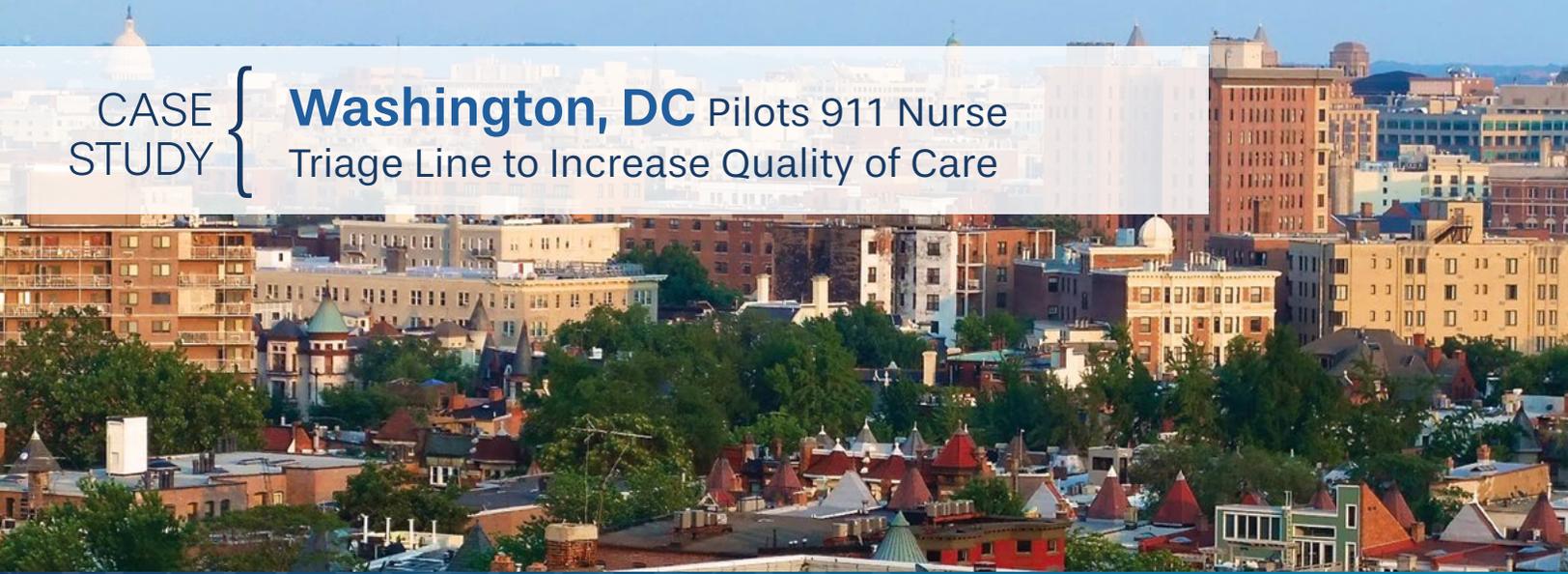


CASE  
STUDY

# Washington, DC Pilots 911 Nurse Triage Line to Increase Quality of Care



**THE CHALLENGE:** Washington, DC's [Fire and Emergency Medical Services Department \(DCFEMS\)](#) has one of the highest per capita rate of 911 calls for emergency medical services in the United States.<sup>1</sup> Yet approximately one out of every four 911 calls are for situations that do not require Emergency Medical Services (EMS) care; instead, they require primary care or urgent care services.<sup>2</sup> Historically, DCFEMS has provided all 911 callers who present medical needs with the same response – an EMS team visits the person and, in most cases, transports them to the nearest hospital for admission. However, the high demand for EMS services in the nation's capital was resulting in an EMS ambulance shortage.

**THE APPROACH:** In April 2018, Washington, DC began to pilot a Nurse Triage Line program called, "[Right Care, Right Now](#)," through a \$1 million investment in the [FY 2018 budget](#). Through the pilot program, 911 call center operators triage certain calls by asking questions of callers to determine whether conditions are life threatening or not. In cases where it is appropriate, the operator transfers callers with non-life-threatening conditions to an EMS-trained nurse who then determines the most appropriate type of services needed and guides callers on the available next steps. Alongside the pilot Nurse Triage Line, Washington, DC is rigorously evaluating the impact of this intervention to determine whether it is working, in what ways, and if it should be scaled.

