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Managing Calls to the Police With 911/311 Systems

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ABOUT THIS REPORT

Many 911 systems are overwhelmed with calls, most of them not emergencies. In the mid-1990s, some jurisdictions introduced the 311 nonemergency number to relieve overburdened 911 systems. Calls can be switched instantaneously between 311 and 911 call centers and forwarded to other city agencies.

Do 311 systems effectively reduce nonemergency calls to 911 operators and free more time for police officers on neighborhood beats? A 1998 National Institute of Justice study compared 311 systems in four U.S. cities, focusing primarily on Baltimore's police-managed and -operated 311 call system.[1]

What did the researchers find?

Accompanied by an effective public awareness campaign, a 311 system can greatly reduce the 911 call burden. In Baltimore, calls to 911 decreased by almost 5,000 per week after 311 was implemented.[2] However, even though the 311 system appeared to free time for patrol officers, most officers did not notice an increase in discretionary time. The researchers recommend that agencies adopting a 311 call system also consider a dual-dispatch policy—generally not dispatching patrol units in response to 311 calls, but instead following up with a community-oriented, problem-solving approach.

What were the study's limitations?

Data about pre-311 citizen satisfaction were unavailable; researchers derived levels of citizen satisfaction with 311 from user surveys.

Lorraine Mazerolle, Dennis Rogan, James Frank, Christine Famega, and John E. Eck

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About the Authors

Lorraine Mazerolle, Ph.D., is Associate Professor in the Department of Criminology and Criminal Justice, Griffith University, Australia; Dennis Rogan, Ph.D., is President, Statistical Analysis for Law Enforcement Strategies; James Frank, Ph.D., is Associate Professor in the Division of Criminal Justice at the University of Cincinnati; Christine Famega, Ph.D., is Assistant Professor in the Department of Criminal Justice, California State University, San Bernardino; and John E. Eck, Ph.D., is Professor of Criminal Justice at the University of Cincinnati.

Few technological innovations have revolutionized police activities as much as the emergency 911 call system. Any U.S. citizen can mobilize police or other emergency resources by simply picking up a phone and dialing 911. This capability, which most Americans take for granted, has been referred to as a cornerstone of policing in modern democratic countries.[3]

Perhaps most remarkable, citizens who call 911 involve themselves in the policing process. Police action is often precipitated by a citizen's call to 911; in turn, that citizen generally expects a quick response. In essence, 911 has increased the degree to which police departments and citizens rely on each other to fight crime.

Today, however, nonemergency calls often overload 911 systems' technical and human resources. Citizens complain that the police are slow to respond to requests for service, and police contend that responding to nonemergency calls placed to 911 hampers their ability to solve the problems that often lead to emergency calls in the first place.

In the mid-1990s, authorities began encouraging use of a nationally recognizable number—311—to alleviate the burden of nonemergency calls flooding 911 systems.

Advantages and disadvantages for police

Installing a nonemergency call system offers some clear advantages: the relative ease of marketing and remembering 311, a decrease in 911 calls, and the less measurable effect of empowering citizens to decide whether a call should be considered an emergency. It reinstates, to some degree, the true function of 911.

Disadvantages include high implementation costs and the lack of caller or location identifiers for 311 calls. Most 911 systems assign these

identifiers, known as Automatic Number Identification (ANI) and/or Automatic Location Identification (ALI). But, unlike 911 calls, 311 calls usually arrive to the operator "blind"—most systems do not assign ANI/ALI numbers. This anonymity sacrifices the ability to call back if the connection is lost, even if the call is switched over to a 911 operator. It also loses potentially useful data for community-oriented policing. The researchers hypothesize, however,

that caller anonymity may have contributed to the increase in reporting of certain crimes in Baltimore (see "Patterns of Citizen Reporting").

Other disadvantages that surfaced in Baltimore resulted from unanticipated problems such as failure to record information, underuse of neighborhood policing resources, and a common dispatch policy for both 311 and 911 systems. With careful planning, these problems can be avoided.

PATTERNS OF CITIZEN REPORTING

Introduction of 311 in Baltimore fundamentally changed how citizens reported certain crime and disorder incidents to 911. For example, before 311, police received about 700 calls per week regarding family disturbances. After 311, family disturbance calls to 911 declined by about 200 per week. Citizen reports to 911 of juvenile disturbances, parking violations, suspicious persons, auto accidents, and destruction of property also declined.

