



Boston University School of Public Health



Massachusetts
Department of
Public Health

Can Routine Screening for Substance Use and Depression Reduce Maternal Mortality? A Questionnaire for Birth Hospitals

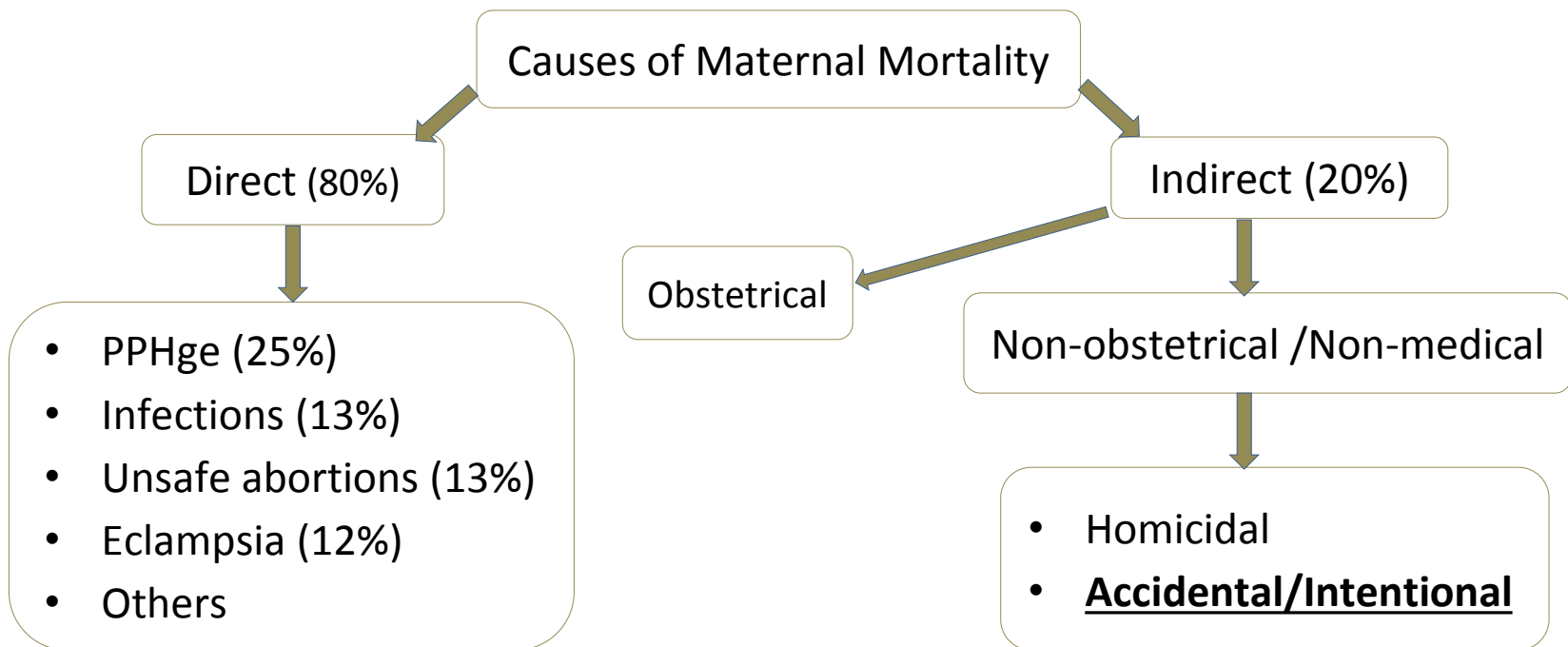


Overview

- **Background**
 - The problem of maternal mortality
 - Causes of maternal mortality
- **Study#1:**
 - MMR (2001-2010)
 - Variables and analysis
- **Approach#2:**
 - Survey to birth hospitals
 - Replies and analysis
- **Conclusion**
- **Recommendations**
- **Acknowledgments**
- **Q & A**

The Problem of Maternal Mortality?

Death within the 1st. Year of delivery or termination of pregnancy, (early: within 1st. 42 days, late: 43 days-1yr), according to the ICD-10.



- Major depression is most commonly associated with suicide; 1/16 end their lives.
- Risk of suicide in people with MDD: general population= 20:1.
- Dependence on alcohol and drugs in addition to depression sig. increases suicide risk.

Accidental/intentional Causes of Maternal Mortality

Illicit Drugs

- National
 - 5.9% use during 2011-2012 among surveyed pregnant women aged 15 to 44.
 - > 2009-2010 rates; 4.4% (non sig.)
- Massachusetts
 - 20% of pregnancy-associated injury deaths is due to drug overdoses.
 - 60% of pregnant women admitted to any level of care reported heroin as the primary substance used.
- Underestimated?

