

SOLUTIONS TO STRENGTHEN U.S. PUBLIC SAFETY COMMUNICATIONS

HEARING BEFORE THE SUBCOMMITTEE ON COMMUNICATIONS AND TECHNOLOGY OF THE COMMITTEE ON ENERGY AND COMMERCE HOUSE OF REPRESENTATIVES ONE HUNDRED FIFTEENTH CONGRESS

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SOLUTIONS TO STRENGTHEN U.S. PUBLIC SAFETY COMMUNICATIONS

WEDNESDAY, SEPTEMBER 26, 2018

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON COMMUNICATIONS AND TECHNOLOGY,
COMMITTEE ON ENERGY AND COMMERCE,
Washington, DC.

The subcommittee met, pursuant to call, at 10:30 a.m., in room 2322 Rayburn House Office Building, Hon. Leonard Lance (vice chairman of the subcommittee) presiding.

Members present: Representatives Lance, Shimkus, Guthrie, Olson, Bilirakis, Johnson, Long, Flores, Brooks, Walters, Costello, Walden (ex officio), Doyle, Welch, Clarke, Ruiz, Engel, McNerney, and Pallone (ex officio).

Staff present: Jon Adame, Policy Coordinator, Communications and Technology; Mike Bloomquist, Deputy Staff Director; Samantha Bopp, Staff Assistant; Robin Colwell, Chief Counsel, Communications and Technology; Kristine Fargotstein, Detailee, Communications and Technology; Sean Farrell, Professional Staff Member, Communications and Technology; Elena Hernandez, Press Secretary; Tim Kurth, Deputy Chief Counsel, Communications and Technology; Lauren McCarty, Counsel, Communications and Technology; Austin Stonebraker, Press Assistant; Evan Viau, Legislative Clerk, Communications and Technology; Hamlin Wade, Special Advisor, External Affairs; Jeff Carroll, Minority Staff Director; Jennifer Epperson, Minority FCC Detailee; Alex Hoehn-Saric, Minority Chief Counsel, Communications and Technology; Jerry Leverich, Minority Counsel; Jourdan Lewis, Minority Staff Assistant; Dan Miller, Minority Policy Analyst; and C.J. Young, Minority Press Secretary.

OPENING STATEMENT OF HON. LEONARD LANCE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. LANCE [presiding]. Good morning, ladies and gentlemen. The subcommittee will come to order. I am Leonard Lance, the vice chair of the subcommittee and I have the honor of chairing the subcommittee today. The Subcommittee on Communications and Technology will now come to order. I thank our witnesses for being here. I now recognize myself for 5 minutes for an opening statement.

Since the inception of 9-1-1 as the nationwide emergency telephone number in 1968, 9-1-1 call centers around the country have saved countless lives by giving the public a quick and easy way to

request assistance in times of emergency. Technological advances over the years such as geolocation have opened up opportunities to improve upon the system, allowing law enforcement officers to receive the approximate location of where a call has originated.

In order to keep up with the times, many states have established a fee or tax to upgrade and maintain their 9-1-1 systems. These funds are especially crucial as we look to Next Gen 9-1-1 to update significantly the capabilities of our emergency communications. Innovations such as text-to-9-1-1 and the ability for citizens to send law enforcement officials real-time video during an emergency have the potential to revolutionize our emergency communications and save even more lives.

Under the New and Emerging Technologies 911 Improvement Act of 2008, the Federal Communications Commission is required to submit a report to Congress on state collection and distribution of 9-1-1 and enhanced 9-1-1 fees and charges. These reports have shed light on a handful of states that have been raiding these 9-1-1 fees and diverting the funds for unrelated purposes.

This unacceptable practice leaves counties and localities on the hook for maintaining and upgrading their systems, and this of course endangers public safety. Since 2004, New Jersey, where I live, has collected a 90 cent tax on consumers' monthly telephone and cell phone bills for 9-1-1 improvements. However, New Jersey has become the worst 9-1-1 fee diverter in the country, diverting over one billion dollars to non-9-1-1 related purposes.

Quite simply, this is unacceptable. Our constituents need to know that in an emergency their 9-1-1 call is going to go through. Lawmakers in state capitals including Trenton and in several other state capitals around the country have raided the funds set aside to improve the 9-1-1 system and left the account penniless, leaving public safety threatened and local taxpayers on the hook as I have said.

I opposed the original legislation in New Jersey because it opened the door to the diversion as we are seeing today and this has been regardless of which party has controlled the governorship in the state I represent. Now, New Jersey lawmakers are considering an increase on the tax to fund Next Gen 9-1-1. Instead of further taxing New Jerseyans, Trenton should first stop diverting any existing fees from their intended use.

I am pleased to welcome Jim Curry to our panel today. Mr. Curry is the Division of Communications Director for Hunterdon County's Department of Public Safety and Health Services. Hunterdon County is one of 21 counties in New Jersey, and I personally live in Hunterdon County.

Last month, Mr. Curry and the rest of the staff at the 9-1-1 Communications Center were kind enough to give me a tour of the facility and we were joined by Commissioner Mike O'Rielly of the Federal Communications Commission. Commissioner O'Rielly has been a leader in the effort to stop the states from diverting and certainly I think we give him great credit in that regard. The work that is being done is truly remarkable and I was extremely impressed with the operation as it was ongoing.

Despite receiving little to no funds from the state 9-1-1 fee fund, Hunterdon County has managed to maintain a state-of-the-art sys-

tem. However, because the state has been diverting the fees in such a dramatic amount, counties in New Jersey are left to their own devices. These funds generally come from residents in property taxes which are already among the highest in the Nation.

That is why I have joined Congressman Collins and Congresswoman Eshoo in introducing the 9-1-1 Fee Integrity Act which would direct the FCC to establish legitimate uses for 9-1-1 fees to be directed. And obviously this is bipartisan in nature, Congresswoman Eshoo is a very distinguished senior member of the committee on the Democratic side.

I commend Commissioner O'Rielly and Commissioner Rosenworcel for working hard at the FCC, again in a bipartisan capacity, to bring to light the actions of these few bad actor states. However, the Commission's ability to combat diversion is limited. This bipartisan, common sense legislation will enable the FCC to ensure that bad actors such as New Jersey are no longer able to divert funds.

I commend the members of the subcommittee for their fine work in drafting these important pieces of legislation and I thank our distinguished panel for appearing before us today. I look forward to the testimony and I now recognize the ranking member, Mr. Doyle.

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[The prepared statement of Mr. Lance follows:]

PREPARED STATEMENT OF HON. LEONARD LANCE

Since the inception of 9-1-1 as the nationwide emergency phone number in 1968, 9-1-1 call centers around the country have saved countless lives by giving the public a quick and easy way to request assistance in times of emergency. Technological advances over the years, such as geolocation, have opened up opportunities to improve upon the system, which allows law enforcement officers to receive the approximate location of where a call originated. In order to keep up with the times, many states have established a fee or tax to upgrade and maintain their 9-1-1 systems. These funds are especially crucial as we look to Next Gen 9-1-1 to update significantly the capabilities of our emergency communications. Innovations such as text to 9-1-1 and the ability for citizens to send law enforcement officers real time video during an emergency have the potential to revolutionize our emergency communications and save countless more lives.

Under the New and Emerging Technologies 911 Improvement Act of 2008, the Federal Communications Commission is required to submit a report to Congress on state collection and distribution of 9-1-1 and enhanced 9-1-1 fees and charges. These reports have shed light on a handful of states who have been raiding these 9-1-1 fees and diverting the funds for unrelated purposes. This unacceptable practice leaves counties and localities on the hook for maintaining and upgrading their systems, endangering public safety. Since 2004, New Jersey has collected a 90-cent tax on consumers' monthly telephone and cell phone bills for 9-1-1 improvements. However, New Jersey has become the worst 9-1-1 fee diverter in country, diverting over one billion dollars to non-9-1-1 related purposes. This is unacceptable.

Our constituents need to know that in an emergency their 9-1-1 call is going to go through. Lawmakers in Trenton, and in several other state capitals around the country, have raided the funds set aside to improve the 9-1-1 system and left the account penniless—leaving public safety threatened and local taxpayers on the hook. I opposed the original legislation in New Jersey, because it opened the door to the diversion we are seeing today. Now New Jersey lawmakers are considering an increase on the tax to fund Next Gen 911. Instead of further taxing New Jerseyans, Trenton should first stop diverting the existing fees from their intended use.

I am very pleased to welcome Jim Curry on our panel today. Mr. Curry is the Division of Communications Director for Hunterdon County's Department of Public Safety and Health Services. Last month Mr. Curry and the rest of the staff at the

9-1-1 communications center were kind enough to give me and Commissioner Mike O'Rielly of the FCC, who has been a leader in the effort to stop states from diverting, a tour of their facility. The work they are doing there is truly remarkable and I was extremely impressed with the operation they are doing there. Despite receiving little to no funds from the state 9-1-1 fee fund, Hunterdon County has managed to maintain a state of the art communications center. However, because the state has been diverting the fees in such drastic amounts, counties in New Jersey, such as Hunterdon, are left to their own devices to fund these critical operations. These funds generally come from residents' property taxes, which are already some of the highest in the Nation. This is completely unacceptable. New Jersey must end this double taxation of its citizens and stop leaving counties scrambling to fund essential emergency services.

That is why I have joined Congressman Collins and Congresswoman Eshoo in introducing the 9-1-1 Fee Integrity Act, which would direct the FCC to establish legitimate uses for 9-1-1 fees to be directed.

I commend Commissioner O'Rielly and Commissioner Rosenworcel for working hard at the FCC to bring to light the actions of these few bad actor states. However, the Commission's ability to combat diversion is limited. This bipartisan, common sense legislation will enable the FCC to ensure that bad actors such as New Jersey are no longer able to divert 9-1-1 funds to unrelated purposes and the fees are instead directed to their intended use: updating and maintaining our critical emergency communications systems.

We are also considering H.R. 5700, the National Non-Emergency Mobile Number Act from Congresswoman Brooks and H.R. 6003, the Anti-Swatting Act of 2018 from Congressman Engel.

H.R. 5700 directs the FCC to consolidate non-emergency numbers with the creation of a unified wireless non-emergency number. This will help avoid confusion as consumers cross state lines, as there are currently 18 different non-emergency codes in use.

H.R. 6003 stiffens criminal penalties against "swatting," a practice that involves maliciously calling emergency services to trigger a law enforcement response against another person. This is an extremely dangerous practice that puts both law enforcement and residents in danger.

I commend the members of the subcommittee for their fine work in drafting these important bills to improve our public safety communications and thank our distinguished panel for appearing before us today. I look forward to your testimony.

OPENING STATEMENT OF HON. MICHAEL F. DOYLE, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF PENNSYLVANIA

Mr. DOYLE. Thank you, Mr. Chairman. Thank you for holding this hearing today and thank you to the witnesses for your testimony today.

Public safety communications and the integrity of our 9-1-1 system is of paramount importance to our nation. Ensuring that life-saving aid gets to those in need, in time, often comes down to a fast, well-coordinated response by local first responders, something our witnesses deal with every day. This process often starts when a person in need picks up their phone to call for help.

This subcommittee is examining three pieces of legislation today. Mr. Lance and Ms. Eshoo have introduced legislation regarding 9-1-1 fee diversion. This is a practice where a small number of states divert fees intended to fund and upgrade 9-1-1 call centers to other non-related public safety programs. This bill seeks to further direct and clarify the FCC's efforts to investigate and report on this practice.

The second piece of legislation was introduced by Mr. Engel and Mr. Kinzinger regarding swatting, a malicious and deadly practice where individuals use weaknesses in the phone network to conceal their identity and report a false event that warrants a large-scale

police response. Such incidents require full-scale responses that take time and money away from departments tasked with protecting the public.

Like many here, I have read too many stories of how these incidents can go bad as well with SWAT teams being prepared to deal with extremely dangerous situations only to come across confused and frightened individuals who have been targeted by these swatting attacks. Too many times, innocent people have lost their lives because of these malicious, deceptive calls. Our colleague Congresswoman Clarke has, herself, been a victim of swatting.

I am happy to once again support my colleague Mr. Engel's bill to rein in this dangerous practice. This bill was voice voted out of committee in the last Congress and I hope that we can do so again. I hope as the committee examines this issue that we continue our due diligence. Increasing the penalties for this offense is important, but we need to strengthen our telecommunications systems to ensure that the people calling 9-1-1 and, to be honest, calling of us are who they say they are.

Every day I get calls from fake numbers claiming to come from my neighborhood. We cannot ultimately curb swatting until our phone systems can do a better job of identifying and blocking fake numbers. I would urge the majority and the chairman to keep this in mind if they hope to address this underlying issue.

Finally, we are looking at a bill introduced by Mrs. Brooks and Ms. Eshoo regarding the establishment of a national non-emergency short dialing code. In Pittsburgh, like many cities, 3-1-1 is that number. Residents in Pittsburgh can use it to report a downed tree, a building code violation, or in my city all too often a pothole on a city street.

This service gives residents a valuable line to the city and municipal agencies where they can report important but non-emergency incidents. Properly implemented, this service can reduce the burden on 9-1-1 operators and call centers allowing them to focus more fully on responding to real emergency situations. I hope we can advance this legislation as well.

And while I think these bills should be able to move in our committee, I am very concerned that this hearing is titled, "Solutions to Strengthen U.S. Public Safety Communications." None of these bills nor the committee's other efforts have gone far enough to address many of the underlying challenges facing this sector, in my opinion. As the witnesses pointed out, public safety agencies need a strong Federal partner to ensure that they have the technology and solutions deployed to meet the needs of our country.

I would like to submit for the record an article from the New York Times Magazine that was published last month regarding one family's horrific experience in Houston during Hurricane Harvey. The family couldn't get a medevac via 9-1-1 so they resorted to calling their congressman, Gene Green, a member of this committee, where an intern answered the phone and helped to direct a helicopter rescue.

The 9-1-1 system was clearly overwhelmed and was not nearly robust or resilient enough to tackle the volume of calls or the multiple storm related equipment and facility failures that occurred. And none of this is in any way intended to diminish the brave and

courageous efforts of so many volunteers who came to their neighbors' aid in this disaster and so many others. But for the richest, most powerful nation on earth we can and should do better, Mr. Chairman. With that I yield back.

[The prepared statement of Mr. Doyle follows:]

PREPARED STATEMENT OF HON. MICHAEL F. DOYLE

Thank you, Madam Chairman, for holding this hearing, and thank you to the witnesses for your testimony today.

Public safety communications and the integrity of our 9-1-1 system is of paramount importance to our nation.

Ensuring that lifesaving aid gets to those in need in time often comes down to a fast, well-coordinated response by local first responders, something our witnesses deal with every day. This process often starts when a person in need picks up their phone to call for help.

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Like many here, I've read too many stories of how these incidents can go bad as well, with SWAT teams being prepared to deal with extremely dangerous situations only to come across confused and frightened individuals who have been targeted by these Swatting attacks.

Too many times, innocent people have lost their lives because of these malicious, deceptive calls. Our colleague Congresswoman Clark has herself been a victim of Swatting.

I'm happy to once again support my colleague Mr. Engel's bill, to rein in this dangerous practice. This bill was voice voted out of Committee last Congress, and I hope that we can do so again.

I hope as the Committee examines this issue, that we continue our due diligence. Increasing the penalties for this offence are important, but we need to strengthen our telecommunications systems to ensure that the people calling 911—and to be honest, calling all of us—are who they say they are. Every day I get calls from fake numbers claiming to come from my neighborhood. We can not ultimately curb Swatting until our phone systems can do a better job at identifying and blocking fake numbers.

I would urge the majority and the chairman to keep this in mind, if they hope to address this underlying issue.

Finally, we are looking at a bill introduced by Ms. Brooks and Ms. Eshoo regarding the establishment of a national non-emergency short dialing code. In Pittsburgh, like many cities, 3-1-1 is that number. Residents in Pittsburgh can use it to report a downed tree, a building code violation, or all too often a pothole on a city street.

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I'd like to submit for the record an article from the New York Times Magazine that was published last month regarding one family's horrific experience in Houston during Hurricane Harvey. The family couldn't get a medivac via 9-1-1, and so they

resorted to calling their Congressman, Gene Green, where an intern answered the phone and helped direct a helicopter rescue.

The 9-1-1 system was clearly overwhelmed—and was not nearly robust or resilient enough to tackle the volume of calls or the multiple storm-related equipment and facility failures that occurred.

And that none of this is in any way intended to diminish the brave and courageous efforts of so many volunteers who came to their neighbors' aid in this disaster and so many others. But for the richest most powerful nation on earth, we can and should do better.

Mr. LANCE. Thank you very much, Mr. Doyle. The chair now recognizes the chairman of the full committee, Mr. Walden of Oregon, for 5 minutes for an opening statement.

OPENING STATEMENT OF HON. GREG WALDEN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. WALDEN. Thank you very much, Mr. Chairman. I want to welcome our witnesses. Thanks both for your help this morning in giving us your guidance and counsel and the service you provide in your states and communities.

We have a legislative hearing where we will be discussing three important bipartisan public safety bills. Two weeks ago, we remembered the sacrifices and the heroism of the September 11th attacks. Ceremonies across our nation reminded us not just of those Americans we lost, but also of the hard work our public safety community does day in and day out to keep us safe. This is evident again as our first responders managed the consequences of various hurricanes including, especially, Hurricane Florence.

Whether at home or at school, our children learn at an early age that when an emergency strikes you dial 9-1-1. But like the technology systems, our 9-1-1 systems must be preserved and improved to deliver potentially lifesaving services reliably and seamlessly when called upon. This committee worked in a bipartisan manner in Congress to enact improved rural call completion so the call actually will go through. Also, we passed Kari's Law. That ensures that when we dial 9-1-1, no matter where we are including a hotel room, the call will go through without the need to dial another number.

With rules finally approved for NTIA and NHTSA to move forward on distributing funds for Next Gen 9-1-1, I am pleased these dollars will be finding their way to localities. Whether it is these dollars or the much larger share of fees collected on your phone bill, we have a duty to ensure that the 6,000 public safety answering points or PSAPs nationwide that manage our 9-1-1 systems are actually receiving these vital funds.

Unfortunately, we have found that some states have diverted their 9-1-1 funds that were assessed for this specific purpose. We have seen states divert funding directly into their general funds while others use the money for another public safety related purpose that may have nothing to do with the 9-1-1 system. The result is the same: PSAPs aren't getting the money they are promised.

And I would just say as an aside, I would guess that it would be a fraud for most people other than the government that if you collected a fee for an intended purpose and you put it in writing and sent it through the mail and then you diverted the funds for

some other purpose, my guess is if you weren't the government you would be facing a prosecutor.

So today we will discuss H.R. 6424, the 9-1-1 Fee Integrity Act, which would clarify for states and municipalities that funds raised for 9-1-1, paid for by users of 9-1-1 and phones, are only spent on 9-1-1.

We will also discuss H.R. 5700, Mrs. Brooks' National Non-emergency Mobile Number Act. While the FCC designated 9-1-1 as the Nation's emergency number more than 50 years ago, the 9-1-1 system is sometimes used unnecessarily in non-emergencies. So in order to preserve 9-1-1 services for true emergencies and to ensure limited public safety resources are not used unnecessarily, some states have adopted an easy-to-remember, short code that the public can dial to reach public safety officials in non-emergency situations.

However, there is no unified short code, so a traveler traveling from Colorado to Oregon might be able to dial *-2-7-7 in Colorado, #-4-3-5-7 in Wyoming, *-4-7-7 throughout Idaho, and finally there is no short code in Oregon. So that is a lot to keep track of. Mrs. Brooks' bill would make things a whole bunch easier. We appreciate her diligent work on this issue directing the FCC to set up a unified short code that states could choose and then adopt.

Finally, we will be discussing H.R. 6300 that is Mr. Engel's Anti-swatting Act. This should be a familiar bill given that we approved by voice vote this bill last Congress. Swatting is the act of using misleading or inaccurate caller ID information with an intent to trigger a law enforcement response where no real emergency exists. Swatting is dangerous, it is a drain on precious resources, and it is illegal. Unfortunately, swatting incidents remain a problem and continue to put law enforcement or innocent bystanders in harm's way. Mr. Engel's bill would stiffen criminal penalties against those who are convicted of swatting and bolster our public safety officials' ability to serve and to protect.

So, collectively, the bipartisan bills to be discussed today will help improve, they will help strengthen the 9-1-1 system, and enhance public safety across the country.

