



Commonwealth of Massachusetts
Department of Public Health

Helping People Lead Healthy Lives In Healthy Communities

An Assessment of Opioid-Related Deaths in Massachusetts (2013-2014)

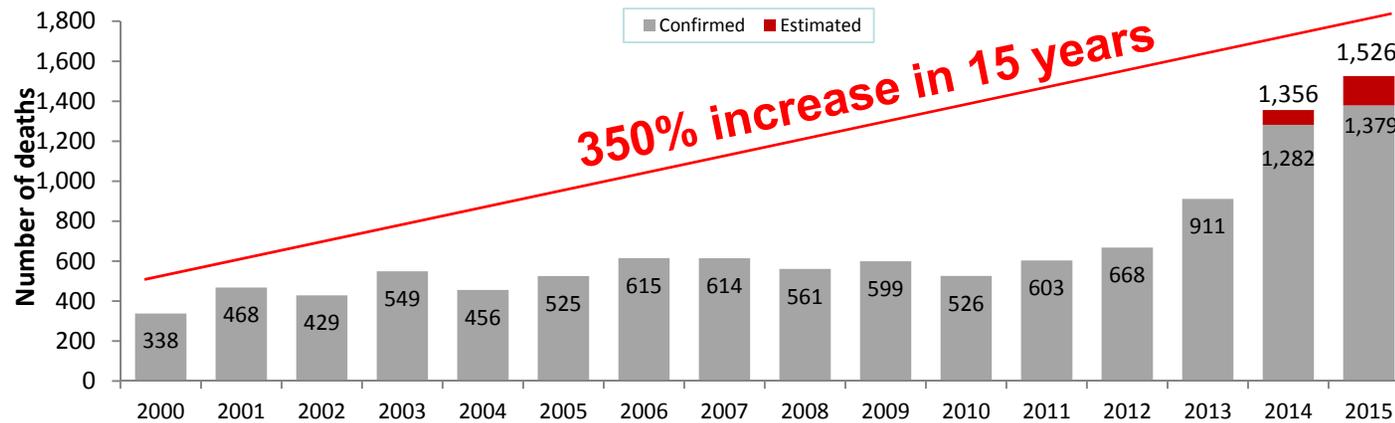
Summarized Findings

December 14, 2016

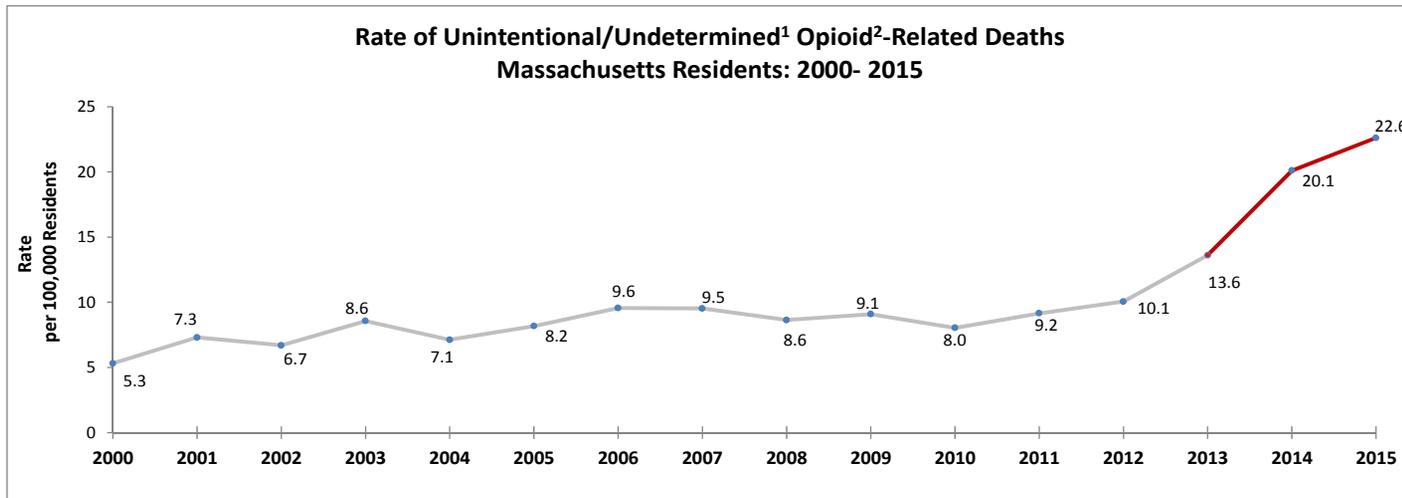


Opioid-related deaths in Massachusetts increased more than 350% from 2000 to 2015

