D84   Using Geographic Information Systems (GIS) to Explore "Patterns or Practices" of Use of Excessive Force in Law Enforcement Agencies

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After attending this presentation, attendees will understand how spatial analyses can assist in determining the nature and extent of police use of force in a subject jurisdiction, as well as identifying the use of excessive force and any pattern or practice thereof.

This presentation will impact the forensic science community by providing a solid theoretical and empirical basis for pattern or practice investigations and by demonstrating how geospatial analysis can assist with monitoring, understanding, and responding to police use-of-force incidents. Experts involved in the analysis of police use of force for forensic purposes can expand their approach and increase the likelihood of producing meaningful and actionable results.

Descriptive statistical reports concerning the use of force by police typically tell a benign story: use of force is a relatively rare event, and when it is used, it tends to be proportional. When the data are considered in spatial context, the story often becomes less benign. Clustering of force incidents, particularly disproportional force incidents, may be more instructive in assessing the extent to which a pattern or practice of the use of excessive force exists.

Data for this presentation are drawn from more than 1,200 official use-of-force reports from the Seattle Police Department covering a recent two-and-one-quarter-year period. This period of time was associated with a Department of Justice investigation into alleged use of excessive force and racially biased policing in the city of Seattle. Levels of police force and levels of suspect resistance were classified based upon complementary scales following Alpert's "force factor" method, and relevant Graham factors and other person and incident variables were coded. The data were geocoded to incident locations to enable spatial analyses. The focus of the presentation will be on the utility of weighted Kernel Density Estimation, with use-of-force incidents weighted by force factors.

Using these techniques, maps can be generated indicating concentrations ("hot spots") of potentially disproportional use-of-force incidents, as opposed to concentrations of proportional force incidents. The underlying behaviors giving rise to police action can be contrasted across both weighted and unweighted use-of-force hot spots. Finally, concentrations of force incidents can be related, both visually and empirically, to other geospatial data, such as census demographics, area-located attitudinal survey data, and other data resources. A series of maps and spatial statistics will demonstrate how GIS can improve the quality of police monitoring and accountability mechanisms, particularly with regard to issues of social justice and questions about disparate impact in disadvantaged communities.

Police Use-of-Force, Pattern or Practice, GIS