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Donell Bjoring²

Abstract

Jails are often referred to as “reservoirs of disease” and presented as the origin of infectious diseases or for the development of chronic diseases. The present article argues that the data behind this metaphor are generally taken from nonrepresentative studies by analyzing non-TB-focused studies of jail inmate health issues published in both health and criminal-justice-related journals. Issues such as the use of extremely large jail systems, geographic location, diseases studied, and the lack of attention to jail processes are examined. The article explores the “length of stay” variable from booking to release known as “flow” and how the flow of detainees through jails over time affects who is left for data collection. Data on releases from a large Florida urban jail system for a 1-year period are analyzed to determine the impact of factors associated with release decisions. These, in turn, are related to the representativeness and generalizability of the observed data in previous research and analyzed in terms of potential bias for our understanding of the relationship between jail populations and community health. Issues of health-focused practice standards and recommendations issued without reference to “flow” factors are discussed. Finally, suggestions how criminologists and criminal justice researchers can inform the research on health among jail inmates are canvassed.

Keywords

jails, length of stay, time/flow, Orange County Corrections Department

Introduction

Jails are often referred to as “reservoirs of disease” and presented as the origin of infectious diseases or for the development of chronic diseases (Hammett, Harmon, & Rhodes, 2000). The sources of the data, and especially the point in jail tenure at which information was collected from/on the detainee, however, are rarely explored. For our purposes here, we want to examine how the issue of time/flow has been treated in previous studies that report on the health conditions of jail populations. This will

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be related to known factors that affect length of stay in jails. Data from one large jail system will be used to illustrate how taking data from various postarrest time points affects who remains in jail and the health status picture that emerges.

Time/flow is an important variable in terms of knowledge about the health of jail populations. Our hypothesis here is that jail flow affects the information on which health researchers have based their conclusions in ways not acknowledged by those researchers. That is, as one moves from collecting data during a rapid flow period (i.e., closer to intake) toward the stock population period (i.e., those confined for longer periods of time), the information about “jail populations” is affected by a “period” effect. Data taken from stock populations, then, is potentially very different from data taken from populations closer to the booking point. In turn, the variables that affect the speed of population flow through the jail setting also affect the biases introduced, when data are taken from stock populations.

What We Know About Jail Inmate Health and What it Means for Community Health: General Attributes of Jail Inmate Health Studies

Table 1 provides a summary of the available studies of jail inmate health conditions reported in peer-reviewed journals and federal government documents. The span of these studies ranges from 1962 to 2009, demonstrating that there has been curiosity about the relationship between health and populations that interact with the criminal justice system since well before the 1979 *Bell v. Wolfish* decision clarified that the Constitutional requirement of health care provision applied to pretrial inmates as a part of due process protections (*Bell v. Wolfish*, 1979; Cohen, 2008). We will now examine the contents of Table 1 more systematically.

The first thing to note in Table 1 is the geographic location of the jails, where inmate health issues were studied. For the purposes of this article, the region of the country is based on regions defined by the Bureau of Justice Statistics (BJS; Stephan, 2001). There is only one nationally representative study of jail inmate health (Maruschak, 2006) and only two multicity studies (Kahn, Voigt, Swint, & Weinstock, 2004; MacGowan et al., 2009). Seven of the studies utilized northeastern jails, four of single jail systems from New York State, one from Massachusetts, and one from Baltimore. New York City’s Riker’s Island jail system features in multiple studies and several upstate jails are also featured in one study (MacGowan et al., 2009). Two mid-western jail systems are featured, though some of the 30 jail systems in the Kahn et al. (2004) and the MacGowan et al. (2009) studies were also in the mid-west area. There are three studies that focus on single southern jail systems. Again, many of the jails in the Kahn et al. (2004) and the MacGowan et al. (2009) studies were located in the southeastern part of the nation. Finally, five studies focused on west coast jails. Los Angeles County, with the largest jail system in the world, accounted for two of the five, concentrating on the unit housing self-identified gay and/or transgendered (biological male) inmates. More than half of all jails are located in the southern region of the nation.