Opioid-Related Deaths, Unintentional/Undetermined
Massachusetts: 2000-2015



Rate of Unintentional/Undetermined¹ Opioid²-Related Deaths
Massachusetts Residents: 2000- 2015



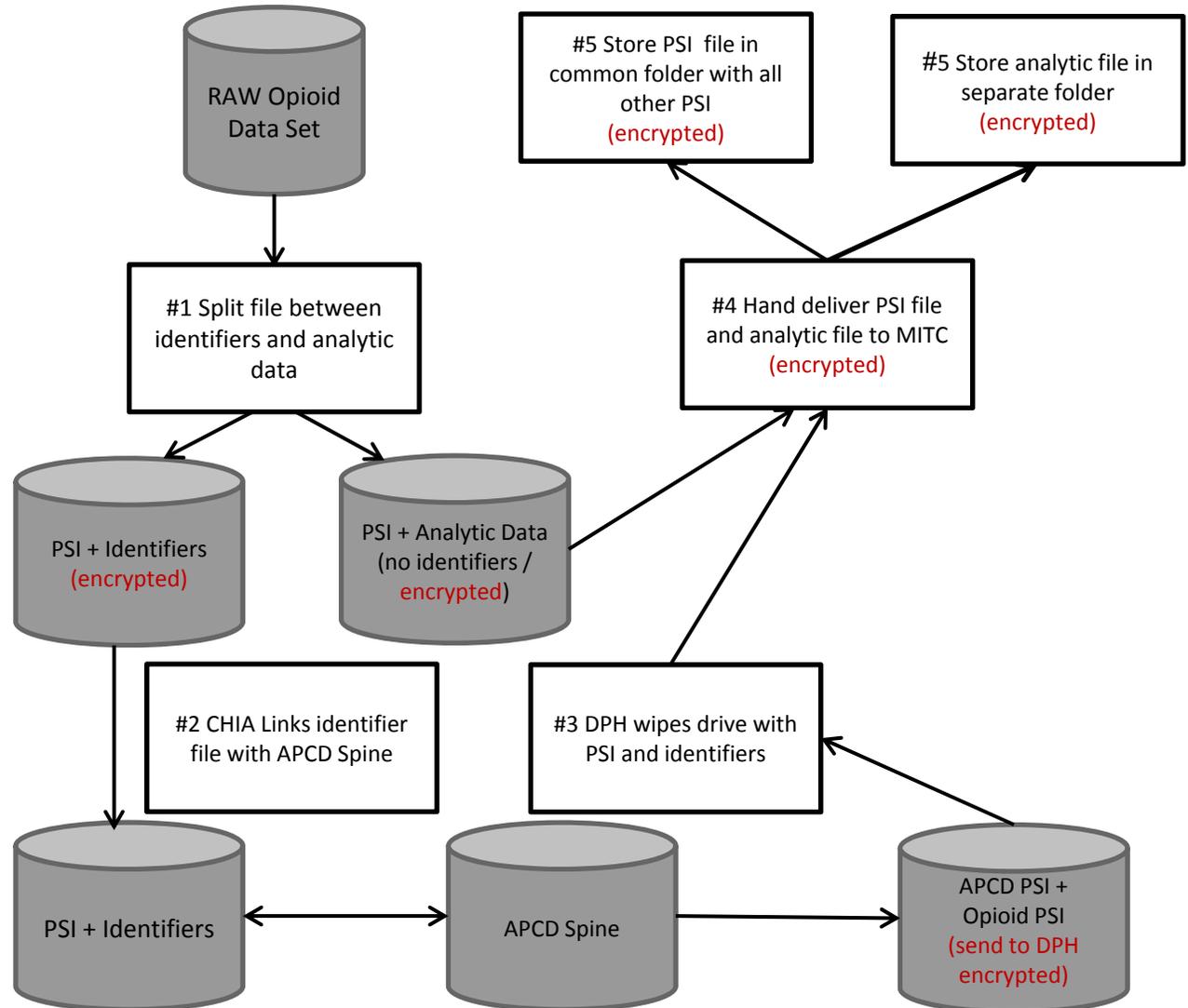
Massachusetts Chapter 55 Legislation

- Signed into law in August 2015
- Requires a comprehensive report to the state legislature and cross-agency collaboration to address 7 specific questions about opioid-related deaths
- Specifies major data sets across government
- Overcomes legal barriers for use of some data