Accidental/intentional Causes of Maternal Mortality

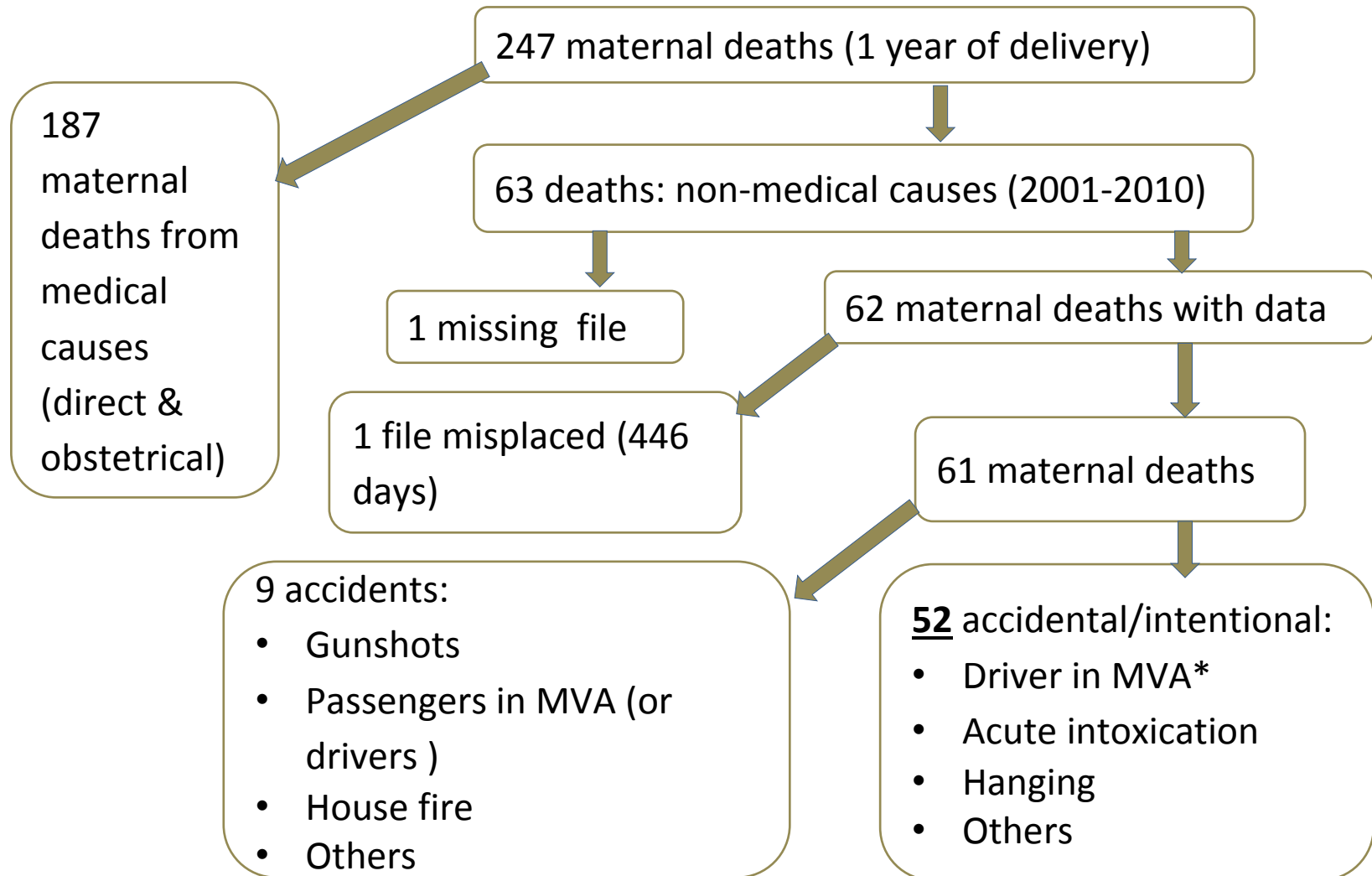
Depression

- National:
 - 1/5 women will experience an episode of MDD during their lifetime, mostly aged 20-40.
 - 10-16% of pregnant women diagnosed with MDD.
 - Depression before and/or during pregnancy increases risk of PPD.
 - PPD affects 9-16% of U.S. women.
- Massachusetts:
 - Prevalence of PPD in MA is 12.9%.
- Underestimated?

Methods: Data and Resources

- Retrospective MMR of cases from 2001-2010 as part of MDPH Mass Morbidity and Mortality Committee reviews
- Data was abstracted from:
 - o Death Certificates
 - o Birth Certificates
 - o Physician narratives/ Patient hospital records
- Missing data!!