**THE RESULTS:**<sup>3</sup> Preliminary results of "Right Care, Right Now" are promising. In the first 90 days, between April and July 2018, 1,103 people had been referred to an EMS-trained nurse as part of the pilot program and 130 people had visited a primary care or urgent care facility instead of being transferred by ambulance to a nearby hospital for admission. Of the 130 people transported as part of the pilot program in the first 90 days, the average wait time for transportation was 15 minutes and 100% of those patients surveyed reported satisfaction with the care they received. After 4,000 people are served by the pilot program and once the analysis is completed – estimated to be in April 2019 – results from the rigorous evaluation will be shared publicly.

RESULTS  
\*\*\*  
FOR AMERICA

December 20, 2018

## INTRODUCTION

In 2017, Washington, DC received over 166,000 calls for Emergency Medical Services (EMS) to its 911 call center, up 37% from the 121,415 calls received in 2007.<sup>4</sup> Of these calls, approximately 25% were for non-life threatening emergencies such as sore throats, sprained ankles, and minor burns that did not require EMS personnel to facilitate care.<sup>5</sup> Instead, these callers would have been better served by primary care providers or urgent care services.

The increase in 911 call demand is not unique to Washington, DC — it is a national trend attributed to, among other things, population growth, aging populations, longer life expectancy, and decreased use of primary care services among certain subpopulations. Local governments across the country are approaching the increase in call demand with different strategies, from optimizing ambulance vehicle placement location in [New Orleans](#) to referring frequent 911 callers to social service agencies in [Montgomery County, Maryland](#).

As the volume of 911 calls continued to increase, Washington, DC's [Fire and Emergency Medical Services Department \(DCFEMS\)](#) lacked the number of ambulances required to meet callers' growing needs without adversely impacting calls for acute medical emergencies. As a short-term solution, Washington, DC has allocated an additional \$11.5 million since [FY 2016](#) for its contract with [American Medical Response \(AMR\)](#) in order to increase the number of ambulances on city streets that could respond to non-acute medical emergencies. Alongside that immediate investment, the Washington, DC government, under Mayor Muriel Bowser, sought to test an innovative solution to better respond to 911 calls with services that best suit the caller's needs. If successful, this innovative approach would reduce EMS costs and increase the quality of care being delivered to the District's 911 callers.

“ Our calls to 911 are wildly out of proportion to our population, which compromises emergency services for everyone. We can't wait any longer to fix this problem. ”

— MURIEL BOWSER  
Mayor of Washington, DC



Mayor Muriel Bowser delivers the State of the District of Columbia Address on March 30, 2017.

In April 2018, Washington, DC began to pilot a Nurse Triage Line, a solution with the potential to connect residents to the appropriate health care resources that best suit their needs. Instead of automatically dispatching an ambulance to every medical call, calls that are considered non-acute can be connected to a nurse at the 911 call center. The nurse asks the caller a set of questions to better evaluate the severity of the situation and then determines the best course of action. Washington, DC's Nurse Triage Line can connect people who are Medicaid or DC Alliance beneficiaries to a primary care physician or urgent

## INTRODUCTION (CONTINUED)

care provider for same day transportation and treatment. By rerouting appropriate calls to a Nurse Triage Line, Washington, DC hopes to relieve Emergency Medical Services operational strain, decrease Emergency Department overcrowding at local hospitals and, most importantly, improve the health care delivery of these low acuity callers.

## THE CHALLENGE

While local governments across the country are facing an increase in 911 calls, Washington, DC's [Fire and Emergency Medical Services Department \(DCFEMS\)](#) has the one of the highest per capita rate of 911 calls for emergency medical services in the United States.<sup>7</sup> Yet approximately one out of every four 911 calls are for situations that do not require emergency department evaluation; instead, they require primary care or urgent care services.<sup>8</sup>

Historically, DCFEMS has provided all 911 callers who present medical needs with the same response – an Emergency Medical Services (EMS) team visits the person and, in many cases, transports them to the nearest hospital for admission. Rising call volume and a singular response approach was resulting in rising costs and an EMS ambulance shortage. The growing pressure pushed Washington, DC to allocate an additional \$11.5 million since [FY 2016](#) to cover the costs of supplemental private ambulance services that could respond to non-acute medical emergencies. Nevertheless, a significant strain on EMS resources remained and so Washington, DC sought to find a more sustainable, cost-effective, and long-term solution.

