DATA-DRIVEN MANAGEMENT PROGRAMS

At a Glance

This Information Capsule reviews data-driven management programs that have been implemented in school districts across the country. The results of studies examining the impact of these programs on school districts, law enforcement agencies, and cities are summarized. Lessons learned from organizations' implementation of data-driven management systems are also reviewed. Finally, a brief description of Miami-Dade County Public Schools' Data Assessment & Technical Assistance/Coordination of Management (DATA/COM) program is provided.

The first PerformanceStat program (CompStat - short for Computerized Statistics) was launched in 1994 by New York Police Department Commissioner William J. Bratton. The program was credited with contributing to reduced crime rates, leading other police departments around the country to quickly adopt the program (Goldsmith, 2013; Behn, 2008). By 2011, 79% of medium to large police departments across the country reported that they implemented some form of the CompStat model (DeStefano, 2014; Rosenberg, 2012). Law enforcement's success with CompStat encouraged other organizations such as school districts, cities, states, and federal agencies to implement some variation of the program. These organizations quickly found that CompStat's methods could be easily replicated and transferred to other types of agencies (Goldsmith, 2013; Kuder, 2012; Godown, 2009; Behn, 2008; Perez & Rushing, 2007).

In addition to police departments, PerformanceStat programs have been implemented state-wide in Maryland and Washington State. They have also been introduced in specific agencies of state governments, such as California's Department of Corrections and Rehabilitation and Washington, D.C.'s Office of the State Superintendent of Education (The Office of Maryland Governor Martin O'Malley, 2014; California Department of Corrections and Rehabilitation, 2013; Washington State, 2013; UPD Consulting, 2007).

Adaptations of the CompStat program have been launched in cities such as Atlanta, Baltimore, Buffalo, Denver, Louisville (KY), and Somerville (MA) to monitor, manage, and improve city governance (City and County of Denver, 2014a; City of Somerville, 2014; City of Atlanta, 2013; City of Louisville, 2013; Reno-Weber & Niblock, 2013; City of Buffalo, 2011; City of Baltimore, 2010).

Federal agencies that have implemented PerformanceStat programs include the San Diego district of the U.S. Border Patrol, the Federal Emergency Management Agency (FEMA), the Food and Drug Administration, and the U.S. Department of Housing and Urban Development (Behn, 2013; Behn, 2008).

Often referred to as "PerformanceStat" programs, data-driven management systems are designed to make decision-making by managers more fact- and data-based by monitoring performance in real-time. When an organization adopts a PerformanceStat program, it tracks data using quantifiable indicators, identifies performance deficits, and suggests policies and practices that might produce improvements. Action plans are developed to address areas of concern, resources are provided, and progress is measured at regular intervals (Rhode Island Department of Education, 2012; Godown, 2009; Behn, 2008; Patusky et al., 2007; Perez & Rushing, 2007).

The PerformanceStat process is guided by four principles:
1. Accurate and timely intelligence. The data should be accurate and available as close to real-time as possible.
2. Effective tactics. PerformanceStat meetings should provide a collective process for developing action plans as well as accountability for developing those tactics.
3. Rapid deployment. Resources should be deployed as quickly as possible to address problems before they escalate.
4. Relentless follow-up and assessment. Actions taken are evaluated by the results achieved. The success or failure of these actions informs current and future planning and deployment of resources (Los Angeles Police Department, 2014; Godown, 2009; University of Maryland, n.d.).

PerformanceStat Programs in Public Education

In addition to city, state, and federal agencies, school districts have begun to adopt PerformanceStat programs in an effort to increase student achievement and improve delivery of services to students and staff (Rosenberg, 2012; Winters, 2009; Hu, 2007; Petrides & Nodine, 2005).

Petrides and Nodine (2005) interviewed senior level administrators from 28 urban school systems to determine the extent to which they were using performance-driven practices. They found that although most districts reported that they engaged in data-driven decision-making, few districts reported using data to monitor the effectiveness of their programs and make adjustments based on the new data.

