

Substance abuse and severity of injury

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study objective:

to describe associations between
substance abuse and severity of injury
among trauma patients

trauma case definition

one or more of the following:

- ⦿ admitted to hospital for at least 48 hours
- ⦿ transferred into or out of any hospital
- ⦿ arrive at hospital DOA
- ⦿ die in hospital after receiving evaluation or treatment

and

medical records include at least one of the following:

- ⦿ a qualifying ICD9 'N' code indicating an injury has occurred to the body
- ⦿ a qualifying ICD9 'E' code indicating that an external event has caused injury

methods: study population

- unique, non-fatal, Ohio trauma registry cases with records sufficiently complete to evaluate risk factors and outcomes of interest (N=89,129)
 - injured from 2004 through 2007

definition of substance abuse

one or more of the following:

- ⊙ history of :
 - > drug abuse
 - > alcohol abuse
- ⊙ blood alcohol test results :
 - > of .08 or greater
- ⊙ drug screen positive for :
 - > amphetamines
 - > benzodiazepines
 - > marijuana
 - > cocaine
 - > opiates
 - > PCP

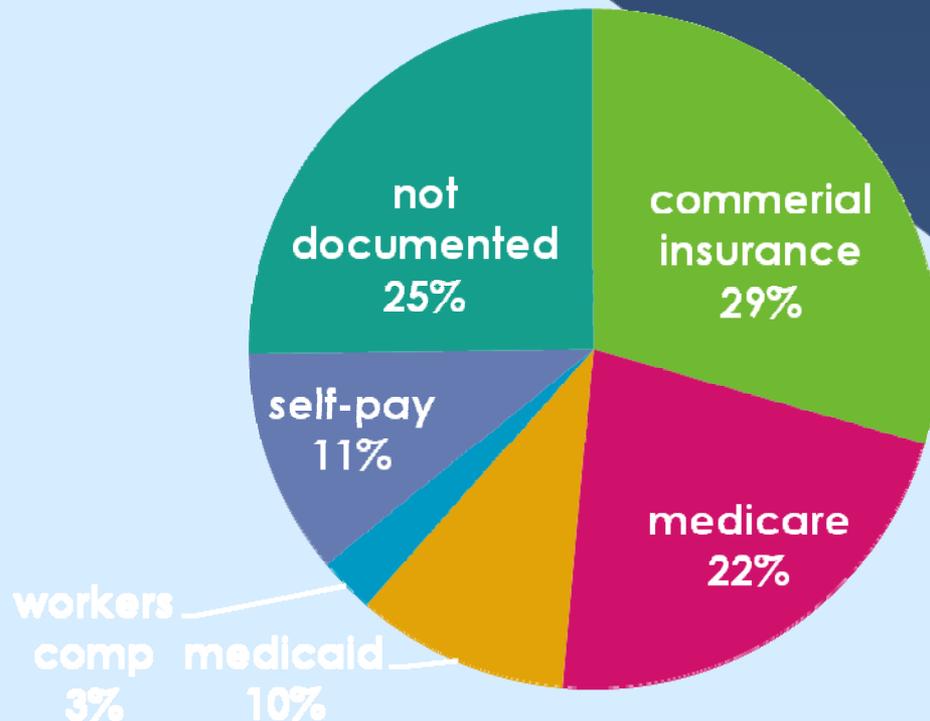
injury outcome measures

- #1) mean injury severity score
- #2) mean length of stay (days)
- #3) admission to an intensive care unit (ICU)
- #4) presence of at least one complication
- #5) transfer to another hospital for additional treatment

insurance status:

