How community members and health professionals conceptualize medical emergencies: implications for primary care promotion

Holley A. Wilkin1*, Michael A. Tannebaum1, Elizabeth L. Cohen1, Travie Leslie2, Nora Williams2 and Leon L. Haley Jr3

1Department of Communication, Georgia State University, Atlanta, GA 30302-4000, USA, 2Neighborhood Planning Unit-V, Atlanta, GA, USA 30310 and 3Grady Health System, Department of Emergency Medicine, Emory University, Atlanta, GA, USA 30303.

*Corresponding author: H. A. Wilkin. E-mail: hwilkin@gsu.edu.

Received on July 25, 2011; accepted on July 11, 2012

Abstract

Access to continuous care through a primary care provider is associated with improved health outcomes, but many communities rely on emergency departments (EDs) for both emergent and non-emergent health problems. This article describes one portion of a community-based participatory research project and investigates the type of education that might be needed as part of a larger intervention to encourage use of a local primary care clinic. In this article we examine how people who live in a low-income urban community and the healthcare workers who serve them conceptualize 'emergency medical condition'. We conducted forum and focus group discussions with 52 community members and individual interviews with 32 healthcare workers. Our findings indicate that while community members share a common general definition of what constitutes a medical emergency, they also desire better guidelines for how to assess health problems as requiring emergency versus primary care. Pain, uncertainty and anxiety tend to influence their choice to use EDs rather than availability of primary care. Implications for increasing primary care use are discussed.

Introduction

The continuity of care and attention from a regular physician associated with having a primary care home has been demonstrated to have many benefits [1]. Most notably studies have found that use of primary healthcare improves overall patient health [1–3]. Continuity of care with a specific provider can also diminish the likelihood of emergency department (ED) use [4–8]. However, barriers to primary care often result in underserved communities having an over-reliance on EDs for both urgent and less-urgent medical care. Patients in these communities may thus not fully reap the myriad benefits of having a primary care home (for a thorough review, see [9]).

From 1996 to 2006, the number of annual ED visits jumped from roughly 90 million to nearly 120 million [10]. Concurrent with the increase in ED use has been the development of programs designed to direct less-urgent patients from EDs into primary care [11–14]. Still, research suggests that even patients with regular primary care physicians often feel that they do not receive proper education as to which situations necessitate ED care and which should be treated by one’s regular physician [15]. Additionally, patients who routinely use EDs for less-urgent healthcare often have less education...
and experience with the healthcare system and medical protocol [16]. Consequently, these patients have difficulty evaluating when to visit the ED, misinterpreting non-urgent symptoms as emergencies [17]. For this reason, efforts to encourage patients to pursue primary care when appropriate may be more successful if supplemented with educational campaigns that address patients’ fundamental understanding of medical emergencies.

This article describes a part of a larger community-based participatory research (CBPR) project. CBPR is a collaborative research approach in which community members, researchers and other vested parties are equally involved from the onset of a research project to its conclusion [18]. The goals of this portion of the project were to increase primary care use in a community faced with health disparities by: (i) reducing barriers to local primary care and (ii) providing education about when to use primary care. In order to achieve the second goal, formative research about how community members and medical professionals defined medical emergency and non-emergency was conducted.

Defining medical emergency

Only a handful of studies have examined how individuals conceptualize a medical emergency. Ascribing an explicit definition to the term ‘emergency’ remains a contentious process both between healthcare providers and patients [19] as well as among medical professionals [20]. For example, one study found emergency physicians and internists possessed different views of ‘appropriate’ ED use [21] and another found triage nurses disagreed about the severity of patients’ conditions and subsequently their triage recommendations varied [22].

A study of non-medically trained individuals living in Northern California showed a divergence of opinion when provided predetermined definitions of an emergency medical condition. However, when provided with 30 specific health conditions (e.g. large rash, anxiety, difficulty breathing) and asked whether or not each were emergencies, greater consensus was found [23]. Another study found that patients in EDs often conceptualized emergencies as the presence of severe and unrelenting pain [24]. Recent studies found that parents of children presenting at an ED with non-urgent health problems had never been taught how to differentiate urgent and non-urgent conditions [25] and that while parents generally had the ability to identify which symptoms were signs of true pediatric emergencies, they overestimated the seriousness of some symptoms [26].