With the exception of the BJS (Maruschak, 2006) study, most jail inmate health surveys focus on a single jail system (i.e., a county; Rhode Island is a combined jail/prison campus), or a tiny fraction of the more than 3,000 jails across the nation. As pointed out elsewhere (Maruschak, Sabol, Potter, Reid, & Cramer, 2009), nearly half of all jail systems in the United States are located in the southern region of the nation. The smallest proportion of jails, though not necessarily inmates, is found in the northeastern portion of the nation. As noted earlier, the Los Angeles County jail system is the largest in the world, with an average daily population (ADP) that has ranged from 18,000 to nearly 21,000 over the past decade. In some instances, these jails are included because they are in a “high morbidity area” for a disease such as syphilis (e.g., Kahn et al., 2004) and the purpose is to determine the impact of a jail-based program on a specific disease detection and prevention. For more general knowledge of the physical health problems associated with jail inmates, however, it is difficult to

Table 1. Jail Health Studies Characteristics

Author	Location of Study	Point of Data Collection	Conditions Measured	Type of Measures Reported	Number of Jail Systems Studied	Number of Respondents	ALOS of Respondents
<i>General health studies</i>							
Whalen and Lyons (1962)	Albany, NY	Upon admission	Acute injuries; injury Hx; chronic diseases; acute infectious diseases; substance abuse; mental health	Distribution of conditions observed	1	500 (out of 850 admitted in that year)	Not reported
Novick, Della Penna, Schwartz, (1977)	Remmlinger, and Loewenstein (1977)	New York, NY	On admission, . . . shortly after arrival	Drug utilization; chronic disease; acute infectious diseases; Hx of hospital stays (medical, surgical, and psych); dental; mental health		Distribution of conditions observed	1
1,420 (2-week period in June, 1975)	Not reported for respondents; for system, mean = 49 days; median = 9 days						
Raba and Obis (1983)	Cook County, IL	Upon admission	Mental health; physical health Hx (including injury and prior surgeries); "visual inspection; blood pressure recording; selected physicals; PPD placement"; STD testing	Distribution of conditions observed	1	987 (consecutive screening of males over a 10-day period in December, 1980)	Not reported for respondents; for system, "the vast majority are detained for less than 1 month, and more than 30%" released within 72 hr

(continued)

Table 1 (continued)

Author	Location of Study	Point of Data Collection	Conditions Measured	Type of Measures Reported	Number of Jail Systems Studied	Number of Respondents	ALOS of Respondents
<i>General health studies</i>							
Shapiro and Shapiro (1987)	"Medium-sized county" facility in California	"Admission health history survey"—54% entered into medical record; 43% entered into record within 24 hr of admission	Retrospective review of inmate medical charts	Distribution of conditions observed compared to services provided	1	397 of 594 inmates held on July 6, 1983—only those with medical charts	Not reported
Lindquist and Lindquist (1999)	"A large county jail located in a medium-sized Southern city" in Alabama	Interviews were conducted with inmates "between the Winters of 1995 and 1996"	Self-reported "general health status" and a range of symptoms (e.g., pain, rashes, fatigue, coughing)	% of inmates reporting symptom; regressed (OLS) against social and health variables to predict medical care use, while detained and quality of care accessed	1	Interviews with a 10% sample of male ($n = 95$) inmates and as many females as possible ($n = 103$)	"Duration of incarceration"—measured in weeks, logged due to skewed distribution; 5 months average for total; 6 months for males, and 2.5 months for females—no direct measure presented
Conklin, Lincoln, and Tuthill (2000)	Hampton County, MA	Successive inmates newly admitted to HCC over a 5-month period were interviewed on the third day of their incarceration	15-min interview covering demographics, risk behaviors, prior illnesses, and criminal history	% reporting various prior illnesses, risk behaviors, demographics, and criminal histories	1	1,082 males and 118 females responded; 30% attrition between intake and Day 3; 20% of Day 3 inmates not included. Facility capacity reported to be 1,800	Approximately one third of the prisoners remain 3 days or less, one third for 4–90 days, and one third stay for 91 days to 2 years

(continued)

Table 1 (continued)

Author	Location of Study	Point of Data Collection	Conditions Measured	Type of Measures Reported	Number of Jail Systems Studied	Number of Respondents	ALOS of Respondents
General health studies Maruschak (2006); see also James (2004)	Nationally representative sample of jail inmates	Length of stay between admission and interview: 13.4% ≤ 7 days, 9.2% ≤ 8–14 days, 14.9% ≤ 15–30 days, 16% ≤ 31–60 days, 28.6% ≤ 61–180 days, 11.3% ≤ 181–364 days, 6.5% > 1 year	Standardized survey of self-reported "medical problems, impairments, and injuries"	% inmates reporting specific or multiple health problems	417	6,982 inmate respondents to a standardized survey instrument	Not specified
Van Hoeney, Rooney, and Joseph (1990)	New York City, NY	Admission history and physical exam— "any newly admitted inmate . . . suspect for gonorrheal infection after admission"	Medical records for those testing positive for gonorrhea postadmission	Observed positive cases (n = 285), admission date (n = 262; 92%), positive culture > 1 week (n = 58), and 27 developed symptoms > 1 week postadmission	1	Male positive gonorrheal cultures during October–December 1986 (n = 27)	Length of confinement reported by positive case: 3 cases within 3 weeks, 11 cases 6 weeks to 4 months, and 6 cases 5–12 months; others unknown length of stay
Minshall, Dickinson, and Fleissner (1993)	Lake County Jail, IN	576 of 650 arrestees remaining at time of attempted interview at 72 hr postbooking (49%), October 28, 1991 to January 17, 1992	Serum analysis results from 319 of 650 arrestees (49%) for syphilis, hepatitis B, and HIV (blinded)	Number and % of sample testing positive for each illness; logistic regression on risk factors measured	1	Within 72 hr of arrest all new arrestees approached, 49% (n = 576) agreed to blood draw	72 hr of admission (89% remaining postbooking)

