Morbidity and Mortality: What’s Hurting and Killing EMS Providers and What We Can Do About It

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How dangerous is EMS?
EMS has a rate of work-related injuries three times the national average.

(Maguire et al., Prehosp Disaster Med. 2013)
8% of injuries result in a loss of work.
Almost 20% result in a loss of work of one month or more.

(Maguire et al., *Prehosp Disaster Med*. 2013)
This is bad.

but...
There are a relative few causes for these injuries (and deaths).

and...
We have fixes for some of the causes.
What I’m going to Cover Today

I. What hurts us- morbidity
II. What kills us- mortality
III. What we can do about it
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I. What hurts us- morbidity
II. What kills us- mortality
III. What we can do about it
Fix the biggest offenders, then move down the list.
#1 cause
#1 concern
I. Morbidity
So what’s our #1 cause?
Sprains and strains.
To the lower back.
From lifting patients.
Sprains and strains.
To the lower back.
From lifting patients.
35% of injuries
60% of missed work days
So 1/3 of our injuries, accounting for almost 2/3 of lost work days, are from a single cause.
But back strain isn’t a sexy topic.
What’s probably the #1 thing we **worry** about?
Patient assaults.

Should we be?
Yes.

We’re at elevated risk.
For assaults leading to lost work:
23X the national average for all occupations.
7x times higher than other health care providers.
but...
But the **absolute** risk is relatively low.

≈100 per year resulting in loss of work
II. Mortality
What’s #1?
Transportation accidents
≈80% of all fatalities
Aircraft incidents are the most common, followed by highway incidents.
Aeromedical is specialized transport. They’re well aware of the problem.
Focus on ground transportation.
72% of those killed in ambulance accidents were in the rear compartment.
So our #1 killer is ambulance crashes, and the providers in the back are most often killed.
What’s probably the #1 thing we worry about?
Suicide

(Possibly our #1 killer)
Rates of *contemplating* (37%) or *attempting* (6.7%) suicide are \(\approx 10X\) higher than the general population.
III. What can we do about it?
My focus:

- Factors under our control
- Interventions we can actually implement
- Interventions that actually work
Interventions

- Sleep
- Assist
- Buckle
Interventions

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Interventions

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1. Sleep/ fatigue management
There is no single more powerful intervention to reduce injury and prevent death than sleep/fatigue management.
Let’s look at morbidity and mortality:
Morbidity
Sprains and strains
Fatigue increases perceived effort
3.5X the likelihood of a safety-compromising behavior
2X the chances of injury
What about patient assaults?
Fatigue lowers situational awareness.
Mortality
Ambulance accidents
Fatigue is cited a common factor in ambulance crashes.
Sleep deprived = drunk?

17h = 0.05 BAC
24h = 0.1 BAC
What about suicide?
Sleep problems predict the development of psychiatric problems following a traumatic experience.
Reduced sleep is associated with increased suicidal ideation.
So what do we do about it?
There is no one solution.

Agencies are different.
Evidence-Based Guidelines for Fatigue Risk Management in Emergency Medical Services

Shift management
Naps
2. Assist

Morbidity
Minimize back strain
Most effective solutions involve mechanical lift assistance.

Only a partial solution for EMS.
The key is to minimize the weight *per person*.
Get help.
Most issues requiring lifting are not time-sensitive.
Other staff?
Family?
PD?
Fire?
3. Buckle
Mortality
Ambulance crashes are the biggest mortality risk for most agencies.
Lots of potential strategies for improvement.

Focus on seatbelt use.
We are pretty good about using seatbelts in the front of the ambulance.
We are horrible using seatbelts in the back of the ambulance.
Why?
Patient care.
Technology to the rescue?
In the meantime...
Seatbelts should be the default.

Need a good reason to temporarily take it off.
To summarize and finish up:
We have to make hard decisions about where to put our effort and resources.
There are only a few causes for the majority of our injuries and deaths in EMS.
We need to **focus**.

On the few causes.
On the interventions with the most **impact**.
Focus on making the big 3 changes happen:

- Sleep
- Assist
- Buckle
If you have to pick ONE?

Sleep/fatigue
Once we get these handled, we can move to the next on the list.

But not until.
We CAN make a meaningful reduction in injuries and deaths in EMS.

But we have to act.
So act.
If you need any help, get in touch.

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Thank you.

Questions?