Project background

In 2005, the Accountable Communities Healthy Together Project held community ‘listening sessions’ to determine the health priorities of a community with known health disparities located in a large Southeastern urban area. The majority of the community’s roughly 16000 residents are African-American (92%). Compared with the city as a whole, unemployment is higher (20% compared with 14%), more households have incomes of less than $25000 (68% compared with 38% city-wide), residents are less likely to graduate from high school (28% compared with 57% city-wide), and more adults have a physical (13% compared with 6% city-wide) and/or mental (8% compared with 4% city-wide) disability [27]. Several health priorities emerged from the listening sessions and research teams consisting of community members and researchers formed to address issues such as the built environment, mental health and healthcare access [The community voted mental health (and as part of that built environment) as their highest priority. The community leaders (past, present and what turned out to be future) deemed healthcare access as a top priority, so these projects moved forward simultaneously. Additionally, an existing community organization took the opportunity to partner with interested community members on an asthma project].

The project discussed here was based on community members’ observation that many people received their healthcare by calling 911. The public hospital’s records indicated that the community contributed to a large portion of non-emergency calls to 911 (based upon operators’ assigned priority
codes of ‘emergency: life threatening,’ ‘emergency: non-life threatening’ and ‘non-emergency’), despite the presence of a large federally qualified health center (FQHC) that offered subsidized healthcare. The community members on our research team indicated barriers to primary care in their community were similar to those identified in previous research, such as a lack of or gaps in health insurance coverage, the inability to take time off from work, the need to provide care for others, a lack of transportation, long wait times, inconvenient office hours, having to schedule appointments far in advance and excessive paperwork [28–36]. The CEO of the local FQHC agreed to work with the community to remove barriers to using their healthcare services [The FQHC was once highly regarded and used for primary care by a large portion of the community, but administrative changes over the years contributed to mixed feelings about the FQHC; the new CEO voiced a commitment to re-establish the FQHC as a primary healthcare home to residents. Additionally, the FQHC provided office space for the community members involved in this and the other CBPR projects in order to more closely align their outreach goals and so that the community could oversee (and report on) the FQHC’s efforts to remove some of the barriers to care]. The community members believed that education about when to choose primary versus emergency care and what primary care services were available was also warranted.

Our team of community members and researchers formed partnerships with community organizations, the FQHC, and the public hospital to develop a community-based outreach strategy that offered community members tangible alternatives to using emergency medical services (EMS) for non-emergency reasons. At the first meeting one of the EMS staff members asked: ‘How are we defining non-emergency? I can tell you the way I define it is going to be different than how you might define it.’ A discussion emerged that suggested differences in the ways community members, EMS staff, FQHC staff and researchers defined emergency. A community member started interviewing healthcare employees with the goal of creating a video for the community about ‘when to call 911 for healthcare’. Unfortunately, while candid in our meeting about what they considered ‘misuse’ of 911, medical staff would not provide clear guidelines for calling 911 in the video (The community member prompted the interviewees with examples paramedics had provided in the meeting that they deemed non-urgent and was told more than once, ‘In rare cases that can be a sign of something worse. If someone feels it is an emergency, they should call’). In the meantime, the other community members on the project started educating their peers about primary care and the FQHC through community meetings, newsletters, events and door-to-door discussions.

We received a grant to help subsidize 911 users care at the FQHC (beyond the existing sliding pay scale) and interview them about their healthcare use [37]. In trying to locate and enroll 911 users, it became apparent that many residents were using the ED as walk-ins (a bus came through several of the neighborhoods that went directly to the hospital so they did not feel the need to call 911). Therefore, we modified our overarching project goal to reducing non-emergency use of EDs (as walk-ins or via ambulance) through the promotion of primary healthcare. In order to reach this goal, more research was needed to determine how to best define ‘emergency’ for the sake of our outreach. We received a second grant to hold additional community discussions and to conduct formal interviews with healthcare workers to answer this and related questions about how the healthcare system functions for the un- and under-insured and what, if anything, they were doing to educate the public. Exploring individuals’ health-related definitions can shed light on health decision-making processes [38].

**Research questions**

In this article, we examine how community members and the healthcare workers who serve them conceptualize a medical emergency. Examining these unique perspectives side-by-side permits us to investigate the similarities and discrepancies between their interpretations of emergencies, which
will facilitate the development of community-based interventions.

