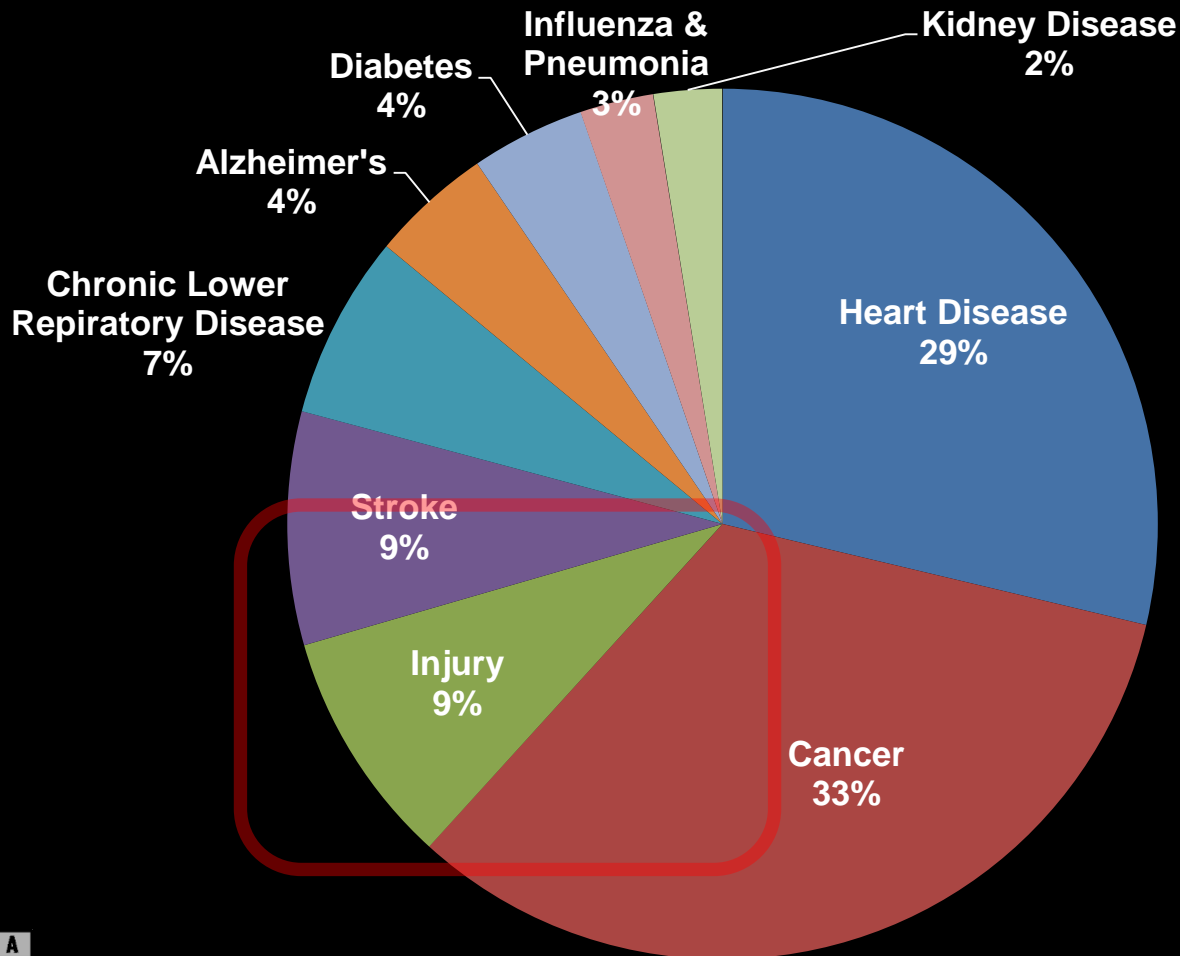


Surviving the Crash: The Fourth E

Well, not so much this one,
but the next.

Leading Causes of Death in Minnesota



Source: MDH Injury and Violence Prevention Unit

MINNESOTA STATEWIDE
TRAUMA SYSTEM



Designation Levels



1 adult & ped.