## THE APPROACH

Washington, DC's [Fire and Emergency Medical Services Department \(DCFEMS\)](#) Chief Gregory M. Dean and his team began by analyzing existing data on fire and emergency medical services to determine strategies for mitigating the growing demand. Through their analysis, it became clear that a sizeable share of 911 calls for emergency medical services were for non-critical services.

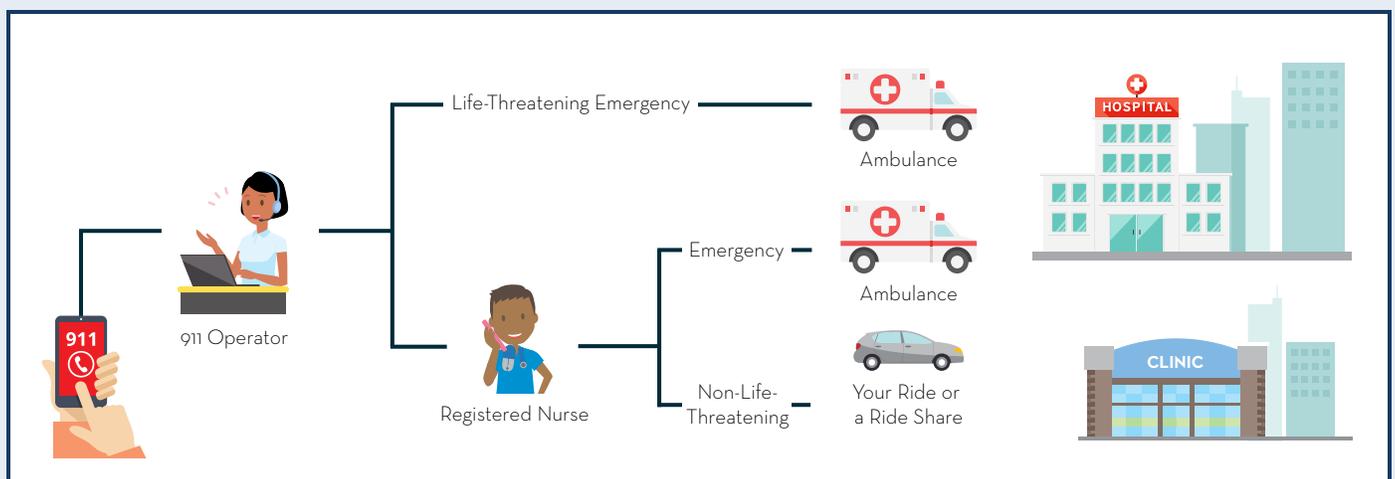
DCFEMS then convened an Integrated Health Care Collaborative involving the [Mayor's Office](#), [DC Health](#), [DC Department of Behavioral Health](#), [DC Department of Healthcare Finance](#), [DC Office on Aging](#), [Medicaid managed care organizations](#), [DCFEMS](#) labor representatives, the [Office of Budget and Performance Management](#), [The Lab @ DC](#), and others. Together, the group began researching potential solutions and proposed the Nurse Triage Line model after studying the resources available in Washington, DC and several other cities who have tried a similar approach.

Washington, DC was eager to implement this program but was not certain whether it would be effective in their local context. In the [FY 2018 budget](#), Washington, DC allocated \$1 million towards implementing a pilot Nurse Triage Line program.

In April 2018, Washington, DC began piloting a Nurse Triage Line program called, "[Right Care, Right Now.](#)" To track the impact of the pilot, 50 percent of eligible callers are connected to a nurse while the remaining 50 percent are routed to EMS services (according to standard practice) and act as a control group through a randomized process.

