


Interorganizational Communication at Mass Gatherings: Professionals' Perceptions during the Planning and Implementation Stage of Marathon Events

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Abbreviation:

MG: mass gathering

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Abstract

Introduction: Mass gatherings (MGs) often bring together professionals and organizations that collaborate irregularly or have never engaged in joint working. They involve interaction and communication among multiple and diverse services, which can often prove challenging. Planning such an event is of paramount importance for its success, and interorganizational communication ranks among its most important aspects. Nonetheless, there is limited empirical evidence to support interagency communication in MGs.

Objective: This study used the 2017 Athens Marathon (Athens, Greece) as the empirical setting to examine how interorganizational communication was perceived among the multiple public health and safety professionals during the planning and implementation phase of the event.

Methods: Data comprised 15 semi-structured in-depth interviews with key informants, direct observations of meetings and the event itself, and documentary analysis. Open coding and thematic analysis were used to analyze the data.

Results: Findings indicated three key components of interorganizational communication in such an event: (1) shared situational awareness; (2) interorganizational understanding; and (3) implementing liaison officers.

Conclusion: This study outlined the factors that influenced interorganizational communication before and during a MG. Practical implications arising from this study may inform the way organizers of marathons and other mass sporting events can engage in effective interorganizational communication.

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Introduction

Mass gatherings (MGs) are defined as events attended by a sufficient number of people to strain the planning and response resources of the community, state, or nation.¹ The distinctive features of these events that can affect public health and safety services include their wide geographical spread, large levels of attendance, event duration, and the security concerns they present.² Communicable diseases, environmental hazards, mass casualties, and injuries represent the most common public health threats during a MG.^{3–5} Minimizing or eliminating the risk of the above threats is the goal of public health preparedness for such events.⁶

Marathons are mass sporting events which are prone to various risks, both natural and manmade. The “Athens Marathon, The Authentic” is a tough course of 42,195m, which has turned into the biggest and most important of all long-distance running sports events in Athens, Greece over the last years. Several disruptions due to unexpected incidents have occurred in several marathons. The 2013 Boston Marathon (Boston, Massachusetts USA) bombing incident, in which three people were killed and approximately 260 people were injured, highlighted the need to enhance collaborative practices toward risk management at marathon events.⁷ Successful preparation for such an event requires extensive planning, interorganizational collaboration and communication, and preparedness around medical needs, weather-related conditions, and crowd control.⁸

The development of an integrated response plan which clarifies stakeholders' roles and responsibilities, communication protocols, and chain of command is essential to the

successful preparation of the event.⁹ Literature has shown that it is necessary to establish strong collaboration, leadership, and excellent coordination systems, supported by interagency agreements, to ensure that all the key stakeholders understand their respective roles.^{10–12} Bistaraki, et al discussed the importance of interagency communication in marathon events and identified that the physical structure of the agencies on site and the usage of radio-amateurs played an important role in receiving timely information among the different agencies.¹³ Another study highlighted that interagency communication is one of the major challenges faced while planning and implementing such a sporting event; hence, more research is needed on how organizations effectively communicate throughout a MG.¹⁴ Therefore, the purpose of this study was to further explore how interorganizational communication was perceived among the multiple public health and safety professionals during the planning and implementation phase of the 2017 Athens Marathon, The Authentic.

Methods

Study Design

A qualitative single, holistic, and exploratory case study design with multiple data sources was used. Case study methodology recognizes the importance of the subjective human creation of meaning but does not reject some notion of objectivity.¹⁵ Case study researchers assume that one better understands perceptions that individuals or organizations have about their activities within their social context.^{16,17} The research took place in three stages: (1) during the planning stage; (2) during the implementation phase; and (3) after the completion of the event.