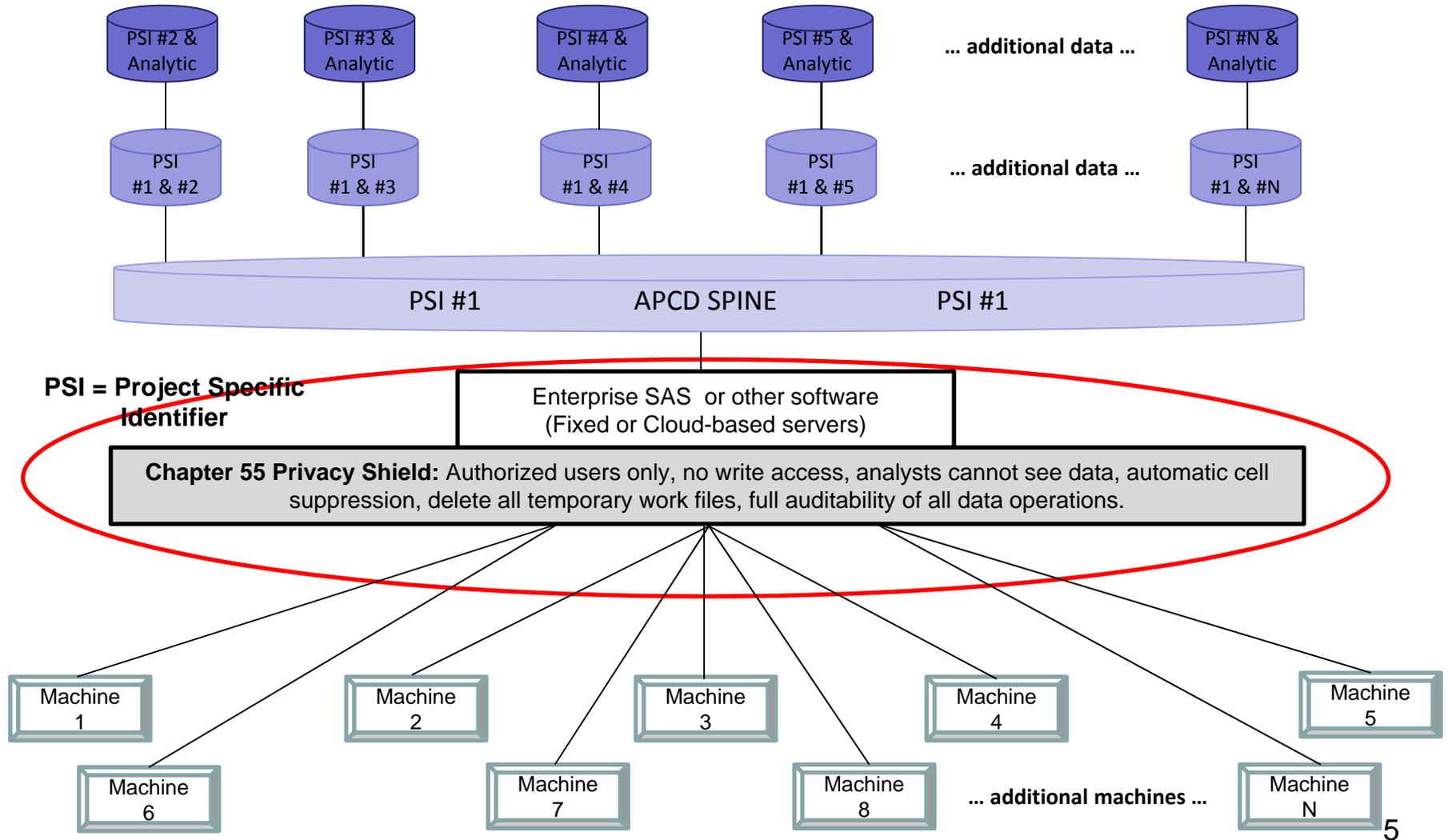
Chapter 55: Secure Data Handling

Chapter 55 Data Flow

PSI = Project Specific Identifier
CHIA = Center for Health Information and Analysis
MITC =
APCD = All Payer Claims Database



