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# Police Innovation Post 1980: Assessing Effectiveness and Equity Concerns in the Information Technology Era

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## RÉSUMÉ

Cet article dresse un portrait théorique, pratique et évaluatif de quelques unes des principales innovations survenues au sein de la police depuis les dernières décennies. Tout d'abord, il sera question de la première génération de réformes comme la police communautaire, la police orientée vers la résolution des problèmes et la théorie *Broken Windows*. La deuxième génération compte des innovations plus récentes liées au développement des sciences informatiques (*information technology policing*) et qui comprend l'utilisation de *Compstat* et l'examen des « points chauds » (*hot spots policing*), parmi d'autres services de bases de données. Certaines innovations se sont avérées efficaces, ou au moins prometteuses, sous certaines conditions. Néanmoins, il serait important d'en apprendre plus au sujet des coûts et des conséquences de ce type d'initiatives. En guise de conclusion, cet article propose quelques directives pour guider les innovations policières dans les années à venir.

## ABSTRACT

This paper provides an overview of the theory, practice and evaluation research behind some of the major innovations in policing in recent decades. The paper begins with a focus on first generation reforms such as community or problem-oriented policing, and broken windows policing. It then turns to an examination of the more recent innovations that can be

subsumed under the label of information technology policing, including Compstat policing and hot spots policing. Some of these innovations have been shown to be effective, or at least promising, under certain circumstances. Nevertheless, it is argued that there is a great deal more to be learned about some of the costs and consequences of these initiatives. The paper concludes by proposing some guidelines and value statements to guide innovations in policing in the years to come.

### **Adjusting to the external environment: Recent trends in urban police crime control strategies**

Efforts to reform police organizations and stimulate innovation have intensified over the last forty years. This paper provides an overview of some of the major police innovations in recent decades as police departments seek to adapt to a new world of accountability, advanced technology, evaluation research findings, media scrutiny and challenges to their legitimacy. The theory, practice, and evaluation of key police innovations are examined, noting the unprecedented external pressure, in multi-cultural societies, to balance effective policing with fair and equitable policing.

Today, illegal drug or gun markets and roaming youth gangs have produced a deadly cocktail of violence and fear in cities around the world. Law enforcement agencies have employed numerous managerial, strategic and tactical approaches to these problems, and they have achieved some notable successes. At the same time, concerns about police misconduct and violations of civil liberties have forced police organizations to address image problems and their legitimacy in the eyes of the public. Both scientific evidence and critical analysis are needed regarding the benefits and costs of recent policing strategies (See, for example, Weisburd and Braga 2006a). On a positive note, the results appear rather promising and the message is much different than the “nothing works” storyline of 20 years ago. Police interventions can make a difference in rates of violence and other forms of crime.

But caution is in order. While some forms of policing are theoretically compelling, and have been shown to be effective under controlled experimental conditions, high-integrity implementation is surprisingly uncommon in practice. The organizational reforms that are needed to facilitate such implementation have been equally rare. Furthermore, this paper argues that the potential costs of the most popular, easily implemented crime control strategies, although not well documented, could be substantial. These include the opportunity costs of not pursuing more preventative interventions with

long-term benefits. Aggressive policing with special units, overt and covert camera surveillance, large integrated data files on arrestees and suspects, and saturated geo-based deployment can produce immediate results in disorder and violence reduction, but may also contribute to inequities by race and class, threaten community stability and have others untoward effects. This paper gives some attention to these potential costs, primarily because they are rarely discussed in the policing literature and because policy makers should continue to explore alternative models.

### **A brief history of modern policing**

To understand the current state of policing, a truncated history of reform efforts and major innovations would be helpful. Drawing on Kelling and Moore (1988) and Walker (1998), we have witnessed three major periods in policing in the United States: the political era (1840s to 1930s), the reform era (1930s to 1970s), and the community era (1980s to present). I will take the liberty of adding a fourth era, based on my own observations – the information technology era (2001 to present).

Whether the police could claim any legitimacy during the political era is debatable, other than the authority they achieved with the nightstick and through their connection to the political bosses. Working out of decentralized locations, officers often were unmotivated, corrupt, and abusive as they dealt with the full range of neighborhood problems during this gritty industrial period. Early in the 20<sup>th</sup> century, the reformers were fed up with police corruption and incompetence. Beginning in the 1920s and blossoming in the 1930s, the reform era gained traction through the ideas and practices of Berkeley’s police chief August Vollmer and new FBI director J. Edgar Hoover. The focus of policing was narrowed to law enforcement and the image of the professional crime fighter was honed. Walker (1998) argues that three primary forces in the 1930s ultimately defined the reform era of policing: (1) the introduction of the patrol car, which removed officers from the streets, (2) the establishment of the Uniform Crime Report which provides standard measures of crime and thus, defined law enforcement success in terms of crime control; and (3) O. W. Wilson’s (1952) definitive theory on police management, which focused on preventive patrol and crime suppression as the primary mission of police organizations.

To this day, the crime fighting image remains strong, despite the fact that criminal activity, defined by calls for service, consumes only a small percentage of police time on the streets. In 1960, O.W. Wilson, with Herman Goldstein

as his top aide, reformed the Chicago Police Department to be the exemplar of the professional model. A new computerized communication system served as the information hub to handle calls for service and dispatch resources. A centralized, military-style “chain of command” provided the operational backbone of the agency. The reform model was designed to insulate the police from the corrupting influences of both citizens on the street and politicians. Uniforms, military ranks, written policies and procedures, centralized control and command, highly trained specialized units (including detectives), motorized patrols, and modern technology were expected to eliminate corruption, professionalize the police, and above all, prevent crime through rapid response, random patrol, and forensic investigations.

This sounded great, until the social and political problems of the 1960s dashed any hope that this approach would achieve its goals. The police mishandling of the race riots and the Vietnam War protests left a permanent stain on the reputation of American policing. The President’s Commission on crime (1967) and the Kerner Commission on civil disorder (1968) both underscored the need to improve police-community relations and to address concerns about policing in African American communities. The ongoing influence of technology should also be noted. Patrol cars isolated the police from positive contacts with the community while, at the same time, dispatching cars to 911 calls brought the police closer to the negative side of human nature. The result of this isolation and selective exposure was police cynicism and negative stereotypes about the people they serve.