The following research questions were posed:

**RQ1:** How do community members and the healthcare workers who serve them define emergency?

**RQ2:** How do they distinguish medical non-emergencies from emergencies?

### Methods

Group discussions were conducted with community members and interviews were conducted with healthcare personnel. The university’s Institutional Review Board approved all plans for recruitment and data collection; the hospital’s Research Oversight Committee also approved the healthcare worker interviews.

#### Community discussions

Fifty-two community members (14 male; 38 female) aged 18 years and older (12 were 18–35 years old; 30 were aged 36–64 years; 10 were 65 years and older) participated in one of three community forum discussions (12–21 people each) held on two consecutive Saturday mornings and one Thursday evening (The community members on the project identified these were dates/times that conflicted least with community events and work schedules) in August 2010. Each meeting lasted 2–2.5 hours. Food and beverages were provided, participants received a gift card and transportation and childcare were provided upon request.

A member of our research team who was also a member of the community recruited participants through neighborhood association meetings [There is one large community and four neighborhood association meetings each month (the community-wide association meetings rotate between neighborhoods). Our project was periodically discussed by community team members in the meetings starting in 2007. Therefore, there was great response to the announcements made in the meetings. One of the community members took charge of organizing the forums and attempted to get a wide representation of ages and healthcare experience in each group], community health organizations, from a list of 911 users who had been enrolled in the healthcare assistance program funded by the original grant, and through referrals by other participants. Participants within each discussion group had a wide variety of experiences with the healthcare system (e.g. insured and un/underinsured who stated having a regular primary healthcare provider; insured and un/underinsured who relied on the ED for healthcare). After learning about programs at the hospital that aimed to redirect less-urgent patients to primary care clinics, we invited 10 of the original participants (We aimed for an equal number of men and women in this group) who had indicated using the ED for healthcare (urgent and non-urgent) to discuss these programs in a follow-up focus group discussion in December 2010.

The original discussions revolved around topics related to healthcare resources, barriers to receiving healthcare, experiences with EMS and EDs, and definitions of medical emergencies and non-emergencies (Appendix I). In the follow-up we further delved into their healthcare seeking choices and dispositions toward the hospital’s programs to redirect patients to primary care. A member of the research team who was a community leader (The community member had been activity-involved in community outreach for decades and at the time of the discussions was president of the main community association) moderated the first three discussions; another member of the research team led the follow-up focus group.

#### Healthcare worker interviews

Over a 6-month period in 2010, we conducted 32 semi-structured interviews (Table I) with healthcare workers at (i) a public hospital, (ii) community clinics associated with the hospital and (iii) the FQHC. We contacted supervisors in diverse areas of the healthcare system (e.g. EMS, ED nursing, social work and health education). We then used a snowball sampling technique in which interviewees pointed us to additional people to interview (e.g. the
EMS supervisor felt we needed to talk to newer as well as established paramedics as their perspectives would vary; the ED nurses felt we needed to talk to the social workers involved in the patient navigation program, who referred us to the clinic staff. We determined we were done collecting information when data saturation was reached (i.e. the interviews stopped yielding new information). Participants included individuals with varying levels of experience in the healthcare field (ranging from a couple of years to four decades) and types of responsibility within the healthcare system (ranging from support personnel to the supervision of hundreds of employees). Interviews lasted between 45 and 75 min; participants were compensated with a gift card.

Several interview guides were developed and, based on the job description of the interviewee, the most appropriate was selected. Most questions were posed to everyone. Questions pertaining to personal (and perceived patient) definitions of emergencies and non-emergencies and patient education were analyzed for this study (Appendix II).

Analysis

Discussions were videotaped by a community member who served as videographer for the project. Interviews were digitally recorded. All sessions were transcribed. A constant-comparative approach was used to guide the analysis [39]. Initially, independent open coding was performed to identify emergent categories and their respective attributes. During this stage, each researcher searched for themes and patterns in the data related to how healthcare workers and the community members they serve conceptualized medical emergencies and medical non-emergencies. Next, axial coding [39] was performed as researchers sought to unite related categories under singular, more encompassing themes. This stage of the analysis was crucial because community members’ responses, in particular, were often anecdotal in nature. Thus, whereas myriad disparate categories emerged after open coding, more careful comparisons of individuals’ stories and experiences revealed underlying commonalities across the data such as the role of uncertainty and pain in gauging the emergent nature of a condition and the type of treatment warranted.

