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General Interest

Social Equity in Local Emergency Management Planning

Susan Gooden, Dale Jones, Kasey J. Martin, and Marcus Boyd

Recent natural disasters in the United States, namely Hurricanes Katrina and Rita, left disturbing images in the minds of many. Media outlets across the world broadcast reports illustrating the disparities between those who were able to successfully evacuate following these disasters and those who could not. Those who were left behind were segments of American society that historically have experienced social inequities, including low-income individuals, the disabled, the elderly, and non-English speakers.

These events highlighted the issue of social equity in the provision of emergency management services. For a nation that had allocated significant resources to preparing an effective response to disasters since 9/11, the United States was remarkably unprepared to respond quickly to these emergencies. The problem was particularly acute for local governments, which are the first to respond during an emergency. Following Frederickson's contention that "all important matters of social equity are local, in the sense of consequences" (2005, 35), this study uses data from 31 localities across the United States to examine whether (and how) county and city governments consider vulnerable populations in the development of their emergency operations plans (EOPs), which guide their response efforts to disasters. The analysis suggests that much work remains to be done to protect these groups during and after local emergencies.

Social Vulnerability and Social Equity

Those who are subject to the impact of disasters often are conceptualized as "victims," but there are considerable differences within this seemingly homogenous group (Fordham 1999). Scholars have acknowledged that risk and vulnerability are not indiscriminately distributed in disasters, nor are preexisting systems of stratification eliminated (Couch and Kroll-Smith 1985; Morrow 1997; Fordham 1999). During the early 1990s, social scientists began examining issues of vulnerability. Vulnerability, in the disaster context, is the capacity of a person or group to "anticipate, cope with, resist, and recover from the impact of a natural hazard" (Blaikie et al. 1994, 9). Various scholars have found that vulnerability may be increased due to factors such as a person's age, gender, social class, disability status, race, and ethnicity (see for example Bolin 1986; Aptekar and Boore 1990; Peacock, Morrow, and Gladwin 1997; Morrow and Enarson 1996; Fothergill, Maestas,

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and Darlington 1999; Fothergill and Peek 2004). Certain vulnerable populations such as the poor, the elderly, and those with disabilities require special consideration before, during, and after disasters (Peacock, Morrow, and Gladwin 1997). The social vulnerability perspective suggests the need to alter power structures and change political and/or economic ideologies in order to decrease the vulnerability of certain groups to disasters (Wisner et al. 2004).

Governments often are seen as being responsible for reducing social vulnerability by promoting social equity. Social equity is generally identified as a post-1960s concern of public administration. As Frederickson (2005, 31) notes, "It was during the 1960s that it became increasingly evident that the results of governmental policy and the work of public administrators implementing those policies were much better for some citizens than for others." It is important to differentiate equity from equality: equality means treating everyone the same, whereas equity means treating everyone fairly. In order to achieve equity, some individuals or groups may need to receive more resources or services than others. Those who are concerned with achieving equity in the provision of public services recognize that individuals require different levels of resources and services.

Emergency Management and Planning

Fundamentally, emergency management is the practice and discipline of managing risk. The purpose of managing risk is to enable citizens to live with natural and technological hazards and cope with disasters that do occur. Emergency management is much more than emergency or disaster planning and response, though. Comprehensive emergency management is the process of accomplishing emergency tasks in four phases—mitigation, preparedness, response, and recovery—for all types of hazards. Emergency planning (in particular, development of EOPs) is a central component of the preparedness phase. Each of the four phases has important social equity implications for vulnerable populations.

The national emergency management system consists of networks of departments and agencies at the local, state, and federal levels of government; private-sector firms; nonprofit-sector organizations; and volunteer organizations and individuals. The foundation of the system is local (i.e., city, town, and county) emergency management resources, capacities, and actions (Waugh 2000; 2007). Within the federalist system of government, "local governments bear most of the responsibility for the success of mitigation, preparedness, response, and recovery efforts" (McEntire and Dawson 2007, 58). The level of professionalization and the effectiveness of the emergency management system vary among jurisdictions.