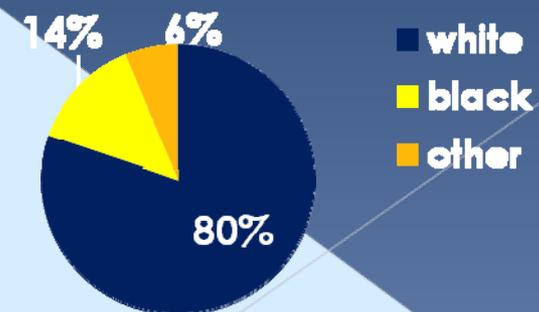
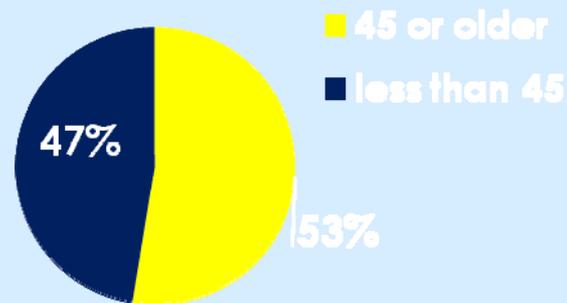
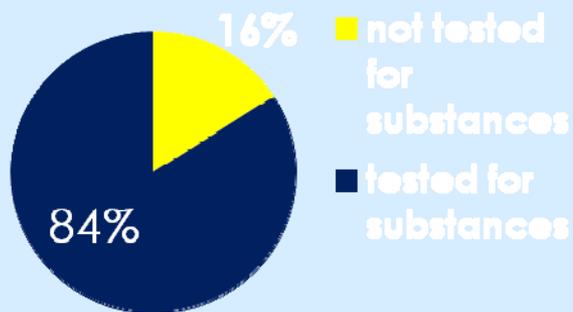
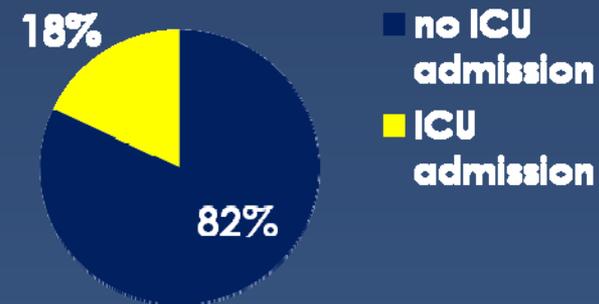
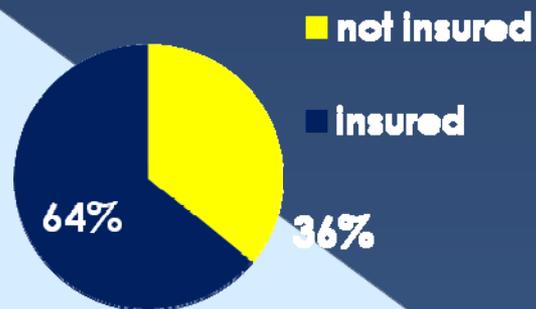
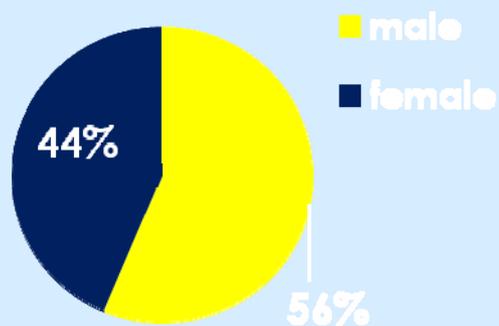
insured = commercial insurance, medicare, medicaid, workers' compensation

uninsured = self-pay, not documented



descriptive results:

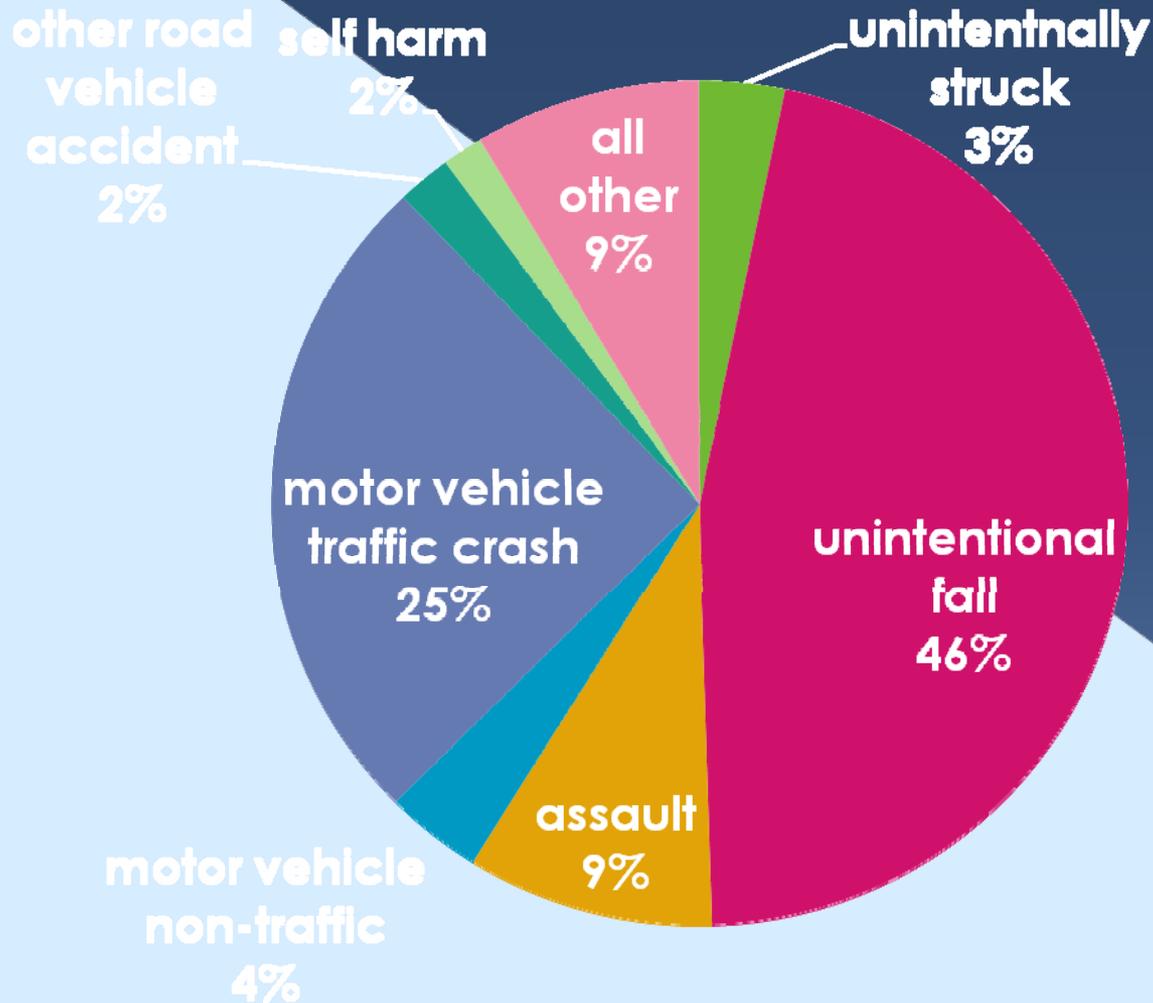
study population's characteristics, Ohio trauma cases, 2004-07