After independent analysis, we met to confer about our findings. Because healthcare workers’ responses to questions about emergencies and non-emergencies were widely uniform (to the point that particular words and phrases appeared repeatedly across the data), agreement as to the overarching themes was achieved with relatively little debate. More nuanced discussions were needed to reach agreement about the key themes to emerge from community members’ responses. This involved discussing community members’

<table>
<thead>
<tr>
<th>Locations</th>
<th>Professions/departments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital, N = 18</td>
<td>9 emergency response workers (e.g. paramedics, 911 operators)</td>
</tr>
<tr>
<td></td>
<td>5 ED social service workers</td>
</tr>
<tr>
<td></td>
<td>4 ED nurses</td>
</tr>
<tr>
<td>Hospital clinics, N = 3</td>
<td>2 nurses and one doctor</td>
</tr>
<tr>
<td>FQHC, N = 11</td>
<td>4 nurses from various departments</td>
</tr>
<tr>
<td></td>
<td>4 members of the registration staff</td>
</tr>
<tr>
<td></td>
<td>3 health programmers (e.g. outreach coordinator, health educator)</td>
</tr>
</tbody>
</table>

Notes. The emergency response workers were included as EMS was the original focus of the project and, similar to the ED nurses, as people who initially prioritize the urgency of patient health issues. The social workers and hospital clinic personnel were included after we learned about the patient navigator and EMS alternate destination programs that attempted to redirect non-urgent patients from ED/EMS to the hospital clinics. For the FQHC, members of the registration staff were included because community members indicated they (and the paperwork involved) were a barrier to using primary care, the nurses were included to parallel the interviews with ED staff, and health programmers were included to learn more about their educational efforts (similar to those conducted with social workers and hospital clinic staff).
aforementioned anecdotes in depth. Thus, the categories that remained after researchers’ independent coding were pooled and discussed both individually and as they related to one another. Through this process, a few broad umbrella themes were established, which ultimately formed the foundation of our analysis. Finally, we sought to identify the responses that most effectively captured the collective voices of both healthcare workers and community members. Thus, the quotes that appear in this article were chosen based on our belief that they best represent themes related to defining medical emergency and non-emergency as well as the foundations on which these definitions are premised.

Results

General definitions of emergency

Despite their diverse job responsibilities, levels of experience, and degrees of patient interaction, the healthcare employee’s responses were remarkably uniform when prompted for a definition of medical emergency; about half of our 32 interviewees used the term ‘life-threatening’. An ED social service worker said, ‘That means something that is life-threatening. Immediate care needs to be administered.’ A hospital clinic nurse said, ‘Medical emergency is something that’s potentially life-threatening. Something that you need care for right now versus you can wait ‘til in the morning.’ These examples also indicate that the need for immediate care is pertinent. The community members’ discussions echoed the health professionals’ general definitions. For example, ‘anything that threatens their life and time is of the essence,’ and ‘a medical emergency means that you are traumatized—something’s seriously wrong with you and you need help in a hurry.’

Where community members differed from the health professionals was that their definitions also cited non-medical determinants that may contribute to the need for emergency care. For example, ‘the incapacity of being able to care for yourself and to get yourself to get medical supervision’ and ‘that you’re unable to carry yourself or take yourself to the hospital and you need immediate care’. Thus, within some of their definitions is not only the need for immediate care, but the perceived inability to care for oneself and recognition of transportation barriers.

Determining if a medical condition is an emergency

The medical professionals provided diagnostic distinctions for how to differentiate between emergencies and non-emergencies. For example, a patient advocate at the FQHC defined emergency as ‘a stroke, heart attack, difficulty breathing’. A 911 operator stated that an emergency means:

That you’re about to die. You’re unconscious, you’re bleeding where you can’t get it to stop, you just got hit by a car—well, that’s trauma, but, . . . you’re unconscious from your sugar being low, you can’t breathe, having a heart attack, stroke, something like that.

An ED patient advocate said:

Gunshot wound to the head, stab to the chest, suicide and some of the lesser extremes—well not lesser, I guess, less dramatic—would be extremely high blood pressure, legitimate chest pains, abscesses with the fear of bursting.

