Article

Law Enforcement Response to "Frequent Fliers": An Examination of High-Frequency Contacts Between Police and Justice-Involved Persons With Mental Illness

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Abstract

This article examines a subset of justice-involved persons with mental illness who have repeated contacts with law enforcement officers. Previous work has alluded to this sub-population—often termed "frequent fliers"—but little research has empirically examined its size and nature. This study proposes a method of identifying frequent fliers that is based on the amount of time elapsed between multiple mental-health-related contacts with police. Using more or less stringent thresholds, the analysis defines several groups of frequent fliers, including rapid cyclers, those having very frequent contacts with police. In considering policy responses to the problem of justice-involved persons with mental illness, addressing the needs of the frequent flier population proves to be a way of targeting limited resources for the most impact.

Keywords

criminal justice policy, habitual offenders, research and policy, treatment, police decision making

The disproportionate rate of arrest and incarceration of people with mental illnesses (PwMI) is an issue of growing concern of police, policymakers, and academic researchers throughout the United States (Reuland, Schwarzefeld, & Draper, 2009;

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Teller, Munetz, Gil, & Ritter, 2006).[1] While those with mental illnesses that severely compromise unassisted living constitute at most 5% of the general population, they are disproportionately represented at multiple levels of the justice system. The prevalence of mental-health-related police contacts has been found to vary significantly by locale; several studies have found PwMI to be involved in between 7% and 10% of all police contacts (e.g., Borum, Swanson, Swartz, & Hiday, 1997), though others have found the proportion of such contacts to be significantly lower (Engel & Silver, 2001) or higher (White, Goldkamp, & Campbell, 2006). In addition, PwMI represent at least 16% of the U.S. prison and jail population (Torrey, Kennard, Eslinger, Lamb, & Pavle, 2010). The overrepresentation of this population at various levels of the justice system has been attributed to several factors, including deinstitutionalization (Lamb, 1998; Slovenko, 2013), cutbacks in federal mental health funding (Teplin, 2000), and enforcement consequences of the war on drugs (Honberg & Gruttadaro, 2005; Lurigio, 2001). While there is some disagreement over the relative importance of the causes, observers agree that the failure to coordinate the services of local mental health, substance use, and criminal justice agencies is an important factor exacerbating the ongoing problem of justice-involved PwMI (Honberg & Gruttadaro, 2005; Lurigio, 2001; Reuland et al., 2009).

Research informing contacts between law enforcement and PwMI is important for a number of reasons. From the perspective of police, such contacts are often frustrating, time-consuming and, on occasion, may escalate into volatile and potentially violent situations, placing all parties at risk (Reuland et al., 2009). Law enforcement officials have long been called on as first responders to situations in which people are having crises related to mental illness (Bittner, 1967), but the prevalence of such contacts appears to be increasing (Santos & Goode, 2014; Teplin & Pruett, 1992), and the nature of these interactions is distinct from those more commonly handled by police (Hoover, 2007). Although the police are charged with the responsibility to protect the safety and welfare of the public by removing dangerous persons from the community, they are also charged with providing protection for vulnerable citizens, including those with mental illness or those in a state of mental crisis (Teplin & Pruett, 1992). When responding to mental crisis calls, police typically have three options: they may execute a formal arrest, they may detain the person and transport him or her to a mental health facility, or they can resolve the situation informally. Determining which response is most appropriate often places police in the role of a "street-corner psychiatrist" (Teplin, 1984), something police often report feeling ill-prepared to do (Franz & Borum, 2011). From the perspective of those accessing mental health services and their loved ones, the limited options available to individuals needing help can place PwMI at heightened risk of justice system involvement and, most tragically, situations in which people are injured or killed when due to illness they fail to comply with police commands and/or present a perceived threat to officer safety (Police Executive Research Forum, 2012; Santos & Goode, 2014). Across parties, there appears to be agreement that the "traditional police response" to persons in mental crisis neither improves the mental state of the person being contacted nor facilitates the safe and controlled resolution of the call for service (Reuland, Draper, & Norton, 2010).

Frequent Fliers

The focus of the present study is on a subset of justice-involved PwMI: those who have repetitive and frequent (sometimes very frequent) contacts with police due to their mental illness. Commonly referred to as *frequent fliers*[2] in law enforcement circles (Santos & Goode, 2014), these individuals often cycle between jail, halfway houses, hospital emergency rooms, to the streets, and back again. Frequent fliers are thought to be a relatively small subset of the broader justice-involved PwMI population (Reuland et al., 2009). They may be disproportionately likely to be homeless (Green, 1997) and dual diagnosis mental health and substance use disorder (White et al., 2006) as compared with other persons contacted by police for mental health reasons.