Methods: Sample Selection

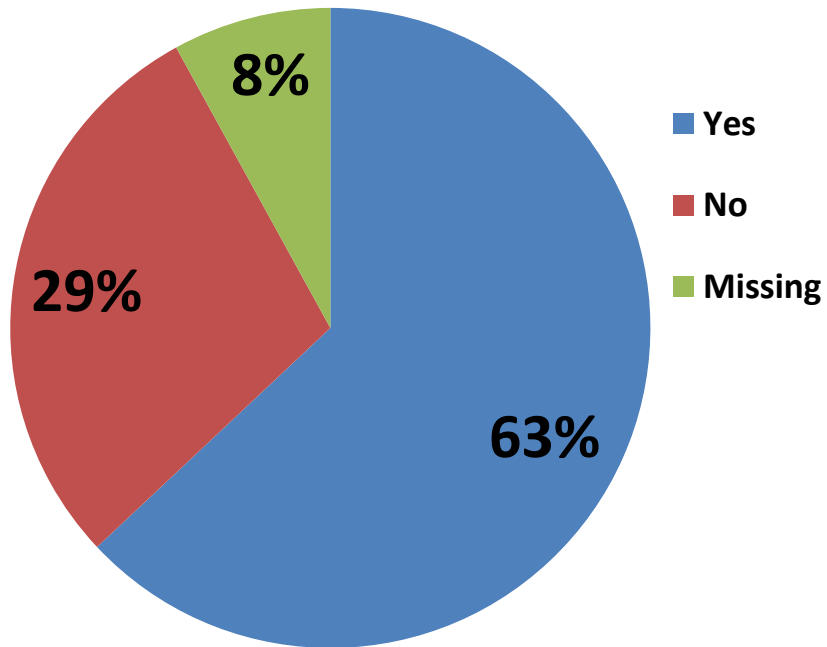


Variables

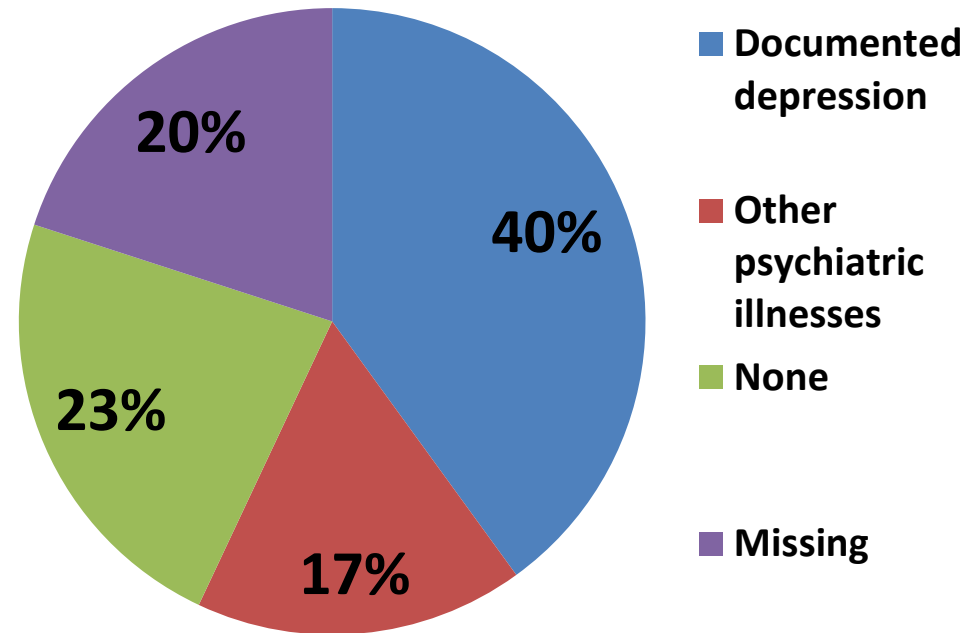
- Similar to background state demographics in Race, Age, Education, and Insurance.
- Different in
 - Alcohol Intake during pregnancy: 23% in our sample vs. 11% in MA
 - Domestic Violence: 15% had a history vs. 33% women in MA
 - MA Surveillance: 3.2% of mothers experienced physical IPV in the 12 months prior to or during pregnancy
 - Medical records: almost no information on abuse during pregnancy

