

# Memo

**To:** Richard Daley, *Mayor of Chicago*

**From:** Robert Sarmiento, *Special Adviser to the Mayor's Office*

**Date:** May 7, 2008

**Re:** Issues in the 1995 Heat Wave and Recommendations to Prevent a Repeat of the Problems in Future Heat Waves

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## Introduction

In the summer of 1995, an unusually intense heat wave swept through the City of Chicago. The event was notable in regards to the City's lack of preparation and timely response in providing relief to victims of the heat wave, which resulted in hundreds of preventable deaths. Specific issues that emerged among the various departments involved in responding to the 1995 Heat Wave were the lack of preparation, the lack of leadership, the lack of communication among departments, and the lack of resources, including manpower and equipment. These issues created confusion as the heat wave struck, raising many questions about what went wrong and what should've been to done to prevent confusion and the loss of hundreds of lives in the Chicago area. It is important to ensure that the crisis from a heat wave does not occur again because heat waves are occurring more frequently, and since 1998, they are statistically the deadliest kind of weather-related natural disaster (Bernard & McGeehin, 2004). This memorandum identifies the issues that occurred in the 1995 Heat Wave, including specific issues involving various departments that were

responsible for minimizing the crisis on residents, and makes recommendations to ensure that the City is prepared to deal with an intense heat wave strike on Chicago in the future.

## **Preparation**

### **Issues:**

The Chicago City Government and State Government were not prepared to deal with the 1995 Heat Wave. Because heat waves occurrences are pretty commonplace, and people are aware of a heat wave before it strikes a city, less attention and preparation is devoted to this kind of disaster, which makes it distinct from a disaster like an earthquake, which, with its quick disaster-causing abilities, less rate of occurrence, and a lack of reliable predictability, requires more attention to preparedness by city officials and residents (Birkland, 1997). Since the City of Chicago had been accustomed to dealing with high temperatures in the summertime and the occasional heat wave, the 1995 Heat Wave caught the city by surprise and exposed its lack of preparedness. First, the City did not have a comprehensive relief plan to deploy in an event of an intense heat wave. Though the City had a Heat Emergency Plan, most city officials did not even know about the plan, and even if a Heat Emergency was declared, there were no defined roles for various departments and no specific duties for them to perform to provide relief during the heat wave. This was because it consisted of only a page and a half of policies that were intended for any situation any heat wave struck the city, and did not have any specific directions in the case of a particularly intense heat wave. In addition, the Heat Emergency Plan did not spell out any directions or duties for individual departments to provide relief to residents.

The Mayor's Office was not overly concerned with this particular heat wave, mistakenly thinking it was like any other heat wave; in fact, the Mayor even boasted about the resiliency of Chicago residents, who could handle all types of adverse weather conditions, including heat waves, so no precautionary steps needed to be taken. Next, the Chicago Department of Health, which was responsible for overseeing any unusual outbreaks of illnesses or diseases in the city, while minimizing its impact and advising people how to prevent contraction and cope with the malady, did not execute any relief plans because the Department only dealt with communicable diseases and illness, and therefore did not include heat sickness on its list of diseases that would trigger a response by the Department.

Finally, the Illinois Department of Health was also unprepared to deal with the crisis in the city. Though the heat wave had caused destruction in western Illinois a few days earlier, Department of Health did not alert officials in Chicago about the severity of the incoming heat wave and to prepare for it, which was disturbing because Chicago was the biggest metropolitan area in the State where the most people would be affected.

