

Temporal Patterns of Arrest in a Cohort of Adults Receiving Mental Health Services: The Massachusetts Mental Health / Criminal Justice Cohort Study

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The Massachusetts Mental Health / Criminal Justice Cohort Study

- Designed to study arrest among persons with serious and persistent mental illness
- A statewide sample of public mental health service recipients
- Focus:
 - Arrests
 - Charges
 - Temporal patterns
 - Correlation with service use

The Massachusetts Mental Health / Criminal Justice Cohort (N = 13,816)

Inclusion criteria:

- receiving case management, inpatient treatment or residential services from Massachusetts Department of Mental Health between 7/1/91 and 6/30/92
- 18 years of age or older

Tracking Arrest:

- Arrest data were obtained from the Massachusetts Criminal History Systems Board's "Criminal Offender Record Information" (CORI System).
- 3,856 cohort members (27.9%) experienced at least one arrest
- The group compiled 41,860 charges; 27,004 for felonies and 14,856 misdemeanors

Cohort Characteristics

- Gender
 - Male 56.2%
 - Female 43.8%
- Age
 - Mean = 43.8; SD = 15; Median = 42
- Race
 - White 82.2%
 - Non-White 17.8%

Arrest Types and Prevalence: Crimes against Persons

- **Serious Violent Crime:** Murder; non-negligent manslaughter; forcible rape; robbery (including armed robbery); aggravated assault and battery (a) with a dangerous weapon, (b) against a person over 65, (c) against a disabled person, (d) to collect a debt. (N=1874, 10.5%)
- **Less Serious Crimes against Persons:** Domestic violence (not resulting in a charge of “Serious Violent Crime”); simple assault; simple assault and battery; threatening / intimidation; indecent sexual assault (i.e., not rising to the legal definition of forcible rape), violation of a restraining order. (N=1,096; 7.9%)
- **Assault and Battery on a Police Officer** (N=389, 2.8%)

Arrest Types and Prevalence: Property Offenses

- **Serious Property Offenses:** Burglary; larceny of an item worth more than \$500, welfare fraud; receiving stolen property; uttering (passing bad checks); breaking and entering; arson; motor vehicle theft. (N=1,329; 9.6%)
- **Less Serious Property Crimes:** Theft /shoplifting of an item worth less than under \$500; malicious destruction of property (N=1,446; 10.5%)
- **Motor Vehicle Offenses:** Operating (a) without a license, or (b) without compulsory insurance, or (c) so as to endanger; attaching plates illegally; leaving the scene of an accident; driving while intoxicated. (N=1,121; 8.1%)

Arrest Types and Prevalence: “Nuisance,” Drug and Other Offenses

- **Crimes against Public Order:** Being a disorderly person; disturbing the peace; setting a false alarm; bomb hoax; trespassing; consuming alcohol in a public place (violation of “open container law). (N=2,231; 16.1%)
- **Crimes against Public Decency (sex offenses excluding forcible rape):** Offenses related to “sex for hire” (soliciting sex, prostitution, “being a common night walker”); indecent exposure; lewd and lascivious behavior. (N=503, 3.6%)
- **Drug-Related Offenses:** Possession of a controlled substance; possession with intent to distribute, distribution or manufacture of, or trafficking in a controlled substance; conspiracy to violate *Controlled Substance Act*. (N=720, 5.2%)
- **Firearm Violations:** Carrying a dangerous weapon; illegally discharging a firearm; possession of a firearm without a license or permit. (N=169; 1.2%)
- **Miscellaneous:** Includes misdemeanors with low rates of occurrence not easily classified in the above categories. (N=227; 1.6%).

Trajectory Models: What Are They?

- A number of approaches; Ours is the “Zero-Inflated Poisson” models (Nagin et al.)
 - Came out of the “developmental criminology” tradition
- Iterative process
 - Derive a solution consisting of a set of groups whose members have temporal activity patterns in common.
 - Solution represents the optimal mathematical fit of the model to the data.
- Operationally -- akin to cluster analysis in creating a set of groups, membership in which can be modeled.