Although anecdotally reported as a population of particular concern (Santos & Goode, 2014; Szabo, 2014), few studies have empirically analyzed the size and nature of the frequent flier population. Green (1997) documented that a majority (63.5%) of police contacts with PwMI in Honolulu were with individuals "known on sight" by police, likely indicating some level of repetitive contact. Similarly, the Los Angeles Police Department identified 67 PwMI involved in a total of 536 calls for service in an 8-month span in 2004 (in Reuland et al., 2009). The Houston Police Department (2010) identified 30 PwMI who generated 194 offense reports and 165 Emergency Detention Orders in a span of 6 months. The most rigorous analysis of frequent fliers comes from White et al. (2006), who randomly sampled individuals taken into police custody for either an arrest, a protective custody hold (commonly intoxication), or a mental health hold in Santa Fe, New Mexico. They found that those individuals with multiple prior holds, and those with mental health and substance abuse problems, were significantly more likely to experience an arrest or an involuntary hold in the future (White et al., 2006).[3]

Although the available information on the topic is primarily anecdotal, there is evidence to suggest that the frequent flier population is comparatively small but generates a high, sometimes very high, frequency of contacts (e.g., Houston Police Department, 2010). Because all police contacts with PwMI take significantly longer to resolve, and often require more specialized training than "traditional" police contacts (Reuland et al., 2009), the frequent flier population may generate substantial cost in terms of officer hours invested and expenses related to incarceration (White et al., 2006). Furthermore, these individuals appear to heavily access other social service agencies, including emergency departments. As one example, over a recent 6-year span in Austin, Texas, *nine* patients made 2,678 visits to Austin emergency departments at a cost of more than 3 million U.S. dollars. Eight of the nine patients were substance abusers, seven of the nine were mentally ill, and three were homeless (Associated Press, 2009). In sum, the frequent flier population appears to be relatively small but very "high cost," making policy recommendations needed and feasible.

The contribution of the present study is to propose a method of identifying frequent fliers by calculating the amount of time elapsed between a PwMI's multiple contacts with police. Using more or less stringent thresholds, the analysis defines several

groups of frequent fliers, including *rapid cyclers*, those with very frequent contacts with police. Once frequent fliers are identified, descriptive analyses will document the size of the frequent flier population and its contact with police in one county in Oregon.

Method

Research Location: Benton County, Oregon

Benton County is in the central Willamette Valley region of western Oregon. The county has approximately 86,000 residents, the majority of them live in the county seat, Corvallis, which is the location of Oregon State University. In 2012, heads of local law enforcement in Benton County, Oregon, requested a meeting with researchers at Oregon State University to discuss a collaborative investigation of the amount of contact between local law enforcement and suspects displaying symptoms of mental illness, prompting the work described in this study.

As in other places, police in Benton County have limited options when dealing with PwMI. They may resolve the matter informally, arrest the person if they have committed a crime, or perform a *peace officer custody* (POC), which is a type of arrest that occurs because an individual is believed to be a danger to self or others due to mental illness. According to Oregon Revised Statute 426.228, the officer completing a POC is directed to take the individual detained to the nearest hospital or non-hospital facility approved by the Oregon Health Authority.

Benton County generally and Corvallis in particular have a number of traits that likely contribute to a larger than would be expected population of PwMI, particularly those that are dual diagnosis and homeless. Corvallis is home to a major regional medical center with an inpatient mental treatment facility. PwMI from a wide geographic area in Oregon are brought to this facility under the POC process described above.[4] Based on interviews with local officers and mental health officials, upon release from the inpatient medical center, many individuals choose to remain in the area, particularly those who have few or no ties in their place of origin (see Akins, Burkhardt, Lanfear, Amorim, & Stevens, 2014). In addition, the city, being comparatively affluent, provides a relatively large range of services and housing for homeless persons that may increase the mentally ill population (Akins et al., 2014).

Data

The analysis below relies on two distinct sets of data: arrests and incidents resolved informally by police. The arrest data comprise all arrests (including charge information) made by the Corvallis Police Department (CPD) or the Benton County Sheriff's Office (BCSO) in the 6 years between January 1, 2007, and December 31, 2012.[5] Both suspects and arresting officers were identified with random numbers to preserve anonymity. The arrest data capture 13,650 unique suspects with 22,875 arrests and 33,064 charges.[6] The analysis below examines a sub-sample of arrests that involve a suspect perceived to have a mental illness. These individuals were identified in the data on the

basis of having a POC charge in an arrest (described above). Within the arrest data, there were 914 POC charges applied to 697 individuals. This data set allows examination of POCs charging in aggregate, as well as characteristics of individuals charged with a POC. The current statutory authority for a POC arrest (ORS 426.228) was instituted in 1994 and predates the beginning of our data by 13 years.