The professional model also came under attack for being ineffective. For the first time, police operations were subjected to rigorous evaluation and found wanting. Research in 1970s and early 1980s showed that random preventive patrol did not prevent crime (Kelling, Pate, Dieckman and Brown 1974); rapid response to calls for service rarely resulted in arrests (Spelman and Brown 1984); and routine follow-up investigations by detectives rarely solved crimes (Greenwood, Chaiken, Petersilia and Prusoff 1975). Adding insult to injury, the rising crime rates in the 1970s and 1980s, especially for violent crimes, confirmed that the crime fighting model needed to be overhauled.

Weisburd and Braga (2006a) note that these events “created a perceived need for change” and opened the door to the innovations that followed in the 1980s and 1990s. Administrators and scholars began searching for alternatives that would be more effective and legitimate. From my perspective, there have been two generations of recent innovations. The first (1980 to 2000) called for bold changes in the nature of policing in order to solve real neighborhood problems

and meet the needs of the community for safety, liberty, and contact with a humanistic (versus mechanistic) police force. To address the need for effective problem solving, Goldstein (1979) introduced the theory of problem-oriented policing. Around the same time, broken windows policing was introduced by Wilson and Kelling (1982). Broken windows was viewed as another problem solving model, one with a renewed emphasis on foot patrol (Trojanowick 1986) as an antidote to the problems of disorder, community fears and the limitations of motorized patrol. This first generation of recent innovation included the emergence of community policing, which was grounded in the community crime prevention movement of the 1970s (DuBow, McCabe and Kaplan 1979; Skogan and Maxfield 1981; Rosenbaum 1986) and the earlier work on team policing that was suggested by the President’s Commission (Sherman, Milton and Kelly 1973).

The second generation (2001 to present) begins what I would characterize as the fourth era in policing – the information technology (IT) era. Grounded in rapid technology advances, a push for data-driven policing, and research showing the clustering of criminal activity by area, this model focuses on geo-based crime fighting and the surveillance of suspects. Compstat policing (Bratton 1998), starting in the mid 1990s, and more recently, Hot spots policing (Braga and Weisburd 2006) are the pillars of this model.<sup>1</sup> This IT generation of strategic policing has gained strength from the need to address a resurgence of violent crime in the 1980s and early 1990s and a public outcry for immediate action. IT policing is defined by the development of accurate and timely information systems, including biometric systems,<sup>2</sup> closed circuit and free-standing cameras, GIS tracking systems, and data mining/information systems, all of which are used to detect, investigate, and prevent criminal activity.

The first generation of innovation, despite its theoretical appeal, has struggled to achieve real police reform for reasons articulated later. In the meantime, the IT generation has taken center stage with a narrower vision of policing and a return to the crime fighting model. In the pages that follow, I will explore the prospects and problems for these two generations of reform and speculate about where we should go from here.

<sup>1</sup> Tracking terrorist activities is, arguably, the third pillar of this IT era, one that is not well integrated into local law enforcement at this time and not a coherent strategy. Hence, it will not be covered here.

<sup>2</sup> Biometric systems capture physiological or behavioral characteristics such as fingerprints, retinas, facial features, and speech patterns to uniquely identify individuals and then seek to match this information with existing databases on known suspects, offenders or related individuals. This can occur instantaneously if the systems are in place.

## First generation reforms

### ***Community policing and problem oriented policing***

Community policing emerged in the 1980s as a response to the problem of police-community relations and a strategy for reducing crime and disorder. Certainly, it became the primary vehicle for reducing the physical and psychological distance between police and community, a problem that was exacerbated by the professional model's reliance on cars, radios and communications centers (Rosenbaum 1986; Green and Mastrofski 1988). Popularized initially as a method for getting cops to have contact with the community via foot patrol (Trojanowicz 1986) and to support neighborhood watch meetings (Rosenbaum 1987), it later developed into a new theory of policing with three primary components: community participation, problem solving, and organizational change (Greene and Mastrofski 1988; Rosenbaum 1994; Skogan 2003 and 2006a). Each component is worthy of brief analysis.

#### **Community participation**

The community policing model recognizes that the police cannot solve the crime problem alone and that the support and involvement of the community is essential. A sizeable literature in community crime prevention supports this premise and encourages both community building and the "co-production" of public safety (For reviews, see DuBow et al. 1979; Hope 1995; Lab 2005; Lavrakas 1985; Rosenbaum 1988; Rosenbaum, Lurigio and Davis 1998; Skogan 1990). Everything from crime reporting to community empowerment falls under this umbrella. For example, many police departments encouraged community participation in a wide range of programs (e.g. Chicago's popular CAPS program, Skogan and Hartnett 1997). In urban neighborhoods, however, the obstacles to greater community participation with the police are many, including residents' fears of retaliation from offenders, the suppressive effects of poverty on civic life, and the deep-seated distrust and anger toward the police that stem, in part, from the professional model. In police organizations, the obstacles to community engagement are also numerous, ranging from the absence of any incentives for such behaviors to strong organizational resistance to sharing information or power with outsiders.

#### **Problem solving**

The community policing model encourages police organizations to adopt a problem solving approach to policing, which is also a radical deviation from

the professional model. Problem oriented policing has been widely praised and adopted thanks to the pioneering work of Goldstein (1979 and 1990). He recognized the need for police organizations to solve persistent problems in a proactive, preventive manner rather than continue the professional model's approach of simply reacting to incidents or calls one by one and after the fact. Historically, police organizations have placed more value on police actions (e.g. arrests) than on outcomes (i.e. reducing or solving problems). Goldstein encourages the police to solve problems by whatever means are most appropriate and effective rather than rely on the power to arrest. A problem-oriented approach involves training officers to identify problems, analyze the causal factors that contribute to the target problem, develop and implement plans for solving the problem, and evaluate the results of these interventions. As Goldstein (2003: 19) observed, problem oriented policing is based on the fundamental premise that police practices "should be informed by the best knowledge that can be acquired about the nature of those problems and about the effectiveness of various strategies for dealing with them".