Chapter 55: Secure Data Access



Chapter 55: Phase 1 Data Mapping

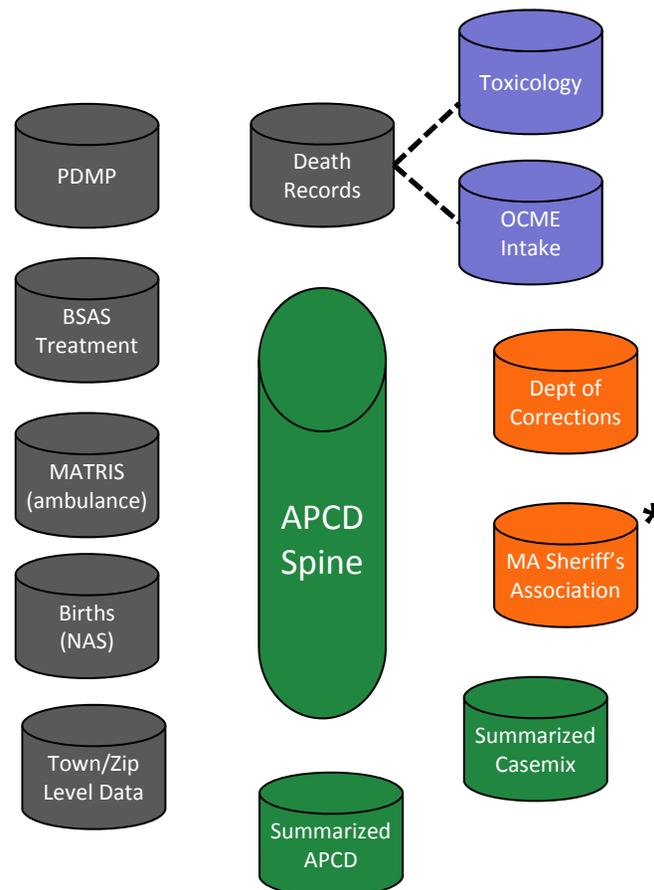
Data Sources

- DPH
- CHIA (MassHealth)
- EOPSS
- Jails & Prisons

System Attributes

- Data **encrypted** in transit & at rest
- Limited data sets **unlinked** at rest
- Simplified structure using **summarized** data
- Linking and analytics “on the fly”
- No residual files after query completed
- Analysts can’t see data
- Automatic cell suppression
- Possible resolution to issues related to 42 CFR part 2

