

# BIOSTATISTICS SEMINAR

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## **Do local landmark bridges increase the suicide rate? An alternative test of the likely effect of means restriction at suicide-jumping sites.**

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3:30pm - 4:30pm, CHS 33-105A

Refreshments served at 3:00 PM in room 51-254 CHS

**ABSTRACT:** A number of recent studies have examined the effect of installing physical barriers or otherwise restricting access to public sites that are frequently used for suicides by jumping. While these studies demonstrate that barriers lead to a reduction in the number of suicides by jumping at the site where they are installed, thus far no study has found a statistically significant reduction in the local suicide rate attributable to a barrier. All previous studies are case studies of particular sites, and thus have limited statistical power and ability to control for confounding factors, which may obscure the true relationship between barriers and the suicide rate. This study addresses these concerns by examining the relationship between large, well-known bridges (“local landmark” bridges) of the type that are often used as suicide-jumping sites and the local suicide rate, an approach that yields many more cases for analysis. If barriers at suicide-jumping sites decrease the local suicide rate, then this implies that the presence of an unsecured suicide-jumping site will lead to a higher local suicide rate in comparison to areas without such a site. The relationship between suicides and local landmark bridges is examined across 3116 US counties or county equivalents with negative binomial regression models. I found that while exposure to local landmark bridges was associated with an increased number of suicides by jumping, no positive relationship between these bridges and the overall number of suicides was detected. It may be impossible to conclusively determine if barriers at suicide-jumping sites reduce the local suicide rate with currently available data. However, the method introduced in this paper offers the possibility that better data, or an improved understanding of which potential jumping sites attract suicidal individuals, may eventually allow researchers to determine if means restriction at suicide-jumping sites reduces total suicides.