Juvenile Justice Policy and Data Board

Data Subcommittee

Virtual Meeting
June 23, 2022
10:30am – 12:00pm

OCA MASSACHUSETTS
Office of the Child Advocate

Agenda

1. Welcome and Introductions
2. Approval of April Meeting Minutes
3. Status update: RED in MA Juvenile Justice System Data Brief
4. Review and Discuss Administrative Data Centers

OCA
MASSACHUSETTS
Office of the Child Advocate

RED data brief: Data takeaways

- Latino youth and Black youth enter the juvenile justice system at disproportionate rates compared to white youth

- Rates of Disproportionality are worse for custodial arrests than summons:
  - Differences in offense types and severity that indicate a public safety threat – and thus, a physical arrest– partially, but not fully, explain disparities
  - Certain counties use custodial arrests more frequently than summons compared to the rest of the state, and thus, policing practices/departmental policies can partially, but not fully, explain disparities

OCA
MASSACHUSETTS
Office of the Child Advocate

RED data brief: Proposed next steps

- Draft data brief incorporating data to date and national research into a brief
- Subcommittee review/edits at the July meeting
- Incorporate final edits/ analysis and share with the Board

MASSACHUSETTS
Office of the Child Advocate

Administrative Data Centers: A National Review

MASSACHUSETTS
Office of the Child Advocate

2022 Data Availability Report findings

Finding #3: Barriers to matching data across process points makes it difficult-to-impossible for the Board to accurately assess the impact of some policy and practice changes

Finding #4: Barriers to accessing data with greater levels of detail negatively impacts the Board's ability to conduct deeper analysis and make focused policy recommendations

Finding #5: There is limited ability to report data on youth involved in multiple state systems

Finding #6: There is limited ability to report data on youth life outcomes over time

OCA
MASSACHUSETTS
Office of the Child Advocate

2022 JJPAD recommendations

Recommendation #1: The JJPAD Board should study the feasibility of creating an Administrative Data Center to serve as Massachusetts' central coordinator of record-level state data for child-serving entities

Recommendation #4: Massachusetts should explore opportunities and partner with research institutions to conduct studies on long-term outcomes for youth who have contact with the juvenile justice system

OCA
MASSACHUSETTS
Office of the Child Advocate

Research background

The OCA conducted a review of all 50 states juvenile justice systems in search of the following:


E-mailed

1. Data elements other states' juvenile justice systems are publicly reporting that Massachusetts is not currently reporting


Start

2. How administrative data centers work: model Memoranda of Understanding (MOUs) or data sharing agreements across entities, data matching techniques used, and data security measures

3. Successful models and lessons learned from ADC models

Future Meeting

4. Any statutory changes that may be needed to permit/require the sharing of bulk data for research purposes while continuing to protect individual's confidentiality

Future Meeting

5. Costs associated with ADCs: including staffing, software and hardware technology for the Center as well as costs for partner entities

MASSACHUSETTS
Office of the Child Advocate

What is an administrative data center?

Administrative data center: a central, often third party, organization that links cross-agency record level data, to create a final research data file that contains only one observation per individual to:

- Address confidentiality concerns re: reporting record level data externally
- Address data matching challenges within and across branches of gov't
- Provide the opportunity for a richer analysis of data for the purpose of policy recommendations

OCA
MASSACHUSETTS
Office of the Child Advocate

Opportunity for a richer analysis of data for

- Ability to collect “universe of all individuals” and then create project specific samples

- One observation per individual can account for the changes in status over time (e.g., “arrested youth” → “adjudicated youth” → “convicted youth”) to help with outcome measures

- Ability to better understand complex issues that cross systemic boundaries by using cross-agency data (e.g., track how populations served interact/use services across agencies)

OCA
MASSACHUSETTS
Office of the Child Advocate

How do administrative data centers work?

1. Data matching techniques

2. Model Memoranda of Understanding (MOUs) or data sharing agreements across entities

MASSACHUSETTS
Office of the Child Advocate

Data matching: two methods

1. **Deterministic matching:** using one or two unique identifiers across datasets that identifies who an individual row of data pertains to (e.g., SSN, adult sys unique ID)

2. **Probabilistic matching:** using a statistical approach to measuring the probability that two records represent the same individual

MASSACHUSETTS
Office of the Child Advocate

Probabilistic matching

1. Data cleaning, including "blocking," which is a preliminary rule (or set of rules) applied to eliminate a large number of potential pairs that are quite unlikely to be true matches