Setting and Selection of Participants

Participants included event organizing stakeholders such as race event staff, law enforcement, emergency managers, Emergency Medical Services, and voluntary organizations. Purposive sampling was employed covering diverse types of senior roles.¹⁸ This method of sampling facilitated detecting the most relevant and knowledgeable participants. The sample size was 15 professionals (Table 1) who belonged to the above agencies. Recruitment in qualitative research mainly seeks to include participants who represent the diversity of the population relevant to the study. To be eligible for the study, participants had to be willing to participate and have a key role in organizing the event. Written informed consent was obtained from all the respondents and their identities remained confidential by using pseudonyms. Ethical approval was granted from University of Peloponnese (Sparta, Greece), School of Human Movement and Quality of Life Science Ethics Committee (No 376/23-10-2017).

Data Collection

The study was conducted during the planning stage of the event, on the day of the event on November 12, 2017, and after the completion of the event. Data were collected through semi-structured in-depth interviews, direct observations, and documentary analysis. The most significant advantage gained by using multiple sources of evidence was triangulation where researchers compare different methods and perspectives to help produce more comprehensive findings.¹⁹ First, direct observations of interagency meetings during the planning and implementation stage of the event were conducted. The observations supported the interview data and allowed the examination of the phenomenon of interagency communication as it naturally occurred.²⁰ They included observations of six interagency meetings during the planning phase and

#	Interviewee	Gender	Organization
1	Andy	M	Voluntary Organization
2	Adam	M	Voluntary Organization
3	Lucy	F	Organizing Committee
4	Chris	M	Military
5	Dan	M	Organizing Committee
6	George	M	Police Service
7	Tom	M	Police Service
8	Pete	M	Ambulance Service
9	Sue	F	Ambulance Service
10	Jim	M	Ambulance Service
11	Bill	M	Emergency Manager
12	Paul	M	Medical Staff
13	James	M	Organizing Committee
14	Jen	F	Medical Staff
15	Simon	M	Organizing Committee

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Table 1. Participants' Characteristics

interprofessional interactions during the implementation phase resulting in 30 hours of field observation.

Second, 15 semi-structured in-depth interviews were conducted after the completion of the event, and they all took place within three months after the marathon. This approach provided the opportunity to capture professionals' experience of interagency communication during the event and discuss new issues brought up by the participants. The list of the interview questions that were used is provided in Table 2. The interviews occurred in a place mutually agreed upon by both the researcher and the participant. Interviews were digitally recorded and fieldnotes were also kept capturing researcher's insights. The average duration of the interviews was 60 minutes. Finally, a range of documents produced by the agencies such as reports and strategic and procedures manuals were used and analyzed as secondary sources of evidence to complement evidence from other sources.¹⁷

Data Analysis

All interviews were transcribed verbatim and then the transcribed interview files were imported into NVivo 7 qualitative data analysis Software (QSR International Pty Ltd; Doncaster, Australia). Transcriptions of interviews, observations' fieldnotes, and documents were coded using thematic analysis.²¹ Analysis was mainly open-ended by which issues were identified as they emerged; however, a priori themes derived from the empirical and theoretical literature review were also used. The final three key components of interorganizational communication were decided through discussion with the whole research team, focusing on findings that were useful for future planners. Trustworthiness was assured through the methods of audit trail, triangulation, member check, and peer review of data analysis.²⁰ Transcripts were returned to participants for verification.

Results

Findings indicated three key components of interorganizational communication in such an event: (1) shared situational awareness; (2) interorganizational understanding; and (3) implementing liaison officers. These three themes represent those areas participants

1	Could you provide a brief history of yourself, your experience, and your work in the agency?
2	Could you state what was your and the agency's role and responsibilities regarding the marathon?
3	Do you think you had a clear job description?
4	Could you describe the skills that were necessary for communicating with other professionals?
5	Did you use integrated communication systems across organizations?
6	What kind of communication equipment did you use?
7	Have you participated in any communication exercises and what is your feedback?
8	What are the main communication plans and documents you used, and have you developed new ones?
9	Could you provide an overview of the relationships between staff within and outside of your organization?
10	Could you describe the communication, including methods, between yourself and the various parties and staff and how effective it was?
11	Could you provide an example of a communication problem that occurred and how it was resolved?
12	Could you describe the process of information sharing that took place among the agencies and give an example?
13	How did command and control structure help or hinder communication in practice?
14	How interagency communication influenced collaboration?
15	How did terminology affect communication?
16	What are the main lessons learned?
17	Is there any additional aspect that would be useful for the aim of this study?

