

Opioid-related Overdose Deaths in Massachusetts by Industry and Occupation, 2011-2015: Implications for Prevention*

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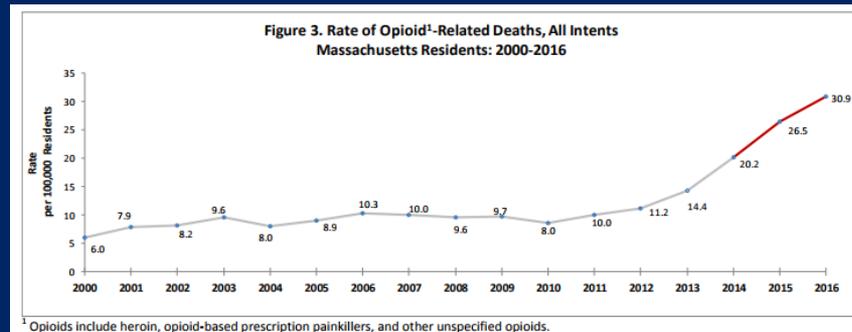


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“The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention”

Impetus for study

- Increase in opioid overdoses and deaths in MA (the epidemic)



- Research on widespread use of prescribed opioids following work-related injuries
- Local community identification of “workers in the trades” at risk

Opioid-Related Deaths Among Workers in the Trades/Services = **182** (of 281)

Bureau of Labor Statistics Occupation Profiles	Opioid-Related Decedents in Trades/Services	% of Trades/Services Deaths	Occupation's % in the County Trades/Services Workforce*	Trades/Services Deaths: % with High School Education or Less
Construction	69	38%	14%	84%
Building/Grounds Cleaning & Maint.	22	12%	9%	82%
Food/Beverage Service	20	11%	12%	65%
Homemaker	17	9%	26%	88%
Installation/Maint./Repair	14	8%	6%	93%
Truck/Heavy Equip. Driver	10	5%	6%	100%
Healthcare Support	9	5%	5%	33%
Automotive or Boat Repair	8	4%	6%	100%
Fishing	5	3%	1%	80%
Hair/Nail Care	5	3%	7%	40%
Production	3	2%	5%	100%
Total, Trades/Services	182	100%		

Sources: Barnstable County Dept. of Human Services, and
 *Bureau of Labor Statistics. www.bls.gov/Oes/current/oes_stru.htm, accessed 8/30/2017

← Barnstable County Department of Human Services

Mystic Valley Public Health Coalition



“People get hurt and don’t report the injury for fear of losing their job, so they mask the pain with pills.” – Melrose laborer

2012-2015 DEATHS

All deaths with job listed = 181

Trade/labor only Deaths = 77

43%

- Contractor
- Construction
- Carpet Installer
- Roofer
- Tree Cutter
- Carpenter
- Plasterer
- Electrician
- Mover
- Laborer
- Painter
- Automotive
- Plumber
- Landscaper
- Mechanic
- Iron Worker
- Paving
- Mason
- Welder
- Machine Operator
- Lineman
- Sheet Metal Worker
- Heavy Equipment Operator
- Tradesman
- Tile Setter

Study aims

- Describe opioid-related overdose deaths among MA residents by industry and occupation (I/O)
 - By gender, race/ethnicity
- Explore factors that may contribute to differences in risk by I/O using information from state and national surveys
- Generate information for targeting interventions in high risk worker groups

Methods

- Data source: MA Death certificates – 2011-2015
 - Identified overdose deaths using *Cause of Death* codes based on CDC case definition
 - Abstracted I/O and other demographic data
 - Coded I/O automatically
- Excluded deaths: retired, unemployed, disabled, housewife, no occupational information
- Rates: overdose deaths per 100,000 workers
 - Employment data from American Community Survey