Definitive care for all
trauma patients



2 adult & ped.

Definitive care for most
patients



3

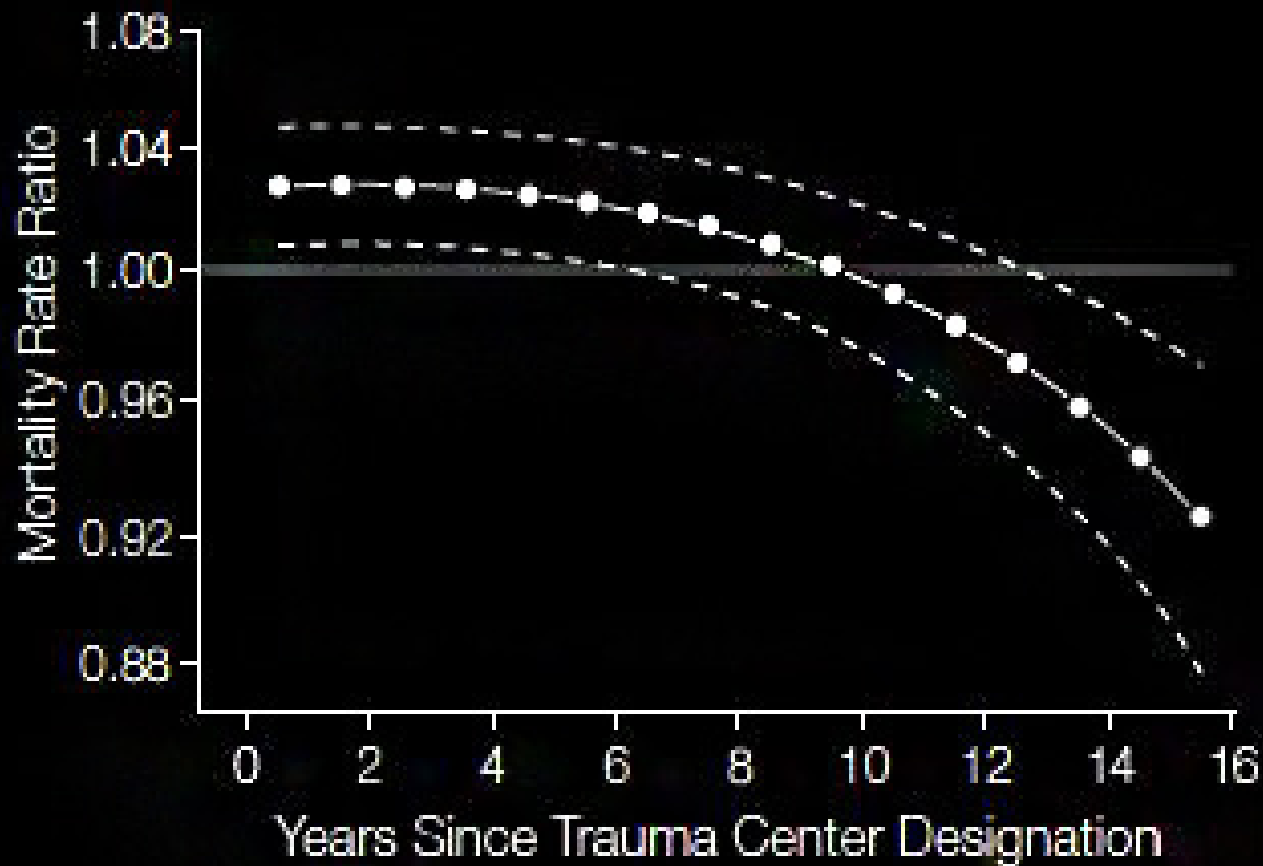
Definitive care for some;
most major trauma
stabilized and
transferred