Call migration. More intriguing is the 87 percent decline in citizen loud noise complaints to 911[a] even though the *total* number of loud noise complaints increased—most of those placed to 311. Many citizen reports for narcotics, motor vehicle theft, gambling, larceny, and aggravated assault migrated from 911 to 311, and the overall volume of calls in some of these categories also increased. The researchers speculate that 311 call anonymity may be a factor in call volume increases.[b] It appears that the 311 system adopted about 30 percent of the calls previously made to 911.

Frequent callers. Researchers found that approximately four out of five citizens had called 911 at some point in that year. They also found that many callers to 311 had also called 911. When the researchers analyzed citizen surveys by whether they had called 311 or 911, they found that 91 percent of 911 callers had also called 311, and 88 percent of 311 callers had also called 911. A majority of callers surveyed appeared to be multiple users of both systems, but, interestingly, 911 callers were more likely than 311 callers to call 311 more than once.[c]

Notes

a. From 266 calls per week to 34 calls per week.

b. See Mazerolle, L., D. Rogan, J. Frank, C. Famega, and J. Eck, "Managing Citizen Calls to the Police: The Impact of Baltimore's 3-1-1 Call System," *Criminology and Public Policy* 2(1)(November 2002): 117, 119.

c. See Mazerolle, L., D. Rogan, J. Frank, C. Famega, and J. Eck, "Managing Citizen Calls to the Police: An Assessment of Non-Emergency Call Systems," final report to the National Institute of Justice, October 2001, NCJ 199060: 7-8.

Results in Baltimore

Baltimore's 311 nonemergency call system was intended to reduce the response burden on police and improve the quality of policing. The study found considerable potential for meeting these goals. Researchers noted a 34-percent total reduction in calls to 911 (see exhibit 1) and widespread community acceptance of 311 as an alternative number.

Most low-priority calls moved from 911 to 311. Certain types of calls in particular migrated from 911 to 311, such as reports of larceny, parking violations, and loud noise complaints. These positive results do not tell the full story, however.

Problematic factors. Study findings were confounded by three factors:

- The number of priority 1 calls increased by more than 27 percent after the introduction of 311. Researchers believe this increase was unrelated to implementation of the system. Their analysis revealed that priority 1 calls for specific categories of serious crime (particularly rape, robbery, and burglary) began increasing several months before the 311 system was installed.

- The large reduction in priority 5 calls to 911 (see exhibit 1) was partly offset by an increase in

Exhibit 1. The impact of 311 on calls to the police

Call priority	Pre-311 implementation	Post-311 implementation		
	911 only	911 only	311 only	911 + 311
1	417,728	470,263	62,534	532,797
2	902,565	633,706	184,931	818,637
3	415,133	177,967	138,722	316,689
4	201,043	66,169	103,878	170,047
5	111,500	375	50,454	50,829
Total	**2,047,969**	**1,348,480**	**540,519**	**1,888,999**

Note: Preintervention period was 730 days, from October 1, 1994, to October 1, 1996, excluding February 29, 1996 (leap year). Postintervention period was 730 days, from October 2, 1996, to October 1, 1998.

nonemergency calls referred to other city agencies.[4] But researchers speculate that citizens may have been dissuaded from calling the police about low-priority matters because the Baltimore Police Department stopped dispatching patrol cars in response to priority 5 calls after the introduction of 311.[5]

- Unrecorded calls were estimated to be about 8 percent higher after the introduction of 311—a small but significant increase that may have been due to a greater inclination on the part of 311 operators than their 911 counterparts to handle calls about nonpolice matters without recording them.[6]

Impact on policing. Many elements of Baltimore's approach were successful— the overall burden on 911 was reduced, and citizen use of and satisfaction with calling 311 was high. For some categories of crime and disorder, citizen complaints increased (see "Patterns of Citizen Reporting"). The 311 system's impact on policing was muted because the department's response and dispatching protocols were not changed when the system was implemented. The researchers noted three

key areas that the 311 system was expected to have affected that actually showed little impact:

- *Response times.* Response times for priority 1 calls to 911 were not lowered; rather, patrols were dispatched a bit more slowly following the introduction of 311. The increase in total number of priority 1 calls may account for this. Overall, after implementation of 311, police responded to most categories of 911 calls in the same manner as before.