Results

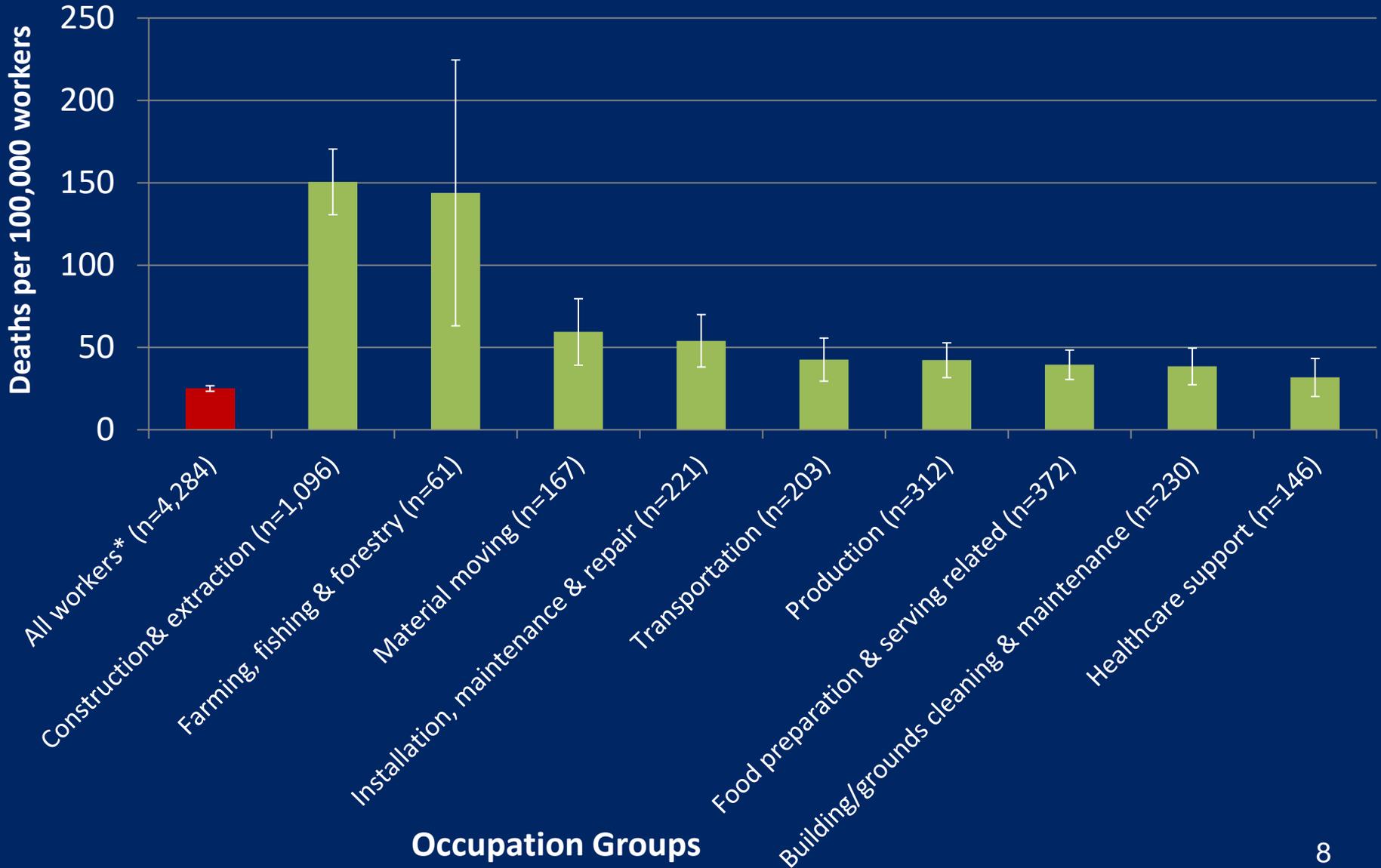
5,580 opioid related overdose deaths in MA in 2011-2015