Kuder (2012) reviewed PerformanceStat programs (often called "SchoolStat" programs) at six public school districts: Baltimore City Public Schools; District of Columbia Public Schools; New York City Department of Education's Division of School Facilities; Paterson (NJ) Public Schools; Memphis City Schools; and the School District of Philadelphia. He found that SchoolStat programs tended to focus either on school-level performance or central office performance. Districts that focused on school-level performance emphasized three main areas:
1. Student academic performance – instructional quality and student growth and learning, including grades and test scores.
2. Attendance and discipline – the social, emotional, and behavioral factors that affect learning, such as chronic absenteeism and suspensions.
3. School climate – the non-academic issues that influence learning, such as safety and family engagement.

School districts that focused on central office performance usually included the following performance categories:

1. Instructional – delivery of instructional services and monitoring of student progress, including student scheduling, testing, and after-school programs.
2. Non-instructional – delivery of non-instructional services to students, such as transportation, food services, and facilities.
3. Back office – internal services needed for smooth operation of the district, such as payroll, hiring, and purchasing.

Petrides and Nodine (2005) found that school districts reported facing significant hurdles in adopting performance-driven practices. Districts reported the following challenges:

- Lack of coordination among departments was common.

- Lack of technology infrastructure and lack of access to real-time data limited staff's ability to assess the effectiveness of actions.

- Transforming the organizational culture to one that is inquiry-based was often difficult.

- Fiscal constraints limited the ability of districts to support a performance-based system.

Behn (2013) identified some additional difficulties that school districts face when implementing PerformanceStat programs:

- Agencies such as police departments and cities obtain useful data very frequently. School districts, on the other hand, often have to wait months before such data is available.

- High levels of student mobility limit the value of historical comparisons and the usefulness of data for students who were only in the school district for a short period of time.

- Determining causal impact is difficult given that a large number of outside factors have a direct impact on outcomes.

- Other agencies can produce significant and publicly noticeable improvements more quickly than school districts. For example, it takes longer for a school district to improve test scores than for a police department to reduce its arrest rate or a public works department to reduce the time it takes to fill a pothole.

Following are some examples of school districts that have implemented SchoolStat programs:

- **Baltimore.** Baltimore City Public Schools' SchoolStat program, launched in 2004, was modeled after Baltimore's CitiStat program that tracks the performance of municipal agencies. CitiStat members worked with school districts officials to establish the program in Baltimore's school district. SchoolStat collected and analyzed data on a variety of topics, including student test scores, student and employee attendance, the use of substitute teachers, and disciplinary infractions. The district analyzed data every two weeks so solutions could be applied quickly (DeVise, 2007; Gehring, 2004; White, 2003).

- **Boston.** Boston Public Schools implemented a SchoolStat program in 2010. The program supported 11 schools designated by the Massachusetts Department of Elementary and Secondary Education as chronically underperforming. The district held four meetings throughout the academic year. Schools were organized by level (elementary, K-8 and middle schools, and high schools) and then by similar size and issues, so that there were no more than four schools presenting their performance difficulties at each Quarterly Review meeting. Schools were required to present action plans at SchoolStat meetings and were told that follow-up would be "intentional and thorough" (Kuder, 2012).

- **Montgomery County, Maryland.** Montgomery County Public Schools launched M-Stat in 2005 to ensure a thorough analysis of data, continuous monitoring, identification of best practices, and effective decision-making. The executive leadership team, as well as school-based and central office leaders, met once a month, with smaller groups convening more frequently to track specific issues. M-Stat focused on seven data points that were embedded within the district's strategic plan. The data points were all related to student achievement with a focus on closing the achievement gap for Black and Hispanic students. Data points included statewide assessment results, Advanced Placement participation and performance, early literacy, and advanced mathematics in middle schools (Kane & Cruver, 2011; Montgomery County Public Schools, 2008).

- **Paterson, New Jersey.** District officials launched SchoolStat in spring 2007 to help turn around a school system that had been under state control for over 15 years because of fiscal mismanagement and poor academics. SchoolStat was overseen by six district leaders who examined problems and trends in the data and then selected the areas on which the program would focus. Data specialists compiled statistical information on the selected topics. Data were updated every three to five weeks. Once the data had been analyzed, assistant superintendents and their staffs were called into weekly meetings to answer questions and explain problems (Hu, 2007).