4

Major trauma stabilized
and transferred

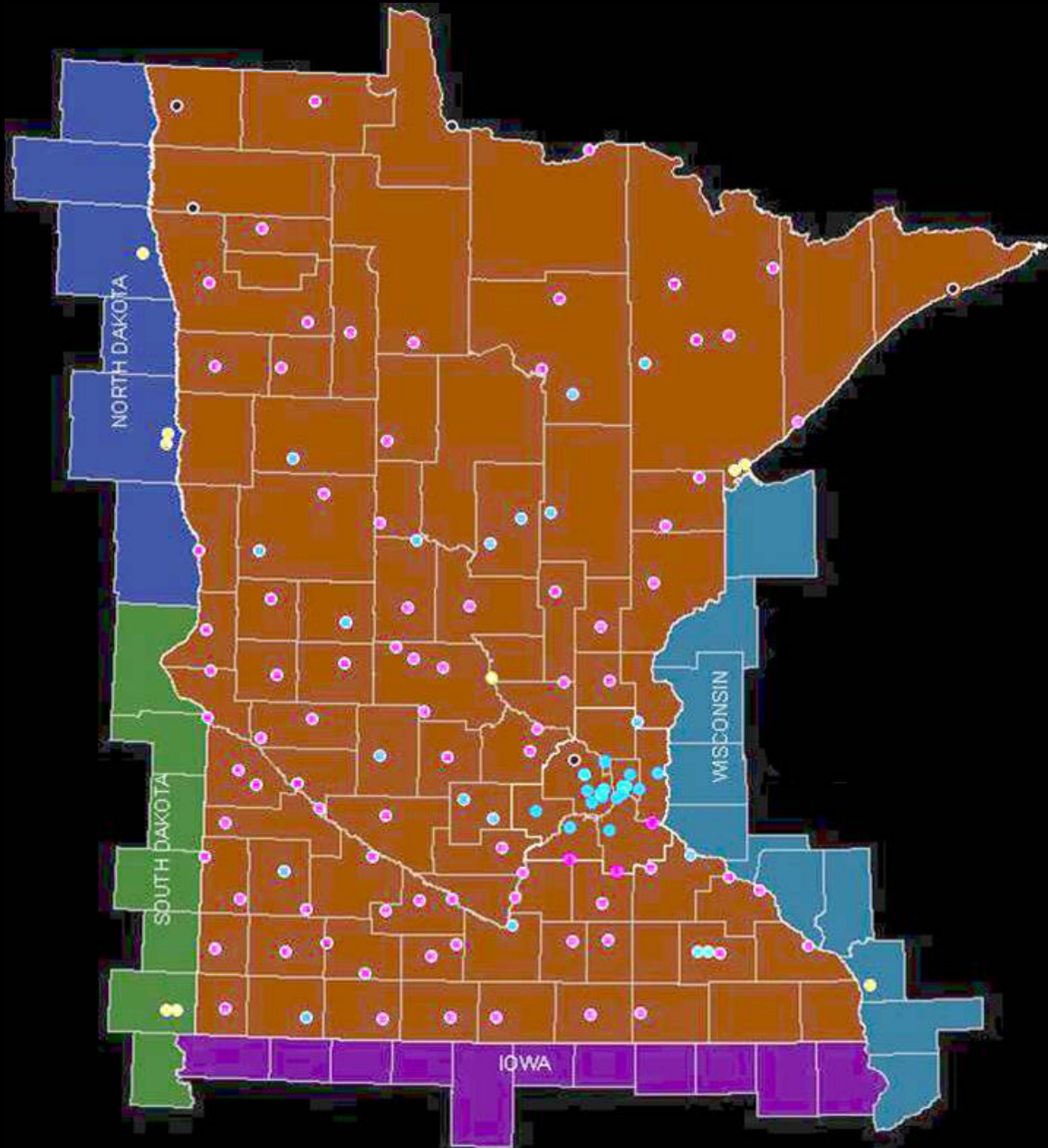
Crash Mortality



Source: Nathens, et al;
JAMA 2000.

