Chapter 5: Governance

Introduction

Emergency management governance is essential to ensuring that 911 systems are sufficiently funded, that the public has access to reliable emergency services, and that emergency communications are coordinated, particularly in the context of regional and national disasters. Such governance has evolved over time with increases in population, demand for emergency services, and advances in technology. These changes have introduced new capabilities as well as new challenges, with the migration to Next Generation 911 (NG911) being a tremendous driver of efforts to revisit and revise 911 governance. The transition to a three-digit national suicide hotline (i.e., 988), together with increased calls for alternatives to traditional police response to many calls to 911, underscore the need for a closer examination of the various governance structures and their funding mechanisms. These issues are particularly germane in the context of ensuring that alternative hotlines and responders are appropriately utilized, and that their associated services are adequately funded and regulated.

Improving 911 governance to enhance interoperability and provide reliable access to emergency services for people using alternatives to land lines (cellular devices, Voice over Internet Protocols, mobile texts) is crucial to ensuring equitable access to emergency services for all. Coordination among multiple levels of existing 911 and 311 governance structures, along with new 988 governance structures and those of other alternative hotlines, are critical to ensuring that efforts to divert mental health and non-emergency calls from law enforcement response are implemented consistently and equitably.

This chapter covers emergency communications governance issues, focusing on the coordination, oversight, funding, and standardization of 911 and alternative hotlines and emergency services. Its focus differs somewhat from other chapters in this volume because the existing literature on 911 governance is mostly descriptive and advisory in nature, leading to higher-level, thematic content. In addition to the state of practice and the limited research that was unearthed, this chapter contains reports developed by both expert taskforces and emergency communications associations in partnership with practitioners. These partnerships produced reports exploring how governance influences standards of practice, coordination and interoperability, data collection and reporting, compliance with quality control and performance measurement practices, and efficient and economical operational structures. The scant empirical research on this topic prompts several areas of research inquiry and evaluation that should be prioritized to inform improvements in 911 governance.

State of Practice

Understanding 911 governance requires a delineation of the various levels of government involved in 911 service delivery, operations, management, and coordination. Emergency services governance takes place at all levels of government – federal, state, county, and city – and these roles sometimes overlap based on geography and type of emergency service or issue. Indeed, a single agency cannot address the complex and interconnected ecosystem of emergency communication actors on its own; partnerships

across all levels of government and discipline are required,[1] as is a high degree of planning and sufficient dedication of resources.[2]

Federal Governance
At the federal level, 911 governance is shared among the following entities:

- the Federal Communications Commission's (FCC) Public Safety and Homeland Security Bureau (PSHSB),[3] which governs interoperability and accessibility issues surrounding 911;
- the National Telecommunications and Information Administration (NTIA),[4] an executive-branch entity primarily focused on expanding broadband internet availability and access;
- the Department of Homeland Security' Cybersecurity and Infrastructure Security Agency,[5] which promotes 911 interoperability and cybersecurity and facilitates coordinated emergency communications in the event of threats, attacks, and natural emergencies; and
- the Department of Justice,[6] which promotes equal access to 911 for people with disabilities through enforcement of the Americans with Disabilities Act (ADA).

In addition, the National 911 program[7] was established to provide federal leadership to coordinate among these federal agencies along with state and local 911 services. And in 2004, passage of the ENHANCE 911 Act prescribed the establishment of a national 911 Implementation Coordination Office (ICO). The ICO is charged with coordinating between the NTIA in the U.S. Department of Commerce and the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) on 911 issues.[8]

State Governance
State governance structures vary widely, both in terms of the state agency in which emergency services are housed and the agency's degree of authority. Some states have dedicated state-based 911 boards, while others have public safety communications centers that report to the department of emergency management, public safety, homeland security, or information technology. While most states have some type of centralized 911 program, these vary in geography and scope, and in some states strong locally governed 911 programs have restricted statewide governance efforts.[9] Importantly, no single state governance model exists, as the ideal composition and authority is unique to state and local contexts.[10] Presenting and evaluating each state's model is beyond the scope of this current research brief and is

[1] SAFECOM and National Council of Statewide Interoperability Coordinators (NCSWIC), "Emergency Communications Governance Guide for State, Local, Tribal, and Territorial Officials," Department of Homeland Security, Cybersecurity and Infrastructure Security Agency. December 2018. https://www.dhs.gov/sites/default/files/publications/2018_ECD_SLTT_Governance_Guide_02132019_FINAL_508C.pdf.
[2] Department of Homeland Security, 2018 Governance Guide for State, Local, Tribal, and Territorial Emergency Communications Officials. https://www.dhs.gov/sites/default/files/publications/2018_ECD_SLTT_Governance_Guide_02132019_FINAL_508C.pdf.
[3] Federal Communications Commission. "Public Safety and Homeland Security." Accessed December 9, 2021. https://www.fcc.gov/public-safety-and-homeland-security.
[4] National Telecommunications and Information Administration, "National Telecommunications and Information Administration," accessed December 9, 2021, https://www.ntia.doc.gov/.
[5] Cybersecurity & Infrastructure Security Agency, "CISA: Homepage," accessed December 9, 2021, https://www.cisa.gov/.
[6] Department of Justice, "Disability Rights Section," accessed December 9, 2021, https://www.justice.gov/crt/disability-rights-section.
[7] 911.gov, "National 911 Coordination," accessed December 9, 2021, https://www.911.gov/national911coordination.html.
[8] National Association of State 911 Administrators, "Model State 911 Plan," U.S. Department of Transportation, National Highway Traffic Safety Administration, February, 2013, https://drive.google.com/file/d/1FPaBrHCVyJbyAhjIr1_p9iYhnB5emMCX/view.
[9] National Association of State 911 Administrators, "Model State 911 Plan."
[10] National Association of State 911 Administrators, "Model State 911 Plan."