(continued)

Table 1 (continued)

Author	Location of Study	Point of Data Collection	Conditions Measured	Type of Measures Reported	Number of Jail Systems Studied	Number of Respondents	ALOS of Respondents
General health studies Chen, Callahan, and Kerndt (2002)	Los Angeles County Jail Men's Central Jail self-identified gay and transgender male inmate section	While housed in the MSM section, "all current and newly incarcerated inmates were offered screening"	Syphilis testing initially (March–August, 2000), Chlamydia and gonorrhea added later—serum and urine testing; behavioral questionnaire	% of inmates tested positive for disease and responses to questionnaire	1	811 inmates screened for syphilis; 430 inmates completed behavioral questionnaire (ADP of unit = 300)	Not specified
Kahn, Voigt, Swint, and Weinstock (2004)	East Baton Rouge Parish Jail	Arrestees admitted to the jail between July 1994 and December 1998 within 24 hr of admission	Serum	% testing positive for syphilis—1.3% average over 5 years (all stages); demographics, and relationship between demographics, booking charge and testing positive	1	50,941 tests conducted, 76% of those admitted were tested average over 5 years	Not specified
Kahn et al. (2004)	30 county jails in counties with high syphilis morbidity	No data on point of collection provided	Positive laboratory results for primary syphilis cases	% of all primary syphilis cases reported from correctional facilities and demographic characteristics of positive cases	30	Reported cases of primary syphilis from all corrections facilities in the 30 counties (may include juveniles and prisoners)	Not specified

(continued)

Table 1 (continued)

Author	Location of Study	Point of Data Collection	Conditions Measured	Type of Measures Reported	Number of Jail Systems Studied	Number of Respondents	ALOS of Respondents
General health studies Solomon, Flynn, Muck, and Vertefeuille (2004)	Baltimore City Detention Center	1st day of detention	Serum samples tested for HIV, syphilis, hepatitis B and C; demographic and arrest charge variables	% of inmates testing positive for each condition and association to demographic and arrest variables	Baltimore City "intake facilities"		2,833 detained individuals giving serum between January 28 and March 28, 2002
I day MacGowan et al. (2009)	Florida—I jail; Louisiana—I jail; New York—multiple jails; Wisconsin—I jail	Florida > 24 hrs. Louisiana > 72 hrs. New York > 24 hrs. Wisconsin > 24 hrs. after admission	HIV rapid test and risk factor survey	% testing positive and demographic and risk behaviors	Multiple jail facilities	6% of all bookings received HIV rapid test (33,211/55,000)	Not specified
Javanbakht et al. (2009)	Los Angeles County jail self-identified gay and transgender male inmate section	"Generally" upon completion of jail intake	Serum samples for HIV and Syphilis testing; urine samples for Chlamydia and gonorrhea testing; demographic information; arrest information	% testing positive and associations with demographic and arrest information	I	7,004 tested for one or more diseases between March 2000 and December 2005—mandatory syphilis testing begun in 2005	Not specified
Burke and Rhodes (2009)	Nashville (Davidson County), TN	"during medical intake"	Serum testing for Syphilis	% positive for Syphilis and stage of disease	I	1999–2005	Not specified
Barry, Kent, Scott, Goldenson, and Klausner (2009)	San Francisco jail	At intake, when health staff present; offered in units to those missed	Urine-based testing for Chlamydia; demographic information	% positive for Chlamydia	I	1997–2004	Not specified

(continued)

Table 1 (continued)