Variables

Substance Abuse

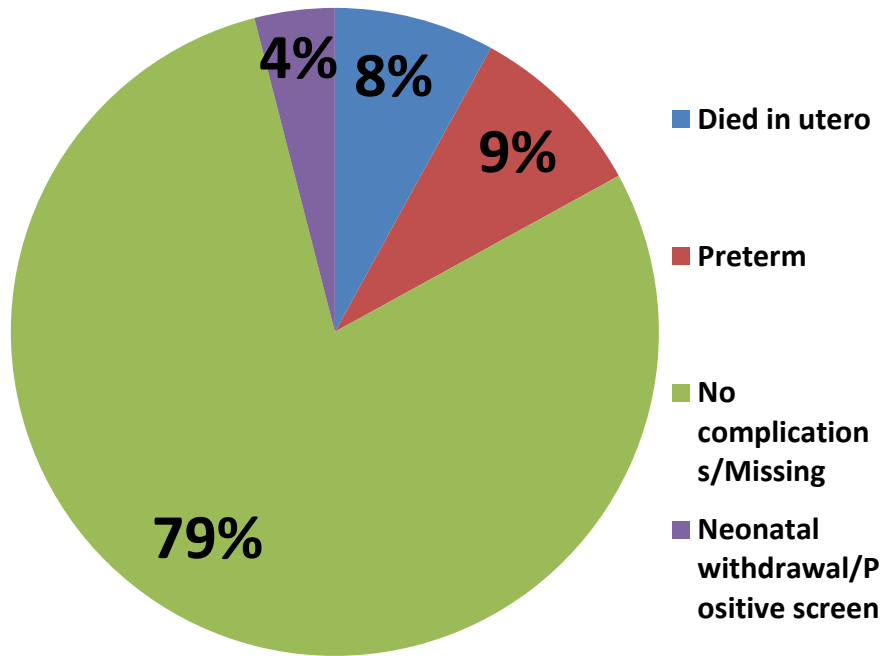


Psychiatric hx

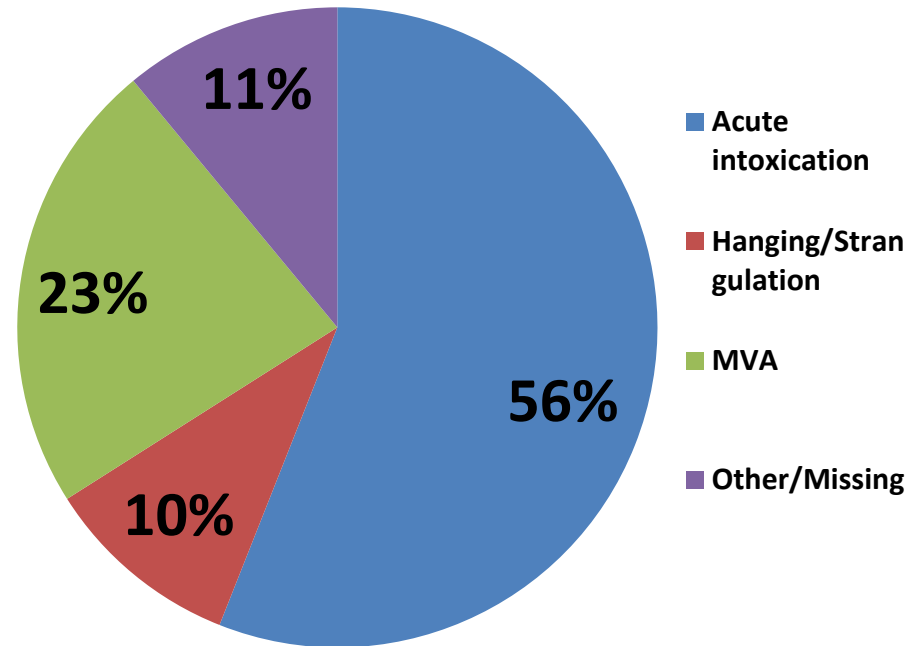


Variables

Outcomes of Birth

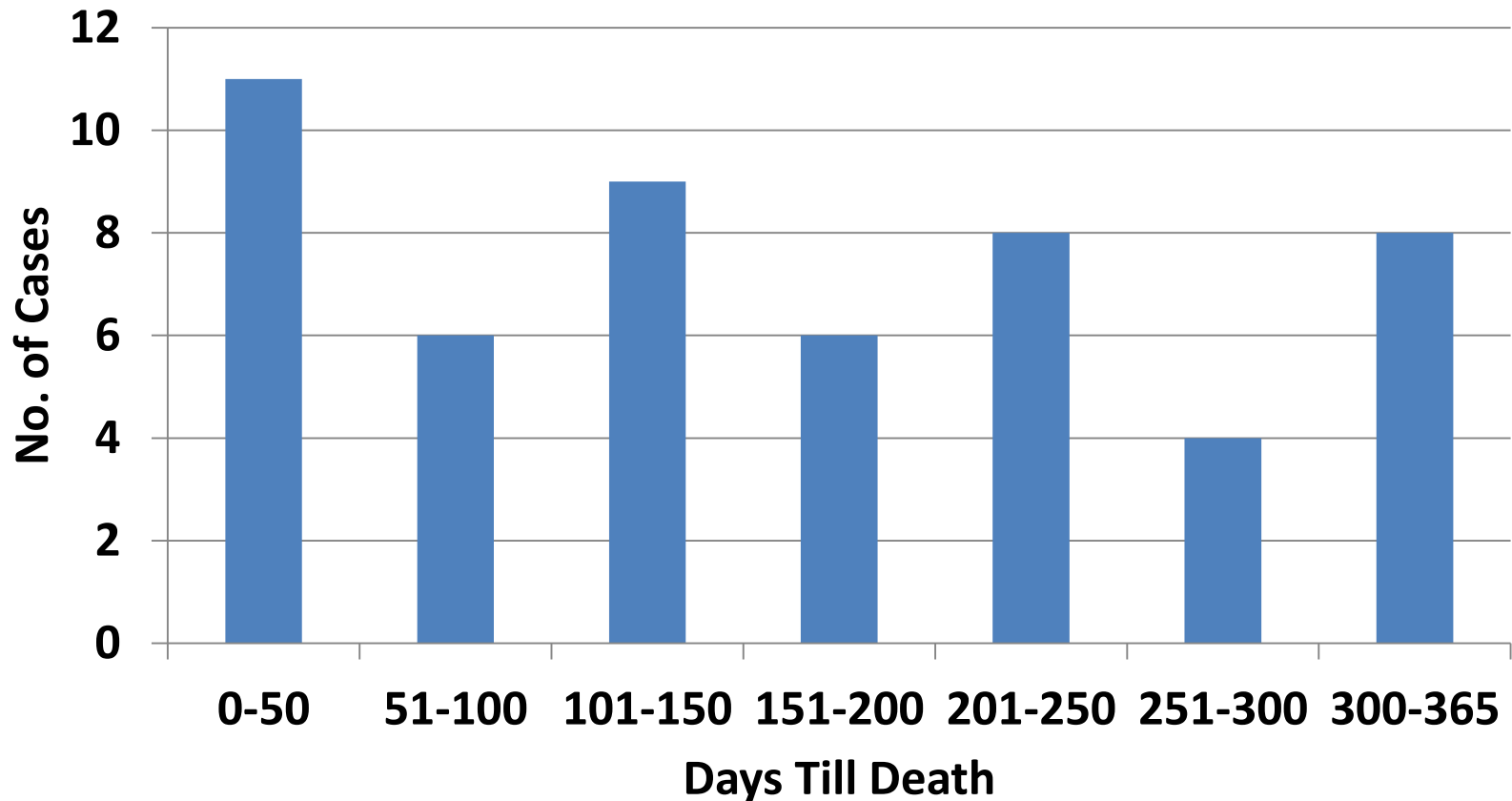


Cause of Death



Variables

Time from Delivery till Death



“Patient is very positive about being a mother and looking forward to the future“

Typically depression and substance use decrease during pregnancy:

- Mean rate of pregnancy-related abstinence among substance users was 57%.
- Substance use decreases significantly between 1st. and 3rd. trimesters.