At the federal level, the agency responsible for emergency management and disaster coordination is the Federal Emergency Management Agency (FEMA). One goal of FEMA is to develop and maintain, in partnership with state and local governments, a national emergency management system that has a comprehensive, risk-based, all-hazards approach. Crucial to this system are EOPs, which are public documents that describe which organizations and individuals will carry out what actions as well as when, with what resources, and by what authority before, during, and immediately after an emergency. According to FEMA's 2008 *Comprehensive Preparedness Guide*, which integrates lessons learned from Hurricanes Katrina and Rita and other recent major disasters, a jurisdiction's EOP does the following:

- assigns responsibility to organizations and individuals for carrying out specific actions at projected times and places during an emergency that exceeds the capability or routine responsibility of any one agency;
- sets forth lines of authority and organizational relationships and shows how all actions will be coordinated;

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- describes how people and property are protected in emergencies and disasters;
- identifies personnel, equipment, facilities, supplies, and other resources available—within the jurisdiction or by agreement with other jurisdictions—for use during response and recovery operations;
- reconciles requirements with other jurisdictions; and
- identifies steps to address mitigation concerns during response and recovery activities (FEMA 2008, 3-1).

Emergency operations plans exist at both the state and local levels. A jurisdictional EOP is a "response blueprint with details on vulnerability, resources, and appropriate actions" (Perry and Lindell 2007, 183). Emergency planners are responsible for sustaining the planning process and maintaining the EOP. During an incident response, emergency planners operate in an emergency operations center, where they coordinate the efforts of first responders and collect and disseminate accurate information and resources pertaining to the emergency scene.

There is no required or universally accepted format or content for EOPs. Jurisdictions develop their EOPs according to unique conditions such as the types of hazards they face, their emergency management organizations, and their political and social environments. Nevertheless, many emergency managers and planners follow FEMA's guidance when developing risk-based, all-hazard EOPs. At the time of this research, many EOPs followed the then-existing *State and Local Guide for All-Hazard Emergency Operations Planning* (FEMA 1996). The *Comprehensive Preparedness Guide* (FEMA 2008) updates and replaces the *State and Local Guide* and recommends that future iterations of EOPs continue to follow FEMA guidance. The new guidelines integrate concepts from the *National Incident Management System* (DHS 2004a) and the National Response Framework (DHS 2008), which supersedes the *National Response Plan* (DHS 2004b).

The fundamental components of an EOP are the basic plan, functional annexes, and hazard-specific appendices. The basic plan provides an overview of the jurisdiction's approach to emergency operations. It captures the authority for planning, goal of planning, and the concept of operations for response; details emergency response policies; describes the emergency response organization; assigns tasks; and defines conditions for activating, conducting, and terminating operations. The situation section characterizes the planning environment and may mention (among other factors) vulnerable critical facilities such as nursing homes, schools, and hospitals; population distribution; and characteristics and locations of special needs populations such as institutionalized persons, the elderly and disabled, and those who speak languages other than English. Functional annexes focus on generic functions or tasks that must be accomplished across many types of disasters. Hazard-specific appendices are sections of the plan that describe procedures, protocols, and special demands associated with a specific type of disaster agent.

Methodology

The United States has more than 22,000 local governments, and the agencies within these jurisdictions often are the first responders when disasters occur. This study examines the extent to which social equity considerations are evidenced in the EOPs of a sample of jurisdictions. The central research questions are, do local EOPs address socially vulnerable populations, and if so, what patterns emerge?

