Applying Total Quality Management Concepts to Public Health Organizations

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Synopsis

Total quality management (TQM) is a participative, systematic approach to planning and implementing a continuous organizational improvement process. Its approach is focused on satisfying customers' expectations, identifying problems, building commitment, and promoting open decision-making among workers. TQM applies analytical tools, such as flow and statistical charts and check sheets, to gather data about activities within an organization. TQM uses process techniques, such as nominal groups, brainstorming, and consensus forming to facilitate communication and decision making.

TQM applications in the public sector and particularly in public health agencies have been limited. The process of integrating TQM into public health agencies complements and enhances the Model Standards Program and assessment methodologies, such as the Assessment Protocol for Excellence in Public Health (APEX-PH), which are mechanisms for establishing strategic directions for public health.

The authors examine the potential for using TQM as a method to achieve and exceed standards quickly and efficiently. They discuss the relationship of performance standards and assessment methodologies with TQM and provide guidelines for achieving the full potential of TQM in public health organizations. The guidelines include redefining the role of management, defining a common corporate culture, refining the role of citizen oversight functions, and setting realistic estimates of the time needed to complete a task or project.

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TQM has arrived on the health services scene, or at least in parts of the health services system. The Joint Commission on the Accreditation of Healthcare Organizations, for example, has incorporated TQM concepts in its Agenda for Change. The American Hospital Association, through its Hospital Research and Educational Trust, has published a report to help hospitals design and implement TQM (*1*). Consulting organizations have developed programs to educate health services managers, physicians, and other health personnel on TQM. Hospitals and HMOs increasingly are implementing it (*2*). Some will succeed in problem solving and planning using TQM, but others may fail (*3, 4*).

The increasing use of TQM is an exciting development, but TQM application lags in the process of providing health services in the public sector, specifically public health agencies. TQM offers public health organizations a unique opportunity to adopt a powerful tool for strengthening management and presents a fundamental challenge to public health administrators. We describe the potential of TQM as a major managerial innovation, compared with the current management of many public health agencies and offer guidelines to help users realize its full potential in public health applications.

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Standards and Assessment

Standards in the practice of public health traditionally emphasized (*a*) health outcomes, (*b*) flexibility to allow communities to establish and quantify their own objectives, and (*c*) the role of government as a residual guarantor that is responsible for assuring that prevention services are provided through community agencies, concepts that are reflected in the Model Standards published in 1985 (*5*). The edition of Model Standards published by the American Public Health Association in 1991 (*6*) links standards to meeting the health goals for the nation in the year 2000 (*7*). The standards and the year 2000 objectives are an important strategic planning component, providing public health agencies with (*a*) a synthesis of current scientific knowledge of health promotion and disease prevention, (*b*) statistical data on the current state of the nation's health, and (*c*) a prioritized list of specific health objectives.

The recent development and availability of the Assessment Protocol for Excellence in Public Health (APEX-PH) provides a methodology for systematically assessing departmental operations relative to meeting standards. APEX-PH provides agency leaders a clear, comprehensive, and flexible protocol for assessing organizational and community resources and needs. The workbook format helps agency leaders to meet national health promotion and disease prevention objectives (*7*) at the community level. The APEX-PH protocol is a collaborative effort of the American Public Health Association, the Association of Schools of Public Health, the Association of State and Territorial Health Officers, the Centers for Disease Control, the National Association of County Health Officials and the U.S. Conference of Local Health Officers (*8*).

The availability of Model Standards and APEX-PH provides health agencies with a rational method to assess their potentials and goals for health outcomes. Guided by community health objectives and assessment findings, managers can formulate an agency-community health plan that can serve to direct work within programmatic areas. The health objectives that define the direction of an agency's strategy need to be broad and multi-dimensional.

The organizational assessment process provides a framework for developing and maintaining the capacity to carry out a community health plan. To assure that program objectives are met, health departments traditionally have depended on a system of performance standards and quality assurance methods. While these efforts are necessary, they are not sufficient to meet the challenges now facing public health agencies. Instead of relying on traditional performance standards and quality assurance methods, TQM offers a means to improve on-going processes and to enhance agency performance within a changing environment.