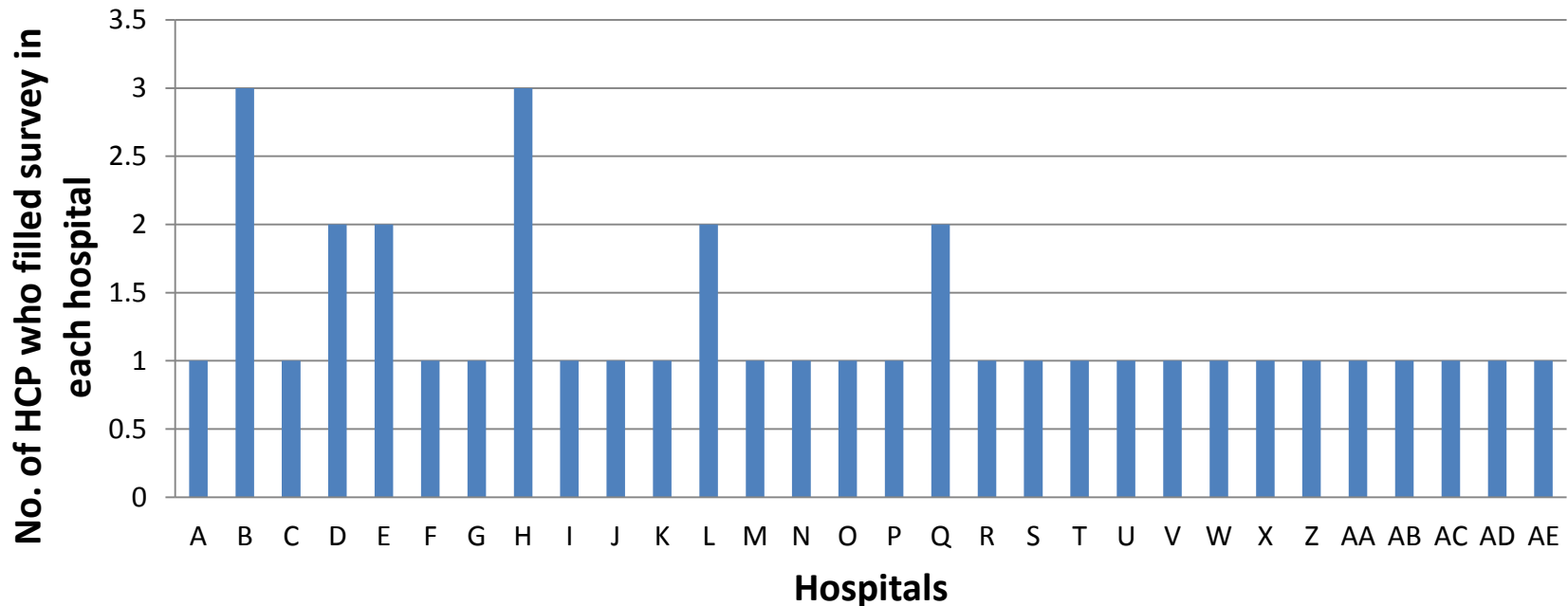
However, they tend to increase again following delivery:

- Substance use.
- Depression increases due to PPD and other life stresses.

Screening in MA Birth Hospitals

- A 17-Q survey sent to MA birth hospitals.
- Response rate 63% (30/48 MA birth hospitals, n=38)

Institution



Results

New guidelines in May 2013 → survey for follow up.

- >90% reported screening pregnant women for alcohol, drug use, and domestic violence, and psychiatric illnesses.
- At discharge, >80% provide information, resources, and contacts in case of substance use or PPD.
- Only 63% reported referring pregnant women with drug use or psychiatric illnesses to relevant health care professional e.g. psychiatrist,..
- Most hospitals have a written protocol for screening, testing, reporting, and referring pregnant women with substance abuse. (55% are reviewed every 2yrs)
- 58% have a separate informed consent policy for testing pregnant women for substance use (verbal)

Conclusions

- Unexpected demographics and background
- Numbers are small
- These deaths are considered preventable causes
- PP year is critical (the whole year!)
- Survey results
 - Practices overstated (unexpected)
 - Difference between what is known/supposed to be done and what really happens
 - Bias
- Problem is still increasing

Recommendations

- Screen ALL pregnant women using a standard tool, as suggested in DPH guidelines.
- Referral implemented based on screening results: Social worker, toxicology panel, referral to psychiatrist/or contact current psychiatrist
- If psych illness, violence, or substance use → detailed hx
- Proper follow up for whole pp year (between delivery & death)
- Pediatricians..
- Fill the gap: information on postpartum period to DPH
- At discharge, include mental health issues (esp. PPD) and read it with them. PPD is common
- Stereotyping/ judging women with substance use

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Massachusetts Department of Public Health

Questions



Challenges

Data in DPH:

- 1) process of searching for information is a time and effort consuming: main information (cause of death, age,..) are saved on computers but the main files in hard copy
- 2) missing data (1 missing file)
- 3) missing gap? no information on period between delivery and death (DPH only receives info from birthing hospitals)