POC charging may be subject to net-widening, in which officers begin to use their POC authorities in cases that previously would have produced no police action. As such, it is important to know about incidents involving persons with mental illness that do not result in a POC. As a complement to the POC data set, a second data set contains all contacts that did not result in an arrest or case number (i.e., it omits POCs). Despite not yielding an arrest, all informal contacts made by BCSO or CPD are recorded in a database, which contains a wealth of information from the responding officer and (where applicable) a 911 dispatcher. Informally resolved contacts involving a person suspected of having a mental illness were identified if they met one of two criteria. First, responding officers included the word "mental" or the associated code, "12-60," in a free-text field of an incident report. Here, the "mental" designation is based on officers' subjective, non-clinical assessment of the situation. Second, a 911 dispatcher flagged the field "mental" in the computer-aided dispatch system. Dispatchers for these agencies are trained to record information from the caller, and thus the designation of a case as "mental" originates with subjective interpretation of the situation by the caller. Using these criteria, the informal resolution data contain 1,388 informally resolved encounters with PwMI in the 6-year span. The informal resolution data therefore complement the POC data. Combined, the two sets of data should capture all known contacts—both formal and informal—in which the officer and/or dispatcher records a mental health issue.

Results

Figure 1 depicts yearly counts of POCs, informal resolutions, and the ratio of POC to non-POC arrests. Informally resolved contacts with persons with mental illness were stable from 2007 to 2010, hovering around 200 per year. In 2011, informal resolutions abruptly rose to over 300, a roughly 50% increase. Informal resolutions declined slightly in 2012, but remained above the historical average. Formally resolved POC arrests were also stable throughout much of the series, but they show a later rise. Unlike informal resolutions, POCs increased dramatically in 2012, going from 144 to 245. The ratio of POC arrests to all other (non-POC) arrests rules out the possibility that the rise in POC arrests was an artifact created by a rising overall arrest rate. The rising ratio from 2011 to 2012 indicates that POC arrests were increasing faster than non-POC arrests.

The increase in both POCs and informal resolutions translates to an increase in the amount of time police spent on such interactions. The POC and informal resolution data contain start and end times for each interaction, and these were used to calculate the duration of each event. These durations were then aggregated to produce yearly sums of hours spent responding to these incidents (Figure 2).[7] Hours spent responding

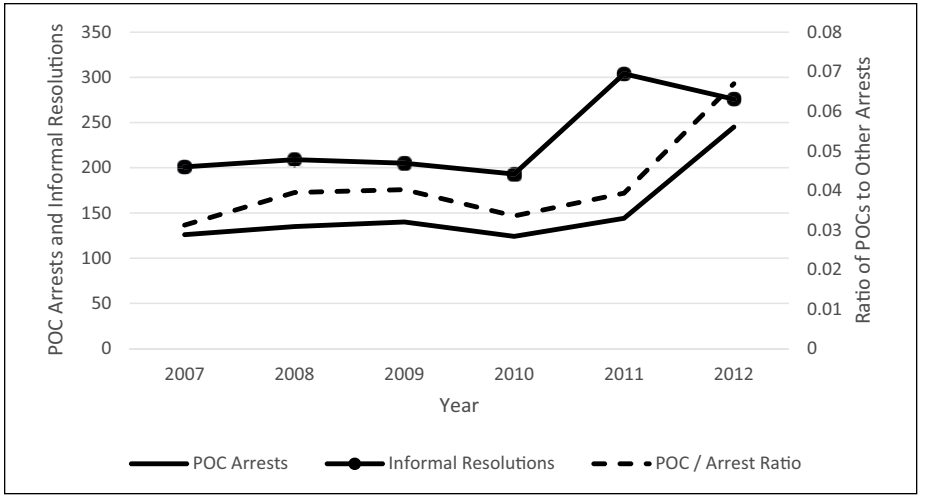
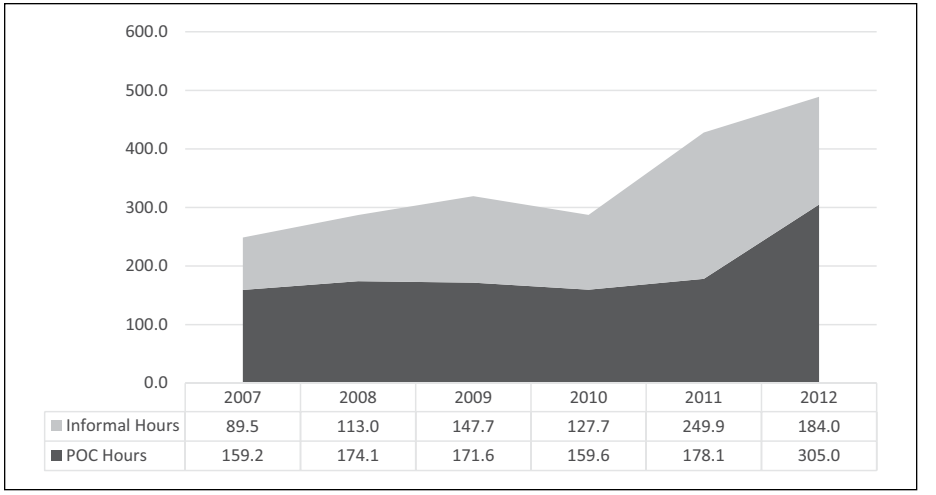


Figure 1. Types of police contacts by year.
Note. POC = peace officer custody.



