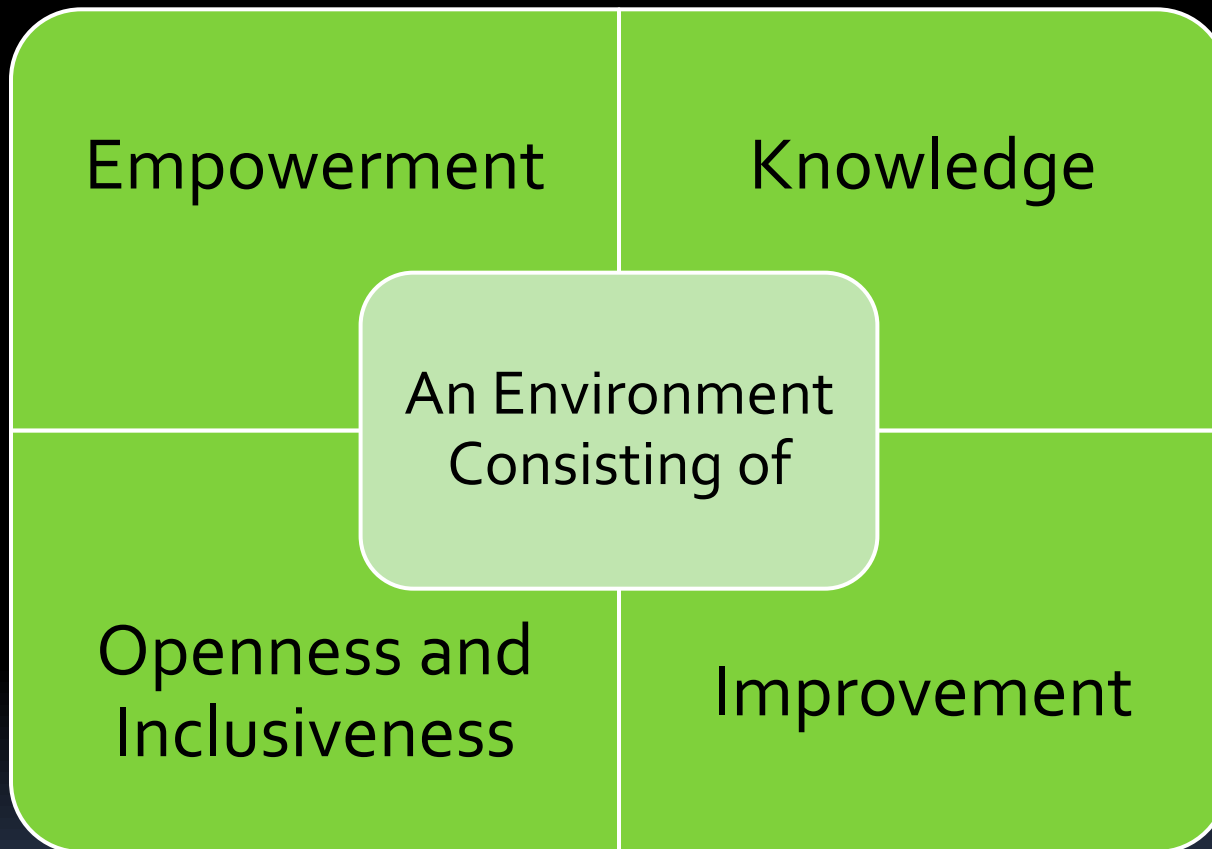
Strategy for a National EMS Culture of Safety
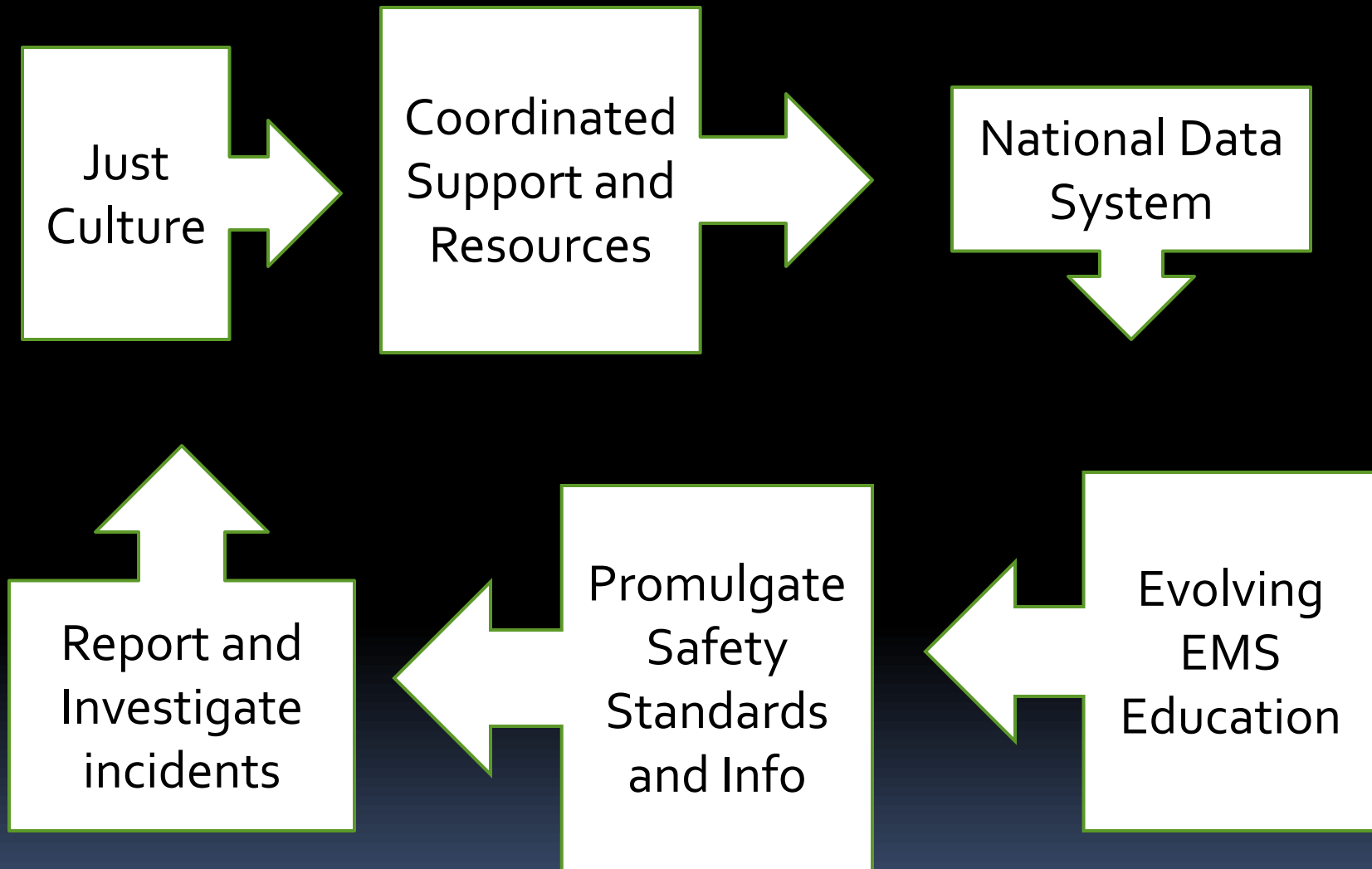
People are encouraged/rewarded for reporting essential safety-related information
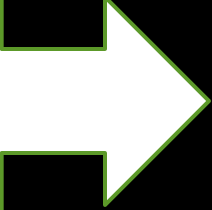
Just Culture