So I want to thank our witnesses for being here today. And I would also say that it was this committee several years ago that passed the legislation that set up the spectrum auction that has funded and helped get in place FirstNet and we intend to continue to do our due diligence to oversee the implementation of FirstNet to make sure that it actually delivers on the promise that our first responders will have an interoperable public safety network that works for them.

And so we have done a lot out of the committee mostly in a bipartisan way. We appreciate your being here today. We have three more important bills to look at. And with that, Mr. Chairman, I yield back the balance of my time.

[The prepared statement of Mr. Walden follows:]

PREPARED STATEMENT OF HON. GREG WALDEN

Good morning and welcome to today's legislative hearing where we will be discussing three important, bipartisan public safety bills. Two weeks ago, we remembered the sacrifices and the heroism of the September 11th attacks. The ceremonies

across our nation reminded us not just of those Americans we lost, but also of the hard work our public safety community does day-in and day-out to keep us safe. This is evident again as our first responders manage the consequences of Hurricane Florence.

Whether at home or at school, our children learn at an early age that when an emergency strikes, you should dial 9-1-1. But like all technology systems, our 9-1-1 systems must be preserved and improved to deliver potentially life-saving services reliably and seamlessly when called upon. This committee worked in a bipartisan manner this Congress to enact improved rural call completion so that call goes through, as well as Kari's Law to ensure that when we dial 9-1-1 no matter where we are, that call will go through without the need to dial another number.

With rules finally approved for NTIA and NHTSA to move forward on distributing funds for Next Generation 9-1-1, I'm pleased these dollars will be finding their way to localities. Whether it is these dollars, or the much larger share of fees collected on your phone bill, we have a duty to ensure that the 6,000 Public Safety Answering Points, or PSAPs, nationwide that manage our 9-1-1 system are actually receiving these vital funds.

Unfortunately, we have found that some states have diverted 9-1-1 funds that were assessed for this specific purpose. We have seen states divert funding directly into their general fund, while others use this money for another public-safety related purpose that may have nothing to do with the 9-1-1 system. The result is the same: PSAPs aren't getting the resources they are promised.

Today, we will discuss H.R. 6424, the 9-1-1 Fee Integrity Act, which would clarify for states and municipalities that funds raised for 9-1-1 are only spent on 9-1-1.

We will also discuss H.R. 5700, Ms. Brooks' National Non-Emergency Mobile Number Act.

While the FCC designated 9-1-1 as the national emergency number over 50 years ago, the 9-1-1 system is sometimes used unnecessarily in non-emergencies. In order to preserve 9-1-1 services for true emergencies, and to ensure limited public safety resources are not used unnecessarily, some states have adopted an easy-to-remember short code that the public can dial to reach public safety officials in non-emergency situations. However, there is no unified short code, so a traveler driving from Colorado to Oregon might be able to dial "star" *277 in Colorado, "pound" #4357 in Wyoming, "star" *477 up through Idaho, and finally have no short code available at all in Oregon. That's a lot to keep track of.

Ms. Brooks' bill would make things easier, directing the FCC to set up a unified short code that states could choose to adopt.

Finally, we will be discussing H.R. 6003, Mr. Engel's Anti-SWATting Act. This should be a familiar bill given we approved by voice vote last Congress. SWATting is the act of using misleading or inaccurate caller ID information with an intent to trigger a law enforcement response where no real emergency exists. SWATting is dangerous, it is a drain on precious resources, and it is illegal.

Unfortunately, SWATting incidents remain a problem and continue to put law enforcement and innocent bystanders in harm's way. Mr. Engel's bill would stiffen criminal penalties against those who are convicted of SWATting and bolster our public safety officials' ability to serve and protect.

Collectively, the bipartisan bills to be discussed today will improve strengthen and improve the 9-1-1 system and enhance public safety across the country. I'd like to thank our witnesses for taking time out of their busy week to share their thoughts on these bipartisan bills, and with that I yield back.

Mr. LANCE. Thank you, Mr. Chairman. The chair now recognizes the ranking member of the full committee, Mr. Pallone of New Jersey, for 5 minutes.

OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. PALLONE. Thank you, Mr. Chairman.

Today we are here to talk about ways to support public safety and our nation's first responders. America asks so much of our emergency workers and the least we can do is make sure they have the best and most up-to-date tools to do their jobs. I would like to

thank our panel for the work they do every day helping Americans in times of crisis and distress.

It seems almost every week we are reminded of the critical role first responders play in keeping people safe. Last week we watched as first responders along the Carolina coast rescued people trapped in their homes as rising waters made it nearly impossible to escape. Emergency communications is critical in such times. If 9-1-1 calls are not completed emergency responders will not arrive.

And that is why it so important that Congress enacted my SANDy Act earlier this year to help ensure our critical communications networks have access to the resources they need to stay on line during a disaster. Beyond calls from the public to 9-1-1 dispatchers, if police or firefighters can't communicate with each other during a crisis their lives and the lives of the public are put at risk.

This committee on a bipartisan basis passed legislation to create a nationwide broadband communications network dedicated to public safety. What resulted is FirstNet. While early in its rollout, the network promises to make first responders across the country safer and help them with their work, FirstNet is an important step but more must be done to help public safety.

Today's hearing considers some important issues. I have long criticized states including my own in New Jersey of diverting 9-1-1 fees. As Mr. Curry will explain, it is expensive to operate a 9-1-1 center and it is important that they are fully funded. States should also be upgrading centers to be Next Generation 9-1-1 capable. Next Generation 9-1-1 will enable the public to transmit images, video, and texts to 9-1-1 centers where operators will be able to process and pass this information to first responders. And this is extremely valuable information, but the costs will be significant.

Last year, every Democrat on the committee co-sponsored the LIFT America Act which makes key investments in our nation's infrastructure including helping to fund the deployment of Next Generation 911. In addition, Representatives Eshoo, Torres, and I introduced the Next Generation 9-1-1 Act of 2017 which expands the federal NG-9-1-1 grant program. These are common sense proposals that we should be able to work on together.

In the coming year, I urge my colleagues to work with me on legislation to upgrade our nation's infrastructure including our public safety systems. I would also like to recognize the important efforts of Mr. Engel to fight swatting, fake emergency calls to dispatch police to an address where no emergency is occurring. This is really dangerous. It puts innocent lives at risk and burdens already stretched police resources. So Congress must provide law enforcement the tools to stop such malicious acts.

And I would like now to yield the remaining 2 minutes to, oh, I guess he is not here yet, Mr. Engel. I think he is at his Foreign Affairs Committee. So I would at this point yield the balance of my time.

Mr. LANCE. Thank you very much, Ranking Member. Are there any other members of the committee who would like to have an opening statement?

Seeing none, this concludes member opening statements. The chair reminds members that pursuant to the committee rules, all members' opening statements will be made part of the record.

We want to thank our witnesses for being here today and we appreciate your taking the time to testify before the subcommittee. Today's witnesses will have the opportunity to give opening statements followed by a round of questions from members.

Our panel for today's hearings will include Mr. Eddie Reyes, Director of Public Safety Communications for Prince William County; Mr. Jim Curry, the Division Head of the Communications Division of the Hunterdon County Department of Public Safety; and Captain Paul Starks, the director of the Public Information Office at the Montgomery County Police Department. We appreciate the fact, gentlemen, that you are here today before the committee. We know you have important responsibilities in your jurisdictions and we are honored that you are in Washington.

We will begin with Mr. Reyes. You are recognized, sir, for 5 minutes for the purposes of an opening statement. Good morning to you.

[The prepared statement of Mr. Pallone follows:]

PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

Today, we're here to talk about ways to support public safety and our nation's first responders. America asks so much of our emergency workers, the least we can do is make sure they have the best and most up-to-date tools to do their jobs.

I'd like to thank our panel for the work they do every day helping Americans in times of crisis and distress.

It seems almost every week we are reminded of the critical role first responders play in keeping people safe. Last week, we watched as first responders along the Carolina coast rescued people trapped in their homes as rising waters made it nearly impossible to escape.

Emergency communications is critical. If 911 calls are not completed, emergency responders will not arrive. That's why it's so important that Congress enacted my SANDY Act earlier this year to help ensure our critical communications networks have access to the resources they need to stay online during a disaster.

Beyond calls from the public to 911 dispatchers, if police or firefighters cannot communicate with each other during a crisis, their lives and the lives of the public are put at risk.

This Committee, on a bipartisan basis, passed legislation to create a nationwide, broadband communications network dedicated to public safety. What resulted is FirstNet. While early in its roll-out, the network promises to make first responders across the country safer and help them with their work.

FirstNet is an important step, but more must be done to help public safety. Today's hearing considers some important issues. I have long criticized states, including New Jersey, of diverting 911 fees. As Mr. Currey will explain, it is expensive to operate a 911 center, and it is important that they are fully funded.

States should also be upgrading centers to be next generation 911 capable. Next generation 911 will enable the public to transmit images, video, and text to 911 centers where operators will be able to process and pass this information to first responders.

This is extremely valuable information, but the costs will be significant. Last year, every Democrat on the Committee cosponsored the LIFT America Act, which makes key investments in our nation's infrastructure, including helping to fund the deployment of next generation 911. In addition, Representatives Eshoo, Torres, and I introduced the Next Generation 911 Act of 2017, which expands the federal NG-911 grant program.

These are commonsense proposals that we should be able to work on together. In the coming year, I urge my colleagues to work with me on legislation to upgrade our nation's infrastructure, including our public safety systems.

I also would like to recognize the important efforts of Mr. Engel to fight swatting—fake emergency calls to dispatch police to an address where no emergency is occurring. This is dangerous. It puts innocent lives at risk and burdens already stretched police resources. Congress must provide law enforcement the tools to stop such malicious acts.

Thank you, I yield back.

STATEMENTS OF EDDIE REYES, DIRECTOR, PUBLIC SAFETY COMMUNICATIONS, PRINCE WILLIAM COUNTY GOVERNMENT; JAMES CURRY, COMMUNICATIONS DIVISION HEAD, HUNTERDON COUNTY, NEW JERSEY DEPARTMENT OF PUBLIC SAFETY; AND, PAUL STARKS, DIRECTOR, PUBLIC INFORMATION OFFICE, MONTGOMERY COUNTY, MARYLAND POLICE DEPARTMENT

STATEMENT OF EDDIE REYES

Mr. REYES. Thank you, Mr. Lance. Chairman Blackburn, Ranking Member Doyle, Mr. Lance, thank you for giving me this opportunity to testify before you today. It is an honor and a privilege to be selected to represent the 9-1-1 community at this hearing and be a part of this bipartisan process.

I am the director of Office of Public Safety Communications in Prince William County, Virginia, one of the Nation's approximately 5,800 public safety answering points which has been recognized as PSAPs. They are also known as emergency communication centers or 9-1-1 centers. ECCs, like the one I lead, answer more than 240 million calls every year in the United States. That is roughly about 657,000 calls per day.

Prior to becoming the ECC director in Prince William County I was a police officer in Alexandria, Virginia for 25 years. I retired as a senior deputy chief and second in command at the police department. I worked in almost every unit of the police department and I was ECC director in 2001 during the September 11th attack at the Pentagon and during the 3 weeks in 2002 when the Beltway Sniper gripped the entire National Capital Region with fear. I am also the chairman of the International Association of Chiefs of Police Communications & Technology Committee.

A few statistics about Prince William County's emergency communications center: In addition to serving almost half a million residents in the county, we provide a wireless 9-1-1 service and dispatch for police, fire and rescue personnel to five small municipalities within our county. We are also part of the National Capital Region which has a population of over six million residents.

Public safety organizations in the NCR coordinate extensively to make sure area residents receive high quality emergency response across the region. Mutual aid is an hourly thing for us. My center has just over a hundred employees that receive and process approximately 409,000 calls per year in which 154,000 of those were emergencies and 254,000 were non-emergencies. Of the 409,000 calls for service that we received, about 251,000 were for police and 44,000 were for fire and rescue.

The largest difference between the number of calls received and those dispatched are that they all come from a smartphone.

I will transition over to the bill that I am most passionate about and that is H.R. 6003. I have spoken to 9-1-1 center directors or staff, law enforcement officers, and major associations such as APCO and NENA and all of them support this bill. Even before the FBI coined the term "9-1-1 swatting," across the country we have been fighting this complex, ever-evolving threat to public safety. It would just be repetitive for me to mention a lot of the things that

have already been said about swatting other than ditto and we agree. So this is very, very important to us.

Next, I will transition over to House Bill 6424 and that, well, almost everyone in the 9-1-1 industry is in favor of this bill provided it eliminates a big loophole—lack of audit, accountability, and enforcement mechanism to the offending states. As it has already been reported, there are offending states like New Jersey, West Virginia, and others that are known to public safety and 9-1-1 centers for diverting funds. And I can tell you that as a proud resident of the Commonwealth of Virginia, we know how important it is not to divert funds, so I very much support that bill as well.

Regarding 5700, H.R. 5700, this bill caused the greatest quantity in discussion and disagreement among all that I spoke with. While some were supportive, the addition of public safety, non-emergency short code for mobile users can bring unintended consequences to emergency communication centers, significantly increasing call volume without considering additional staffing. So statistics demonstrate that 9-1-1 has been a problem caused by too many non-emergency calls.

So in closing I would like to take a brief moment to thank you, to thank Representative Shimkus and Eshoo for joining with their co-chairs of the Next Gen 9-1-1 caucus to send a bipartisan letter to the Office of Management and Budget to revise the standard occupational classification to accurately represent the lifesaving nature of the work performed by 9-1-1 professionals. 9-1-1 professionals work behind the scenes to protect the lives of first responders.

I am very grateful for the attention this committee has given to these very important bills to public safety in general, but most importantly to emergency telecommunicators. Thank you very much.

[The statement of Mr. Reyes follows:]

Testimony of Director Eddie L. Reyes
Office of Public Safety Communications
Prince William County, VA
Before the House Committee On Energy and Commerce
Subcommittee on Communications and Technology
September 26, 2018

Chairman Blackburn and Ranking Member Doyle:

Thank you for giving me the opportunity to testify before you today. It is an honor and a privilege to be selected to represent the 9-1-1 industry at this hearing and be a part of this bipartisan process. My name is Eddie Reyes. I am Director of the Office of Public Safety Communications in Prince William County, Virginia, which is also known as the Public Safety Answering Point (PSAP), Emergency Communications Center (ECC) and 9-1-1. At the national level, there are more than 6,500 primary and secondary Federal, state, tribal, and local PSAPs which process approximately 300 million calls to 911 annually.

In addition to serving almost 500,000 residents in Prince William County, we provide wireless 911 service for five smaller municipalities within Prince William County, to include dispatching their police, fire and rescue personnel. We are part of the National Capital Region (NCR) which has a population of over 6 million residents. My center has just over 100 employees that received and processed 409,388 phone calls in calendar year 2017, of which 154,576 were emergencies and 254,812 were non-emergency. Of the 409,388 calls for service that we received, 251,174 calls were for police service and 44,658 were for fire and rescue service.

The large difference between the number of calls received and those dispatched is that today, almost everyone has a smartphone, and most major incidents, like a crash on a major highway, will generate many calls from witnesses, but only one dispatch. Our call volume is further broken down to approximately 82% of our calls are for police service and approximately 18% for fire/rescue service. Approximately 85% of the 154,576 phone calls we received came from wireless phones, which can make location accuracy for these callers very difficult if they do not know their location or are unable to speak it.

We started text-to-911 in July of 2017 and so far, we have hundreds of texts-to-911, including a minor child who reported being sexually assaulted by a family member but was unable to speak due to her abuser being within earshot.

Prior to becoming the PSAP Director in Prince William County, I was a police officer in Alexandria, VA for over 25 years where I retired as the senior deputy chief and second in command of the Police Department. I worked in almost every unit of the Police Department, including being the PSAP director in 2001 during the September 11th attack at the Pentagon and the 2002 Beltway Snipers that gripped the NCR with fear for three weeks. I am also the Chairman of the International Association of Chiefs of Police Communications and Technology Committee.

H.R. 6003

This is a bill that everyone I've spoken to can support and get behind. And let me just say for the record that in preparation for my testimony today, I've spoken to 911 center directors, their staff, law enforcement officers and major associations, such as the Association of Public Safety Communications Officials (APCO) and the National Emergency Number Association

(NENA). Even before the FBI officially coined the term “swatting”, 9-1-1 centers across the country have been fighting a complex and ever-evolving threat to the safety of citizens and public safety alike. Swatting is the dangerous and evil tactic of triggering emergency services via a hoax call to an emergency services dispatcher, who in turn causes the sending of a large police response to an address where no emergency exists. The caller typically triggers this huge response by making a false report of a serious crime in progress, such as a homicide in progress, a hostage situation, or other similar incidents. I used the word dangerous above deliberately and carefully, because as a former law enforcement officer, I know all too well how ramped up law enforcement officers get when responding to these calls for service and the firepower that typically accompanies these officers when responding to these calls for service. This can place innocent persons in danger when the officers arrive at the address dispatched when they are slow or reluctant to follow an officer’s commands, which can oftentimes be at gunpoint, because the citizens have no idea what is happening. They’ve been set up. And in today’s world where school shootings and workplace violence are almost daily occurrences, a calltaker receiving one of these calls treats it as if it is factual until proven otherwise and law enforcement officers respond with the same mentality.

Earlier this year in Prince William County, an unknown caller called the Emergency Communications Center to report that he was feeling “homicidal” and was about to enter a school. The calltaker tried her best to reason with the caller begging him not to enter the school and eventually the call was disconnected. This generated a large police response from two police departments. When they arrived at the school, it was determined to be a false call.

In 2017, a swatting attack proved deadly when a Kansas man was shot and killed by police officers after someone falsely reported a hostage situation at his home. Since 2014, over 370 swatting incidents or threats have been reported to the FBI, demonstrating the ongoing impact of this issue and varying degrees in severity (e.g., loss of life, property, money) these attacks pose. Secondary risks from swatting incidents include the potential of use as a diversionary tactic to divert first responders' attention away from another planned, real incident of greater impact to public safety and national security.

The best legal recourse and deterrence to swatting are strict laws and enforcement combined with strong punishment. However, as we all know, consistent legal recourse for swatting attacks is very limited in scope. Most states and municipalities do not have laws that address these types of incidents, so at best, those who are identified and arrested often only face misdemeanor charges. Swatting has proven not only costly for 9-1-1 centers and field responders, but also extremely difficult to combat. Thus, enhancing the penalties for swatting and providing reimbursement to public safety agencies will be very helpful.

9-1-1 is Built on Trust

Today's 9-1-1 is not the 9-1-1 we grew up with. Some states and localities have transitioned to advanced IP-based calltaking and dispatch functions, trading notepads and light boards for half a dozen computer monitors, three keyboards, and high-speed internet connections. These advances, part of the transition to Next Generation 9-1-1, will allow a far more robust connection between a caller and public safety, and will provide 9-1-1 with the tools to better guide incident response and save lives.

But the fundamentals of 9-1-1 remain the same. The calltaker's headset remains as much a symbol for the 9-1-1 community as the stethoscope is for medicine or the gavel is for law. When you call 9-1-1, you connect to a human telecommunicator. That telecommunicator will ask you questions about the nature of your emergency while preparing an appropriate and timely response by police, fire, and EMS. Telecommunicators ask crucial questions about the nature and context of the incident, the identity and condition of the people involved, and the dangers to citizens and responders that may still remain. Every shift, telecommunicators remain calm and collected while taking in graphic information about shootings, domestic violence, car accidents, and any number of other incidences many of us go through our lives never having to experience.

In most of the United States, 9-1-1 telecommunicators know very little apart from what they're told by the caller. Non-voice information generally only consists of the caller's phone number and their location (the accuracy of which can vary widely depending on many factors). So at the end of the day, a telecommunicator has no choice but to trust the caller. This trust is key to understanding the difficulty faced by 9-1-1 when combating "swatting".

Swatting is Not a New Phenomenon

Swatting is not a new phenomenon. In fact, the term officially turned ten this year.¹

¹ See generally <https://archives.fbi.gov/archives/news/stories/2008/february/swatting020408>

Motivations for swatting include revenge, rejected sexual advances,² fame, mischief,³ or some combination thereof.⁴ Most swatting victims are regular citizens, but past victims include Hollywood celebrities like Ashton Kutcher, Tom Cruise, and the Kardashians; countless YouTube gamers;⁵ and even one of your colleagues in Congress, Rep. Katherine Clark of Massachusetts, who became a victim after introducing legislation to help combat swatting and other online harassment.⁶ The individuals and teams who carry out these attacks do not need to be local, either — by using VoIP services to make it appear that they're calling from a local line, swatters can work with no geographic restrictions on them or the locations of their victims. This freedom lets swatters work as mercenaries, carrying out multiple swatting operations across the country in exchange for pay.⁷

Public safety's response to a swatting call varies widely based on a number of factors, including the nature of the fake call, the responding agency's capacity to respond to threats of serious violence, 9-1-1's skepticism of the caller's truthfulness, telecommunicator experience and training, and countless other factors.