Evaluations of problem-oriented policing, although not very rigorous, suggest that this approach can be effective in preventing crime when narrowly focused on specific problems such as burglaries at a particular apartment complex, prostitution, or convenience store robberies (For reviews, see Braga 2002; Skogan and Frydl 2004; Weisburd and Eck 2004). Researchers also point out that when police engage in even a limited amount of problem analysis before responding, their effectiveness can be improved (Eck 2006; Braga and Weisburd 2006).

Unfortunately, problem oriented policing, like community participation, has not been fully realized in day-to-day policing (Braga and Weisburd 2006; Goldstein 2003). Goldstein (2003), despite having fathered this innovation in 1979, is well aware of, and frustrated by, the large gap between theory and practice. Too few officers within police organizations are regularly engaged in the original model of in-depth problem solving; too often, the problem solving process is superficial or steps such as problem analysis and careful assessment of outcomes are overlooked. Furthermore, responses to the problem are often generic or traditional (e.g. patrolling, investigating or arresting) or cosmetic (e.g. show of force) rather than creative and thoughtful. When the police reach into their toolbox of possible responses to neighborhood problems, they almost always pull out the hammer. Goldstein (2003) identifies five major impediments to full-scale problem oriented policing: the lack of long-term commitment by police leaders, the lack of required skills within the agency for problem analysis and evaluation, the lack of a clear academic connection,

the absence of informed outside pressures to make it happen, and the lack of financial support for new police functions (e.g. research and development directed at problems).

Having said that, the problem-oriented model still holds considerable promise as a mechanism for pursuing “evidence-based policing” and demonstrating that knowledge can inform practice. Braga and Weisburd (2006: 145) go further to salvage the model from the reform critics: “...problem-oriented policing interventions may not need to be implemented in the ways envisioned by Herman Goldstein in order to produce a crime prevention effect.” They suggest that a problem analysis which focuses police attention on repeat offenders, repeat victims, and crime hot spots is enough to produce considerable crime prevention benefits, without changing the organization.

### **Organizational change**

A third component of community policing and problem-oriented policing is organizational change to create a readiness for community engagement, problem solving, and prevention at the neighborhood level. To insure that police strategies and tactics are responsive to local problems and to improve communication with local residents, organizations need to be decentralized and flattened, and to organize the work groups that are responsible for problems by area rather than by shift. This also means giving more authority and responsibility for local problems to employees at lower levels of the organizational hierarchy, including middle managers and officers on the street. Creative problem solving by police officers is suppressed by quasi-military hierarchies, so reformers want organizational change if full-scale community/problem-oriented models are to be institutionalized and widely adopted. Unfortunately, police bureaucracies are resistant to change (Greene 2004), and police hierarchies are rarely flattened or modified to any significant degree. However, new accountability systems, such as Compstat, have forced more geo-based accountability and the sharing of responsibility for crime in designated areas.

The available evidence on the crime-reduction effects of community policing is mixed. In Chicago, the massive CAPS program, involving monthly community beat meetings and coordinated city services, was associated with reductions in crime (Skogan and Hartnett 1997; Skogan 2006b). But in general, the literature suggests that community policing activities are not linked to crime reduction (Skogan and Frydl 2004). The biggest gap here is the absence of good demonstrations and evaluations that show measurable results.

However, community policing programs in several cities, especially those involving decentralized substations and home visits, have been linked to fear reduction, disorder reduction, and more favorable assessments of police performance (Skogan 1994; Skogan and Frydl 2004). In Chicago, after eight years of a citywide community policing program, residents’ perceptions of police effectiveness, responsiveness and demeanor increased 10 to 15 percentage points, with increases shown among all racial/ethnic groups (Skogan and Steiner 2004). Fear reduction, favorable assessments of police performance, and increased organizational legitimacy are important predicted outcomes of community policing and may lead to other unanticipated benefits in the future. Whether community policing can “implant” social order in the community (Rosenbaum 1987), however, or strengthen “collective efficacy,” which has been shown to protect neighborhoods against violent crime (Sampson, Raudenbush and Earls 1997), remains to be seen.

Both community policing and problem-oriented policing are critically important innovations because they call for fundamental changes in policing philosophies, strategies, tactics, and organizational structure (Cordner 1997). This can be a double-edged sword. On the plus side, they seek to broaden the police function beyond crime fighting and to include a focus on the prevention of neighborhood problems; they seek the inclusion of community and other partners in various aspects of public safety problem solving; and they seek changes in police organization to achieve these goals.

On the other hand, the vast majority of police departments, despite their claims to the contrary, have not made a full transition to these new models of policing and, in the meantime, other police innovations have displaced them from the front-page news. Police organizations today have yet to fully understand the role of “community” in the prevention and control of crime or how to eliminate the persistent obstacles to reform. The reality of police-community interaction on the street has not changed much over the years, and the community has yet to understand its role in public safety. Despite some gains in community engagement, citizens still believe it is the job of the police to make their neighborhoods safe, and neighborhoods with high crime rates continue to complain vigorously about police misconduct, abuse of authority, and police ineffectiveness under the professional model.

### **Broken windows policing**

Broken windows policing, promoted in a classic Atlantic Monthly article by Wilson and Kelling (1982) and more fully developed later by Kelling and his

colleagues (Kelling and Coles 1996; Kelling and Sousa 2001; Sousa and Kelling 2006) is very popular in policing circles and one of the cornerstones of the New York Police Department's strategic approach to crime reduction since the mid 1990s. Sousa and Kelling (2006: 78) succinctly summarize the core idea:

*As background, the term "broken windows" is a metaphor. Briefly, it argues that just as a broken window left untended is a sign that nobody cares and invites more broken windows, so disorderly behavior left untended is a sign that nobody cares and leads to fear of crime, more serious crime, and ultimately, urban decay.*

Criminologists call this the "incivilities thesis" (Skogan 1990; Taylor 2001). It suggests that both the physical deterioration of the neighborhood and social disorders in the street increase fear of crime, causing residents to withdraw from the streets. This, in turn, weakens informal social control mechanisms, contributes to neighborhood decline, and ultimately, provides more opportunities for serious crime without detection or intervention. Broken windows policing is expected to break this cycle of neighborhood decline by beefing up "order maintenance" policing. Translated into street-level practice, officers are encouraged to focus on disorderly behaviors and minor "quality of life" offenses, such as loud music, prostitution, panhandling, groups hanging out, and other "unseemly" behaviors that fill the streets, upset the community, and contribute to fear. Broken windows policing can reach beyond social disorder. In Chicago, for example, the police work with community residents and other city services to attack physical deterioration such as broken street lights or abandoned vehicles. But this is not the typical application of the model.

