

## 9-1-1 Service - July 1997

### Summary

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Provisions contained in s. 13.94(8), Wis. Stats., direct the State Auditor to conduct periodic reviews of local government operations, commonly referred to as "best practices" reviews, to identify successful approaches to delivering public services. With the assistance of a five-member advisory council, the provision of 9-1-1 emergency telephone service was selected as the subject of this review.

As provided by s. 146.70, Wis. Stats., local governments have broad authority to provide 9-1-1 emergency telephone service, either independently or in combination with other counties or municipalities. This service allows citizens to contact any emergency service provider, such as police, fire, and emergency medical providers, by dialing the digits 9-1-1 from any telephone. 9-1-1 calls are routed to and processed at a central location, commonly referred to as a public safety answering point. Answering point staff, called telecommunicators, collect information from callers and then initiate a response either by directly dispatching the appropriate emergency service providers or by transferring the caller or relaying the request for services to another agency, which assigns service providers as needed.

To encourage the implementation of 9-1-1 service, the Legislature authorized counties to levy a charge on telephone users. This charge, which is separately identified on individuals' monthly telephone bills, funds the service costs incurred by telephone companies to route 9-1-1 calls to local answering points automatically. In 1996, telephone companies collected an estimated \$5.4 million for providing 9-1-1 service. All other costs, which we estimated to be about \$70 million statewide in 1996, such as costs for the capital equipment and staff needed to receive and process calls, are funded by local government general funds.

As of May 1997, an estimated 94 percent of the State's population was receiving 9-1-1 service from one of 121 answering points being operated in the 57 counties that provide 9-1-1 service. Because local governments have used a variety of strategies to deliver 9-1-1 service, the level of service provided and the methods used to process and respond to 9-1-1 calls vary depending on local priorities and the equipment being used. 9-1-1 service is not available to about 294,000 persons residing in 15 counties and portions of another where certain telephone exchanges cross county borders.

Of the 121 existing answering points, 105 operate an enhanced 9-1-1 system, which automatically identifies and displays the caller's telephone number, location, and the appropriate emergency service providers on a computer screen and allows calls to be routed selectively to specific answering points. The remaining 16 answering points operate a basic 9-1-1 system, which connects callers to an answering point but does not provide information on caller identification or location or allow calls to be routed selectively.

Some communities have found that consolidating operations with other communities reduces costs by eliminating duplicative equipment and increasing the efficiency of staff. Greater centralization of services may also enhance quality by ensuring adequate call volume, to allow telecommunicators to become more proficient at processing calls and dispatching emergency service providers.

Although consolidation of answering points may have a limited effect on telephone company costs for providing 9-1-1 service, consolidation may provide greater savings in operating costs, especially in staff, equipment, and administrative costs. A detailed comparison of operating costs and service quality is the best way to determine whether cost-effectiveness could be maximized by consolidating answering points. Such a comparison should consider the relative number of staff and work stations needed to answer all calls effectively without delay; the efficient use of supporting equipment, such as computer-aided dispatch (CAD) systems, paging systems, facsimile and copy machines, and recording and radio equipment; and facility needs.

To ensure the highest level and quality of 9-1-1 service, most answering points have either installed enhanced 9-1-1 when service was initially implemented or replaced basic 9-1-1 with enhanced 9-1-1. The additional information provided by enhanced 9-1-1 systems allows telecommunicators to establish communication with callers and helps them both to confirm important details when callers are distraught and to initiate precautionary measures when a telephone connection is lost. In contrast, telecommunicators at answering points with basic 9-1-1 systems are completely dependent on callers to provide accurate information regarding the location of emergencies.

To the extent resources are available to purchase supporting technology, quality of service can be further improved by the use of CAD systems to assist with call processing and dispatching. Such systems can include capabilities for:

- developing specialized electronic forms for use by telecommunicators in collecting information from callers;
- sharing information among telecommunicators or with service providers electronically;
- integrating locally approved criteria to help telecommunicators determine which and how many services should be provided;
- distributing calls to service providers and monitoring the location of all emergency units so that their status is readily available when additional services are requested; and
- efficient recall of caller history, such as whether frequent calls have been received from a location or a neighborhood, the nature of those calls, and any special needs, such as those of elderly persons or persons with disabilities.

