Mental Health Interventions By Durham

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Guiding Questions

Effectiveness

Efficiency

4 Million Adults
with untreated SMI*

1 in 4
of all fatal police encounters

1 in 5
of all jail and prison inmates

1 in 10
of all law enforcement responses

* severe mental illness

Background:

The CIT program prepares officers to identify and respond to mental health crises. Durham's CIT program began in 2007, and has trained over 200 officers. We analyzed data on 911 calls and police reports, including incidents tagged as involving mental health crises, which need a CIT-trained officer.

Image from: http://portside.org/2016-10-03/people-mental-illness-are-16-times-more-likely-be-killed-during-police-encounter

Effectiveness. Call volume captures community endorsement, and is a good proxy for program success.[1]

1. Piecewise discontinuity analysis shows increased call volume (*Fig. 1*).
2. Within-district fixed effects models confirm that training increases CIT identificaiton and call volume *(Fig 2)*.

Efficiency. Temporal/spacial distributions and budgets show program efficiency.

1. Descriptive statistics and predicted incidents from linear regression models show some places (*Fig. 3*) and times (*Fig. 4*) see more mental health crises.
2. Officer training (*Fig. 5*) and transport costs (*Fig. 6*) show areas for improvement.

Conclusion. CIT is a boon to the Durham community. The DPD's investment in CIT has increased identification of CIT calls and call volume. Need for CIT officers across changes over time (time of day, day of week, etc.) and space (different locales in Durham). The program can be even more effective by concentrating resources in these high-need areas. Finally, the program could also reduce expense without reducing efficacy by adjusting training timelines.

1. *CIT Training for Police Officers Responding to Mental Disturbance Calls* Jennifer L.S. Teller , Mark R. Munetz, Karen M. Gil and Christian Ritter Psychiatric Services 2006 57:2, 232-237

Efficacy

- *Fig 1. shows* the proportion of CIT calls to total calls in a district that trained a large number of CIT officers, District 2 (D2), and in one that did not, District 5 (D5).

- Each panel is a separate district. The x-axis shows the amount of time passed since we started collecting data (mid 2011). The y-axis shows the estimated proportion of calls in each district that are CIT calls. The color of the data points corresponds to the number of CIT trained officers in the district at that time.

- Call proportion in D2 increased after an initial training push marked by the black line. There was no training push nor increase in D5, suggesting the training might have had a positive effect.

- A fixed effects model controlling for the differences between districts and the passage of time *showed a positive relationship between training and volume*, confirming the hypothesis.
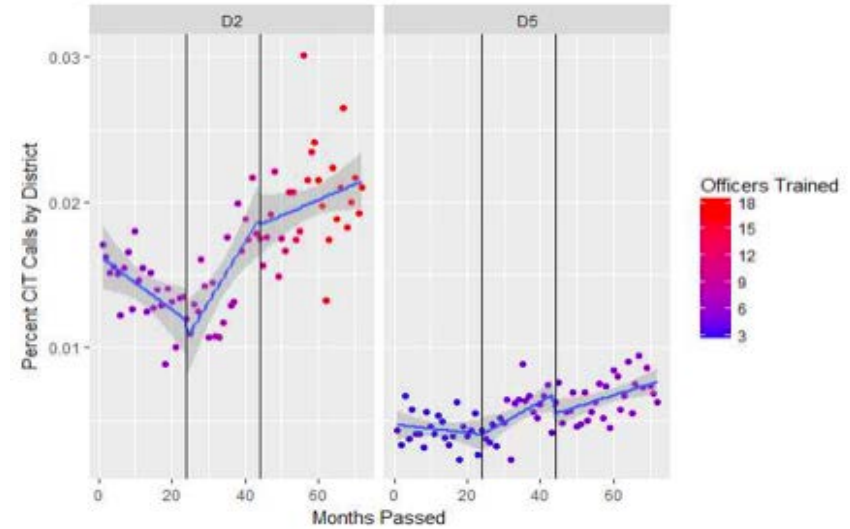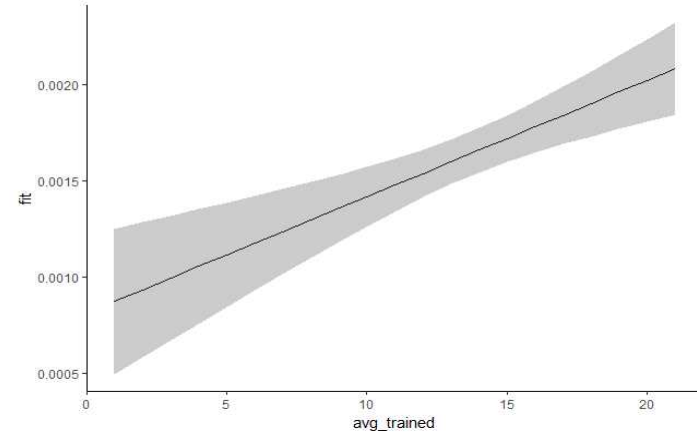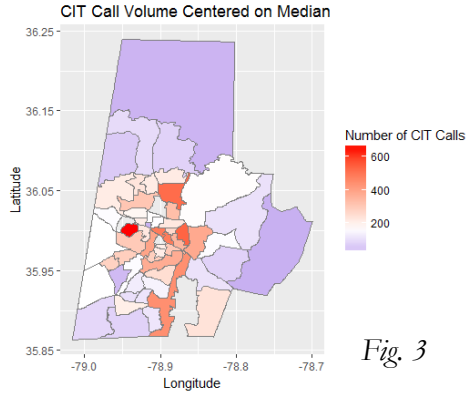