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Table 2. Interview Questions

identified as crucial to influencing interorganizational communication and they are discussed below in detail accompanied by exemplar data quotations.

Shared Situational Awareness

Organizations that normally worked independently had to integrate their communication systems to achieve a joint situational awareness of the event throughout its duration. Ensuring interoperable communication systems across the agencies was deemed as a key element essential in facilitating interagency communication. Interoperability involves the interaction between various agencies and includes the ability to share accurate and timely information and provide a common operating picture and situational awareness. According to respondents' accounts, shared situational awareness among the agencies was important for making appropriate decisions and delivering coordinated responses:

They gave me wrong information; I was searching for the right person. From this we can understand the need for integrated communication . . . and I suppose the best example for that was phone calls coming directly from an individual to another individual in short-circuits in the actual system . . . this will lead to a break down because information will get lost, people hear rumors or get the wrong end of the message and there will be consequences. (Dan, Organizing Committee)

It was widely reported by the participants that achieving an adequate situational awareness regarding incidents during the event was a challenge because information was gathered by many

agencies and by different people without having a focal point or agency which could provide all the information collected. Moreover, the informal links and personal relationships that existed between the professionals accelerated the uncontrolled spread of information which maximized the risk of losing useful information. Without a clear understanding of the situation and integration of information, there were frustrations during the inter-agency communication:

There was nothing special, there was just a fight at the end because . . . he came and said, "hey guys did you give me this information?" etc. and say no it did not pass us by. "Why did he come and tell me that?" Finally, it turned out that he phoned him directly to his cell phone . . . (Adam, Voluntary Organization)

Some participants noted during the interviews that during the planning phase, some professionals from other agencies did not consider what IT equipment they would use in the operation room to communicate with all the agencies. Therefore, they were not able to share information with other people. This unfamiliarity led to dysfunctional information sharing among the agencies and inability to receive timely information. The following quotation vividly captures such a situation:

They do not communicate on a common frequency. The Police speak elsewhere, Ambulance speaks elsewhere, the Red Cross speaks elsewhere, we speak elsewhere, they speak elsewhere . . . I picked on the fact that you know, in the operations room, some of the other agencies were without any IT equipment so they had no ability . . . so there is a limited ability at that level, or in some areas to talk, to communicate. (Andy, Voluntary Organization)

Another important consideration of the professionals involved was to ensure that they would receive the information needed. However, too often the information was lost somewhere between the different levels of management within and across the agencies because of the multiple professionals and actors involved. A variety of actors, including new ones, in a variety of locations, shared information through a variety of ways. Therefore, there was a risk of receiving inaccurate or incomplete information. Both the complexity of the social space and the diverse composition of people and agencies which acquired different structures, procedures, and cultures slowed down the information flow. One participant from the Organizing Committee commented:

Information is ambiguous in its transmission, and it is ambiguous because people come in between . . . Everybody is gonna need the information, but I know that in those big operations, it takes time to get the information through. (Lucy, Organizing Committee)

Interorganizational Understanding

All the involved organizations had their own operating environment based on their knowledge, tasks, training, and organizational structure. The relationships between the participating agencies varied depending on their history of interaction. For example, the Emergency Medical Services which normally respond together in emergencies had good and established relationships. Therefore, they were familiar with each other's roles and policies making communication easier. However, many participating stakeholders did not have a history of working together, and thus, they did not understand other agencies' roles, requirements, and type of language. Differences also involved information sharing procedures and communication structures. This unfamiliarity led to misunderstandings during communication and increased the level of uncertainty about partners' responsibilities. Participants indicated that sometimes it was difficult

to work with agencies that prioritized only their own goals without trying to understand other organizations. As two respondents reported:

I think that first of all, you have to see the background of each organization that participates and the way it works . . . Some of the other partners perhaps know us less well, [. . .] I think that they (. . .) they don't understand. (Chris, Military)

I think the sort of barriers are people who, erm, I think they are used to working against their own priorities, they struggle sometimes to take onboard others. (George, Police Service)