4,301 deaths with usable industry and/or occupation information

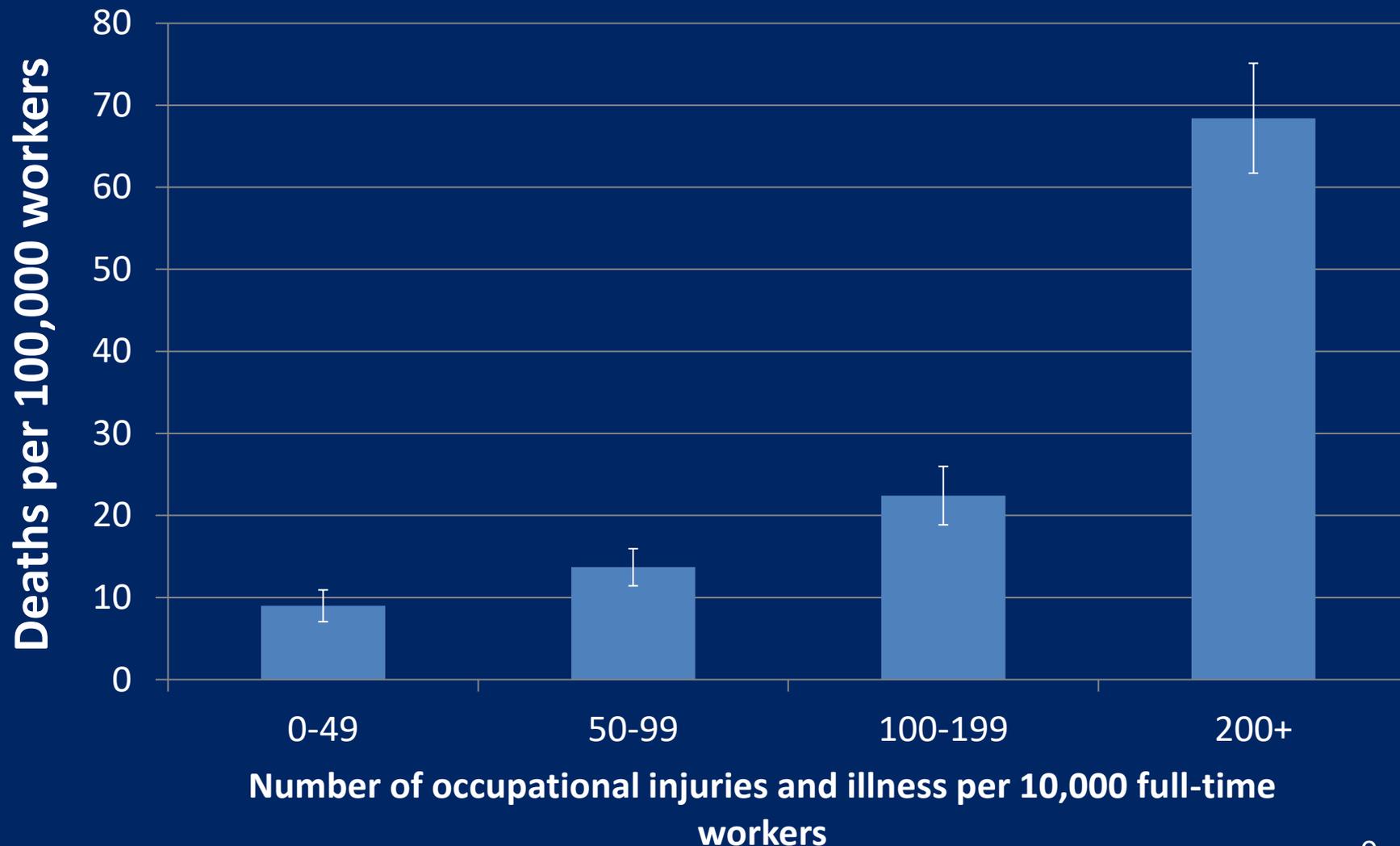
Occupation groups with opioid overdose death rates significantly higher than average rate for all workers