TQM Strengths

TQM focuses on work processes, applying analytical and behavioral techniques to improve those processes within an organization. For example, a group of nursing and laboratory personnel may select a process for improvement, such as untimely deliveries of laboratory test results to a prenatal clinic. Using a series of flow diagrams, they may be able to identify the steps involved in the process and the factors that may be contributing to delays. Based on this understanding, the group may be able to identify and try steps to improve the timeliness of the test results, monitoring the results to try to achieve continuous improvement.

In such an application, TQM presents a fundamental challenge to the use of internal performance standards to achieve public health objectives (*9, 10*). While the use of performance standards can be a starting point for TQM, continuous quality management goes beyond conforming to management standards. TQM includes systematic analysis of the work performed by the organization, with emphasis on the horizontal integration of services across program areas. Attention can be given, for example, to identifying and reducing variations in the work performance of inter-disciplinary teams or natural work groups. Improvement is based on both outcome and process. An organization must constantly improve its problem-solving capacity, using performance standards as leverage in the improvement process. As described by some advocates, such organizations ". . . continuously push at the margins of their expertise, trying on every front to be a bit better than before. Standards to them are ephemeral milestones on the road to perfection. . . ." (*11*).

TQM requires that change be based on the needs and desires of patients, clients, and health personnel involved in the entire work process, and possibly across programmatic areas. TQM requires meaningful participation on all personnel levels. In particular, TQM requires rapid and thoughtful response by top management to suggestions made by participating personnel. TQM is the essence of the structured, participative philosophy of the recommendations for using the Model Standards and APEX-PH process to achieve community health objectives.

TQM requires that all personnel have a clear understanding of the work process and its relationship to the larger system. TQM requires using a rigorous process analysis and evaluation of all ongoing activities and the recognition and application of underlying psycho-social principles affecting people and groups within the organization. TQM requires accepting the fundamental assumption that most problems encountered in public health agencies are not the result of errors by individual persons, but of the inabilities of the system, within which all personnel must function, to perform adequately.

Whereas Model Standards and APEX-PH focus on strategic health outcome objectives and community stakeholders as the ultimate health department customers, TQM examines each link in the process used to achieve the public health goals. The customer in TQM is not only the community or client for whom services are designed, but the many users of the agency's output, including health providers within the organization itself. The criterion is not whether or not the work meets some management performance standard *per se*, but whether the user (often a member of a different profession, or a set of personnel with the agency, or a host of other public and private health service agencies) is satisfied with the timeliness and usefulness of the service being provided by or within the public health agency. The managerial challenge is not to assure adherence to fixed standards (*12*), but to spend time and energy in facilitating and assuring continual improvement in the many interrelated processes that are the work of the department.

Traditional Performance Standards and TQM

To illustrate the potential of TQM in public health, the following table contrasts TQM with traditional management approaches that use performance standards. The two views are not intended to be mutually exclusive, but to provide a heuristic for understanding the fundamental similarities and differences.

Traditional model	*TQM model*
Legal or professional authority	Collective or managerial responsibility
Specialized accountability	Process accountability
Administrative authority	Participation
Meeting standards	Meeting process and performance expectations
Longer planning horizon	Shorter planning horizon
Quality assurance	Continuous improvement

Legal and professional authority versus *collective and managerial responsibility.* A typical public health department represents an amalgam of legal and professional authority. Activities such as sanitation in restaurants, assurance of safe water supplies, and control of epidemics are driven by legal authority. Other activities, such as family planning and prenatal care, are medical services made available, and these processes are characterized by professional autonomy and control. Both legal and professional control processes combine to assure the enforcement of employee performance standards and are perfect candidates for improvement. For example, the process of sanitation inspection may be filled with variation and unnecessary cost, and to the extent that the process is truly understood, provides an opportunity for improving efficiency and customer satisfaction.

The TQM model focuses on the system, emphasizing collective managerial responsibility, not simply legal or professional mandates. TQM assumes that the system is the primary source of problems, and by better understanding that system, provides opportunities for improving service. TQM focuses on the work process, not on the individual worker. The objective is not to rely solely on legal or professional authority, but to challenge the interdisciplinary work group involved with the process to assume ownership of that process and take responsibility for its continuous improvement. The group most expert at improving this process is one that includes the workers currently involved in the process. In this respect, the process is conceptually compatible with providing public health services through a multidisciplinary team process.