- **Philadelphia.** During the 2005-2006 school year, the School District of Philadelphia rolled out a district-wide, school based SchoolStat program. The program organized schools by regions. The district's Chief Academic Officer, regional superintendents, and principals attended monthly meetings during which data were used to develop and monitor strategies designed to improve school instruction, attendance, and climate. Key leaders and managers reviewed school and regional performance, shared information and experiences, developed and tracked action plans to improve operational and instructional performance, and monitored changes in the performance data (Kuder, 2012; Hu, 2007; Patusky et al., 2007).

- **Washington, D.C.** Under Chancellor Michelle Rhee, the District of Columbia Public Schools implemented a central office-based SchoolStat program. The implementation focused on the performance of central office departments and their ability to serve

schools and students. Chancellor Rhee believed that the first step to district-wide accountability was central office-focused accountability. The district's senior leadership, department heads, and leaders of partnering agencies met on a regular basis to identify problems, implement solutions, and review progress (Kuder, 2012; District of Columbia Public Schools, 2010).

School districts and educational agencies that have implemented specialized SchoolStat programs include:

- **Chicago Public Schools.** Chicago Mayor Rahm Emanuel announced in 2011 that the Chicago Police Department (CPD) and the Chicago Public Schools (CPS) were introducing a program called School-Based CompStat. Schools worked directly with police to increase safety and reduce crime at Chicago's high schools. At regular meetings, police commanders discussed their school safety plans, how and where they were being implemented, and the results of implementation. School principals presented school statistics and discussed successful strategies used to reduce crime and improve attendance at their schools. The program was different than the CPD's CompStat program because in-school and school-level infraction and incident data were reviewed, in addition to neighborhood incidents. In-school infractions were viewed in relation to the violence that occurred near the school, giving educators and the police department a more complete picture of possible safety issues (Hutson, 2011; Office of the Mayor, City of Chicago, 2011; Schmidt, 2011).

- **Los Angeles Unified School District.** Using the CompStat system utilized by the Los Angeles Police Department (LAPD), Los Angeles Unified School District's (LAUSD) School Safety Initiative provided law enforcement and the community with evaluations of crime data in the areas surrounding 20 middle and senior high schools located in or near the city's Gang Reduction Zones. This enabled LAPD and the LAUSD Police Department to identify trends, examine patterns, and deploy officers and resources to proactively respond to school violence. The School Safety Initiative outlined four goals: improve safety in and around schools; improve collaboration between public agencies and community organizations; improve trust between communities and law enforcement agencies; and increase transparency of information about school safety (Los Angeles Unified School District, 2007).

- **New York City Department of Education, Division of School Facilities.** The goal of this SchoolStat program is to provide current, objective data regarding the condition of the facilities across the almost 1,300 sites where New York City public schools are located. SchoolStat inspectors visit schools to evaluate their cleanliness and maintenance conditions. Answering yes or no questions, they examine bathrooms, classrooms, gyms, auditoriums, cafeterias, staircases, hallways, and outdoor areas. An algorithm then determines each school's final score, which is shared with the schools and central office staff. Review sessions with Division of School Facilities staff target areas that need special attention or corrective action. The SchoolStat website provides

users with the ability to review scores and read inspectors' observations (Millán, 2013; New York City Department of Education, 2012).

- **Rhode Island Department of Education (RIDE).** The department implemented its EdStat program in 2011 to monitor the progress of districts and its own offices on Race to the Top (RTT) implementation and outcomes. Rhode Island's Commissioner of Education and the education department's leadership team are debriefed weekly on progress and challenges related to RTT implementation and strategize ways to overcome difficulties. Not every RTT project is monitored through the EdStat program. In order to avoid inefficiencies and overlapping EdStat sessions, RIDE staff bundle projects based on the strategies to which they are aligned in the department's five-year strategic plan (Rhode Island Department of Education, 2012).

Impact of PerformanceStat Programs on Organizational Outcomes

Only one study was found that examined the impact of PerformanceStat programs on the performance of school district staff and students. Patusky and colleagues (2007) reviewed the School District of Philadelphia's SchoolStat program and concluded that the program had a positive impact on students and staff. The researchers reported the following key findings:

- Student and teacher absenteeism, as well as student suspension rates, improved following implementation of the SchoolStat program. (The median school rate of violent incidents, however, held constant.)

- District staff reported becoming far more conversant in the use of data both to measure performance and to identify and solve problems. The SchoolStat system was seen as an important step toward establishing a data-driven organizational culture. Staff were found to regularly use data-driven practices such as reviewing data; planning for improvement in response to current data; and planning proactively in response to previous year trends.