While all answering points process incoming calls, those that also dispatch all emergency service providers directly, rather than transferring calls to another agency, provide the most effective service because they are able to reduce the risk of losing callers, minimize the time needed to respond to emergencies, and maximize coordination of multiple providers.

Staffing costs constitute the largest component of operating costs for most answering points, and the level of staffing influences the quality of service provided. The most effective ways to ensure appropriate staffing include establishing staff responsibilities that are focused solely on the delivery of 9-1-1 or related services, supplementing 9-1-1 related duties only with tasks that will not interfere with the effective delivery of 9-1-1 service, and determining the number of staff needed by assessing call volume and the time needed to complete related functions. Analyses of telecommunicator workload may include the volume of call and radio communications, the time required to perform other responsibilities, the range of experience required of the staff assigned to each shift, and the level and quality of service to be provided.

Because telecommunicators provide the critical link between callers and emergency service providers, providing telecommunicators with a complete understanding of their responsibilities and a detailed description of how essential duties are to be performed will help ensure the consistent delivery of high-quality 9-1-1 service. The most effective answering points, therefore, provide telecommunicators with written policies and procedures that describe the management structure for the answering point; the general conditions of employment; and the specific techniques to be used to process calls, prioritize requests for emergency services, and dispatch emergency service providers.

Although it is not practical to develop procedures for every possible call scenario, the most effective written procedures identify strategies by which telecommunicators can identify both critical information for initiating a timely and appropriate response and the information needed to prepare emergency service providers for the incident. Answering point administrators can best guide staff by developing written definitions of the relative importance of various types of requests, such as incidents that are in progress versus those that occurred in the past, and incidents that involve weapons versus threats to property but not persons, as well as written criteria for distinguishing among them.

Similarly, to ensure the timely and accurate communication of emergency service requests to the appropriate service providers, the most effective written procedures fully describe the steps to be taken to dispatch emergency service providers, monitor the progress of providers assigned to an incident, and conduct any follow-up necessary. The best procedures also typically identify the number and types of service units to be assigned to an incident and describe the methods for communicating with responding units via radio or computer. In addition, dispatching and emergency service provision are improved when administrative tasks, such as tracking shift changes for the emergency service providers, are performed accurately and any necessary background checks, such as researching law enforcement

databases to identify information on arrest warrants and criminal histories, are conducted properly.

Answering points are also best able to meet public expectations for delivery of 9-1-1 service when they not only design their hiring strategies to identify and recruit staff with the skills needed to perform essential tasks in a stressful environment, but also provide comprehensive training to develop and expand staff skills. In addition, formal evaluation should be designed to assess staff performance and identify areas for which additional training may be needed. The most effective training programs concentrate instruction on the core functional duties of processing calls and dispatching emergency service providers. They include orientation to the answering point facility and its operational expectations, as well as providing instruction in the use of essential equipment and the procedures to be followed when answering calls, collecting information from callers, prioritizing requests for services, dispatching the appropriate emergency service providers, and performing any other tasks related to 9-1-1 operations. In addition, the most effective training programs are formally structured to provide new telecommunicators with opportunities to learn and practice required skills at increasing levels of complexity and stress, while also providing trainees with routine assessments of progress and ideas for how to improve performance.

Advances in telecommunications technology and changes in the expectations of both the public and 9-1-1 professionals will affect how 9-1-1 service is delivered in the future, as well as the cost of providing service. Currently, information on a caller's location and telephone number is not automatically available to answering points when a 9-1-1 call is made from a cellular telephone. Although recent changes in federal regulations will require telephone companies to make such information available in the future, local governments will need to decide whether to incur the potentially significant costs of accessing the information, including compensating telephone companies for making the information available and purchasing the equipment needed to receive geographical coordinates for a location, rather than a standard address.

Finally, at least two issues of statewide importance may be brought to the Legislature for decision. First, the role of answering points is becoming increasingly specialized, and there is an increased expectation that telecommunicators will provide medical or other advice to callers awaiting the arrival of emergency service providers. Consequently, the Legislature may be called upon to decide whether to establish statewide training standards and require telecommunicators to be certified. Second, the Legislature may be asked to consider proposals directed at ensuring statewide access to enhanced 9-1-1 service and allowing the costs that can be levied on individuals' monthly telephone bills to be expanded to include 9-1-1 operating costs.

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