An Internet search was conducted in May 2007 to identify jurisdictions that had plans (the words "emergency operations plan" were entered into a search engine). The research team requested EOPs from those jurisdictions that had them in order to conduct a pilot examination. Even though EOPs are public documents, some cities and counties opted not to provide them. The reasons given were

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that their EOPs were being revised, had not been approved by elected officials, were not available for study, or had not been approved by the state for outside distribution. Thus, for this analysis, a nonrandom sampling strategy was devised in order to allow the authors to acquire EOPs that were publicly available, resulting in a purposive sample.

Although the search yielded 84 pages of information, much of it did not pertain to local EOPs but rather guidelines for EOP creation, information about consulting firms that provide EOP writing services, and EOPs for other purposes (for example, private businesses, colleges and universities, states, and local school districts). Because the unit of analysis for this study was local government EOPs, these results were excluded. From the local EOP results, 50 local (city or county) EOPs were examined. The selection was then limited to the localities that had a full plan (defined as a basic plan and annexes) as opposed to those that had only a basic plan or annexes. Thus, entire plans (including annexes) rather than shorter plans or plan summaries were examined. The resulting sample of 31 localities varied by geographic region, population size, and overall diversity (see Table 1).[1] In each case, the most recent version of the EOP posted on the Internet was examined. The majority of the 31 EOPs examined were either written or revised during 2004 through early 2007. However, about a third of the plans were written or revised prior to 2004; the oldest plan was dated 1998.

Social equity was operationalized by examining four vulnerable groups: low-income individuals, the disabled, the elderly, and non-English speakers. During an emergency situation, each of these groups is particularly vulnerable and requires additional assistance from emergency management services. Individuals who are poor often lack economic resources, including money and private automobiles, which are critical resources during an emergency. Residents who are disabled (including those with mental and physical disabilities) require special assistance and medication, as do many of the elderly. Non-English speakers may have very limited access to vital oral and written communication. Although much of the social equity research typically includes examinations of race, ethnicity, and/or gender, there was no expectation that the texts of the EOPs would directly broach these issues, so they were not examined.

Table 1 provides an overview of the characteristics for each of the 31 localities, including region of the country, population group, total population, percentage elderly, percentage in racial/ethnic groups, percentage high school graduates, percentage disabled, percentage non-English speaking, median family income, and percentage below poverty line. Numbers in bold indicate that the characteristic is higher (for two characteristics, lower) than the national average, which suggests a social equity concern and is therefore considered a risk factor.[2] For example, nationally 19.4 percent of families in the United States reported that a non-English language was the primary language spoken in their home. For Bernalillo County, New Mexico, this figure was 29.4 percent, which is higher than the national average. This higher percentage may increase risk to the non-English speakers in the locality.

Each locality was categorized into one of three tiers of population risk factors. The population risk for each locality was calculated by summing the numbers in bold for each characteristic (see Table 1). Based on this analysis, 19 localities have low (1–3) population risk factors, 10 localities have moderate (4–6) population risk factors, and 2 localities have high (7–9) population risk factors. For example, Charlotte County, Virginia, has 7 population risk factors, which places it in the high population risk factors tier.

A qualitative approach was employed for this study. The content of each of the 31 local EOPs was analyzed across four social equity dimensions (low income, disabled, elderly, and non-English speaking). In order to facilitate the content analysis, the authors identified several keywords associated with each social

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equity dimension. For example, in order to determine whether a local EOP provided specific guidance to ensure adequate emergency management services for individuals with disabilities, the plans were searched electronically for the following words (or derivatives of these words): disability, handicap, special needs, mental, and hospital. The authors read the entire context for each data point and then coded the passage accordingly. A liberal coding structure was employed; localities were given credit for even brief mention of a vulnerable population group.