- District staff reported that the program created an extensive communication network. SchoolStat meetings created horizontal communication channels among groups of principals and regional superintendents that previously did not exist. Meetings also created vertical communication channels that connected schools to central office staff and that facilitated a regular flow of questions, concerns, and information throughout the organization.

- SchoolStat staff administered a survey to regional superintendents and principals five months after the program was launched. Participants gave the SchoolStat program high scores overall and indicated that the SchoolStat process helped them achieve their region's or school's goals.

Several studies have been conducted on the impact of PerformanceStat programs on police departments' crime rates:

- New York Police Department's CompStat is credited with playing a significant role in reducing the city's crime rates. Between 1990 and 2011, homicide in New York City declined by 80%, robbery by 83%, burglary by 86%, and car theft by 94%. During that time, crime fell in other large cities throughout the U.S., but it fell twice as much in New York City (City and County of Denver, 2014b; DeStefano, 2014; Rosenberg, 2012).

- William J. Bratton introduced CompStat in Los Angeles in 2002, his inaugural year as Los Angeles' Chief of Police. Although it was reported that Bratton had about one-quarter of the police resources and a much larger area to patrol in Los Angeles than in New York City, he was still able to preside over a reduction in crime. After the CompStat program was implemented in Los Angeles, the city saw a 17% decrease in homicides, a 10% drop in violent crime, and an 8% reduction in property crime (Winograd & Hais, 2010).

- An evaluation of the Fort Worth Police Department's CompStat program concluded that the program had a significant effect on the reduction of property offense rates (burglaries, larcenies, and motor vehicle thefts), but did not appear to have an effect on violent crime rates (murders, non-negligent manslaughters, rapes, robberies, and aggravated assaults). Minor nuisance arrest rates were found to have increased 15% following the implementation of the CompStat program (Jang et al., 2010).

- Integrity in reporting has been a question surrounding CompStat programs for some time. Organizational leaders did not anticipate that staff would manipulate data to falsely bolster outcomes. In at least two cases, law enforcement's implementation of PerformanceStat programs was found to lead to the manipulation of crime statistics. An independent investigation into the NYPD and its CompStat program found that several major crime categories were underreported in 2009 and 2010. Officers reported pressure to reduce felonies to misdemeanors or to not report crimes at all (DeStefano, 2014; Fractenberg, 2013; Morganteen, 2013; Gumbo & Van Brocklin, 2012). In Broward County, Florida, an investigation into the Powertrac program used by the Broward Sheriff's Office revealed widespread falsification of records, with supervisors downgrading crimes and charging only one crime to suspects who had admitted to multiple crimes (Gumbo & Van Brocklin, 2012; Hartman, 2009; Olson, 2006).

Examination of the effect of citywide PerformanceStat programs indicates:

- Baltimore's CitiStat was found to have improved the efficiency and cost-effectiveness of city services. It was reported that the program helped to reduce employee overtime costs, absenteeism among city employees, and the city's response times for citizen service requests such as pothole repair and graffiti removal. Baltimore's Mayor credited CitiStat with saving the city $350 million in seven years (Behn, 2007; Perez & Rushing, 2007).

Perez and Rushing's (2007) report on Baltimore's CitiStat for the Center for American Progress concluded, "The ability to collect and analyze large amounts of data has brought greater precision to government. Decision-makers are better able to monitor trends over time, plot geographic distributions, and examine cause and effect. Problems or underperformance that might have been missed are now brought to the surface and exposed for scrutiny."

- Implementation of the LouieStat program in Lousiville, Kentucky resulted in a reduction of unscheduled employee overtime of more than $1.4 million, or 14%, in its first year of implementation. Officials say that the program has changed the way the city interacts with residents. LouieStat staff hold public meetings and present data on specific city challenges. Officials collect public feedback cards, which are incorporated into the dialogue. In addition to transparency and accountability, city officials believe that the forums have provided a platform for citizen involvement and innovative problem-solving (City of Louisville, 2013; Goldsmith, 2013; Reno-Weber & Niblock, 2013).