Duty to Act
Duty to follow procedural rule
Duty to avoid causing unjustifiable risk

Human error – inadvertent act
At-risk behavior – risk is insignificant or behavior justified
Reckless Behavior – conscious disregard

Human error – Console
At-risk behavior – Coach
Reckless - Punish

Resource and Coordination Center

Coordinated Support and Resources

→

- EMS Safety Resource Center
- Unified safety message to all agencies
- Repository/library for tools, best practices, education, research
- Communication channel to EMS community
- Share research activities
- Create a list of "never events"
- Define EMS adverse event for reporting

Strategy for a National EMS Culture of Safety

National Data System

❑ Understand scope, frequency and nature of EMS adverse events
- Caregiver, Patient, Community
- Cost
❑ Nat'l EMS Responder and Patient Safety Data System
- Robust/Well designed secure data system
- data system linking and communicating with existing data systems
❑ Make data accessible and useful
- Denominator data – hours worked, call volume, mileage

AMR

No consensus in Mgmt level/titles and competencies needed to fulfill those levels

- EMS Education (initial & CE)
- Educate Leaders and Caregivers
- Actively ID candidates at-risk for unsafe behavior
- Transition from NEOP to FTO to Field
- Integrate Safety into every component of EMS education

Evolving EMS Education

OKAMA
OKLAHOMA
AMBULANCE
ASSOCIATION
Improving Oklahoma EMS by Enhancing
Cooperation Between Industry Providers

AMR

Strategy for a National EMS Culture of Safety

- o Promote Safety related standards
- o Evidence based – literature, data, consensus
- o EMSSRC will coordinate and distribute past and
  future work of EMS agencies
- o Collaborate to develop priority list
  - Physical Fitness
  - Shifts/Fatigue
  - MVR and other background checks
  - Combative patients
  - Patient moving equipment

Promulgate Safety Standards and Info

Strategy for a National EMS Culture of Safety

❖ Acknowledges importance of mandates for reporting of standardized data
  by all EMS agencies
❖ EMSSRC would partner in the development of a mechanism for
  reporting/investigation
❖ Data – necessary, useful, currently available
❖ Provide to an investigative body – NTSB?

Report and
Investigate
incidents

General Issues with Ambulance Safety Design

Ambulance

Size

Stability

Systems

Energy Efficiency

Conspicuity

Useful Life

Cab

Restraints

Air Bags

Distractions

Teamwork

Protrusions

Technology

Equipment

Patient Compartment

Occupant Safety

Patient Safety

Ergonomics

Patient Care

Storage

Protrusions

2010 EPA Emission Standards – Diesel Exhaust Fluid

Mercedes Sprinter

E 350 Gas

Type 2 Chassis in the next few years

Nissan

Ford Transit

Renault

Conspicuity

Conspicuity

Which one is the easiest to see?