Specialized accountability versus *process accountability.* Public health professionals traditionally expect autonomy in performing their work. As long as there is a reasonable approximation to the standard, their autonomy is often assured. Unfortunately, intense needs for specialization, combined

with professional autonomy, segment the work process. Professional groups, reinforced by specific standards, assume ownership of only part of the work process, and no single group is held accountable for the total process.

Under the performance standards approach, individual professionals seek to optimize their portion of the process often with limited knowledge of the system within which their portion of the process works. If individual providers own parts of the process, they can improve only parts of that process. For example, nurses may try to reduce the waiting time for mothers and babies in the well-baby clinic. But, since they are involved with only part of the process, albeit a significant component, any unilateral change may create problems and resistance among clerical personnel, laboratory technicians, those involved with the Special Supplemental Food Program for Women, Infants, and Children (WIC), and perhaps others, who have not been involved in their effort to reduce waiting time.

TQM requires that improvement be the responsibility of all those involved in the process. Thus TQM challenges professional autonomy and demands accountability for the total work process. Accountability for the total process requires that change in the process be the responsibility of all personnel, thus emphasizing process improvement rather than specialized accountability.

Administrative authority versus *participation.* Under a system of performance standards, operational standards are likely to be set by some external credentialing body and implemented by administrative authority. TQM instead emphasizes interdisciplinary teams working toward the objectives set by the customer, who may be public health professionals, payers, or clients or family members. By using interdisciplinary teams or groups, TQM makes workers and their front-line supervisors responsible for quality, not an administrator charged with monitoring standards.

Maintaining quality no longer consists of simply taking names and penalizing those who make errors or deviate from the standard. It means setting performance expectations that are realistic in the local setting, helping personnel to monitor their own performance, and empowering them to take corrective action. For example, funding regulations may require that a clinic be held twice a week for 4 hours, while patient preference might be that the clinic be held twice a week for 3 hours each time and be open on Saturday mornings for the 2 remaining hours. Thus the obvious challenge is to make the health department respond and become customer-driven and not merely a rule-driven organization.

Meeting standards versus *process and performance expectations.* The performance standards approach is applicable to a wide range of service areas. If one meets the standard, then one can divert energies and resources to meeting another standard. Standards are anonymous, potentially compelling, and often provide powerful leverage for financing. Standards often are augmented by the larger profession, by other agencies, and by the courts. Meeting a new standard may require new resources. Since these standards are externally imposed, they transfer the onus of requesting more resources to nonagency personnel.

That is not the case with TQM. TQM requires that the agency take responsibility for its own standards and for their implementation. Anonymity is removed. The agency has to be explicit about its current record of performance and commit itself to continuous improvement. For example, State rules may require that two attempts be made to contact a patient whose Papanicolaou (Pap) smear result comes back positive. Agency personnel may decide to improve the notification process and use statistics and process analysis to challenge personnel to increase the rate of successful notification. The improvement process is, in this case, not guided by the external imposition of standards, but by the dynamic process of group effort.

Benchmarking involves comparing current activities and outcomes against the best of the competition, the idea being to develop a product or process that is better than that of the competition. The issue is not how well the agency performs a service compared with relevant organizations, but how the service is provided within other standards, compared with a given agency. While competition may not be the operative term for public health departments, since they have a monopoly on many of their services, public health agencies do have peer organizations upon which to base their comparisons.

The reliance on peers for the standard means that the standard changes as soon as one peer achieves a higher level of performance. One of the management lessons learned from the Japanese is that different and higher expectations can lead to better results. Benchmarks do not necessarily have to come from close peers. Indeed, the goal for reducing clinic waiting times can be a local bank or a popular restaurant, rather than a neighboring clinic. This changes staff perspective from one of

"we are no worse than anyone else," to one of "how good can we become?"

Long planning horizon versus *short planning horizon.* TQM may help bridge the gap between strategy and performance. Model standards provide for long-term rather than short-term planning. For example, while the Model Standards Program (*6*) and APEX-PH emphasize flexibility and local applicability, the process of development requires extensive consultation with external groups. This makes it difficult to relate the standards to the day-to-day concerns of the operating agency. TQM, however, is an internally oriented, from-the-bottom-up approach meant to take effect over a short period. The approach requires rapid feedback to the group making recommendations in order to support and sustain their motivation. As improvements are made, staff members initiate the search for new sources of improvement as part of the continuous improvement process.