The broken windows model challenges both conservative and liberal theories of how to achieve neighborhood safety. For decades, conservatives have argued that we must focus on locking up serious violent criminals while liberals have argued that we must attack poverty and inequality as the root causes of crime and injustice. Kelling and his colleagues see neither as necessary. Rather, they view broken windows policing as a model that is responsive, for the first time, to community concerns, fears, and values about disorder. Indeed, community surveys strongly suggest that neighborhood residents are quite concerned about a wide range of disorder issues (Skogan and Hartnett, 1997), and disappointed that the police have historically ignored these concerns in favor of crime fighting activities.

The model, despite its popularity, has received serious criticism for a host of reasons. Leaving aside, for a moment, the issue of crime prevention effectiveness,

critics have argued that this style of policing is morally objectionable because it unfairly discriminates against the poor and minorities (Stewart 1998); because it involves heavy-handed "zero-tolerance" tactics (Bowling 1999); and because it is incompatible with building police-community partnerships that could lead to the co-production of public safety (Taylor 2006). In defense of the model, Sousa and Kelling (2006) argue that critics are basing their conclusions on speculation rather than observation. Drawing from their own ride alongs in New York, they conclude that NYPD officers will sometimes make an arrest or write a citation, but more often, will "informally warn, educate, scold or verbally reprimand citizens who violated minor offenses" (Sousa and Kelling 2006: 89). At the policy level, they also argue that, to create orderly neighborhoods, we need to strike a new balance between individual rights and community interests. Finally, they note that the concept of order maintenance has broad applicability to other community justice interventions including community prosecution, community probation, and community/restorative justice courts. Broken Windows, like many enforcement models, is hard-pressed to answer the criticism that policing practices are biased by race and social class.

The research literature on disorder, crime and order maintenance policing allows for several conclusions. First, there is consistent evidence that disorder cause fear of crime (Skogan 1990); second, there is mixed evidence that disorder causes serious crime. Skogan (1990) originally made this assertion with data from 40 neighborhoods around the United States, but others have criticized his conclusion. Hartcourt (1998) found that excluding certain neighborhoods from the analysis changed the results; Sampson and Raudenbush (1999), using a large database of Chicago neighborhoods, argue that the relationship between disorder and crime is spurious, with both caused by levels of "collective efficacy" in the community as well as "concentrated disadvantage". Better than either of these cross-sectional studies is the longitudinal research in Baltimore by Taylor (2001), which shows that initial incivilities or disorder do, indeed, predict future crime, fear and neighborhood decline, but the relationship is weak.

Perhaps more importantly, there are few tests of the effects of broken windows policing on crime. New York is the most visible and highly debated case study. Critics of the NYPD's claims of success in reducing crime have proposed several alternative explanations, such as changes in population demographics, cultural values changes, economic trends, changes in drug use patterns, statistical regression to the mean, and competing non-police programs. The best evidence in favor of the broken windows policing model comes from Kelling and Sousa (2001), showing that increases in minor offense enforcement at the precinct level were associated with reductions in serious crime, controlling for

economic, demographic and drug use data. However, not all plausible rival hypotheses could be tested; the conclusions were drawn from macro-level data and, according to some critics, the best analyses were not performed (e.g. Taylor 2006).

In sum, there are many questions about broken windows policing. Will it reduce disorder and crime? Will it strengthen or weaken community informal social control? It seems to embody some of the principles of community policing and to hold the potential to strengthen informal social control through partnerships between the police and local residents. The outcome may depend on the style of policing (e.g. local neighborhood foot patrol versus outside SWAT teams), as well as the types of norms and behaviors the police are being asked to enforce.

In any event, this style of policing raises complex moral and legal questions. The enforcement of local norms can be problematic. First there is the issue of whether, in a heterogeneous or gentrifying neighborhood, residents can reach consensus on what constitutes disorder or incivility or about which definition of disorder should receive priority police attention. Second, there is the issue of how society decides to respond to violations of local norms and whether the approach adopted makes good sense in both the short and long term. In the United States, for example, we have witnessed continual constitutional challenges when the police seek to enforce local gang loitering ordinances and order youth to disperse in areas designated as gang or drug hot spots. The first amendment to the constitution allows citizens to freely assemble in public places, with some exceptions (e.g. when public order or safety is threatened).

As another example, broken windows policing may have gone too far in England. The Anti-social Behaviour Order (ASBO) was created as part of the national Crime and Disorder Act of 1998 to enforce quality-of-life violations, defined as “acting in a manner that caused or was likely to cause harassment, alarm or distress to one or more persons not of the same household as [the defendant].” (RDS Crime and Policing Group 2004). If the ASBO is granted, the offender is ordered to refrain from the offensive behavior for two years. The individual might be banned from owning a stereo or radio; banned from specific locations or affiliating with specific individuals; or banned from using certain words. In some communities, the individual’s name and picture are also placed in the local newspaper for shaming purposes.

The potential problems with this type of zero-tolerance policing are substantial. In addition to establishing harsh behavioral restrictions, the

enforcement process is even more severe. Although ASBO is a civil law, breaching it becomes a criminal offense punishable up to five years in prison. Although the ASBO was intended for adults, Campbell’s (2002) analysis of 2000-2001 data reveals that more than half of the offenders tagged were between 10 and 17 years of age. More importantly, roughly 3 in 10 orders are breached, and of these, 43% resulted in immediate custodial sentences. In the short run, the local quality-of-life problem may have been solved for the community. In the long run, we should ask whether the community is better off. Graham (2006), for example, points out that the emphasis on enforcement, exclusion and condemnation of youth may create more problems than it solves. Certainly, there is room for more creative and restorative solutions to these disorder problems.

