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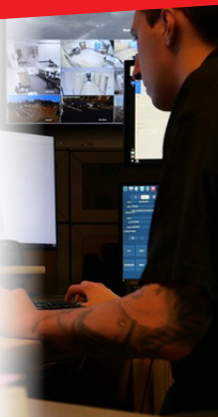
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TWO DECADES OF DISPATCH CONSOLIDATION

A look at how consolidation, technology and evolving call pathways have reshaped emergency communications center (ECC) operations — and what challenges still remain.

By William Doolittle

The topic of dispatch consolidation can spark strong reactions among public safety professionals, especially those who have navigated funding debates, jurisdictional control issues and the operational strain of merging systems and teams. This article explores two decades of industry change and what lies ahead.

Emergency response has long been centered on 9-1-1 calls placed by the public. That model still anchors the system, but today's environment includes a growing range of entry points. Devices such as emergency locator beacons and other one-button systems allow the public to request help without dialing 9-1-1, often routing alerts through separate providers or call routing systems. In addition, more than 3,000 alarm central stations nationwide monitor and report emergencies through surveillance systems and user-activated alerts.

Most consolidation analyses consider the single workflow of a 9-1-1 call from the public; hence, the focus is on counting the number of inbound calls and transfers to secondary dispatch centers (if necessary). There is limited public data on calls for service that are received by ECCs via ten-digit dialed numbers.

Anecdotal counts over the years have the number of domestic United States ECCs and dispatch centers at around 6,000. The number of operational centers has certainly decreased by hundreds over the last 20 years. According to *National 911 Annual Reports*¹ from the National 911 Program Office, the overall number of primary ECCs remained flat, but with a significant decrease in secondary ECCs (almost 30%) from 2016 through 2021.

The term "secondary ECC" needs further consideration. In practical terms, any ECC that could receive a transferred 9-1-1 call is secondary to a primary 9-1-1 ECC. These secondaries could include law enforcement (e.g., state police), dedicated fire and paramedic ECCs, social service and mental health care providers, and transit or transportation management services. However, the apparent

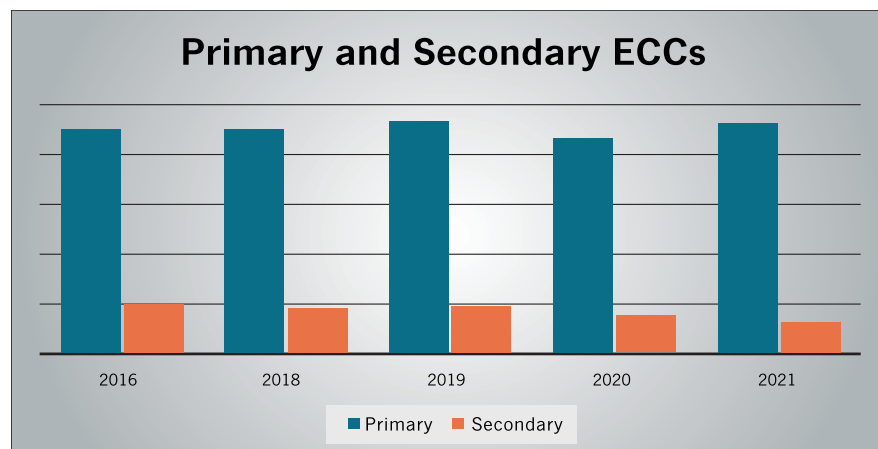
declining number of secondaries warrants further consideration.

The existence of private call centers creates another entry point for emergency calls. For example, there are approximately 3,000 alarm company central stations in the U.S. In addition to monitoring fire and security alarm points (and frequently elevators), central stations are increasingly monitoring video surveillance, weapons detection and manual lockdown notifications. These requests for assistance are frequently made in parallel with 9-1-1 calls from the public. These entities can supplement incident information by offering greater awareness of facilities and real-time local conditions. 9-1-1 calls placed using satellite telephones are already routed to a private third-party ECC. Many VoIP Service Providers (VSPs) have contracted with private third-party parties to receive 9-1-1 calls placed by the public using VoIP telephony services. Most on-premise call boxes and blue light devices bypass the public switched network and are routed directly to the owner's ECC.