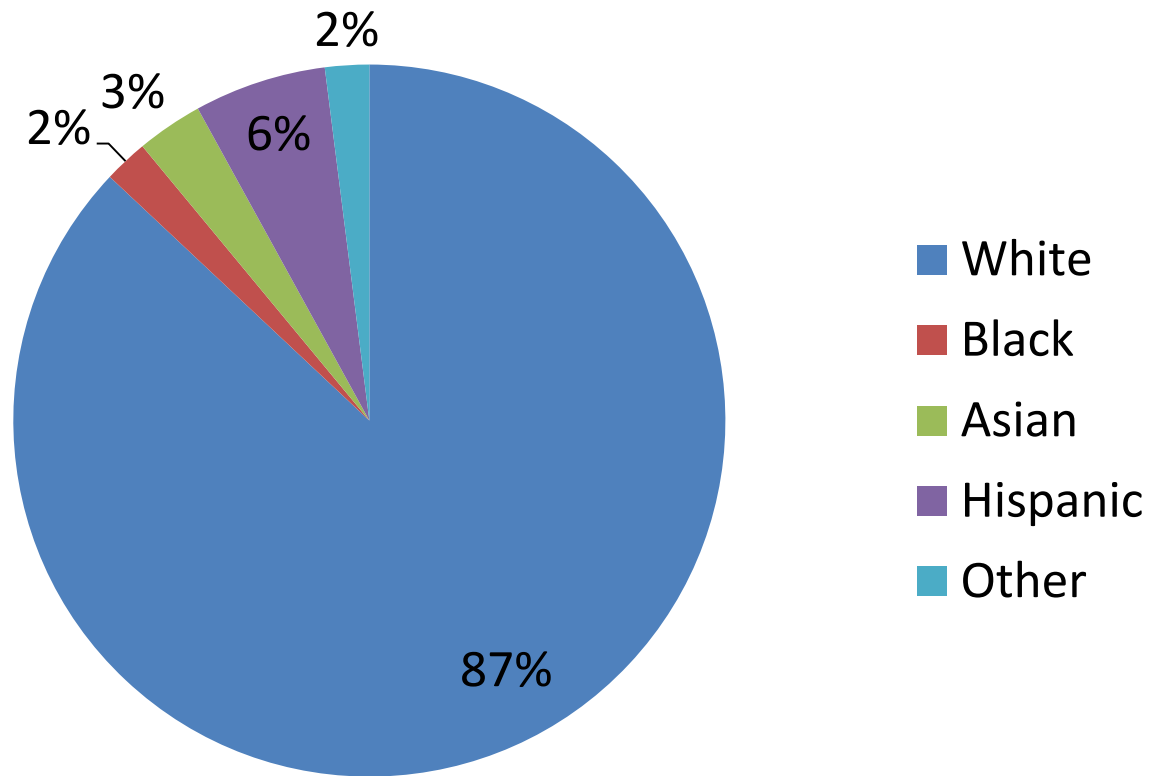
Hierarchy: routine and long time for processing documents, e.g., cover letter agreement,...

Survey: inconsistent, deficient, short time limit (were not able to resend it).

Survey replies: long time to reply (2 wk limit was a great idea!)