	2007	2008	2009	2010	2011	2012
Informal Hours	89.5	113.0	147.7	127.7	249.9	184.0
POC Hours	159.2	174.1	171.6	159.6	178.1	305.0

Figure 2. Estimated total duration of POCs and informal resolutions.
Note. POCs = peace officer custodies.

closely track the number of POCs and informal resolutions seen in Figure 1. Durations for both forms of response were relatively stable until 2011, when time spent on informal resolutions suddenly increased, followed by time spent on POCs the following year. For the year 2012, the two major police agencies in Benton County spent nearly

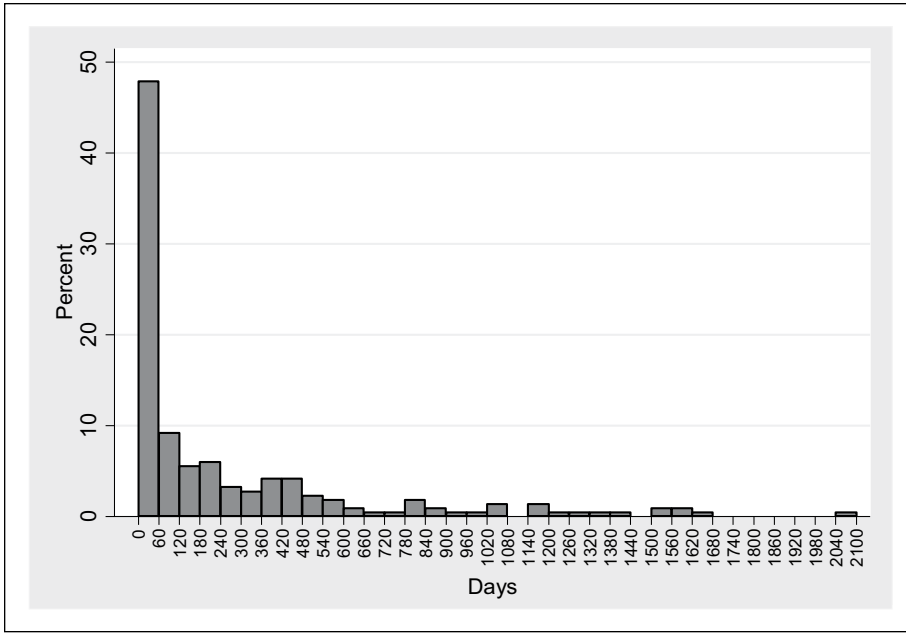


Figure 3. Time elapsed since previous POC arrest.
Note. Initial POCs in the data are omitted due to inability to calculate time since last POC. POC = peace officer custody.

500 hr responding to calls for service involving suspects perceived to have mental illness, twice the level from 2007.[8]

As noted above, frequent fliers are thought to be a relatively small subset of the broader justice-involved PwMI population that prompts a high frequency of contacts with law enforcement personnel. Analysis of the current data indicates that over the 6 years examined, 697 individuals received at least one POC. Of these, 117 individuals received multiple POCs.[9] These 117 individuals resulted in 334 POC arrests for an average of 2.85 POCs per person over 6 years.

Previous work has not explicitly defined frequent fliers beyond saying that they are justice-involved PwMI who have repeat contacts with law enforcement. Using data on the timing of POC arrests, it is possible to precisely define the frequent flier population. For each individual with multiple POC arrests in the data, an inter-POC span is calculated as the difference between the current POC date and the prior POC date, if one exists in the data. The distribution of these spans is depicted in Figure 3. It reveals that many POC spans are very short. Nearly half (47.9%, or 104) of all repeat POC arrests occurred within 60 days of the initial POC arrest. In fact, over a quarter (25.8%, or 56) of repeat POC arrests occurred within just 14 days of the initial POC arrest.

The spans between POCs can be used as bandwidths for identifying frequent fliers. The analyses below utilize three bandwidths of POC spans to identify frequent

Table 1. Counts of Individuals and POC Arrests by Frequent Flier Bandwidth.

POC span bandwidth (days)	Individuals		Arrests			
	FFs	% FFs[a]	FF POCs	% from FFs[b]	FF mean POCs	Non-FF mean POCs
365	93	13.34	285	31.18	3.06	1.04
60	65	9.33	216	23.63	3.32	1.15
14	38	5.45	140	15.32	3.68	1.17

Note. POC = peace officer custody; FFs = frequent fliers.
[a]Percentage of all individuals with a POC who are frequent fliers.
[b]Percentage of all POC arrests contributed by frequent fliers.

fliers: (a) 365 days, (b) 60 days, and (c) 14 days. If an individual has two POC arrests within the given bandwidth, he is classified as a frequent flyer for the entire 6-year period covered by the data. For example, an individual with one POC in 2008 and another 364 days later in 2009 would be counted as a 365-day frequent flyer for the entire 2007-2012 period. Similarly, an individual with two POCs within a 14-day span in 2007 would be counted as a 14-day frequent flyer for the entire period. (This person would also qualify as a 60-day frequent flyer and a 365-day frequent flyer.) Shorter bandwidths offer a stringent definition of frequent fliers and will only capture rapid cyclers, here defined as frequent fliers with two or more POCs in a 14-day period.