CONSOLIDATION MANDATES

At least eight states (Arkansas, Connecticut, Florida, Illinois, Indiana, Maine, Oregon and Utah)² have passed legislation aimed at reducing the number of 9-1-1 answering points or requiring formal evaluation of ECC consolidation efforts. Several states have adopted a model of one ECC per county to reduce costs and better support the purchase and maintenance of Next Generation 9-1-1 (NG9-1-1) technology.

In the U.S., there are more than 3,000 county jurisdictions, 19,000 municipal governments and fewer than 50 consolidated city-county governments. Among U.S. municipalities, less than a dozen cities



have populations over one million, while nearly 350 have populations exceeding 100,000. A one-per-county model, with additional centers in major cities, points to roughly 4,000 ECCs with primary 9-1-1 call answering responsibility as a lower threshold — suggesting room for further consolidation.

Emergency call taking and public safety agency dispatch services have long been treated as a single function. Intuition tells us that having both roles in the same room is both more efficient and more effective. Recognizing these distinct roles helps clarify the potential benefits of consolidation:

9-1-1 call taking has roots in the telecommunications system. Local exchange carriers, regulated by the states, provided voice telephone services along with features such as selective routing and location information for 9-1-1 calls. In some states, oversight remained with regulatory agencies while others established bodies such as emergency communications boards to create statewide oversight. The key criterion has always been the speed and efficiency with which the caller is connected to the ECC service provider. National standards call for rapid answer times and limit transfers to no more than one.

Dispatching first responders was developed around the specific needs of each public safety agency and was structured to support the operational and command structure of those public safety departments. There are numerous organizational models for emergency service dispatch that vary by service model, capabilities, support for statutory providers and other defining characteristics.

Much attention has been recently paid to the role of telecommunicators in determining an expanding list of alternative responses to urgent calls for service. Historically, a law enforcement response was chosen because an officer was always available and in the community 24/7. Telecommunicators must now use more discrete call taking protocols to ensure public and responder safety is maintained and to be respectful of the caller's needs.

This growing list of resources is accompanied by the need for supplemental policies and procedures, nuanced training, and refined quality assurance requirements. Technology is seen as a way to supplement training and provide real-time protocol assistance and coaching to telecommunicators.

Primary and Secondary ECCs		
	Primary	Secondary
2016	4,510	1,005
2018	4,505	927
2019	4,658	957
2020	4,327	774
2021	4,637	656

INCREASING POINTS OF ENTRY

Today's world is becoming more complex because there are more choices for communication. Short-digit dialing (e.g., 3-1-1 and 9-8-8) routes calls to additional call centers that receive and resolve calls that might otherwise be presented to ECCs, presumably reducing call volume. In some cases, these two services are hosted and the workflows are integrated into existing 9-1-1 call taking responsibilities. Consumers can also use other mobile applications to present urgent requests for assistance and multimedia to emergency call centers in addition to statutory text to 9-1-1 services.

Non-traditional means of calling for emergency assistance were envisioned by public safety professionals in the early 2000s as part of the future-state NG9-1-1 calling capabilities. This included wearables and other variations related to the internet of things (IoT) that could place emergency calls for service. Other examples include vehicular telematics systems that route emergency button alerts, along with crash and occupant data, to third-party call centers and location, text and short messaging devices often sold as supplements for rescue assistance.

Non-traditional systems also include blue-light boxes in parking lots and on campuses as well as push-button emergency stations, which vary in how they alert for assistance. In many cases, these do not dial 9-1-1, thereby bypassing statutory and regulatory guidelines for transmission to an ECC. Controlled-access environments, such as airports and critical infrastructure facilities, are another special case in which a local jurisdiction's first responders do not have priority access.