There are several important limitations to this research approach. First, the authors relied solely upon EOPs to gauge localities' attention to social equity in emergency management. Localities could address these issues outside an EOP; however, given the scope and content of full EOPs, it seems reasonable that the documents would to some extent broach such issues. Second, there was considerable variation in the length and detail of each EOP. The full EOPs that were examined ranged from 20 to 894 pages, with an average of 221 pages. In a more detailed plan, there is more opportunity for social equity concerns to be considered. Third, a limited number of keywords and phrases were used to perform the initial electronic search. Although the keywords were not exhaustive, they do reflect the core terms typically used to refer to each vulnerable group. Fourth, under the liberal coding structure, localities were given credit for any mention of a vulnerable group, although some EOPs provided more extensive coverage of the needs of a population than did others. For example, one EOP mentioned a door-to-door checklist for use with "children, bedridden, handicapped or elderly." This one line was coded as a data point for both "disabled" and "elderly" for that locality. By contrast, another EOP devoted three pages to the provision of services for special needs populations, addressing all four vulnerable populations. This plan was considered a data point for all of the population groups, although the amount of detail regarding the provision of emergency management services for these populations was far greater than that provided in the aforementioned EOP.

Findings

Table 2 summarizes the findings for each locality across the four vulnerable groups. Nearly all of the EOPs at least cursorily mentioned one of the four vulnerable population groups. However, much of the attention to vulnerable population groups was brief and general. Fewer than a quarter of the plans addressed the needs of vulnerable population groups in depth. For example, although the question "Have special needs groups been addressed?" is raised in a checklist in the Evacuation Annex of the EOP for Bingham County, Idaho, the EOP does not provide any additional information or guidance for addressing special needs populations.

By contrast, the EOP for Chatham County, Georgia, provides a greater level of specificity by stating that Chatham emergency medical service providers "coordinate medical patient evacuation in the pre-impact phase of the disaster (including special needs patients requiring ambulance transport) as well as continued response to emergency medical calls" (Chatham County Emergency Operations Plan, ESF 8, 87). The county's plan clearly indicates who is responsible for medical patient evacuation and identifies a particular group for concern: those requiring ambulance transport.

In the EOPs reviewed for this study, the disabled and the elderly received the most attention. The vast majority of the plans addressed disabled (n = 30) or elderly populations (n = 29) and gave particular attention to providing services for these individuals, especially those who reside in institutions such as nursing homes or hospitals. Also, several plans focused specifically on transportation issues for the elderly and/or the disabled. As stated in the Dawson County, Nebraska, EOP,

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"There could be cases where elderly, infirm or handicapped persons in the evacuation area will not be able to get to the assembly point or would need special type of transport. The Emergency Management Director will make provisions for the use of government or volunteer vehicles to transport those individuals. The public will be instructed to notify the Emergency Management Director of any special transportation problems" (Dawson County, Nebraska Local Emergency Operations Plan, Annex E, E-7).