Quality assurance versus *continuous improvement.* Within the world of standards, quality assurance (QA) is the vehicle for retrospectively observing deviations from a standard. QA measures have the quality of measurability and place responsibility on persons. Either standards are met or they are not met. It is easy for providers, advocates, politicians, and courts to focus on deviations and not the standard. Improvement of the standard has great value. Improvement beyond the standard has little value and consequently little attention is paid to tradeoffs among standards.

TQM takes a different approach to quality. It requires focusing on the system as a source of error, and emphasizes continuous improvement in performing an activity. TQM emphasizes the fact that improving the system is part of the job description of all personnel, not just management or designated QA personnel.

Preparing for Change

The ultimate success of TQM in public health depends on the ability of public health officers, administrative managers, professionals, and oversight groups to integrate the two approaches of community defined standards for health outcomes and TQM for process improvement to achieve desired outcomes. Success will depend on their ability to meet the following challenges.

Action 1: Redefine the role of management. The achievement of community health outcomes through TQM requires that managers function both vertically and horizontally within the organization. Horizontally, focus must be given to the work process that involves agency teams across, rather than simply within, programmatic areas. Entry level credentials and technical knowledge will be necessary for managers, but will not be sufficient. Management must become responsible for the work process that transcends programmatic areas. That requires a common sense of mission and vision for the future, as well as skills in epidemiology, effecting organizational change, and using process analysis. Management, particularly top management, must assume direct responsibility and participate in training and skill-building activities.

Managerial change is required in the vertical relationships within an organization. Top level managers will do less decision making, yet will be responsible for managing the development of a supportive environment and facilitating the changes required for reallocating resources needed in the process. Middle management will have responsibility for monitoring the process and authorizing the process changes that are recommended by the interdisciplinary improvement teams. First-line management will assume more decision-making authority. This authority will be used in a consensual, rather than a directive, process.

Action 2: Define a supportive corporate culture. Within health care, there is a tendency to look for the big breakthrough, the quick fix, and the gold standard. While TQM occasionally produces a breakthrough, its philosophy is one of incessant change, of working with what is available, but with very high expectations. Imai (*13*), for example, observes that Westerners focus on performance, while Easterners are concerned with both process and performance. Kilmann (*14*) further suggests that change will require pervasive modifications in structure, reward systems, inservice educational philosophy, management skills, and team building strategies.

Specifically, a health department requires a culture that supports continuous improvement in all the processes by which it implements its programs and interacts with its clients, including never-ending improvement in standards and their uses and values. This means that the workers and managers know and accept their starting point and focus on how to improve to achieve a short run goal, followed by another, and so on. This means that they are willing to be evaluated on the rate of

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improvement, rather than on whether or not improvement merely reached a specific level within a standard and maintained it. Clearly, the culture will have to support the flexibility and creativity required to achieve the ends in time.

Action 3: Redefining the role of citizen oversight and regulation. Public health organizations are governed by citizen oversight groups and their mission, goals, and objectives are strongly influenced by regulatory requirements. It is important that citizen oversight groups and regulatory agencies be brought into the continuous improvement process. Oversight groups and regulatory agencies will have to be convinced of the value of the process in which one measures the current level of performance and allocates the resources needed to reach an improved level in a continuous quest for quality. They must provide the department with greater budgetary flexibility than previously, especially if a rigid line item budget has been used. Interdisciplinary quality improvement teams quickly lose interest if improvement ideas are generated, but not implemented because of rigid line item budget adherence.

The purpose, process, and outcomes of regulation must be re-examined to assess their influence on health departments involved with TQM. Legislators, relevant public officials, citizen oversight groups, and public health managers must work closely and support experimentation, in the form of carefully and continuously evaluated demonstration projects. Moreover, alliances involving industry and other health care providers already using TQM need to be developed. Such alliances must influence relevant legislative and regulatory bodies to support enabling activities.

Action 4: Map a trajectory of objectives. Implementing TQM requires a trajectory of changes that are expected over a period. It is not acceptable to request additional resources under the threat that failure to provide resources will reduce compliance with standard X and lose Y dollars. In fact, this approach is debilitating in the long run. It questions whether management has the initiative to set relevant objectives and take into account the unique problems faced by the organization, beyond simply complying with externally imposed standards. Instead, TQM requires a series of objectives that facilitates discussion about tradeoffs in time and in resources, and focuses attention on reducing costs by improving the overall work process.