### **Second generation reforms: The information technology era**

We are entering a new era in law enforcement where advanced technology is becoming a powerful tool for responding to terrorism, engaging in hot spots policing, solving violent crimes, monitoring employee performance and many other functions. Technologies such as video cameras, information/data mining systems, heat sensors, biometrics, GPS tracking/electronic monitoring, the Internet and telecommunication systems are being used for the detection, investigation, prosecution, and prevention of crime in the law enforcement community. As it did in the middle of the 20<sup>th</sup> century, technology is beginning to alter the nature of policing and to impact the management and delivery of police services. Emerging models of policing in the 21<sup>st</sup> century demand accurate real-time information for strategic planning, problem analysis, deployment decisions, community interface, inter-organizational communication, accountability, threat detection and many other functions. The new “information imperative” for police organizations would have been impossible to satisfy only a decade ago, but is now feasible because of affordable advances in information technology and the intense pressure on law enforcement since 9/11/2001 to detect threats in advance.

While we can expect more tactical and strategic changes in the near future, as diverse forms of technology take center stage, today, the largest influence on police decision making has come from information/data mining systems. The two most popular information-driven models of urban policing are Compstat and hot spots policing.



### **Compstat policing**

While the traditional/professional model of policing is all about fighting crime, ironically, its organizational structure and management style did not always encourage police officers to do this. Throughout the 20<sup>th</sup> century, police managers were clueless about crime rates in particular neighborhoods or beats. Furthermore, officers, units and bureaus were free to fight crime in their own way on their own timetable without interference or oversight. Historically, no one in the organization, other than the police chief, was held accountable for crime rates (or much of anything else for that matter). Aside from punitive responses to individual rule violations, there was little emphasis on accountability within police organizations and certainly none for community problems. In 1994, everything changed with the introduction of Compstat in New York City. Within six years, the Compstat model had been adopted by more than one-third of the police agencies in the United States with 100 or more sworn officers (Weisburd, Mastrofski, McNally and Greenspan 2006). Its popularity continues to grow.

Casual observers know Compstat by its most visible features: computerized crime data, crime analysis, crime mapping and accountability meetings for police managers. But as Silverman (2006) notes, the Compstat model is much more complex. After reviewing program documents, Willis, Mastrofski and Weisburd (2004), identified six common elements of the COMPSTAT approach:

1. *Mission clarification.* Organizations should have specific crime reduction goals.
2. *Internal accountability.* Employees, especially middle managers, should be held accountable for achieving organizational goals and objectives. Compstat meetings are where commanders are expected to account for changes in crime in their districts or precincts and to explain the steps taken to solve the problems.
3. *Geographic organization of operational command.* Area commanders should be given latitude to develop solutions to local problems within their jurisdiction, and should have control of all or most police personnel operating within this area
4. *Organizational flexibility.* Managers need the ability to deploy and redeploy resources whenever and wherever they are needed.
5. *Data-driven analysis of problems and assessment of problem-solving efforts.* Organizations should have the technological and analytic capacity

to quickly identify patterns of crime (problems), analyze the nature of these problems, and assess the effectiveness of operational responses.

6. *Innovative problem-solving tactics and a reliance “best practices.”* In the context of problem-oriented policing, middle managers are expected to be creative problem solvers and draw upon the best available knowledge in the field.

Whether or not these key characteristics are fully present in New York, the fact remains that Compstat, when adopted elsewhere, does not look so comprehensive and compelling. After studying the application of Compstat in other cities, Weisburd and his colleagues (Weisburd, Mastrofski, Willis and Greenspan 2006; Willis et al. 2004), conclude that it does not live up to its hype. In fact, it can have counterproductive effects. Rather than decentralizing authority and empowering officers to engage in problem solving on a large scale, Compstat concentrates power at central headquarters and reinforces traditional bureaucratic hierarchies and paramilitary structures. Case studies of three “model” Compstat programs (Willis et al. 2004) suggest that “command and control” is the dominant feature of Compstat in practice, as law enforcement organizations strive for internal accountability.

This focus on manager accountability, according to the authors, inhibits the achievement of two other critically important Compstat objectives: innovative problem solving and geographic organization of operational command. Compstat meetings rarely allow opportunities for “brainstorming” and officers of lower rank are not encouraged to speak. In fact, the punitive nature of Compstat meetings discourages creativity in problem solving among managers, who often come to the conclusion that traditional solutions are the safest course of action and least likely to cause embarrassment. The intention is not to empower officers on the street, as encouraged in the community policing and problem-oriented policing models, but rather to have officers execute deployment orders from above. Hence, problem solving on the street, as practiced in the “model” Compstat departments, was little more than the application of traditional crime fighting strategies, such as looking out for suspects, surveillance of buildings or areas, patrol saturation, and enhanced traffic enforcement.

Is Compstat effective at preventing crime? As expected, program designers and advocates have endorsed the programs effectiveness, and some have their own data to support this conclusion (Bratton 1998; Kelling and Sousa 2001). The introduction of Compstat in 1994 was associated with dramatic reductions in New York’s homicide rate in the years that followed. However, numerous critics have expressed skepticism about any causal linkage (Eck and Maguire 2000;

Weisburd et al. 2006; Greene 1999). Eck and Maguire (2000), for example, note that homicide was on the way down prior to the start of Compstat and that the pattern of decline during the 1990s looks very similar to other large cities that did not implement Compstat. The NYPD Compstat model includes components of broken windows and hot spots policing, and this makes it difficult to identify the program components or causal mechanisms that may be operating. Certainly, the depth of problem solving leaves much to be desired.