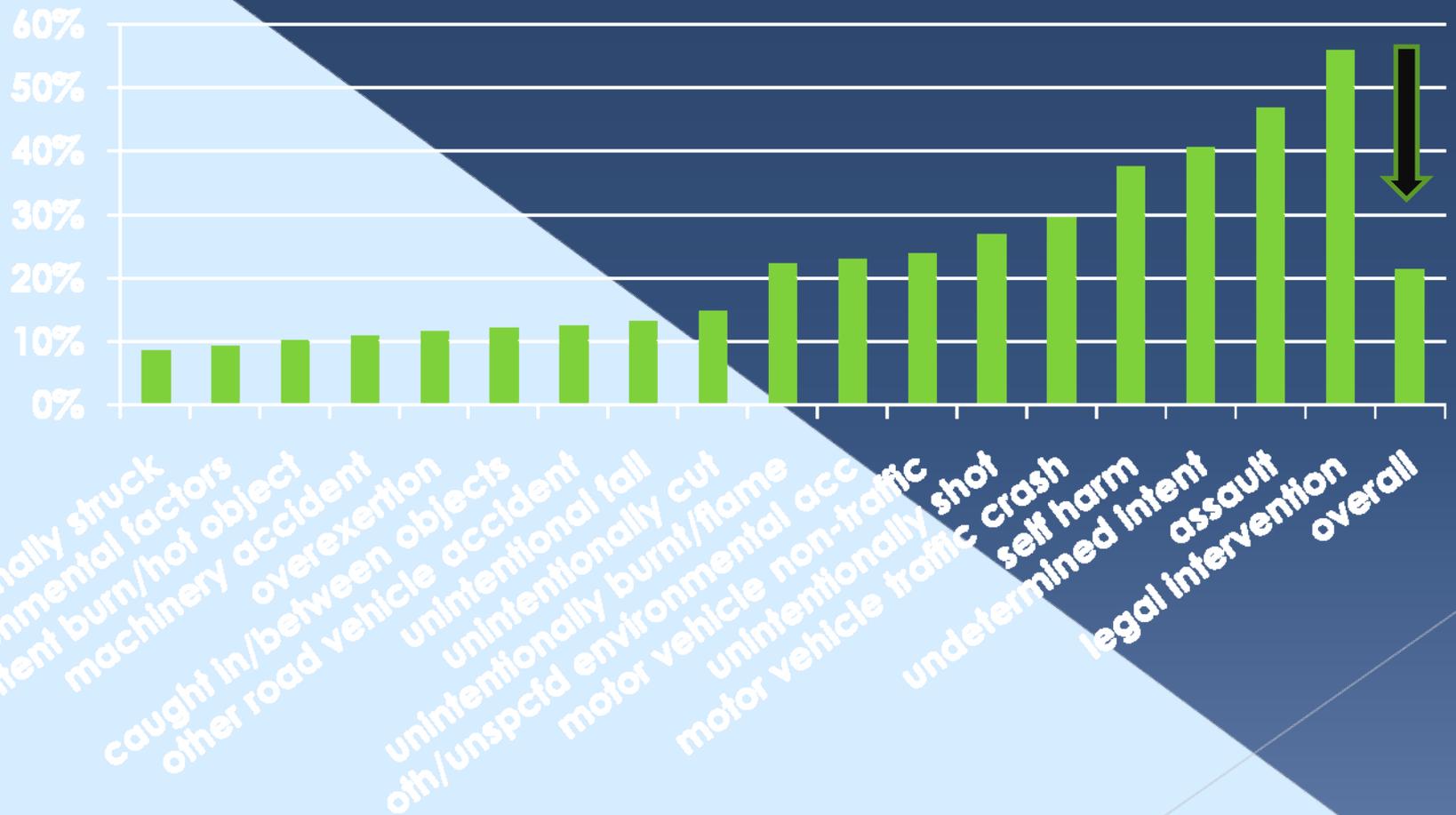
proportion of trauma cases tested for each specific substance, Ohio, 2004-07