### Recommendations:

The 1995 Heat Wave was a deadly crisis for the City of Chicago, but the event also was a policy window that drew attention to the fact that the City lacked a sound relief plan to implement in a heat wave, and allowed the opportunity for comprehensive solutions to be proposed and adopted that would solve the issues that would arise in future heat waves (Kingdon, 1984). First, the City government should create a committee to analyze the problems that occurred in the 1995 Heat Wave and make recommendations on how to avert a disastrous situation the next time an intense heat wave strikes Chicago. The committee

should be made up of the different departments that were heavily involved in the heat wave crisis, outside experts and consultants who are knowledgeable about heat waves and disaster relief, advocacy groups, and neighborhood groups. More knowledgeable people together can share more information with one another, which can result in generating more solutions that can more fully prepare the city during a heat wave (Denhardt & Denhardt, 2006). The committee could use a number of mediums, such as interviews and surveys, to administer to different entities, from people to different local and state departments, to gather data about the issues they encountered during the 1995 Heat Wave and solutions they would like to see implemented to better prepare for future heat waves (O'Sullivan, Rassel, & Berner, 2008). After determining the problems and formulating recommendations, the committee should perform an policy evaluation of the existing Heat Emergency Plan to determine its deficiencies, and modify it to incorporate these recommendations and make it more comprehensive and stronger (Theodoulou & Kofinis, 2004). The new Emergency Heat Plan should detail how each department should prepare for an incoming unusually intense heat wave, the roles and duties of each department in a heat wave crisis, and what the protocol is for each department during the crisis, including new duties and powers. The new Heat Emergency Plan must also contain information regarding leadership roles and coordination among the various departments and resource allocation, particularly, ensuring that departments have enough resources to provide relief during the heat wave. Leadership roles and resource allocation will be touched upon later in this paper.

The City's Department of Health should modify their list of diseases and illnesses that would cause the Department to issue warnings to include heat sickness, so that in an event of mass heat sickness associated with heat wave events, the Department of Health will

be able to mobilize efforts to provide relief for residents. The Department of Health should also create a heat wave-specific policy, detailing actions the Department of Health should do in an upcoming heat wave to provide relief, such as reaching out to homeless and nursing home centers, notifying neighborhood groups, opening cooling centers, and notifying utilities departments to halt suspension of water and electricity service, so that all residents can use these utilities to cope with the heat wave (Sheridan & Kalkstein, 2004). In addition, even without the imminent threat of a heat wave, the Department of Health can advertise information on how to prepare for a heat wave, much like how some cities advertise how to prepare for an earthquake or hurricane, through mediums such as pamphlets, brochures, the internet, and group meetings (Changnon & Easterling, 2000).

The Illinois Department of Health should provide ample warning to city officials about an impending heat wave so that local departments, particularly the City's Department of Health and hospitals, can respectively have ample time to warn residents of the incoming heat wave, and prepare extra staff and equipment to care for a greater number of people suffering from heat sickness. In major heat waves that strike entire states, the Department of Health should both contact other states' Department of Health and do an analysis of the scope of the damage from a heat wave on Western Illinois to determine the severity of the heat wave and analyze the number of people affected or checking in at the hospital for heat sickness. This analysis can help determine the intensity of the advancing heat wave and help the State Department of Health warn Chicago-area hospitals prepare accordingly.

Lastly, the Mayor's Office should be better aware of heat waves that will strike the city, so that it can prepare city government officials and residents to deal with the heat wave.

The Mayor's Office should keep in contact with meteorologists who can notify the Mayor's Office about the possible threat of incoming heat waves, and explain their intensity (Changnon, Kunkel, Reinke, 1996). In addition, the Mayor's Office should use its connections with state, regional, and even national agencies and organizations, such as the Illinois Department of Health, and the media to gather more information about heat waves strikes in states west of Illinois and Western Illinois. With information predicting a heat wave strike and its intensity, the Mayor's Office can implement its Heat Emergency Plan and notify other departments to implement their own emergency relief plans in preparation for the incoming heat wave. Because the Mayor's Office is a visible position within the city, with major influence on its residents, the Mayor, with recommendations made by the City's Department of Health, can use the media to inform people on how to prepare for a heat wave, and cope with a heat wave. In particular, television broadcasts are very influential in getting people's attention and changing their priorities, so the Mayor can appear on television to inform and mobilize people in preparation for a heat wave (Iyenger & Kinder, 1987).