Another factor that complicates the evaluation of Compstat (but receives less attention) is the incentive to manipulate police crime statistics. Anytime an organization creates a centralized and punitive accountability system that includes heavy pressure to achieve specific crime-reduction objectives, it runs the risk of encouraging officers and managers to “cook the books” or manipulate the statistics. As part of the Compstat mission, some organizations establish clear crime reduction goals (e.g. 10% reduction per year) while others make it clear to employees that “all that matters” is the reduction of specific types of offenses. Consequently, there are many stories about police under-reporting or reclassifying crime in Compstat cities, including Atlanta, New Orleans, and New York (Silverman 2006). Some Compstat advocates have defended the NYPD practice of under-reporting crime (e.g. Mac Donald 2006). Given the high level of discretion exercised by officers on the street, we should not be surprised if they seek to avoid the hassle of paperwork on a regular basis, especially when they decide (as Mac Donald illustrates with examples) that the victim deserved the outcome (e.g. started a fight) or that no one was harmed (e.g. gunshot with no identified victim or offender).

While Compstat should be lauded for emphasizing the importance of accountability in police organizations and creating standardized performance measures, it is, in practice, an approach that demands accountability to central management for specific crime problems and little else. There seems to be little interest in external accountability or how the community feels about this style of policing (see Rosenbaum 2004 and 2006).

### **Hot spots policing**

Hot Spots policing is the “hottest” innovation in the law enforcement field. Some criminologists are excited about this strategy not only because it is consistent with environmental and situational theories of criminality (see Weisburd and Braga 2006b), but because it builds upon the one of the most indisputable criminological facts, namely, that reported crime is not randomly

distributed across cities or communities, but rather, is concentrated in specific geographic areas or locations. For example, Sherman, Gartin and Buerger (1989) found that 3 percent of the addresses in the city of Minneapolis were responsible for roughly half of all the crime calls to the police department. The implications of crime hot spots for policing are clear: distributing police resources randomly, as is often done, is wasteful and inefficient when managers have the option of focusing on locations where the problems are occurring. Of course, police on the street have always known that reported criminal activity clusters in some neighborhoods and at some addresses. Over the years, political factors have forced the police to balance their attention between suppressing disorder/crime in hot spots and protecting the middle and upper classes from potential incursions by feared outsiders. With information technology and mapping capabilities at their disposal, police administrators now have more evidence to justify targeting hot spots of drugs, violence, guns, and other problems. In cities like Chicago, New York and Los Angeles, hot spots of violence are quickly mapped and resources are rapidly deployed (e.g. Rosenbaum and Stephens 2005).

Indeed, evaluations of hot spots policing indicate that this approach can lead to significant reductions in crime and disorder (see Braga 2001; Weisburd and Braga 2006b, for reviews). Because existing evaluations involve randomized experiments and quasi-experiments, they provide rather compelling evidence that police can make a difference in crime. However, more research is needed to determine the conditions under which these effects occur and the causal mechanisms involved, so that effects can be replicated. Furthermore, I would caution against extreme excitement for several reasons (also see Rosenbaum 2006):

1. These projects were experimental demonstrations, implemented under controlled conditions with researchers watching and sometimes providing technical assistance;
2. The effects on crime and disorder are small, and the crime effects are less consistent;
3. Only short term effects have been documented and most dissipate quickly;
4. Displacement effects, although not observed in most of studies, are difficult to measure and are still possible under the right conditions;
5. The effects on the community are largely unknown, but both positive and negative outcomes are possible;
6. A comprehensive approach to problem solving is rare in practice.

While the expenditure of additional resources to high-crime areas seems like a very sensible policy, the important question is what actions should be taken

after police have identified a hot spot? Too often in practice, law enforcement agencies engage, reactively, in traditional enforcement activities (stops, frisks, searches, saturated patrols, warrants, surveillance) with only superficial analysis of the problem, little strategic planning, and limited attempts to leverage resources outside their own agency. Police do this because it is familiar (they have lots of experience doing it) and they do it well. Hot spots policing is theoretically sound and has great potential if applied in new and creative ways.

### **The limits of enforcement models and concerns about the IT era**

The latest round of innovation in policing has occurred during the information technology era. This is a very exciting and provocative time in law enforcement as agencies explore a wide array of technological tools to fight crime. As agencies seek to adopt the latest applications of technology and the most popular strategies for fighting crime, this is also a time for reflection and caution. Change is not always synonymous with progress, and winning the battle is not the same as winning the war, as the cliché goes. While police organizations should fully exploit information technology toward the goal of increase public safety, at the same time, they must be continuously vigilant to insure that strategies and tactics are both effective and fair for all segments of our society.

Before critiquing the IT era, it should be characterized. Despite the emphasis on using new forms of technology, the common thread running through the dominant strategies today is reactive crime fighting that involves aggressive enforcement tactics. The focus is on how best to catch and punish the bad guys rather than how best to solve or prevent problems at the block, neighborhood or larger area. The difference from the past is that the new crime fighting approach is swifter, more targeted, more specialized, more aggressive, and, above all, more data driven. Furthermore, bureaus and units are guaranteed to deliver on this promise because of better IT-powered accountability systems, like Compstat. Deployment often includes the increased militarization of the police, such as roaming specialized units, without responsibility for neighborhood problems or calls, who can be assigned at a moments notice to hot spots. For these reasons, this new model of crime fighting is likely to be more effective in the short run than traditional policing, as research has documented. For the same reasons, it raises serious questions about unanticipated effects on the communities targeted (Rosenbaum 2006). A few of these concerns are summarized here.

### ***Unanticipated effects on crime***

There are several ways that aggressive, targeted policing may have unanticipated effects on crime. The research evidence on many of these issues is inconclusive or in some cases, nonexistent, but these questions are being raised for future discussion and analysis.

First, there is the potential problem of displacement. This happens when police behavior changes, rather than prevents, criminal behavior by altering the location, time, MO, or type of offense (see Rosenbaum 2006). While displacement effects appear to be smaller than crime prevention effects, because of the methodological limitations of this work (see Weisburd and Green 1995), more research is needed to measure the extent of various types of displacement.

Second, there is the question of what happens when a police organization reduces the level of police protection in moderate and low crime neighborhoods in order to intensify policing in high-crime areas. If the police were, indeed, serving a protective function, then crime may increase with their removal.