somewhat limited in utility, given that Emergency Communications Center (ECC) operations are hyper-local, with over 6,000 primary ECCs operating nationwide.[11] Information regarding the detail of each state's ECC governance structure can be found in 911.gov's Guidelines for Developing a State NG911 Plan.[12]

State governance is supported by other entities. For example, State Emergency Response Commissions (SERCs) and Tribal Emergency Response Commissions (TERCs) were established by federal statute to help states implement requirements associated with the Emergency Planning and Community Right-to-Know Act of 1986.[13] The same statute required SERCs and TERCs to create Emergency Planning Districts and name a Local Emergency Planning Committee (LEPC) for each district (described in more detail below).[14] In addition, most states have a State Emergency Operations Center (SEOC) to aid in developing a common communications and response strategy in the event of a disaster, and a Telecommunicator Emergency Response Task Force (TERT) to coordinate communications and aid among ECCs and emergency management agencies from different municipalities, states and regions.[15]

Local (County and City) and Regional Governance

Despite the robust and complex federal and state emergency management governance structures, 911 governance is primarily a local function,[16] based on the geographic purview of ECCs (traditionally known as PSAPs, the term still used by the FCC, which governs their communications activities;[17] according to the FCC, "primary PSAPs" receive 911 calls directly from a 911 control office and "secondary PSAPs" receive calls routed from primary PSAPs.)[18]

As with state-level emergency management governance, local governance through ECCs varies widely, with most operating at the county level but some at the regional or city-level. While all ECCs operate independently, some may cover regions that span multiple jurisdictions and others, particularly in tribal settings, may have no dedicated emergency service, instead relying on local jurisdictional support.[19] In fact, based on the organic way in which ECCs have proliferated over time, ECC boundaries do not necessarily align with jurisdictional boundaries, overlapping across both cities and counties.[20]

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[11] Federal Communications Commission, "911 Master PSAP Registry," November 30, 2021. https://www.fcc.gov/general/9-1-1-master-psap-registry.

[12] 911.gov, "Guidelines for Developing a State NG911 Plan: Model Plan and Tips to Facilitate NG911 Planning for States and Jurisdictions," 2018, https://efaidnbmnnnibpcajpcglclefindmkaj/viewer.html?pdfurl=https%3A%2F%2Fwww.911.gov%2Fpdf%2FGuidelines_for_Developing_a_State_NG911_Plan.pdf&clen=1939203&chunk=true

[13] Environmental Protection Agency, "What is EPCRA?" accessed December 9, 2021, https://www.epa.gov/epcra/what-epcra.

[14] Environmental Protection Agency, "What is EPCRA?"

[15] National Association of State 911 Administrators, "911 and Emergency Management: Best Practices for Coordination and Collaboration," July 31, 2015, https://www.911.gov/pdf/NASNA_911_Emergency_Management_Best_Practices_Coordination_Collaboration_2015.pdf.

[16] Industry Council for Emergency Response Technologies (iCERT), History of 911 and What It Means for the Future of Emergency Communications (Washington, DC: 2015), 3, https://perma.cc/YL97-9J9C.

[17] The 911 industry is shifting towards the term Emergency Communications Center (ECC), which is the preferred language for the Transform911 initiative. Because most local, state, and national governing bodies and practices still employ the Public Safety Answering Point (PSAP) terminology, the current review similarly uses the PSAP terminology.

[18] iCERT, "History of 911."

[19] Industry Council for Emergency Response Technologies (iCERT), History of 911 and What It Means for the Future of Emergency Communications (Washington, DC: 2015), 3, https://perma.cc/YL97-9J9C.

[20] See this national map of PSAP areas by way of example: https://www.transform911.org/resource-hub/#resource.

Even within the same state, local ECC structures differ. For example, in Washington State, close to half of all ECCs are housed under an intergovernmental entity, whereas the remainder reside within a variety of other governance structures, including county emergency management agencies, sheriff's offices, mayor's offices, and county commissioners.[21] Given the varying roles, authorities, and geographies associated with ECCs, their managerial, operational, and fiscal functions depend on the nature of the local agencies that they serve.[22]

Unlike ECCs, LEPCs are nonprofit community organizations consisting of local emergency management officials and representatives from public health, transportation, environmental agencies, community groups, and the media. LEPCs must assist in the development of emergency response plans, conduct annual reviews, and provide public information about hazards in the community.[23] In addition, many counties have Emergency Operations Centers (EOCs) that are activated in the event of large-scale disasters and emergencies, some of which house a 911 center.[24]

The array of federal, state, and local entities governing emergency communications, management, and operations is a function of the organic growth of emergency services needs in accordance with growing populations. Tracking the history of 911 can provide insights into opportunities for improvements in governance structures.