Informing residents about the heat wave will reduce the strain on department resources, such as paramedics and firefighters, as residents will be more prepared to cope with the heat wave, such as making sure they have air conditioners to use, determining where the nearest cooling center is, and buying medical aids to provide relief from heat sickness (Kapucu, 2008). The Mayor's Office should also work with different neighborhoods to create neighborhood emergency response teams, which can educate residents about disasters and act as a non-governmental response team that can provide relief and resources during a disaster. With education from the Department of Health and the creation of neighborhood emergency response teams, more lives can be saved as residents will be more prepared to cope with the

heat wave without so much assistance required by the government, which will also allow government resources to be shifted to areas of greater need. A new kind of governance during a heat wave will result, with not only government providing the resources and relief efforts, but citizens and neighborhood groups working in conjunction with government agencies in providing relief to the city (Kettl, 2002).

## **Leadership**

### **Issues:**

A lack of leadership was evident during the 1995 Heat Wave, which led to confusion and impromptu decision-making by different departments, which resulted in delays and confusion over who was in charge. A key barrier in effectively implementing a heat wave warning system and relief program was the lack of clear decision-making protocols among the relevant institutions (Kovats & Ebi, 2006). Because of a lack of knowledge and preparation of the incoming heat wave, and the belief that a heat wave was just an ordinary passing occurrence, the Mayor, Richard Daley, decided to take a weekend vacation to a nearby lake. In fact, after the heat wave passed, Sarah Pang, the mayor's liaison to the police, commented like the Office of the Mayor was totally caught off-guard by the severity of the heat wave. Because the mayor was on vacation, he was unavailable to take actions as leader of the city or contact leaders in other departments to respond to any trouble during the crisis. Daley wrongly put his own personal interest, taking a vacation to cool off during the heat wave, over the public interest, which was to ensure people cope with the heat wave and ensure relief efforts to victims of the heat wave, and showed a lack of commitment to perform his role as mayor in a time of crisis, which violated his responsibilities as a public

administrator (Svara, 2007). In addition, the lack of information prevented the Mayor's Office from directing different departments to respond in a timely matter to heat wave crisis. This was evident as the Mayor's Office was unaware of the emergency situation and had to receive information from other departments regarding the status of the city during the heat wave. In fact, the Mayor's Office was only aware of any trouble through the higher number of emergency sirens heard during that time.

A lack of leadership was also evident with the situation involving the State Department of Public Health's chief of Emergency Medical Services, Leslee Stein-Spencer, the City's Department of Public Health, resource hospitals, and area hospitals in the Chicago area. Though the State's Department of Health, the City's Department of Health, and the resource hospitals had the authority to honor or revoke a hospital's bypass, these entities were unsure of their authority, which caused confusion and frustration among the hospitals, paramedics, and fire department personnel who were assisting the paramedics over who was in charge and would make decisions that would coordinate the different departments to provide optimal relief services during the heat wave. The lack of authority was evident when officials at the Resource Hospitals said they were not sure if they even had the authority to end a particular hospital's bypass, and they did not want to be disrespectful or indifferent to the hospital's call to go on bypass. All this lack of leadership reflected the fuzzy boundaries that existed among the different levels within the hierarchy of the public health/hospital system in Chicago (Kettl, 2002).

### Recommendations:

The Mayor's Office, as the leader in making decisions that guide Chicago, should take a top role in directing city departments to increase services to provide assistance to residents during the heat wave. As mentioned, the Mayor's Office should be the entity that announces to the city that a heat wave is approaching, activates the Heat Emergency Plan, and notifies city departments to mobilize their resources to provide relief to citizens in the crisis and residents to prepare to cope with the heat wave. The Mayor's Office should create a command center so that it can keep close contact with other departments and be constantly updated with the status of the departments in their efforts to perform their duties during the heat wave, along with the status of the city itself in coping with the heat wave (Ebi, 2004). With a command center, the Mayor's Office can direct departments to do solve specific problems that occur in the heat wave, and to provide more resources to specific areas that require greater attention. For example, if the Mayor's Office learns that the South Side has a greater number of bodies being discovered, it could direct the Police Department to shift resources there to recover those bodies. The command center can also be a base where the Mayor's Office can inform city departments, citizens, and the media about the status of both the heat wave and the relief efforts. However, even though the Mayor's Office should lead in an event of a crisis, it should not intrude too far into the specific duties of the different departments. Even though it makes decisions and execute the policy, the Mayor's Office should give other city departments their own discretion in implementing the policy and directing its own resources, such as letting the Medical Examiner's Office determine how to deal with processing the high number of dead bodies, or letting the Police Department determine how it would like to spread its resources to help victims while still performing other law enforcement duties, since the leaders of each department have better knowledge on