² See https://www.wired.com/2009/06/blind_hacker/ (“The FBI began investigating [Matthew] Weigman after he staged a 2005 hostage hoax that sent police to the Colorado home of Richard Gasper, a TSA screener whose daughter refused phone sex with Weigman.”)

³ See generally <https://www.nytimes.com/2015/03/21/technology/online-swatting-becomes-a-hazard-for-popular-video-gamers-and-police-responders.html>, and <https://www.cnn.com/2013/03/11/showbiz/kutcher-swatting-conviction/index.html>

⁴ See generally <https://www.theguardian.com/us-news/2018/jan/15/tyler-barriss-swatting-death-regret>

⁵ See generally <https://www.youtube.com/watch?v=gedVHbgt7c>; and <https://www.csmonitor.com/USA/USA-Update/2015/0209/What-are-police-doing-to-prevent-swatting>

⁶ <https://www.npr.org/2018/01/02/575043357/latest-swatting-incident-keeps-rep-clark-pushing-for-legislation>

⁷ See <https://krebsonsecurity.com/2018/01/serial-swatter-swautistic-bragged-he-hit-100-schools-10-homes/comment-page-1/>, (“Bomb threats are more fun and cooler than swats in my opinion and I should have just stuck to that,” SWAuTistic said. “But I began making \$ doing some swat requests.”)

Diffusing the situation involves, at best, a tense conversation between the swatting victim and responding officers; and at worst, the accidental death of a person with absolutely no involvement in the original dispute.⁸

The Cost of Swatting

Estimates of the nationwide impact of swatting vary, but we know that it is common, widespread, and costly. The costs of swatting involve not only money, but also time, energy, trust, and human life.

Footing the Bill

The types of incidents most commonly fabricated for the purposes of swatting — bomb threats, mass shootings, and hostage situations, for example — demand a significant expenditure by the responding agency. Agencies must pay not only for SWAT personnel, the use of tactical equipment, and fuel for SWAT vehicles, but also ancillary incident services like traffic control, fire and EMS availability, mutual aid, and other logistical and operational support. For example, a 2015 incident in Rochester, New York, required not only the 30-member SWAT team, but also an additional 30 uniforms for support.⁹ Mutual aid in dense urban areas only multiplies the costs: a 2014 Long Beach, New York, incident involved more than 70 responders from local police as well as units from the county and transit authorities.¹⁰

⁸ <https://www.nbcnews.com/news/crime-courts/three-including-intended-victim-charged-kansas-swatting-death-n876946>

⁹ <https://www.marketplace.org/2015/05/19/tech/swatting-not-new-phenomenon-cost-rising>

¹⁰ See <https://www.thedenverchannel.com/news/front-range/greeley/swatting-hoax-cost-25000-for-law-enforcement-response-to-bogus-hostage-incident-in-greeley>

The estimated cost of that response was around \$100,000. In Colorado, a campus swatting resulted in a nearly \$25,000 response by units from half a dozen jurisdictions.¹¹

A Drain on Resources

Swatting's impact is more than just budgetary, of course. Assembling a response to a fake incident forces an agency to divert resources keeping units from responding to other, *real* emergencies in the area. Swatting incidents are stressful for responders, as well — any time a major threat to public safety occurs, first responders know they'll be putting their lives on the line when they respond. It's hard to overstate the difficulty a police officer faces when he or she has to "come down" from the heightened state of response to sort out the fact that his or her agency has been duped into responding to a fake incident.

Swatting Frequency

Swatting also appears to be increasing in frequency. As streaming of online games through sites like YouTube and Twitch increases, the opportunities for — and potential targets of — swatting multiply. I ask that you aggressively move forward to legalize this legislation.

¹¹ <https://www.thedenverchannel.com/news/front-range/greeley/swatting-hoax-cost-25000-for-law-enforcement-response-to-bogus-hostage-incident-in-greeley>

H.R. 6424

According to the Federal Communications Commission Ninth Annual Report to Congress on state collection and distribution of 9-1-1 and enhanced 9-1-1 fees and charges for the period from January 1 to December 31, 2016, states like New Jersey and West Virginia used a portion of their 9-1-1/E-9-1-1 funds to support non-9-1-1 related public safety programs. Illinois, New Jersey, New Mexico, and Rhode Island used a portion of their 9-1-1/E-9-1-1 funds for either non-public safety or unspecified uses. And while New York did not submit a report in response to the 2016 data collection, sufficient public record information exists to support a finding that New York diverted funds for non-public safety uses. Every PSAP that I know of has funding challenges – either impacting them with staffing shortages; outdated technology; poor training and little to no policy. Every cent diverted from 9-1-1 could be used to enhance these major vulnerabilities that are ever so present in almost every Center.

At the federal level, one of the key tools for combatting fee diversion has been that states lose eligibility for federal 9-1-1 grants. Currently a \$115 million grant program is being implemented. However, when you compare that to the FCC's most recent figure for diverted fees - \$128,909,169 - the potential loss of grant funds isn't necessarily compelling. That's one reason that a more significant federal grant program could be so helpful for modernizing 9-1-1. According to the FCC's report, the amount of funding provided by 9-1-1 fees (\$2.8B) isn't even close to covering the annual cost to provide 9-1-1 service (\$3.5B). Thus, significant federal funding is essential for achieving NG9-1-1. 9-1-1 cannot and should not have to struggle against the rest of public safety for funding. 9-1-1 needs a solid, sustainable, predictable method of funding, dedicated and non-diverted. 9-1-1 fees is the only reliable source of funding for PSAPs.

H.R. 5700

This bill caused the most amount of discussion and disagreement with the 9-1-1 Directors that I spoke with. While some were supportive of a public safety short code for mobile users for non-emergency circumstances because of ease and standardization for the caller, it can bring some unintended consequences to emergency communications centers, such as significantly increasing their call volume without consideration for additional staffing. Currently, there are many different wireless short codes in operation across several states throughout the United States - 311, 411, 511, #77, just to name a few. A national non-emergency number would help consolidate the multiple numbers that exist today into a singular, standardized number that could decrease confusion and improve non-emergency response times. Non-emergency numbers, primarily used on highways, allow individuals to quickly and easily contact public safety in critical times of need that do not rise to the immediate emergency level (i.e., car malfunctions).

As an example, in many major metropolitan areas, commuters often travel across as many as five municipalities in order to commute to work. In order for one of these commuters to notify a communications center of a non-emergency incident, they would have to look up the non-emergency number for each jurisdiction, which can often be difficult to locate. This can be dangerous if the person searches for this number while driving, discouraging if it becomes too burdensome, or else people will just do what is easiest safest for them – dial 9-1-1 anyway.

In July 1996, the Department of Justice's (DOJ) Office of Community Oriented Policing Services (COPS) made a formal request to the FCC to reserve 3-1-1 as a national non-emergency hotline. In February 1997, the FCC approved this request, designating 3-1-1 as a national,

voluntary, non-toll, three-digit phone number for non-emergency calls. To promote the proliferation of this model, the COPS Office awarded millions of dollars in funding to support the implementation, enhancement, and evaluation of 3-1-1 state/local non-emergency systems, which has demonstrated numerous benefits across the country. A public safety short code for mobile users for non-emergency circumstances could prevent 9-1-1 overload while still responding to citizens' needs, but the mere presence of a non-emergency short code is only a first step. In order to take advantage of a national non-emergency short code, the 9-1-1 industry would need to tackle three aspects of implementation.

PSAP operations will need to change in order to effectively utilize a three digit short code, for starters. Calltakers would need to be trained on the proper procedures to take with this new technology. Transfers to 9-1-1 would need to be as close to seamless as possible for the telecommunicators and the caller, bringing about an added cost to the Center.

9-1-1 technology would need to adapt. There would need to be a seamless transition from a three digit non-emergency call center to a 9-1-1 center (the two may be geographically distinct in some situations) adopting common standards as much as possible, like i3, and interoperable call processing equipment (CPE) and computer aided dispatch (CAD).

Last, but just as important as the other two is outreach and public education. 9-1-1 is universally recognized as the go-to emergency number because the public has been educated on that fact for the past 50 years. Any three digit non-emergency short code system will need to develop, implement, and maintain a public education program that ensures the community understands which number to use and why. Confusion between the two numbers can cause delays which can threaten lives.

In California, for example, as many as 45 percent of the more than 8 million cell phone calls to 9-1-1 each year are for non-emergencies. The growing dependence on 9-1-1 has caused backlogs and inefficiencies for first responder agencies, leading to a variety of consequences for callers with emergency needs. A response to this crisis is needed to reduce the number of non-emergency calls to 9-1-1 and keep 9-1-1 phone lines available to help people experiencing life-threatening emergencies. As a result, a non-emergency short number could ensure individuals are able to contact public safety officials when reporting non-emergency situations – regardless of what state they are in.

So, as you can see, there is lots to consider before advancing any bill calling for a public safety short code for mobile users for non-emergency circumstances. I recommend that this matter be forwarded to the Federal Communications Commission for further review and consideration and that a formal group/committee return a well thought-out recommendation to this Committee. There are just too many unknowns and unintended consequences to 9-1-1 centers that could have a crippling effect despite all of the positive impacts.

In closing, I'd like to take a brief moment to thank Representatives Shimkus and Eshoo for joining with their co-chairs of the NextGen 911 Caucus to send a bipartisan letter to the Office of Management and Budget urging OMB to revise the Standard Occupational Classification to accurately represent the life-saving nature of the work performed by 9-1-1 professionals. 911 professionals work behind the scenes to protect the lives of the public and first responders. It's disappointing that the federal government labels them as "Office and Administrative and Support Occupations," but Mr. Shimkus and Ms. Eshoo, your support and recognition meant a lot to our community.

After all, emergency telecommunicators are the "*first of the first responders*". I'm very grateful for the attention this Committee has given to these very important bills that enhance public safety in general, but most importantly, seem to assist the 9-1-1 industry the most. We should all strive to make our public safety first responders as effective and efficient as possible when responding to any emergency.

Mr. LANCE. Thank you very much for your distinguished testimony.

Mr. Curry, you are recognized for 5 minutes.

STATEMENT OF JAMES CURRY

Mr. CURRY. Good morning.

Mr. LANCE. Good morning.

Mr. CURRY. Vice Chairman Lance, members of the committee thank you for giving me the opportunity to speak with you today. It is an honor and privilege to take part in this hearing and be a part of this great nation's legislative process.

I am the division head for the Hunterdon County communications center in New Jersey, the first county 9-1-1 system to operate in that State. Prior to my current position, I was a police officer for 27 years and retired at the rank of captain. I have spent my entire professional career in public emergency service without regret.

Like many counties in New Jersey, Hunterdon County is a mix of suburban and rural communities with many bucolic hamlets and villages. It is dotted with preserved farmland, numerous acres of park land, and two recreational reservoirs. Interstate 78, a major highway and artery for Newark and Elizabeth, divides the county in half north and south.

The communications center is the sole provider of emergency communications for each municipal police department, fire department, and EMS agency in the county. All totaled we dispatch for about 60 organizations. Daily we average a little over 100 9-1-1 calls or about 38,000 a year. This is carried out by 25 dedicated, full-time public safety telecommunicators, commonly referred to as dispatchers.

These men and women are never seen, always heard, and seldom recognized. They work nights, weekends, and holidays, and like our first responders they can't stay home because the weather is bad. Day in and day out they speak to folks who are having the worst day of their lives. For some of those callers, the dispatcher is the last human voice they will hear. If you ask the dispatchers why they keep doing the job, most will answer because they enjoy it. They enjoy making a difference.

I live and work in the State of New Jersey. It is a fantastic state. Beaches, mountains, entertainment venues, New York City, and Philadelphia all within a short drive from most anywhere in the state. Its marine ports, colleges and universities, all within a short drive from anywhere in the State, and businesses, also make it a great place to live and work. New Jersey is a major hub of global economy.

Unfortunately, but deservedly, it is also known as a heavily-taxed state. We in New Jersey have come to enjoy top-shelf services, especially the emergency service we receive. After all, you get what you pay for. Well, maybe not always. I was requested to appear today before this committee to discuss H.R. 6424, the 9-1-1 Fee Integrity Act, because in my State when you pay certain fees on your phone bills, called 9-1-1 fees, it doesn't finance what one might expect.

According to the New Jersey Association of Counties and the New Jersey Wireless Association, the state collects approximately \$120 million annually in consumer surcharges as 9-1-1 system and emergency response fees and deposits into a trust fund. However, according to the FCC, since 2006, only 11 percent of the 1.3 billion collected has been spent on eligible expenses. None of the money has been used to fund those eligible expenses at the 9-1-1 level, local 9-1-1 level.

To provide an example, last year we completed an upgrade to our 9-1-1 phone system. It wasn't voluntary. The old system was no longer supported. At a cost of \$600,000 the project was paid for using capital improvement funds, in other words taxpayer money. Those taxpayers may have thought they subsidized it when they paid their phone bills, but actually they paid for it twice.

Operating a 9-1-1 center is expensive. In 2016, our overall budget exceeded two and a quarter million dollars. This year our operating budget alone was \$310,000. The cost to maintain our 9-1-1 system will devour well over one-third of that. The remainder will be spent on radio equipment and tower and generator maintenance, site security, and a host of other essential expenses.

We look forward to the day when Next Generation 9-1-1 is realized in New Jersey. It will enable the public to transmit text images, video, and data to our center. Our frequent saying by one of our technicians, Matt Tamburro, is this isn't like what you see on television, and it isn't. The reality is dispatchers try to find a caller's location by manual entries and interrogation.

We don't know what the associated costs will be for us for Next Generation 9-1-1 and I dodge the constant barrage of vendors, daily, willing to sell us their products that will get us through until the arrival of Next Generation 9-1-1. Those wares come with a hefty price tag. Even in just a small 9-1-1 center like ours, the cost can exceed \$35,000 annually.

I could ramble on about the 9-1-1 funding needs of the Hunterdon County communications center, but I would prefer to conclude with the importance of 9-1-1. When a caller requests the police they understand that officer may be on another call. When that caller dialed 9-1-1 they expect it to be answered immediately and by a well-trained professional. The police may work short-handed for a shift, but the 9-1-1 seat must be occupied.

This month we remember the tragic events of 9/11 and just a few miles to our south the effects of a major hurricane continues to wreak havoc on tens of thousands of people's lives. When citizens are faced with a situation beyond their own capabilities they will dial 9-1-1. Those three digits are the same for everyone and it does not discriminate. Perhaps we can do without electricity for a short while, but we must have a robust 9-1-1 lifeline infrastructure. Likewise, the dispatchers need the tools to accomplish their mission of helping others and saving lives.

I want to end my statement by publicly thanking the Hunterdon County dispatchers, technicians, and administrative staff. You do make a difference every day. Moreover, I wish to thank this committee for your time and devotion to public service not only concerning this issue but for all matters that have and will be decided on in the future. Thank you.

[The statement of Mr. Curry follows:]

Testimony of James Curry

Division Head, Communications Division

Hunterdon County, New Jersey
Department of Public Safety

Before the House Committee On Energy and Commerce
Subcommittee on Communications and Technology

September 26, 2018

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Thank you.

Mr. LANCE. Thank you very much, Mr. Curry.

The chair now recognizes Captain Starks for 5 minutes, Captain Starks. Welcome to the subcommittee.

STATEMENT OF PAUL STARKS

Mr. STARKS. Thank you and good morning to distinguished members of this committee. My name is Paul Starks. I am director of the Public Information Office with the Montgomery County Police Department where I have been a cop for 34 years. Our jurisdiction is in Maryland just across the line and adjacent to the District of Columbia.

We live in a time where so many forms of technology have been developed and can be accessed by most people and we live in a country with a free and open society where a variety of communication paths are available to virtually everyone. Some of these methods to call in a phone call or post or send messages are assigned to and can be traced back to an individual, but some of the steps that are used in some of these methods are not as easily walked back and therefore it is not as easy to determine the history of access or use.

Some of that lends itself to false reporting of in-progress, violent crimes that can potentially cause a major response by law enforcement, fire and rescue, and other emergency services providers. That type of false call has been termed "swatting." When an individual creates a swatting incident detailing false information that involves an act of violence, sometimes involving a large population group like that of a school, it causes large numbers of personnel to put forth efforts that are not only costly but also strip an organization and a community of public safety resources.

When a message is first received, call takers, dispatchers, and their supervisors become involved in gathering details regarding that call. This event also may take a 9-1-1 line out of service while these details are confirmed. Next to be involved are the cops and fire and rescue employees who are taken from their primary responsibilities and direct their attention to the current call. This involves a potentially dangerous, higher speed, lights and siren responses and removes public safety personnel from their legitimate duties.

Should there be an actual need in that same geographical area, help must come from further away making someone experiencing a medical emergency or a crime victim wait unnecessarily for potentially lifesaving resources. Furthermore, depending on the details of the swatting call, tactical team members, negotiators, and specialty fire and rescue personnel and their equipment are often dispatched to these scenes.

When first responders arrive, an attempt to contact potential victims and suspects at what it is believed to be an active and volatile scene it becomes potentially dangerous for all parties. At one such encounter in Kansas this led to an innocent father of two being fatally shot by responding law enforcement officers who legitimately believed he was a threat at that scene. Investigation of that event led to a California man being charged with being responsible for the swatting event where the call was initiated.

In the recent past in my jurisdiction, Montgomery County has received multiple swatting calls. One event involved a message claiming that bombs had been planted in a Silver Spring high school which led to an emergency response by public safety and evacuation of approximately 2,000 students and staff. This call was ultimately determined to have come from out of state.

Fortunately there were no reported injuries, but resources were deployed, teaching and learning came to a halt that day, and due to the weather students and staff had to be housed at other nearby schools and places of worship causing other disruption. This doesn't begin to address the cost of long-term investigative efforts and also the potential emotional toll taken on students and staff who are affected by these types of calls.

In conclusion, I believe this bill is necessary to augment state and local efforts with federal resources to investigate swatting events, and in the end individuals who initiate these calls will be more easily held responsible by employing appropriate fines, incarceration, and specific cost recovery from suspects for expenses incurred during the response and investigation. I thank you for your attention.

[The statement of Mr. Starks follows:]

Testimony of Paul Starks

Director of the Public Information Office

Montgomery County, MD Police Department

Before the House Committee on Energy and Commerce

Subcommittee on Communications and Technology

September 26, 2018

My name is Captain Paul Starks, Director of the Public Information Office with the Montgomery County Police Department where I have 34 years of experience of being a cop. Our jurisdiction is in Maryland, immediately adjacent to the District of Columbia.

We live in a time where so many forms of technology have been developed and can be accessed by most people, and we live in a country with a free and open society where a variety of communication paths are available to virtually everyone.

Some of these methods to post, send, or call in a message are assigned to and can be traced back to an individual, but some use steps that are not as easily walked back and therefore it's not as easy to determine the history of access or use. Some of that lends itself to false reporting of in-progress, violent crimes that can potentially cause a major response by law enforcement, fire and rescue, and other emergency services providers. That type of false call is called "swatting."

When an individual creates a swatting incident, detailing false information that involves an act of violence, sometimes involving a large population group, like a school, it causes large numbers of personnel to put forth efforts that are not only costly, but also strip an organization and a community of public safety resources.

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and removes public safety personnel from legitimate duties. Should there be an actual need in the same geographical area, help must come from farther away, making someone experiencing an medical emergency or a crime victim wait unnecessarily for potentially life-saving resources. Furthermore, depending on the details of the swatting call, tactical team members, negotiators, and specialty fire and rescue personnel and their equipment are often dispatched to these scenes.

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I believe this bill is necessary to augment state and local efforts with federal resources to investigate swatting events and in the end individual(s) who initiate these calls will be more easily held responsible by employing appropriate fines, incarceration, and specific cost recovery from suspects for expenses incurred during the response and investigation.

Thank you.

Mr. LANCE. Thank you very much, Captain Starks. And to the entire panel, thank you for your public service.

I will begin the questioning and recognize myself for 5 minutes. I had the opportunity to tour the 9-1-1 call center operated by Mr. Curry in Hunterdon County, New Jersey. It is the county where I live. It is a relatively small county, 130,000 residents. We only have 21 counties in New Jersey with nine million people, so it is one of our smaller counties.