- *Dispatch policy.* After 311 was implemented, Baltimore police continued dispatching officers for all calls, whether 911 or 311 (except priority 5 calls). Officers either did not know or were indifferent about whether a call had been placed through 911 or 311.[7]

- *Officer discretionary time.* Researchers discovered only a marginal gain in uncommitted blocks of time experienced by patrol units. Almost two-thirds of the officers surveyed did not perceive a change in how much discretionary time they had available, most likely because time gains were

spread out over shifts and obscured by the failure to dispatch 311 and 911 calls differently. Officer perceptions were about equally split on whether 311 implementation had changed their work routine. Sector managers, on the other hand, were certain that 311 had decreased their patrol officers' 911 call response load.

Despite these mixed results, researchers were able to draw conclusions as to how linking 311 call technology with changes in policy and practice can advance a department's community-oriented policing agenda.

Considerations for practice

Baltimore's experience suggests that 311 call systems can help police better manage citizen calls and determine the appropriate police response. By calling 311, citizens are in effect prescreening the call for the police, indicating that their problem does not require immediate patrol response.

More than 90 percent of callers surveyed in the study viewed 311 services favorably,

even though the majority felt that the reported problem still existed. Citizens generally agreed that 311 improves police-community relations. They viewed 311 as a positive alternative and did not feel they were getting a second-rate response. Thus, police departments adopting a 311 system may not need to go to great lengths to discourage citizen calls to 911.

More importantly, if the police trust citizen assessments of reported incidents—if they accept the apparent citizen decision that the call placed to 311 does not require a priority response—a tacit partnership between police and citizens is created whereby citizens in effect classify and direct calls themselves.

Police departments adopting 311 can capitalize on these citizen decisions by using a dual-dispatch or split-force model of policing[8] that dispatches differently to 911 and 311 calls.

The 311 technology allows police to focus their emergency and patrol response capacity on high-priority incidents while applying a more long-term, problem-solving approach to calls that citizens consider nonemergencies. In

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this way, the referral of 311 calls to neighborhood or departmental community policing resources can be an opportunity to "institutionalize" community-oriented, problem-solving policing.[9] At the same time, the disparity in perception between patrol officers and their supervisors as to how much discretionary time officers had available may indicate a need for closer supervision of discretionary activities.

Police departments may want to consider whether they would substantially benefit from an absolute reduction in calls. When citizens are encouraged to report criminal activities, the police arguably have a more accurate picture of where, when, and what types of crimes are being committed. This information is crucial for scanning and analysis activities associated with the community-oriented approach to reducing neighborhood problems. But if a nonemergency call system does not automatically identify 311 calls by number or location (ANI/ALI), the opportunity to use data from those calls for problem solving may be limited.

Implementing a 311 system

The researchers offer several recommendations for police departments considering whether to establish a 311 nonemergency call system.

Review all goals and options. System objectives should be clearly articulated and the technological options[10] carefully weighed. For example, should the 311 system be a police only or a citywide government approach that seeks to better coordinate the delivery of city services—including police? (See "311 Systems in Two Cities.")

Ensure that all technological and human resources are in place. Hidden costs and resources are associated with implementing complex call systems, such as networking with local police districts, creating phone links with other government communications systems, and ensuring adequate backup systems to handle emergency and rollover situations. A well-trained staff is a primary concern. Surge capability may be needed to handle increases in priority 1 calls. All officers and staff need to understand the 311 system's objectives.

Advertise the system. A public awareness campaign is needed to explain to the community what should be reported to 311 and what should be reported to 911. During the first 2 years of the 311 operation in Baltimore, many callers used the number incorrectly—62,000 priority 1 emergency calls were placed to 311. Police also need to communicate clearly to citizens what followup they should expect; for example, that a patrol car will not respond if the call is handled in the context of a community policing response.