Massachusetts workers, 2011-2015, n=4,302



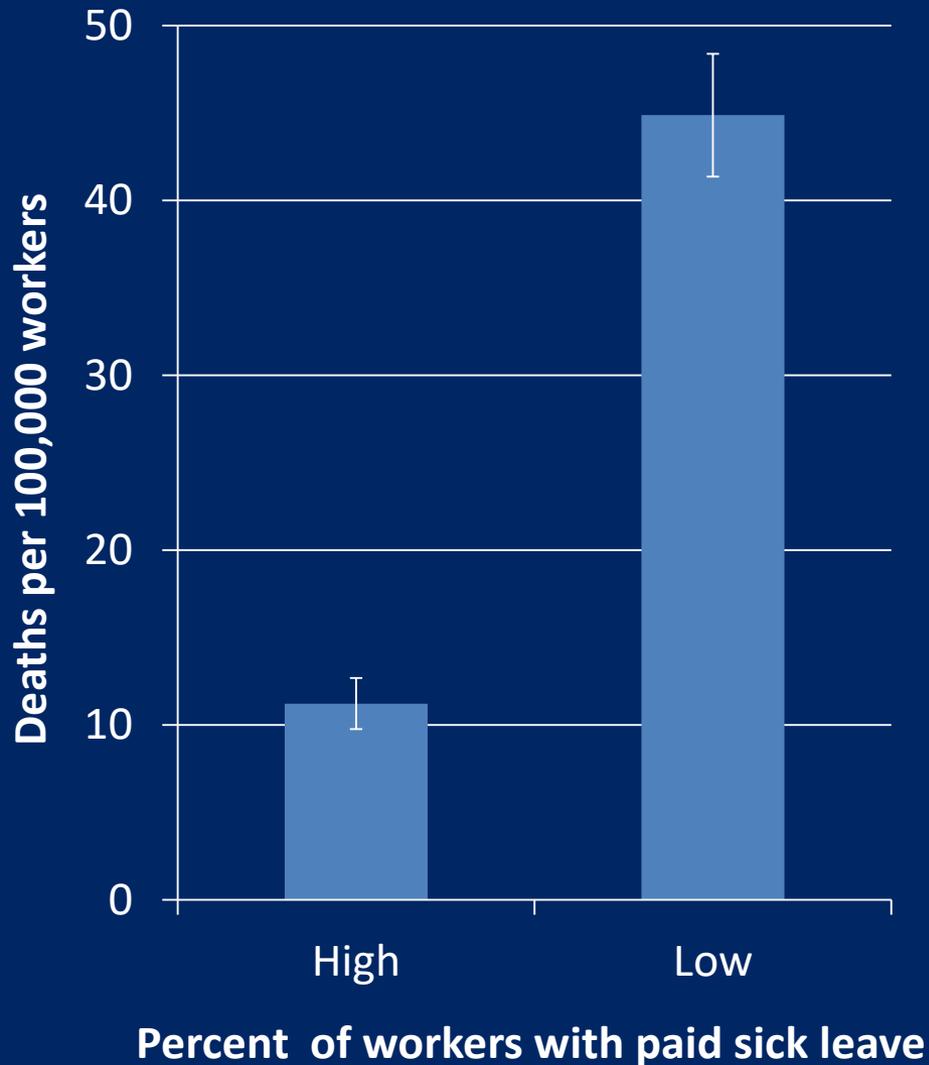
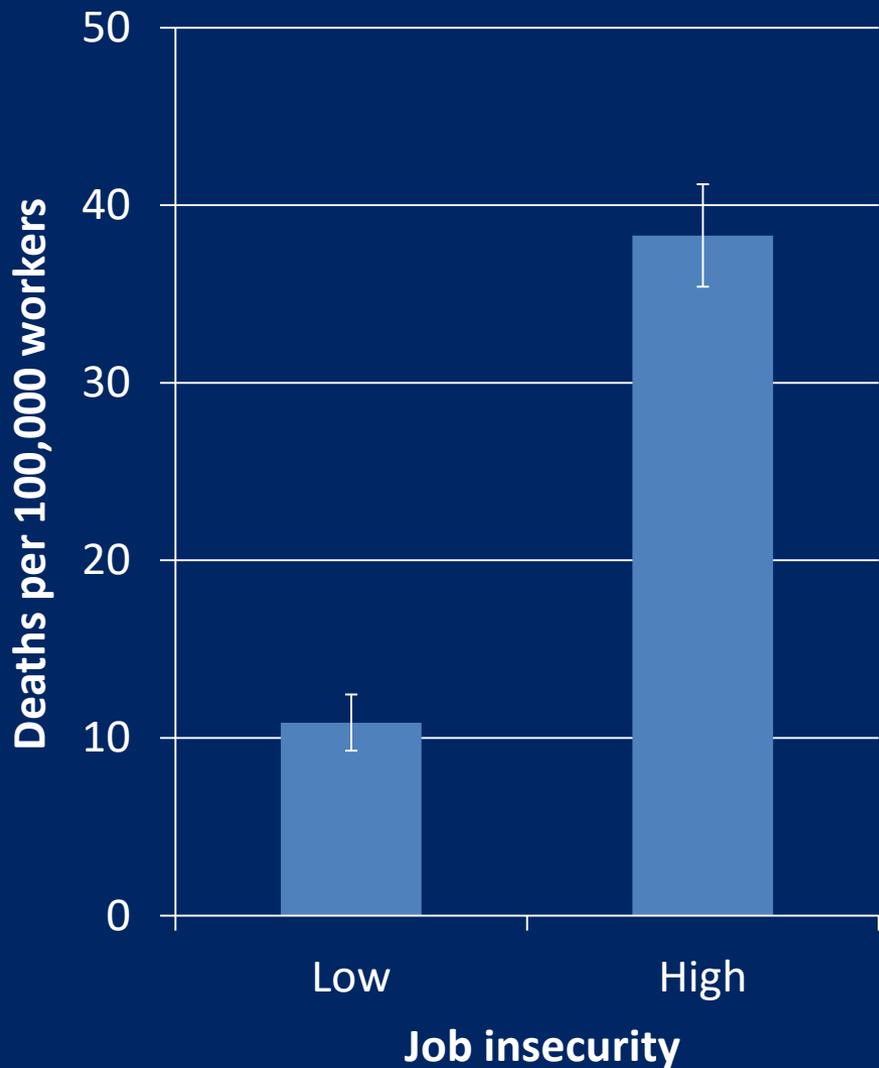
Rate of opioid overdose death by occupation-specific injury and illness rate category