Mr. Curry, how much funding have you received from the state 9-1-1 system over the past 10 years?

Mr. CURRY. From the state, zero.

Mr. LANCE. Where does the majority or perhaps the entirety of your funding come from?

Mr. CURRY. Taxpayer money.

Mr. LANCE. Taxpayer money, but not from state coffers.

Mr. CURRY. No, it is local property tax.

Mr. LANCE. From the property tax burden. What is your county's long-term plan for upgrading to Next Gen 9-1-1 given the lack of state funding?

Mr. CURRY. As we wait for the Next Gen 9-1-1, there are vendors out there that can provide us with software similar to the Next Gen 9-1-1, but it comes at a very high price tag. So it is questionable if we will actually be able to afford that. Until then, we will just continue conducting business as we do.

Mr. LANCE. Thank you.

Mr. Reyes, does the public, in your opinion, understand that in some states funds are diverted and that part of their monthly telephone bill is being collected to upgrade the systems when in fact that may not always be the case?

Mr. REYES. I don't think they understand, but as I said, Mr. Lance, in the Commonwealth of Virginia that is not so much of a problem. So that is why it has not been a widely publicized issue for that.

Mr. LANCE. You are doing a good job in Virginia.

Mr. REYES. Well, the elected officials are, sir.

Mr. LANCE. I commend you.

And what is the situation in Maryland, in your jurisdiction, Montgomery County?

Mr. STARKS. What was the specific question?

Mr. LANCE. The question relates to the funding that is received. Do you receive funding for these purposes from the state of Maryland?

Mr. STARKS. Some generally, I can't confirm the exact forms for the amounts or percentages.

Mr. LANCE. Thank you.

Regarding Congresswoman Brooks' fine legislation, would any member of this distinguished panel care to comment on it and on your views as to how we should move forward regarding Congresswoman Brooks' legislation?

Mr. STARKS. Is that for the cost recovery?

Mr. LANCE. No, no, on emergency calls.

Mr. Reyes?

Mr. REYES. Yes. I will start with that, Mr. Lance. So that is a mixed one for us. So while we think that there should be standard—

Mr. LANCE. I am a hundred percent for it, but—

Mr. REYES. So while I think that, you know, it makes sense to come up with a standardized non-emergency number that is across the country similar to what we have right now for the emergency number, the concerns with that is that centers would start to receive a lot more volume and that we wouldn't have sufficient personnel.

So I think it is a good idea providing that there was funding considerations given to additional staffing in the centers.

Mr. LANCE. Very good. Would any other member of the panel like to comment? Mr. Curry?

Mr. CURRY. Sure, Congressman, thank you. In the state of New Jersey we have #-7-7, which is informally known as the snitch number, which is when you can dial that number in for aggressive drivers, people on cell phones and stuff.

Mr. LANCE. Yes.

Mr. CURRY. We also have 5-1-1, which is another number, which gives you an automated instructions for traffic.

Mr. LANCE. I see.

Mr. CURRY. So even in amongst the state of New Jersey we have two different numbers that can be confused.

Mr. LANCE. It is confusing.

Mr. CURRY. So I would appreciate that in my state.

Mr. LANCE. Captain Starks?

Mr. STARKS. To echo what Mr. Reyes said, this is a good idea for this national non-emergency code or number but as long as the staffing is also provided.

Before coming here I spoke with the director of our ECC. He is for anything that can free up 9-1-1 lines for true emergencies and get the non-emergency calls which every center receives directed to the non-emergency lines.

Mr. LANCE. Thank you.

Without objection, I will enter into the record the following documents: A letter from the Hunterdon County Freeholders—freeholders in New Jersey are county commissioners—in support of H.R. 6424, the bill I am sponsoring, and an article on the 9-1-1 fee diversion in New Jersey, without objection.

[The information appears at the conclusion of the hearing.]

Mr. LANCE. And now I am pleased to recognize the ranking member, Mr. Doyle of Pittsburgh.

Mr. DOYLE. Thank you, Mr. Lance. Snitch number, huh? That is only in Jersey would they call it a snitch number.

Mr. LANCE. Thank you for that very nice compliment, Mr. Ranking Member.

Mr. DOYLE. Well, I will tell you I would like to call that number every time I see somebody texting while they are driving their car.

So let me ask a question for the entire panel. Maybe we can just start with Mr. Reyes and go forward. You know, as all of you are considering the cost of maintaining and upgrading 9-1-1 systems to enhance the next generation systems, are you concerned that the

current federal, state, and local funding structures are sufficient to deploy a robust and resilient national 9-1-1 system?

Do you any of you believe there is a funding shortfall nationally that may leave many communities behind? What is your thoughts on or how confident do you feel that the funding exists for you to put that kind of a system in?

Mr. REYES. So in Virginia I can tell you that most 9-1-1 center directors are grossly underbudgeted. And so there is not enough budgeting especially not for Next Generation 9-1-1. In the National Capital Region, the Northern Virginia center directors are implementing Next Generation 9-1-1 as a region, not so much as an individual, just to take advantage of, you know, multiple purchases reducing the cost. And I can tell you that we are, you know, moving our different priorities around to make sure to accommodate that.

At the federal and state level, again I don't agree that there is sufficient funding being directed towards 9-1-1 centers. I think what we would need in order to get to that level is a bill similar to the bill that brought FirstNet on for national broadband. Give that same level of attention and funding to Next Generation 9-1-1.

Mr. DOYLE. Thanks, Mr. Reyes.

Mr. Curry?

Mr. CURRY. As it stands today, with 89 percent of the phone bill fees being diverted away there is obviously not enough money. Only 11 percent is going towards 9-1-1 at all at the state level.

Mr. DOYLE. This is in New Jersey?

Mr. CURRY. This is in the state of New Jersey. And I have full faith in the state of New Jersey that the people who handle 9-1-1 at that level that they can get us Next Gen 9-1-1, but they would need proper funding to do so.

Mr. DOYLE. Thank you.

Mr. Starks?

Mr. STARKS. Thank you. To save time I would say similar to what they said, and in Montgomery County a specific example is that the funding isn't there. Right now we have mandatory overtime for workers there and there is an incredible turnover. I don't think that is unique across the country.

Mr. DOYLE. Yes. I would just reiterate to my colleagues, if we want to get this problem solved it is going to take more resources and I think there is just no doubt about that. It seems like swatting is only getting more and more commonplace. I get calls all the time that are not only my area code, but my local dialing code. And I am thinking it is somebody that I know because the number looks familiar and it is—well, you don't know who it is. It is a tape recording or something else saying that they want you to do something.

But, and I think, we see this swatting as putting more and more people at risk every day too when it involves, you know, phony calls that require first responders to do something, you know, the question is there.

Are you all getting concerned that it is getting harder to verify a caller's identity and location? Do you see this is as a problem and are your people experiencing more and more incidents of not being able to correctly identify a caller's name and location?

Mr. REYES. So in Prince William County, Mr. Doyle, it is difficult to find legitimate callers, people that are calling 9-1-1 because they can't breathe or they are having a robbery in progress, let alone the swatters. The swatters, the experiences that we have had, we had one just a couple months ago at a school and that person was out of the country, the IP address that was tracked down wasn't even in the United States. So of course even if we were to track that person down, prosecution would be nearly impossible.

Mr. DOYLE. Any others have comments on that?

Mr. CURRY. To echo what Mr. Reyes said, we had one recently. And we work in a—I wouldn't say that it is getting harder for us to track people down, but it is surely not getting easier and Next Gen 9-1-1 would help us with that.

But also to echo the captain as well, for a small center like ours when we get one of those calls we don't have a lot of redundant resources in the form of personnel. So when we get a call like that it is all hands on deck and it really does detract from somebody else who could possibly be having a legitimate emergency.

Mr. DOYLE. Yes. It is a real problem.

Mr. STARKS. Mr. Doyle, in your opening statement you used the terms "malicious," "deadly," and I believe "wasteful," and you are dead-on there. There is just a ripple effect when these calls come in and many times it is a larger scale event like a school, but sometimes it is a residence, somebody of some notoriety.

In one instance in Montgomery County it was a national news broadcaster who wasn't home. And dispatchers and good cops who were responding recognized some of the characteristics of this call and really put some information together and determined that this man wasn't even home but was in New York City, made contact with him and really diverted a lot of resources from coming and stopped a potentially dangerous situation from occurring.

Mr. DOYLE. Thank you, Mr. Chairman. I yield back.

Mr. LANCE. Thank you. And the chair now recognizes Mr. Shimkus.

Mr. SHIMKUS. Thank you, great to have you. Thank you for your service, all of you. I am going to be pretty brief and short because I think the bills are pretty clear and I think they identify problems and we have got to move the process forward.

But, first of all, I just wanted to mention that here, across the country, and even in Washington, D.C. it is kind of all opioids all the time and so we allowed the naloxone to be administered by first responders in this most recent package. I think we want to obviously have the appropriate training, so I think there is some funding to allow training for that to happen because we know with that ability to help comes a risk and we have seen that in the first-line responders.

So I would ask the associations to keep us posted on what we may be doing to be helpful and what things we are doing that may not be helpful.

This fee diversion thing has been a bone of contention with me for a long time. I have been in the 9-1-1 debate especially in the cellular side since I have been a member and my state was pretty good at first and then it became bad and now rumors are that they are labeled as good. But I am worried about the gaming of the sys-

tem by states by filing that they are not diverting and then as soon as it has been listed that they are not a diversion state they divert.

Do you see any of that gaming going on in the system from your observations? Mr. Curry is probably the best.

Mr. LANCE. You have a right to remain silent, Mr. Curry.

Mr. CURRY. I don't know that it is good or bad that you called on me for that. You know, if I sounded too negative about the state of New Jersey I didn't mean to be. In fact, they are one of the states that when they were asked did come forward and they were truthful in how they do spend the money. I think it is going to just require a constant observation by the FCC.

Mr. SHIMKUS. Well, I think the benefit of my colleague Mr. Lance's bill it ensures that states do the right thing. And I think Congressman Lance is right on, or actually Chairman Walden too. We see this in other things. When you collect money for a certain purpose and not use it for that purpose most average Americans would not get away with what governments are allowed to get away with.

So, well, let me ask Mr. Curry, on the accounting side loss, so for a year you probably have a projection of what you should receive and if you don't receive that is there any hope and expectation that you will receive it or is it a loss, year by year it is gone?

Mr. CURRY. There is never a projection to receive anything. I know from every year that from the state I am going to receive zero.

Mr. SHIMKUS. But you should be able to know since it is a fee on—don't you have a projection of what you hope to get?

Mr. CURRY. That figure would be what the state takes in and then how they decide to spend that money would be up to them.

Mr. SHIMKUS. Yes, I would think that there would be a better way. I guess the way I am trying to ask the question is since you don't know what the apportioned amount might be there is no way that you book hopeful incoming revenue so that you can't book loss because you are never projecting revenue.

Mr. CURRY. Correct. I never project revenue from the state.

Mr. SHIMKUS. Yes. Well, I am sorry to hear that. Let me, I guess the last thing is for—I represent 33 counties in southern Illinois so obviously most of them are—yours would be a good county in my congressional district. It would probably be the biggest county in my congressional district.

Having said that, fee diversions for rural, small operating systems are probably, would you say there is an exponential challenge for rurals because of the cost, you just don't have the numbers? And what about the PSAPs really cover multiple areas so there may be a cascading event. Is that appropriate to word it that way?

Mr. CURRY. I think what you are asking me and I hope I am answering this correctly, there are certain requirements that you must have if you have a 9-1-1 center. It doesn't matter if you are a big 9-1-1 center or a small 9-1-1 center. You have to have CAD system. You have to have a recorder. You have the continued maintenance on all this equipment.

Again for us all that money is paid for by the taxpayer. And for these taxpayers they are paying for it twice.

Mr. SHIMKUS. Yes, great. Thank you very much.

I yield back, Mr. Chairman.

Mr. LANCE. Thank you, Mr. Shimkus. The chair recognizes Mr. McNerney.

Mr. MCNERNEY. Well, I thank the chairman and I thank the panelists. I am going to change the subject a little bit if you don't mind too much.

Our nation is facing a growing number of cybersecurity threats. For example, the Mirai botnet that was used in the DDoS attacks, WannaCry that had infiltrated hospital systems, and the Spectre and Meltdown chip vulnerabilities. So it is clear that we need to be more vigilant in protecting against cybersecurity threat. Now this is especially important in the case when it comes to protecting the safety infrastructure that we have. After all, how can public safety officials protect the public from harm if their own systems are vulnerable to attack?

So, Mr. Reyes, would you agree that it is something that we need to be concerned about?

Mr. REYES. Yes, absolutely, sir. We just had a meeting this week, the 9-1-1 centers of Northern Virginia—Ms. Gordon who is here representing Alexandria—and that was one of the issues that was in our agenda. And this is where the 9-1-1 funds that are given to 9-1-1 centers are being diverted. We are talking at the Northern Virginia region how to as a region, bring about one vendor that can give us the same level of protection across the board.

So that is something that is very high up on our agenda and we desperately are dedicating funding for protecting our networks because they are crippling on a regular basis around here, around the Beltway. And, you know, the vendors just chalk it up to, oh, we had a network issue, but we know that it is happening way too common for it to just be network issues all the time.

Mr. MCNERNEY. Thank you.

Mr. Curry and Mr. Starks, do you also agree?

Mr. CURRY. I agree. I don't have anything to add.

Mr. STARKS. Yes.

Mr. MCNERNEY. Well, what challenges do you face when it comes to protecting your own systems against the potential cyber threats, Mr. Reyes?

Mr. REYES. Well, it is the same threats and challenges that everyone else faces including, you know, the Department of Defense where our networks are constantly being attacked. The threats are growing stronger on a regular basis, but yet unfortunately at the local municipal level we don't have the resources both in personnel and in funding to address or tackle those types of constant threats.

So we are not in a proactive mode, we are more in a reactive mode. Unfortunately for us we would like to see when we are getting an attack to be able to prevent it. Unfortunately for some of the denials of service that we have witnessed it has been after the fact and we would like to prevent them and make sure they don't happen.

Mr. MCNERNEY. Well, I mean you were talking about some of the steps that you have taken. What are some of the things that you think that we in Congress could do to help you better protect your systems?

Mr. REYES. Well, funding of course is always the number one thing. And of course number two is some dedicated federal legislation that when we identify these individuals that are in our home and our home country be able to put some significant fines and punishment behind these individuals so that it could hopefully serve as a deterrence to others.

Mr. MCNERNEY. Thank you. I also want to talk about wildfires. In Northern California we have witnessed some devastating wildfires and it is absolutely critical that first responders have access to information as quickly as possible. Now in a recent incident, data service was slowed down for first responders battling wildfires and that is completely unacceptable. The wildfires have also drawn attention to the importance of wireless emergency alerts.

So, Mr. Reyes, given your experience in public safety what are some of the reasons why counties would choose not to use wireless emergency services?

Mr. REYES. Well, coverage is one of them. And the scenario that you described, while there was allegations of the vendor deliberately throttling back bandwidth the most significant concern when that is not the issue is just getting coverage in those rural and remote areas. So that is one of them.

The other one is overloading of the system. Because most of us are on commercial wireless networks, when you have a convergence of a lot of mutual aid and lots of first responders they very quickly overwhelm a commercial wireless system, whereas if we were to be on a dedicated network like FirstNet that should not happen.

Mr. MCNERNEY. Do you have anything to add, Mr. Curry?

Mr. CURRY. Actually I was just informed this past week by a vendor, by a representative of AT&T, we did buy into the FirstNet system. We are the first county dispatch center in New Jersey to do so, and again they assured that there would be no throttling back on the FirstNet system. As Mr. Reyes said, we do have some coverage issues in the county, but it is early on yet.

Mr. MCNERNEY. Well, how important, Mr. Reyes, do you think it is to have appropriate officials to receive the necessary training to administer these alerts then?

Mr. REYES. Very important, yes.

Mr. MCNERNEY. OK.

Thank you, Mr. Chairman. I yield back.

Mr. LANCE. Thank you very much. The chair recognizes Mr. Guthrie.

Mr. GUTHRIE. Thank you, Mr. Chairman. I appreciate the opportunity to be here and I have a few questions. And I am sorry. I have been—a couple other hearings are going on so I have been bouncing in and out, but I will try not to repeat what has already been asked or said.

So these are for Mr. Curry. Do you think states should be required to report the fees they divert to FCC? Right now the FCC study is voluntary. And is there any other information you don't get to include on the FCC study that you wish you could?

Mr. CURRY. To ensure that the money was being spent the way that taxpayers expect the money to be paid, I would have to say yes that there should be FCC oversight.

Mr. GUTHRIE. For the study. And do you think there is some information you would like to include that is not in the study now? Is there additional information?

Mr. CURRY. Not if the bill looked to be fairly thorough and complete.

Mr. GUTHRIE. Fairly thorough, OK. How does a county in a diverting state with multiple call centers handle this situation? Do they have to choose which call centers to upgrade or which call centers get to hire more staff or do they evenly split the funds among the call centers?

Mr. CURRY. Among local call centers in New Jersey no one has received any money.

Mr. GUTHRIE. No one has seen any money, OK.

Mr. CURRY. Out of the 11 percent that was spent on 9-1-1 it did not reach the local level.

Mr. GUTHRIE. It didn't get to the county level. OK. And then what are some of the features your 9-1-1 system is missing because you have been unable to upgrade due to financial constraints?

Mr. CURRY. The biggest hurdle we have is caller location. We don't have Next Gen 9-1-1 and the software is very expensive to purchase for us to give us the ability to do that without the Next Gen 9-1-1. We would have to have an outside vendor provide us with that software.

Mr. GUTHRIE. OK, I appreciate, well, I appreciate that and that is my questions. So I will yield back my time.

Mr. LANCE. The chair recognizes Ms. Clarke.

Ms. CLARKE. I thank Chairman Lance and Ranking Member Doyle for convening this very important hearing on public safety communications. I am pleased that the subcommittee is considering the Anti-swatting Act introduced by my colleague and fellow New Yorker Mr. Engel.

Over the past several years, the practice of swatting has increased in prominence. Swatters who have often been involved in online disputes make hoax calls to emergency response teams leading to their deployment. The practice has resulted in wasted law enforcement resources and physical harm, even death, to its unsuspecting victims.

So my first question is actually to Captain Starks. I have read stories of Parkland activist David Hogg being the victim of swatting and worry that such techniques may be used to stifle debate and free expression in addition to all of the other harm that it causes. In your experience are swatting calls being targeted at particular populations or types of individuals?

Mr. STARKS. Yes, and I don't think it is unique to Montgomery County. It has been schools where I mentioned had to be evacuated and housed because of the weather that day, but also people of notoriety as well are targeted. And the intent is to bringing all kinds of resources and then when you do that the potential dangerous situation to anyone who may be at that location whether it is a business or a residence with that kind of response.

Ms. CLARKE. Is there a psychological profile that is sort of beginning to, I guess, come to the fore around individuals who would engage in these swatting tactics?

Mr. STARKS. None that I know of. But it seems just to be a younger population. The example I mentioned where the school was evacuated, I believe the person was a juvenile located outside of this country.

Ms. CLARKE. Wow, OK. Law enforcement officers face difficult choices in the best of circumstances and I am concerned that swatting calls might be particularly devastating in some minority communities where unfortunately there might already be tensions with law enforcement.

So Captain Starks, what can we do to deter swatters and help police officers safely respond to these dangerous hoaxes regardless of where they are called in?

Mr. STARKS. I think more discussion about this, more education to the public that this is not a joke. It is not a hoax but it does cause, as been mentioned, a waste of resources, resources being stripped away from what they would normally be doing. But more importantly, there is a potential danger to anyone on both sides of this issue, the responders and whoever happens to be home.

I think the education piece is one part of it and I think the components of this legislation are important as well to make it a federal crime. And of particular interest to my ECC director was the cost recovery where we can provide an accounting or a local jurisdiction could provide an accounting and then get those dollars back from the group or an individual who caused it to occur.

Ms. CLARKE. Very well. And law enforcement has sometimes had difficulty classifying swatting under current laws. Some cases have resulted in charges related to cyber terrorism while others have approached the issue as a criminal mischief. How would you classify swatting under our current legal system?

Mr. STARKS. Well, it would be a criminal offense to make a false call in the state of Maryland, to make a false, you know, emergency call. But this additional legislation would clearly add more bite to it.

Ms. CLARKE. Very well. Some swatters have been convicted under federal criminal statutes. How would Mr. Engel's bill help law enforcement officers and prosecutors contain the threats posed by swatting?