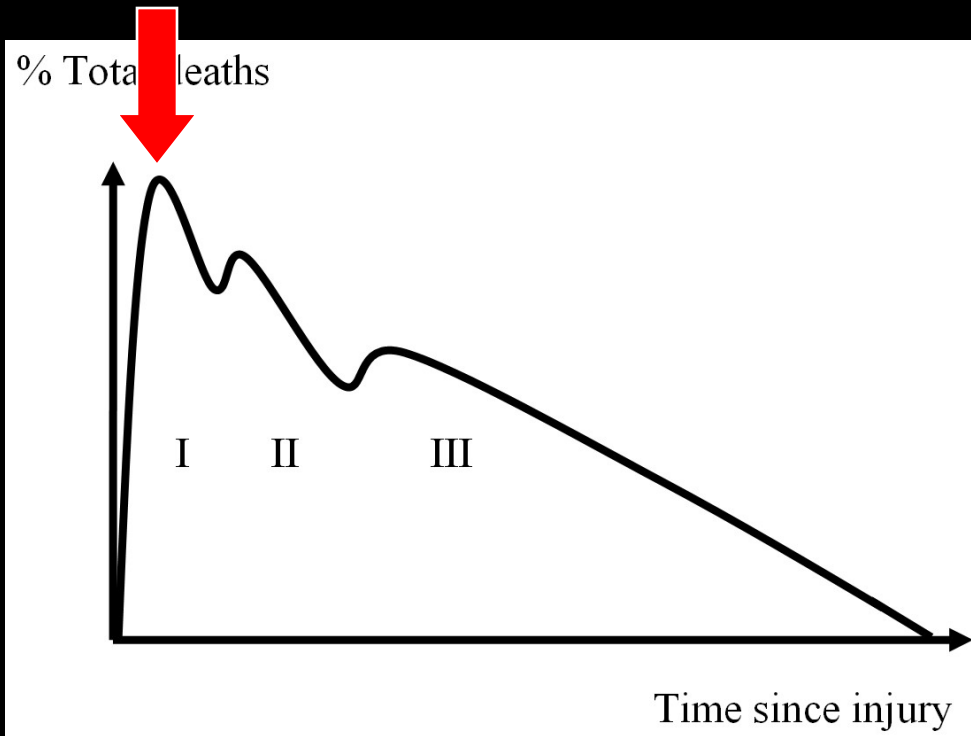
**MINNESOTA STATEWIDE
TRAUMA SYSTEM**





Tri-modal Death Distribution

1st Peak

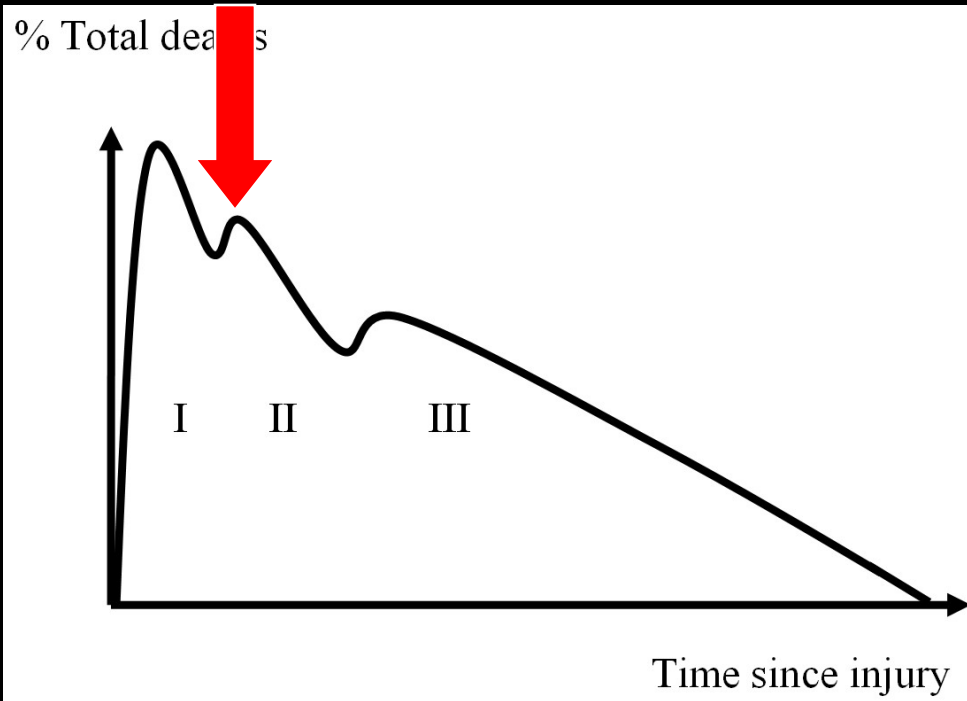


- Massive brain injury
- High spinal cord injury