For each bandwidth considered here, Table 1 depicts the number of frequent fliers, number of POC arrests from frequent fliers, and the mean number of POCs in the data for frequent fliers and non-frequent fliers. Narrowing the bandwidth that determines frequent flier status reduces the count of frequent fliers and POCs but simultaneously increases the rate of POC arrests. For example, while 365-day frequent fliers averaged 3.06 POC arrests in the data, 14-day frequent fliers averaged 3.68. Frequent fliers (of all bandwidths) have a disproportionate effect on the total number of POC arrests. The 365-day frequent fliers represent 13.3% of all POC'ed individuals but 31.2% of all POC arrests that occurred in the 6-year period under study. Similarly, the 14-day frequent fliers ("rapid cyclers") represent 5.5% of all POC'ed individuals but 15.3% of all POC arrests.

The outsized contribution of frequent fliers to POC counts can be seen over time in Figure 4, which graphs the annual number of POC individuals and arrests by frequent flier status using various bandwidths. For all bandwidths, the numbers of POC arrests and POC individuals track each other closely among non-frequent fliers. This is not surprising, as a non-frequent flier will either have a single POC or, at most, multiple POCs spread over long time. Among frequent fliers, however, there is a large and growing divergence between the number of POC individuals and POC arrests. For each bandwidth, the number of frequent flier-related POC arrests grew faster than the number of frequent flier individuals. Consider the 14-day bandwidth in 2012: 19 frequent fliers accounted for 65 POC arrests. Looking at the 365-day bandwidth in 2012, 47 frequent fliers contributed 108 POC arrests, nearly as many as contributed by the

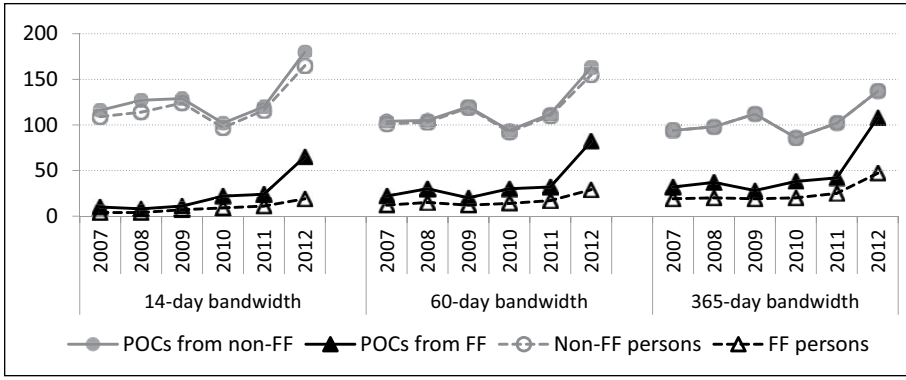


Figure 4. POC arrests of individuals, by FF status and bandwidth.
Note. POC = peace officer custody; FF = frequent flier.

137 non-frequent fliers (137 POC arrests). Thus, while the populations of both frequent fliers and non-frequent flier individuals have grown, the nature of frequent fliers—repeated POCs, often in rapid succession—means that they contribute disproportionately to the total number of POCs.

It is likely that the POC figures shown here understate the true impact of frequent fliers on law enforcement, as they omit informal resolutions. The informal resolution data did not contain information on the contacted citizen, and thus could not be used to identify (or match to) frequent fliers. Two plausible assumptions can be made about the frequent fliers identified on the basis of repeated POCs: (a) they also have informally resolved contacts with law enforcement and (b) such contacts are more frequent than individuals without repeated POCs. If these assumptions are correct, then frequent fliers engage more law enforcement resources than what is suggested in the analyses here.

Discussion

Despite the significant attention being directed to mentally ill and dual diagnosis justice-involved individuals, little explicit attention has been directed to so-called "frequent fliers," those justice-involved PwMI who have repeat, often high-frequency contacts with law enforcement. This article proposed a simple method of identifying frequent fliers using varying time bandwidths based on the difference between the current and prior police contact (if one existed). Using this method of defining frequent fliers, the article proceeded to document the disproportionate contribution that frequent fliers made to the aggregate amount of contact between law enforcement and PwMIs over a 6-year span in Benton County, Oregon.

The analyses revealed that for many individuals, the elapsed time between mental-health-related police contacts is very short. Nearly half of all repeat POC arrests (an indicator of police contact with PwMI) occurred within 60 days of the initial POC

arrest and over a quarter of repeat POC arrests occurred within just 14 days of the initial POC arrest. Results further showed that the 93 individuals with multiple POCs in a year (365-day bandwidth) accounted for 285 POCs. Narrowing the bandwidth used to define frequent fliers, the 38 individuals with multiple POCs in a 2-week period (14-day bandwidth) accounted for 140 POC arrests. As noted above, these figures omit informal resolutions and therefore understate the true impact of frequent fliers on law enforcement. This is consistent with existing research indicating that PwMI who are regularly contacted by police are also significantly more likely to be handled with "no action" (Green, 1997), as handling the situation in this way minimizes paperwork and unwanted "down time" (Teplin, 1984, 2000). Thus, these results confirm that a small subset of justice-involved PwMI disproportionately affect the justice system.