It is also worth noting that the 911 operator and ED patient advocate both made differentiations between types of ‘emergencies’ within their definitions; the 911 operator recognized the difference between traumas and emergencies while the patient advocate differentiated based on the idea that some are ‘lesser extremes’ or ‘less dramatic’.

One health professional, an EMS supervisor, opined that community members’ understanding of an emergency is rooted in community norms:

I think for generations it’s been engrained in our community that [non-emergencies] are emergencies and that there are people that will fix these problems for them, and the way that happens, the way that is initiated is by calling 911.
When defining a non-emergency, ED staff often cited specific examples they had seen in the ED. For example, an ED patient advocate said, ‘Medication refills, cold symptoms . . . stubbed toe . . . Somebody came in the other day for pink eye.’ An ED registered nurse said, ‘Something like the flu’.

When prompted with specific health conditions or symptoms, community members did not always agree as to which constituted an emergency. Participants’ opinions diverged about the following: broken toe, nose bleed, severe toothache, flu symptoms like vomiting and diarrhea, painful earache, sudden fatigue and dizziness, and a bump or growth on the skin. In most cases, the disagreements prompted discussions about the nuances of different medical conditions. For example, when asked if a bump or growth on the skin is an emergency, one participant said, ‘It depends. It all depends’. Another participant said identifying whether a bug bite is an emergency is a ‘grey area’. For certain examples, such as a severe toothache, participants qualified their classifications by factoring pain into their definition of a medical emergency. Overall, their discussions illustrated that they often struggle to assess health symptoms.

Some community members suggested that assessment of health problems is best left to the health professionals at the hospital. One community member said he does not differentiate between emergencies and non-emergencies: ‘Well you know that I go to the hospital for everything. So, everything’s an emergency to me. Everything’s an emergency.’ Consistent with the abovementioned EMS supervisor’s belief that community norms influence healthcare seeking practices, another participant suggested that her healthcare seeking habits are a product of familial norms. ‘I’ve been going to [the hospital] for years. I had my children [there] . . . I was born [there] . . . My mom, that’s where she would go.’

The role of pain, anxiety and uncertainty

While rarely including pain within their own definitions of emergency (the exception being two workers who gave ‘chest pains’ as a specific example), almost half of the healthcare workers indicated that they believed their patients felt pain was a sign of an emergency. For example, when asked how his patients define a medical emergency, an EMS district supervisor said, ‘Usually it’s pain’. In response to the same question, a senior staff nurse replied, ‘Anything that causes pain’.

Community members’ experiences suggested that pain and anxiety were deciding factors in choosing to treat medical conditions as emergencies. The vast majority of participants said that under no circumstance should someone with a non-emergency go to the ED, but they acknowledged that they may misclassify medical non-emergencies as emergencies due to pain, anxiety or uncertainty. For example, one community member suggested that ‘A lot of people, before they calm themselves down to evaluate what’s going on, they just jump, oh they panic. When you panic, that’s what makes the situation feel like an emergency.’ This was echoed in our follow-up focus group discussion when talking about the potential of a nurse hotline. One participant said her children panicked when she had an asthma attack and called 911. Both she and another participant described instances, however, where they had used a nurse hotline while living in other cities and it helped relieve their anxiety.

Pain also emerged as a reason people opt for emergency treatment. For example, one participant suggested an emergency is, ‘anything that can’t be solved with a aspirin. Any pains, any weird feelings’. Another participant said ‘Stinging. It’s in pain. Throbbing. Call them folks (911). When it hurt. Boy, I got a foot cramp, leg, thigh cramp. I’m calling. I don’t know what’s going on’. These examples also reflect the idea that uncertainty is a factor.

One resident shared a story in which her automatic reaction to a painful situation—a burn—was to call 911. She explained:

I was cooking and I was talking on the phone . . . and I put my whole hand on the burner. I did it so fast, so quick, didn’t realize it and hung up and dialed 911 . . . (I told the
operator), ‘It’s burning!’ (A fireman came) and he gave me an ice pack.

She said that prior to calling 911 she did not know how to treat burns. Her first response was to stick her hand in butter, but the operator told her that it would make the burn worse. A fireman gave her an ice pack and the paramedics explained that they could not do much more for her at the hospital. This example corroborates past research that pain is a reason why people seek care at an ED [24] and illustrates the importance of education as it relates to not only identifying whether a specific health event is an emergency or not, but also knowing how to care for non-urgent conditions.

