

Recidivism and Serious Mental Illness (SMI): A Look at the Durham County Detention Facility (DCDF)

Aidan Fitzsimons, Brooke Scheinberg, Joe Choo

Project Lead: Ruth Wygle

Project Managers: Nicole Schramm-Sapyta, Michele Easter

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Background: In recent years, Durham County, with the help of a new district attorney, a new sheriff, and organizations and programs such as the Crisis Intervention Team (CIT), the Criminal Justice Resource Center (CJRC), and the Stepping Up Initiative, has been working towards improving its criminal justice system. CIT is a program that equips officers and other first responders to deal with mental illness in the field, while the CJRC and the Stepping Up Initiative work to help people with mental illness throughout their entire interaction with the criminal justice system. Currently, a goal of the aforementioned efforts is the diversion of people with serious mental illness (SMI) from the criminal justice system and into care. SMI is defined as a mental illness that severely inhibits one from living their daily life.

Objective: This summer, we analyzed data from the Durham County Detention Facility (DCDF) in hopes of assisting the CIT, the CJRC, and the Stepping Up Initiative in their work. Through descriptive graphs, tables, and crime categorizations created in R, we hope to provide a clear picture of what goes on in Durham County.

Data: Our data consists of the complete booking information for 57,346 individuals from January 2004 to December 2017, including race, birth month and year, sex, date confined and released, statute description, times incarcerated, and any alert tags. Booking occurs when one's charges are formally documented after an arrest. We are particularly interested in mental illness, so our analysis is focused on "SMI" tags, which were reliably applied to 311 people booked between January 2014 and June 2015. In the descriptive table of the data (**Table 1**), groups are separated out into everyone booked 2004-2017 ("All"), people booked between January 2014 and June 2015 and tagged with a serious mental illness ("SMI"), and people booked between January 2014 and June 2015 and not tagged with a serious mental illness ("Non-SMI").

Descriptive Data:

Table 1

Variables	Booked from 2004 to 2017		Booked/tagged from January 2014 to June 2015			
	n	%	n	%	n	%
Sex:						
Male	43,604	76.04	235	75.563	7,865	74.65
Female	13,740	23.96	76	24.44	2,670	25.34
Other*	2	0.003	0	0	1	0.01
Race:						
Black	34,207	59.65	228	73.31	7,513	71.31
White	20,512	35.77	81	26.05	2,955	28.05
Hispanic	84	0.15	0	0	1	0.01
Asian	277	0.48	1	0.32	34	0.32
Other**	2,266	3.95	1	0.32	33	0.31
Years Born:						
<1949	1,129	1.97	3	0.97	109	1.04
1950-1959	4,146	7.23	24	7.72	455	4.32
1960-1969	9,424	16.43	53	17.04	1,383	13.13
1970-1979	14,153	24.68	85	27.33	2,123	20.15
1980-1989	19,128	33.36	85	27.33	3,496	33.18
1990-1999	9,131	15.92	61	19.61	2,969	28.18
>2000	189	0.33	0	0	0	0
Crime Types***:						
Violent	11,670	20.35	75	24.12	1,612	15.30
Property	16,163	28.19	161	51.77	2,663	25.30
Sex	1,488	2.60	12	3.86	143	1.36
Drug	13,175	22.98	64	20.58	2,034	19.31
Miscellaneous	25,747	44.90	156	50.16	3,947	37.46
Other	13,845	24.14	43	13.83	2,809	26.66

* "Other" refers to individuals labeled "U" in dataset
 ** "Other" refers to individuals labeled "I", "O", "L", or "NA" in dataset
 *** Crime Types are separated into 6 categories in which an individual can be labeled in multiple categories. "Other" under the Crime Types section refers to individuals that do not match any of the Crime Types listed above

***Crime Categories have been further updated and analyzed in Fig. 10.

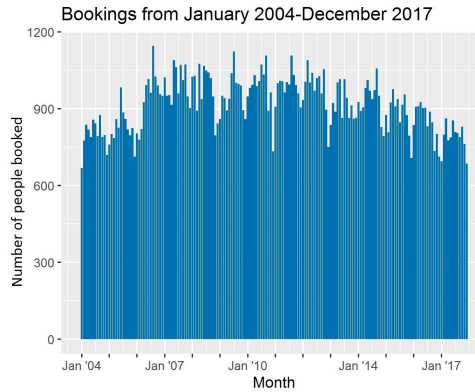


Fig. 1

Fig. 1 shows the total number of people for the “All” population from 2004 to 2017.