Only one EOP had a separate annex devoted exclusively to providing emergency

Table 1. Characteristics of Selected Jurisdictions

Jurisdiction[a]	Region[b]	Population Group[c]	Total Population	65 years or older (%)	White (%)	Black (%)
United States[f]			288,378,137	12.1	74.7	12.1
Baltimore County, MD	South	Large	767,597	**14.2**	**69.6**	**24.0**
Bernalillo County, NM	West	Large	592,570	11.5	72.5	2.8
Bingham County, ID	West	Small	41,735	10.3	82.4	0.2
Boulder County, CO	West	Medium	271,934	8.6	87.0	0.6
Charlotte County, VA	South	Small	12,472	**17.5**	**65.5**	**32.9**
Chatham County, GA	South	Medium	227,915	12.4	**54.5**	**40.8**
City of Columbia/ Boone County, MO	North Central	Medium	134,391	8.9	84.3	8.3
City of Fort Bragg, CA	West	Small	7,026	**13.9**	79.5	1.0
City of Kirkwood, MO	North Central	Small	27,324	18.2	90.8	7.1
City of Moore, OK	South	Small	41,138	7.2	84.6	2.9
City of Oxford, OH	South	Small	21,943	4.8	91.2	4.3
City of Rolla, MO	North Central	Small	16,367	13.0	89.2	2.9
City of San Jose, CA	West	Large	887,330	8.8	50.4	3.3
City of Williamsburg, VA	South	Small	11,998	11.7	79.5	13.3
Coconino County, AZ	West	Medium	120,776	7.6	61.5	1.4
Dare County, NC	South	Small	29,967	13.8	94.7	2.7
Dawson County, NE	North Central	Small	24,365	14.1	82.3	0.3
Dougherty County, GA	South	Small	90,508	11.4	34.0	62.1
Douglas County, KS	North Central	Small	94,200	8.9	86.4	4.4
East Baton Rouge Parish, LA	South	Medium	396,735	10.2	52.7	43.1
Humboldt County, CA	West	Medium	124,031	12.6	84.4	0.3
Johnson County,KS	North Central	Large	501,584	9.6	88.6	3.7
Johnston County, NC	West	Medium	144,621	9.5	79.2	15.6
Louisville/Jefferson County, KY	South	Large	687,032	12.7	75.7	19.6
Mendocino County, CA	West	Small	86,011	14.1	88.7	0.5
Municipality of Anchorage, AK	West	Medium	266,281	6.3	69.8	6.2
Pierce County, WA	West	Large	731,598	10.1	77.3	7.3
Sedgwick County, KS	North Central	Medium	459,902	10.9	78.1	9.0
Springfield–Greene County, MO	North Central	Medium	238,898	**13.3**	93.6	2.4
Stearns County/ City of St. Cloud, MN	North Central	Medium	135,253	11.4	94.3	1.7
Town of Newburgh, IN	North Central	Small	3,088	**12.4**	97.4	1.2

$n = 31$

[a] Data for Bingham County, Charlotte County, City of Fort Bragg, City of Kirkwood, City of Moore, City of Oxford, City of Rolla, and Dawson County are from *American Fact Finder: U.S. Census Bureau* (2000; 2005).

[b] Regions were determined using International City/County Management Association (ICMA) definitions: Northeast (CT, MA, ME, NH, NJ, NY, PA, RI, and VT); North Central (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, and WI); South (AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, and WV); and West (AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, and WY).

[c] Population groups are determined using ICMA definitions: large (over 500,000), medium (100,000–499,999), and small (less than 100,000).

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management services for vulnerable populations. Annex 7 of the Anchorage, Alaska, EOP addresses core operational concepts and responsibilities and makes express mention of medical equipment: "The Municipality will make every effort not to separate users from wheelchairs, walkers, and other durable medical equipment. If a person who has been separated from [his or her] medical equipment is unable to return home, the Municipality will make every effort to retrieve or replace the equipment as quickly as possible" (Municipality of Anchorage Emergency Operations Plan, Annex 7, 7-1).

Table 1. Characteristics of Selected Jurisdictions (continued)

