

Post-Terrorism SSRI

Changes in Selective Serotonin Reuptake Inhibitor Prescription Rates Following
a Terrorist Attack

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While population-based studies and a recent meta-analysis have documented increased prevalence in conditions like post traumatic stress disorder (PTSD) following terrorist attacks^{1 2} other studies have failed to demonstrate concomitant increases in mental health service utilization.^{3 4}

Selective serotonin reuptake inhibitors (SSRI) are indicated in the treatment of a number of mental health disorders associated with terrorism.⁵ We plotted weekly rates of SSRI prescription fills for New York State Medicaid recipients for 2000 and 2001. We determined percentage changes in prescription rates, assessed changes in the slope of the plots before and after September, 2001 by determining the statistical significance of the difference in the regression slope coefficients, and analyzed the weekly time series using Box-Jenkins methodology and interrupted times series

Compared to the previous 8-month period, for individuals living within 3 miles of the World Trade Center (WTC) site, there was an 18.2% increase in the SSRI prescription rate ($p=0.001$), and statistically significant change in the slope of the plot following the terrorist attacks of September 11, 2001 ($p=0.01$). A 9.3% increase for non-New York City residents was not statistically significant ($p=0.74$) nor was the change in the slope of this series significant ($p=0.11$). In contrast, there were decreases in SSRI prescription rates for these geographic areas for analogous time periods in 2000.

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For Medicaid recipients residing within 3 miles of the WTC site, an ARIMA (1,1,1) model provided the best fit for the time series data, and an interrupt term representing a sudden, temporary increase in the prescription rate starting with the first week in November was statistically significant ($p=0.001$). (Figure) In a similar model fit to the data from individuals living outside New York City, the interrupt term representing the post-attack period was not statistically significant. ($p=0.74$).

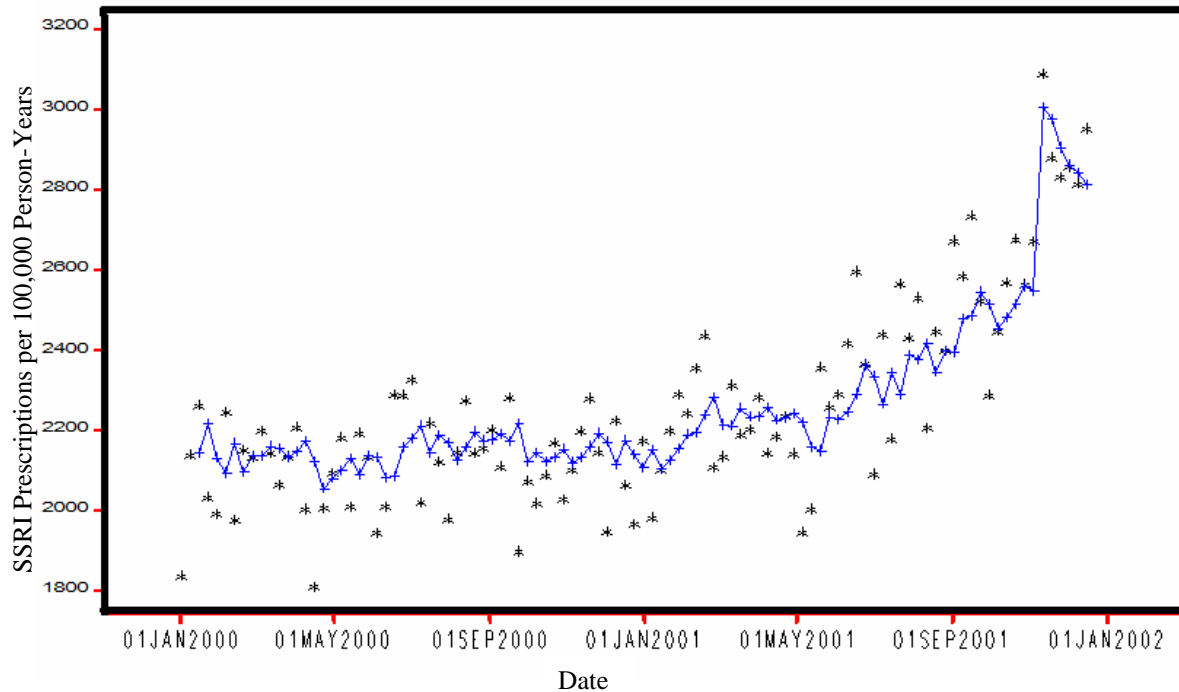
Some of the post-September 11 increase in SSRI dispensing may be explained by the wider availability of free services such as project Liberty and Disaster Relief Medicaid. We attempted to address this by basing our time series on rates per person-years of Medicaid eligibility, controlling for an increased number of eligible individuals by including them in the denominator of the rate.

We conclude that there was an increase in the dispensing of SSRIs following the terrorist attacks of September 11, 2001 and that this effect varied by geographic proximity to the events. While our results cannot attribute causation, they are consistent with knowledge about the increase in mental health pathology after terrorism, and have the strength of a plausible gradient effect. We await the release of New York Medicaid data for 2002 to assess whether the increased SSRI utilization among nearby residents of the WTC area was short-lived or sustained. This is, however, to the best of our knowledge, the first report of a significant increase in psychoactive drug utilization associated with physical

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proximity to these attacks. Our findings contribute to the growing body of knowledge on the pervasive population effects of terrorism and the need to address mental health as part of surge capacity and public health response.

Figure: Interrupted times series model, SSRI prescription rate, New York State Medicaid recipients residing with 3 miles of WTC site.



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