2. Several field values are compared between two records and each field is assigned a weight that indicates how closely the two field values match. The sum of the individual field's weights indicates the likelihood of a match between two records.
   - What fields to match across datasets? (e.g., names, DOB, zip codes)
   - What is the threshold to matching? (Which is generally set at a high threshold)
     - True matches, partial match, non-match
     - Frequency of data entry mistakes
     - Costs of over- and under- matching

Probabilistic matching: example

Table 1: Hypothetical Linking Scenario

Dataset A				
ID-A	First Name	Last Name	DOB	Gender
A1	Angelina	Jolie	6-4-1975	
A2	Denzel	Washington	12-28-1954	M
A3	Jhon	Legend	12-28-1978	M
A4	Kerry	Washington		F
A5	Russell	Brand	6-4-1975	M

Dataset B					
ID-B	First Name	Last Name	Birth Year	Gender	Zip
B1	Zach	Braff	1975	M	90210
B2	Angela	Jolie	1975	F	
B3	John	Legend	1987	M	90049
B4	Denzel	Washington	1954	M	90210
B5	Kerri	Washington	1977	F	90025

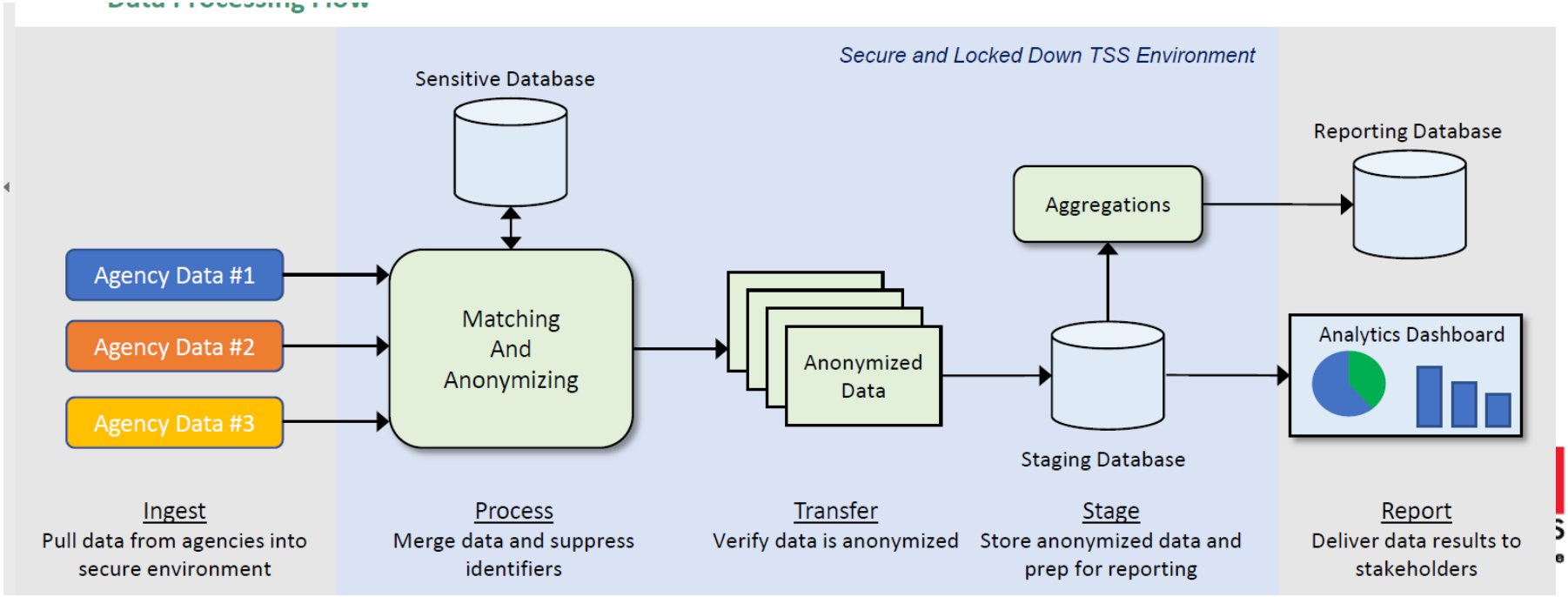
1. Data cleaning and blocking
2. Choice of fields
3. How to compare fields

MASSACHUSETTS
Office of the Child Advocate

Probabilistic matching

3. After individuals are matched, a combined dataset is created with new unique identifiers to ensure anonymity while maintaining individual-level data and researchers can remove the original, identifiable information from this new dataset.