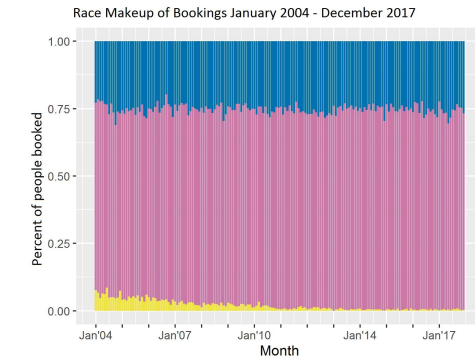


Fig. 2

Fig. 2 shows bookings by race as a percentage for the “All” population from 2004 to 2017. Per month, roughly 25% of people booked are white and 75% are black or other.

Booked

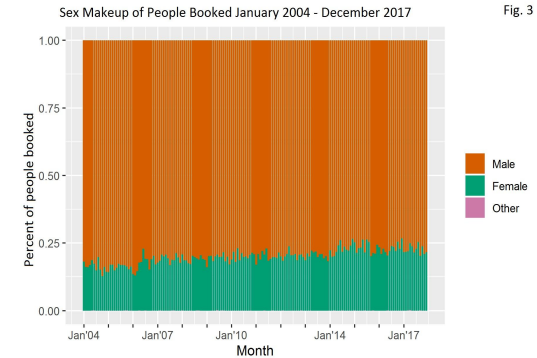


Fig. 3

Fig. 3 shows bookings by sex as a percentage for “All” from 2004 to 2017. While there are more men than women booked every month, the ratio of men to women has changed from about 80 to 20 in 2004 to closer to 75 to 25 by 2015.

Recidivism Analysis:

Fig. 4 shows bookings separated by first bookings (people who are booked by the DCDF for the first time) and people who are rebooked (released from and then booked again at the DCDF) in the “All” population. This ratio stays relatively constant, with more rebooked people than first booked each month.

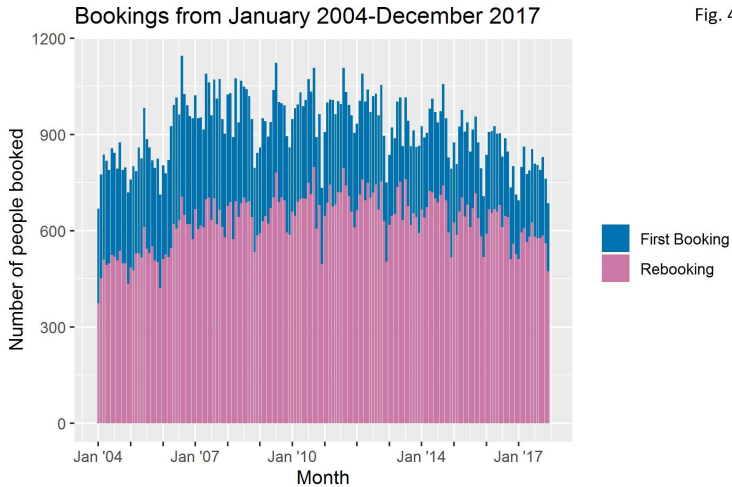


Fig. 4

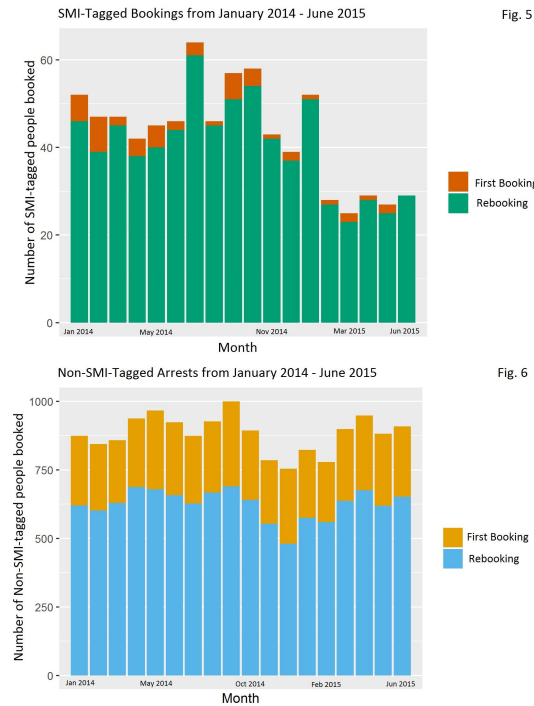


Fig. 5

Fig. 6

Fig. 5 and 6 shows bookings separated for the “SMI” and “Non-SMI” populations by first booking and rebooking from January 2014 to June 2015. The ratio shown in **Fig. 6** is similar to **Fig. 4**. In **Fig. 5**, almost all of the bookings per month are rebookings for the “SMI” population; there are very few first bookings.