Massachusetts workers, 2011-2015, n=4,302

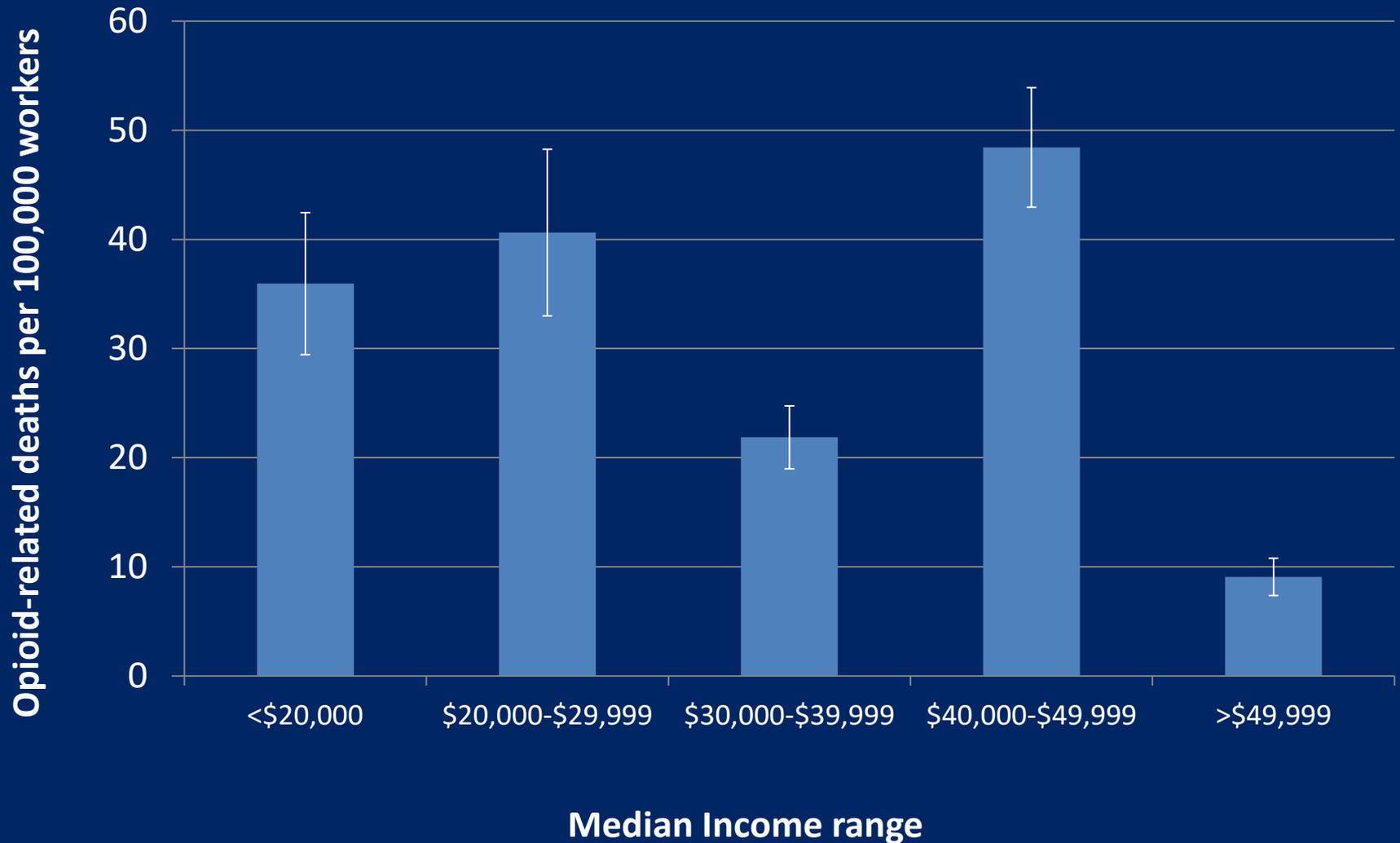


Rate of opioid overdose death by level of job insecurity and paid sick leave

Massachusetts workers, 2011-2015, n=4,302



Rate of OROD by level of occupation-specific median income*, Massachusetts workers, 2011-2015 n=4,302