Recent History

Since its inception in 1968, 911 has evolved tremendously. This growth has been spurred by increased demand for emergency services along with a proliferation of new information and communication technologies that have created both opportunities and challenges for efficient emergency services delivery. The creation of ECCs was prompted by national policy encouraging widespread adoption of 911, most of which occurred at the city and county level.[25] The need to automate routing of 911 calls coupled with the need for data on the location of the caller prompted the establishment of Enhanced 911 (E911) services, leading the FCC to issue rules requiring the establishment of enhanced wireless 911 services in 1996.[26]

Further technological advances, such as wireless cellular technology and internet-based Voice over Internet Protocols (VoIP) have prompted additional regulations and governmental oversight to ensure reliable and interconnected emergency services.[27] These advances have coincided with the establishment of new state and regional governance structures, along with efforts to consolidate emergency service delivery, resulting in a considerable decline in the number of ECCs over time.[28] However, 911 service delivery today remains a largely local endeavor, enabling emergency communication and response to be tailored to the needs of the community.[29]

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[21] State of Washington Military Department, "911 Cost Study Report to the Legislature," December 2020, https://mil.wa.gov/asset/6012f4af4611d.
[22] Task Force on Optimal PSAP Architecture (TFOPA), "Task Force on Optimal PSAP Architecture Final Report," Federal Communications Commission, January 29, 2016, https://transition.fcc.gov/pshs/911/TFOPA/TFOPA_FINALReport_012916.pdf.
[23] National Association of State 911 Administrators, "Coordination and Collaboration."
[24] National Association of State 911 Administrators, "Coordination and Collaboration."
[25] iCERT, "History of 911."
[26] iCERT, "History of 911."
[27] iCERT, "History of 911."
[28] TFOPA, "Final Report."
[29] iCERT, "History of 911."

NG911 is the latest initiative in the emergency services landscape, which is having a profound impact on 911 governance at all levels. Established originally through the US Department of Transportation, NG911 was developed in recognition of the need for ECCs to upgrade from analog to Internet Protocol (IP)-based 911 systems.[30] NG911 was established to develop a secure, open-standards, IP-based system that can process a variety of voice, text, data, and multimedia 911 call types and efficiently route calls to the appropriate ECC, enabling seamless coordination and emergency response among multiple centers and responders.[31] NG911 architects envision that it will yield a more efficient infrastructure to handle 911 calls through interoperability among call centers, improved call routing, and the ability for the public to communicate through text (rather than solely through Teletypewriter/Telecommunications Device for the Deaf), share photos, and place video calls.[32]

The transition to NG911 has spurred guidance to improve governance structures at both the state and local levels. Importantly, transitioning to NG911 is about more than just adopting new hardware or software—it requires coordination across a wide array of emergency communications and governing entities.[33] While local 911 operations used to have the ability to operate in silos, the advent of NG911 has added urgency to the call for coordination among ECCs.[34] The decentralized ECC environment is prone to fragmentation and duplication, underscoring the need for better state and local planning, coordination, and governance.[35]

Most recently, passage of National Suicide Hotline Designation Act in 2020 designated 988 as the official phone number for mental health crises and suicide prevention.[36] The legislation requires all telecommunications carriers and VoIP providers to ensure that callers can dial 988 to reach the National Suicide Prevention Lifeline (NSPL), a national network of approximately 170 local- and state-funded crisis centers, as of July 16, 2022. The current NSPL is 10 digits long, as is the Veterans Crisis Line. The FCC designation of 988 facilitates access to mental health crisis services and consolidates both lines such that veterans who dial 988 are invited to press "1" to be routed to the Veterans Crisis Line while all other callers can obtain services through the NSPL.

The Act also allows states to collect fees to cover the costs associated with 988 services, which must be held in a dedicated account and only spent on 988 services, with reporting to FCC on 988 fee collections and expenditures required annually. Given that an estimated seven percent of 911 fee collections are diverted by states for non-911/E911 expenditures,[37] it will be important to hold states accountable for complying with the federal statute on 988 expenditures. In addition, and as referenced in the *911 Hotline Alternatives* chapter, the Act requires the Department of Health and Human Services (HHS), which operates the NSPL, and the Department of Veterans Affairs, which operates the Veterans Crisis Line, to research and report on strategies to make 988 operational and effective nationwide, including the

[30] 911.gov, "Next Generation 911."
[31] 911.gov, "Next Generation 911."
[32] TFOPA, "Final Report."
[33] 911.gov, "Next Generation 911."
[34] U.S. Department of Transportation, "Next Generation 9-1-1 (NG9-1-1) System Initiative: Concept of Operations," Intelligent Transportation Systems Joint Program Office, April 2007, 12, https://rosap.ntl.bts.gov/view/dot/4013.
[35] James E. Holloway et al,"State, Agency and Local Next Generation (NG) 911 Planning and Coordination to Implement State NG911 and Internet Protocol (IP) Enabled Network Policies," *University of Pittsburgh Journal of Technology, Law & Policy* 11 (2010): 3-80.
[36] Federal Communications Commission (FCC), "Eleventh Annual Report to Congress on State Collection and Distribution of 911 and Enhanced 911 Fees and Charges," December 19, 2019, https://www.fcc.gov/files/11thannual911feereport2019pdf.
[37] FCC, "911 Fees and Charges."

provision of specialized services for high-risk populations such as lesbian, gay, bisexual, transgender, and queer (LGBTQ) youth; people of color; and people residing in rural communities.