Author	Location of Study	Point of Data Collection	Conditions Measured	Type of Measures Reported	Number of Jail Systems Studied	Number of Respondents	ALOS of Respondents
General health studies Pathela et al. (2009)	New York City (Rikers Island)	Not specified	Chlamydia	% of New York City positive Chlamydia tests originating from jail facility	1	2004–2006	Not specified
Spaulding et al. (2009)	Rhode Island Department of Corrections (detention center)	Not specified	Chlamydia and gonorrhea	% positive for either disease	1	June 21, to August 3, 1999 (68% screened; 4.6% +; 1% GC; 3.2% CT; and 0.3% both)	Not specified
Mertens and Cnm (2001)	Not identified: “one of the largest single-site detention facilities” in the United States	Records review of women identified as pregnant for whom birth outcomes could be identified in vital records	Pregnancy outcomes	Pregnancy studies Live births and other birth outcomes— delivery; risk behaviors recorded in jail medical records; birth location not specified	1	One calendar year	approximately 15 days
Bell et al. (2004)	King County, WA	Birth outcomes, especially birth weight, for women with jail experience during pregnancy	Pregnancy outcomes, especially birth weight	Birth outcomes, birth weights with controls for maternal risk factors, and maternal jail data; comparison group Medicaid mothers with no jail stays recorded	1	“743 women who had at least one prenatal care visit; while in custody” between 1994 and 1998	Maternal median jail stay = 14 days; 77% one stay, 17% two stays, and 6% three or more stays.

Note. ADP = average daily population; HIV = human immunodeficiency virus; ALOS = average length of stay; MSM = men who have sex with men; OLS = ordinary least squares regression; PPD = Mantoux skin test for tuberculosis; STD = sexually transmitted diseases; Hx = History; HCC = Hampden County Corrections; GC = gonorrhea; CT = Chlamydia.

argue that we know a great deal about the problems that enter the gates from most of the studies of jail inmate health widely available.

A first observation is that the geographic distribution of studies of jail inmate health is skewed toward areas of the nation with fewer jails (Potter, 2010). A second observation is that the studies are skewed toward large, especially the largest, jail systems in the nation. Regardless of how one wishes to phrase the question, what we know about jail inmate health problems is largely taken from nonrepresentative samples of jail systems.

The next characteristic to be examined among these studies is the type or types of health issues studied. We have limited ourselves to the physical health and injury issues studied, rather than substance abuse (Karberg & James, 2005) or mental illness (Steadman, Osher, Robbins, Case, & Samuels, 2009) studies of jail inmates. We have divided the segments of Table 1 into "General Health," "STD or HIV Focus," and "Jail Pregnancy" sections. Interestingly, the breakout by disease/injury of interest follows an almost chronological trend. Among the earlier studies the focus on inmate health was much more general than in later studies, including infectious and chronic diseases, as well as injury histories. From the mid-1980s forward sexually transmitted diseases (STD), including human immunodeficiency virus (HIV), began to predominate in studies of health issues among jail inmates. This is almost to the exclusion of other diseases and injuries, with the exception of the Hampden County data (Conklin, Lincoln, & Tuthill, 2000; Lindquist & Lindquist, 1999) and the data from the national jail inmate study (Maruschak, 2006). Finally, with the recognition that women were entering jails at an increasing rate, studies of pregnancy among jail inmates emerged in the early 2000 period (Bell et al., 2004; Mertens & Cnm, 2001). As time has progressed, the interest in jail inmate health appears to have become more of a disease-specific enterprise rather than focusing on the total health challenge inmates bring to the jail door.

Missing from this list are studies of tuberculosis (TB) screening (Reichard, Lobato, Roberts, Bazerman, & Hammett, 2003). This is primarily because most studies of TB among jail inmates focus on either outbreak investigations (Jones, Craig, Valway, Woodley, & Schaffner, 1999) or length of time incarcerated before diagnosis of TB (Jones et al., 1999), or the utility of different technologies to detect TB in the jail population (Puisis, Feinglass, Lidow, & Mansour, 1996). Hammett, Harmon, and Maruschak (1999) report on TB screening practices in 41 of the 50 largest jails in the nation during the 1995–1997 period, but no medium or small jails are included in the report. Like studies of other disease and injury prevalence, the TB studies are mainly from a small number of large jails in northeastern or mid-western cities.