Hispanic/ Latino (%)	High School Graduates (%)	Disabled (%)[d]	Non-English Language Spoken in Home(%)	Median Family Income	Families Below Poverty Level (%)[e]
14.5	84.2	14.9	19.4	$55,832	10.2
2.5	87.1	13.3	10.7	$69,479	4.2
44.3	86.4	**15.0**	**29.4**	**$54,925**	10.0
13.3	80.6	**17.0**	13.6	**$40,312**	9.9
12.8	94.1	8.7	15.8	$77,766	6.0
1.7	**63.2**	**25.0**	4.1	**$34,830**	**12.7**
2.7	86.9	14.6	6.1	**$52,475**	8.8
2.2	91.5	**16.2**	N/A	**$54,273**	**11.3**
22.7	**81.1**	**23.7**	**21.4**	**$36,000**	**11.9**
1.1	94.2	13.5	4.1	$72,830	2.8
5.1	87.1	**18.5**	5.5	**$47,773**	6.3
1.4	89.4	9.6	7.9	**$52,589**	**13.4**
1.7	**82.5**	**19.4**	10.3	**$38,975**	**13.8**
31.5	**81.5**	9.8	**55.0**	$79,413	7.5
2.5	89.6	14.5	7.7	**$52,358**	9.3
11.9	**82.1**	14.7	**28.1**	**$50,760**	**12.2**
2.2	88.6	**15.4**	4.1	**$49,302**	**5.5**
25.4	**73.6**	**17.9**	**22.9**	**$42,224**	8.6
N/A	**79.2**	**20.2**	N/A	**$42,524**	**16.2**
3.7	**95.3**	10.2	N/A	$57,572	N/A
2.2	85.6	14.6	6.8	**$54,551**	**15.5**
7.6	90.4	**19.3**	7.1	$50,295	9.4
5.2	95.7	9.1	9.4	$81,105	3.5
10.2	82.1	14.0	N/A	**$52,538**	9.0
2.4	85.3	**17.3**	6.1	**$53,493**	**10.5**
19.4	**83.8**	**20.4**	19.4	**$47,838**	**13.6**
7.0	91.7	14.3	13.5	$72,931	6.7
6.8	89.3	**16.7**	12.2	$58,212	8.4
9.9	87.1	13.9	12.0	**$52,556**	**10.6**
2.1	88.3	**18.0**	4.6	**$50,503**	9.4
1.8	89.0	11.3	5.9	**$57,240**	4.6
0.6	89.8	14.4	3.3	**$53,854**	0.0

[d] The U.S. Census Bureau uses six dimensions to determine disability status: sensory disability, physical disability, self-care disability, go-outside the home disability, and employment disability.

[e] Family of four poverty guideline (poverty level) is family income based on a family of four ($17,050 for 2000; $19,350 for 2005).

[f] Numbers in bold indicate potential population risk factors. Population risk factors are determined by the national average. Most population risk factors are considered to be present if they exceed the national average (e.g., percentage of families below the poverty level). The variables percentage of white population and percentage of high school graduates are considered potential risk factors if they are lower than the national average.

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Table 2. Summary of Findings

Vulnerable Groups Addressed	Jurisdictions	Total
None	Town of Newburgh, IN	1
Disabled	City of Oxford, OH	1
Disabled and elderly	Bernalillo County, NM	1
Disabled, elderly, and non-English speaking	Baltimore County, MD; Bingham County, ID; Boulder County, CO; Chatham County, GA; City of Columbia/Boone County, MO; City of Fort Bragg, CA; City of Kirkwood, MO; City of Moore, OK; City of Rolla, MO; Coconino County, AZ; Dawson County, NE; Dougherty County, GA; Douglas County, KS; Humboldt County, CA; Johnston County, NC; Mendocino County, CA; Municipality of Anchorage, AK; Sedgwick County, KS; Springfield-Greene County, MO	19
Low-income, disabled, elderly, and non-English speaking	Charlotte County, VA; City of San Jose, CA; City of Williamsburg, VA; Dare County, NC; East Baton Rouge Parish, LA; Johnson County, KS; Louisville/Jefferson County, KY; Pierce County, WA; Stearns County/City of St. Cloud, MN	9
Total		**31**

Localities employ a variety of approaches to address the needs of residents who do not speak English. Some EOPs specifically mentioned services for this population while others stated that these services are not warranted. For example, Dawson County, Nebraska's EOP assumes the presence of an English-speaking member in every household. According to one of the specific Assumptions and Planning Factors, "There are groups of non-English-speaking people in Dawson County. Every household has members who can adequately read the newspaper and/or understand spoken English" (Dawson County, Nebraska Local Emergency Operations Plan, Annex D, D-2). No data are provided to support this claim, however.

Other EOPs contended that the non-English-speaking population is too small to warrant provision of services in languages other than English: "The percentage of non-English-speaking persons in Rolla is so small that it does not warrant the publication of emergency information in any other language. If necessary, the translation of emergency public information will be coordinated using foreign language teachers from public schools and the University of Missouri–Rolla" (City of Rolla Emergency Operations Plan, Annex C, C-1).