Research indicates that contacts between justice-involved PwMI and police are typically prompted by non-criminal behaviors or minor misdemeanors (Borum et al., 1997), and limited research on the frequent flier subset of this population suggests this behavior is primarily motivated by chronic, co-occurring mental health and substance use disorders (Green, 1997; Houston Police Department, 2010; White et al., 2006). Although, by default, law enforcement is typically the primary initial responder to these individuals, failure to address the underlying conditions that led to their interactions with law enforcement will waste limited justice system resources and will likely exacerbate the mental health problems of the individual in the process (White et al., 2006).

In the absence of a significant shift in policy addressing the non-institutionalized mentally ill, significant numbers of individuals with mental health disorders and co-occurring substance abuse will continue to be encountered by law enforcement (White et al., 2006). Preventing PwMI from penetrating further into the criminal justice system is a major challenge, but research suggests a number of steps that may help accomplish this. Most broadly, intensive collaboration between law enforcement agencies and mental health agencies is a foundational step in thoroughly addressing the rise in law enforcement contacts with PwMIs (e.g., Almquist & Dodd, 2009; Council of State Governments, 2002; Deane, Steadman, Borum, Veysey, & Morrissey, 1999). Interagency collaboration is not so much a discrete policy intervention, but rather an overarching philosophy that informs and facilitates various possible interventions. Specifics may vary substantially by locale but this may involve regularly scheduled meetings between agencies, mental health agents providing trainings on crisis intervention, a shared case manager (or liaison) specializing in justice-involved mental health cases, and formalized information sharing between mental health and law enforcement on persons of high need.

Frequent fliers are likely to be citizens with high (and possibly unmet) needs. The analytic methods for identifying frequent fliers could prove valuable for facilitating knowledge exchange and cooperation between law enforcement and mental health agencies with shared clients. Exchange of personal health information between agencies is complicated by federal privacy regulations. Although the Health Insurance Portability and Accountability Act (HIPAA) does place real restrictions on private

health information sharing, it also offers allowances for disclosure of such information to law enforcement in some instances (Petrila, 2007; Petrila & Fader-Towe, 2010). Recently, Leon Rodriguez, Director of the Office for Civil Rights at the Department of Health and Human Services, stated,

> Privacy Rule [in HIPAA] does not prevent your ability to disclose necessary information about a patient to law enforcement, family members of the patient, or other persons, when you believe the patient presents a serious danger to himself or other people. (U.S. Department of Health and Human Services, 2013, p. 1)

By using the frequent flier identification method described above to prioritize those in the community with the highest need, law enforcement and mental health can collaboratively determine what approaches are most promising for ensuring future mental health and minimizing contact with police (e.g., Houston Police Department, 2010).

For persons suffering from mental illness who have been charged criminally, mental health courts provided a specialized venue to address treatment. Mental health courts generally have a specialized docket of cases involving PwMI. They feature a collaborative and non-adversarial team, comprising a judge, prosecutor, defense attorneys, representatives from parole and probation, and representatives from a mental health agency (Almquist & Dodd, 2009; Sirotich, 2009). These parties can tailor a response plan to fit the needs of the defendant, which may involve a referral to the local mental health and substance abuse resources and may include compliance monitoring (Wolff, 2002).

Reviews of research on mental health courts provide reason for optimism. Although the body of work on mental health courts is limited in terms of the number of studies and their scope, some studies have found that participation in mental health courts reduces recidivism or re-incarceration (see Almquist & Dodd, 2009; DeMatteo, LaDuke, Locklair, & Heilbrun, 2013; Sarteschi, Vaughn, & Kim, 2011). There is also evidence that mental health courts have positive mental health consequences for participants (see Almquist & Dodd, 2009; DeMatteo et al., 2013), although the evidence here is not definitive (Sarteschi et al., 2011; Sirotich, 2009). And while mental health courts may require new expenses (e.g., court staff, additional treatment expenses), there is some evidence that these costs would be offset by savings to the traditional criminal justice system, particularly in the form of reduced frequency of jail stays for those with mental illness (Almquist & Dodd, 2009; Ridgely et al., 2007).[10]