WHERE CONSOLIDATION WORKS

Dispatch consolidation generally involves combining two or more existing ECCs. Merging staff often requires a new facility to house the consolidated organization, along with capital investment in updated furnishings and technology platforms. Receiving emergency calls from the public and public

safety dispatch services will continue to play a central role in coordinating first responders, but the evolving communications landscape introduces new challenges.

Several consistent themes are evident:

Technology costs remain a barrier for small agencies. Even though the substantial operating costs of an ECC are related to salary and benefits, equipment and infrastructure costs will still present formidable hurdles. Historically, long-term capital investments in systems and infrastructure projects required approvals and special funding or borrowing by a local jurisdiction or a multi-agency service area. The contemporary approach for lifecycle management, managed services and lease purchase agreements has the same effective commitment (e.g., decades-long relationships and commitments) but without the formal financial debt. Only by combining the needs of multiple agencies and jurisdictions can these investments be considered feasible and cost-effective.

Staffing and support requirements are increasing. Public safety operations now require dedicated technology support for systems integration, security and compliance requirements. In addition to 24/7 coverage, technology support requires numerous individuals with specialized expertise to keep these mission-critical systems running consistently and without outages. In this complex web of provider contracts, an agency now becomes a systems integrator rather than just a purchaser. Only larger jurisdictions tend to have the capacity to support the range of disciplines required for modern information systems, with estimates suggesting a minimum of eight to ten technologists.

As operations become more complex, agencies must place greater emphasis on planning, coordination, training, mentoring and quality assurance for telecommunicators. Smaller agencies often rely on supervisors and trainers to handle these responsibilities, while larger organizations can support dedicated staff focused on recruitment, training and continuous improvement.

Dispatch consolidation is still a complex topic. For elected officials and the public at large, there is a lack of understanding of today's information systems capabilities, as well as the statutory scope of the numerous first responder, health and social service agencies. State and local laws are evolving to support more specialized services and improved public safety outcomes. At the same time, agencies still struggle to clearly define and separate urgent, emergent and non-emergency call types — and the workloads tied to them — when making the case for funding.

Dispatch consolidation efforts often drive major infrastructure investments. Many consolidation studies outline the need for shared or upgraded radio systems, along with replacement 9-1-1 and computer-aided dispatch (CAD) platforms.

For many agencies, access to significant capital funding is a rare opportunity. As a result, there can be pressure to use that moment to address long-standing technology and facility infrastructure needs.

Consolidation does not necessarily change demand. Much has been written about the demographics of communities and their

correlation with demand for public safety services, but while the number and visibility of non-emergency services have increased, people still call 9-1-1 by default.

Consolidation can increase costs because expenses that were once absorbed internally become explicit and must be accounted for in the ECC budget, including human resources, facility maintenance, utilities, technical support and third-party provider agreements.

In addition, consolidated ECCs often focus solely on emergency call taking and public safety agency dispatch services, shifting non-emergency and general government support functions back to the appropriate departments.

Every ECC faces similar recruitment and retention challenges, regardless of size or scope. Consolidated organizations will likely see improvements in scheduling because they have a larger pool of employees, which generally decreases the demand for mandatory overtime. Larger consolidated organizations provide a slightly improved career path in that more discrete and specialized roles are created. Larger organizations may also be able to provide a greater set of employee benefits.

THE FUTURE OF DISPATCH CONSOLIDATION

There will likely continue to be a reduction in the number of small ECCs since staffing and support requirements can best be met in larger organizations with access to greater resources. Increasingly complex public demands, social norms and the progression of technology will require organizations that are permanently staffed and organized to evolve and be responsive to changing roles and responsibilities. ●

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- ² National Conference of State Legislatures. "911 Legislation Database" <https://www.ncsl.org/technology-and-communication/911-legislation-database>

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