* From the American Community survey, 2011-2015

Limitations

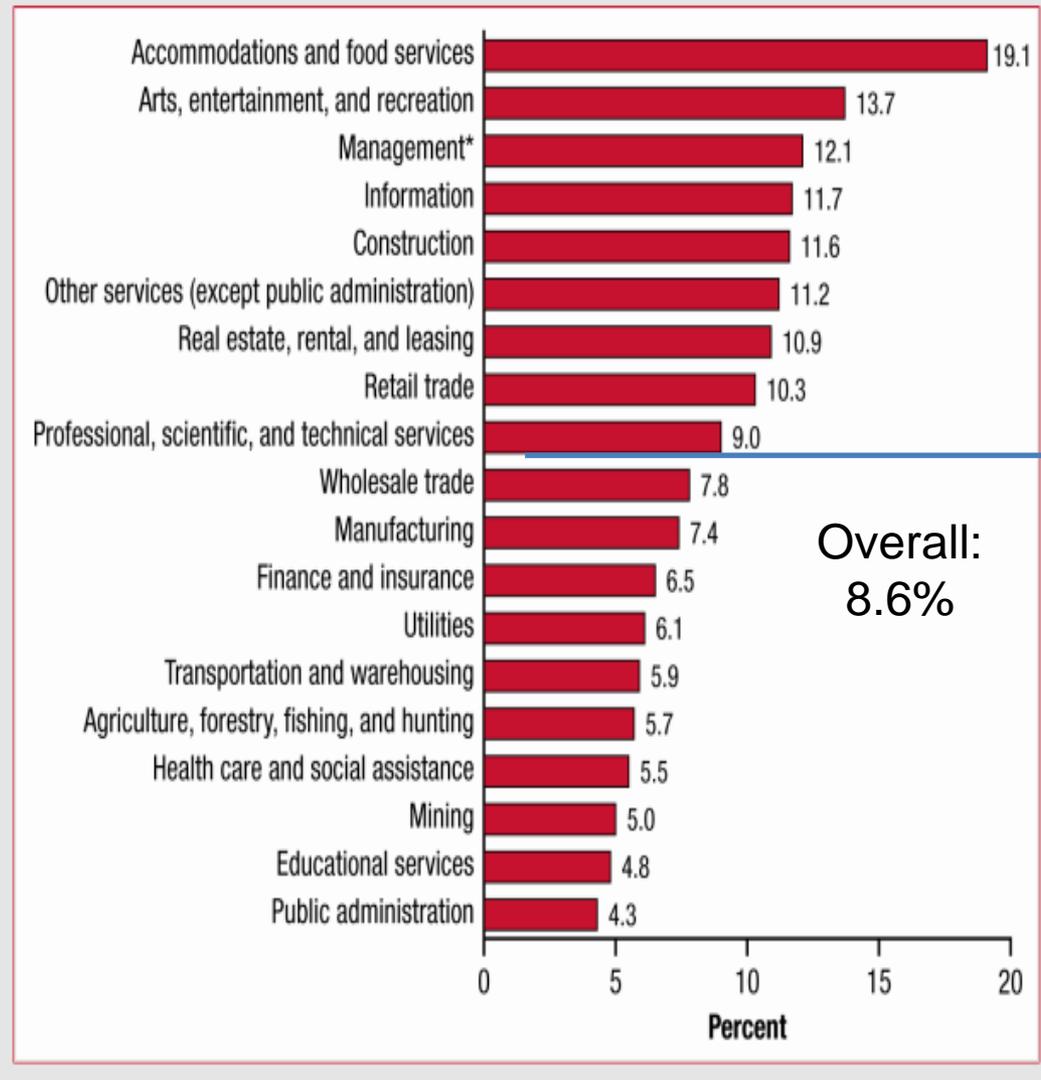
- Usual vs. current I/O
- Some decedents with I/O may be unemployed or retired
 - Conducted restricted analysis those 55 or younger (with the same denominator); findings similar
- Limited sample size precluded detailed analysis by race/ethnicity
- Lack of individual level data for injuries, sick leave, and job insecurity. Causal conclusions cannot be drawn.

Discussion

- Consistent with previous reports of wide use of opioids for pain management following work injuries
- Construction and fishing workers – a perfect storm
 - High rates of fatal and non-fatal occupational injuries
 - High prevalence of self reported pain
 - High rate of MSDs
 - Job insecurity – seasonal work
 - > average background drug use
- High rates also observed in other blue collar, manual jobs.
- Higher overdose death rates not likely fully explained by high background rates of drug use



Figure 2. Past month illicit drug use among adults aged 18 to 64 employed full time, by industry category: combined 2008 to 2012



Conclusions and public health implications

- More research needed to understand contribution of work-related injuries and other occupational factors to opioid use.
- Educational and policy interventions targeting high risk worker groups are needed. These should address
 - Workplace hazards that cause injuries for which opioids prescribed
 - Use of opioids for pain management and recovery following injury, and
 - Addiction treatment and recovery resources.
- Workplace provides unique opportunities to promote primary and secondary as well as tertiary prevention