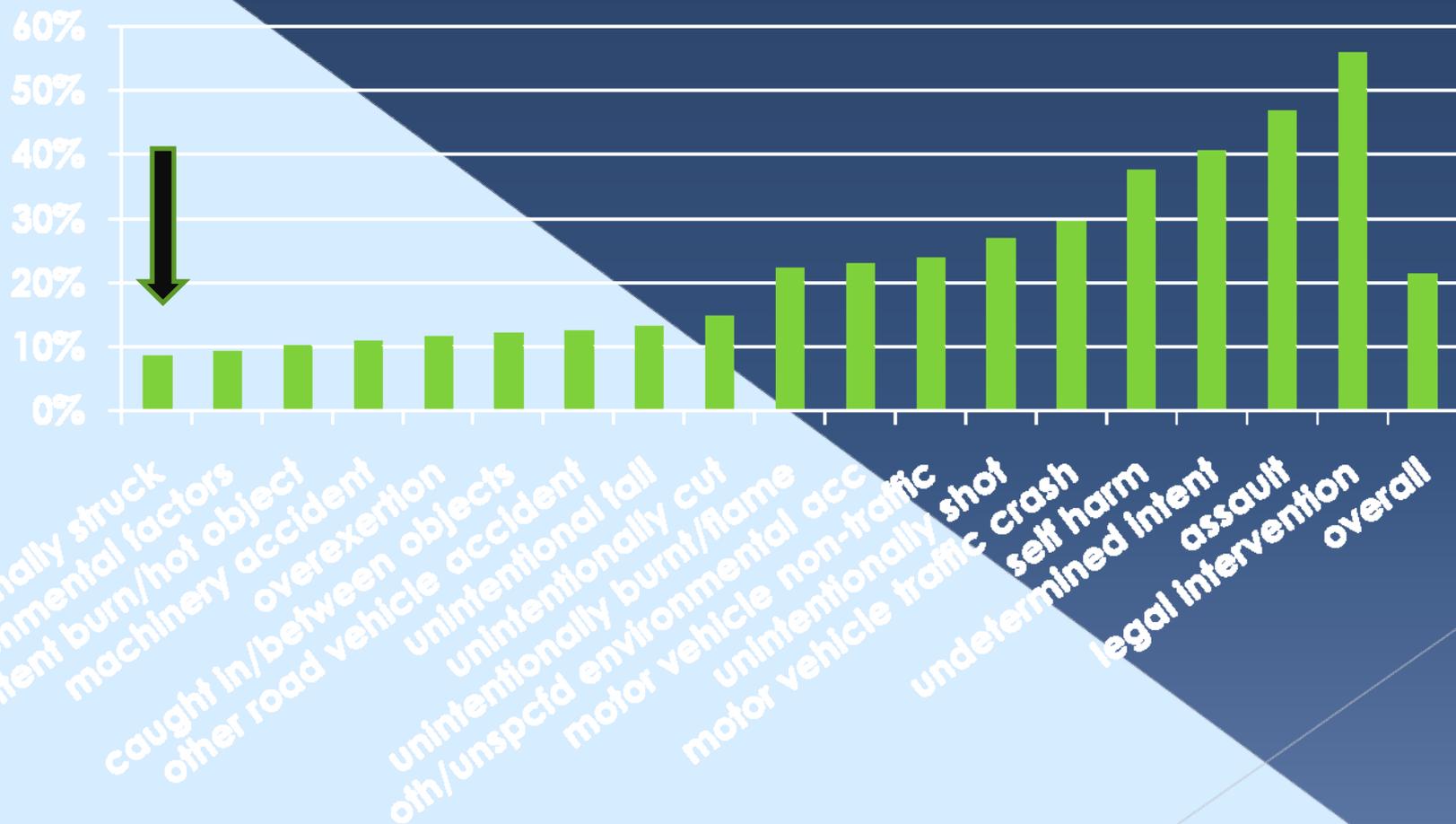
types of injuries among trauma cases, Ohio, 2004-07