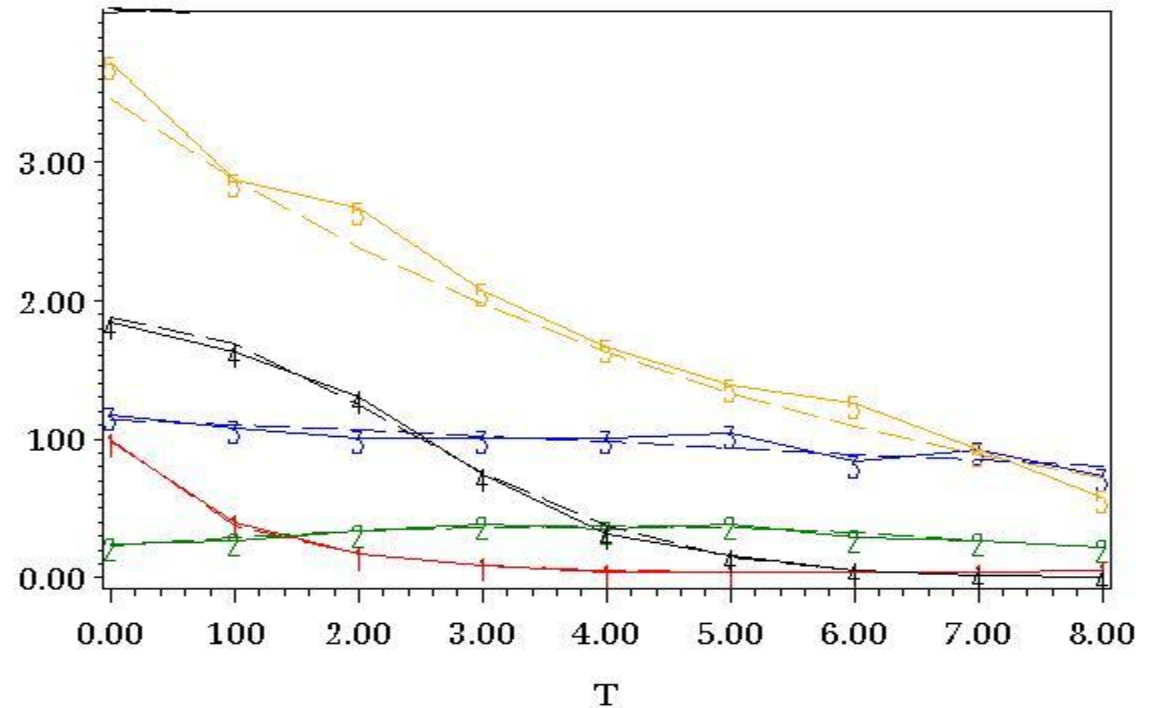
Examining Temporal Patterns of Arrest with Trajectory Analysis: Our Study

- 2,744 (% of arrestees) were arrested once; 1,112 (% of arrests) 2 or more times.
- A “five – trajectory” solution proved to be the mathematically optimal model.