By contrast, some EOPs offered a more inclusive approach toward non-English-speaking persons. For example, although Springfield–Green County, Missouri, has a low percentage of non-English-speaking persons, its EOP specifically provides for services in other languages: "According to the 2000 U.S. Census 4% of Springfield–Greene County residents either speak English poorly or not at all. Since the predominant languages of these residents are Vietnamese, Spanish, French, and German, assistance with translation of emergency public information may be provided from the area [universities'] foreign languages staff. Other services may need to be contracted" (Springfield–Greene County Emergency Operations Plan, ESF-4, p. ESF 4.1).

It was unclear from the vast majority (more than 80 percent) of EOPs whether data regarding the location of vulnerable populations are routinely collected or maintained. A notable exception—the EOP for Anchorage, Alaska—specifically mentions a database of vulnerable populations: "The Office of Emergency Management (OEM) will maintain a database of locations of vulnerable populations to be updated semi-annually in coordination with local partners" (Municipality of Anchorage Emergency Operations Plan, Annex 7, 7-1).

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About a quarter of the EOPs specifically mentioned the poor or low-income individuals. Several plans made only cursory mention of the poor. Many identified resources available to the poor, such as legal services. However, East Baton Rouge Parish, Louisiana's EOP specifically mentions the provision of services for individuals who receive welfare assistance: "In any disaster or emergency, it is the responsibility of the East Baton Rouge Parish Office of Homeland Security & Emergency Preparedness and the Office of Family Support to coordinate all welfare assistance and services to individuals and families administered by public and private welfare or welfare-related agencies, civic and church groups to fully use all public and private welfare resources within East Baton Rouge Parish; and to assure the availability of welfare assistance and services to victims of any disaster or emergency" (East Baton Rouge Parish Emergency Operation Plan, Annex M, M-4).

Fewer than 1 percent of the plans directly addressed racial/ethnic issues. However, one EOP specifically discusses racial hatred as a terrorism hazard: "Racial hatred fuels a large percentage of contemporary terrorism both in American society and here in Pierce County. Whether it is the beating of an immigrant or the burning of a cross in a family's yard, the act is to intimidate, not just the individual, but all others who might associate with the individual. The increase in neo-Nazi support and white supremacy movements, and the violence against sexual minorities are all tendencies in this direction" (Pierce County Hazard Identification and Vulnerability Analysis, Section VIII, 81).

More than 75 percent of the EOPs mentioned a reliance on nongovernmental organizations for providing services for vulnerable populations. However, the capacity of these nongovernmental organizations to deliver these services or coordinate efforts was not addressed. Many EOPs mentioned a reliance on the American Red Cross and the Salvation Army in particular. Similarly, several plans mentioned heavy reliance on foreign language instructors in public schools and/or colleges and universities to provide services for individuals who do not speak English, which raises important issues to do with availability, capacity, and deployment.

The preliminary analysis did not demonstrate a relationship between locality size (urban, suburban, and rural) and attention given to vulnerable populations in an EOP. Likewise, the number of population risk factors did not appear to be related to the level of attention given to vulnerable populations.

Conclusion

Some individuals are more vulnerable than others in disaster situations and therefore have special needs. Recent disasters in the United States, such as Hurricanes Katrina and Rita, have highlighted the criticality of emergency planning at all phases of emergency management. Among the many lessons learned is the need for greater attention to socially vulnerable populations. A key question for local emergency management planners is, "What can be done to revise emergency plans to address the issues that impact these special needs populations in a major disaster?" (Haddow, Bullock, and Coppola 2008, 407)

This analysis of 31 EOPs raises some important considerations for localities as they plan emergency management services. In order to accommodate local conditions, localities have considerable flexibility in developing EOPs and the level of detail they choose to provide. There are several ways in which localities might promote social equity in EOPs in order to address the needs of vulnerable populations.