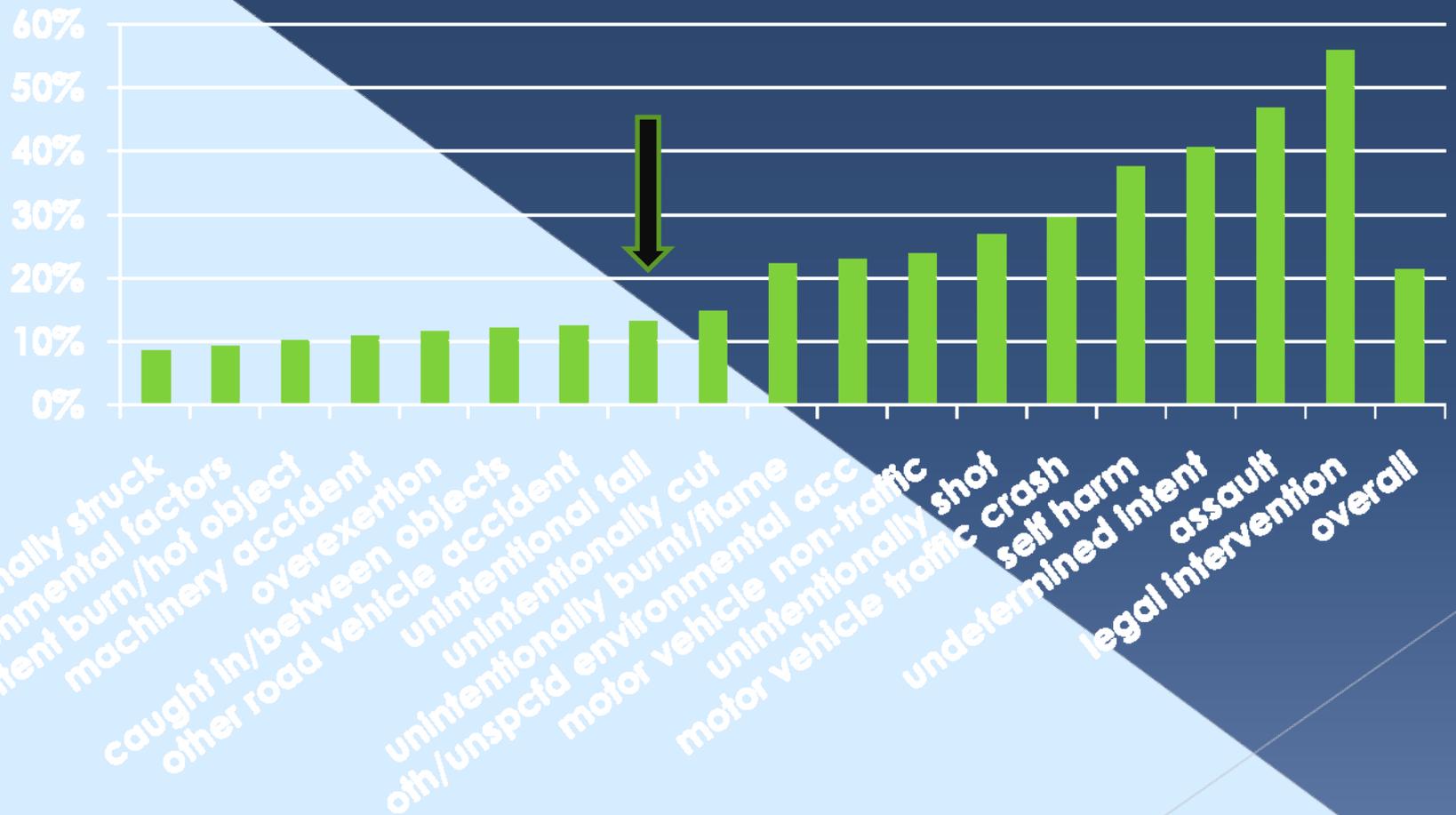
proportion of trauma cases w/evidence of substance abuse, by type of injury, Ohio, 2004-07



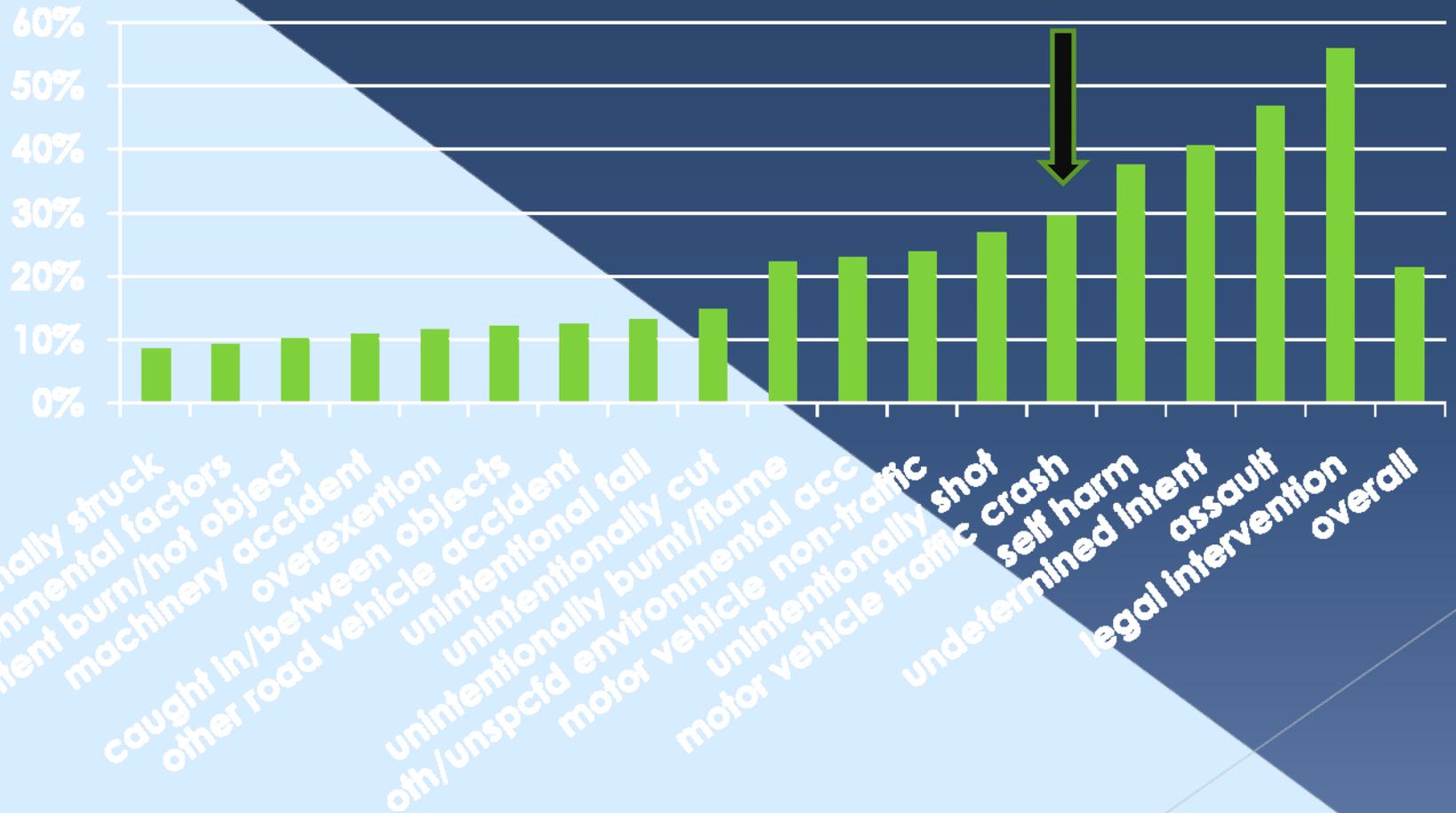
proportion of trauma cases w/evidence of substance abuse, by type of injury, Ohio, 2004-07