While this study presents a straightforward methodology for identifying PwMI with high-frequency contacts with law enforcement for intervention, there are notable limitations and opportunities for future research. First, the analysis was conducted on a single county in Oregon. Replication in other locales should be conducted to examine variation in the size and impact of the frequent flier population in other areas. Identifying and quantifying the impact of the frequent flier sub-population among all arrestees can allow communities and law enforcement agencies to develop effective mitigation

strategies tailored to the local context, both in terms of resources available and scale of the problem. Communities with very limited treatment resources, for instance, would be best served by diverting the highest risk individuals with very narrow spans between contacts with police. Large communities with more substantial resources may prefer to use wider bandwidths to divert more individuals into community or residential treatment programs. Second, as noted above, data limitations do not allow for a complete analysis of repeated PwMI contacts that are resolved informally. The inability to calculate repeated informal contacts means that the estimates above understate the true amount of contact between police and PwMI. Third, the data analyzed here do not capture individuals' experience with other parts of the criminal justice system. Notably, the data do not contain information on jail or prison spells. Long spans between contacts with law enforcement may appear positive on paper (at least compared with contacts in rapid succession). However, these long spells may simply be due to incarceration, during which time a person cannot experience a police contact. Future work should therefore be attentive not just to PwMI contacts with law enforcement but also to contacts with carceral agencies. Finally, the costs of responding to individuals with mental illnesses are often hidden in overall law enforcement budgets, obscuring the severity of impacts of untreated mental illnesses on communities. Future cost analyses of police contacts with these individuals, derived from service call duration data or similar metrics, may allow law enforcement agencies to better justify expansion of diversion programs or adjustment of police budgets to address these issues.

As frequent fliers, by definition, experience multiple contacts with law enforcement, they are a critical sub-population in efforts to address the overall amount of police contacts with PwMI. The method described above is a simple yet effective means for police agencies or researchers to estimate the size of this population and to target interventions, perhaps in collaboration with mental health service providers or agencies. As the worlds of mental illness and criminal justice increasingly intersect, addressing the frequent flier population proves to be a way of targeting limited resources for the most impact.

Appendix

The article identifies frequent fliers on the basis of peace officer custody (POC) spans (i.e., time elapsed between multiple POC arrests), such that individuals with a subsequent POC arrest within X number of days of a prior POC arrest were deemed frequent fliers. We used several intuitive, a priori cutoff "bandwidths" to distinguish frequent fliers from other POC arrestees: 14, 60, and 365 days. Using various bandwidths, analysts can identify larger or smaller groups of frequent fliers, with smaller groups having higher rates of POC arrest (see Figure 4). The value of this approach is its simplicity: It is easy to understand, describe, and implement (e.g., in law enforcement or mental health agencies).

More sophisticated analytic methods can also be used to identify frequent fliers. We present one such approach here. Group-based trajectory modeling is a statistical method for analyzing heterogeneity in growth trajectories in longitudinal data. It is

based on an assumption that the growth trajectories within a population are heterogeneous and that they correspond to latent, unobserved groups within the population (Nagin, 2005). The heterogeneity in trajectories is therefore modeled as a function of group membership. (Group-based trajectory models are also referred to as "finite mixture models" because the overall population trajectory is assumed to be a mixture of a finite number of distinct trajectories—for example, Deb, 2008; Land, 2001.) Maximum likelihood algorithms use variation in developmental trajectories to estimate the size of groups and the properties of each group-specific trajectory. The number of groups and the general form of the trajectories are specified by the analyst. Multiple models are compared, and an optimal model is selected, typically on the basis of the Bayesian information criterion and theoretical plausibility (Nagin, 2005).

Because our data on POC arrests are longitudinal, with individuals observed over time, they are amenable to group-based analysis of POC trajectories. The intuition behind such an analysis is that within the overall population of POC arrestees, there are discrete subgroups that manifest distinct trajectories of POCs over time. One such group is likely to consist of frequent fliers, who would be expected to have higher rates of POCs overall and, perhaps, more rapid increases in POCs. We conducted a group-based analysis of POC trajectories for all individuals with at least one POC in the 6 years of data available ($N = 697$ individuals). Within this sample, we analyzed monthly frequencies of POCs for each individual. Monthly POC frequencies for individuals ranged from 0 to 5, with the vast majority of individuals having zero POC in a month. We used the Stata plug-in *traj* to conduct the group-based analysis (Jones & Nagin, 2013; StataCorp LP, 2014). The *traj* plug-in produces maximum likelihood estimates of group membership and group-specific trajectories on the basis of user-specified link function, polynomial order, and number of groups. The analysis below uses the zero-inflated Poisson (ZIP) link because the outcome of interest is the count of POCs in a given month, which is skewed to the right with a disproportionate number of zero outcomes. We present results for a model with two groups with a cubic polynomial order.

Figure A1 summarizes the results of the model graphically, with monthly predicted POC arrests (scatterplot) and over-time trajectories (lines) by group. The model splits the sample into two groups, with 73.6% of POC arrestees in Group 1 and 26.4% of POC arrestees in Group 2. Group 1 arrestees show a very slightly declining, but relatively flat, trajectory over time. Group 2 arrestees show a rapidly rising trajectory, with nearly zero POC arrest from 2007 through 2009, followed by rapidly rising numbers of POC arrests through the end of 2012. By 2012, the predicted number of POCs for a person in Group 2 approached (and eventually exceeded) 0.1 per month. Extrapolating over a year, a Group 2 person is predicted to have 1.2 POCs per year (~0.1 per month × 12 months). A person in Group 1, however, is predicted to have approximately 0.12 POCs per year (~0.01 per month × 12 months), roughly the same number of POCs that a Group 2 person should have *per month*.