Mr. STARKS. I think with the more specific legislation that has been mentioned and the ability to have some options depending on the circumstances of the allegations—local, state, or federal—gives us more options and more advantage over these criminals.

Ms. CLARKE. Well, I thank you very much, Captain Starks. And I thank all of our witnesses for your expertise this morning and I yield back.

Mr. LANCE. Thank you, Ms. Clarke. The chair recognizes Mr. Olson for 5 minutes.

Mr. OLSON. I thank the chair and welcome to our three witnesses. Also I want to thank you all for your years, decades of service on the thin blue line. Thank you, thank you, thank you, for that.

My questions will focus on one big storm, Hurricane Harvey. Now as you all know it hit my hometown, my home region twice moving very, very slow. It dropped on average 40 inches of rain in 2 days, almost four feet of rain over almost all of Southeast Texas.

9-1-1 was overwhelmed with calls. As Ranking Member Doyle mentioned in his opening statement, people could not get through with the calls. One example I heard back home, a senior citizen, his wife, their home was flooding. They called 9-1-1 for about an hour, could not get through. Somehow they planned to go to Chick-fil-A after they were rescued. They made that call to Chick-fil-A that went through. And for some reason only known to God and luck, Chick-fil-A showed up and rescued those two people.

Mr. Curry, before this hearing you told me a great story about how a big difference between Kingwood, New Jersey and Kingwood, Texas. And prior to Hurricane Harvey someone was misrouted from Kingwood, Texas to Kingwood, New Jersey and your people stuck with this person over and over and got them rescued back home in Kingwood, Texas. So thank you for that again, but that is lucky as opposed to having a plan.

I want to talk about the Brooks-Eshoo bill, the H.R. 5700 National Emergency Mobile Number Act. And my hometown of Sugar Land has a 3-1-1 system already that opened up last year I found out at the mayor's big annual State of the City address, it works. About 2 months ago I am riding down my street. There is a big branch on the sidewalk. I called up 3-1-1; within hours that branch is gone. But my neighbors had no clue that 3-1-1 was available, no idea it was out there.

And so the question is how can people determine, how do you determine what is a true emergency for 9-1-1 and what is a non-emergency for 3-1-1? Can callers differentiate between 9-1-1 and 3-1-1, in your opinion, Mr. Reyes, Mr. Curry, and Mr. Starks? What are the challenges there to get them to know what is really an emergency and what is not?

Mr. REYES. So, sir, we do not have 3-1-1 in Prince William County, but from talking to some municipalities that do have 3-1-1 they embed in the voice calling options. If you dialed 3-1-1 for example, when it answers, the voice tree answers, it says if you have an emergency press one and then it reroutes you over to 9-1-1. So that is my only experience with 3-1-1, but we are not a 3-1-1 municipality.

Mr. OLSON. How do you deal with Chick-fil-A calling up you guys at 9-1-1? How do you deal with that situation? How do you get them off your line because that is clearly not an emergency?

Mr. REYES. Well, that happens on our ten-digit non-emergency. So our county has a ten-digit non-emergency number that the county residents use and so when they dial 9-1-1 and it is a non-emergency call our call takers divert them to the non-emergency calls internally.

And then we are doing an education program within our county at the school level where we are reaching out to kids. We just awarded four kids on Saturday, awards for making the right call——

Mr. OLSON. Awesome.

Mr. REYES [continuing]. Because at school they learned the awesome power of 9-1-1 and how to use it properly. So I think we have to do something similar with the non-emergency number.

Mr. OLSON. Great. Mr. Curry, your comments on——

Mr. CURRY. Because we handle all the phone calls for each municipal police agency in Hunterdon County, if somebody were to call on the non-emergency and they do, they call on the non-emergency ten-digit number, because all the calls come to the same center it wouldn't be an issue for us.

Mr. OLSON. Yes.

Mr. CURRY. Because the same dispatchers who take the 9-1-1 calls, they are in that same room and they can just as easily handle that 3-1-1, for example. And we are going to take the same number of calls if it is 9-1-1, 3-1-1 or the ten-digit number because if they are going to call they are going to call. It is just a matter of the method in which they decide to use and what is most beneficial for them and what is most beneficial for us.

Mr. OLSON. Captain Starks?

Mr. STARKS. What Mr. Reyes said, we have a ten-digit non-emergency number but getting that number in people's heads is very, very tough and 9-1-1 is just so much easier to remember. The county has started a 3-1-1 line. It is separate from our emergency call center and it is a very deliberate process, but what Mr. Reyes said at the beginning, if you think you have an emergency that message is given and it directs people to the 9-1-1.

Mr. OLSON. I am about out of time. I have one question remaining about the Anti-Swatting Act and this is for all three witnesses, a simple yes or no answer. I just want to ensure that H.R. 6003, the Anti-Swatting Act, has no effect on my Houston Astros swatting the heck out of the American League rivals and National League champion in regard to our repeat of the World Series.

Does this affect my Houston Astros swatting the National League and the American League?

Mr. REYES. No.

Mr. CURRY. I would think not.

Mr. STARKS. No, sir.

Mr. OLSON. There you go. That is what I want to hear. I yield back.

Mr. LANCE. Your time is expired, Mr. Olson.

Mr. Engel, you are recognized.

Mr. ENGEL. Thank you. And let me tell my friend and colleague Mr. Olson that the Bill 6003, the Anti-Swatting Act, is my bill and you don't have to worry. The New York Yankees are going to swat all the other teams.

Mr. OLSON. Repeat, repeat.

Mr. ENGEL. So thank you, Chairman Lance and Ranking Member Doyle, for holding today's hearing and including my bill, the Anti-Swatting Act, 6003. And I want to thank Yvette Clarke for highlighting some of the things of that bill.

According to the FBI, a single SWAT team deployment can cost thousands of taxpayers' dollars. It obviously wastes law enforcement's time which prevents them from responding to real emergencies. And most importantly, it risks injury to unassuming victims as well as to the officials who mount a response.

One of the most tragic examples took place last December in Wichita, Kansas where officers shot and killed an unarmed 28-year-old man on his front doorstep after receiving a phony call al-

leging an ongoing crime. This is a very serious problem and that is why we introduce this bill to address it.

My bill would expand on the Truth in Caller ID Act that Chairman Emeritus Joe Barton and I introduced and it signed into law in 2010. In last Congress my Anti-swattling Act was amended and favorably reported out of our committee but it did not come up for a vote on the floor. So we have a real opportunity now.

The current version of my bill includes the amendments we passed last Congress and in short my Anti-swattling Act would increase penalties for people who falsify their caller ID information to mislead law enforcement. This technological trick called spoofing allows swatters to hide their identity by making law enforcement believe that they are calling in an emergency from a different phone booth, phone number, a phone number or location. The bill would also force swatters to reimburse emergency service entities for the resources they spend responding to the invented emergency.

So I would like to ask Captain Starks or anybody else who would care to answer, when law enforcement receives a swatting call you obviously don't know when you have received it that it is a phony, that is it a fake. Can you explain how law enforcement responds to such a call?

Mr. STARKS. Sure. The people in the 9-1-1 center have to begin vetting some of the details of that call as they are being dispatched to the first responders. Usually a swatting call has some details regarding violence where the caller states maybe he or she has already shot someone, is there with a higher powered weapon, that kind of thing, someone else is in danger.

So that activates not only the first cops on the street responding but also tactical units, negotiators who come, and then fire and rescue services who have to come by and respond to treat who may be injured there and who may become injured there as well. So it is wave after wave after wave of affecting public safety.

Mr. ENGEL. You know, it is really a sick thing, you know, you wonder what kind of a fool would do something like this. It is absolutely mind-boggling with total, you know, to play a joke or to get a kick out of something to really put people's lives in jeopardy. It is just absolutely disgraceful. Swatting incidents have profound impacts on families too, I am sure you would agree with that.

Mr. STARKS. Absolutely.

Mr. ENGEL. My bill calls for increased penalties for swatting including up to 20 years where the emergency response results in serious bodily injury. Violators would also be required to reimburse law enforcement entities for their expenses, which is another thing in responding to the hoax. In your opinion will that help?

Mr. STARKS. Yes, it will.

Mr. ENGEL. OK. Thank you very much and thank you for the good work you do. I don't know if Mr. Reyes or Mr. Curry have any comments.

Mr. REYES. The only thing I would add to what we all have discussed here on the swatting thing is something that is often overlooked is that oftentimes these could be diverted actions to divert law enforcement attention from perhaps another real-life crime that is going to be taking place like a bank robbery for example.

So that is one of the things. And then on a much bigger scale I don't think we should minimize the importance that this plays to homeland security issues around the country. What if this is just some rehearsals for these would-be homeland terrorists that are just seeing how responders are going to be responding so that they can then prepare for a larger, real-life attack?

Mr. ENGEL. Well, two very good points. Thank you and thank all three of you. We appreciate it.

Thank you, Mr. Chairman.

Mr. LANCE. Thank you very much. The chair recognizes Mr. Bilirakis.

Mr. BILIRAKIS. Thank you, Mr. Chairman, I appreciate it and I welcome the witnesses. Thank you for their testimony. I was actually downstairs at the hearing so we have two going on at once. I also want to acknowledge my constituent, a paramedic Maya Daniels, who was recognized as a local, first responder of the year for going above and beyond. Thank you for your service, gentlemen, I appreciate it so very much.

Moving on to questions, I want to address an issue related to the Anti-swatting Act. I know this has been discussed but I have a specific question here, which is impacting of course our general population. The number of scam calls to Americans has increased from about four percent of the calls in 2017 to about 29 percent this year, and now a new report from First Orion projects a 45 percent of all sale calls will be from scammers in 2019. It is unacceptable. It is just awful.

My question is for both of you. Are you seeing significant increases in fake emergency calls to your public safety systems or non-emergency response lines regardless of whether they are purposeful swatting calls or spoof calls and will the bills being discussed today protect against these threats?

And we will start with Mr. Curry if that is OK.

Mr. CURRY. I don't have any empirical data. I can say anecdotally they are on the increase. I have been in this particular business for a couple of years now and as I said, I think we had one just a few months ago an actual swatting call. So again I would say that they are on the rise, but again I don't have the data to back it up.

Mr. BILIRAKIS. And what about the bills that are being discussed today? Will they make a difference?

Mr. CURRY. I hope so.

Mr. BILIRAKIS. In your opinion?

Mr. CURRY. I would hope that they would.

Mr. BILIRAKIS. OK, very good. Anyone else want to touch that, any questions?

Mr. REYES. So just like Mr. Curry I don't have any empirical data either, but they are definitely steady in our municipality. While they may not be on the increase they are definitely constant. So that is one of the things.

The three bills that we are talking about here today I think will have a significant positive impact on the job that we do every single day.

Mr. BILIRAKIS. Good, good, good. And again if you have any input on how we can improve in addition to those three bills, please don't hesitate to—I guess it is Mr. Starks?

Mr. STARKS. Just to echo what has been said is that this legislation, I think Mr. Pallone in his statement said this will also help keep first responders safer. And if first responders are safer to include call takers and dispatchers then we can do our job better in protecting the public.

Mr. BILIRAKIS. Very good, thank you.

Mr. Curry, in your testimony you mentioned that finding a caller's location is determined through manual entries and interrogation. Do you have any estimate on how long it typically takes to get an accurate emergency location, or worse are there situations where a location cannot be identified and can you explain how the Next Generation 9-1-1 will help bring down these numbers?

Mr. CURRY. If there is any delay at all that is a problem because seconds count. So if it is just a couple of seconds to locate where the caller is that is an issue.

The other problem is, I had mentioned that, you know, we have a major interstate. People call 9-1-1 because again that is the universal number to call and they are moving. So as they are moving we are still trying to track their location which is very difficult and it has to be done by through manual entry and again as I mentioned through interrogation. We get a lot of transient traffic and they just don't know where they are. I couldn't tell you how long it takes on an average, but the Next Gen 9-1-1 and some of this other software I had mentioned before would actually put the person's location within, I want to say about three meters. And it would do it quickly and continuously.

Mr. BILIRAKIS. Very good, thank you. And again thank you for your service, appreciate it. Thanks for putting your lives on the line to protect us and we need to be as helpful as we possibly can. Thank you. I yield back.

Mr. LANCE. Thank you very much. The chair recognizes Mr. Johnson for 5 minutes.

Mr. JOHNSON. Thank you, Mr. Chairman. And I too want to thank you gentlemen for your service. Thanks for being here today.

Mr. Reyes and Captain Starks, shifting gears just a little bit, what are some of the most extreme or alarming circumstances where someone called 9-1-1 where they should have called a non-emergency number? Do you have any examples?

Mr. Reyes, you can go first.

Mr. REYES. Well, when I was in Alexandria the most extreme call that I recall was a resident who called asking for a medic unit because they had run out of aspirin and they wanted an ambulance to take them to the hospital.

Mr. JOHNSON. They had run out of aspirin.

Mr. REYES. And they used 9-1-1 for that. So that is an extreme example that I can give you.

Mr. JOHNSON. Yes.

Mr. REYES. And that happens pretty regularly across centers across America.

Mr. JOHNSON. Captain Starks?

Mr. STARKS. Generally the abuse is calls for normal county or government services for like snow or leaves or just they are using it as 4-1-1, so like asking questions instead of needing emergency services right away. There is a finite number of 9-1-1 lines in any emergency center and in that case that line is being held up not being able to be used for any incoming emergency.

Mr. JOHNSON. OK. Have you noticed a higher number of these calls coming from out-of-state travelers, any correlation there?

Mr. REYES. You mean the calls that come into 9-1-1 that should not be?

Mr. JOHNSON. Yes. That should go to a non-emergency number.

Mr. REYES. Yes, so just like Mr. Curry we have a major interstate running through our county, I-95, and that generates a lot of traffic, as well as a large shopping complex known as Potomac Mills and that generates a lot of visitors and tourists as well. And just like Captain Stark has indicated, oftentimes rather than look for the ten-digit emergency number quite frankly not even knowing what municipality they are in, everyone knows that the universal number that is always going to get answered no matter what square foot in America you are in is going to be 9-1-1. So that seems to be the default number when people have a question and don't know who to ask.

Mr. JOHNSON. Do you think they knew to call a non-emergency number but just didn't have or know-how to locate the non-emergency number and do you think they would have called it if we had a nationwide standardized non-emergency number, do you think that would have helped?

Mr. REYES. I can only suspect yes, because I mean some of the calls that we receive that are clearly non-emergency that come into the emergency line are just at the common sense perspective that person should have clearly known not to dial 9-1-1, but yet they are asking for directions to wherever they are trying to go. And so they know that the de facto number that is always going to get answered is 9-1-1.

Mr. JOHNSON. OK. Captain Starks?

Mr. STARKS. I would just echo the same for the sake of time.

Mr. JOHNSON. OK. Continuing on this same thought, one potential criticism of a broader uniform non-emergency mobile number is the consumer education that would have to take place to inform citizens of its existence. Some states have already got such a number and so that creates a potentially even greater need to standardize the process so that someone driving from one state to the next doesn't have to worry about knowing multiple numbers across the nation.

What are some of the benefits, gentlemen, of having a nationwide non-emergency number like that?

Mr. REYES. Well, I will start. And again it would be to take that unnecessary and unjustified volume of calls that come into 9-1-1 to a dedicated number. But again just like all these very successful campaigns that we have used like Buckle Up, things like that where we teach children and start teaching at a very young age and start teaching our residents the importance of the number, then we can start focusing on a number.

But like Mr. Curry said, in one state there could be three, up to three 3-digit numbers and so the citizens get confused and don't know which one to call, number one, or for what type of event to use that number for.

Mr. JOHNSON. And do either one of you gentlemen want to—anything more to add to that?

Mr. STARKS. I just believe that, in the '70s we went to the 9-1-1 system and we didn't have any type of resources like we have now to communicate campaigns like the internet and social media and that type of thing. It is about, I think, education and changing the culture. It has been in my career of 30 years, just the way drunk driving is viewed now in this country that has changed, it is just taking a while. The same thing can happen, but I think a lot quicker with a standardized non-emergency number.

Mr. JOHNSON. OK, all right.

Mr. Chairman, I yield back.

Mr. LANCE. Thank you very much, Mr. Johnson. The chair recognizes Mrs. Brooks.

Mrs. BROOKS. Thank you, Mr. Chair. I want to continue on this line of question about the bill that I introduced regarding non-emergency numbers. And I want to ask you, Captain Starks, you talked about in your career you have seen how 9-1-1 has become so successful. Do you have examples of how the public does have a good understanding of the use of non-emergency numbers in some of the states that do have it?

Mr. STARKS. I don't have any examples from out of state. I think that within my jurisdiction, Montgomery County, there is some understanding, but I think there is a great deal of confusion and just ignorance or lack of knowledge in regarding this ten-digit non-emergency number that we employ.

Mrs. BROOKS. And so would it be fair to say that you would like to see a shorter number that because so many people go from one community to another in the area that you represent, if we had a very simple three-digit number wouldn't that be incredibly advantageous?

Mr. STARKS. It sure would be in the first look. But Mr. Reyes also spoke earlier of just cautionary about making sure that funding and staffing is there because it is going to cause an increase of calls to the center. But yes, a uniform number would be helpful.

Mrs. BROOKS. And, Mr. Reyes, going back, and I appreciate—I visited my PSAP in Indiana in Hamilton County and certainly appreciate what the concern is about resources. But do we have any data from the 9-1-1 from the PSAPs how many calls right now come in that are non-emergency versus emergency?

Mr. REYES. Yes, ma'am. During my opening remarks I gave that statistic for our agency and our organization receives more non-emergency calls than emergency calls. Overall, we are at 400,000 calls total and of those 400,000 some 254,000 were non-emergency.

Mrs. BROOKS. And so would you agree that if there were resources as well as a public education campaign much like what we have done and I think it is much easier now because of social media and other and smart phones to be able to communicate what that number would be if a person wanted to use a non-emergency number.

Mr. REYES. Yes.

Mr. CURRY. If you don't mind, if I could just add to that?

Mrs. BROOKS. Please.

Mr. CURRY. In Hunterdon County where I live, my post office isn't even in my county so we have postal mailing addresses that expand way beyond where you think you may live. In addition to that about one-third of our county is covered by the state police and that is three different state police barracks. People don't know who their police agencies are, let alone know the number to call for a non-emergency.

So I know we have talked about the nationwide scale, but for me it is more important on a local level.

Mrs. BROOKS. So it is even a local, not just the traveling because I have been told if a person were driving we have no fewer than 18 different abbreviated short codes across 29 states and if a person were driving across Highway 95 they would even see ten different dialing codes.

Mr. CURRY. Yes.

Mrs. BROOKS. And so it is impossible for just a citizen to be driving even on our interstate system and know who to call if they saw a tree down or a dead deer along the side of the road. Things that might not be a true emergency and yet the 9-1-1 operators and folks, dispatchers rather, that I am speaking with are very concerned about making sure they have the time and the bandwidth to handle the true emergency calls because those are the ones that really deserve their attention. Wouldn't you agree?

Mr. CURRY. Yes.

Mrs. BROOKS. And do we have many situations documented of people being on hold for 9-1-1 for quite some time when they have true emergencies? Do we have that documented as well?

Mr. REYES. We don't document that in our jurisdiction.

Mr. STARKS. I don't have the data, but I know that it has occurred within Montgomery County.

Mrs. BROOKS. And how about you, Mr. Curry?

Mr. CURRY. This past early spring, late winter we had two storms come through, Quinn and Riley, and the way our 9-1-1 system works is if it doesn't get answered in one PSAP it goes to the next and it bounces. And during one particular storm we received over 200 9-1-1 calls from the previous county and even a handful of calls from two counties before that. A lot of those calls were just that—my power is out.

Mrs. BROOKS. OK. And so therefore your dispatchers are taking all those calls in, whereas if someone had a horrific wreck or something during that storm they could have been on hold.

Mr. CURRY. Correct. And some of those were emergencies that we were getting those redundant calls from.

Mrs. BROOKS. OK, thank you. Appreciate it and yield back.

Mr. LANCE. Thank you, Mrs. Brooks.

Seeing there are no further members wishing to ask questions for the panel, I thank our witnesses for being here today. Before we conclude, I ask unanimous consent to enter the following documents into the record: The letter from Hunterdon County Freeholders in support of H.R. 6424; an article on 9-1-1 fee diver-

sion in New Jersey; and an article from the New York Times offered by Mr. Doyle.

Pursuant to committee rules, I remind members that they have 10 business days to submit additional questions for the record and I ask that witnesses submit their responses within 10 business days upon receipt of the questions.

Seeing no further business before the subcommittee today, without objection, the subcommittee is adjourned.