Five-Group Trajectory Model

Number of Arrests over 9.5 years Five Group Zip Model

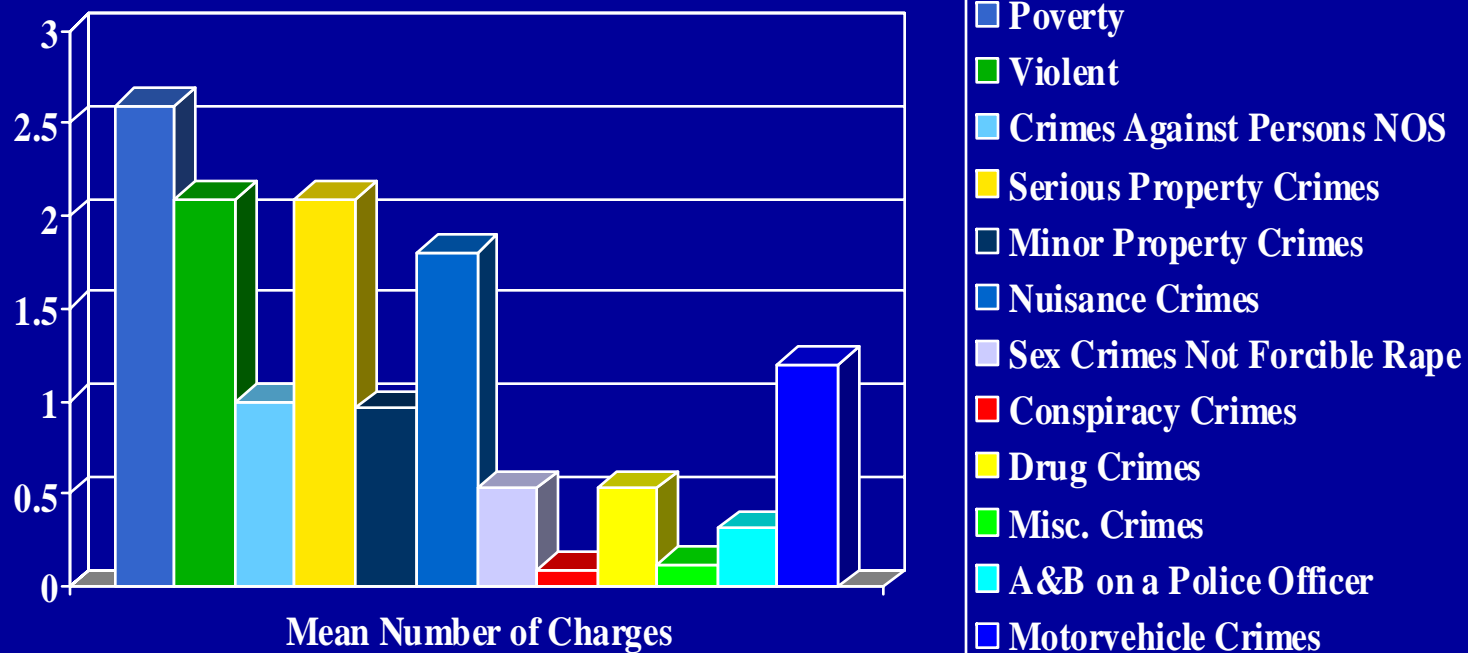
2 or More ARRESTS over 9.5 years



Group Percents **1-1-1** 29.6 **2-2-2** 39.9 **3-3-3** 15.1 **4-4-4** 110 **5-5-5** 4.5