The final characteristic of these studies to be examined, and perhaps most important for the data analyses to follow, is the point in the inmate stay at which these data are taken. Of the "general health studies" listed, three report the information was obtained "upon admission." The Hampden County study data were collected on the third day of an inmate's stay. The national-level data reported a range of time from admission to interview (see James, 2004, p. 4), with 13% collected at a point less or equal to 7 days, 9% between 8 and 14 days, 15% no more than 30 days, a combined 47% between 30 and 180 days, and 10% up to 1 year. Ultimately, only 5% reported having been jailed longer than a year (James, 2004). Only the Lindquist and Lindquist (1999) study is unclear in regard to the point of incarceration at which the data were collected. Few of these studies reported data on the average length of stay (ALOS) for either facility or sample. Where ALOS is reported, most indicate that a substantial proportion of inmates are discharged within 3 days (72 hr).

In the studies that focused on STD and/or HIV testing in jails, only three provided data on ALOS, and some reported ALOS for those tested in the study only. At least six of the studies (including three facilities in the MacGowan et al. study) report that testing for disease was conducted within 24 hr of jail entry or "upon entry." Only one remaining study reported a time frame for testing, and that was at 72 hr postbooking. The studies focusing on pregnant women utilized retrospective records reviews. Both reported an ALOS (or median) for the women between 14 and 15 days. It

is also difficult to determine exactly what proportion of those booked into the jail was actually tested for specific diseases studied. The Hampden County data would suggest, for example, that two thirds of those booked were assessed; the Nashville data (Burke & Rhodes, 2009) were collected on an average of 58% of booked individuals; and the MacGowan et al. (2009) data show an average of 6% of booked inmates were tested.

These general characteristics of jail inmate health studies reveal some important considerations, when discussing the health status of jail inmates. First, the data are drawn overwhelmingly from non-representative jail systems and populations. This renders their generalizability to the remainder of the jail population across the nation problematic. Second, the studies have become increasingly disease-specific. This makes the emerging picture of the health of jail inmates incomplete and reduces the perception of the health status of jail inmates to a one-dimensional issue, primarily STDs. Third, and the focus of the analyses to follow, these data are drawn disproportionately from studies of inmate health problems at the time they enter the jail facility. That is, they are images almost exclusively of the health problems associated with living in the community (Marquart, Merianos, Cuvelier, & Carroll, 1996). The authors of this article were unable to find any studies of the health status of jail inmates upon release from the jail into the community other than follow-up for treatment studies. As we will now demonstrate, the short length of time spent in a jail by most of those who process through the jail means that the health of jail inmates is predominately the health of community members, not those who stay in jail for extended lengths of time or progress on to prison.

Pretrial Release—What Determines Who is Left Behind

One of the earliest decisions to be made about an individual and his or her criminal case is the decision to grant some form of pretrial release. Many will recognize this as the “bail decision.” However, there are multiple forms of pretrial release across the nation and even variability within states. Understanding how forms of pretrial release occur and their impact on the individuals and cases involved in the justice system is important for issues such as jail space forecasting. It is also important for understanding our knowledge of the health status of jail inmates. We begin this section by noting the primary weakness in our knowledge base about pretrial release—we do not have a nationally representative sample of all pretrial release decisions.

The best available data on pretrial releases are taken from a study of the 75 largest counties in the United States (Cohen & Reaves, 2007). On any given day, the jails in these counties would hold more than half of the jailed detainees in the nation (West & Sabol, 2009). However, the data provided are for releases of those charged with felony offenses only. There are no comparable datasets for pretrial release decisions for those charged with misdemeanor offenses only. Since felonies are more serious allegations than misdemeanors, we will posit that release decisions for misdemeanor accusations are likely to be less stringent than those for felonies. It may be that the same factors affect decision making for both levels of charge seriousness. In the end, we can speak only to the data on felony offenses from the existing literature.

Once an individual is arrested, our legal process requires that a bond hearing to arrange “bail” be held within 24 to 48 hr of booking in most jurisdictions (for offenses that could result in a custodial sentence; states vary on this requirement). Exceptions to the time limit are made for weekends, holidays, and where there are court orders that extend that period. The Eighth Amendment to the United States Constitution requires that bond not be excessive, as freedom to help plan one’s defense is a cornerstone of the criminal justice process; ideally, to be sure.

Examining 10 years of pretrial release data from the 75 largest counties in the United States (accounting for more than half of all jail admissions annually), Cohen and Reaves (2007, p. 5) report that among those charged with felony offenses (i.e., the most serious crimes subject to prison

sentences), 62% were released prior to trial (PTR) within 1 month of arrest. Among that 62% released, 52% were released within 24 hr and 78% within 1 week. By 30 days postarrest, 92% had been released from jail. For misdemeanor offenders (less serious crimes), it is likely that PTR may be faster or certainly no slower.