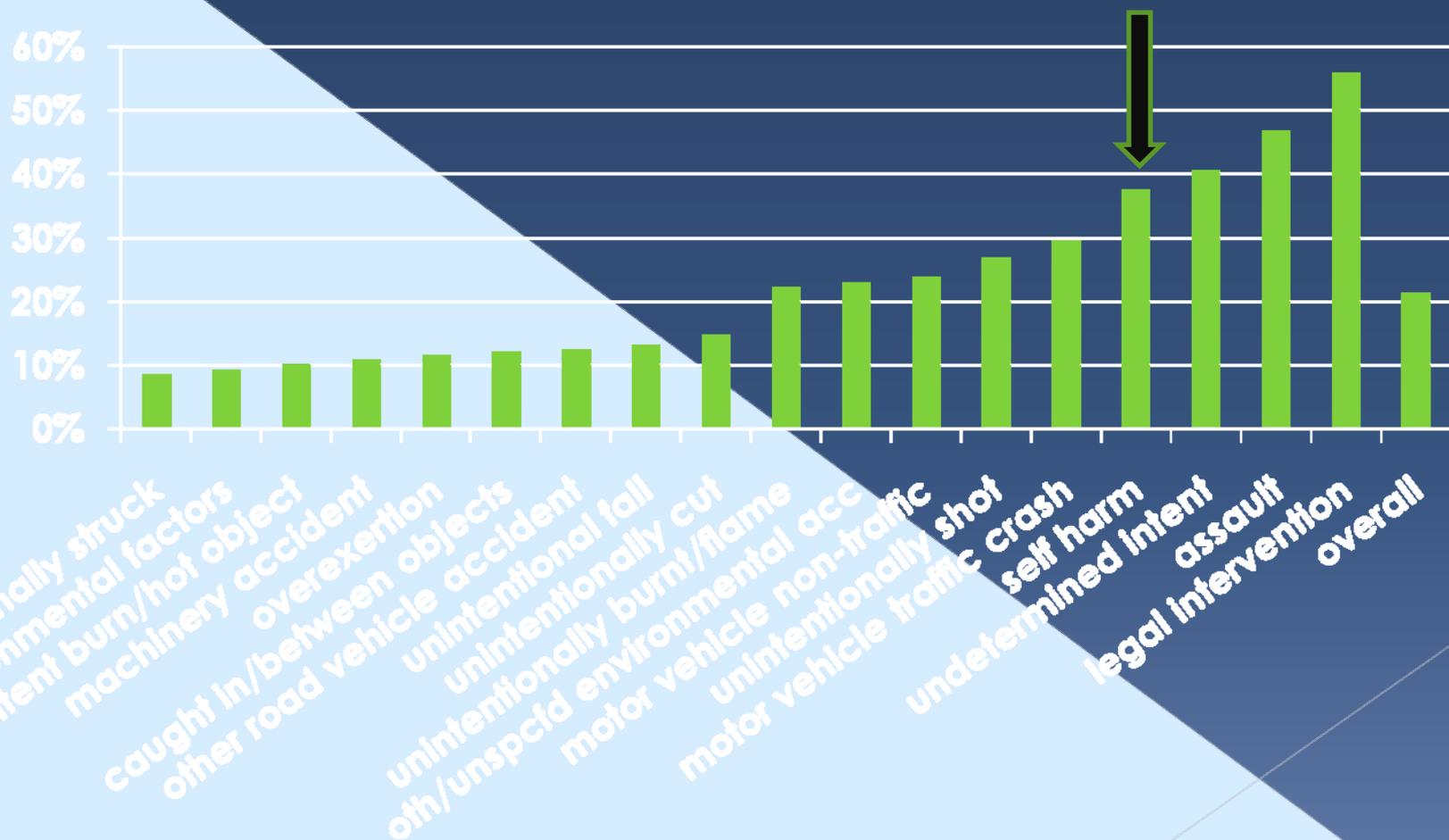
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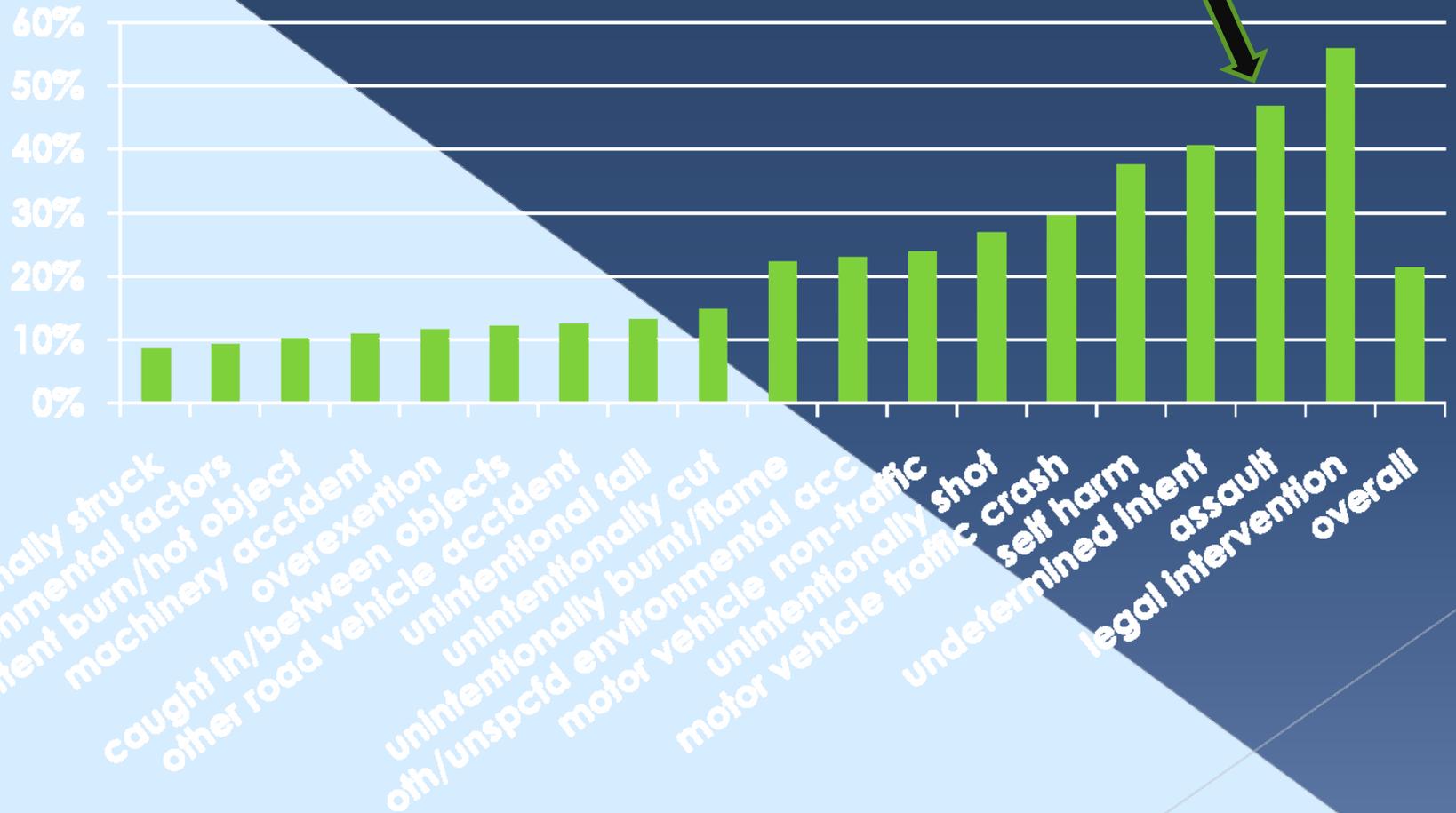
proportion of trauma cases w/evidence of substance abuse, by type of injury, Ohio, 2004-07