Mix of Offenses: “Trajectory Group” I

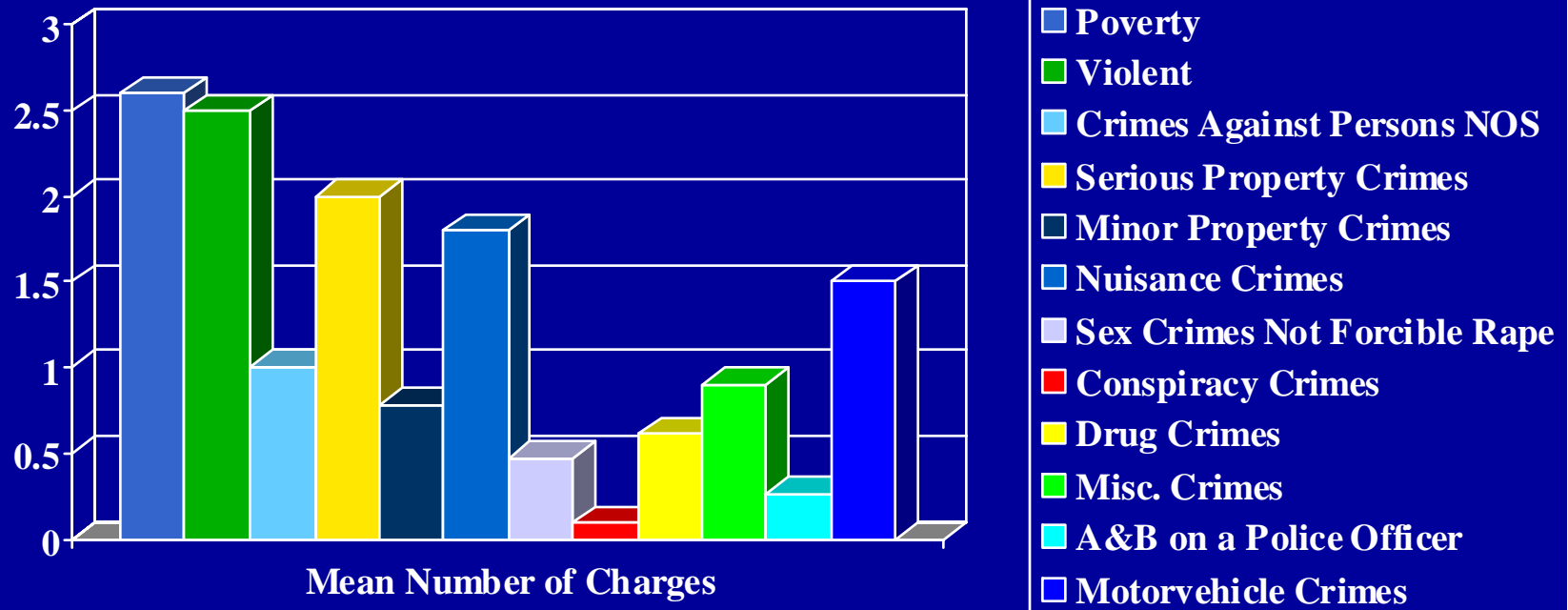
(29.6%) One charge early, drops off to average near 0.



¹Firearms not included; mean less than 0

Mix of Offenses: “Trajectory Group” II

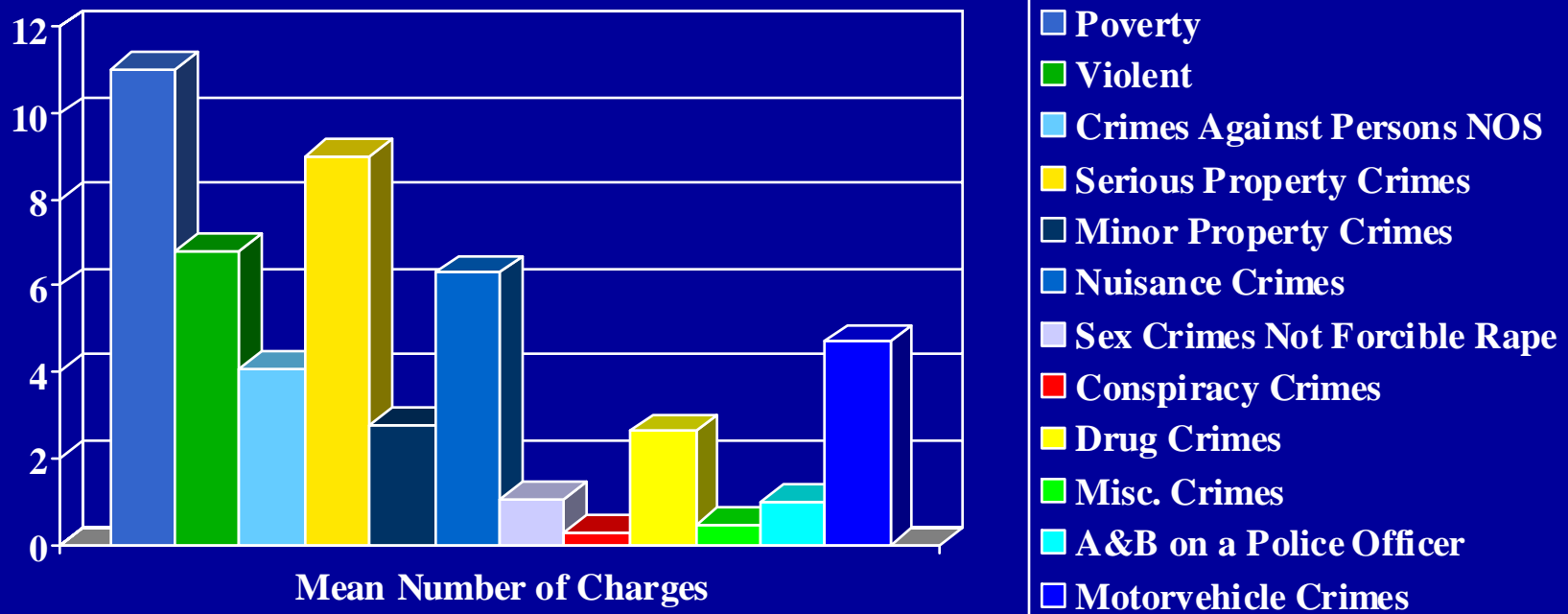
(39.9%) Stable across the time period; average one arrest every 2 years