Those who were not released PTR were more likely to be charged with violent crimes (e.g., murder, sexual assaults, robbery), have a criminal record, and/or were under some form of criminal justice control at the time of arrest (e.g., on bond, probation, or parole). In these data, males (40%) and Hispanics (any race; 45%) were less likely to be released on bail than females and those of other ethnic groups. Among African Americans 38% were not released PTR, compared to 32% of Whites. The amount of money required to make the bond also influenced release for those who were awarded bond. Cohen and Reaves (2007, p. 3) report a direct relationship between the amount of bail and the release of those who were granted bail. The higher the bail, the less likely they would be released. Once bail topped the \$15,000.00 level, the likelihood of release dropped to 1 in 10. Thus, those who remain in jail PTR or sentencing hearing (since most cases are decided by plea), tend to be poorer, male, accused of serious violent crimes, have prior involvement with the criminal justice process, and are disproportionately racial or ethnic minorities. They are not representative of those who are arrested and certainly not representative of the general public (Taxman, Byrne, & Pattavina, 2005).

Charges, Type of Release, and Impact on Knowledge About Health in a Large Jail Sample

We now want to examine how the “flow” of detainees and inmates interacts with health data-collection points in a large Florida jail, specifically Orange County Corrections Department, also referred to as OCCD. We do not hold this jail out as representative of either other jails in Florida or the nation. In fact, the standards for health screenings under which all Florida jails operate are distinct from those in many other states. The OCCD, from which these data are taken, is compliant with standards promulgated in the Florida Model Jail Standards (Florida Association of Counties), the American Correctional Association, and the National Commission on Correctional Health Care. It is a County Commission-administered jail (as opposed to Sheriff-administered), has a unique booking process, and health services are provided by employees of the county (neither Sheriff nor private contractor staff). This does limit the generalizability of our results to other jail settings.

Method and Data

The data for this study were derived from the Inmate Management System (IMS) Database in Orange County, Florida. This database catalogs all information obtained, while booking an individual and any information attained during an inmate’s stay at OCCD. For the purposes of this study, our focus was on the length of time between release from the facility and entry to the booking area. Data on demographic characteristics, most serious booking charge (felony or misdemeanor), and type of release from the jail facility were also captured.

The time period for this study was January 1, 2009, to December 31, 2009, providing a 1-year snapshot of jail population flow. All releases from custody prior to disposition of the criminal case or cases were examined on their length of stay, meaning how long an inmate was in jail custody prior to release. The length of stay was determined on time tiers: 0–4 hr, 5–48 hr, 3–14 days, 15–30 days, and 31 or more days. Data on releases were further examined on type of charge (misdemeanor and felony), race (Black and White), and type of bond (nonmonetary PTR and monetary PTR). Since our variable of interest is length of stay, we utilized all releases made during 2009, regardless of their date of booking.

Table 2. Factors Associated With Jail Release Variables and Time Frames for “Flow” or Length of Stay for all Releases in 2009

Length of Stay	0–4 hr	5–48 hr	3–14 Days	15–30 Days	31 or More Days
Total (%)	1,915 (3)	32,980 (56)	8,169 (14)	3,633 (6)	11,884 (20)
Misdemeanor (%)	1,259 (4)	20,156 (70)	3,135 (11)	1,531 (5)	2,551 (10)
Felony (%)	619 (2)	10,478 (40)	3,612 (14)	1,908 (7)	9,304 (36)
Other (%)	37 (1)	2,346 (58)	1,422 (35)	194 (5)	29 (1)
Black (%)	794 (3)	13,902 (53)	3,693 (14)	1,761 (7)	6,120 (23)
White (%)	1,120 (3)	18,993 (59)	4,464 (14)	1,864 (6)	5,750 (18)

Note. Some rows may not total 100% due to rounding error.

Table 3. Factors Associated With Pretrial Releases^a in 2009 Concerning “Flow”

Length of Stay	0–4 hr	5–48 hr	3–14 Days	15–30 Days	31 or More Days
Monetary pretrial release (%)	1,246 (6)	17,371 (77)	2,432 (11)	637 (3)	847 (4)
Nonmonetary pretrial release (%)	457 (3)	12,525 (79)	1,490 (9)	431 (3)	863 (5)

Note. PTR = prior to trial; DOC = department of corrections. Some rows may not total 100% due to rounding error.

^a PTR does not include time serve, time spent at DOC, dismissals, and so on.

Results

Tables 2 and 3 show raw numbers and corresponding percentages in parentheses. The first analysis from Table 2 shows that 59% of persons ($n = 34,895$) released from the jail leave within 48 hr of intake (3% within 4 hr). Although Florida law requires a first appearance/bond hearing within 24 hr, we chose 48 hr to allow comparisons for the rules in other states. At 14 days following intake, 73% ($n = 43,064$) of releases are gone from the jail. By 30 days, 79% of discharged inmates have been released, leaving only 20% ($n = 11,884$) of those booked in the jail for longer than a 31-day-period before release.