4. Researchers conduct analysis and/or share the new datasets with confidence in the privacy protections.



Data privacy best practices

- Match administrative datasets using personally identifiable information, then delete/encrypt personally identifiable information
- Stored on secure servers
- IT systems requiring login credentials (username and password)
- Clearance to access private, on-sight network and use of a Virtual Private Network (VPN) connection when necessary to encrypt connections

OCA
MASSACHUSETTS
Office of the Child Advocate

MOU/Data sharing agreements best practices

- Describe with detail the purpose of the data requested
- Describe how the data will be used/disclosed
- Include a copy of the research protocol, work plan, or request letter
- Describe the data requested indicating amount, type, by what medium the data will be provided, how the data will be protected
- Include data audits by state entities
- Describe data deletion methods

OCA
MASSACHUSETTS
Office of the Child Advocate

Other considerations

- "Fuzzy matching" with probabilistic data matching techniques
  - True positives (correct match), true negatives (correct non-match), false positive (erroneous match), false negative (failed match)
  - Countered by the fact that ADCs use large datasets, so a few mismatched identities should not be a serious problem when thinking about large-scale patterns or research conclusions
  - Wisconsin: Found that over-matching (false positives) causes more problems in the analysis of data, so they strengthened programming code to reduce over-matching, but recognized false negatives nearly as serious an error.
- Static data, thus, needs to be updated on a regular basis
- Additional state resources

OCA
MASSACHUSETTS
Office of the Child Advocate

Discussion

- Do you have any questions on what's been presented so far?
- Any technical/logistical questions on operations and/or methods?

OCA
MASSACHUSETTS
Office of the Child Advocate

State examples

MASSACHUSETTS
Office of the Child Advocate

The Wisconsin Administrative Data Core

University of Wisconsin – Madison in collaboration with state agencies:

- Health Services
- Children and Families
- Workforce Development
- Corrections
- Milwaukee County Sherriff
- Court Records
- Public Instruction
- Homeless Management Information System

OCA
MASSACHUSETTS
Office of the Child Advocate

Wisconsin: Understanding intergenerational and intragenerational overlap of the child welfare and juvenile justice systems

2016 study used longitudinal data from the Wisconsin Administrative Data Core spanning from 2004-2012 to calculate:

1. % of all CPS-involved children who have an incarcerated parent

2. % of incarcerated adults who have a CPS-involved child

3. % of incarcerated young adults who were involved in the CPS system as adolescents

4. % of CPS-involved adolescents who subsequently became incarcerated

OCA
MASSACHUSETTS
Office of the Child Advocate

Wisconsin: Findings

How frequently are adolescents involved with the child welfare system incarcerated as young adults?

- 5% of all CPS-involved 15- to 16-year-olds in Wisconsin and nearly 10% of 15- to 16-year-olds who experienced out of home placement were subsequently incarcerated in state prison between age 18 and age 21
  - In Milwaukee, about 29% of all CPS-involved 15- to 16-year-olds and nearly 34% of 15- to 16-year-olds who experienced out of home placement were in jail or prison at some point between age 18 and age 21

How frequently do young adults who are incarcerated have prior CPS involvement?

- 18 % of all incarcerated 18- to 21-year-olds were CPS-involved as adolescents and 8% spent time in out of home placements
  - Whereas this was true for 15% and 8% of men, it was true for 29% and 9% of women

OCA
MASSACHUSETTS
Office of the Child Advocate

Wisconsin: Important policy implications

- The high rate of overlap between adolescent CPS involvement and young adult incarceration—particularly for women and individuals in a city—suggests that those youth are at particularly high risk for future incarceration

- Youth may require specialized and intensive preventive efforts

MASSACHUSETTS
Office of the Child Advocate

Minnesota-Linking Information for Kids

Based out of the University of Minnesota and includes administrative data from:

- Department of Corrections
- Department of Education
- Department of Human Services
- Minnesota Automated Reporting Student System
- Social Services Information System
- State Court Administrator's Office
- Minnesota Court Information System
- Disciplinary Incident Reporting System
- Minnesota Comprehensive Assessments
- General Education Development

OCA
MASSACHUSETTS
Office of the Child Advocate

Minnesota: Understanding the connection between school discipline and recidivism for crossover youth

A 2016 study looked at the extent school suspensions impacted recidivism

Matching data:

1. 70,438 youth whose offenses resulted in adjudication (Juvenile Court data)
2. Linked to Department of Education records
3. Of which, 6,687 (9.5%) had maltreatment history (Department of Human Services records)
4. Resulting in a sample of 1,211 youth who had a history of maltreatment and committed their first offense between 2009-2011

OCA
MASSACHUSETTS
Office of the Child Advocate

Minnesota: Findings

- 57% of crossover youth experienced out-of-school suspension before their first offense; the average number of suspensions was two
  - Of the total 1,928 school disciplinary incidents, the most common incidents resulting in out-of-school suspension were fighting and disruptive/disorderly conduct

- 59% of crossover youth in this study experienced recidivism within three years of their first offense.
  - Recidivism most often-occurred within a year following the first offense (mean=358 days, SD=282.4 days)

- The total number of out-of-school suspensions prior to the youth's first offense significantly predicted the risk of recidivism (OR=1.07, *p*=.000)
  - The risk of recidivism increased by 32% with each out-of-school suspension crossover youth experienced.