# How Washington, DC's Nurse Triage Line Program Works

1. One to two qualified nurses with EMS experience are stationed in the District's 911 call center alongside 911 call-takers every day between 7:00 AM and 11:00 PM.
2. The call-takers use [American Medical Response](#) (AMR)'s criteria-based triage protocol to determine if a caller's situation is non-life threatening and thus eligible to be transferred to the nurse. To assist the dispatcher in determining if the caller can be sent to the nurse, there is a list of approximately 50 chief complaints determined by Washington, DC's chief medical director and federally qualified health clinics that can be directed to the nurse. These conditions include, among other things, a sore throat, sprained ankle, mosquito bites, allergic reactions, animal bites, and sunburns.
3. Once transferred, the nurse is able to use the caller's social security number to access a snapshot of the patient's care history (when available). This snapshot allows the nurse to view the care history of the caller, insurance information (if enrolled in Medicaid), and any medications. Roughly 70% of Washington, DC 911 low-acuity callers are Medicaid beneficiaries.<sup>9</sup> The patient then spends an average of five to seven minutes answering diagnostic questions over the phone so the nurse can determine the best course of action for the caller.
4. After fielding the series of diagnostic questions, the nurse gathers enough information to recommend a course of action to the patient so that they receive the best quality of care in a timely manner. In cases where callers are Medicaid or DC Alliance beneficiaries and immediate care is recommended, the nurse schedules a same-day appointment for the caller at a nearby urgent care or primary care facility and arranges transportation while continuing to engage with the caller. The nurses can send callers to 23 different health care sites across the District, including neighborhood clinics and three urgent-care centers. Nurses take patient preferences into consideration when making appointments.
5. Within 24 hours, all patients receive a call back from a nurse to complete a satisfaction survey and provide feedback based on their experience and quality of care.



SOURCE: WASHINGTON, DC'S FIRE AND EMERGENCY MEDICAL SERVICES DEPARTMENT (DCFEMS), 2018

## TIPS FOR REPLICATION

- **Starting Small Works:** When an entirely new government program or strategy is being considered, start by piloting something at a small scale first and evaluating the impact of the pilot initiative. It can be enticing to launch a new initiative full-scale in order to try to maximize the impact of the intervention as early as possible. However, piloting an intervention first allows learning and improvement opportunities before launching a larger initiative and can save significant costs in mistakes avoided in the long-term. Washington, DC is in the process of testing its Nurse Triage Line pilot on a relatively small scale – with 4,000 callers to 911 – but intends to share its results with other jurisdictions experiencing similar problems and increase the size of the program in the future, if it proves to be effective.
- **Evaluate Proactively:** Securing an evaluation partner during the design of a new program or initiative, rather than after its implementation, can help ensure that the key outcomes of the program can be rigorously measured. Washington, DC has the expertise from the team at [The Lab @ DC](#) to assist with building and implementing a rigorous and thorough evaluation. The Lab @ DC – seed-funded by the [Laura and John Arnold Foundation](#) – is an evaluation team, housed within the Office of the City Administrator's Office of Budget and Performance Management, that uses scientific insights and methods to conduct rigorous evaluations and uses the resulting data to provide analysis that informs policy decisions for the benefit of the Washington, DC community.
- **Help Address Concerns Before and While Launching a New Initiative:** When introducing a new initiative, ensure that the proposed value of the new strategy is clearly communicated and give staff, at all

“ By directing non-life threatening 911 EMS calls to the nurse triage line, the District is able to reduce the burden on our overtaxed Emergency Medical Services and emergency departments, and connect residents with appropriate care that will address their concerns. Residents who don't require emergency room treatment, but need less urgent forms of care, benefit from the real time access to a nurse who can direct them to a doctor's office so that they do not sit in an emergency room unnecessarily. ”

— JENNIFER REED  
Washington, DC  
Director of Office of Budget  
and Performance Management

levels, an opportunity to raise their concerns along the way. Soon after the launch of the Nurse Triage Pilot, call-takers in the 911 dispatch center were worried that residents would not receive the best care if they were transferred to a nurse. As a result, use of the Nurse Triage Line from the 911 call-takers was initially slow. Since then, Washington, DC has helped the dispatch center conduct trainings on the Nurse Triage Line and are careful to address the fears and concerns voiced by staff.