Action 5: Drive the benchmarking process from the top. The greatest challenge will be the benchmarking process. Professionals often consider the organization at which they trained as the gold standard, and are content to emulate that approach. They do not consider daily activities in process terms and are reluctant to collect and analyze process data. They hesitate to learn from what other people are doing in very different settings. Top management must provide leadership in pointing out that, while there are differences, much can be learned from the similarities. For example, it may be difficult for public health professionals to consider emulating the way that Disneyland handles waiting lines without feeling that their profession is being demeaned, but good examples of how other types of clinics handle waiting lines are available as a comparison. Private clinics, local hospitals, and other human service organizations can be used as benchmarks.

Action 6: Create organizational slack. The effective implementation of TQM can be seriously hampered if there are absolutely no resources to support the improvement process. While process improvement creates discretionary resources by reducing waste built into current work processes, initially resources may be required if the improvement process is to be credible at the onset. Since management does not know *a priori* the recommendation, the resources cannot all be budgeted and reserve resources must be available to speed implementation. Failure to provide such resources only guarantees failure. Assuring some slack resources, or at least resource flexibility, may be the greatest challenge to the implementation of TQM in a public health agency.

Action 7: Empower the staff to address problems. Many public health professionals have learned not to venture beyond their own programmatic areas. They are content to either ignore problems or assume that problems are the responsibility of others within the organization. TQM requires that profes-

sionals assume direct responsibility for identification and resolution of problems. This involves documenting processes of work, including such fundamental questions as what are the processes, what are their objectives, and how do they really work? Moreover, it requires an understanding of how the work of one group relates to and affects the work of another and the use of this knowledge to gather and analyze data and make recommendations to improve the work process. People need to overcome status barriers. Management must provide rapid feedback on resulting proposals to improve operations. While each of these actions requires maturity in those meeting the challenge, they also require that processes be redesigned and that a learning environment be developed that is conducive to building customer and process knowledge through statistical and scientific thinking. Fortunately, both the importance of scientific thinking and the use of statistics are accepted parts of professional public health practice. The challenge will be to take these tools and apply them to internal work processes and outcomes in the health department, instead of using them exclusively for problem identification and process adjustment with regard to the larger community.

Action 8: Avoid the best practice syndrome. While the use of TQM within public health requires benchmarking, it is important that public health professionals avoid adopting so-called best practice thinking. Best practice cannot exist independently of the needs of the clients and the resources of the organization. For example, in industry, competing firms often achieve successful outcomes using strikingly different approaches. One involves computers, while another does not. One relies heavily on robots, while another does not. What is common to all is that they develop innovative ways to meet the demands that their customers place on them, given the resources that they have available. Following best practice without respect to the strategic demands of the organization's environment means that the organizations get the so-called flavor of the month in terms of new concepts that guide management's search for solutions. Management techniques should never be panaceas to be applied indiscriminately. The challenge is to broaden the array of alternative approaches that managers can select from, not to select one approach to be used by everyone for everything.

Action 9: Set realistic time expectations. The successful integration of TQM, Model Standards, and APEX-PH requires a realistic estimate of the time required to implement TQM and to observe its effect. The process of adapting and institutionalizing TQM, even in a small health department, will require a number of years. What is not known is whether it is best to view the organization as an entity or to start with selected work processes amenable to change within parts of the organization. That course takes fewer resources initially and, if it is a success, will influence the attitudes of others. However, attitudinal changes at the top are so critical that the failure to use TQM throughout the organization can severely limit more restricted efforts.

Even when TQM is supposedly implemented, management must continually monitor its use to assure that it is fully institutionalized throughout the organization. For example, while Xerox Corporation won the 1989 Malcolm Baldridge Award for its quality program, new issues concerning implementation continued to surface 5 years after the program was initiated. Monitoring revealed that employee evaluation systems did not reflect commitment to TQM, and training in TQM was not included as employment criteria for entry level managers.