- Major vessel disruption

Remedy: Injury prevention

Tri-modal Death Distribution

2nd Peak

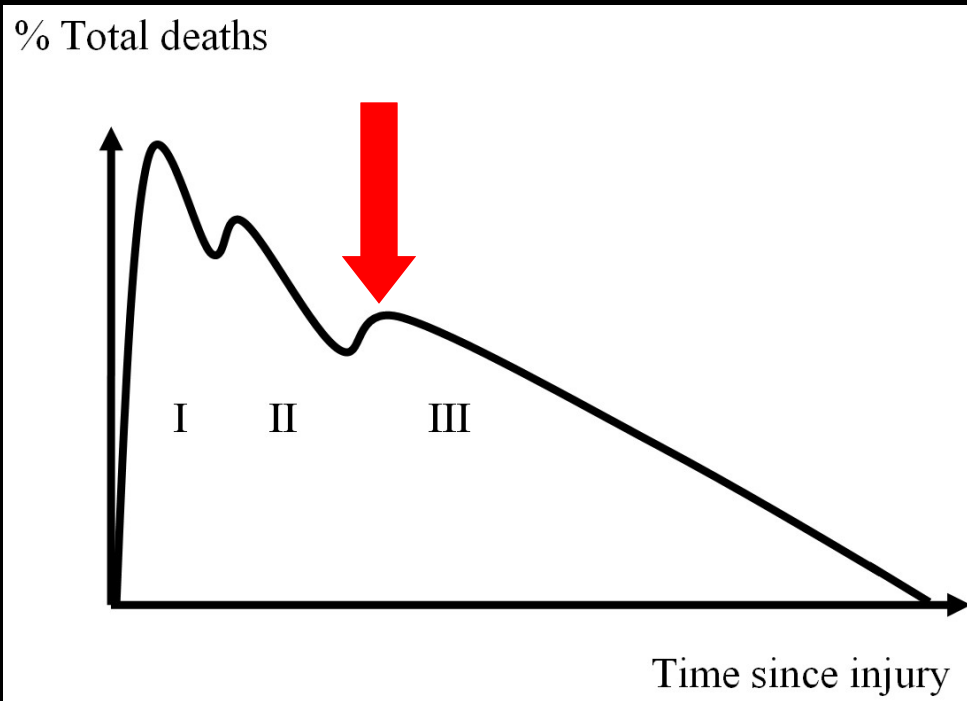


- Brain injury
- Major chest injury
- Massive blood loss
- Ruptured spleen/liver
- Fractured pelvis