how to implement their resources to solve the problems during the heat wave (Theodoulou & Kofinis, 2004). In addition, there is only so much decision-making the Mayor's Office can do before it is subject to overload, resulting in unsound decisions and policies being adopted, which can complicate relief efforts and cause confusion, so the Mayor's Office must delegate some of its responsibilities to other departments (Bowditch & Buono, 2005).

The Illinois Department of Health, the Chicago Department of Public Health, the resource hospitals, and city hospitals should come together to evaluate the current policy regarding hospital bypasses. As a focusing event, the 1995 Heat Wave drew attention to the hospital bypass policy because of its failure in the crisis, and forced these entities to evaluate its existing policy (Birkland, 1997). A policy evaluation is important because it will answer why the current policy did not create clarity in roles during the heat wave, and who is accountable for all the failure in the policy (Theodoulou & Kofinis, 2004). After evaluating the existing policy and its shortcomings, and using lessons learned from the 1995 Heat Wave, a new policy on bypasses should be formulated that calls for clear identification of who's in command, and the rules regarding when a hospital is allowed to go on bypass. The Illinois Department of Health, the Chicago Department of Public Health, the resource hospitals, and the city hospitals should work together to formulate and adopt a policy that clearly delineates the role and authority of each entity in a situation where hospital bypasses occur so that confusion and disagreements are eliminated during multiple bypasses. However, the different entities should strive to avoid adopting a policy based on groupthink, where entities conform to the values of the group, though they can be wrong, instead of striving to input their own values in the decision-making process (Denhardt & Denhardt,

2006). Not inputting their own values will result in tension and a strain on relationships between the different entities.

## **Communication**

### **Issues:**

There was a lack of communication among the different departments. The lack of communication among all the departments reflected the fuzzy boundaries that existed among the different levels within the hierarchy of government and among the different departments involved in providing relief (Kettl, 2002). Different goals, job duties, and organizational structures of each department created communication problems, along with clashes in each department's goals to manage the agency through the heat wave crisis. In addition, because so many different departments were grappling with their own problems during the heat wave crisis, it was difficult for them to work together and coordinate information and resources to tackle the overall issue of providing relief to citizens. The lack of communication between hospitals and paramedics caused confusion as paramedics tried to find available hospitals to drop off victims. Many hospitals were going on and off bypass status frequently, sometimes by the hour, causing confusion among paramedics as they were driving around to find an available hospital to drop off heat wave victims. In addition, because of the initial lack of communication between the Mayor's Office and other departments, such as the City's Department of Health and the Medical Examiner's Office, many departments did not learn about the severity of the problems caused by the heat wave; instead, they only heard of the emergency after the heat wave issue became a crisis, which caused department heads to scramble for help from the other departments, and from the media, who could see the disaster

unfold. For example, when the head of the Department, John Wilhelm, heard about all the dead bodies from a reporter, he was not sure if the problem was related to heat or some other disaster, such as an explosion, which showed how much the Department of Health, including its head, was unaware of the situation. Other departments, such as the Medical Examiner's Office and the Police Department, were unprepared for the increase in work load because departments, such as the Mayor's Office and the Chicago Department of Health, did not alert them to the coming crisis.