Chapter 55 Data Structure



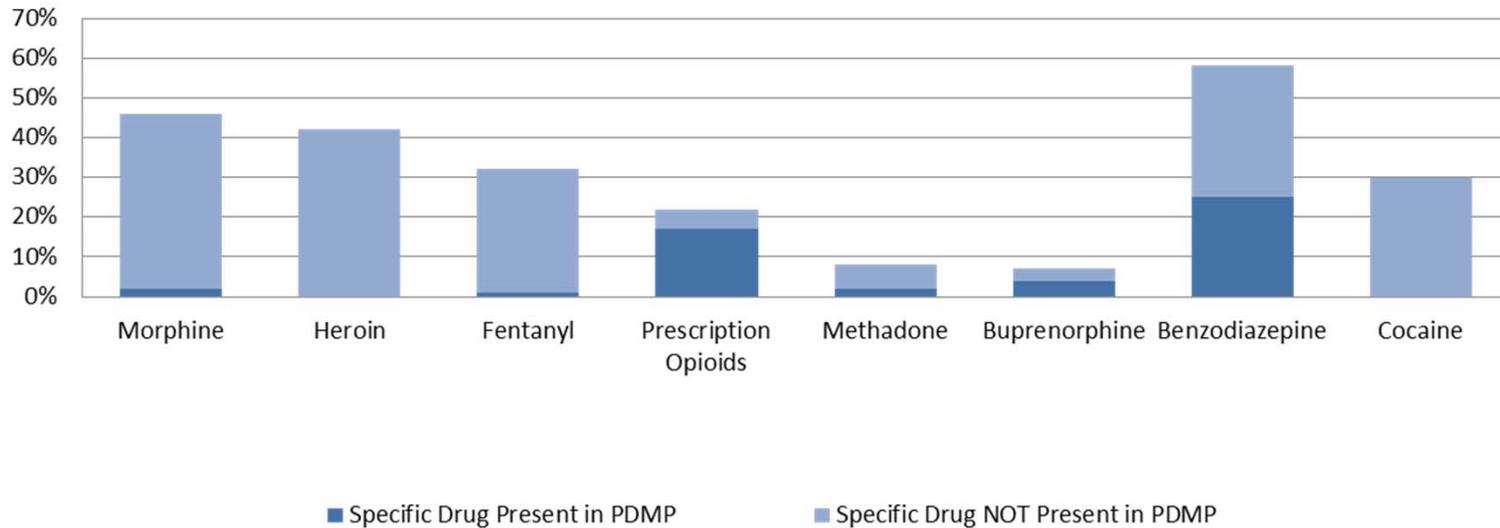
All Doors Opening

- Significant coordination within DPH
- Financial and technical support from MassIT’s Data Office
- CHIA takes on role as linking agent (ongoing?)
- Coordination across agencies (legal & evaluation)
- High end machines for staff
- “Volunteer” analytic support from academia and industry
- Interest in comprehensive governance from academia
- Offers to train DPH staff
- Governor supports move to MGHPCC

* Note: Houses of Correction data was unavailable. As such, assessment does not reflect HOC inmate outcomes.

Chapter 55: Key Finding #1

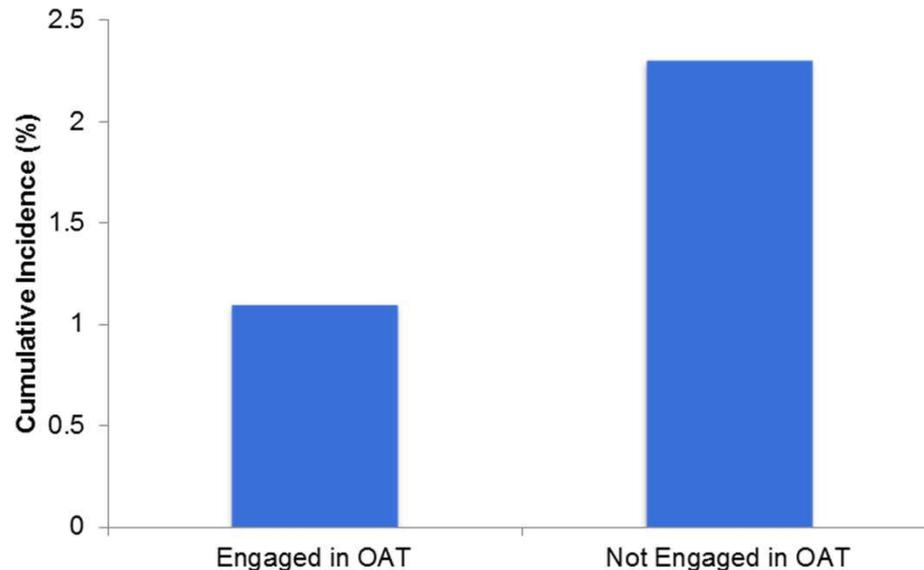
Figure KEY1.1: Percent of Deaths (2013-2014) with Specific Drugs Present in Toxicology Results & the Relative Contribution of Prescriptions for the Drugs (2011-2014)



Individuals who died from opiate-related overdoses are much more likely to have illegally-obtained (not prescribed) drugs present in post-mortem toxicology.