Remedy: Rapid recognition,
Immediate care

Tri-modal Death Distribution

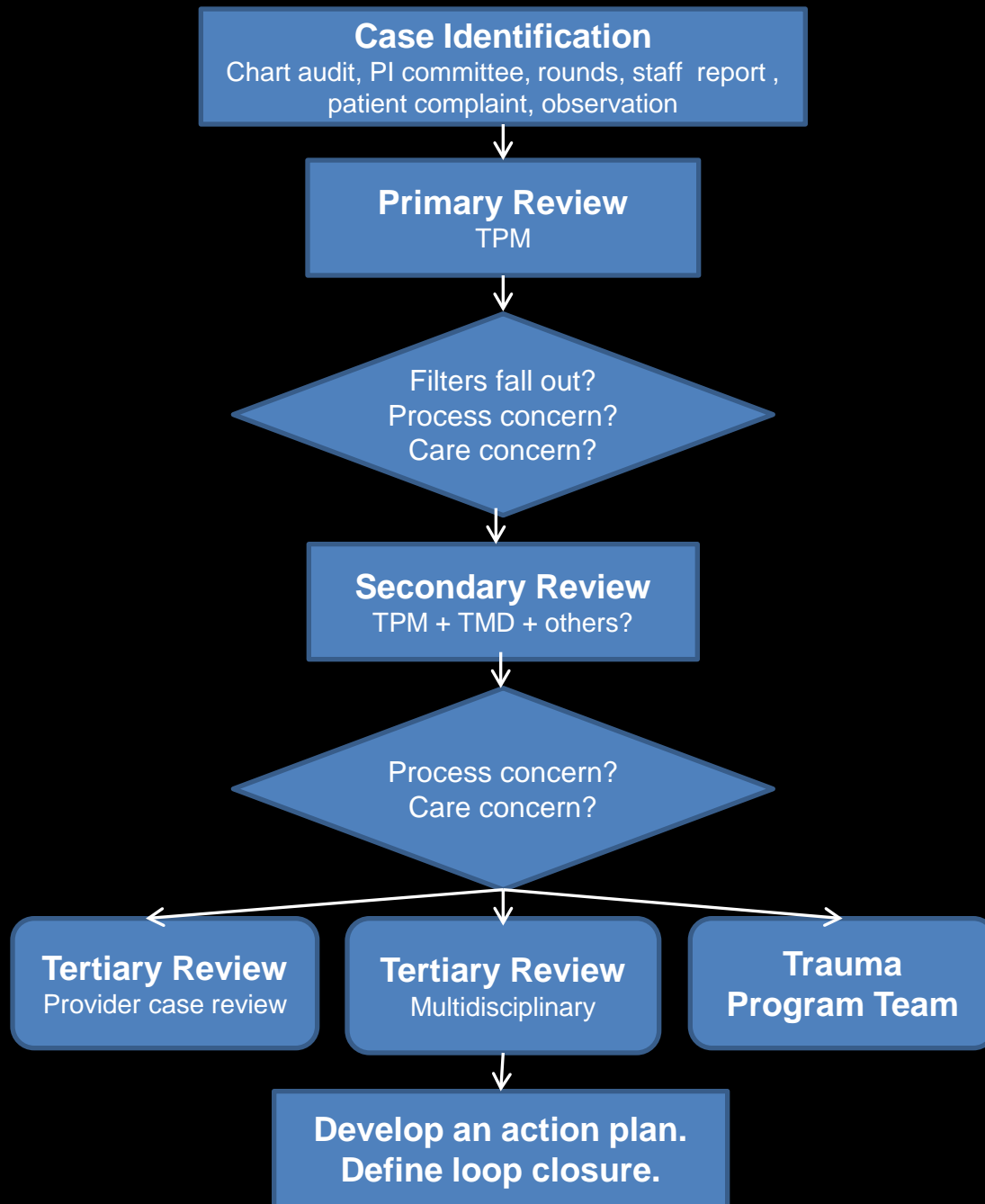
3rd Peak



- Infection
- Organ failure

Remedy: Effective system of care

**Performance
Improvement**

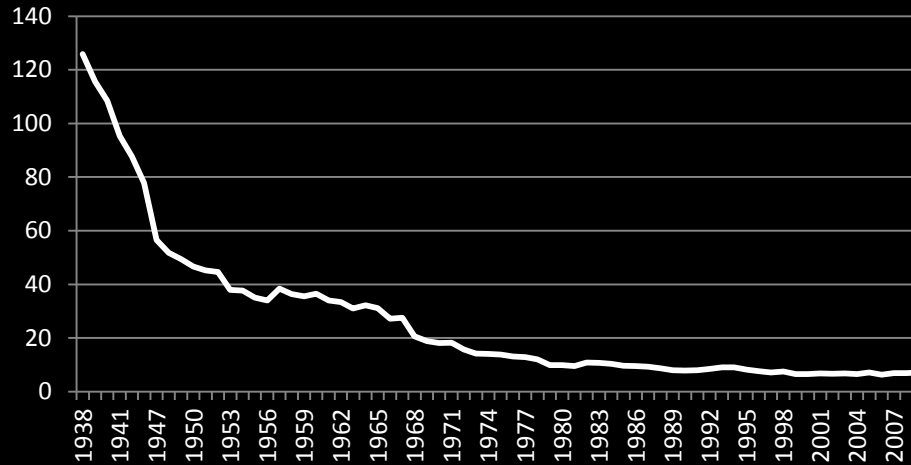


Performance Standards

Hours Flown



Accident Rate



Source: Aircraft Owners
and Pilots Association

**MINNESOTA STATEWIDE
TRAUMA SYSTEM**



- T-bone crash
- 2 vehicles
 - Vehicle #1: 3 injured
 - Vehicle #2: Fatal



- 22 year old female
- Belted driver
 - Estimated 40 mph

Observations & Assessment

- Alert, anxious
- Short of breath, painful respirations
- R side chest pain
- R lung sounds diminished
- Belly soft, diffusely tender

BLOOD PRESSURE (mm/Hg)	SpO ₂ %
142 / 88	96
HEART RATE	RESPIRATIONS
126	20

Treatments

- IVs, O₂
- Collar, spine board
- Code 3 to local level 4 trauma center

At the local trauma center...

- Anxious
- Pale, sweaty
- Short of breath
- Trauma Team Activation
- Warm
- Blood draw
- X-rays

BLOOD PRESSURE (mm/Hg)

SpO₂%

142 / 88

96

HEART RATE

RESPIRATIONS

126

20

BLOOD PRESSURE (mm/Hg)