### Recommendations:

The Chicago-area hospitals need to create a main communication center within the hospital where hospital contacts would maintain contact with the Illinois and Chicago Department of Public Health and resource hospitals to determine its own bypass status and the bypass status of other hospitals nearby. In addition, the hospital contacts should maintain contact with paramedics so that it could coordinate paramedics to either its own hospital or to other hospitals that are not on bypass and available to take in patients. Area hospitals on bypass could also learn the extent of the symptoms of the patient and take them in if the patient's symptoms are life-threatening, or direct them to an open hospital if the symptoms are not life-threatening. With a communications center with ample connections to the State, resource hospitals, and paramedics, less confusion over which hospitals paramedics could drop off patients would result. In addition, hospitals could know if it was appropriate for them to go on bypass. Both Departments of Health and resource hospitals could have an easier time monitoring the situation of the various hospitals and determine which hospitals were close to a bypass and alert nearby hospitals that the particular hospital was close to

going on bypass. To accomplish this, communication centers within the hospitals need to have up-to-date information technology that allows for instant communication and real-time updates so that the hospitals can better communicate and coordinate with each other and with paramedics (Chan, et al, 2004). The use of information technology also brings greater coordination of organizational units in the collection, storage, manipulation, retrieval, and analysis of information, which is helpful to resource hospitals and the Department of Health in coordinating bypasses and paramedics (Lee, Johnson, & Joyce, 2004).

The Mayor's Office should set up a committee composed of the Mayor and other high-ranking officials in the various departments that would come together in an event of a heat wave, or other emergency. It would be easier for members of each department to notify each other and coordinate relief efforts if one department is having trouble that may affect other departments. Also, it would be easier for the different departments to alert the Mayor of the status of relief efforts of the different departments and of the city during the heat wave, such as the temperature, people's health, etc. The Mayor's Office should also set up communications with neighborhood emergency response teams and even residents as an additional way to gauge the effect of the heat wave and learn about any problems that city departments have not addressed yet. One way to accomplish this is for the Mayor's Office, in conjunction with the Department of Health and other departments, to create a hotline during a heat wave that establishes communication between the general public to government workers who can answer any questions regarding heat waves, provide counseling and advice on avoiding heat illnesses, and alert the government about any specific problem areas (Ebi, et al, 2004).

## **Resources**

### **Issues:**

Various departments lacked the resources, both equipment and staff-wise, to deal with the heat wave. This can be partly attributed to the lack of preparation and communication, which left many departments with only their normal amount of staff and equipment; still, the crisis forced many departments to scramble for resources, which many times, was difficult to obtain or not even available. First, the hospitals did not have enough staff members, especially nurses, or the equipment to deal with the influx of patients suffering from heat sickness, which prompted many hospitals to go on bypass, especially in the South Side. This high number of bypasses in the South Side created a gap in hospital service in a local area, which made it difficult for people living in the area to be given timely medical treatment because of the lack of local hospital facilities. The South Side, which contained a sizable population of African-Americans and elderly people, had less income to spend on preventive measures that could stave off heat sickness, such as air conditioners, and had less mobility, so more were inflicted by heat sickness and were in greater need of urgent hospital care (Greenbalt, 2003; Browning, Feinberg, Wallace, & Cagney, 2006).

The bypasses also caused increased travel times for the city's 59 ambulances, which were already inadequate to serve the increasing number of victims. This created longer response times for victims to receive treatment, and as a result, many died before getting to the hospital. Because of the need for more emergency help, fire trucks were also sent out as a first response, but the firefighters were not prepared, both training and equipment-wise, to deal with the victims. There were proposals to bring in non-city resources, such as

equipment from adjacent municipalities or even private sector businesses. However, problems existed with bringing in staff and equipment from adjacent municipalities' fire departments: Chicago's Fire Department was better equipped, those fire departments were dealing with the heat wave in their cities too and were unavailable, no coordination existed once the extra help came, and they would be unfamiliar with the city. Private sector ambulances were considered, but their protocol required payment upfront before helping patients; EMS paramedics offered free emergency services to all people in need of emergency medical treatment as a public good (Steinemann, Apgar, & Brown, 2005). In addition, the private sector paramedics were not accustomed to performing emergency work, and there was a lack of clarity in the rules and protocol if private sector paramedics took part in emergency relief efforts on behalf of the city. Also, tension existed between EMS and the rest of the Chicago Fire Department. EMS felt like it was treated like a neglected stepchild of the Fire Department, and was understaffed and under equipped.