[Whereupon, at 12:04 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

PREPARED STATEMENT OF HON. ANNA G. ESHOO

Madame Chairwoman, thank you for holding this hearing today. It comes at a time when we recall the public safety lessons we learned when our country was attacked seventeen years ago. At the same time, in the midst of another hurricane season we are aware that we must be proactive to ensure the ongoing integrity of our public safety networks.

I believe the bills before the Committee today will bolster America's public safety communications networks, and I'm proud to be an original cosponsor of two of them.

The '9-1-1 Fee Integrity Act' ensures that states use 9-1-1 fees charged to consumers intended to improve 9-1-1 emergency communications systems for that purpose and that purpose only. Our 9-1-1 call centers are the first point of contact in emergency situations, but many of these call centers rely on technology that's been in place since the time of the first 9-1-1 call 50 years ago. 9-1-1 fees collected by states should only be used to upgrade our 9-1-1 infrastructure, not diverted to the general coffers of state governments. It's our responsibility to make sure our constituents' dollars are being used as intended—especially when it comes to keeping them safe.

The second bill is the other side of the same public safety coin and I'm also pleased to partner with Representative Brooks as an original cosponsor of the 'National Non-Emergency Number Act'. Often when drivers see a fellow traveler in need of assistance, or another issue of concern, they aren't sure how to help, so they default to calling 911. This can have the unfortunate effect of diverting much-needed emergency resources to important but non-dire situations. This bill provides the dual benefit of streamlining travelers' access to assistance when they need it, while allowing emergency workers to focus on urgent matters when lives are on the line, reducing traveler confusion and hastening response times across the board.

Thank you again for bringing these bipartisan bills before the Committee today. I encourage the Committee to continue moving this legislation forward in a timely manner because together, these bills can further our collective goal of more efficient, reliable, and cost-effective safety services for all Americans.



The Board of Chosen Freeholders
County of Hunterdon
State of New Jersey

71 Main Street, Administration Bldg #1, First Floor
PO Box 290
Flemington, New Jersey 08822-2900
Phone: (908) 788-1100
Email: freeholders@co.hunterdon.nj.us

Denise B. Doolan, Clerk of the Board
Dana A. Gootman, Deputy Clerk of the Board

September 05, 2018

The Honorable Leonard Lance
United States Congressman
361 Route 31, Suite 1400
Flemington, New Jersey 08822

RE: Supporting H.R. 6424 – 911 Fee Integrity Act

Dear Congressman Lance:

Enclosed you will find a copy of the above referenced resolution which was adopted by the Hunterdon County Board of Chosen Freeholders at their meeting on September 04, 2018, supporting the 9-1-1 Fee Integrity Act (H.R. 6424).

This resolution is being sent to you for information purposes only, so that you may be aware of action taken by the Board of Chosen Freeholders of the County of Hunterdon.

Should you have any questions, please do not hesitate to contact me.

With kind regards.

Respectfully,

(Mrs.) Denise B. Doolan
Clerk of the Board

dbd

Enclosure

cc: Hunterdon County Board of Chosen Freeholders
George F. Wagner, Director of Public Safety and Health Services
Kevin Davis, County Administrator

**STATE OF NEW JERSEY
COUNTY OF HUNTERDON**

RESOLUTION

Resolution in support of the 9-1-1 Fee Integrity Act (H.R. 6424)

WHEREAS, Congressman Leonard Lance has introduced legislation (H.R. 6424) in the U.S. House of Representatives, with bi-partisan support, that will give the U.S. Federal Communications Commission (FCC) the authority to stop the diversion to other uses of fees collected to support local 9-1-1 emergency services; and

WHEREAS, Phone users pay a fee of 90 cents per month, with the revenues specifically to be used for 9-1-1 costs, and in New Jersey those fees total \$130 million per year; and

WHEREAS, Hunterdon County's 9-1-1 Communications operations has not received any funding from the state's 9-1-1 fund in over twelve years and New Jersey has diverted approximately \$2 billion in fees charged to phone users away from local 9-1-1 operations over the years, thereby putting the cost burden for 9-1-1 operations completely on property taxpayers; and

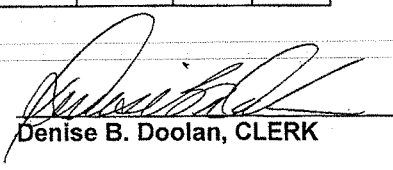
WHEREAS, Congressman Lance is supported in his efforts by Michael O'Rielly, a member of the U.S. Federal Communications Commission;

NOW, THEREFORE, LET IT BE RESOLVED, that the Board of Chosen Freeholders of the County of Hunterdon hereby endorses Congressman Lance's legislation, H.R. 6424, and calls for its approval by Congress as soon as possible; and

BE IT FURTHER RESOLVED, copies of this Resolution shall be provided to Congressman Leonard Lance, Michael O'Rielly, Member of the U.S. Federal Communications Commission, Speaker of the House Paul Ryan, and Congressman Greg Walden of Oregon, the Chairman of the U.S. House Committee on Energy and Commerce.

ROLL CALL	MOVED	SECONDED	AYES	NAYS	ABSTAIN	ABSENT
J. Matthew Holt, Director						X
Suzanne Lagey, Deputy Director			X			
John W. King, Freeholder		X	X			
John E. Lanza, Freeholder	X		X			
Shaun C. Van Doren, Freeholder			X			

ADOPTED September 04, 2018


Denise B. Doolan, CLERK

9/12/2018

N.J. raided your tax money intended for critical 911 upgrades. 'Quit it!' lawmaker says | NJ.com

NEW JERSEY DATA

N.J. raided your tax money intended for critical 911 upgrades. 'Quit it!' lawmaker says

Updated Aug 3;
Posted Aug 3



((Alex Napoliello | NJ Advance Media
for NJ.com))

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By **Stephen Stirling**, ssirling@njadvancemedia.com
NJ Advance Media for NJ.com

9/12/2018

N.J. raided your tax money intended for critical 911 upgrades. 'Quit it' lawmaker says | NJ.com

Rep. Leonard Lance, R-7th Dist., has a message for Trenton:
Hands out of the cookie jar.

For more than a decade, New Jersey has been one of the nation's chief scofflaws in diverting funding intended for its 911 system. Each year, the state collects about \$130 million through a monthly \$0.90 tax charged to everyone who owns a mobile phone.

But of the nearly \$2 billion that's been taken from taxpayers since 2004, only \$350 million has actually gone toward maintaining and upgrading the system.

"Lawmakers in Trenton raided the fund set aside to improve the 9-1-1 system and left the account penniless - leaving public safety threatened and taxpayers on the hook," Lance said. "Members of the Communications and Technology Subcommittee are seeking to end this practice."

1 

9/12/2018

N.J. raided your tax money intended for critical 911 upgrades. 'Quit it!' lawmaker says | NJ.com

New Jersey's 911 fee spending since 2005

New Jersey has collected more than \$1.3 billion through the 911 System and Emergency Response Fee since 2005. But just a fraction of that funding has gone towards maintaining and upgrading 911 service in the Garden State.



	Diverted	911
2005	91,958,000	27,587,000
2006	83,058,000	50,867,000
2007	94,142,000	44,783,000
2008	103,558,000	37,867,000
2009	124,033,000	
2010	115,133,000	
2011	112,728,000	
2012	111,728,000	
2013	110,728,000	
2014	106,728,000	
2015	107,578,000	
2016	111,178,000	
2017	97,478,000	26,822,000
2018	106,578,000	27,722,000
2019 (budgeted)	104,178,000	30,822,000

Source: NJ State Budget • Get the data • Created with Datawrapper

In July, Lance introduced "The 911 Fee Integrity Act," a bill that would empower the federal government to crack down on states diverting funding dedicated to the 911 system for other purposes.

For its part, New Jersey has long argued that it does not divert funding and the disbursement of the funding is in line with the law's initial intent. Gov. Phil Murphy has yet to take a position on the issue, and the governor's office did not return requests for comment.





In 2016, an NJ Advance Media investigation found just 15 percent of the funding collected by the tax had been used on the 911 system.

The state has since more than doubled the annual funding to the system, from about \$13 million to just over \$30 million, but 77 percent of the funding still goes toward other areas of the budget.

And the dozens of local 911 call centers that form the backbone of the state haven't seen a dime from the fund in more than a decade.

A package of bills introduced in the state Legislature earlier this year seeks to address this.

The latest bills (A2371, A3742) would require the hundreds of 911 call centers in the state to be equipped with NextGen 911 within three years. The upgrade, estimated at nearly \$100 million, would be paid for through an additional 9 cents charged to every monthly phone bill, bringing the total service fee to 99 cents.



9/12/2018

N.J. raided your tax money intended for critical 911 upgrades. 'Quit it!' lawmaker says | NJ.com

But absent a constitutional amendment, legislators would not be able to guarantee the additional funding would actually go toward the system. A constitutional amendment was proposed in 2016 but stalled.

Enter Lance, who said he was tired of waiting for the state to come up with a fix itself.

"I do not believe Trenton will solve this on its own," Lance, a former state assemblyman, said with a chuckle. "I think this has teeth and would certainly be a step in the right direction."

Stephen Stirling may be reached at ssirling@njadvancemedia.com. Follow him on Twitter [@sstirling](#). Find him on Facebook.

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9/26/2018

Lost in the Storm - The New York Times

Lost in the Storm

Houston thought it was prepared for a major hurricane like Harvey. But as the flooding overwhelmed the city's emergency systems, families like the Daileys found out too late that they were on their own.

By **SHERI FINK** AUG. 30, 2018

Wayne Dailey sat in a waiting area at a Houston hospital, anxious for word about his wife. He and his sister stared at the television to distract themselves. It was Wednesday, Aug. 23, 2017, and broadcasters described a large storm moving off the Yucatán Peninsula with Texas in its sights, potentially bringing historic flooding to Houston that weekend.

Wayne, who as a child in Galveston County spent hours watching the cloudscapes drift over the Gulf of Mexico, kept multiple weather apps on his phone and had already been tracking the storm. "It's going to get us," he told his sister. But coastal storms were a part of life that he had prepared for, and they did not concern him.

He was more worried about his wife. Casey Dills-Dailey was undergoing surgery to remove the adrenal gland above her left kidney. The surgeon predicted an uncomplicated operation, conducted through tiny incisions. Still, Wayne wondered, would the surgery do what it was supposed to do? Was the doctor as skilled as he said he was? It was hard to grasp that the life of his 38-year-old wife could be endangered.

The operation came after years of mysterious symptoms that began when Casey was in her early 30s. She had hot flashes and eventually stopped

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<https://www.nytimes.com/interactive/2018/08/30/magazine/hurricane-harvey-houston-floods-texas-emergency.html>

2/33

space between her shoulders. Ugly red marks appeared on her abdomen. The illness left her in pain, nauseated and unable to stand for more than 15 minutes at a time.

Casey would scour books and the internet to help others solve medical or legal problems — Wayne, 39, called her a doctor without a degree — but the cause of her own health issues had eluded her. She blamed herself, ascribing her weight gain to overeating. Finally, in late March, after an ambulance took her to the hospital for a bout of severe abdominal pain, doctors detected a mass on one of her adrenal glands. Weeks of tests produced a diagnosis: Cushing's syndrome, a curable but potentially deadly disorder caused by an overabundance of cortisol, a steroid hormone. The mass appeared on a 2015 scan for kidney stones, doctors realized, but because it is a common and typically nonproblematic finding, its significance was missed.

Casey was referred to Dr. Curtis Wray, a surgical oncologist, to remove what doctors suspected was a noncancerous tumor that was releasing extra cortisol, causing her Cushing's syndrome. The diagnosis helped explain many of her problems, from high blood pressure to erratic moods. Casey could not wait to look and feel like herself again.

That morning, a resident surgeon said Casey should expect to stay three or four days for recovery. He described the operation's potential complications — bleeding, infection, damage to other organs — which frightened Wayne. Dr. Wray, the senior surgeon, came in and reassured them. His team had performed the operation many times. Surprising Wayne and Casey, he predicted she would be home in 24 hours.

Wayne asked to see the tumor when it was out. After surgery, Dr. Wray called him from the waiting area and showed him an image on his phone. The tumor was the width of Wayne's two thumbs put together. Most important, to the surgeon it appeared benign.

After Casey was settled in her hospital room, Wayne drove home to spend the night with their two sons. The family lived outside the Houston city

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along fancifully named streets — Drifting Winds, Island Song and theirs, Enchanted Path Drive.

The Daileys were what Wayne called a “simple, simple family”: Casey, a housewife who home-schooled their oldest son, Luke, 14; their youngest son, Ronnie, 10; and Wayne himself, a “middle-class worker, a lower-class worker,” without a steady job. For more than a dozen years, he had operated heavy machinery at oil refineries, clawing trenches into the earth for foundations and pipe racks. The finances were in his wife’s name in case he did not make it home. He had survived explosions, survived co-workers. Lately, he had been working for a friend’s tree-service firm. Casey made their uncertain income stretch, scrapping junk metal and advertising homemade quilts for \$50 on social media; it took her about a week to make each one.

Their trailer-park community had its drugs and gangs and violence, the evening cracks of gunfire and whining sirens. But four generations of family members and friends filled the homes on their block. Casey’s parents lived across the street, next to her aunt. Three homes over, there was Casey’s grandma’s bowling partner. Next door was Erasmo Villa, from Mexico, who with his brother-in-law had drywalled the Daileys’ home free of charge just because they were neighbors, and neighbors help each other. Casey cultivated roses that bloomed from pale pink to vivid red, growing impossibly high.

Casey grew up in the trailer. Her mother had many miscarriages before giving birth to her only child, and Casey quickly took a place at the center of the family, clinging like a bear to her grandpa’s neck. As an adult, she cared for him and other sick relatives until they died.

Having little money did not mean the Daileys could not be generous. Casey joined the homeowners’ board, chaperoned school field trips and led a Cub Scout troop with Wayne because nobody else volunteered. An evicted family with three children had slept on pallets on the Daileys’ living-room floor. Wayne and Casey served as temporary guardians for one of Ronnie’s friends, so he wouldn’t be sent to a foster home during his parents’ search

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That night after Casey's operation, Wayne picked up the boys from their grandparents' trailer. He ate dinner, put the television on in the bedroom and fell asleep. At around 9:30 the next morning, Casey called him from the hospital. "Come up here," she said. They were discharging her.

Tropical Storm Harvey was rapidly strengthening in the gulf, and Wayne stopped to pick up necessities. When he walked into the imposing hospital in the early afternoon, though, nothing looked amiss. In truth, doctors at Casey's hospital, Memorial Hermann-Texas Medical Center, were preparing for a possible hurricane, sending stable patients home. During Tropical Storm Allison in 2001, Memorial Hermann, with 540 patients inside, lost power and was evacuated, as medical workers manually squeezed air into the lungs of patients whose mechanical respirators had failed. Since then, billions of dollars had been spent to protect the hospital and other facilities at the Texas Medical Center campus.

A surgical intern just weeks out of medical school examined Casey. He prepared discharge instructions and wrote two prescriptions: one for a stool softener and the other for 40 tablets of Tramadol, an opioid painkiller. He did not prescribe steroids, which would typically be needed when a steroid-producing tumor like Casey's was removed.

A nurse went over the bright-orange folder of information, explaining how to keep the incisions clean to avoid infection and emphasizing the importance of being as active as possible to help prevent a potentially deadly blood clot from forming in her legs or lungs. Casey was to follow up with Dr. Wray in a week.

She arrived home that afternoon in pain and ready for a nap. Casey's aunt from across the street texted to offer help and asked whether Casey and Wayne were ready for the hurricane. Casey responded that they would fill containers with water, hunker down and keep an eye on their outdoor dogs. "It's all we can do."

Late the next night, Friday, Harvey barreled into the Texas coastline northeast of Corpus Christi as a Category 4 hurricane, the strongest to

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On Saturday night, before 10 p.m., Wayne opened his screen door, stepping barefoot onto the stoop to look at what was coming. Wind chimes tinkled, and the roof dripped a steady beat of rain between crashes of thunder. Branches tipped with small red flowers swayed dizzily above the door. A shock of lightning brought the trees into sudden light. Less than an hour later, he opened the door again to a hiss of sheeting rain that obscured the rumble of thunder. Behind him in the house, an emergency alert blared from one of their mobile phones, a flash-flood warning: “Imminent Threat — Severe.”

As the storm strengthened, emergency officials appeared to have the situation well in hand. Houston’s mayor, Sylvester Turner, had warned that Harvey would be a “major rainmaker” for the city and asked people to stay off the roads over the weekend, but he did not call for an evacuation — he later told reporters that sending millions of people fleeing onto the highways would be “asking for a major calamity.” In 2005, more than half of the county’s population drove out ahead of Hurricane Rita, just weeks after Hurricane Katrina. Traffic stalled, gas tanks ran dry and dozens of residents died on the freeways from the heat, vehicle-fire injuries, traffic accidents and delayed medical attention. Then Rita swerved and missed Houston.

Harris County’s top elected official, Judge Ed Emmett, also decided that there should be no mass evacuations. With a population of more than 4.5 million — about equal numbers outside and inside Houston — Harris County’s roughly 1,700 square miles held more people than half of the states in the country.

Texas law requires every jurisdiction to have plans for managing emergencies, and as the lead county official, Judge Emmett served as its emergency-management chief. On Sunday, he was based at the county’s emergency operations center, in the Houston TranStar building, which houses Harris County’s lead agency for disasters, the Office of Homeland Security and Emergency Management.

As the storm moved into the area, the activity in the next headquarters

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Lost in the Storm - The New York Times

eerie white. Just below the room's high ceilings, giant video screens played the news and tracked weather.

Webbed with rivers, creeks, lakes, bayous and reservoirs, Harris County had experienced a notable increase in severe, storm-induced floods in recent years. Storms in 2015 and 2016 killed more than a dozen people and swamped parts of the "500 year" floodplain — an area that according to previous models had only a 0.2 percent chance of flooding in a given year. Climate experts predicted that the trend would continue as the atmosphere warmed and extreme weather rose in frequency and intensity. The built environment worsened the problem: Concrete covered ever more miles of rainfall-absorbing prairieland, and sewers and ditches were designed by the local government to overflow into the streets, which were considered part of the drainage system. This helped protect homes and businesses from flooding, but it could trap their inhabitants when streets became canals.

A dizzying array of agencies participated in emergency response, coordinating their activities using the National Incident Management System, a protocol that arose from efforts to jointly battle wildfires in the 1970s and that was adopted nationally after the attacks of Sept. 11, 2001.

The concept was simple: Disaster response, and the responsibility for it, started at the point of impact and moved out and up as resources were overwhelmed. Individual and local-community preparedness — stocking food, water and medicines and looking out for neighbors — was the initial safeguard. The 911 system was the next, connecting people with police, fire, rescue and emergency medical assistance. The circle expanded from there. If one of the county's 54 independent fire departments, which were responsible for water rescues, found itself overwhelmed, it could reach out to the fire desk at the county emergency operations center in the TranStar building, which could request assistance from other local fire stations or from representatives of the Coast Guard or the Federal Emergency Management Agency sitting nearby. Health and medical services had a separate hierarchy of support agencies.

When Harvey reached Harris County, beginning to release what became a

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9/26/2018

Lost in the Storm - The New York Times

But as the water rose on Sunday, it overwhelmed those preparations. Many local fire departments lacked boats or trucks that could handle flooded streets, and those that had them could no longer share. A Houston police sergeant drowned in his vehicle trying to drive to work. The flooding was so widespread that it impeded the arrival of additional state and federal teams.

At TranStar, officials felt agitated and helpless. They were getting personal emails appealing for rescues, sometimes with photographs of elderly relatives attached. There was no time to wait. “I got a crazy idea,” Rodney Reed, the assistant chief for operational support for the Harris County Fire Marshal’s Office, said as Judge Emmett walked into a snack-filled room. “I need you to support it.” Reed argued that they should invite unaffiliated volunteers into the rescue effort. According to conventional wisdom, they get in the way and often end up needing help themselves. But Reed assured the judge that taking the step would save lives.

And so at noon on Sunday, Judge Emmett stepped to a lectern before news cameras to make an unusual statement. A large screen looped colorful radar images of the storm behind him. “Those of you who have boats and high-water vehicles that can be used in neighborhoods to help move people out of harm’s way, we need your help,” he said. “Government assets are fully utilized.”

Judge Emmett asked the public to call the emergency operations center if they were willing to volunteer. County officials wrote each offer on a sticky note or scrap of paper, affixing it to a wall with blue tape in neat rows according to geographic quadrants, ready to be pulled whenever a fire department called requesting boats.