Chapter 55: Key Finding #2

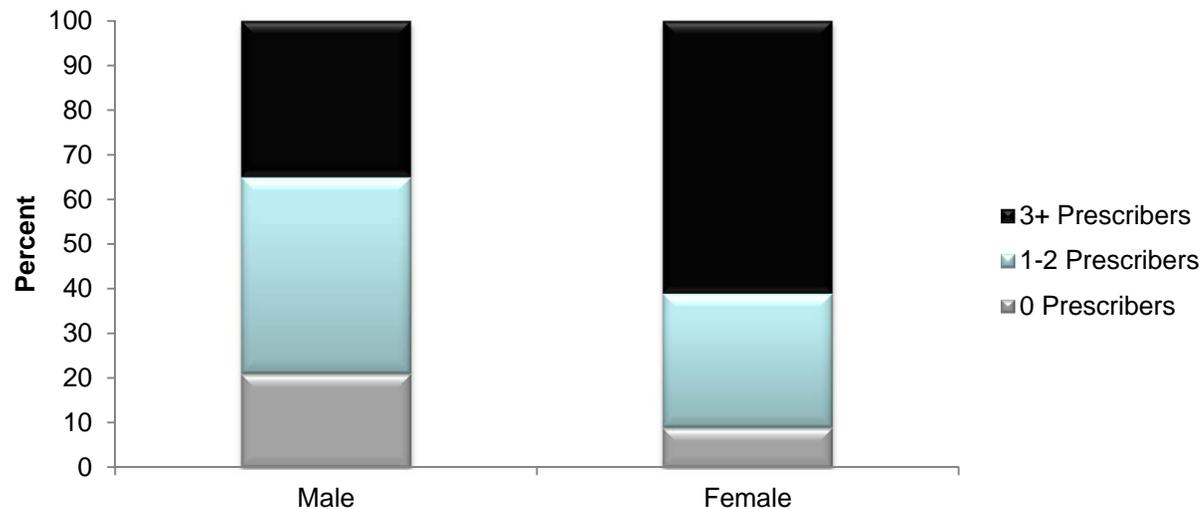
Figure 2: Cumulative Incidence of Opioid-Related Death by OAT Status



Patients treated with methadone and/or buprenorphine (Opioid Agonist Treatment or “OAT” that block the effect of opioids) following a non-fatal overdose were significantly less likely to die; however, very few patients (~5%) engage in OAT following a non-fatal overdose.

Chapter 55: Key Finding #3

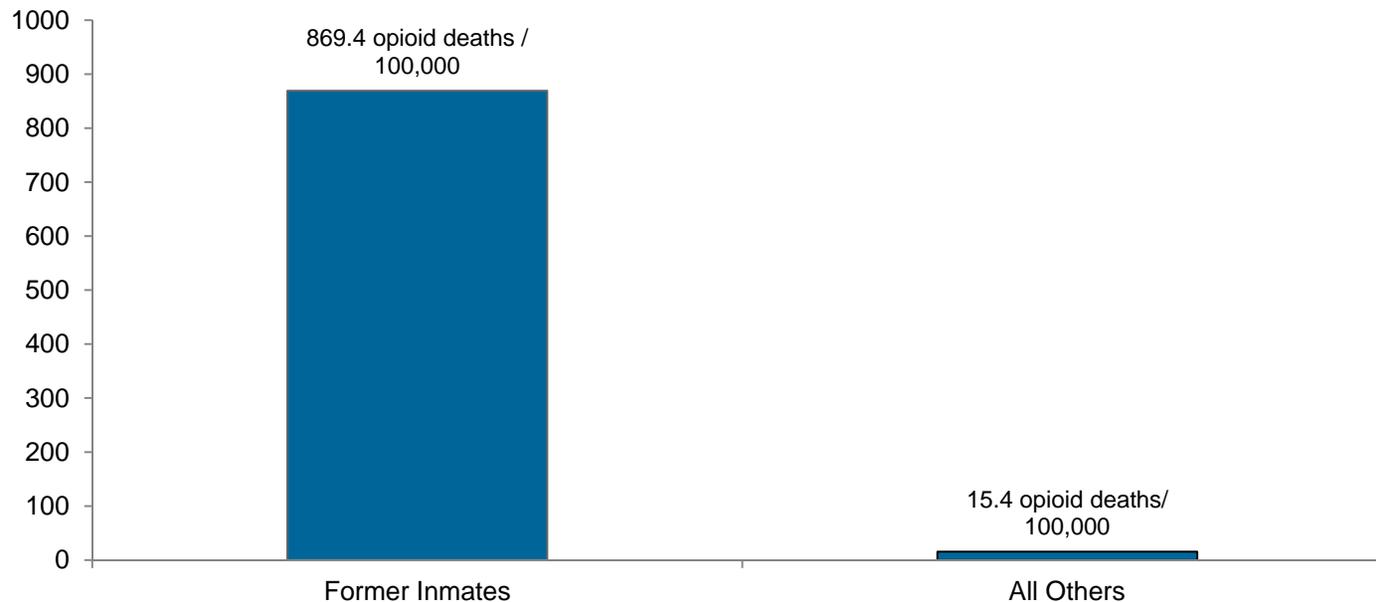
Figure 4: Fatal Opioid-Related Overdoses by Number of Opioid Prescribers (2013-2014)



Women are significantly more likely than men to receive opioids from 3 or more prescribers and obtain them from 3 or more pharmacies.