Review and modify priorities/ dispatch policies for 311 calls. As noted earlier, a principal lesson learned from the study is that unless 311 calls are handled differently from 911 calls, officers will not realize time savings. Given that there are better and more cost-effective ways to respond to recurring crime problems (e.g., problem-solving activities), a dual-dispatch or split-force approach is recommended, especially if community policing resources are already in place.

Build an interface between 311 and community policing. If one of the goals of a 311 system is to free officer

time for problem solving, a police agency must implement organizational structures and policies that translate the increased discretionary time into such activities.[11]

Carefully monitor caller satisfaction. Organizational changes to accommodate a 311 system will alter how police deal with citizen complaints. Police need to develop such systematic mechanisms as routine callbacks or surveys to monitor citizen attitudes and perceptions.[12] Monitoring and callback procedures should be balanced with the need to protect police intelligence or undercover operations and to protect some citizens' anonymity, as in domestic violence cases.

Facilitate program evaluation. Agencies may want to implement their nonemergency call systems in such a way that analysts can readily identify their impact. Post-facto assessments of nonemergency call systems can be confounded by changes in call-taking policies, dispatch policies, call classification systems, or organizational structures.

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To achieve the best conditions for evaluation, departments can—

- Design call systems to adequately track 911 and 311 originating calls, as well as calls diverted to other agencies and calls handled directly on the phone, to monitor call-taker workloads.

- Before the system is implemented, capture baseline information on how calls are dispatched and on citizen satisfaction with police responses. Also collect field data on officer discretionary time.

The bottom line

The Baltimore experience suggests that a 311 non-emergency call system can both relieve an overburdened 911 system and provide the opportunity to improve and expand community-oriented policing. To best accomplish the latter, a department must be willing to consider changes in methods and policies—specifically, a dual-dispatch approach, reallocation and close supervision of patrol resources and activities, and the requisite organizational changes. Monitoring and evaluation mechanisms are necessary to track the system's impact on police and/or other city services. Through this type of comprehensive approach, police departments can take full advantage of the many benefits 311 technology offers.

311 SYSTEMS IN TWO CITIES

Baltimore's initial 911/311 system. Baltimore was the first large city in the Nation to establish a 311/911 system, in October 1996. At the time, the Baltimore Police Department was handling about 1.4 million calls a year, nearly 60 percent of which were nonemergency calls.

The system studied comprises 9 telephone lines for 311 and 16 lines for 911, routed through a Nortel DMS 100 Intelligent Call Processing distribution switch. Implementation cost approximately $1.3 million,[a] including public education campaigns, hardware, software, and training. During the study, incoming 311 calls were handled by trained limited-duty sworn officers. Nearly all 311 calls were entered into the police Computer Aided Dispatch (CAD) system, except for calls that were referred to other city agencies, which were not recorded. Calls that should have been placed to 911, i.e., life-threatening emergencies or a crime in progress, were immediately switched through a single-button transfer to dispatch.

A holistic approach in Dallas. The main goal of the police-managed and -operated 311 nonemergency call system in Baltimore was to reduce the burden on 911. In Dallas, the goal for the 311 system also included better management of city services and improved customer service.

Implemented in December 1997, the Dallas 311 system provided easy access to eight city departments, including the police, by integrating them into one system. Emergency calls that came in on 311 were immediately transferred to 911 dispatch. Like the Baltimore system, 311 calls were not assigned an ANI/ALI identifier or otherwise tracked. Call handlers were trained to handle either 311 or 911 calls as well as calls for other agencies.

Researchers found that implementation of the citywide approach to handling nonemergency calls (including police matters) did not translate into additional discretionary time for officers to engage in community policing. The Dallas system was not designed to improve police services, and it did not appear to do so.[b]

Baltimore's system today. In March 2002, Baltimore switched to a format that integrates nonemergency calls to police with calls for other city services (resembling the Dallas system, but modeled after the system used in New York City). The 311 system is now part of a citywide call-tracking and management system.[c] Although 311 calls for police are routed to police call handlers, they are not usually entered into CAD or dispatched. They are recorded, but the record is kept only for 90 days. The Baltimore Police Department's Community Affairs Division follows up on calls that required an emergency response or where a victim or witness may have endured some physical or emotional trauma. The Quality Compliance Unit monitors all 311 calls to ensure that proper procedures are being followed and call handlers are assessing the situation correctly. Levels of 311 calls to police have increased since the study period to approximately 600,000 annually.