A lack of resources was also evident at the Medical Examiner's Office and the Police Department. The Medical Examiner's Office was receiving so many bodies that the Office was running short on available refrigerator space to hold the bodies, and staff to examine the bodies, check in the bodies, and process any other administrative work. The Police Department was also under-equipped to deal with the crisis. The Police Department deployed police wagons in squad rolls where they would pick up and transport dead bodies to the Medical Examiner's Office. Because of the bottleneck at the Medical Examiner's Office due to the lack of staff to check in and examine bodies, and because of the high number of dead bodies, the existing squad rolls and police officers were not enough to handle the increase in bodies, causing a strain on the police force, and taking them away from

performing other law enforcement duties. Next, existing policy during a discovery of a body required police officers to stay with a dead body until a police wagon arrived. With the increased time it took for police wagons to reach dead bodies, police officers waited increasingly longer with a body, keeping them from looking for more bodies and going back to their regular law enforcement duties.

### Recommendations:

Because of long-time shortages, both equipment and manpower-wise, the hospitals need to be adequately supplied the next time a heat wave strikes Chicago to avoid the shortage problems that delayed treatments for patients and created hospital bypasses. First, the Chicago-area hospitals should provide attractive benefits to attract more nurses to join City hospital staff. This includes providing salaries comparable to the labor market and outside positions requiring similar skill sets, incorporating performance-based incentives to reward outstanding nurses, and increasing benefits to be comparable with police and firefighters, who historically have had the most lucrative benefits in local government (Shafritz, et al., 2001). Next, to save money because of shrinking budgets, the hospitals should perform a performance audit of their existing medical equipment to determine their efficiency and their costs (Lee, Johnson, & Joyce, 2004). They should then examine new medical technology and equipment and determine if hospitals should purchase them because they can perform the same work as existing machines at a similar or reduced cost as existing equipment. The hospitals should modify the existing internal disaster plan to ensure hospitals can provide enough staff, equipment, space, etc. to meet the demands of patients, depending on the severity of the heat wave. Lastly, because residents of the South Side tend to be less wealthy than residents in other parts of Chicago, and are more likely vulnerable to

heat sickness and less able to travel across the City to an available hospital, the hospitals in the South Side and nearby should ensure the maximum feasible supply of beds, equipment, and staff to treat them. This could include moving existing patients in those hospitals to other hospitals and requiring patients with non-emergency, non-heat-related illnesses to check into alternative hospitals not located in the South Side.

Next, the number of paramedics needs to be increased to meet the increased number of emergency response calls during a heat wave crisis. Because surrounding cities are also affected in a heat wave, it is not possible to pull ambulances, along with fire trucks, to help with victims in Chicago as those cities have their own victims to care for, so EMS needs to form a partnership with private ambulance companies to produce a higher number of ambulances to respond to emergency calls. The partnership must include a contract specifying the terms of the partnership, including the number of ambulances private companies could provide, the severity of a heat wave in which privately-owned ambulances would then be called on, and how owners of the privately-owned ambulances would be compensated. The partnership with private sector paramedics will increase productivity and supply of the paramedics force in providing services during the heat wave, in spite of overall shortages in spending and resources for City-run paramedics (Goldsmith & Eggers, 2004).