Lessons Learned

Based on the experiences of school districts, cities, states, and federal agencies, following are some of the lessons learned from the implementation of PerformanceStat programs:

- **Adapt the program to the organization's local needs.** Researchers agree that PerformanceStat programs are not one-size-fits all programs. They emphasize that organizations should assess their unique culture, resources, and goals to determine which type of system is best suited to their needs (Kuder, 2012; Rhode Island Department of Education, 2012; Behn, 2007; Patursky et al., 2007; Petrides & Nodine, 2005).

- **Start with a clear purpose.** Organizations should specify what type of results they are trying to produce and how performance will be measured (Behn, 2013; Perez & Rushing, 2007). A review of 13 organizations that implemented PerformanceStat programs in a variety of contexts found that "clarity of organization mission and purpose" was a common element of the programs (Kuder, 2012).

- **Obtain stakeholder support.** Reno-Weber and Niblock (2013) reported that Louisville, Kentucky's LouieStat program initially faced public resentment and skepticism, but once positive results were achieved, attitudes began to change. Most organizations have found that public support grows when activities and performance are transparent, which helps to demonstrate the value of the program to both the organization and the community it serves. Organizations have found that community buy-in for PerformanceStat programs increases when online access to the data collected is provided (Kuder, 2012; Godown, 2009; Patusky et al., 2007; Perez & Rushing, 2007).

- **Demonstrate strong leadership.** Success of PerformanceStat programs depends on commitment and engagement from top leadership (Rhode Island Department of Education, 2012; Godown, 2009; Behn, 2007; Botka, 2007). Perez and Rushing (2007)

noted, "Leaders must continually review and apply data to identify areas in need of improvement, drive institutional change, and achieve goals for . . . performance." They emphasized that a high level of commitment sends a message to the organization's staff about the importance of gathering and using data to drive performance.

Patusky and colleagues (2007) pointed out, "It requires a large number of staff to embrace new values, technologies, processes, and job tasks. It takes a strong leader to initiate such a change and an even stronger one to sustain it as changing priorities, unexpected challenges, contrary and deeply rooted interests, and the comfort of old routines inevitably work to undermine it."

Organizations have found that the role of a strong leader includes:
  o Securing the financial and human resources necessary for the program;
  o Bringing issues into focus;
  o Creating and maintaining an atmosphere of open and honest dialogue;
  o Asking critical questions and giving honest answers;
  o Setting expectations for behavior and modeling them; and
  o Recognizing accomplishments (Patusky et al., 2007; National Governors Association, 2006).

- **Use accurate and current data.** PerformanceStat programs place an emphasis on continuous, real-time data collection and review. Data must be analyzed frequently so that it provides a clear picture of performance improvements and deficits. Less frequent reviews of performance data may not recognize a problem until significant damage has already been done (Kuder, 2012; Hartman, 2009; Perez & Rushing, 2007). Reno-Weber and Niblock (2013) stated, 'With the right support, data enables meaningful conversations about strategy and planning which, when aligned with the right incentives and skill-building opportunities, can create a culture of continuous improvement." They added, "The trick is to convert the data into useful information that can be used to identify ways to continually improve performance."

- **Delegate responsibility.** Behn (2008) recommended that organizations authorize one person to run all PerformanceStat meetings. If the chief executive (e.g., superintendent, mayor, or police commissioner) does not have the time to conduct every meeting, he or she should delegate a key deputy to conduct every meeting. This individual should be given clear authority. Furthermore, all meetings should be conducted by the same person in order to maintain the continuity of the program.

- **Hold meetings frequently.** Regular meetings provide feedback on both achievements and challenges. They keep the organization's leaders apprised of their departments' performance and help them to identify strategies for improvement. Experts caution that it makes little sense to hold meets when there is no new data to inform the discussion. However, waiting too long between meetings might lead staff to feel a diminished sense of urgency (Kuder, 2012; Behn, 2008; Petrides & Nodine, 2005).

- **Emphasize improvement instead of blame.** Both the New York Police Department's CompStat and Baltimore's CitiStat are known for being tough on poor performers. In response, some organizations have overcompensated by excusing directors who have not improved their departments' performance. As a result, their PerformanceStat meetings turn into mostly "show-and-tell" sessions (Behn, 2008; Botka, 2007; Perez & Rushing, 2007; Petrides & Nodine, 2005). Behn (2008) stated, "To truly improve any sub-unit's performance, the leadership team needs to both pressure its managers and help them to succeed."