SpO₂%

112 / 78

98

HEART RATE

RESPIRATIONS

136

24

BLOOD PRESSURE (mm/Hg) SpO₂%

142 / 88

96

HEART RATE

126

RESPIRATIONS

20

BLOOD PRESSURE (mm/Hg) SpO₂%

112 / 78

98

HEART RATE

136

RESPIRATIONS

24

BLOOD PRESSURE (mm/Hg) SpO₂%

96 / 68

89

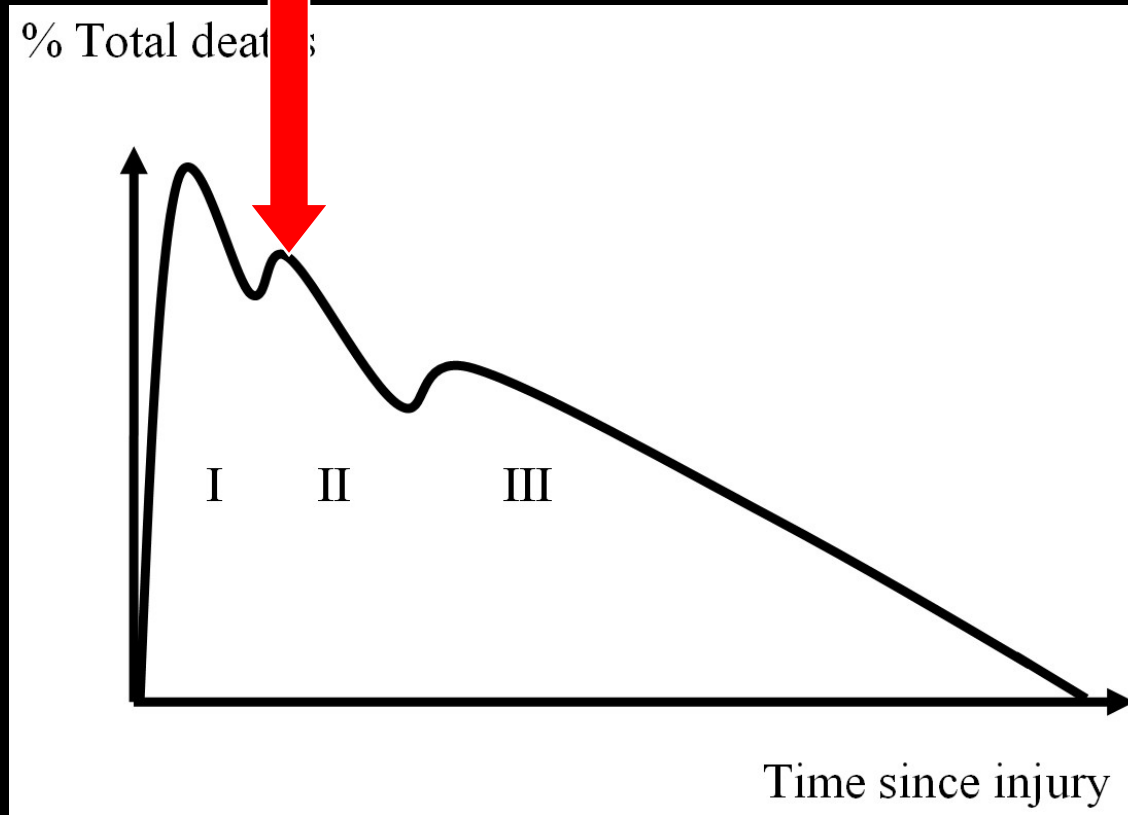
HEART RATE

142

RESPIRATIONS

28

You are Here



Remedy: Rapid recognition,
Immediate care

BLOOD PRESSURE (mm/Hg) SpO₂%

142 / 88

96

HEART RATE

126

RESPIRATIONS

20

BLOOD PRESSURE (mm/Hg) SpO₂%

112 / 78

98

HEART RATE

136

RESPIRATIONS

24