OCA
MASSACHUSETTS
Office of the Child Advocate

Minnesota:
Policy implications

"…policy changes through multi-system collaboration to develop alternatives for punitive responses to behavioral issues exhibited by crossover youth…The multi-dimensional needs and the level of risk factors that crossover youth present cannot be solved by an effort from a single system. Increased attention to youth's status in child welfare and school systems following juvenile court involvement may be needed to prevent youth from progressing further into the juvenile justice system."

OCA
MASSACHUSETTS
Office of the Child Advocate

California's Children's Data Network

The Network includes data from the following state agencies:

- Department of Social Services
- Department of Health Care Services
- Department of Education
- Department of Developmental Services
- State of California Department of Justice
- Office of the Attorney General
- California Department of Corrections and Rehabilitation

OCA
MASSACHUSETTS
Office of the Child Advocate

California: Understanding the prevalence and pathways of dual system youth

A 2018 study use probabilistic data matching techniques:

1. All youth with a first juvenile justice petition between 2014 and 2016 and who were born in/after 1998 were identified and

2. Linked to records in the Child Welfare Services-Case Management System

3. All first petition cohort youth who received at least one child welfare investigation were defined as “dual system youth”, and youth with no child welfare investigations were classified as “juvenile justice only youth”

OCA
MASSACHUSETTS
Office of the Child Advocate

California: Findings

- Of the 6,877 youth who had their first juvenile justice petition in the study timeframe, 64% (n=4,410) were identified as "dual system youth"
  - 53% of those youth touched systems at different times (with the majority in the child welfare system before the juvenile justice system)

- Youth with extensive child welfare involvement and concurrent contact were at increased risk of detention, violent offenses, and juvenile justice recidivism

	JJ Only	DCCW	DIJJH	DICW
Age at first JJ petition (average)	15.3	15.3	14.9	14.7
Detained prior to adjudication	34%	38%	48%	51%
Charged with a violent offense	43%	49%	66%	62%
Violent offense related to an assault	62%	63%	74%	73%
Delinquency court disposition (outcome)				
Formal diversion	53%	48%	47%	38%
Probation supervision in the community	34%	36%	16%	38%
Placement in a group home	6%	7%	29%	20%
Placement in a correctional facility	4%	5%	6%	4%
Recidivism	19%	23%	29%	29%

California: Policy implications

- For most crossover youth, their contact with the child welfare system occurs before they enter the juvenile justice system, presenting a significant opportunity for prevention
- Prevention of dual system contact should be anchored within a full array of preventive supports, resources, and opportunities, starting with community-based supports for families (primary prevention),
  - services to mitigate and address risk (secondary prevention)
  - continuing services for families involved with the child welfare and juvenile justice systems (tertiary prevention)

OCA
MASSACHUSETTS
Office of the Child Advocate

Discussion

- Do you have any questions on what's been presented so far?
- Any technical/logistical questions on operations and/or methods?
- What else do you need to know re: pros/cons of ADCs?
- Any other questions/thoughts on the national review document emailed last week?

OCA
MASSACHUSETTS
Office of the Child Advocate

Proposed next steps

- OCA research on questions/concerns presented today
- Costs associated with ADCs: including staffing, software and hardware technology for the Center as well as costs for partner entities
- Analysis of any statutory changes that may be needed to permit/require the sharing of bulk data for research purposes
- Presentation from directors of /staff at Administrative Data Centers to include logistics of operations as well as benefits/costs to partnering agencies

OCA
MASSACHUSETTS
Office of the Child Advocate

Next Meeting Date

July 14, 2022

Virtual Meeting

For virtual meeting information, email Morgan Byrnes at Morgan.Byrnes@mass.gov

2022 Data Subcommittee meetings will be on the

2nd Thursday of the month 10:30am-12pm

MASSACHUSETTS
Office of the Child Advocate

Contact

Melissa Threadgill
Director of Strategic Innovation
melissa.threadgill@mass.gov
617-979-8368

Kristi Polizzano
Juvenile Justice Program Manager
Kristine.Polizzano@mass.gov
617-979-8367

MASSACHUSETTS
Office of the Child Advocate