One wrinkle in the transition to 988 is the fact that telephone customers throughout the country have phone numbers for which the first three of seven digits (the "exchange") is 988. An estimated 82 area codes in 36 states include phone numbers with a 988 exchange.[38] This requires a transition to dialing all 10 digits of any such numbers to reach the intended recipient, even if the caller is in the same area code. Effective October 24, 2021, customers who dial the seven digits will receive an error message and be advised to hang up and redial using the area code.

By July 16, 2022, customers who dial 988 will be routed to the NSPL. The degree to which dialers intending to reach other recipients with 7-digit numbers that begin with 988 will clog up and overburden the NSPL during this transition period is unclear. Presumably such callers will hang up upon realizing that they misdialed. Or it could be that routing systems are intelligent enough to identify a quick succession of seven digits rather than automatically routing to NSPL.

Another important consideration as the nation transitions to 988 is the ability of hotlines to identify the precise location of the caller. 911 has the capability to geolocate the source of calls in the interests of providing emergency services promptly. Other helplines can only determine the location of the caller by contacting the nearest ECC. Some argue that 988 helplines should have the same call tracing abilities as 911 in order to facilitate more accurate routing in the case that emergency services are necessary in life-threatening situations as well as to support referrals to local service providers. [39] The arguments against such tracing capabilities are that they violate the privacy and anonymity of callers who may not want to be identified and may also inhibit people in crisis from making use of the helpline. [40] Moreover, location tracing without the consent of the caller could lead to unwelcome intervention, including unnecessary police response or hospitalization, and cause trauma.[41] These issues are currently under consideration by the FCC, which submitted a report Congress in April of 2021 recommending the establishment of a multi-stakeholder advisory committee to examine the privacy, policy, technology, and cost issues associated with enabling 988 to have location tracking capabilities.[42] The report lists a wide array of stakeholders who should be included on the committee, but people with lived experience in making use of suicide and mental health crisis helplines did not make the list, and as of January 2022 the working group had yet to be established.[43]

The transition to 988 as a national crisis line has prompted a flurry of state legislation to ensure adequate funding and program support for mental health crisis services. Seventeen states introduced 26 bills in the 2021 legislative session (through October 21, 2021), and 14 states enacted legislation, including

[38] North American Numbering Plan Administrator. "Transition to 10-digit dialing for 988," accessed December 9, 2021. https://www.nationalnanpa.com/transition_to_10_digit_dialing_for_988/index.html.
[39] Wireline Competition Bureau, "988 Geolocation Report — National Suicide Hotline Designation Act of 2020," Federal Communications Commission, April 15, 2021, https://www.fcc.gov/document/988-geolocation-report-national-suicide-hotline-designation-act.
[40] Wireline Competition Bureau, "988 Geolocation Report."
[41] Rob Wipond, "Roll-Out of 988 Threatens Anonymity of Crisis Hotlines," Mad in America, January 29, 2022, https://www.madinamerica.com/2022/01/roll-988-threatens-anonymity-crisis-hotlines/.
[42] Wireline Competition Bureau, "988 Geolocation Report."
[43] Wireline Competition Bureau, "988 Geolocation Report."

measures to establish 988 implementation plans, assess 988 surcharges on wireless accounts, and provide funding to increase lifeline call center capacity and crisis care coordination.[44]

These states, however, will encounter challenges in anticipating the degree to which the transition to 988 will generate what could be a substantial increase in call volume associated with the ease of dialing and increased public awareness of the hotline. Conceivably, some share of these calls will not be new cases but rather calls that would have previously been placed to 911. Anticipating the degree to which 988 will reduce first responder time (i.e., emergency medical services, fire, and police) and the associated expenditures, and place additional burdens on helplines and alternative crisis response mechanisms, is an inexact science at best. Data on reasons for 911 calls are imprecise due to coding inconsistencies and classification decisions and errors,[45,46] including those stemming from subjective perceptions and implicit biases.[47] Estimates of the share of 911 calls that are mental health-related range from 1.6 percent[48] to 10 percent[49] or perhaps even closer to 18 percent.[50] According to some experts, mining data from NEMSIS, the National Emergency Management System (EMS) Information System, may be more fruitful in predicting demand for mental health services given that the system tracks data in more specificity based on calls that lead to an ambulance response.[51]

Governance Challenges

The complexity of 911 governance structures, coupled with efforts to transition both to NG911 and 988, as well as to divert 911 calls to other alternative hotlines, present many challenges to state and local governments. These include antiquated legacy systems that rely on voice-based telephone technology, inhibiting interoperability with new systems;[52] the decentralized ECC environment, which results in inconsistent standard operating procedures and inhibits coordination and resource-sharing;[53] communication and cybersecurity issues that can disrupt emergency communications;[54] and staffing,[55]

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[44] Charlie Severance-Medaris, "Legislatures Prepare for New National Suicide Prevention Lifeline," National Conference of State Legislatures, October 12, 2021, https://www.ncsl.org/research/health/legislatures-prepare-for-new-national-suicide-prevention-lifeline-magazine2021.aspx.