Chapter 55: Key Finding #4

Comparison of Opioid Death Rates Among Former Inmates to the Rest of State (2013 - 2014)



The risk of opioid overdose death following incarceration is 56 times higher than for the general public.

Chapter 55 – Additional Key Findings

Statute Question	Analytic Question	Preliminary Findings
<p>1. Instances of multiple provider episodes, meaning a single patient having access to opiate prescriptions from more than 1 provider</p>	<p><i>Does an abnormally high amount of prescribing physicians increase a patient's risk of fatal overdose?</i></p>	<p>Individuals who obtain prescriptions for opioids from more than one doctor may be at greater risk of death. Based on observed data, the use of 3 or more prescribers is associated with a <u>7-fold increase in risk of fatal opioid overdose.</u></p>
<p>2. Instances of poly-substance access, meaning a patient having simultaneous prescriptions for an opiate and a benzodiazepine or for an opiate and another drug which may enhance the effects or the risks of drug abuse or overdose</p>	<p><i>Does the addition of benzodiazepines to opioids increase the risk of fatal opioid overdose relative to taking opioids alone?</i></p>	<p>Preliminary findings support the hypothesis of increased risk of fatal overdose associated with concurrent use of opioids and benzodiazepines. Based on observed data, the use of benzodiazepines concurrent to opioids is associated with a <u>4-fold increase in risk of fatal opioid overdose.</u> Future analysis should include other drugs.</p>

Chapter 55: Phase 2

Where are we now?

- **New data sets have been reviewed for inclusion in the Chapter 55 data set**
- **More than 40 government, academic, and private partners are now working together on this project**
- **A Notice of Opportunity (NOO) was posted on 11/29, so all groups could suggest analyses and participate in the work**

Chapter 55: Partners Coming Together

Academic

- Brandeis University
- Boston University
- Brown University
- Harvard Medical School
- Harvard School of Public Health
- Massachusetts College of Pharmacy and Health Sciences
- Massachusetts Institute of Technology
- Northeastern University
- Tufts University
- University of Massachusetts Amherst
- University of Massachusetts Boston
- University of Massachusetts Medical School

Hospitals & Private Industry

- Baystate Health
- Beth Israel Deaconess Medical Center
- Boston Medical Center
- Brigham & Women's Hospital
- Children's Hospital
- GE
- IBM
- Liberty Mutual
- Massachusetts General Hospital
- Massachusetts League of Community Health Centers
- McKinsey & Company
- The MITRE Corporation
- Partners Healthcare
- PwC
- Rand Corporation

State and Federal Government Agencies

- Boston Public Health Commission
- Center for Health Information and Analysis
- Department of Housing and Community Development
- Department of Mental Health
- Department of Correction
- Department of Public Health
- Executive Office of Health and Human Services
- Executive Office of Public Safety and Security
- Federal Bureau of Investigation
- High Intensity Drug Trafficking Area (NE)
- Health Policy Commission
- Massachusetts Sheriffs' Association
- MassIT
- Office of the Chief Medical Examiner
- State Auditor's Office