The Chicago Fire Department also needs to be revamped to be able to respond in a case of a heat wave, particularly when paramedic services are strained. The City's firefighters need to be better trained and equipped to provide, not just first aid and CPR, but the level of aid almost equivalent to paramedics, and equivalent to the levels of aid firefighters in other cities are accustomed to offering. The Fire Department should survey

other cities' fire departments to determine the classes and training those firefighters took part in to provide higher levels of first aid to victims. The Chicago Fire Department can then incorporate training sessions into their department, along with more advanced medical equipment to assist in providing aid. Better training and equipping firefighters can also reduce costs by having firefighters take over some response duties from paramedics when patients are not in dire need of an ambulance. The heads of the Fire Department also should open discussion with the EMS division and examine their needs, both staff and equipment-wise, and see which ones can be met, and which ones can be delegated to other groups, such as the more extensively-trained firefighters. This can be done by performing a cost-benefit analysis to determine the best strategy for the EMS: providing ample staff and equipment to EMS, shifting some responsibilities to other members of the Fire Department, or outsourcing EMS altogether (Patton & Sawicki, 1993). Though outsourcing EMS services is not popular with the EMS division, outsourcing could save money for the Department, ease the burden of managing an extra division, and result in more timely and efficient response by private sector paramedics.

In response to the dwindling amount of refrigerator space for bodies in the 1995 Heat Wave, the Medical Examiner's Office contacted the City's Streets and Sanitation Department, and borrowed ten trucks to increase supply. In future heat waves, these two departments should create an agreement for the Medical Examiner's Office to borrow refrigerator trucks. In addition, the Medical Examiner's Office should form contracts to secure extra space for bodies with private and non-profit organizations that may be able to provide additional refrigerator trucks or space, such as mortuaries. The Medical Examiner's Office should set up a volunteer partnership with other groups with proficiency in examining

bodies, and sign up non-medical volunteers to assist in other aspects of work in the office to free up staff members to concentrate on examining the large influx of bodies. The extra supply of qualified examiners could result in round-the-clock examinations, which would ease any bottlenecks in examination process. Regarding volunteers, the Medical Examiner's Office should advertise a volunteer program in a variety of ways, such as at its office, at City Hall and other public institutions, and on its website, create a list of people who are available to exist in a time of a crisis. In addition, the Medical Examiner's Office can start an internship program with local schools to have students also work at the Medical Examiner's Office so there will always be a supply of people available to handle administrative duties, especially in a time of a crisis, while providing on-the-job training for residents in the medical field.

The Police Department should include heat wave crises into their list of emergencies which would result in greater police deployment and longer work schedules, when prompted by the Mayor's Office in advanced of an incoming heat wave. Working together, the Police Department and Medical Examiner's Office should coordinate their efforts and reduce the burdens on staff and resources in both departments, while increasing police responsiveness to the heat wave crisis. They should set up alternate drop-off points for bodies, in addition to the main drop-off point at the Medical Examiner's Office. Since the City of Chicago is huge, opening up temporary drop-off stations around the city would give police wagons a closer location to drop off bodies, lowering driving times transporting bodies, increasing responsiveness in picking up bodies, and reducing police wagon queues at the main Medical Examiner's Office. Mortuaries could be set up as temporary drop-off points, and using equipment provided by the Medical Examiner's Office and partners, other temporary drop-

off points could be created, complete with a reception area, refrigerator trucks, and other appropriate equipment. Even with these temporary drop-off points, the bodies would still need to be moved to the main Medical Examiner's Office for examination. The Medical Examiner's Office should use their own wagons or contract this service to private or non-profit companies to transport bodies from the temporary drop-off points to the main office. All these efforts are to help reduce police wagons and police officers' burden of transferring bodies to custody of the Medical Examiner's Office. With this reduction, more police officers would be freed up to perform law enforcement duties and other duties specifically called for during a heat wave, such as searching for more dead bodies to process and going door-to-door to check up on residents (Palecki, Changnon, & Kunkel, 2001).

## **Conclusion**

These issues in the 1995 Heat Wave helped in determining what wrong with the City's response to the heat wave and problems in the City's existing response policy regarding heat waves. The analysis of these issues is helpful in forming recommendations to ensure that the same mistakes won't happen in the future heat wave. The City Government is responsible for meeting the needs of citizens, and in a heat wave crisis, much like any other city-wide emergency, the City is counted on for help more heavily, and it must be prepared to respond. These recommendations will ensure that the Mayor's Office and the various city departments will be fully prepared and responsive in an event of a heat wave.

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