The perhaps-even-greater challenge was connecting the volunteers to the people who needed rescuing. Callers had trouble getting through to 911 as the volume of calls for assistance more than quadrupled. Judge Emmett asked people to stop calling unless they faced immediate danger. “The phone lines are backed up,” he said.

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posted on the public's technologies of choice: Facebook and Twitter. Instead, it used social media to disseminate five emergency numbers for the local Coast Guard station, setting up a separate, parallel dispatch system for residents in need of rescue. In a sign of the ad hoc nature of the triage system, personnel tracked urgent medical cases with a pencil-and-paper checklist. In its postings, the Coast Guard instructed people to mark their roofs or "wave sheets, towels etc." to get rescuers' attention.

Identifying who needed help the most was the crucial first step to responders saving lives. During the county's news conference, authorities sent a wireless emergency alert to cellular customers, including Wayne and Casey: "Call 911 for LIFE THREATENING emergencies ONLY. STAY PUT IF SAFE."

Wayne felt safe. He had renovated, moving electrical equipment from underneath the trailer into the attic. The yard angled down into the street. He had purchased plenty of food, and he filled the bathtub and washing machine with water. His family, like Texas, could stand on its own.

If there had ever been a time to evacuate, this was not it. That morning, a man named Samuel Saldivar had driven into the neighborhood about a mile south of the Daileys' home to rescue his parents, who had Alzheimer's disease. He loaded them and four of their great-grandchildren into a large white van and crossed a small bridge over Greens Bayou after sunrise. The bayou had often swamped bridges along its path, and officials had recognized the need to improve it.

As Saldivar came off the bridge, the rising waters swept the van from the road. Saldivar was able to escape, and clung to a tree for the better part of an hour. The local fire service, Sheldon Community Fire and Rescue, had no boats. The sheriff's deputies arrived with one and, with a local firefighter, rescued Saldivar. But the van, with everyone else still trapped inside, was now submerged. The rescuers' boat, not fit for swift water, could not reach it. Saldivar's parents, two great-nieces and two great-

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Throughout Sunday, brown water continued to fill Enchanted Path Drive. By the afternoon, the floodwaters reached Wayne and Casey's garden. Luke asked his father if the flooding was going to kill the grass, or the rose bush, or the plants in the yard. Wayne said no. He also cut off the boy's restless entreaties to wade across the street, where Casey's aunt's car now stood parked in water to the top of its wheels. "Be smart," Wayne snapped. "Not like these people over here." He gestured at neighbors tracing a milky brown path toward the main road, submerged to their upper thighs and carrying umbrellas. "You don't know what's in that water," Wayne said.

As Wayne monitored the flooding, he also kept an eye on Casey. Her pain had quickly become far more severe than anticipated. The Tramadol was not helping, and a months-old injury to her hip and leg was making it even more difficult to get up and move. She grew queasy shortly after Wayne removed an anti-nausea medication patch from behind her ear as instructed, three days after it had been applied at the hospital. Having coped with bouts of vomiting for years, Casey had the drug Zofran at the ready, and it seemed to help for a few hours at a time.

On Sunday her temperature was slightly higher than normal. Wayne's father, a former volunteer fire chief with some training in emergency care, explained by phone how to check her incisions for signs of infection like redness, swelling or pus. They looked fine. When she woke up, she even took a few phone calls, including robocalls with updates from Luke's home-school academy and Ronnie's elementary school.

As the sky deepened into gray on Sunday evening, Wayne padded to the door in his bare feet and jeans. Rain dripped from the trees, drawing expanding circles in the dim water that now covered their lowest step. A man in a blue baseball cap, his shirt rolled up below his chest, waved as he waded by, water above his buttocks, pushing a small, round raft with a woman inside it. "You ought to go out," he warned. Wayne chortled, unconvinced. "Y'all be careful," he responded.

On Facebook Live, Wayne repeated the message officials were spreading.

"If you're safe where you're at, stay where you're at. If you have to get out,

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Wayne did not like to worry anyone. He had done enough of that when he was young, partying hard and spending time in jail for marijuana possession as a teenager. Marrying Casey and becoming a father had helped transform him. They went to high school together, but did not know each other well. When they met again a few years later, she electrified him. The young woman with the long brown hair had a radiance that drew him. He couldn't *not* look at her. She was the girlfriend of his friend next door. He told himself he would marry her one day.

As the waters rose Sunday night, Wayne stayed up with Casey, who could not stop vomiting. "Something ain't right," Casey said. On Monday morning, it continued raining, and the muddy water rose to their top step, just below the front door. Casey had finally fallen asleep, and when Wayne checked on her, he found it hard to keep her awake.

Around 1:30 in the afternoon, Wayne called 911. In Harris County, 911 calls were routed based on geography to one of several primary "public safety answering points," or PSAPs — independently managed call centers that were most typically housed in local police departments. He reached the answering point for calls outside Houston in unincorporated Harris County, at the Harris County sheriff's office. He told the woman who answered that Casey had recently had surgery. "She has been very sick. She's been vomiting for the past day and a half approximately, and she's in severe pain. And I don't want her to get in this water in her sutures. She needs to get airlifted to a hospital."

This was not a police emergency, so the communications officer transferred the call to a secondary PSAP, which would determine the next steps. The phone rang 10 times over the course of about a minute, much longer than usual. Another woman picked up, speaking quickly. "Fire and ambulance." After giving his address and confirming that he needed a water rescue, Wayne said that Casey had recently had surgery and had been vomiting for a day and a half. The second call-taker interrupted him. There were over a thousand calls for help, she said. "As soon as the fire department is able to make it to this area then you will be evacuated."

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T not know that Casey was in severe pain, or barely conscious, or that Wayne thought she needed an airlift to a hospital. The first call-taker stayed on the phone after the second call-taker picked up, but — counter to national guidelines for 911 call-takers — she did not intervene to ensure that the second call-taker had the missing information on Casey's medical condition. And so the second call-taker entered Wayne's call into the computer system as one requiring water rescue from the local fire department, not urgent medical response from the local E.M.S. service, which was a separate agency.

The job of a 911 call-taker is emotionally and technically demanding at the best of times. During Harvey, the stress was extraordinary. The overloaded call center where the second call-taker was working, Harris County Emergency Corps, served roughly a dozen independent fire and ambulance services in the county. The corps had doubled its staff to eight from four for the storm, but call volume had more than tripled. Every one of the six 911 lines and additional non-emergency lines was ringing nonstop. Personnel were working 12-hour shifts and sleeping in the building and a nearby hotel. Someone had posted the center's direct-dial phone numbers on Twitter, and it was now receiving calls from other parts of the county, requiring phone transfers that took up to 20 minutes.

The center did something it had never done before. Its leaders walked to the call floor and told call-takers to bypass the formal triaging system that it normally used to assign emergency-priority codes to callers. Instead, they would log the call for water rescue and read a script saying that there were many calls and that the fire department would respond as soon as it could.

The sheriff's communications division, which handled primary calls, also faced severe challenges. The basement had filled up with water from Buffalo Bayou, causing power failures. Its staff moved to a regional 911 training center, the only available backup location with a connection to the physical 911 network. After the move, key technical functions stopped working, including, for a time, the internal dispatch system.

According to data provided by the sheriff's office, the proportion of 911 calls

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the long waits, according to internal email records from the regional 911 network provider. That further increased the load on communicators, who typically had to follow up on the so-called “abandoned” calls. In Houston the problem was even worse — of the nearly 40,000 calls, more than half ended in hang-ups.

Why couldn’t the overburdened centers simply press a few buttons to redirect 911 calls to unaffected centers elsewhere? At the heart of the problem was an astonishing fact: A majority of 911 systems in the United States use primarily analog, rather than digital, technology. Until recently, even the ability to text 911 for help has been rare. Government and industry experts agree on the need to upgrade to so-called next-generation 911 systems that are Internet Protocol-based and can be designed to redistribute calls automatically in a crisis. While some entire countries have completed the upgrades, relatively few areas in the United States have. Vermont was among the first, and it seamlessly transferred calls after Hurricane Irene in 2011 from a flooded communications center to call-takers at centers outside the area of impact — who had maps, data and uniform training to help them handle calls from unfamiliar areas.

Oversight of 911 is fragmented among states and localities, systems are often poorly funded and there is no national mandate to upgrade. By the time it is widely adopted, experts say, next-generation 911 technology itself may well be obsolete. Harris County had been in the process of updating its technology for 10 years when Harvey struck, but the new system would not be operational until February of this year.

Wayne knew none of that, though. Nor did he know that Casey had not been tagged as an urgent medical case.

While he waited for the fire department, Wayne spent Monday afternoon exploring every other option he could think of, including the list of emergency numbers the Coast Guard Sector Houston-Galveston command released the previous day. He kept the porch light on and, as some had advised online, hung a towel out a window and another over the screen door to alert potential rescuers. With his cell phone

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answered assured him that the hospital was accepting patients. Wayne told his family he was thinking of pushing Casey through the water on an inflatable mattress. They thought it was a bad idea.

That evening, as it continued to rain, Wayne heard an airboat passing by his house and tried to flag down its driver, who had earmuffs on to protect against the earsplitting engine noise. The man slowed down when he saw Wayne in the doorway standing next to Ronnie. “My wife and my kids and I need out!” Wayne shouted to the man. “My wife needs help. She has a medical condition.” The man said he was on the way to pick someone up and would get Wayne and his family on the way back. “Just stay right there.”

Casey was in the bedroom with the television on, lethargic and in pain. Wayne gave her the news, and she nodded. Wayne stuffed clothing, dry towels and rain jackets into bags. He let family members know that an airboat was coming for them, and his sister posted the news on his Facebook page. “I’m glad he didn’t swim out,” one of his oldest friends wrote. Wayne told everyone he loved them. “We are going to be O.K.,” he wrote around 7 p.m., and then turned on Facebook Live. “As we wait for the airboat to come back for us, I’ll just show y’all what it looks like,” he said.

It was raining, but the water level had stopped rising. “Airboats will be here any time now,” Wayne said. A droning sound in the background grew louder. “Matter of fact, I think I hear them now, so I’m going to go ahead and end the video,” he said.

Wayne leaned out his front door to look at the main road, which was five trailer lots away at the end of their street. The airboat came into view. But instead of turning onto Enchanted Path Drive to pick them up, it continued on to wherever it was heading.

Wayne felt a wave of panic, but he tried to keep his composure for his kids. He wanted them to feel sure that their father would get them out of there. Minutes later, their home lost power. The television news switched off along with the Wi-Fi, which the boys were using to watch videos. It would

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Wayne turned off Casey's fully powered cellphone to conserve its battery. His own phone could last nearly a day, and he had an external battery to extend it for another. Late into the night, he called and texted every number that his family and friends sent him to reach volunteer rescuers. He placed calls to a number for the Cajun Navy, an ad hoc volunteer group. He called strangers and took calls from strangers. By midnight, he believed Casey had been added to about a half-dozen rescue lists.

But most rescue operations, both official and unofficial, had shut down for the night for safety. Casey was still running a slight fever. Wayne checked her incisions again. They still looked good. He tried to reassure worried friends and family members. "It will be tomorrow," he wrote on Facebook. "I have Casey stable for now. I have everyone sleeping. I am going to get some rest. I only had about an hour of sleep in about 28 hours. Love you guys and will keep y'all posted."

A few minutes before sunrise on Tuesday, Wayne called 911 for the second time. It had been a bad night. Casey's movements were shaky, and when she tried to speak, her words were mostly gibberish. Just as with his first call, he was transferred to a call-taker at Harris County Emergency Corps. "Fire and ambulance," she said quickly and sneezed. Wayne explained about Casey and her recent surgery. He said they needed a water rescue. The flooding in the street was six feet deep. The call-taker, sounding groggy, asked if his home was flooded. "I've been blessed, no water in it," he said.

She told Wayne that many neighborhoods in his area had to be evacuated. "As of right now they haven't resumed water-rescue operations," she said. The fire department would do so at daylight. She had Wayne's phone number for them, and they would get to him as soon as possible. "O.K., thank you very much," Wayne said. But the 911 center did not assign any personnel or resources, and the call-taker once again categorized the incident as a water-rescue call to be sent to the local fire department, not a medical emergency for the E.M.S. agency.

The local fire service, Sheldon Community Fire and Rescue, was in charge.

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Sheldon personnel responded to five incidents, a typical number. On Sunday the number of calls shot up to more than 170, nearly all of them requests for water rescues as opposed to reports of fires; roughly 40 more calls came in for addresses already in the system — people who had called for help and then called back after they did not get assistance. The fire desk at the emergency operations center had little it could offer. It gave the cellphone numbers of Sheldon Fire chiefs to civilian volunteers with boats, which was helpful but also added to the logistical burden.

On Sunday night, Sheldon Fire and Rescue leaders called the 911 center to say that the service lacked resources to conduct water rescues, especially at night. Instead of dispatching calls one by one to the handful of Sheldon Fire and Rescue crews, the 911 center put those calls into a holding pattern. Fire captains could access the ever-lengthening list on a mobile data terminal in their cars. On Monday, new calls for rescue in the district arrived on average every minute to two minutes. By the time of Wayne's 911 call that day, Sheldon Fire had already received more than 500 water-rescue calls, not counting duplicates.

The triage method was haphazard. Sometimes if a call sounded urgent, a 911 dispatcher would text or phone District Capt. Isaac Pinson, saying, "Hey, man, can you get to this?" Pinson said later that whenever possible, he read the dispatchers' notes and, by radio from his Tahoe truck, prioritized sending fire crews on fishermen's boats to homes where lives were in danger, or to areas with the greatest concentration of flooding. Sometimes a personal contact helped identify someone needing rescue. One crew went to get family members of a Texas state trooper out of their house.

The chaos created considerable wasted effort. Captain Pinson sent personnel to rescue people who became stuck on flooded streets after wading out of homes where they could have stayed safely. His crews lost precious time responding to false alarms, including a report that the roof of the local high school had collapsed with hundreds of people sheltering inside. For the most part, Captain Pinson concluded, people clamoring to

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At daylight on Tuesday, Wayne saw that the water level outside had dropped slightly. He could barely rouse Casey. He tried calling the Texas Department of Public Safety and, failing to reach someone who could help, called 911 a third time. "I need a medical-emergency rescue," he said with an edge to his voice he did not have before.

The call-taker at the sheriff's office asked him if it was because of flooding. Wayne said no and explained about Casey's surgery and the last two days of vomiting. "She's kind of unresponsive," he said. When the call-taker said she would get an ambulance there, he said, "There's no way" and explained that five or six feet of water still lay outside. "I've been trying for two days to get her out of here," Wayne said.

Emergency workers later reported that 911 dispatchers in Harris County had limited knowledge of impassable roads, including routes to local hospitals. Although dispatchers were kept abreast of major road closures, some could not use their terminals to access potentially useful websites like the state transportation department's web page showing blocked roads, or even Google Maps. A next-generation 911 system that incorporates layers of multimedia information might help solve that problem in future disasters, perhaps even incorporating information from drone overflights.

The communications officer at the sheriff's office told Wayne that she would get an ambulance to him and instructed him to let the paramedic know the situation when the call transferred.

A Harris County Emergency Corps call-taker picked up the call and asked for Wayne's address. "O.K., we do already have your two calls for service," the woman said.

"My wife, she's getting worse," Wayne said. "She's unresponsive, she's real lethargic, she's been vomiting. She's in a lot of pain. And I really, really, really, really need to get her to a hospital A.S.A.P."

She told Wayne brusquely that there were thousands of calls for service in the area. "The fire department is working as quickly and safely as they can

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It wasn't O.K., but Wayne said, "O.K."

Nineteen seconds into the call, the communicator closed the incident as a "duplicate" without assigning any responders, since Wayne's previous call was already in the queue.

Wayne called family members, and his mother commented on Facebook at 10 a.m., asking for help from anyone who could provide it. "Casey's condition has worsened. She is feverish and unresponsive."

Wayne tried 911 again. This time, his call ended up in Houston. About one call in seven was misrouted by cell towers during the storm, a higher than normal rate, according to data obtained through a public-records request from the regional 911 network, Greater Harris County 911. Communicators had to stay on the line trying to transfer these misrouted calls, adding to the gridlock.

The Houston call-taker rerouted Wayne to the Harris County Emergency Corps. This was now the fourth time Wayne had spoken to this center, and he could not have been clearer with the call-taker on the line when she asked him what he was reporting. "My wife is in urgent need of medical, medical attention," he said, "she's almost unresponsive."

At last, the call-taker classified the problem as a "31," an unconscious party, rather than as someone in need of water rescue. "We're getting medical to you as soon as they can get there," she said.

After 21 hours, Wayne's call had moved out of the queue for the local fire service, which was responsible for water rescues, and was now in the hands of the independent local medical-response agency, South Lake Houston E.M.S., which was in charge of medical emergencies. Both of South Lake Houston's two stations, the newer of which was now itself surrounded by water, were normally about a 10-minute drive from Wayne and Casey's trailer.

South Lake Houston covered a territory of around 70 square miles, much of it rural or industrial. A rotating staff of five paramedics and emergency

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supplemented their income with other jobs, including with other ambulance services.

Normally, they answered five or six calls a day. On Sunday, they were dispatched to 17 calls. On Monday, it was 39, and because of flooding they only reached two of them. Tuesday was looking to be even worse. The ambulance service had not staffed up before the crisis, and the flooding prevented some personnel from making it in for their shifts. Two paramedics who had worked two days straight in a nearby district drove in on Monday morning to help.

From the beginning, the disaster had been harrowing for the paramedics. One crew sped in an ambulance toward a hospital downtown in the midst of the violent storm, with a critically ill patient on a ventilator. Floodwaters stopped them on the roadway. They tried hitching a ride three separate times with three different trucks, but the water was too high. Ultimately the paramedics lifted the woman into a volunteer's kayak and walked her the last mile. The crew had to be flown by helicopter back to the station.

Several times, the paramedics waded through water only to arrive where someone did not really need help. Once, they were dispatched to respond to a reported death and spent an hour canvassing a flooded neighborhood on foot, unable to locate the person. Sometimes they worked with the fishermen and pleasure-craft operators who formed an impromptu rescue network but were not trained or equipped to save lives. In the broader region, volunteers sometimes overturned in rough floodwaters (at least four ultimately drowned).

By midday Monday, the E.M.S. service's leaders concluded that, in the case of callers who were inaccessible by ambulance, it was best to keep track of their conditions and try to reach them only if they became critical. Joe Fress, the director, asked his personnel at the station to write out a list of all the medical calls that were listed as "pending" in the computer system, with locations and phone numbers.

On Monday, one of those pending patients was Randy De'Shun Belcher, a

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difficulty breathing. "I'm sending the paramedics to help you now," the call-taker at Harris County Emergency Corps said, and South Lake Houston E.M.S. was dispatched.

Thomas called back when the ambulances did not arrive as promised. The call-taker incorrectly assured her that units were en route. "You gotta understand we're going through a hurricane," she said. The apartment complex was just off the Texas State Route 8 Beltway, which was not flooded. But the entrance to the apartment complex was under water, about 100 feet from the beltway's frontage road, and not navigable by ambulance. Nobody called Thomas to let her know.

Just after noon on Monday, Thomas tried 911 again. "He's not breathing properly," she said. She called again 90 minutes later. The call-taker sighed loudly, sounding exasperated as she took down the address. Thomas repeated what was happening, now sounding tired and dejected.

At 5 p.m., still waiting, she again called 911 in tears to report that her fiancé was barely breathing. "O.K., I'm sending the paramedics to help you now," a communicator again told Thomas. The call was coded in a way that indicated Belcher was getting sicker, which led Fress, finally, to tell his paramedics, "Let's just try to get there, let's try to make it."

They parked on the Beltway and grabbed gear and medications from the ambulance. They crossed the feeder road and entered the complex, the floodwaters rising to their waists in the parking lot. Their rescue equipment was splashed even as they held it aloft on their shoulders. Their boots grew heavy with water, and their hips ached.

As they made their way, another 911 call-taker, speaking quickly but patiently, was giving Thomas's mother, also in the home, instructions on how to start CPR. At 5:50 p.m., the paramedics finally walked into the apartment. Belcher, a father of 12, had been without a pulse and not breathing for at least a half an hour. The paramedics knew they would not get him back, but they also knew, for the sake of the devastated women, they had to try.

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The medical interventions did not work. The paramedics felt horrible that they could not save him, and that the medical examiner's staff would not be able to get there to pick up Belcher's body. They needed to do something they had never done before Harvey — they left Belcher's body on the living-room floor with a breathing tube in his mouth and an intravenous catheter in his right arm so the medical examiner would know what they had done. Before they left, they covered Belcher with a bedsheet, knowing that Thomas might be stuck in the apartment with him for days before his body was retrieved.