Commonwealth of Massachusetts
Department of Public Health

Helping People Lead Healthy Lives In Healthy Communities

The Massachusetts Opioid Epidemic

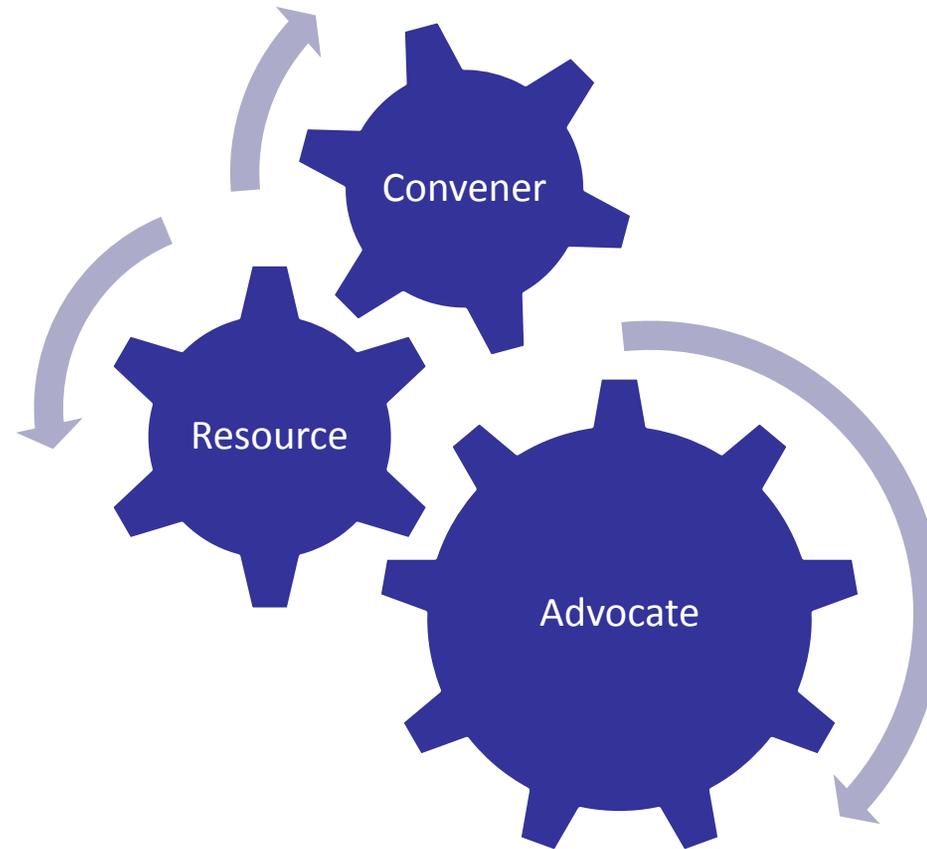
A data visualization of findings from
the Chapter 55 report



- **THE GOAL OF THE OFFICE OF POPULATION HEALTH** is to bring together resources across DPH and from external partners in order to utilize data to assess and define best practices that can achieve evidence-based, outcomes-driven improvements in health and health equity for communities and populations in Massachusetts.



OPH Structure





RESOURCE

- Provide advanced analytics, predictive modeling, and data communication services
 - Evaluate the impact of programs
 - Hotspot areas of need to target resources more effectively
 - Utilize data, analytic, and presentation/visualization services
 - Build tools that link and integrate data systems



Current Statistics

The Massachusetts Department of Public Health collects overdose death data to track the progression of the opioid crisis and target services to especially hard-hit communities.

UPDATED DATA - Q3 2016 - AS OF NOVEMBER 2016

[Opioid-related Overdose Deaths among MA Residents](#)

[Overdose Deaths by County, including Map](#)

[Overdose Deaths by City/Town](#)

[Opioid Demographic](#)

[Prescription Monitoring Program \(PMP\) Data - County Overview](#)

[Emergency Medical Services Data](#)

UPDATED DATA - Q2 2016 - AS OF AUGUST 2016

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JUNE 2015

[ACTION PLAN UPDATE](#)

[CHAPTER 55 OVERDOSE ASSESSMENT](#)

[CURRENT STATISTICS](#)

[GOVERNOR SIGNS LANDMARK OPIOID LEGISLATION INTO LAW](#)

[PRESCRIBER EDUCATION CORE COMPETENCIES](#)



[#StateWithoutStigMA](#)

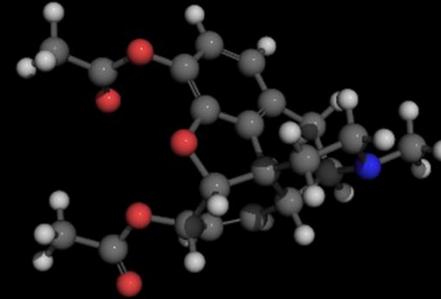


[View the Stop Addiction campaign](#)

THE MASSACHUSETTS

OPIOID EPIDEMIC

A data visualization of findings from the
Chapter 55 report



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Home Intro Chapter 55 Addiction Substance Use Demographics The Future

A Deadly Problem

Massachusetts is currently experiencing an epidemic of opioid-related overdose and death.

These overdoses are driven by the underlying chronic disease of opioid addiction or opioid use disorders. People with opioid addiction are at high risk of overdose and death.

Opioid-related deaths in the state were more than four times higher in 2015 than in 2000. This recent rate of increase is several times faster than anything seen here before. In 2013–2014 alone, opioid-related deaths occurred in two-thirds of the cities and towns in Massachusetts.

Thank You

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