[45] S. Rebecca Neusteter et al., "Gatekeepers: The Role of Police in Ending Mass Incarceration," Vera Institute of Justice, August 2019, https://www.safetyandjusticechallenge.org/wp-content/uploads/2019/08/Gatekeepers-The-Role-of-Police-in-Ending-Mass-Incarceration.pdf.

[46] S. Rebecca Neusteter et al., "Understanding Police Enforcement: A Multicity 911 Analysis," Vera Institute of Justice, September 2020, https://www.vera.org/publications/understanding-police-enforcement-911-analysis.

[47] Stephanie Hepburn, "The Troubling History of 911 and How 988 Can Avoid the Same Missteps," CrisisTalk, May 25, 2021, https://talk.crisisnow.com/the-troubling-history-of-911-and-how-988-can-avoid-the-same-missteps/.

[48] Cynthia Lum et al., "Can We Really Defund the Police? A Nine-Agency Study of Police Response to Calls for Service," *Police Quarterly* (2021), https://doi.org/10.1177/10986111211035002.

[49] A survey representing 355 law enforcement agencies throughout the country found that 10 percent of agency budgets in 2017 was spent responding to and transporting persons with mental illness. Treatment Advocacy Center, "Road Runners: The Role and Impact of Law Enforcement in Transporting Individuals with Severe Mental Illness, A National Survey," May 2019, https://www.treatmentadvocacycenter.org/storage/documents/Road-Runners.pdf.

[50] Stephanie Hepburn, "How an Atlanta 911 Study Resulted in a 311 Referral Line for Quality of Life Calls," #CrisisTalk, April 27, 2021, https://talk.crisisnow.com/how-an-atlanta-911-study-resulted-in-a-311-referral-line-for-quality-of-life-calls/.

[51] Stephanie Hepburn, "The Reporting System 988 Estimates Haven't Included," #CrisisTalk, November 30, 2021, https://talk.crisisnow.com/the-reporting-system-988-estimates-havent-included/.

[52] SAFECOM, "Emergency Communications Governance Guide."

[53] TFOPA, "Final Report."

[54] Department of Homeland Security, "2018 SAFECOM Nationwide Survey Results National-Level Summary," August, 2018. https://www.dhs.gov/sites/default/files/publications/FINAL_SNS_National-Level%20Random%20Sample%20Results_08092018.pdf.

[55] TFOPA, "Final Report."

training,[56] and cultural barriers[57] to efficient 911 operations. In addition, challenges surrounding sufficient funding of local ECC operations are perennial and troublesome.[58] In most states, 911 systems are funded by surcharges to consumers on landlines, and more recently on wireless and VoIP lines, but those funds often fall short of the needs of emergency response functions.[59] These funding issues are particularly problematic in states that divert some share of those fee-generated resources to non-emergency expenditures, which the FCC estimated amounted to $1.275 billion between 2012 and 2018.[60]

Research Evidence

Empirical research on the most effective approaches to 911 governance is virtually non-existent. In fairness, outcome evaluation would be extremely difficult in this arena, given the wide array and tremendous complexity of governance models. Considerable variation in state and local contexts hinder efforts to isolate the effect of specific strategies on outcomes of interest. Even if such outcome evaluations were possible to execute, the findings would have limited generalizability to other jurisdictions without rigorous accounting of organizational processes, contextual barriers, and facilitating factors. Hybrid implementation trials to isolate impacts on outcomes of interest and process evaluations that discern the degree of implementation fidelity may be the most helpful paths to producing generalizable knowledge in this context.[61]

The literature that does exist on 911 governance is confined to case studies of specific states or localities, surveys of various governance structures, and recommendations stemming from study groups consisting of expert practitioners. Much of this literature is dedicated to advising on how to develop a suitable governance structure along with varying models of collaboration and consolidation, rather than prescribing any one specific governance strategy.

"Best" Governance Models

The literature on 911 governance is primarily from non-academic government and association sources and is typically specific to either state or local governance, although both categories of publications address the need for local governance structures to be coordinated with regional and state ones. However, four recommendations emerge consistently among documents on 911 governance despite their focus on one level of government or another. The first is the conclusion that that there is no one "best" overall model for governance because different jurisdictions are characterized by different operational structures and political contexts that relate to current and potential levels of coordination.[62] Instead of recommending a specific model, experts advise on the best approach to governance model *development*,