Preventing opioid use, misuse and overdose among high risk worker groups: Opportunities for moving upstream

Primary <i>Before pain, injury & opioid use</i>	Secondary <i>Post (at) injury</i>	Tertiary <i>Post substance use disorder (SUD)</i>
Prevent pain & injuries	Access to treatment and appropriate pain management	Access to SUD treatment and recovery support
Health and safety Committees/ Programs	Paid sick leave	EAP/ Peer support programs
<p>.....</p>	Return to Work accommodations <p>.....</p>	Naloxone/training in the workplace <p>.....</p>
<p style="text-align: center;">Opioid awareness</p>		
<p style="text-align: center;">Address cultural issues regarding help seeking, stigma</p>		

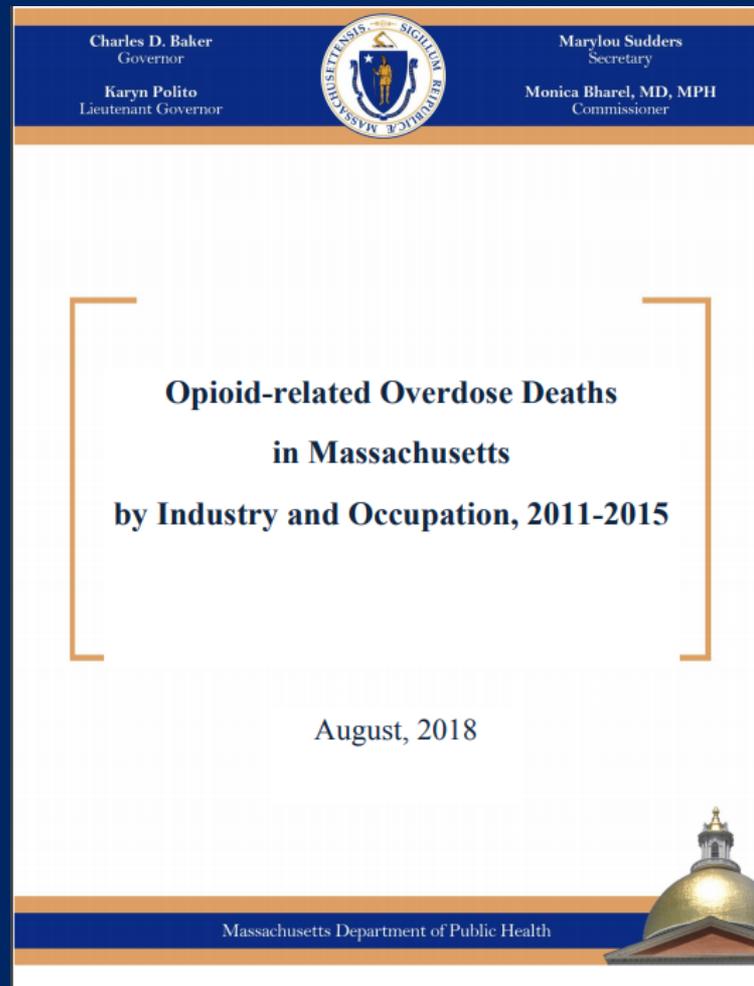
Acknowledgment: Dr. Cora Roelofs for her input.

Further research in Massachusetts

- Review of prescription drug monitoring data to describe opioid prescribing for work-related injuries paid by workers' compensation
- Updated fatality study with additional years of data
- Link workers' compensation claim data with large longitudinal merged data base to assess:
 - Risk of fatal and non-fatal overdose among injured workers
 - Work-related injuries as a gateway to opioid use.

Massachusetts prevention initiatives

- Workers' Compensation: Alternative Treatment Pathway
 - Quicker access to make treatment decisions in settled claims
- Engagement with stakeholders to inform an educational outreach strategy
 - Key informant interviews/focus groups
- Pilot peer-to-peer opioid awareness training program for workers in high risk occupations
 - Catalogue of existing opioid education materials for workers



<https://www.mass.gov/files/documents/2018/08/15/opioid-industry-occupation.pdf>

Rate & number of opioid overdose deaths by occupation groups with five highest rates by gender, Massachusetts workers, 2011-2015