Wayne raised Casey from their bed and shuffled her in his arms to a recliner in the living room so she would be closer to the front door when help arrived. Ronnie and Luke sat, hushed and frightened, on the adjacent sofa.

Before noon on Tuesday, Wayne heard the thrum of helicopter rotors and saw a rescue line being lowered behind the trailers two streets over.

He burst through the back door, where the grade was higher, sloshed through water that reached his thighs and lifted an extension ladder against the side of the trailer. He climbed to the roof, shouting and waving a flashlight. Luke stood on the front steps signaling with a bright yellow broom. Ronnie hollered for his father from the back door, not knowing where he had gone.

The helicopter moved toward them. It hovered overhead. Then it flew away.

Wayne swore. He made a decision: He did not want his children to watch their mother die. "I'm going to bring y'all over there," he told his boys, gesturing to Casey's parents' trailer across the street. "And I'm going to get Mommy out of here." He carried little Ronnie, with Luke sloshing along beside them.

Wayne had no idea for whom the helicopter had come, or how it had been dispatched, but he learned months later. Norma Anderson, 75, had kidney failure and, having missed dialysis, was in bad condition. A 911

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for Norma, the owner of her trailer had a friend who knew the district's congressman, Gene Green, and thought to call him. An intern in the representative's Washington office, Simon Handler, took the call and phoned a federal agency for a helicopter, which soon arrived.

Wayne returned from Casey's parents' house soaking wet. He changed his clothes and went back to Casey's side, telling her over and over that help was coming. Shortly before 1 p.m., nearly a day after Wayne's first 911 call, a paramedic from South Lake Houston E.M.S. called Wayne back. It was the only call Wayne's cellphone recorded having received from the station, although paramedics later recalled talking with Wayne more than once to keep track of Casey's condition.

Greg Perches, a paramedic who said he spoke with Wayne, arrived at South Lake Houston E.M.S. on Monday night, which allowed the ambulance service to assemble a second crew. Wayne impressed him by saying he thought Casey was becoming septic, using a medical term that indicated a potentially deadly consequence of a severe infection.

The county's systems were supposed to prioritize people like Casey, people who "have a medical situation, even if they're not in an area where flooding is life-threatening," Francisco Sánchez, a deputy emergency-management coordinator for Harris County Homeland Security and Emergency Management, later said.

Perches says his director, Joe Fress, phoned the county fire desk to see whether the county had resources to send to Wayne and Casey's street, but was told it did not. By the logic of the county's emergency-management plan for health and medical services, the ambulance service should have been able to call for assistance from a regional catastrophic medical operations center, which was in charge of coordinating patient evacuation, transport and placement. But that center did not have its own air or boat resources, and additional ambulances would have been of no use in reaching flooded areas. The ambulance companies had to rely on fire services to help them. But in South Lake Houston's district, unlike in some

other parts of Harris County, including Houston, fire and ambulance

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Houston E.M.S. did not follow recommendations to set up a joint command in response to the disaster, in part because there were so few workers available. Also, while personnel were individually friendly and respected each other, there was “bad blood from a long time ago” between the agencies, Sheldon Fire’s Captain Pinson says. “They don’t work with us that well.” Workers from both agencies would later agree that communications between them during the disaster were poor. Their radios were on different channels, and their calls were dispatched separately by the 911 center. That meant that when someone having a medical emergency was also trapped by floodwaters, the fire department would not necessarily know about it. The paramedics were fatalistic. “We were fortunate to get what we could get” in terms of outside help, says Billy Slagle, a supervisor at the E.M.S. service. Theirs is a “very small community,” he says, “who’s nobody.”

Perches told Wayne to flag down any boat he could, both men later recalled. Right after the call, Wayne turned his phone to record Casey as she lay, flushed and barely conscious, on the recliner chair by the front door. He had heard on the news that people were making false reports when they called 911. He wanted to document that this was a true medical emergency, and that Casey needed help, in case anyone ever questioned him.

“Casey?” Wayne asked as he recorded her. The feverish eyes of his wife flickered and focused. She made a sound that might have been the beginnings of the word, “What?”

“Someone’s coming to help us, O.K.? I love you.” She groaned softly and turned her head away from him. “Just keep breathing, O.K.?” he said. Pearl Jam’s “Just Breathe” was their special song.

It was 12:54 p.m. There was still no power, and light from the open door threw shadows across her reddened face as she lay on the easy chair. Outside, the flooding continued receding, but slowly.

After he finished the short recording, Wayne heard a sound that made him

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two men in it. Wayne stood up and kicked the door open, shouting: “My wife is dying, man. I got to get her out of here.”

The men said they were from the Cajun Navy. They tied the boat to the handrail, came into the trailer and looked stunned when they saw Casey. “We’ve got to get her out of here now,” one of them said.

They carried Casey to the boat and motored 300 feet to the drainage ditch at the corner of Enchanted Path Drive and John Ralston Road, where the street was dry. One man took off running to try to flag an airboat, waving his arms and screaming: “We got a medical emergency! We got a medical emergency!”

Stephanie Vincent, a 37-year-old respiratory therapist from Kinder, La., was with a group of boat volunteers about a half-mile up the road and saw the man running in their direction. “They got something over there,” she said, and started running toward the man with several friends.

One of the airboats they were with flew ahead of them. About a half-dozen men picked up Casey by her arms and legs and loaded her into the airboat. “Be careful of her left side,” Wayne warned them.

Vincent and a medical student whose name nobody could later recall tried to get a history of Casey’s problems, but a glance told them all they needed to know. “This woman needs critical care right now,” the medical student said. “She’s fighting for her life, and she looks like she’s losing.”

They headed to a nearby field free of power lines where a helicopter could land. A volunteer from Pasadena, Tex., tried calling a number he had found for the Coast Guard on Facebook or Zello, a walkie-talkie app that citizen rescuers were using. Other volunteers stood on a bridge where the road crossed a swollen channel, waving their brightly colored life jackets to try to flag passing helicopters.

Vincent stood beside Casey, holding her hand and trying to talk to her. Casey was able to open her eyes and squeeze Vincent’s hand, but she could

not speak aside from moaning. Casey was trembling, and Vincent took off

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For the volunteers, the day to that point had been filled with waiting. They had slept in a Baptist church overnight and followed a member of the Cajun Navy to try to evacuate 275 people from a flooded trailer park. But when they reached the neighborhood, residents did not want to leave. The volunteer boat fleet had not managed to find anyone willing to be rescued until Wayne and Casey.

Now Vincent felt there was a reason they were supposed to be there. She wished she had brought a monitor to check Casey's oxygen level. Wayne kept hold of Casey's hand and murmured encouragement to her. He repeatedly thanked the volunteers. "I'm so sorry," Vincent said. She and her friends had waited hours for something useful to do. If they had known about Casey, they would have gone right to her.

The man from Pasadena called again to check on the helicopter. There were several operating in the area, but all were fully loaded with passengers and would not be back for the better part of an hour. A half-hour passed, then more, with Vincent growing irritated and panicked. Why were they just sitting there? Casey was going to stop breathing and die if they did not get her somewhere. "Put her on our boat," she told the others.

Her idea was to take Casey back to the meeting point where the boats had launched that morning, at the Houston Motorsports Park, about three miles north off a major parkway. Two Texas Department of Transportation high-water dump-truck crews had been parked there for hours, waiting to transport evacuees.

Several volunteers lifted Casey onto a seat of the white bay boat, laying her head back on the bow, where Stephanie arranged life jackets to cushion it in anticipation of a fast, bumpy ride. Vincent and Wayne supported Casey's head as they took off, speeding west along the swollen canal toward the flooded Greens Bayou.

They began twisting along Greens Bayou, taking shortcuts where they could. Vincent sat on the bow facing backward, hair whipping in the wet wind, keeping a finger on Casey's neck to monitor her carotid pulse. It was

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were ominous, and Vincent later said she thought about the possibility she would need to start CPR. She had the sense that Wayne expected it, too.

At one point, Vincent's friend Rachelle McClellan jumped out of the boat to help push them over a sand-choked levee against a current — she had to be pulled back in on the other side, where the water was deeper. To McClellan, the way Casey's hands and feet looked reminded her of how her mother's did the day she died. The entire journey took about 15 minutes. When they arrived, a truck was already backed up deep into the water. McClellan held onto the truck bed to keep it steady, and several men lifted Casey into it, where the gravel normally goes. Wayne and a transportation employee hopped in behind her.

They planned to drive to a hospital, but found the roads were closed, and a National Guardsman they passed recommended that they drive to a small shopping center off Beltway 8, about four miles north. There was supposed to be a medical station at a Kroger grocery store, and there was also a 24-hour emergency-care center run by Memorial Hermann, the hospital system where Casey had undergone her surgery.

As the truck bumped and jerked along the road, Wayne could not recall a more uncomfortable ride. The motion was beating up Casey. He struggled to keep her covered as the rain started up again. She was wet and filthy and surely cold.

They arrived to find no medical clinic outside the Kroger, and the emergency medical center was closed. The two transportation employees in their orange vests cussed and looked scared. "This woman is dying," Wayne heard one of them say into a phone or radio. "She's going to die right here if we don't get her an ambulance."

Although the dump-truck crews were deployed as part of the official storm response, their radios allowed them to communicate only among themselves. So the driver, Calvin Milburn, a maintenance technician, called 911 on his cellphone. Harris County Emergency Corps received at the call at 2:49 p.m. Milburn told the call-taker that Casey was

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She said the paramedics would do their best to get there and asked whether he had access to a defibrillator. He did not.

The call center dispatched a South Lake Houston E.M.S. ambulance to the far north of its territory. "You need to bring the patient to the freeway," the paramedic who took the call, Tyler Cegielski, said. The paramedics were not willing to exit the freeway for fear of swamping their ambulance in high water. They would have to navigate around some areas of flooding and predicted they would be at that part of the freeway in 10 or 15 minutes.

The dump truck bumped back out of the parking lot and onto the freeway to await the ambulance. Wayne leaned over Casey, cradling her head in his left arm, and caressing her with his right, her body half in his lap and half in the bed of the dump truck.

"Just hang in there, sweetheart. Just breathe. Just breathe," he said. "Help is on the way. The ambulance is coming."

It was taking much longer than 15 minutes. Wayne saw several ambulances pass by, but they seemed to be going other places. The rain picked up again, and the workers let out a tarp over the truck bed to protect them.

Casey had been fading in and out of consciousness for hours now. Wayne felt her stir. Her left hand rose to clench his shirt, pulling his face down to her so they were nose to nose. Her eyes were open now, looking at him. "Let me go," she said, the first clear words he'd heard her say in more than a day. "Let me go."

"What are you talking about?" he said. "Help is right here." But Casey did not respond. She vomited something dark and foul-smelling. She stopped breathing.

Wayne reached his hand out and beat on the driver's side window. "My wife's dying back here," he yelled.

Milburn climbed into the truck bed with them. Casey had no pulse. He began performing CPR. Wayne saw a constable on the other side of the

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another constable pulling up, she told Wayne, “Get that one.” Wayne ran over and told the second constable the situation. That constable, too, got on his radio. Wayne crossed back over the median and hailed a third constable, who turned on his emergency lights, cut off traffic and pulled up behind the dump truck. Another constable arrived along with passers-by who had been driving on the freeway. One went into the back of the dump truck to help work on Casey.

About three minutes after Wayne returned to the dump truck, at 3:16 p.m., the ambulance finally arrived.

Two of the paramedics who had tried to save Randy Belcher the previous day, Jeremy Fuentes and Jason Foster, took over and brought Casey out of the dump truck. They figured it had been about eight minutes since her heart had stopped. They inserted a breathing tube, started an intravenous line in the crook of her right elbow and placed a needle into the tibia of her right leg to deliver fluids. They attached a pistonlike Lucas device that uses a suction cup to compress and recoil the chest, providing automated CPR.

The idea that the young woman had been breathing and even speaking just a few minutes earlier made Fuentes think they had a chance to revive her. They went through everything they had on their truck that might restart Casey’s heart — multiple doses of epinephrine and atropine — but nothing seemed to work. The monitor showed a flat line, no electrical signal that they could shock back to regular rhythm. To Fuentes, the hardest part was watching Wayne watch Casey.

After about 20 minutes, one of the paramedics said, “Mr. Dailey, we got to go.” Wayne rode in Ambulance No. 25 with Casey. He supplied her medical history as the ambulance, slowed by the rain, headed to Memorial Hermann Northeast Hospital in Humble, more than 11 miles away, the only working hospital they knew they could reach.

They arrived at 3:54 p.m. Casey’s temperature was high, but her pulse, breathing rate and blood pressure were nonexistent. Her pupils did not react to light, a sign that her brain had not received enough oxygen.

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For eight minutes, the hospital team pumped Casey's chest, filled her lungs with oxygen, and gave her additional doses of epinephrine. But at 4:04 p.m., Dr. Christopher Langan concluded nothing could revive her.

It was 1 day 2 hours 30 minutes after Wayne's first call to 911. Wayne reached Casey's parents on the phone. "I'm so sorry. I'm so sorry," he said. "Casey's gone."

For days after Casey died, Wayne kept receiving calls, texts and Facebook messages from people across the nation. Someone had posted Wayne's phone number on a Hurricane Harvey Google map, and his address was one of relatively few marked with a pink dot to signify a medical emergency. "Hello, this is Wesley Brown with the Cajun Navy, I'm calling to see if you have been rescued or not." "Wayne, this is Monica from Houston Rescue. Please let me know immediately if you are still in need of a rescue." "Hi, this is the Cajun Navy dispatch. I'm calling to see if you've been rescued or need to be rescued." "You don't know me, but I live in Georgia. I picked up your emergency signal on the Facebook account. I've tried to call FEMA and all them, and I can't get nobody on the phone, but I'll keep trying."

Wayne responded to the messages. "I'm sorry to say that my wife passed away on the way to the hospital," he wrote in a text message to a stranger with a South Carolina area code. "I appreciate your efforts, thank you."

"I am so so sorry for your loss," the stranger wrote back. "Sending prayers your way."

The next week, Wayne's and Casey's parents noticed that she was not named as a victim of the storm. Wayne called the Harris County Medical Examiner's office, distraught. "How come my wife is not on the list of people who died as a direct impact of Harvey?" he asked. The investigator explained that "direct impact" primarily meant drowning. Wayne's wife, on the other hand, had a medical problem.

Wayne said he knew that, "but she wouldn't have died in the back of a

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my street. She'd be in a hospital right now." The investigator apologized and offered to talk to her administrator to see if she could get Casey on the list.

To this day, Casey's death is not included in Hurricane Harvey's official toll. Randy Belcher's is not either. In interviews, personnel at South Lake Houston E.M.S. said they believed that at least four or five other people in the district who called 911 with medical emergencies died when they were not rescued in time.

Local media highlighted deaths of people in other districts as well: Noah Delgado, an 8-year-old who died of an asthma attack in northwest Harris County and whose mother could not get through to 911; Bonnie Parsutt, 69, who died in Galveston County after her oxygen failed when the electricity went out; Mary Avila, 80, also in Galveston County, who died in a nursing home when she could not get dialysis; and a heart-attack victim who died at home in a flooded neighborhood of Montgomery County that emergency workers could not reach.

The City of Houston reported to the F.C.C. that many people with disabilities who had entered themselves into the State of Texas Emergency Assistance Registry and had repeatedly called 911 and 211, the city's non-emergency line, to request help when their homes flooded did not receive assistance.

The number of acutely ill people who lost their lives because of delayed rescues has not been tallied. Preliminary data from the state health department's Center for Health Statistics indicate that 2,498 people died in Harris County in August 2017, nearly 200 more people than died in July of that year. Over the period of 2008-16, deaths in July compared with August typically varied only slightly. August 2017 appears to be an outlier.

The Harris County medical examiner lists only 36 deaths as storm-related, all of which were caused directly by drowning, falls in floodwaters and electrocutions. "We consider only deaths that are a direct consequence of environmental factors," says Tricia Rudisill Bentley, a spokeswoman for the

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By contrast, the Centers for Disease Control, in guidance issued last October, recommends that medical examiners “consider indirect causes of death that can be related to the disaster,” including disruption of health care and transportation. Calculating deaths in this way is much more likely to convey the true toll of a disaster. But the C.D.C.’s recommendation “hasn’t changed anything here,” says Jason Wiersema, a forensic anthropologist with the Harris County medical examiner’s office, which has instead provided public health agencies with access to data for further analysis.

The medical examiner ultimately determined that Casey died of pulmonary emboli, blood clots that had most likely formed in her legs and then traveled to block major blood vessels in her lungs. But experts who reviewed her case believe that her deteriorating state in the days leading up to her death was probably related to how her care was managed after surgery. The tumor in one of Casey’s adrenal glands had made too much of the hormone cortisol, which typically suppresses the other gland’s release of it. After her tumor was removed, it would have taken time, perhaps months, for her body to begin producing enough again, with steroid medication needed in the interim to avert life-threatening complications. The deficit of steroid hormones would explain Casey’s pain, vomiting and weakness. The resulting dehydration and her immobility would have raised her risk for developing the blood clots — as would her recent operation and her history of Cushing’s syndrome.

When they discharged Casey before the storm, doctors at Memorial Hermann did not send her home with this medicine, which is routinely given after removal of a hormone-producing adrenal-gland tumor. Memorial Hermann referred questions about the case to the individual physicians. Dr. Curtis Wray, her surgeon, declined several requests to speak through UTHealth, where he is an associate professor of surgery. The intern who discharged Casey also did not respond to several email and phone inquiries.

Dr. Geoffrey Thompson, the head of endocrine surgery at the Mayo Clinic

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surgeon, whose group has performed close to 3,000 operations of the type Casey had. That failure, and the delay in her transport to the hospital, was all the more tragic, Dr. Thompson added, because the condition she had “is highly curable.”

Dr. Laurence Katznelson, medical director of the pituitary center at Stanford School of Medicine, agrees. “Everybody gets placed on steroids,” he says. Asked whether he could come up with reasons Casey’s doctors might not have prescribed steroid medication, Dr. Katznelson replied, “I can’t think of one.”

After Harvey, Sheldon Fire acquired a high-water vehicle and boat and sent firefighters for swift-water rescue training; South Lake Houston E.M.S. received approval to purchase a high-water truck for transporting people with life-threatening medical emergencies. But a major problem identified by the county was the lack of a common platform for responders to share information on local, county, state and federal levels. The information-sharing problem is a national one, recognized after the Sept. 11 attacks and the deaths of emergency workers who could not communicate with one another. The establishment of an interoperable communications system, FirstNet, for public-safety personnel was stalled by years of political wrangling over the sale of a portion of the radio spectrum, but it is finally under construction, including in Harris County. Other local and national agencies have also been experimenting: During the storm in Harris County, the Coast Guard brought in a civilian programmer to map distress signals, and in Charleston County, S.C., people can now provide information to 911 online.

For Wayne Dailey, who has struggled emotionally and financially in the wake of Casey’s death, improving systems for identifying people with medical emergencies in disasters and getting help to them in time is his most fervent wish. As the climate continues to change, Harvey is far from Houston’s most extreme hurricane possibility. Parts of Harris County prone to devastation from storm surges — windswept walls of water that slam onto land with great power — were spared that additional hazard this

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County emergency-management coordinator, says, "it had the potential to be much worse."

On the afternoon of Sept. 14 last year, in a small, packed sanctuary in a white-painted wooden church in High Island, Tex., Casey's funeral service began to the strains of Pearl Jam's "Just Breathe." The pastor read a eulogy written by Casey's father, Chuck Dills, who was too devastated to deliver it himself (Dills died of newly diagnosed bladder cancer less than six months later). "A gift from God, that's what she was," Chuck wrote.

The crowd left the church wiping their eyes. Wayne and Luke, two of the pallbearers, followed behind them. "Your Mom would be proud of you," Wayne said to Luke, touching his cheek.

The family drove to the graveyard. As Casey's coffin was lowered, all was silent except for the sound of grass being mowed in the distance. One by one, each guest departed, until only Ronnie remained, peering into the broken ground. Wayne came to get him, but for a long time the boy refused to leave.

Dr. Sheri Fink is a correspondent for The Times whose articles have been recognized with a Pulitzer Prize in 2015, with colleagues, for coverage of the Ebola epidemic and in 2010 for her magazine feature on the aftermath of Hurricane Katrina, which was the basis for her book "Five Days at Memorial."

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