Notes

a. Funded in part by the Office of Community Oriented Policing Services of the U.S. Department of Justice.

b. For a more complete description of the Dallas 311 system, see Mazerolle, L., D. Rogan, J. Frank, C. Famega, and J. Eck, "Managing Citizen Calls to the Police: An Assessment of Non-Emergency Call Systems," final report to the National Institute of Justice, October 2001, NCJ 199060: 2-11 to 2-14 and 8-1 to 8-23.

c. More information can be found at www.baltimorecity.gov/news/citistat/index.html.

Notes

1. The other cities studied were Buffalo, New York; Dallas, Texas; and Phoenix, Arizona. A preliminary assessment revealed that data from these cities were unsuitable for this evaluation.

2. See Mazerolle, L., D. Rogan, J. Frank, C. Famega, and J. Eck, "Managing Citizen Calls to the Police: An Assessment of Non-Emergency Call Systems," final report to the National Institute of Justice, Washington, DC: U.S. Department of Justice, National Institute of Justice, October 2001, NCJ 199060: 4-33.

3. See Bayley, D.H., *What Works in Policing,* New York: Oxford University Press, 1998. Also discussed in Sparrow, M.K., M. Moore, and D.M. Kennedy, *Beyond 9-1-1: A New Era for Policing,* New York: Basic Books, 1990.

4. Referrals to agencies other than police were not recorded. See Mazerolle, L., D. Rogan, J. Frank, C. Famega, and J. Eck, "Managing Citizen Calls to the Police: The Impact of Baltimore's 3-1-1 Call System," *Criminology and Public Policy* 2(1)(November 2002): 108.

5. Concerning the Baltimore Police Department's change in policy regarding these calls, see Mazerolle et al., "Managing Citizen Calls to the Police: An Assessment of Non-Emergency Call Systems": 4-8.

6. Calls that did not require police, fire department, or ambulance response, and that were typically referred to another city agency or service, were designated "type 79" calls and not entered into the computer-aided dispatch (CAD) system. To quantify

these nonemergency, nonpolice calls, the researchers arranged for a 32-day sample period during which Baltimore police call takers entered "type 79" calls into CAD. See Mazerolle et al., "Managing Citizen Calls to the Police: An Assessment of Non-Emergency Call Systems": 2-8 and 5-3; and Mazerolle et al., "Managing Citizen Calls to the Police: The Impact of Baltimore's 311 Call System": 104–108.

7. A small percentage of 311 calls about general neighborhood problems were entered into a database and forwarded to neighborhood-based community policing centers for followup. Because of the common dispatch policy, these calls were double dispatched.

8. See Tien, J.M., J.W. Simon, and R.C. Larson, *An Evaluation Report of an Alternative Approach to Police Patrol. The Wilmington Split Force Experiment,* Cambridge, MA: Public Systems Evaluation, Inc., 1977.

9. This model assumes that police personnel have effective problem-solving skills and that 911 calls and 311 calls emanate from the same locations, which generally appears to be the case. See Mazerolle et al., "Managing Citizen Calls to the Police: An Assessment of Non-Emergency Systems": 10-8.

10. For a description of the 311 technological options available in 2001, see ibid., chapter 2.

11. For a more detailed discussion, see ibid.: 10-5 to 10-8.

12. For specific suggestions for system monitoring and evaluation, see ibid.: 11-4.

Additional reading

The Office of Community Oriented Policing Services (COPS) has several publications about 311 call systems available for download from www.cops.usdoj.gov.

Call Management and Community Policing: A Guidebook for Law Enforcement by T. McEwen, D. Spence, R. Wolff, J. Wartell, and B. Webster, Washington, DC: U.S. Department of Justice, Office of Community Oriented Policing Services, February 2003.

311 for Nonemergencies: Helping Communities One Call at a Time, COPS Fact Sheet, Washington, DC: U.S. Department of Justice, Office of Community Oriented Policing Services, updated August 2003.

Building a 3-1-1 System for Non-Emergency Calls: A Process and Impact Evaluation, Washington, DC: U.S. Department of Justice, Office of Community Oriented Policing Services, June 2004.

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