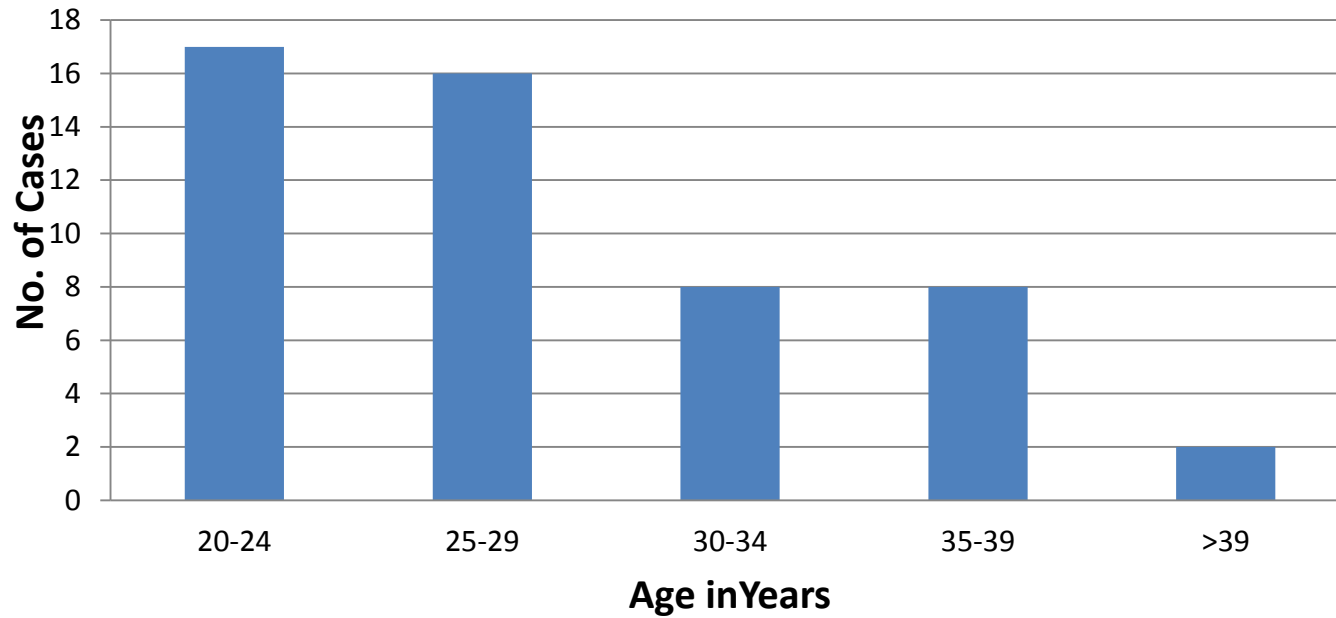
Extra Slides

Race



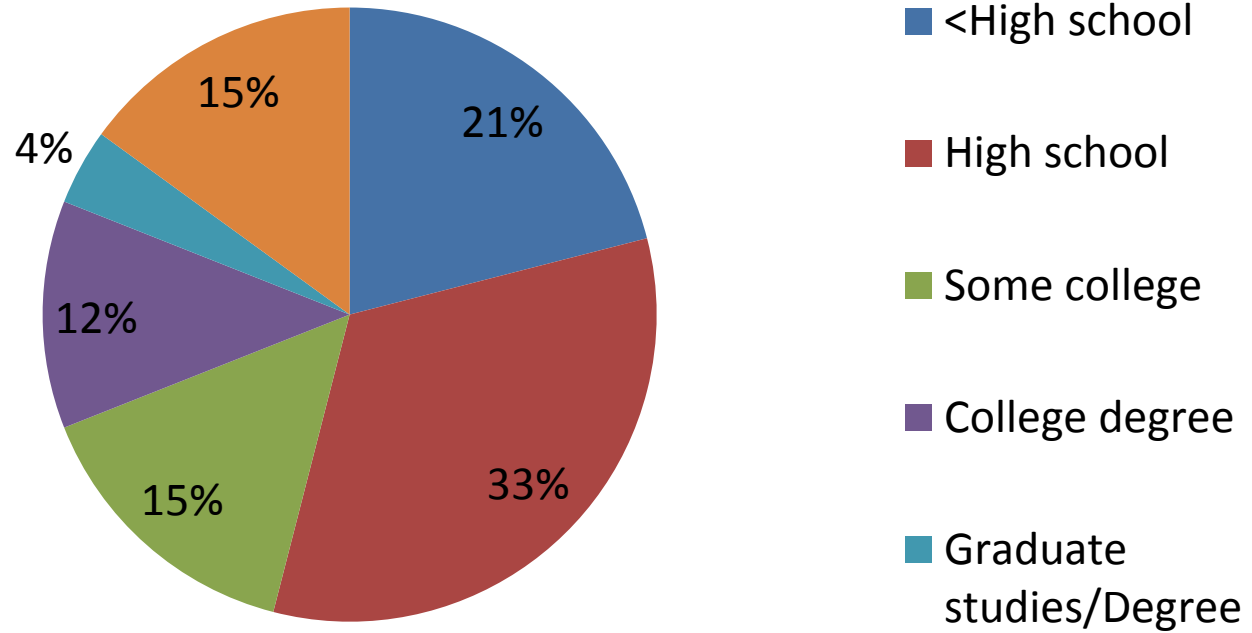
Extra Slides

Maternal Age at Time of Death



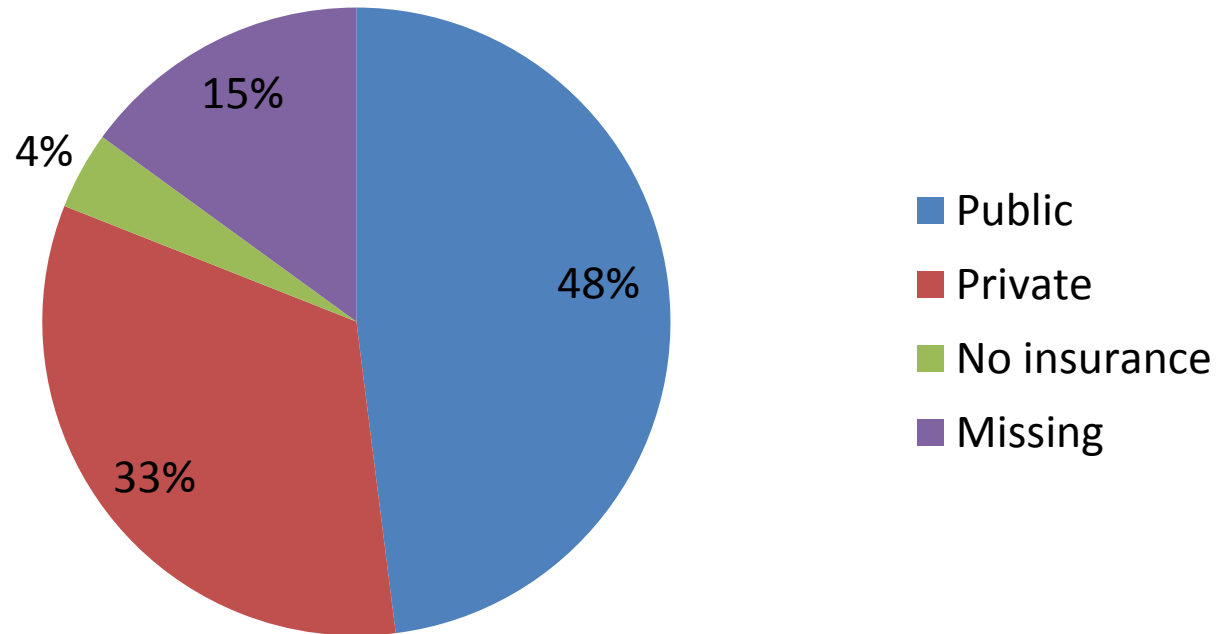
Extra Slides

Education