## THE RESULTS<sup>10</sup>

Washington, DC is already beginning to see promising results from the Nurse Triage Line pilot program, including:

## THE RESULTS (CONTINUED)

- Between the April 19, 2018 launch and July 2018, registered nurses fielded 1,103 calls from 911 callers who were experiencing non-life threatening symptoms. Of the 1,103 calls routed to the pilot for triaging, 130 patients were connected to clinics, 289 calls were canceled as a result of the caller hanging up the phone, and 131 calls received "self care" instructions from the nurse. The remaining 533 were routed back to 911 for ambulance dispatch.
- It currently takes an average of 37 minutes for patients to go from speaking with a nurse to walking into a clinic for a same-day walk-in appointment. Meanwhile, a non-emergency ambulance trip to the hospital, which would include a patient evaluation and processing, takes an estimated 40 to 60 minutes, depending on the time of day and traffic.
- While there were initial concerns that residents would hang up the phone and redial after being routed to the nurse, the first 90 days of the pilot yielded positive feedback. Of the 183 patients who were contacted by phone for a patient satisfaction survey within 24 hours of receiving assistance from

the Nurse Triage Line pilot, 30% (55 people) were reached and reported 100% positive feedback. Of the remaining patients, 60% (110 people) did not respond to a voicemail message and the remaining 10% (18 people) did not have a working phone number. During the first 90 days, there was only one complaint but it was not registered with the nurse during a follow-up call. The family called the DCFEMS Medical Director directly.

- Through the implementation and evaluation of the Nurse Triage Line pilot program, Washington, DC hopes to learn effective strategies to better serve their residents and improve the quality of life for all members of the community. After approximately 4,000 people are served by the Nurse Triage Line pilot and once the analysis is completed — estimated to be after April 2019 — The Lab @ DC will post the findings of the program on the Open Science Framework where the study is pre-registered: <https://osf.io/t7nhj>. By posting their findings publicly, other jurisdictions can also benefit from learning from the pilot's findings. Washington, DC also plans to use the results of the evaluation to determine whether it is working, in what ways, and if it should be scaled.



Washington, DC Fire and EMS vehicles on a city street.

# ABOUT RESULTS FOR AMERICA'S LOCAL GOVERNMENT FELLOWSHIP PROGRAM

Results for America's Local Government Fellows program was founded in September 2014 to provide an advanced group of local government leaders in diverse and influential cities and counties across the country the knowledge and support to implement strategies that consistently use data and evidence to drive policy and budget decisions on major policy challenges.

With the support and guidance of Results for America, the Local Government Fellows lead their governments toward advanced stages of data-driven and evidence-based policymaking in order to address major policy challenges in their communities. The **16 cities** and counties represented in the Fellowship collectively represent more than **28 million** people and **\$148 billion** in local government spending.

## RFA engages its local government Fellows in:

- Defining short- and long-term policy goals;
- Developing research partnerships with academics;
- Sharing best practices and demonstration projects;
- Problem solving among peers;
- Receiving individual feedback and coaching; and
- Participating in a national network and peer cohort.

Washington, DC has also worked with Results for America and the Behavioral Insights Team (BIT) through Bloomberg Philanthropies' What Works Cities initiative to conduct low-cost real time program evaluations. You can find more information here: <https://whatworkscities.bloomberg.org/>.

## ACKNOWLEDGEMENTS

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- Kevin Wilson, Senior Data Scientist, The Lab @ DC
- Robert P. Holman, MD, Medical Director, DC Fire and Emergency Medical Services Department

## ADDITIONAL RESOURCES

- Read more about Washington, DC's work in the Washington Post in, "[Nurses in DC's 911 center are helping cut some unnecessary ambulance runs, but not most](#)," by Clarence Williams (September 23, 2018).
- Discover how The Lab @ DC is using data and methods to test and improve results at <https://thelab.dc.gov/>.
- Learn more about Results for America's Local Government Fellowship at <http://results4america.org>.

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## PHOTOS

- Cover:** Flickr Commons – Ted Eytan.
- Page 2:** Executive Office of the Mayor.
- Page 6:** Washington, DC Fire and Emergency Medical Services Department Twitter, [@dcfireems](https://twitter.com/dcfireems).

## ABOUT THE INVEST IN WHAT WORKS POLICY SERIES

This report is part of Results for America's Invest in What Works Policy Series, which provides ideas and supporting research to policymakers to drive public funds toward evidence-based, results-driven solutions. Results for America is committed to improving outcomes for young people, their families, and communities by shifting public resources toward programs and practices that use evidence and data to improve quality and get better results.



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