Misdemeanor charges accounted for nearly half (49%) of the charges among those released in 2009, with felony charges making up most of the remainder (44%). The “other” category (7%) represented a range of local ordinance violations to federal arrests (e.g., immigration, federal criminal charges, etc.). Among those booked on misdemeanor charges, almost three quarters (74%) were released within 48 hr. For those booked on felony charges, fewer than half (42%) were released within 48 hr. At the 14 day postintake point, only about 15% of misdemeanants remained in the jail, contrasted with 43% of those charged with felony offenses. Among those charged with “other” offenses at booking, 59% were released within 48 hr and only 6% remained at 15 days.

Separating time between booking and release by “race” reveals some consistency in processing but with an interesting twist in two time frames. Whites represent the majority (55%) of those booked into the jail, with Blacks accounting for just under half (45%) of bookings (Hispanic status is not measured here). The two racial categories show equivalent release patterns at the 4 hr, 3–14 day, and 15–30 day release points. In the end, Black persons booked into the jail account for fewer releases at the 5–48 hr period (53% vs. 59% for Whites) and for more of those detained beyond 30 days (23% vs. 18% for Whites).

Of the 58,581 persons released from the jail in 2009, 38,299 (65%) were released PTR or disposition as depicted in Table 3. At 48 hr postbooking, 83% of those released PTR were out of jail. There are two primary routes of PTR, nonmonetary bond and monetary bond. Among those released PTR, about the same proportion fell into each release mechanism. That is, there was no major

difference between being released on monetary versus nonmonetary bond within 48 hr of booking. The similar proportion of releases in each category continued across the pretrial booking group.

Discussion

Among the inmates released from OCCD during 2009, we can see that flow through the process is quite rapid. Consistent with the national-level research on felony pretrial release (Cohen & Reeves, 2007), those accused of felony offenses take longer to process through than do those charged with misdemeanors. On the variables race and type of pretrial bond, however, we see relatively few differences in flow through the jail.

The data from 1 year of releases from the OCCD demonstrate that the point at which data in most published studies of the health of jail inmates produces a biased view of the health of those involved in the criminal justice system generally, and among those jailed specifically. Of the 21 studies included in Table 1, five reported all information being collected "upon admission" or within the first 24 hr after booking. In studies spanning multiple jurisdictions, some systems in the sample reported data collection within the first 24 hr. In 14 studies, 2 collected health data within the first 3 days of booking. Most of the remaining 10 studies of a specific disease either took samples later than the third day after booking or provided no data on the point in detention at which the data were collected. The BJS study (James, 2004; Maruschak, 2006) obtained data from individuals at various points across the continuum of jail stay but only 13% in the first 7 days postbooking.

Using the flow data from the Cohen and Reeves (2007) release data on felons and our 1 year of OCCD release data, it can be seen that waiting until Day 3 of an average jail stay to obtain health information results in loss of data on half or more of those who entered the door. The attrition of nearly two thirds of the jail-processed population by 48 hr postbooking in this and the Cohen and Reeves (2007) national-level study of felony releases suggests that most studies of the health status of jail inmates are concentrated primarily on those with extensive prior criminal justice involvement, those arrested currently for a serious criminal act, those who have failed on some form of conditional release from a prior conviction, are poor, and disproportionately minorities, or some combination of those factors. Our data suggest that over half of all persons are released from jail within 48 hr of their booking, regardless of racial category, and that just under half (42%) of those accused of felonies are out the door within 48 hr. The persons left inside the jail after 48 hr, we might argue, are not representative of "jail populations" generally, nor even jail "inmates" (i.e., convicted and sentenced), specifically. Taking data on health at the 14-day point, the later time point in national standards, produces an even more biased sample (26% of all releases).

Drawing generalizations about the health status of those in jails from nonrepresentative samples to apply to all jail inmates across the more than 3,200 jails is difficult at best. Aside from the nationally representative sample of jails utilized in the BJS studies (James, 2004; Maruschak, 2006), most studies of disease burden among jail inmates are taken from one single jail. Only one study of STD prevalence (Kahn et al., 2004) includes a 1% sample of jails, chosen because they are in counties with high syphilis morbidity, not to be representative of U.S. jails. In short, we know a relatively great deal of information about a handful of inmates in primarily large jails (especially mega-large jails) and hardly anything about the health of those in the vast majority of jails. When referring to the existing stock of knowledge about the health status of jail inmates, such caveats should be front and center in presenting results and recommendations.