- **Stay flexible.** Organizations should continuously fine-tune their PerformanceStat programs. Adjustments should be made throughout the procress to respond to changing circumstances, lessons learned from experience with the program, and feedback from participants (Rhode Island Department of Education, 2012; Patursky et al., 2007).

- **Hire full-time PerformanceStat staff.** Researchers agree that successful implementation of PerformanceStat programs requires full-time analytical staff (Rhode Island Department of Education, 2012; Behn, 2008; Perez & Rushing, 2007). Kuder (2012) stated, "It is easy to underestimate the amount of time it takes to prepare for, execute, and follow-up on Stat meetings. The work of creating performance reports, PowerPoint presentations, and supporting documentation is time-consuming. When one adds the amount of time needed to read and interpret the performance reports and prepare briefings for key leaders, supporting a single Stat meeting for one school requires approximately 50 hours of preparation."

- **Follow up on action plans.** One of the key factors associated with the success of PerformanceStat programs is aggressive follow-up on the issues discussed at previous meetings. Staff must be held responsible for their commitments and the organization's expectations for future performance improvements. Results should be monitored over time to ensure that performance improvements have occurred and are sustainable (Kuder, 2012; Behn, 2007; Botka, 2007; National Governors Association, 2006).

- **Train PerformanceStat staff.** Organizations should not assume that staff know how to use data. Many personnel require training to learn the skills needed to apply data to policy and management decisions. This includes statistical training to help staff understand how to analyze data – what comparisons to make; what questions to ask when looking at a table or graph; and how to interpret patterns and trends. Some technical training, such as basic data entry and use of mapping software, may also be useful (Patusky et al., 2007; Perez & Rushing, 2007).

- **Use the most sophisticated technology available to the organization.** The New York City Department of Education (2012) noted that technology is essential to PerformanceStat programs. It stated that without technological support, managing this type of program is difficult and effective analysis of results is impossible. At a minimum, technology must be available to input school-level data onto an electronic database on a

regular basis, organize and present data in user-friendly formats, and make data easily accessible to all staff members who impact student learning. Patursky and colleagues (2007) concluded that PerformanceStat programs do not require sophisticated software. They suggested, however, that the decision to use existing technology should not "serve as an excuse to freeze the technology in its place."

On a Local Note

Miami-Dade County Public Schools' Data Assessment & Technical Assistance/Coordination of Management (DATA/COM) is a PerformanceStat program used by Superintendent Alberto M. Carvalho and his staff to monitor low performing schools. DATA/COM assesses schools' immediate operational needs so resources can be deployed to handle critical issues in a timely manner. The Superintendent, cabinet staff, regional superintendents, and school principals analyze individualized school-level data three times per year. Data elements included in the review are student achievement; student academic growth; and staff vacancies. Problem areas are flagged and interventions are designed and implemented based on the data presented. Specific emphasis is placed on the District's Interim Assessment. Data are used to flag and design interventions for the core content areas - reading, mathematics, science, and social studies. Progress updates are provided at subsequent DATA/COM meetings and the effectiveness of interventions is reviewed.

Summary

PerformanceStat programs are data-driven management systems designed to make decision-making by managers more fact- and data-based by monitoring performance in real-time. The first such program, the New York Police Department's CompStat, was credited with contributing to reduced crime rates. Following that program's success, variations of CompStat were adopted by thousands of other police departments, and by other federal agencies, cities, and states around the country. In addition, several school districts around the country have implemented their own PerformanceStat programs. However, one study of urban school systems reported that although most districts report engaging in data-driven decision-making, few say they use data to monitor the effectiveness of their programs and make adjustments based on the new data.

This report provided examples of school districts that have implemented PerformanceStat (often called "SchoolStat") programs. Results from studies that have examined the impact of PerformanceStat programs on school districts, law enforcement agencies, and cities were summarized. Lessons learned from school districts, cities, states, and federal agencies that have implemented PerformanceStat programs were reviewed. Recommendations included adapting the program to the organization's local needs, demonstrating strong leadership, using accurate and real-time data, and aggressively following up on action plans. Finally, a brief description of Miami-Dade County Public Schools' Data Assessment & Technical Assistance/Coordination of Management (DATA/COM) PerformanceStat program was provided.

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