Third, there are large-scale policy issues about the potential criminogenic effects of arrest, court appearance, conviction, and incarceration. Current policing practices emphasize arrest for both minor and major offenses as the primary solution to our crime problem. Criminologists have begun to document the adverse effects of having contact with the criminal justice system. For example, there is a growing body of longitudinal research showing that being arrested as a juvenile dramatically increases your chances of later dropping out of high school (Bernburg and Krohn 2003; De Li 1999; Sweeten 2006), and that dropping out of school increases your probability of unemployment (Bernburg and Krohn 2003) and future involvement in criminality (Thornberry, Moore and Christenson 1985). So, these findings beg the question, are current police practices helping to decrease or increase crime rates down the road when minors with arrest records become adults?

For adults, the concern is less about arrest and more about the adverse effects of incarceration. Each year, more than 600,000 adult offenders in the U.S. are released from prison without adequate housing assistance, social services, drug treatment, or employment services (Travis, Solomon and Waul 2001). The correctional system and society's reaction to convicted felons virtually guarantees that these individuals are less healthy and less employable each time they pass through its doors, so we should not be surprised that most will return to a life of crime within two years. To be clear, these are larger issues

that should be debated in the public policy arena. Police officers and managers view their job as enforcing the laws, not making them.

### **Other adverse effects on communities**

There has been surprisingly little research attention paid to how IT era policing is received by citizens in general and target neighborhoods in particular. Aggressive, targeted policing runs the risk of several adverse community effects.

First, there is the potential for abusive or corrupt policing. Corruption appears to be more likely when officers are assigned to special units serving minority neighborhoods, with unrestricted assignments and weak supervision, and are expected to crack down on lucrative drug markets. The evidence is anecdotal (e.g. Walker 2000), but virtually all major cities have examples of this problem. More generally, the war on drugs and gangs, when combined with new accountability systems, increases pressure on all officers to generate numbers (arrests, drugs, guns, clearances), and consequently, some will cut corners to achieve these objectives. The overriding issue with aggressive policing models is that officers exercise wide discretion at the street level and receive very little direct supervision. While police administrators want aggressive policing to be constrained by the law and good judgment, sometimes this message gets lost before it reaches the street or has been replaced by another message, “do whatever it takes to get the drug dealers and gang bangers off the street.”

Second, there is the reality that intensive policing is not randomly distributed but intentionally focused on low income and minority communities. Police misconduct is more likely to occur in neighborhoods characterized by structural disadvantage, population mobility, and increased minority populations (Kane 2002). Observational research on police-citizen encounters indicates that, when working in neighborhoods with high concentrated disadvantage, officers are more likely to be disrespectful toward suspects (Mastrofski, Reisig and McCluskey 2002) and more likely to use physical restraints (Reisig and Parks 2000) than in middle income neighborhoods.

Third, there is the potential that a return to the conventional crime fighting model will restore traditional police culture, which is more likely to have adverse community effects. Research indicates that officers who identify most closely with this culture (i.e. hold negative views of citizens, distrust of supervisors, narrow crime fighting role) are more likely to use high levels of force during encounters (Terrill, Paoline and Manning 2003) and more likely to engage in searches of citizens during traffic stops (Paoline and Terrill 2005).

Fourth, this style of aggressive policing may undermine public trust and confidence in the police, and thus, reduce the likelihood of developing cooperative partnerships or a law abiding citizenry (Tyler 1990). The National Research Council report on the status of policing in the U.S. warns that the lawfulness of the police, as well as their fairness in dealing with the public, will determine, in large part, whether the institution of policing will enjoy legitimacy as an authorized representative of government (Skogan and Frydl 2004). Hence, effectiveness in fighting crime must be balanced against legality, fairness, and equity.

Fifth, there is the classic problem of how to protect individual civil liberties while, at the same time, meet the community’s need for safety and civility (Rosenbaum 1993). Aggressive and targeted policing strategies have always been a challenge to constitutionally guaranteed rights, and the addition of new technologies and detailed data systems only exacerbate the problem. From stops on the streets, to searches of persons, cars, and homes, to interrogations of suspects, the demand for aggressive policing styles has pushed the courts to relax the legal protections against government intrusions on privacy and individual liberty (see Hemmens 2007; Lippman 2007, for legal cases). With advances in biometric systems and dozens of other surveillance technologies, combined with heightened fears of everything from local gang violence to terrorist attacks, the risk is now greater that individual liberties will be compromised in the interest of public safety. This is especially true for persons who can be profiled by race, religion, social class, sexual orientation or other distinguishing characteristics. Racial profiling and racial bias in decision making have emerged as major issues for the entire criminal justice system. The final consequence of these biases is striking disproportionate minority confinement in jails and prisons (see Pope, Lovell and Hsia 2003).

Sixth, aggressive policing may weaken a community’s capacity to fight back against neighborhood problems. This style of policing may undermine informal social control processes within the community and encouraging a reliance of strong police authority to solve neighborhood disputes. More research is needed on the subject of how to balance formal and informal social controls in a way that maximizes community stability and encourages neighborhood self-regulation. Also, if neighborhoods are labeled as hot spots of crime (with surveillance cameras, extra police, and special meetings), this may increase fear of crime, lower real estate values, spur disinvestment and flight, and lead to neighborhood decline.

### **Economic and opportunity costs**

Aggressive crime fighting is expensive in the big picture. Deterrence models that rely on the criminal justice system to arrest, charge, prosecute, convict, incarcerate, house, and supervise millions of people are very costly to taxpayers, with debatable return on investment. Research by the Vera Institute suggests that as rates of incarceration have increased in the U.S. over the past 35 years, the effectiveness of incarceration in lowering crime rates has diminished (Stemen 2007). One factor that undermines the effectiveness of incarceration is the 1000 percent increase between 1980 and 2005 in the number of inmates incarcerated for drug possession at a price tag of \$8.3 billion annually. Yet drug enforcement remains the primary focal point of many law enforcement agencies today.