BLOOD PRESSURE (mm/Hg) SpO₂%

96 / 68 89

HEART RATE

142

RESPIRATIONS

28

BLOOD PRESSURE (mm/Hg) SpO₂%

108 / 78

94

HEART RATE

110

RESPIRATIONS

20

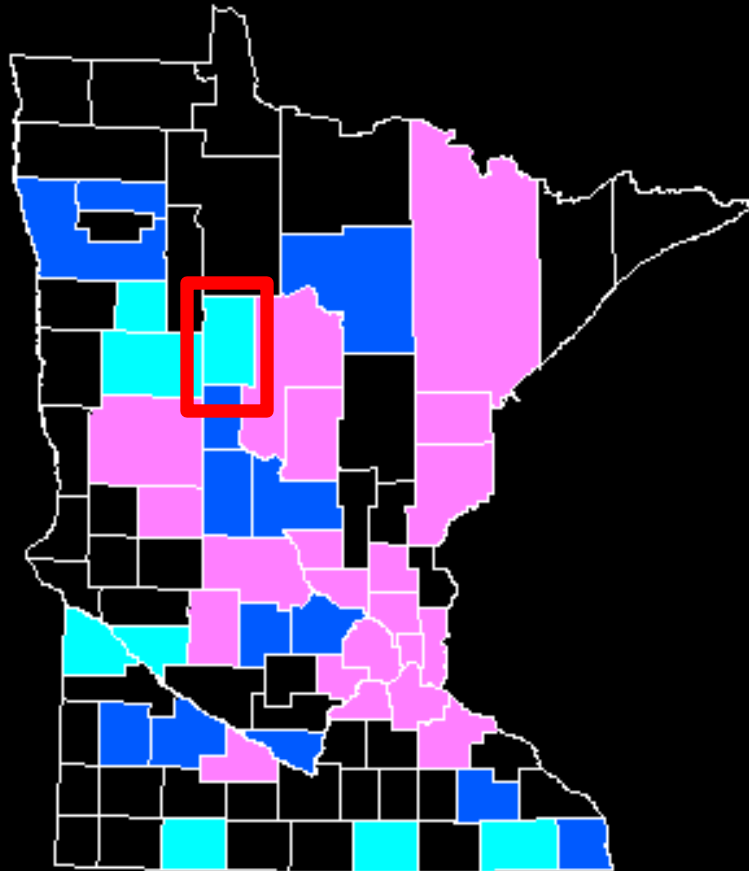
- Air-lifted to level 1 trauma center
- Discharged home after 5 days

Performance Improvement




Review the care

Review the crash

Fatalities in Crashes Involving an Alcohol-Impaired Driver (BAC = .08+) per 100,000 Population



Compare Individual County Rate to the Rates of all US Counties

 0	 Lower Third [Under 4.25]
 Middle Third [4.25-9.12]	 Upper Third [9.12+]