¹Firearms not included; mean less than 0

Mix of Offenses: "Trajectory Group" III

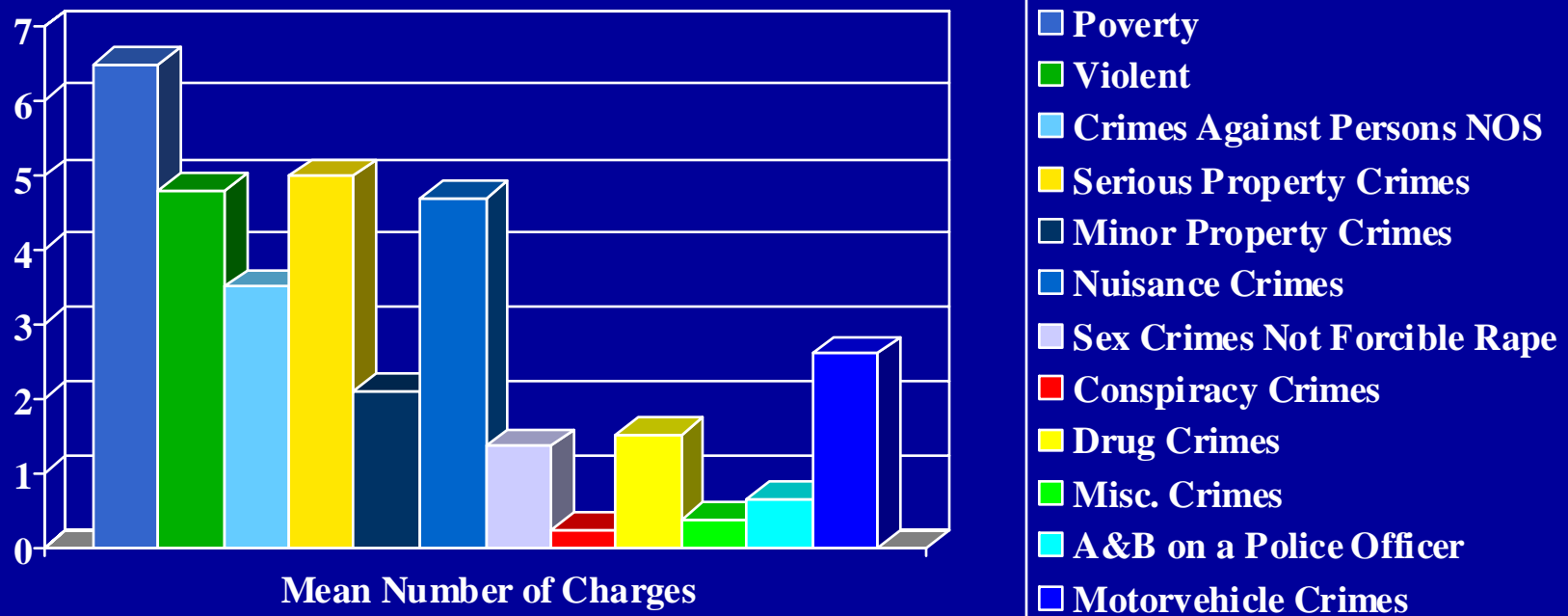
(15.1%) Average one arrest per year through period