Discussion

Adopting a CBPR approach enabled us to garner insights into how to supplement efforts to encourage primary care use. Our findings suggest that a community known to rely primarily upon EDs for healthcare has similar broad conceptualizations of emergency and non-emergency as the healthcare workers who serve them. Each group suggested ‘life-threatening’ and ‘need for immediate care’ were important elements. Community members’ discussions demonstrated that many had a sophisticated understanding of healthcare (e.g. a bee sting, if you are allergic may need emergency attention), yet they could not always assess when an unusual health event necessitated immediate attention and acknowledged that their decisions to use emergency care were often predicated on uncertainty, anxiety and pain. Healthcare workers often had clear conceptions of the specific conditions that warranted emergency care, but several of their examples (e.g. high blood pressure, ‘legitimate’ chest pains) would require some sort of medical diagnosis and therefore were not practical guidelines to give community members about when to opt for primary care for conditions that may/may not be serious (e.g. chest pains).

The emphasis that community members placed on the role of pain as a contributing factor for seeking emergency care warrants further discussion. Community members saw pain as a legitimate reason to seek ED care, but ED staff rarely included pain as part of their definitions. This is interesting considering EMTALA’s Prudent Layperson Standard includes severe pain as part of the definition of medical emergency. Many patients present in EDs with some sort of pain and discomfort, but gauging the amount and seriousness of pain that is not as visually evident (e.g. pain from an aneurism compared with that of an open wound) can be difficult [40]. Patients experiencing pain with a medical condition anticipate immediate treatment at the ED, but research indicates ED staff often perceive that the fact that they have been living with the pain means that they can wait longer for care [41]. This disconnect illustrates the difference between how patients, medical professionals, and perhaps health policy makers conceive of the ‘proper’ use of EDs. Future research should explore how this discrepancy affects ED staff-patient discussions about less-urgent conditions.

One barrier to primary care in our community is that appointments have to be made months in advance; those seeking immediate care wait for hours as a walk-in at the FQHC or the ED [42]. Since the community and health professionals agreed that emergencies include the need for ‘immediate’ care, it makes sense that pain treatment would be sought in the ED. Even if the pain were chronic, at some point pain tends to increase in severity (either because it feels more intense or takes a greater toll on the body), which prompts individuals to seek immediate relief. Additionally, previous research has shown that intense pain can add to pre-existing anxiety about medical conditions [43–45] and our study demonstrates that anxiety about a medical condition often leads to the decision to seek emergency care. Future research should explore how patients might learn to interpret pain and determine the appropriate action and whether this sort of education affects the instinct to call 911 or go to the ED.

While conducting interviews we learned about two programs that the public hospital is pilot testing in order to redirect patients triaged as less urgent to primary healthcare clinics. In the first, patient navigators work within the ED to educate about what
conditions are emergent and to help less-urgent patients get appointments at health clinics. The second program, referred to as the alternate destination program, is run through the EMS. In Phase 1, paramedics who respond to calls identified by operators as a certain type of less-urgent call (e.g. cold/flu symptoms), confirm it is not urgent and offer to take patients to a health clinic instead of the ED. In Phase 2, less-urgent callers whose conditions fall within the specific categories will have the option to be transferred to a nurse hotline. The community members seemed particularly interested in the nurse hotline (some have used these types of services elsewhere) because they felt an expert could help reduce uncertainty and anxiety and provide advice about care. Once the nurse hotline is implemented, research will be needed to evaluate the program. In addition, research is needed to explore the extent to which the medical personnel involved (e.g. 911 operators, paramedics, nurses) are prepared to give advice about treatment of less-urgent health problems.

Based upon our discussions, residents are receptive to learning about how to diagnose and treat less-urgent issues. However, without some sort of educational component, the aspects of these programs that literally move patients from ED/EMS to primary care may not result in any future behavior change. The patient might now recognize that particular medical problem was better served in the clinic, but still be uncertain about treating their next medical symptom. Past research suggests that patient education built on effective self-assessment can reduce ED use without negatively impacting health [46]. Future research will explore the efficacy of these programs and the extent to which community-based education can enhance the effectiveness of the programs.