Finally, because the majority of persons flowing through jails are released so quickly, health problems identified among this segment of the criminal-justice-involved population are most likely "sentinels" of health problems of the communities from which the detainees come (Greifinger, 2006; Marquart et al., 1996). Our knowledge of their health problems is most likely to be taken from the intake screenings that occur in most jail systems within the first 48 hr, that is, self-reported

problems. Such knowledge is not likely to be from objective, clinical measurements beyond blood pressure, heart rate, and respiration. Whether the information gathered from these screenings is ever systematically utilized to develop community sentinel surveillance data is unknown.

The key impact of ignoring the flow dimension of “jail populations” is that we risk misdirecting important health responsibilities and resources between the community and the jail. For example, the Centers for Disease Control and Prevention (CDC, 2009) promulgated recommendations for conducting universal “opt out” HIV screening in correctional facilities. Although acknowledging that jails and prisons are different, there is little attention paid to issues such as flow and pretrial release processes. Here are the instructions for dealing with “logistical barriers” imposed by time constraints:

Collect the specimen for HIV testing at the beginning of the encounter and then conduct other screening assessments while the test is processing or return the inmate to the waiting area while the test is being processed. Each facility should develop a protocol for incorporating HIV testing into their routine comprehensive medical evaluation procedures (CDC, 2009, p. 27).

Without knowledge of the flow and pretrial release procedures in jail systems, several problems emerge. First, for those receiving the cursory health screen conducted at intake, there is a strong possibility they will not be around long enough to receive their results. This is especially true of a system such as Orange County, where bail decisions are made quickly. If the rapid screen is conducted at the postbail hearing health assessment this approach already excludes the vast majority of detainees who do not stay in the jail long enough to receive this assessment.

This approach is contrasted with another set of CDC (2006) recommendations for TB screening in correctional facilities:

The extent to which radiologic screening is used in a given institution should be dictated by multiple factors, including (1) local epidemiologic characteristics of TB disease; (2) inmate length of stay; (3) the ability of the health-care professionals within the facility to conduct careful histories, tuberculin skin or QFT-G testing, and crossmatches with state TB registries; and (4) timeliness of the radiographic study and its reading (p. 7; emphasis added).

The TB screening guidelines recognize the fact that at least half of all persons detained will be released from custody by 48 hr after entering the jail. The authors of this set of guidelines counsel against the provision of screening in settings where professional interpretation of results and follow-up treatment are likely not to happen. Rather than squandering scarce resources in the jail setting, where follow-up is unlikely, an emphasis on TB testing in high-risk community settings is warranted. Interestingly, the two divisions producing these guideline documents are part of the same National Center (HIV, viral hepatitis, STD, and TB prevention) at the CDC.

Conclusion

Blanket statements about the health of “inmates” mask the differences between the vast majority of persons who flow through jails, those who are detained in jails for a few weeks and those who progress to prisons. Within the jail setting, this study demonstrates the need to be precise, when discussing what is known about the health of “inmates” based on the point at which the data were collected relative to the flow pattern through the jail system. Generalizations about the health of jail populations are usually made in an absence of such knowledge.

Our understanding of whether or not the vast majority of criminal-justice-involved individuals are substantially different enough from others in their communities to warrant special attention remains clouded. The assertions by many in the public health/medical industrial complex that

“inmates” are disproportionately ill compared to the “general public” may be an artifact of biased sampling, rather than systematic sampling among the community segments from which our jail populations flow and return. Given the rapid flow from and back into the community through jails, the idea of a “reservoir” of disease in the community needs to be modified to perhaps a weir, slowing the flow temporarily, but not substantially disrupting the stream. More attention to the relationship between disease burden in the communities from which jail inmates are disproportionately drawn and to which they will return and the health screening capacities of the jail is needed. Taking account of jail operational characteristics such as flow and release decision making will improve the fit between how community health interacts with the health of jail inmates and appropriate programming in both settings.

Criminal justice and criminology researchers can take a lead role in relating the disparities in the health status of those processed through jails to disproportionate minority contact issues. Just as minority contact varies across communities, so too will physical health issues. We can build on non-representative data such as these to construct a national picture of the physical and mental health burdens of criminal-justice-involved individuals. Eventually, we should be able to more accurately speak about health burdens across jails of various sizes and regional variations. To do so, however, requires that criminal justice and criminology researchers treat the health burden of those processed through the system as a regular part of our disciplinary areas.

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