Fig. 1

Fig. 2

Efficiency

CIT Call Volume Centered on Median

Fig. 3

The red areas in *Fig. 3* display where in Durham County the greatest number of CIT calls occurred in 2015 and 2016.
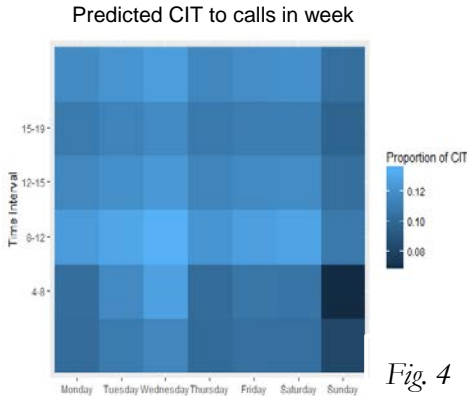
Predicted CIT to calls in week

Fig. 4

Fig. 4 predicts the time intervals in which the greatest proportion of CIT calls will occur. CIT call volume is expected to peak between 8AM and 12PM on Wednesday, and drop to its lowest point between 4 am and 8 am on Sunday.

Fig. 5 indicates that the majority of expeced costs associated with the CIT program are being spent on recertification costs. Given the previously described findings on training efficacy, costs could be reduced by reducing training frequency.

Majority of Training Costs from Recertification

Fig. 5

Fig. 6 illustrates the destinations of CIT transports for "all calls" and "non-psych calls", which are the calls that are not automatically directed to a treatment center. Durham Center Access(DCA) is the most time efficient drop-off point; therefore, routing a greater number of transports from Duke and the VA to DCA could improve efficiency.
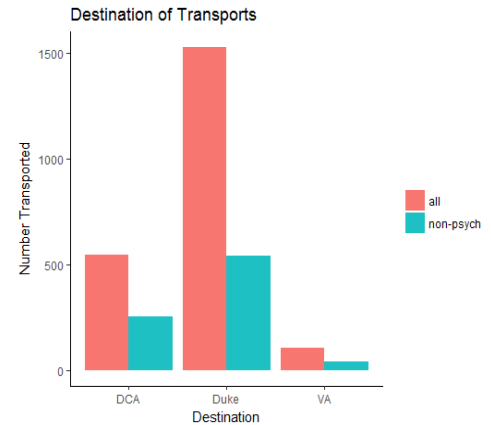
Destination of Transports

Fig. 6