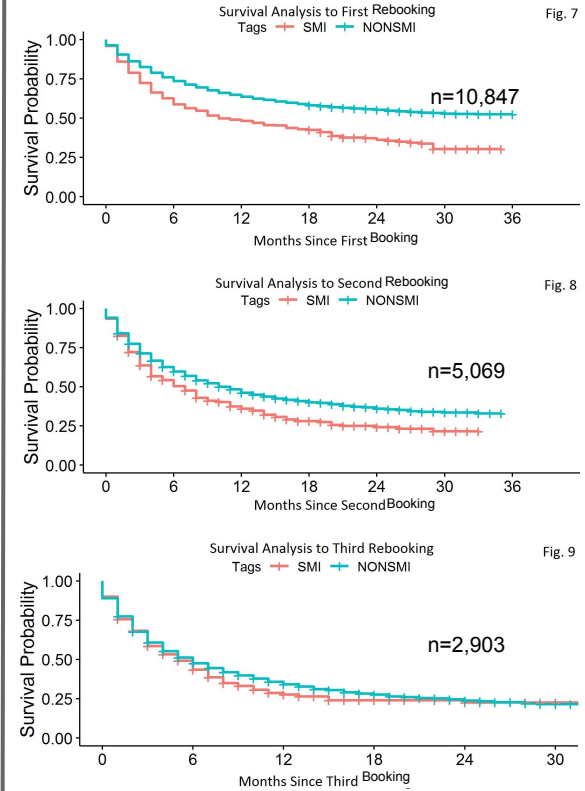


Fig. 8

Fig. 9

Fig. 7, 8, and 9 show the likelihood of rebooking after release from one’s first, second, and third booking, respectively. The lower the survival probability, the higher the likelihood of getting rebooked at the given month. As an individual is booked additional times, the survival pattern exhibited by the “Non-SMI” population resembles the “SMI” population.

Crime Categorization and Analysis:

Fig. 10 shows the distribution of crime types at booking from 2004 to 2017. Six categories (Arrest/Court, Automobile, Property, Violent, Drug, and Sex) were created with the assistance of Gudrun Parmer of the Durham County Criminal Justice Resource Center and our Project Managers. An additional two categories represent a variety of less common crimes (Miscellaneous) and crimes that did not include words used in our text-searching algorithm (“No Hit”).

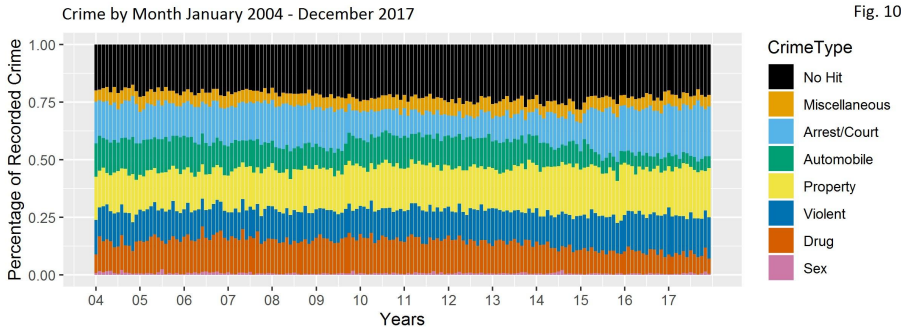


Fig. 10



Fig. 11

Fig. 11 shows the average number of charges per booking for each crime category annually. The graphic shows that for each unique booking of a drug crime, the average number of drug charges is higher than the average number of charges in a booking of any other crime category almost every year. The visual also demonstrates the steady increase in charges per booking overall.

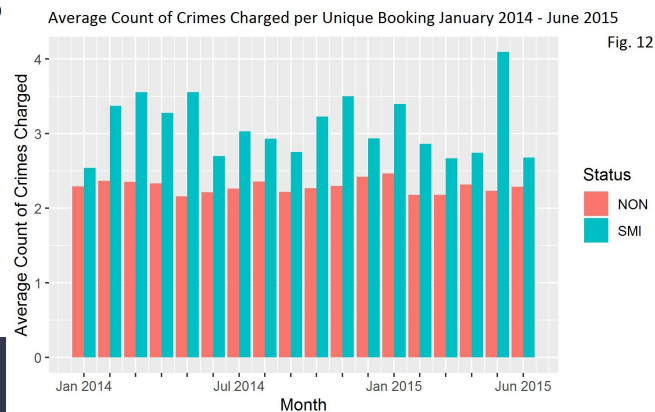


Fig. 12

Fig. 12 shows the average number of charges per booking from January 2014 to June 2015, separated out by “SMI” and “Non-SMI” populations. Every month, the average number of charges per booking for the “SMI” population was higher than the average for the “Non-SMI” population.