Organizations that were familiar with one another and had good relationships acquired more understanding of what agencies needed in order to perform their tasks. Unfamiliar stakeholders needed to expand their personal network with key personnel from other organizations to share relevant information. Two interviewees explained:

Interpersonal relationships are important, but we also give, let's say, a character of trust. That is, they trust us because we keep what we promise and what we do. (Tom, Police Service)

When you bring other outside people . . . they didn't really understand our working practices and we didn't understand theirs, erm, so that didn't work well. (Pete, Ambulance Service)

In addition, lack of common language across the agencies led to misunderstandings in information sharing and confusion during their communication. Transparency of the information received was needed to understand other agencies' actions and align all activities. Agencies needed to ensure that the transferred messages were clear and to avoid language that can be misconceived by other disciplines, particularly by agencies that did not usually interact. The use of specialized language that some professionals cannot understand or may assign wrong meaning to it had a negative impact on communication because of the limited understanding of other agencies' needs and functions:

Yes, we learned it in practice, there was no such thing as to understand . . . we did not know that Ambulance Service when it says mobile unit means that it has a doctor inside . . . Barriers are just acronyms, and everybody has their own different language or has got a term for everything that's got to be different from the everybody else's, and people need to make sure, [. . .] I think they need to make sure that everybody understands what they need, and people have to ask. . . . (James, Organizing Committee)

A member from the Ambulance Service added:

People who are first aid providers know their own terminology, which concerns first aid and their own part, since they work together . . . I think within the police, fire, ambulance, we work together a lot. So, we understand, and the local authorities, tend to work like this as well, but outside of that, it's interesting. It's a lot of foreign language. (Sue, Ambulance Service)

Implementing Liaison Officers

Liaison officers allowed stakeholders to collect timely information from other agencies during the planning and implementation stage of the marathon. Using liaison officers was perceived by respondents as being a critical component to the interorganizational communication because it was an efficient way for the services to receive information relevant to them very quickly. This implementation was a significant mechanism linking an organization to other organizations and mainly involved the sharing and exchange of information. Therefore, the fundamental task of these professionals was to make decisions only regarding the information received.

Their role before and during the event was formal and their purpose was to filter information that was not relevant to their agency, prevent the information overload, and ensure timely and accurate information sharing across the agencies:

Yes, while there are other systems that we do not have, but we are thinking of using them, knowing the operation of liaisons, these are the people I need to contact immediately and now for a quick and important information . . . by having liaison officers from particular agencies in each other's control room; that person's job is to get me the information I needed and to tell me if there are things that are emerging that I need to know about. Because they think the way I do, they don't think the other people. [. . .] It worked really well in terms of the flow of information between the agencies. (James, Organizing Committee)

Liaison officers needed to be explicit and straightforward to facilitate interorganizational communication. In this way, they were able to create shared meanings among agencies. They had to be accurate while interacting with other organizations in order to foster shared meanings amongst individuals. For example, during the interagency meetings that took place before the event, the professionals who represented their agencies needed to be clear and comprehensive about their organizations' expectations so as all the agencies have a shared understanding of each other's capabilities. A quote from an Emergency Manager illustrates the importance of being explicit:

It needs patience, work, a little passion, a little diplomacy . . . being aware and having a very clear mind, skills needed . . . management and communication . . . putting the message out. Speak to us, involve us, trying to get the message clearly illustrated that the sooner they ask us the more likely they will get support. (Bill, Emergency Manager)

Liaisons officers had to avoid using technical language and acronyms in order to be comprehended by other professionals. As discussed above, the different language and terminology that each agency used, because of the different culture and norms, caused confusion and minimized the understanding of the information. During an interagency meeting that was conducted by the Ambulance Service before the event, one manager clarified that professionals should not use acronyms during the event in order to maintain a shared situational awareness and ensure the consistency of the exchanged information. Using commonly understood terms and acknowledging the fact that some terms may have different meanings across organizations was identified as necessary to communicate effectively. Creating and sustaining a common operating picture by exchanging clear and explicit messages reduced the risk of misunderstandings among the agencies:

Everybody sees things from different perspectives, and you have to understand, erm, understanding other people's viewpoints, you know, based on their professional knowledge and their experience and their responsibilities. You have to understand, you know, what's in their head to be able to communicate effectively. (Paul, Medical staff)

I think the main lesson I would pass on is understand why people want to know what they want to know. (Simon, Organizing Committee)

Discussion

Interorganizational communication is a critical factor during MGs.^{10,12,13,22–26} This study explored the factors that constituted interagency communication during the planning and implementation stage of the 2017 Athens Marathon and contributes to the existing literature in multiple respects. Consistent with the literature, complex structure, poor communication, and poor coordination between different agencies and teams can result in delays in decision

making.^{24,26} Furthermore, interoperability of communication systems and accurate communication during a MG are needed to relay information and prepare for any incident during the event.^{2,11} However, as highlighted in this study, personal relationships that existed between the professionals accelerated the uncontrolled spread of information and maximized the risk of losing useful information. Participants suggested that the use of a centralized area which could provide to the stakeholders all the information collected may facilitate communication and achieve shared situational awareness.^{14,27}

Based on the data analysis, this study emphasized that the involved organizations had significant cultural differences based on their knowledge, tasks, training, and organizational structure which resulted in a limited understanding of each other's norms and procedures and ineffective communication.^{13,28} In line with existing literature, the use of common terminology and a common understanding of who is responsible for what task, and what the information requirements are, influenced interorganizational communication.²⁸ The interviewees indicated that the participating agencies with a history of interaction had good and established relationships which enabled communication. Previous research has also recognized the importance of close and on-going relationships in cross-sector communication.^{28–30} Familiarity between agencies can lead to a successful interagency communication. This study extends previous literature by suggesting that during the planning stage of the event, unfamiliar stakeholders need to expand their personal network with key personnel from other organizations to be able to share relevant and accurate information.

Critical to the successful interorganizational communication was the implementation of liaison officers during both the planning and implementation stage of the marathon linking organizations together. Formalizing their role and clarifying that their main task was to make decisions only regarding the information received can significantly improve the information flow between the agencies and prevent the information overload. Three studies have suggested that interorganizational linkages enable organizations to build relationships, facilitate the development of integrated plans, and ensure timely and accurate information sharing across the agencies.^{12,13,31} The current study highlights that the application of this mechanism is also necessary during the planning stage of such events to reinforce the integration of communication plans

and systems and to enhance interorganizational understanding and decision making.

Limitations

The study used established approaches to enhance the validity of the findings.^{17,32–34} However, this study has limitations which need to be recognized. One limitation involves the research setting of the study since the researcher captured only the perspectives and experiences of the 2017 Athens Marathon stakeholders during the planning and implementation stage of the event. Marathons represent typical MGs, but other types of smaller or bigger mass events also exist such as the Olympics and religious festivals. Consequently, to further explore the issue of interorganizational communication in a MG, research in other settings is required. Studying the unique setting of the Athens Marathon limits the transferability of the findings, and therefore, these data should be transmitted with great caution to other fields. Another potential limitation is the relatively small sample size. A bigger sample would allow further insights and contribute to a broader understanding of the phenomenon under study. However, based on a literature review on justifying sample size of qualitative interviews, 73% of the codes are usually identified within the first six interviews' transcripts and 92% are identified within the next six interviews transcripts.³⁵ In this study, because the sample included representatives from most of the organizations involved in the marathon, it was deemed to be adequate for the current research problem.

Conclusion

This study analyzed the factors that influenced interorganizational communication before and during a MG such as a marathon. As these events bring together thousands of participants and large numbers of organizing agencies, it is essential that interagency communication is accurate and straightforward. The findings suggest three key elements shaping interagency communication in such an event: (1) shared situational awareness; (2) interorganizational understanding; and (3) implementing liaison officers. Success of running a mass sporting event highly depends on the efficient collaboration between several stakeholders. This study's findings may assist future event planners of marathons, or other similar events, to better organize interoperable communication procedures and achieve effective coordination and information sharing.

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