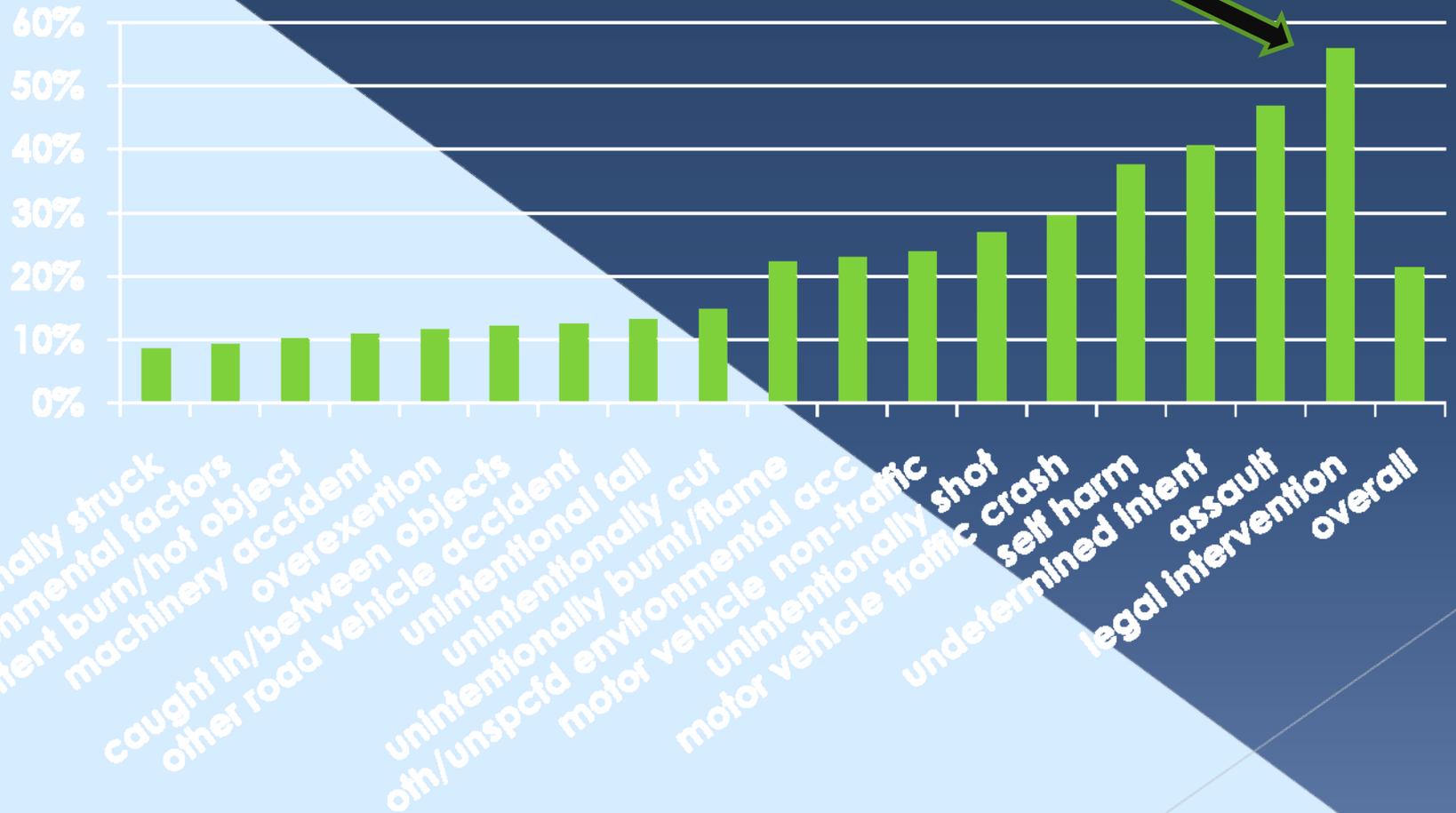
proportion of trauma cases w/evidence of substance abuse, by type of injury, Ohio, 2004-07



