Introduction to Chapter 55

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State of DPH Data in January 2015

- 300+ data mostly unlinked systems
- Access to data guided by “manual” IRB/24A process
- Few applicants understand data access rules
- No audit of actual usage
- No direct public access to data
- Little ability to answer complex public health questions
DPH Vision for a Virtual Data Warehouse

An accessible, secure, and timely linkage of data that supports MA public health program planning and evaluation, as well as research and collaboration with external partners, without sharing the original datasets.

- 3/17/2015
• Signed into law in August 2015

• Requires a comprehensive report to the state Legislature and cross-agency collaboration to examine trends in opioid-related deaths and address 7 specific questions

• Specifies major data sets across government

• Overcomes legal barriers for use of some data
Linking Data: The Spine
Chapter 55: Secure Data Access

PSI = Project Specific Identifier

Chapter 55 Privacy Shield: Authorized users only, no write access, analysts cannot see data, automatic cell suppression, delete all temporary work files, full auditability of all data operations.
Chapter 55: Secure Data Handling

Legend
PSI = Project Specific Identifier
LEADER = Project leader
CONNECTOR = Separate Linkage Agent
DATA = Secure Data Center
SPINE = Large data set

RAW Data Set

1. Split file between identifiers and analytic data
   - PSI + Identifiers (encrypted)
   - PSI + Analytic Data (no identifiers / encrypted)

2. CONNECTOR Links identifier file with SPINE
   - PSI + Identifiers

3. LEAD wipes drive with PSI and identifiers
   - PSI + Identifiers

4. Hand deliver PSI file and analytic file to DATA (encrypted)
   - PSI + Analytic Data

5. Store PSI file in common folder with all other PSI (encrypted)
   - PSI + Identifiers
   - PSI + Analytic Data

5. Store analytic file in separate folder (encrypted)
   - PSI + Analytic Data
Chapter 55 Data Mapping

Data Sources
- Public Health
- Medical Claims & Hospital
- MassHealth
- Mental Health
- Public Safety
- Jails & Prisons
- Other Law Enforcement
- DHCD (Homelessness)
- Veterans’ Services
- Service Flags
- Aggregate (Town, Zip, etc.)

Chapter 55 Data Structure

System Attributes
- Linkage at individual level
- Longitudinal (5 year history)
- Data encrypted in transit & at rest
- Limited data sets unlinked at rest
- Linking and analytics “on the fly”
- No residual files after query completed
- Analysts can’t see data
- Automatic cell suppression

Community Level Data
- NARCAN Distribution
- Needle Exchange
- Town & Zip Census Data
- Drug Seizure Data
- MDPHnet Depression
- I.C.E. Measures
- Medical Claims
- Cancer Registry
- Birth Records
- BSAS Treatment
- PDMP
- Death Records
- Toxicology
- OCME Intake
- State Police Opioid
- MA Prisons
- MA Jails
- MassHealth
- DHCD
- DMH
- Veterans’ Services
- APCD Spine

Service Indicator Flags
- Children & Families
- Dept Dev Services
- Transitional Assistance
- Youth Services
- Commission for Blind

Aggregate (Town, Zip, etc.)
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
Chapter 55 Progress

• 1st report September 2016 (fatal overdose)
  – 7 statutorily mandated questions
  – 4 additional analytic projects

• 2nd report August 2017 (fatal and nonfatal overdose)
  – 34 active projects (internal and external to DPH)
  – 13 sections covering baseline statistics, timelines and influences, and at-risk populations

• Future reports
  – public health priorities set by the Commissioner
Thank You

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