¹Firearms not included; mean less than 0

Mix of Offenses: “Trajectory Group” IV

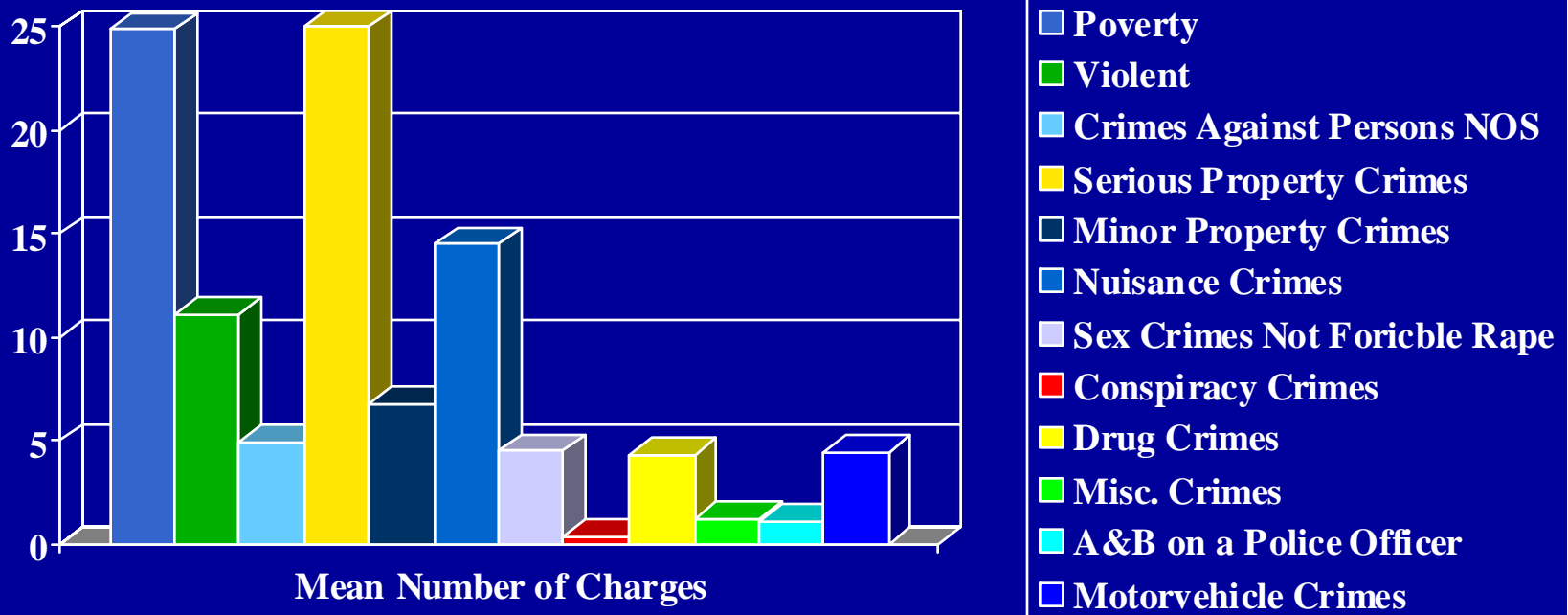
(11%) Begins period averaging 2 per year, drops steadily over the period



¹Firearms not included; mean less than 0

Mix of Offenses: “Trajectory Group” V

(4.5%) Starts high (average of 5 in first year) but descends; ends period with average of one



¹Firearms not included; mean less than 0

What Can Trajectories Tell Us?

- Identify patterns of arrest that raise different levels of concern and different service implications
 - E.g., persistent low-level offenders vs. very active but desisting
- Clusters have “members” – can model group membership
- Look at types of offenses associated with various trajectories

Utility for Mental Health Agencies

- Long tradition of attempting to classify service recipients and clienteles –e.g.:
 - Resource Utilization Groups for long-term care
 - Service Use Clustering (Bill Rubin)
- Trajectories focus on a problem external to the agencies but an issue of concern
- Information should be useful for forensic planners, diversion developers, etc