Action 10: Make management a model for continuous improvement. Since people are more impressed with actions than words, management needs to model the process for the organization. Professionals especially will be looking for discrepancies between what is advocated and what is practiced. Top management must provide the leadership and must consciously use the process as part of the overall operation. TQM is not a program to be implemented, but a process to be initiated.

Conclusions

Public health organizations and public health practice face continual challenges that require a new look at how and why we organize and manage services (*15*). TQM, along with Model Standards and the APEX-PH protocol, represent complementary methods for assuring that excellent services are provided to the community. As more health service organizations within the private sector adopt TQM concepts, the public health community needs to examine the potential of TQM within its own organizational framework.

TQM, combined with Model Standards and the use of the APEX-PH protocol, provides an opportunity for public health professionals to transform

public health practice to meet the increasingly difficult challenges we face.

References

1. James, B. L.: Quality management for healthcare delivery. American Hospital Association, Hospital Research and Educational Trust, Chicago, IL, 1989.
2. Berwick, D., Godfrey, A., and Roessner, J.: Curing health care: new strategies for quality improvement. Jossey-Bass Publishers, San Francisco, CA, 1990.
3. Berwick, D.: Continuous improvement as an ideal in healthcare. N Engl J Med 320: 53-56, Jan. 5, 1989.
4. McLaughlin, C. P., and Kaluzny, A.: Total quality management in health: making it work. Health Care Manage Rev 15: 7-14, summer 1990.
5. American Public Health Association, Association of State and Territorial Health Officials, National Association of County Health Officials, U.S. Conference of Local Health Officers, and Centers for Disease Control: Model standards: a guide for community preventive health services. American Public Health Association, Washington, DC, 1985.
6. American Public Health Association, Association of State and Territorial Health Officials, National Association of County Health Officials, U.S. Conference of Local Health Officers, and Centers for Disease Control: Healthy communities 2000: model standards, guidelines for community attainment of year 2000 national health objectives. Ed. 3. American Public Health Association, Washington, DC, 1991.
7. Public Health Service, Office of the Assistant Secretary for Health: Healthy people 2000: national health promotion and disease prevention objectives. DHHS Publication No. (PHS) 91-50212. Office of Disease Prevention and Health Promotion. U.S. Government Printing Office, Washington, DC, 1990.
8. American Public Health Association, Association of Schools of Public Health, Association of State and Territorial Health Officials, Centers for Disease Control, National Association of County Health Officials, and U.S. Conference of Local Health Officers: Assessment protocol for excellence in public health (APEX-PH). American Public Health Association, Washington, DC, 1990.
9. Deming, S. E.: Out of the crises. Massachusetts Institute of Technology, Center for Advanced Engineering Study, Cambridge, MA, 1986.
10. Juran, J. M.: Juran on planning for quality. The Free Press, New York, NY, 1988.
11. Hayes, R. H.: Wheelwright, S. C., and Clark, K. B.: Dynamic manufacturing. The Free Press, New York, NY, 1988.
12. Melcher, A., Acaf, W., Dun.ont, P., and Khouja, M.: Standard maintaining and continuous improvement systems: experiences and comparisons. Interfaces 20: 24-40, May-June 1990.
13. Imai, M.: Kaizen: the key to Japan's competitive success. McGraw-Hill Publishing Co., New York, NY, 1986.
14. Kilmann, R.: Beyond the quick fix. Jossey-Bass Publishers, San Francisco, CA, 1989.
15. National Academy of Sciences, Institute of Medicine: The future of public health. National Academy Press, Washington, DC, 1988.

Blue Thursday? Homicide and Suicide Among Urban 15–24-Year-Old Black Male Americans

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Synopsis

A comparative analysis was made of day of the week variations in homicide and suicide deaths among 15–24-year-old white males, black males, white females, and black females in the 22 counties with the most black persons in the United States. Thirty-seven percent of black Americans and 14 percent of white Americans lived in these densely populated counties.

The authors expected a weekend excess of homicide and a Monday excess of suicide. They found a pronounced excess of homicides on weekends, especially among white males. A slight excess of suicide was observed on Monday, but other slight excesses of suicide were also found.

Young black males exhibited an unexpected excess of homicides and suicides on Thursday. On Thursdays the black male-white male ratio for homicide was 1.43 and for suicide, 1.26. Possible explanations for the young black males' blue Thursday phenomenon are offered.