Measuring Computerized Criminal History Data Quality to Improve Accuracy and Completeness

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Purpose of the Session

- **Report on the work of the CCH Metrics Working Group**

- **Provide update on common research and operational metrics**

- **Discuss common CCH data model**

- **Demonstrate analytic tools and capabilities**

CCH Metrics Working Group

- **Research using CHRI**
  - Recidivism
  - Redemption

- **Operational and Policy metrics using CHRI**
  - Arrests missing dispositions
  - Arrest and disposition reporting patterns
  - Time from arrest to disposition

Research Examples

- **Recidivism among persons released from state prisons has been a longstanding research topic**

- **Recidivism among individuals who received a non-custodial sentence compared to a jail or prison sentence has not been examined as closely**

- **Recidivism rates based on length of time in community is another trending research topic**

Today's Focus – Operational Metrics
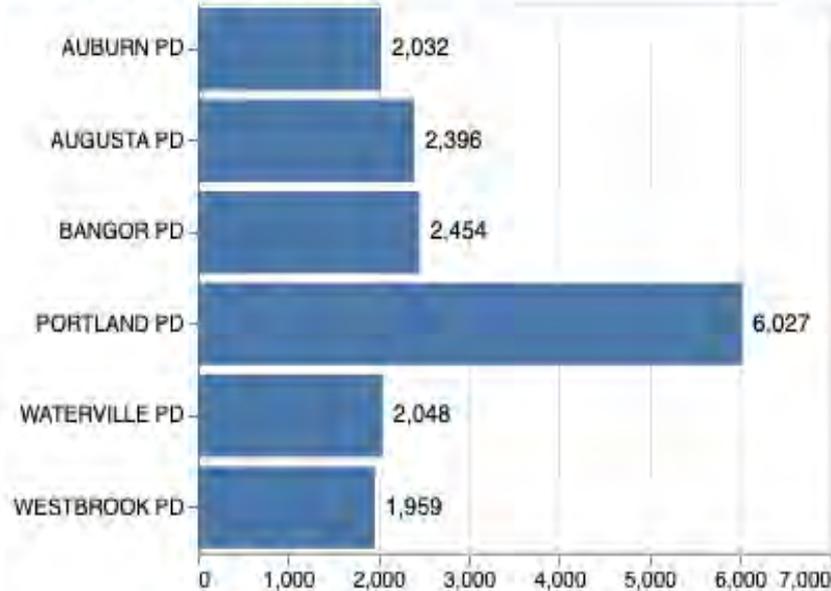

Filters... | Arresting Agency: AUBURN PD,AUGUSTA PD,BANGOR PD,PORTLAND PD,WATERVILLE PD,WESTBROOK PD

Missing Dispositions (15 Agencies Max)
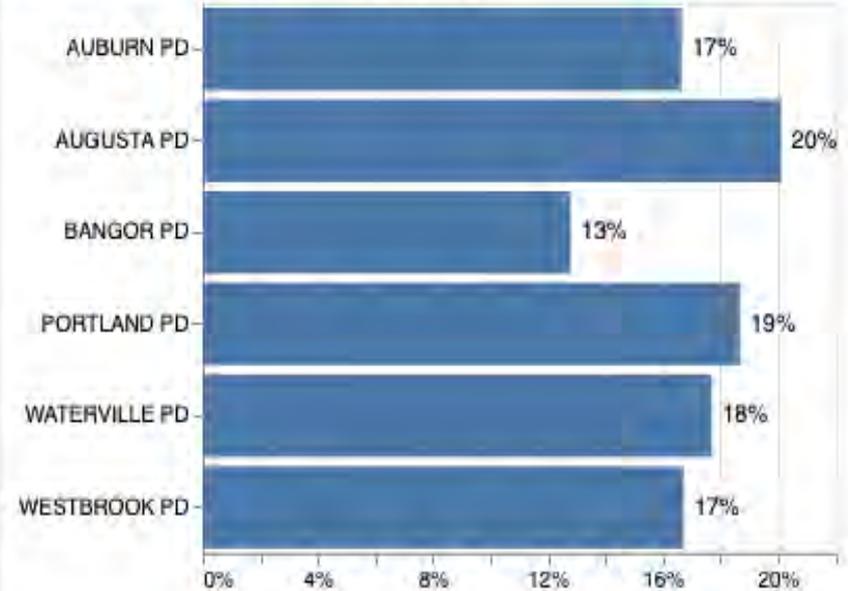
Missing Dispositions by Agency   N=16,916

Agency	Missing Dispositions
AUBURN PD	2,032
AUGUSTA PD	2,396
BANGOR PD	2,454
PORTLAND PD	6,027
WATERVILLE PD	2,048
WESTBROOK PD	1,959

Percent of Missing Dispositions (15 Agencies Max)

Percent of Missing Dispositions by Agency   N=1,027

Agency	Percent
AUBURN PD	17%
AUGUSTA PD	20%
BANGOR PD	13%
PORTLAND PD	19%
WATERVILLE PD	18%
WESTBROOK PD	17%

Common Data Model (CDM)

- **Purpose of the CDM**

- **Current state of the CDM**
  - Data received to date
  - Normalization of data
  - Derived elements

- **Challenges**
  - Standardizing charges
  - Aggregating dispositions
  - Standardizing sentencing data

- **State Data Profiles**

Example Derived Elements

Age Range at Arrest	
	Under 10
	10 - 17
	18 - 19
	20 - 24
	25-29
	30-34
	35-39
	40-49
	50-59
	60-69
	70-79
	80 or older

Example Derived Elements

Time from arrest to disposition in days	How long it took to receive a disposition for this arrest

Arrests without any disposition	True if there is NOT a court disposition of any kind for this arrest cycle

Some Challenges

- **Charge Mapping Because the Charge Statute was Not in the Charge Table**
  - Raw data:

    Charge Statute – 99 MRSA Arson
  - Transformed data:

    Charge Statute – 17-A MRSA 802

Some Challenges

- **Dispositions Reported as Counts in Separate Fields**
  - Raw Data

    Final Counts = 1   Convicted Counts = 1

    Acquitted Counts = 0 Nol Pro Counts = 0
  - CDM Data

    C_Charge_Disposition_Code = CONVICTED

Some Challenges

- **Sentences in Text Strings**
  - Raw data

  Sentence detail = INCARCERATED 364 DAYS ALL BUT 30 DAYS SUSPENDED

  - CDM data elements

  S_CATEGORY = INCARCERATED

  S_CONFINEMENT_DAYS = 30

  S_SUSPENDED_DAYS = 334

State Profiles

- **Arkansas**
  - Arrest date range: 1900 – 2020
  - Number of people in CCH: 827,793
  - Number of arrests: 2,470,192

- **Maine**
  - Arrest date range: 1931 - 2020
  - Number of people in CCH: 403,390
  - Number of arrests: 1,253,613

- **New Jersey**
  - Arrest date range: 1904 - 2020
  - Number of people in CCH: 2,277,404
  - Number of arrests: 6,301,265

Analytic Tool Demonstrations

- **CCH Dashboard**
  - Easiest to use
  - Pre-defined queries
  - Filtering capabilities

- **Microsoft Power BI**
  - Supports custom queries
  - Requires licensing
  - Large array of visualizations and export/publishing capabilities

- **Piet Query Tool**
  - Supports custom queries
  - Open-source platform
  - Limited visualizations

Summary

- **Map and transform data to Common Data Model (CDM)**

- **Work with operations team to determine valuable metrics and visualizations**

- **Select visualization and BI tools**

- **Use operational metrics to improve Criminal History quality**

Questions

Thank you

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