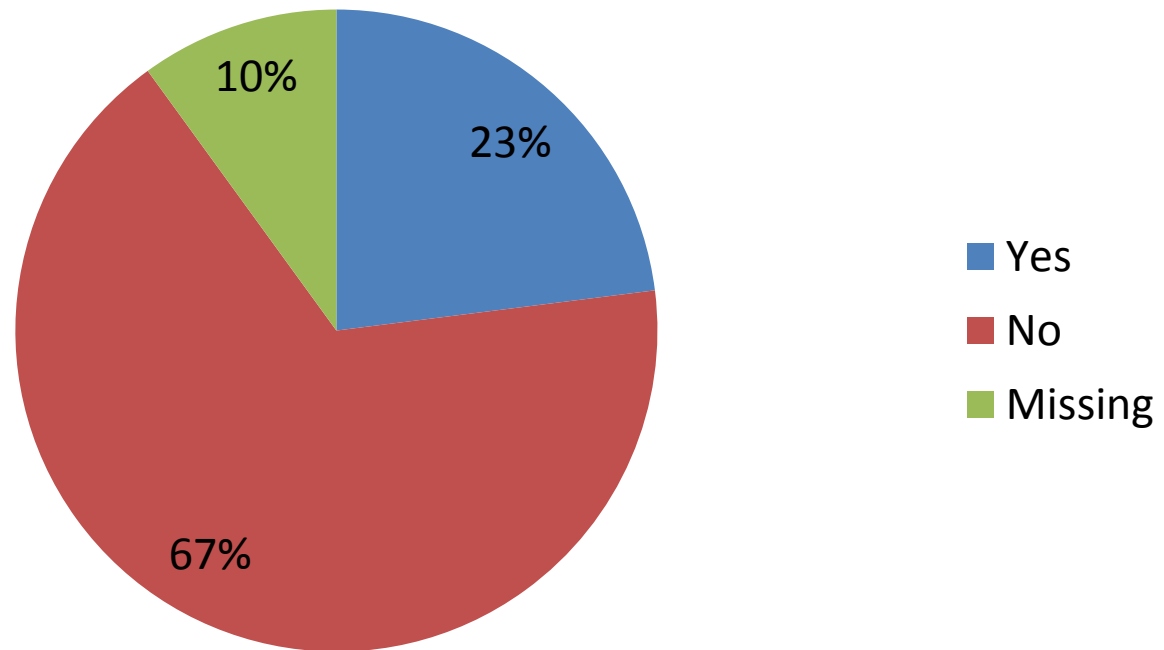
Extra Slides

Insurance



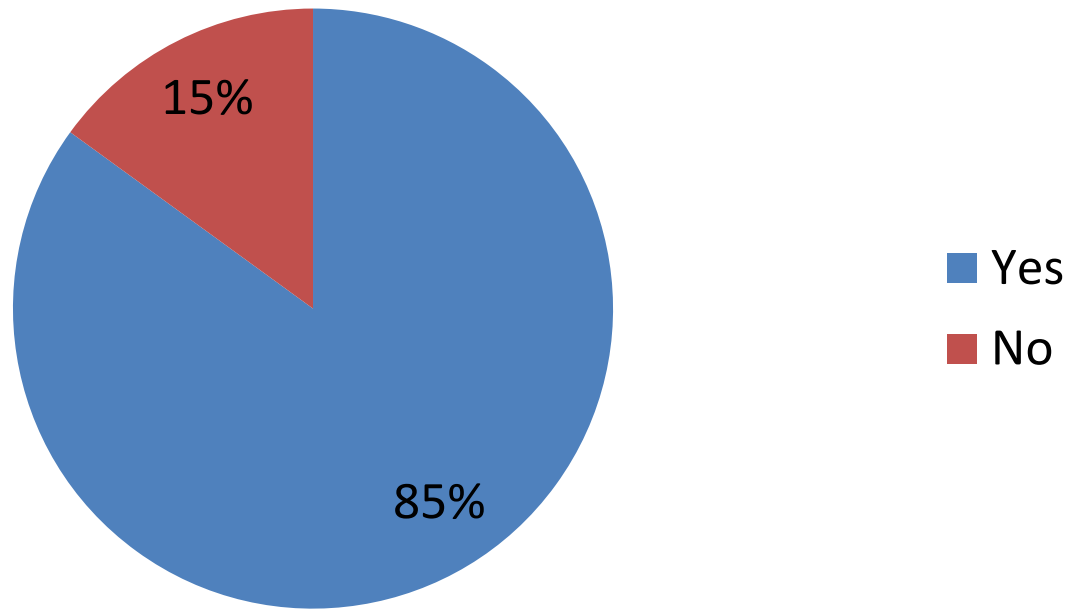
Extra Slides

Alcohol Intake



Extra Slides

Domestic Violence



Extra Slides: Survey Results

Position