[56] TFOPA, "Final Report."
[57] SAFECOM, "Emergency Communications Governance Guide."
[58] James E. Holloway et al., "Federalism in the Financing of 911 Emergency Call Services: The Nature of the Federal-State Funding Arrangement to Finance Next Generation (NG) 911 Services," Journal of Law, Technology, & the Internet, Vol. 5. 2014, https://scholarlycommons.law.case.edu/cgi/viewcontent.cgi?article=1067&context=jolti.
[59] Linda K. Moore, "Emergency Communications: The Future of 911," Congressional Research Service, April 27, 2010. https://books.google.com/books?hl=en&lr=&id=CKAvX1lHK2wC&oi=fnd&pg=PA1&dq=911+emergency+call+center+infrastructure&ots=5-4GEaqLFn&sig=sEsBqDbEb-B795k9dWnWkD3utGU#v=onepage&q&f=false.
[60] Federal Communications Commission, "FCC Seeks to Combat 911 Fee Diversion," November 4, 2020, https://www.fcc.gov/document/fcc-seeks-combat-911-fee-diversion.
[61] Sara J. Landes et al., "An Introduction to Effectiveness-Implementation Hybrid Designs," *Psychiatry Research* 283, (January 2020): 112630, https://doi.org/10.1016/j.psychres.2019.112630.
[62] SAFECOM, "Emergency Communications Governance Guide."

which involves prioritizing intergovernmental coordination and technology integration and interoperability; considering a wide range of legal, fiscal, and technology challenges; and designing a structure that enables the measurement of problems, the identification of solutions, and the documentation of outcomes.[63]

The second consistent theme is that the range of independent management and leadership powers across levels of government demands a level-specific management framework, for which each level must address and integrate the policies of the others, including federal regulations, state polices, and local public interests.[64] Similarly, one report observes that ECCs are a part of a complex, multi-level governmental ecosystem requiring routine and sustained engagement among authorities at all levels, particularly to navigate conflicting operations, architectures, and priorities.[65] Thus, new governance strategies that promote inter- and intra-state collaboration along with public/private partnerships will enable jurisdictions to reap the full benefits of NG911.[66]

A third governance issue that transcends state and local bifurcation is the need for a national uniform 911 system that promotes the routine collection and sharing of standardized 911 data. Fulfilling the vision of a national 911 data system requires governance and coordination among multiple units and levels of government and codified standards to ensure data uniformity, consistence in data handling, ease of information sharing, robust support mechanisms, and the engagement of data-savvy 911 professionals.[67] Once developed, such a system can generate information to guide 911 and community leaders in prioritizing the type of emergency management and crisis services are needed and identify opportunities for operational improvements.[68] However, even absent national standardization of 911 data experts recommend that states take a greater leadership in promoting, incentivizing, or mandating uniformity in coding and data standards such as developing common definitions and reporting 911 data through a common, centralized system.[69]

The fourth theme that applies to both state and local 911 governance is the importance of stakeholder outreach and engagement. Governance guides consistently recommend that governing bodies include community partners that are representative of the entire population, suggesting that when 911 entities engage with a broad spectrum of community members, it becomes easier to tailor programs to partner needs and, therefore, make the best use of public safety funds.[70,71] This guidance is echoed by 911 leaders themselves, who named stakeholder engagement as a key ingredient in improving the quality of organizational management and service delivery.[72] Stakeholder outreach also ensures that NG911 efforts prioritize access to emergency services for people with hearing impairments and speech disabilities. However, the literature is silent on the topic of ECC community advisory boards or specific efforts to solicit input from and forge partnerships with community members from high 911-use communities.

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[63] APCO International, “Project 43: Broadband Implications for the PSAP,” 2017, https://www.apcointl.org/~documents/report/p43-report-governance?layout=default.
[64] Holloway et al., "State NG911.”
[65] TFOPA, “Final Report.”
[66] APCO International, “Project 43.”
[67] 911.gov, “911 DataPath Strategic Plan,” 2019, https://www.911.gov/project_strategicplanningfor911data.html.
[68] 911.gov, “911 DataPath.”
[69] APCO International, “Next Generation 911 Cost Estimate.”
[70] APCO International, “Next Generation 911 Cost Estimate.”
[71] SAFECOM, “Emergency Communications Governance Guide.”
[72] Steven C. Sharpe, "9-1-1 Leadership: Perceptions of Evidence-Based Quality Improvement," (PhD diss., St. John Fischer College, 2018), https://fisherpub.sjfc.edu/cgi/viewcontent.cgi?article=1356&context=education_etd.

Opportunities for improvements in stakeholder engagement are evident from results of a 2018 SAFECOM (described below) survey of emergency management agencies, which found that very few had decision-making groups that proactively sought new participants other than first responders.

State Models

In addition to the overarching governance themes described above, the literature specific to state 911 governance tends to emphasize the importance of having centralized state-level authority and forging intergovernmental and interagency collaboration. By way of example, SAFECOM, a collaborative managed by the Cybersecurity and Infrastructure Security Agency, has developed a continuum of 911 governance features ranging from the weakest to the strongest models.[73] Weak governance models are characterized by individual agencies operating independently, with their own standard operating procedures and training curricula and limited technology with which to share communications and data.[74] By contrast, the most robust governance models are regional and coordinated statewide, have uniform standard operating procedures, have two-way communications and data sharing capabilities and complete interoperability, and regional or statewide training standards and delivery.[75]

In a separate report, SAFECOM also put forth two models for state emergency management governance specific to interoperability. One model is entirely centralized and integrates all emergency functions into one governing and decision-making body, informed by multiple committees, which is useful in ensuring that all tactical, operational, and communications needs are addressed.[76] The second model is more decentralized and assumes that a central state governing entity is already in place and therefore recommends the establishment of a 911 or broadband authority that works in equal partnership with the states' ECCs, with successful models having overlapping membership and operating in close coordination.[77]