proportion of trauma cases w/evidence of substance abuse, by type of injury, Ohio, 2004-07



proportion of trauma cases w/evidence of substance abuse, by type of injury, Ohio, 2004-07



crude relationships between substance abuse and injury severity outcomes

outcome	measure of association	CI
#1) mean injury severity score	difference = 1.92	(1.80, 2.04)
#2) mean length of stay	difference = 0.83	(0.72 ,0.95)
#3) admitted to ICU	RR=2.05	(1.99, 2.11)
#4) at least one complication	RR=1.33	(1.30, 1.43)
#5) additional medical care after discharge	RR=0.79	(0.77, 0.81)

risk factors for injury severity outcomes, (as measured by differences in means & relative risks)

risk factor	difference in mean inj score (#1)	difference in mean los (#2)	RR for ICU admission (#3)	RR for 1+ complication (#4)	RR for being transferred for additional tx (#5)
male female	1.50*	0.32*	1.67**	0.94**	0.51**
black non-black	- 0.26@	0.44*	1.45**	1.11**	0.67**
uninsured insured	0.79*	0.27*	1.05**	1.38**	0.67**
<45 yrs old 45 or older	0.58*	-1.08*	1.32**	0.57**	0.23**
tested untested	0.13	0.34*	1.29**	0.92**	0.65**

* p<.0001

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** CI does not include 1.0

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