Males

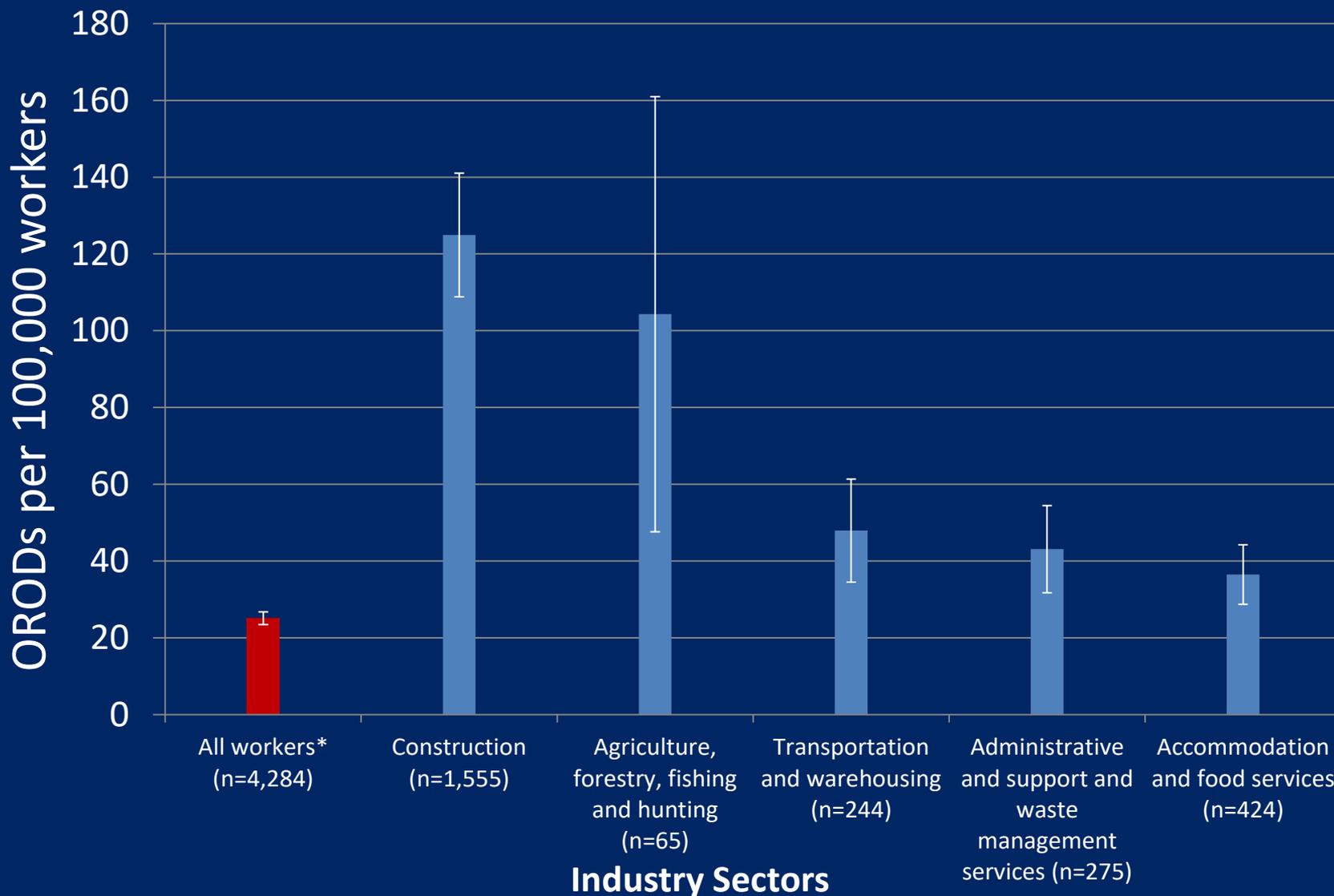
Occupation	Rate	#
Farming, fishing, and forestry occupations*	205.9	60
Construction and extraction occupations*	152.3	1,084
Material moving occupations*	72.4	158
Installation, maintenance, and repair occupations	54.3	213
Building and grounds cleaning and maintenance occupations	54.2	207
Total – male workers	38.3	3,324

Females

Occupation	Rate	#
Construction and extraction occupations	73.5	12
Installation, maintenance, and repair occupations	47.8	8
Healthcare support occupations*	30.1	119
Food preparation and serving related occupations*	28.9	145
Transportation occupations	22.4	16
Total - female workers	11.6	978

* Rate significantly higher than rate for all occupation categories

Industry sectors with OROD rates significantly higher than the average rate for all workers, Massachusetts workers, 2011-2015, n=4,302



Grouped analysis

- Findings from state and national surveys used to group industries and occupations by:
 - Work-related injury and illness rates
 - Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses
 - Job security*
 - National Health Interview Survey
 - Availability of paid sick leave*
 - Bureau of Labor Statics Employee Benefits Survey