Conspicuity

Size, Direction, Movement

Patient Loading Systems
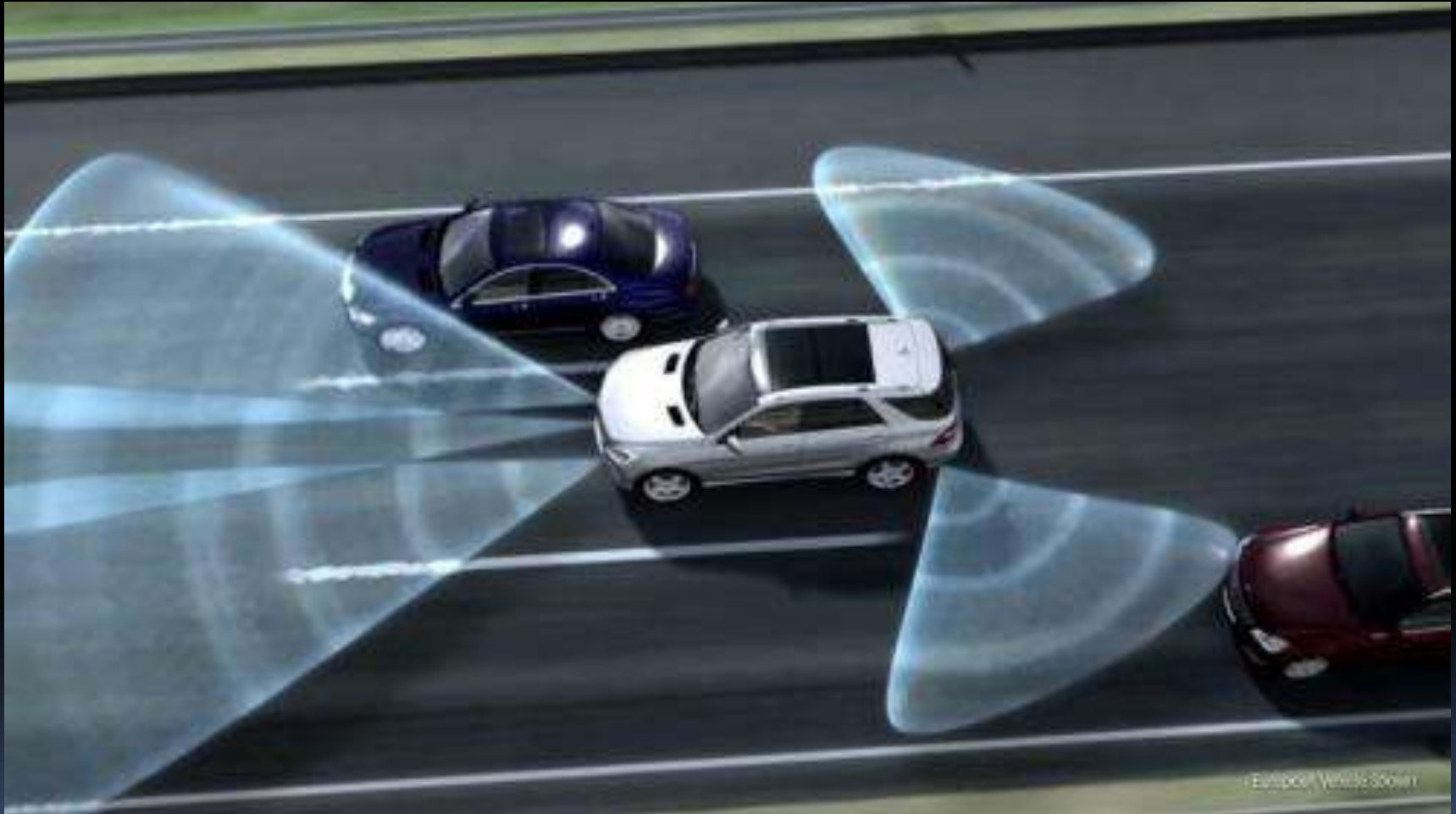
Patient Loading Systems

Telescoping Arms and Tilting Mechanism

Distronic Plus with Pre-Braking

Attention Assist

DOT - Dedicated Short Range Communications

Intelligent Transportation Systems
Joint Program Office

- Blind spot warnings
- Forward collision warnings
- Sudden braking ahead warnings
- Do not pass warnings
- Intersection collision avoidance and movement assistance
- Approaching emergency vehicle warning
- Vehicle safety inspection
- Transit or emergency vehicle signal priority (Opticom)

- Electronic parking and toll payments
- Commercial vehicle clearance and safety inspections
- In-vehicle signing
- Rollover warning
- Traffic and travel condition data to improve traveler information and maintenance services

AMR

1- 800 How's My Driving?

Thanks for Attending