One of the more troubling concerns is the opportunity cost associated with returning to a narrow crime fighting mission. At a very practical level, this approach reduces the resources available to deal with the vast majority of concerns expressed by those requesting police service. Citizens will continue to expect police services for residential burglaries, auto thefts, social disorders, and other disturbing events.

At a larger level, community policing, problem oriented policing and other innovations are receiving less priority and less funding from police organizations. More generally, there is less discussion and debate about alternative strategies for fighting crime or improving community safety. The media and police executives have been largely successful in convincing the public and politicians that the police are highly effective professional crime fighters who can handle the problem alone.

### **Some guidelines for policing tomorrow**

The present analysis and critique of trends in police innovation begs the question of whether police executives should be doing more of the same, less or something different. Based on research findings and policy analysis, I will venture a few policy guidelines and value statements for police organizations that want to stay “ahead of the curve” in the 21<sup>st</sup> century.

- **Understand your target problems:** Police organizations should not settle for simplistic analyses of crime problems (e.g. two rival gangs are fighting). They should conduct an in-depth analysis that sheds light on the dynamics and severity of the problem, the causal factors, and the larger context in which it occurs – this will help avoid simplistic knee-jerk responses.

- **Don't focus exclusively on public violence:** While violence attracts attention from the press and the public, social problems are clustered and interconnected. Disorderly behavior, drinking, domestic violence or even residential burglary could be linked to street violence in various ways. Also, police executives should help policy makers estimate the effects of public policies on crime and disorder. For example, anecdotal evidence in Chicago suggests that the mobility caused by the closure of both high-rise public housing and neighborhood schools has stirred tensions between racial/ethnic groups and between competing gangs who now attend the same schools and walk the same streets.
- **Explore a wide range of alternative solutions:** Executives should review previously tried solutions and best practices (evidence-based programs) in the field. But, they should also listen to ideas generated from outside the police department, for these can bring new perspectives to the problem. Consider alternatives to the criminal justice system for youth, such as restorative justice programs.
- **Build healthy and stable partnerships:** Creating strong inter-agency partnerships should increase the probability of achieving sustained reductions in crime. We have constructed a theory of anti-crime partnerships that conveys the expected benefits of these arrangements (Rosenbaum 2002; Schuck and Rosenbaum 2006). In a nutshell, the value of partnerships “lies in their responsiveness to the etiology of complex problems, their ability to encourage interagency cooperation both inside and outside the criminal justice system, their ability to attack problems from multiple sources of influence and to target multiple causal mechanisms, and their potential for satisfying the public's growing desire for input, information sharing, and connectedness with local government (Rosenbaum 2002: 180)”. Of course, the potential pitfalls of partnerships and coalitions are numerous; avoiding them will require a genuine commitment from participating agencies and strong leadership.
- **Pursue comprehensive strategies:** As implied in the partnership model, comprehensive strategies that involved multiple programs and agencies, attacking the problem from different angles, are more likely to achieve success than single programs or agencies. Even within police organizations, the innovations discussed here should not be viewed as mutually exclusive, but as complementary and interactive. Communities and cities are not required to choose among community policing, problem oriented policing, broken windows, hot spot policing, or another approach. They can work together as part of a larger vision and framework.

- *Focus on both short-term and long-term goals:* Aggressive policing can play an important role in producing short-term reductions in crime, but it should not be employed as a stand-alone program. The U.S. Department of Justice Weed and Seed program is a good example of how the right mixture of weeding (enforcement) and seeding (social services) can maximize effectiveness (Roehl, Huitt, Wycoff, Pate, Rebovich and Coyle 1996; Dunworth, Mills, Cordner and Greene 1999). Securing an area is not the same thing as stabilizing it or preventing criminal behavior next month or next year. Any comprehensive approach should include a discussion of the many developmental, social, community and structural factors that researchers have identified as known causes of crime.
- *Value the community and its resources:* Community residents, community organizations, and local institutions should be included in the dialogue about public safety in their neighborhood/service area. Their endorsement of police interventions is essential, but they have many other roles in defining local problems, helping the police solve crime, and preventing crimes themselves. As we have noted previously, the challenge for police today is to find creative ways to help communities help themselves (Rosenbaum et al. 1998). To maintain legitimacy in a multi-cultural society, police departments must be transparent to the public, open to input, responsive to local concerns/problems and willing to develop new initiatives as equal partners with the community and other agencies. Police executives need to create value-driven, rather than rule-driven, organizations that encourage officers to treat all members of the community equally. The police also need to accept responsibility for solving neighborhood problems rather than simply taking reports.
- *Measure success and failure:* In the information technology era, stakeholders are less tolerant of unsupported claims of success. Police organizations must become learning organizations that routinely collect, analyze, and respond to information relevant to program success, including both expected and unexpected effects, and both positive and negative outcomes. At a time in history when equity and fairness in policing are considered as important as effectiveness and efficiency, the measurement of these processes and outcomes is imperative. We are developing and testing a series of online surveys to measure customer satisfaction with police services. Our hope is that these standardized indicators will be adopted by other cities around the world to create performance benchmarks.

- *Use Technology as a Tool:* In this IT era, police should learn to use technology as a tool to help achieve objectives, rather than as a driving force that dictates strategies and tactics. Technology carries no inherent value as good or evil. It can be used to improve or worsen the human condition either intentionally or unintentionally. Therefore, police executives should be thoughtful and strategic as they exploit the power of biometric systems, data mining systems, camera surveillance systems and other technological advances.
- *Do no harm:* This is a large challenge for any government agency, but police departments are particularly at risk of creating harm because of the nature of police work and the pressure on them to solve intractable problems such as illegal drug markets and disorderly behavior. Clearly, the police are not responsible for solving society's larger problems, such as racial and income inequality, but they must also be conscientious to insure that their actions are not unknowingly contributing to these problems. By measuring the impact of their behavior on consumers of police services (e.g. fairness during stops or searches) and on overall community safety, police organizations can make adjustments to minimize harm and maximize benefits.

Certainly, every society should debate the benefits and costs of enforcing a wide range of laws and whether these outcomes are equally shared by all segments of our society.

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