As an initial step, localities could collect reliable data on the specific location and needs of members of vulnerable populations. Each locality would need to have knowledge of where such populations reside and what their vulnerabilities are. Collecting, maintaining, and updating data on vulnerable populations by location are essential steps in being able to

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provide such services during an emergency. Among the plans reviewed in this study, very few mentioned the existence of these types of data. Although localities that develop and maintain such data would need to consider privacy concerns, some type of identification system would be useful during emergency situations.

Second, localities might want to include a specific section or annex within their respective EOPs that addresses the needs of vulnerable populations. Although the plans examined in this study routinely discussed these vulnerable groups, the level of detail varied considerably regarding the provision of services. In many cases, it was not clear which agencies or organizations would provide services; rather, it was merely noted that vulnerable groups warrant special consideration. Devoting a section of their EOPs to vulnerable populations could help localities more clearly articulate which emergency management services would be provided for these groups.

Third, localities might do well to consider the various needs of the disabled and problems non-English speakers face within their communities. The needs of individuals with disabilities are quite diverse; the range of emergency management services is determined by the type of disability. It is therefore important for each locality to have an understanding of disability types so that the emergency management services they provide are appropriate and useful. Similarly, localities need to have a clear sense of the other primary languages spoken within their jurisdictions so that emergency management materials and warnings are provided in the appropriate languages. Localities should be cautioned to avoid a "one-size-fits-all" emergency management approach to providing services for vulnerable populations in general and disabled and non-English-speaking groups in particular.

Fourth, awareness among localities of the capacity of nongovernmental organizations to deliver emergency management services could be improved. Many of the EOPs reviewed in this study clearly rely upon nongovernmental organizations, including nonprofit organizations as well as individual citizens, to provide important emergency management services for vulnerable populations. Having an understanding of the capacity of these external resources to meet the specific emergency management needs of these groups would improve localities' resources management.

An important finding of this study is that nearly all the plans made some mention of at least one vulnerable group. However, the level of detail and depth of coverage of the needs of vulnerable populations varied considerably among EOPs. Local government officials can better protect the socially vulnerable in their communities if they ensure that the potential needs of all vulnerable populations are adequately planned for in emergency situations. This research also revealed that relatively speaking, the disabled and elderly receive more attention in EOPs whereas low-income citizens are rarely mentioned and non-English-speaking residents' needs are often underestimated. Further research regarding these patterns might help emergency planners become more cognizant of social equity concerns.

In order to enhance the quality and usefulness of EOPs, policymakers and emergency planners might consider including separate annexes dedicated to emergency management services for vulnerable populations, which would help ensure proper planning and preparation for these groups. If jurisdictions regularly determine the size and locations of vulnerable populations and include the data in their EOPs, they can better assess the types of services these citizens require before and during a disaster. Additionally, since local governments strongly rely on nongovernmental organizations to provide emergency services for vulnerable populations, they might want to specifically address capacity, availability, and deployment issues in their EOPs.

Social equity has an important normative dimension for local governments. Frederickson (2005, 35) admonishes public administra-

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tors to "think globally and act locally.... Like minded public administration professionals should be working together on their collective social equity issues because it is increasingly evident that few jurisdictions can claim to be isolated from the consequences of poverty and inequality." Hurricanes Katrina and Rita heightened the nation's awareness of social vulnerability and social equity concerns in disaster management. Emergency managers and planners in local government have come to realize that they have a responsibility to identify and reduce social vulnerability within their communities. Strengthening EOPs now in order to address the special needs of socially vulnerable populations can better prepare localities for future disasters.

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Notes

1. The nonrandom sampling strategy and overall small sample size do not allow for generalization of the findings but do permit an exploration of the extent to which social equity factors are considered across a variety of localities, thus offering important insights.
2. For two of the characteristics (percentage of white population and percentage of high school graduates), localities are considered to have potential risk factors if these percentages are lower than the national average.

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