Group 2, generated through group-based trajectory modeling, resembles the frequent fliers identified in the analysis based on POC spans. In both analyses, a small subset of POC arrestees have frequent POC events and account for a large share of the

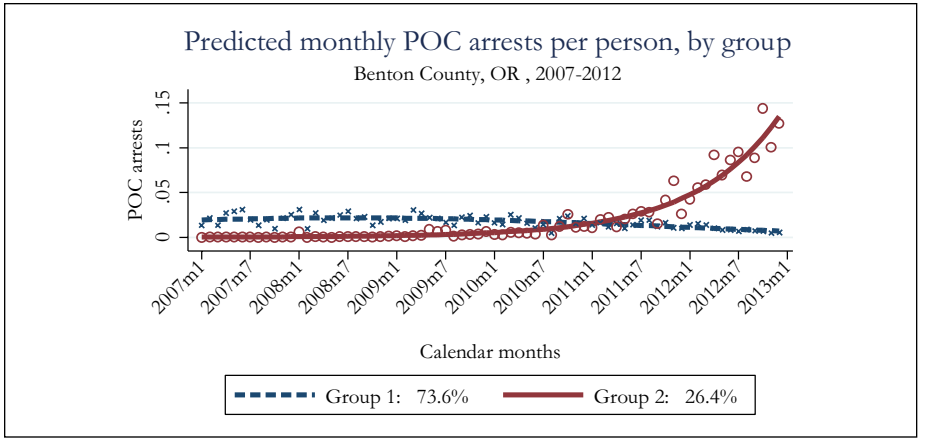


Figure A1. Predicted monthly POC arrests per person using a group-based trajectory modeling approach.

Note. Finite mixture model produced with "traj" and "trajplot" in Stata 13. Model specified as two groups with third-order polynomials and zero-inflated Poisson link function. Sample consists of 697 individuals arrested for a POC in Benton County, 2007-2012. *N* = 50,184 person months. POC = peace officer custody.

total POC load, especially in later years. The two methods are complementary and lead to the same general conclusions: POC arrestees are not a homogeneous group, and frequent fliers contribute disproportionately to law enforcement contacts with people with mental illnesses (PwMI).

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Notes

1. The term *people with mental illnesses* (PwMI) is used to refer to people who are *perceived* by law enforcement agents as displaying symptoms of mental illness.

2. The term "frequent flier" is used in public accounts (Santos & Goode, 2014) and anecdotally by police to refer to PwMI who have frequent contacts with law enforcement. In addition, the term "frequent fliers" has been used in academic research (and anecdotally) to refer to habitual offenders and/or those who commonly cycle through correctional institutions, regardless of mental health status (Ford, 2005; Johnson & Willman, 2012). Following convention, and for purposes of clear communication, we refer to "frequent fliers" in referencing individuals who have repeated contact with law enforcement due to a real or perceived mental illness. We use the phrase to simplify a complex concept, not to trivialize persons suffering from mental illnesses or their heightened likelihood of coming to the attention of law enforcement. This population has also been referred to as "chronic consumers" by some (Houston Police Department, 2010).
3. An additional study by Biebel and Cordner (2003) noted the geographic concentration of calls for service in response to a situation with a PwMI. Of the 507 such calls in Lexington, Kentucky, in a 1-year span, 20% were attributed to just 17 locations, and each of these locations received a minimum of three visits from law enforcement. Because institutional residences (i.e., hospitals, shelters, group homes) were included in these 17 locations, it is unclear to what extent repeat visits were caused by the same or multiple individuals.
4. This is particularly the case since a state-run mental hospital in Salem, a neighboring city, was recently closed. As of this, writing facilities designed to accommodate some of those displaced by this closure remain under construction.
5. This omits arrests performed by the Philomath Police Department (PPD) or Oregon State Police (OSP), particularly on the Oregon State University campus where OSP have sole jurisdiction.
6. In the original data set of 34,629 charges, 182 (0.5%) charges had an invalid suspect ID and 1,383 (4.0%) had data entry errors. These were removed from the analytic sample.
7. Due to data limitations, durations could only be established for 197 peace officer custodies (POCs). For missing cases, yearly mean POC durations were imputed. Informal resolution durations were reported completely, but may be underestimates due to exclusion of informal encounters that were not flagged as "mental" by either dispatchers or responding officers.
8. The duration estimates assume a response by a single officer (the only measure available in our data) and as such are conservative estimates of the total consumption of officer hours.
9. This is necessarily a conservative count, as it does not capture individuals with additional POCs prior to 2007 or after 2012.
10. One might also consider the extensive literature on other problem-solving courts, most notably drug courts, which supports their efficacy both in terms of reduced recidivism (Mitchell, Wilson, Eggers, & MacKenzie, 2012) and cost savings (Downey & Roman, 2010).

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