Regardless of which of the two models is employed, SAFECOM recommends that statewide 911 governance bodies have a single point of contact and direct access to the governor, be formally established by the legislative or executive branch, and have documented authority and balanced representation.[78] In addition, the entity should be (1) subject to accountability mechanisms; (2) transparent in its activities, priorities, and decision-making; (3) flexible enough to allow for changes as new issues and technological advances develop over time; and (4) sufficiently funded to ensure sustainability.[79] Ohio and Delaware are two state systems identified as embodying these features.[80] It is also recommended that any state governance structure be closely synchronized with local ECCs.[81]

Local and Regional Models

[73] SAFECOM, "Emergency Communications Guide."
[74] SAFECOM, "Emergency Communications Guide."
[75] SAFECOM, "Emergency Communications Guide."
[76] SAFECOM, "Emergency Communications Guide."
[77] SAFECOM, "Emergency Communications Guide."
[78] SAFECOM, "Emergency Communications Guide."
[79] SAFECOM, "Emergency Communications Guide."
[80] SAFECOM, "Emergency Communications Guide."
[81] Holloway et al., "State NG911."

For local 911 governance, descriptive literature exists on building or renovating a ECC,[82] ECC funding mechanisms,[83] and ECC resource sharing strategies.[84] Much of this literature focuses primarily on coordination and collaboration with neighboring and overlapping 911 systems and the consolidation and sharing of activities and resources among them. An important starting point in developing a new or revised local 911 governance model, particularly in the context of NG911, is to establish local and regional partnerships to forge agreement on shared goals and desired outcomes on issues such as standard operating procedures, staffing and personnel issues, methods of operation, quality assurance measures, and strategies to share technology and promote interoperability.[85] One means of coordination is to promote more sharing of equipment, services, resources, technology infrastructures and standard operating procedures.[86] This can be accomplished under joint management or while retaining the independence of collaborating ECCs.[87]

Perhaps the most recent and arguably most comprehensive guidance on local 911 governance is the final report of the Task Force on Optimal PSAP Architecture (TFOPA), a group charged with exploring the best approaches to successful ECC transition to NG911. The TFOPA noted that, while governance issues associated with the NG911 transition by ECC exist, jurisdictions have ample opportunities to restructure or consolidate local 911 functions. The report recommends at least some degree of integration and consolidation of ECCs to reduce the resources required to cover large geographic areas.[88] Consolidating governance structures also reduces duplication of efforts and enhances cost efficiencies. For example, models that allow for the sharing of staff provide greater flexibility during call surge periods and yielding potential savings in janitorial costs, office supplies, and support infrastructure, along with technology.[89] Sharing staff requires governance to agree upon standardized job descriptions and pay scales, minimum training standards, coordinate training delivery, and standard operating procedures.

Governance models that promote and support consolidation can be developed to enable ECCs to continue functioning independently or to integrate operations. Regardless, the arrangement should be documented in an intergovernmental agreement of all involved parties and include details on the management of the agreed upon activities and the establishment of performance standards for what is considered successful program performance.[90] Examples of shared 911 communications center models include facility sharing with no sharing of staff, sharing of staff housed in separate facilities, and sharing of staff in a shared facility, such as centralized communications centers, which bridge multiple agencies.[91] One promising model in the context of shifting certain types of 911 calls from law enforcement to other actors is to retain the local ECC structure but divert certain types of calls to a secondary ECC that has dedicated to personnel to respond to them. However, this model requires a higher degree of specialization for telecommunicator staff.[92]

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[82] National Emergency Number Association, "NENA Public Safety Answering Point Site Selection Criteria Information Document," 2018, https://cdn.ymaws.com/www.nena.org/resource/resmgr/standards/nena-inf-039.2-2018__orig_56.pdf.
[83] FCC, "Fees and Charges."
[84] TFOPA, "Final Report."
[85] TFOPA, "Final Report."
[86] TFOPA, "Final Report."
[87] TFOPA, "Final Report."
[88] NHTSA, "NG911 Cost Estimate."
[89] NHTSA, "NG911 Cost Estimate."
[90] NHTSA, "NG911 Cost Estimate."
[91] NHTSA, "NG911 Cost Estimate."
[92] NHTSA, "NG911 Cost Estimate."

Funding

911 services are primarily funded through landline fees, which are decreasing significantly as more consumers opt for cellular or VoIP technology. However, funding models have not evolved as quickly, leaving challenges in continuing to fund traditional 911 systems, not to mention funding technology upgrades to the digital environment of NG911 systems. Indeed, a 2018 report to Congress estimated the cost of full NG911 implementation nationwide as amounting to billions of dollars.[93] While every state in the country has some type of established funding mechanism to support their 911 systems,[94] this doesn't mean that local ECCs are receiving funding sufficient to support the true costs of 911 service delivery.