A final issue that was raised by community members and healthcare workers is the idea that the healthcare seeking behavior (i.e. using ED/EMS for healthcare) is ingrained in the community. Some families have used the hospital as their primary source of healthcare for generations. For some, it is a source of pride that they were born there and it is the only place they trust for healthcare [43].

An educational campaign designed to teach these community members how to distinguish emergencies from non-emergencies or someone offering to help them seek primary care at a clinic may not be enough to effect behavioral change unless deeply held beliefs and attitudes are also addressed.

**Limitations**

Our findings cannot be generalized to our study area or the general public. We had more females than males and may have had more civically engaged individuals due to recruiting from community meetings. However, the use of known 911 users from past research increased the diversity of community members’ experiences with the medical system. This brings up an important point, however. Within each group, participants’ experiences varied in ways that may have influenced the discussions. For example, during one meeting a participant with less healthcare access difficulties expressed disapproval at the use of 911 for non-emergencies and promoted using public transportation or calling a friend to drive you to the ED if you lacked transportation. This may have dissuaded participants who used ambulances as a primary means of transportation from speaking up. Of course, the mixed groups also lead to the sharing of information, like how to access non-urgent transport to the FQHC and hospital clinics. Future research should hold separate groups based on level of primary care access difficulties to determine the extent to which knowledge and beliefs differ.

When participants were asked to identify specific health conditions as either emergencies or non-emergencies, they were asked to raise their hand, which could have influenced their choices. Future studies should use individual interviews or an anonymous survey for these questions. In addition, we may not have captured all possible insights and the people we interviewed may not represent the positions of the staff more generally. We also did not interview any of the ED doctors, who may have offered a different perspective. Previous research has indicated differences between emergency physicians and internists perceptions of appropriateness.
of ED visits [36]. As the people who are ultimately liable for patient outcomes, their perspectives are important to include in future research.

Acknowledgements

The authors would like to thank Columbus Ward, Casey Black, Lauren Baggett, Ashley Council and Missy Plew for their work as part of the research team that planned, organized and carried out the community discussions and transcribed and analyzed the discussions and interviews. The authors would also like to thank NPU-V’s neighborhood associations and the Center for Black Women’s Wellness for assistance with recruiting community members and Southside Medical Center and Grady Memorial Hospital for allowing us access to their employees.

Funding

This work was supported by the U.S. Department of Health and Human Services Health Resources and Services Administration [grant number 1 D1DHP16338-01-00].

Conflict of interest statement

None declared.

References

Appendix I. Sample questions posed in community discussions

- When I say the words ‘medical emergency,’ what does that mean to you?*
- How do you define medical non-emergency?
- I’m going to list a few medical problems. When I list each medical problem, I’d like for you to tell me if you think it is a medical emergency or a medical non-emergency. (Examples included a nose bleed, severe toothache, bug bite, broken toe).
- Has anybody ever discussed the difference between medical emergencies and non-emergencies with you? If yes, who?
- How do you think someone should decide whether they should call 911 or go to the emergency room for a medical problem?*
- Is there a difference between a medical issue requiring urgent care and a medical issue requiring emergency care?
- If a 911 operator told you over the phone that your issue did not sound like an emergency, would you still want to go to the emergency room?**
- If you called 911 and an ambulance worker drove to where you live, inspected your medical issue, and told you that your issue did not appear to be an emergency, would you still ask to go to the emergency room?**
Could you describe a time when you decided to use EMS like 911 or the emergency room?**

Why did you decide that 911 was the best way to get the medical care you or your family needed?**

* Some variation of the question was asked in original and follow-up discussions.
** Only asked in follow-up discussion.

Appendix II: Sample questions posed to healthcare workers

- When I say the words ‘medical emergency,’ what does that mean to you?
- How do you define ‘medical non-emergency’?
- How do you think your typical patient would define ‘medical emergency’?
- How do you think your typical patient would define ‘medical non-emergency’?
- In your opinion, why do patients use emergency services for non-emergency health problems?
- Where do you think most patients develop their understanding of what constitutes a medical emergency and what constitutes a medical non-emergency?
- What are the most common emergency medical conditions that you respond to?
- What are the most common non-emergency medical conditions that you respond to?
- Do you talk about the use of 911 and other emergency services for non-emergencies with patients? If yes, how do these conversations usually go?
- What do you think can be done about the use of emergency services for non-emergency health problems?