For example, a recent comprehensive cost study of Washington State's 911 services found that state taxes cover just one third of emergency communications expenditures.[95] The report observed that costs vary by ECC based on the population size of their jurisdictional purview, with some ECCs so small that they only receive a handful of calls per day.[96] This results in a range of cost per call from $361 in the smallest Washington county to $1.25 in the largest one.[97] Similar studies from other states either have not been conducted or were not publicly disseminated.

The TFOPA final report recommends that states continue to rely upon the current funding model, but that they complement those resources by assessing a new fee on broadband carriers and providers as well as a new network connection fee on users with broadband services.[98] This model could be coupled with efforts to ensure that prepaid wireless plans include assessment of 911 fees at retail point of sale, as is already happening in 37 states as of 2018.[99] Other funding models, such as using state universal service fee assessments, increasing sales taxes and dedicating a portion of them to 911 services, or funding 911 through state insurance fees were determined by TFOPA to have practical and political barriers to implementation.[100] However, most of these funding decisions are made at the state level.

At the ECC level, the offloading of some emergency response functions to other entities may yield valuable savings. For example, researchers estimate that finding alternative responses to false alarms and eliminating some other police responses could free up around one third of homeland security spending.[101] While those costs would simply be shifted to crisis centers and other public health or nonprofit entities, they could be recouped through government grants and philanthropic donations.

Some scholars argue that Congress should allow states to collect more 911 funds and receive more federal 911 grant funds, something that could be accomplished by establishing an enforceable minimum floor of state NG911 services and imposing minimum technical and performance standards that must be funded.[102] Others recommend that local governments close the 911 funding gap through grants and the

[93] NHTSA, "NG911 Cost Estimate."
[94] NHTSA, "NG911 Cost Estimate."
[95] State of Washington Military Department, "911 Cost Study."
[96] State of Washington Military Department, "911 Cost Study."
[97] State of Washington Military Department, "911 Cost Study."
[98] TFOPA, "Final Report."
[99] TFOPA, "Final Report.".
[100] TFOPA, "Final Report."
[101] Erwin A. Blackstone et al., "The Economics of Emergency Response," *Policy Sciences* 40, no. 4 (2007): 313-334. https://www.jstor.org/stable/25474342.
[102] Holloway et al., "Federalism in Financing 911."

assessment of local fees.[103] For example, Monroe County, IL, levied a local Public Safety Income Tax to subsidize 911 costs, which funded the establishment of a new ECC.[104] In addition, some argue that there should be greater restrictions and accountability mechanisms in place to ensure that fees collected for 911 are used for that purpose.[105]

Questions for Inquiry and Action

The literature on best practices on 911 governance is helpful, although it cannot be used as a playbook given the variations and complexities of governance structures spanning multiple levels of governments. Moreover, research is virtually silent on the question of governance models and innovations as they pertain to efforts to offload some share of emergency responses to other actors and entities. This underscores the value of rigorously exploring the long list of questions that, if answered through rigorous implementation science, could aid in transforming 911.

- What types of governance structures work best in the interest of promoting interoperability and coordination between public safety and nonprofit or other governmental crisis hotlines and responders?
- What types of governance structures are most effective and efficient in terms of costs and harm reduction?
- Which structures and processes have strong public oversight and what are the advantages and disadvantages of such community-oriented accountability mechanisms?
- What efforts have been made to engage community members from high 911-use communities in ECC governance and what have been the outcomes of those efforts?
- What is the nature of existing demand for and current responses to calls for emergency and crisis services and how does that inform various governance structures and consolidation measures?
- What are the advantages and disadvantages of different 911 funding models, and which ones best support efforts to divert calls for emergency services to alternative responders?
- How can governance promote NG911 transition to improve accessibility of emergency and crisis services, particularly to those with disabilities?
- How can governance support communications strategies to encourage the public to use alternative hotlines, such as 988, and what is required to enable 911 professionals to reroute callers to 988?
- To what degree should 988 governance mirror or differ from 911 governance models?

[103] Randy Ross, "Closing the 911 Funding Gap: Increasing Revenues for 911 Emergency Dispatch Centers," *Certified Public Manager Applied Research* 1, no. 1 (2020), https://scholarworks.sfasu.edu/cpmar/vol1/iss1/4.
[104] SAFECOM, "Emergency Communications Governance Guide."
[105] Neusteter et al., "Understanding Police Enforcement."

- How can 988 be governed to ensure that emergency services are delivered quickly in life-threatening circumstances while protecting the privacy and anonymity of callers?

- What are the intersections among 911, 311, and 988 governance models? How can they inform efforts at streamlining coordination, cost-containment, and efficiency of service delivery?

- Is it possible to isolate whether some types of governance structures lead to more efficient, cost-effective, and equitable outcomes in public safety and crisis intervention service delivery compared with others?

- What role does governance play in communicating to various communities and demographics the existence and value of alternatives to 911 and the cases in which 911 should be used?

- To what degree do more inclusive governance models lead to more equitable delivery of public safety and crisis intervention services?

- What framework would support the national collection of 911 data to understand the volume, type, resolution, and costs of calls and their associated responses? How might such a data collection inform 911 governance models in the context of increasing equitable access to emergency services and reducing harms and disparate outcomes?

- What are the actual costs of 911? How do those costs vary by state, jurisdiction, and locality? How are those systems funded? What funding gaps exist and what models work well for filling those gaps?

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