## Background

Three year grant, T86-08040, awarded the University of Kansas, Research and Training Center on Independent Living by the Association for Teachers of Preventive Medicine and the Centers for Disease Control and Prevention. AIMS: To understand county level disaster preparedness and response around needs of persons with mobility impairments.

### Nature of the Problem

Typically, disaster preparedness and emergency response systems are designed for non-disabled persons, for whom escape or rescue involves walking or running. In addition, many plans do not appear to specifically address the transition needs back to pre-disaster conditions that are required for persons with mobility impairments.

## Research Focus Areas and Objectives

**Focus Area #1: County Programs, Policy, And Practice**

*Objective:* To determine whether counties that have experienced a disaster during 1998 - 2003 have systems of workplace, home, and community disaster preparedness and emergency response in place for residents with mobility impairments.

**Focus Area #2: Assessing Risk**

*Objective:* To evaluate surveillance systems in place at the county level that can identify morbidity and mortality frequency and prevalence for persons with mobility impairments exposed to a disaster.

**Focus Area #3: Assurance And Policy Development**

*Objective:* To recommend modifications to county disaster coordinating agencies to address the health, safety, and survival needs of people with mobility impairments.

### Research Methodology

- Select a random sample of 30 counties or equivalent units (i.e., boroughs, reservations, etc.) across each of the ten federal regions
- Interview these county emergency managers
- Evaluate their disaster plans in place at time of occurrence and more recently for actions targeting persons with mobility disabilities
- With assistance of national advisory panel, identify best practices
- Administer on-line consumer survey

## Research Questions

### Research Question 1: Have disasters facilitated change for people with mobility impairments?

#### Table 1. Reasons for Modifying County Disaster Plans

<table>
<thead>
<tr>
<th>Reason</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Having in place guidelines for persons with disabilities</td>
<td>79.3</td>
<td>20.7</td>
</tr>
<tr>
<td>Identifying operating procedures in place that follow the guidelines</td>
<td>76.7</td>
<td>23.3</td>
</tr>
</tbody>
</table>

### Research Question 2: Were people with disabilities included in the planning process?

1. First of the six best practice sites had people included in the process. This question was only answered for six counties engaged in the planning process.

#### Research Question 3: Are sites able to assess prevalence based upon adequate surveillance?

<table>
<thead>
<tr>
<th>Site by State, County Location, and Disaster Type</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vermont VT, Bennington County</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Virginia VA, Tazewell County</td>
<td></td>
<td></td>
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<tr>
<td>Virginia VA, City of Norton</td>
<td></td>
<td></td>
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<tr>
<td>Virginia VA, City of Hampton</td>
<td></td>
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<tr>
<td>Texas TX, Jefferson County</td>
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<tr>
<td>New York NY, Tompkins County</td>
<td></td>
<td></td>
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<tr>
<td>Nebraska NE, Lincoln County</td>
<td></td>
<td></td>
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<tr>
<td>Montana MT, Rosebud County</td>
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<td></td>
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<tr>
<td>Idaho ID, Bingham County</td>
<td></td>
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<tr>
<td>Delaware DE, Sussex County</td>
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<tr>
<td>Colorado CO, Garfield County</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arizona AZ, Maricopa County</td>
<td></td>
<td></td>
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<tr>
<td>Alaska AK, Borough Matanuska-Susitna</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Research Questions 4-6: Surveillance systems that appear most effective – possible “best practices.”

#### Table 3. Differences Between Disaster County Sites Identified as Best Practices and All Other Sites

<table>
<thead>
<tr>
<th>Disaster County</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

### Research Question 4:6: Surveillance that allows estimates of prevalence of people with mobility impairments at risk in a disaster?

No way to determine prevalence rates based upon surveillance systems in place. However, we may want to test this further with our site in Coffey County. Where there are accurate data registries, this measure could be possible.

### Research Question 5: What are the differences between people with disabilities?

All means differences were tested using ANOVA for between group differences.

Six counties identified as possible “best practices” (out of 30) based upon two criteria:

1. Having in place guidelines for persons with disabilities.
2. Identifying operating procedures in place that follow the guidelines.

#### Table 4. Adjusted Odds Ratio of a Model to Predict the Probability of Being a Best Practice.

<table>
<thead>
<tr>
<th>Disaster County</th>
<th>95% Conf. Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Research Question 6: Surveillance systems that appear most effective – possible “best practices.”

Six counties identified as possible “best practices” (out of 30) based upon two criteria:

1. Having in place guidelines for persons with disabilities, and
2. Identifying operating procedures in place that follow the guidelines.

## What did we find out?

### Findings - Emergency Managers:

- People with disabilities either were not represented or had minimal representation in the emergency planning process.
- The (1997) FEMA Emergency Planning and Special Needs Coordination course pertaining to people with disabilities appears useful in increasing county awareness, though only 27% of county emergency managers reported completing it.
- Only 20% of the emergency managers reported having specific guidelines in place to assist people with mobility impairments during emergencies.
- 20% of emergency managers reported having specific guidelines in place to assist people with mobility impairments during emergencies.
- Among jurisdictions that did not (24% or 80%): 38% (9) identified transportation accommodations that they have in place.
- 17% (4) identified accessible shelters and other educational programs that sought to reach out to persons with disabilities.
- Among jurisdictions that did not have specific details or guidelines in place: 24% (2) told us that they were important to have.
- “Every person’s life is important...” 24% (2) told us that they were important to have.
- “I have never seen a publication that would address many of these impairments...” 24% (2) told us that they were important to have.
- “We have it, just not in our particular plan... covered at council in signing and human resources protocols...” 24% (2) told us that they were important to have.
- “It’s a fact of life. They are out there, they need assistance, and you’ve got to address it.” 24% (2) told us that they were important to have.
- Among jurisdictions that did not have specific guidelines in place (24%, 91%) told us they were planning to develop them. 24% (9) stated, “We need to work on that.”
- “If need is brought to our attention, we will accommodate.” 24% (9) stated, “We are trying to focus on special needs as a whole...”
- “We are overwhelmed with the demands of Homeland Security.” 24% (9) stated, “Yes, it was a great concern.”
- “Confidentiality issues...”, “limited local authority...” 24% (9) stated, “Every person’s life is important...”
- “We are trying to focus on special needs as a whole...” 24% (9) stated, “We are overwhelmed with the demands of Homeland Security.”
- “We are overwhelmed with the demands of Homeland Security.” 24% (9) stated, “My office is only staffed by one personnel.”

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**Where do we think this will lead?**

### Improved Surveillance

- Use new devices that will improve rescue, escape and survival for persons with mobility impairments.

### Environmental Changes

- Housing: safe rooms, slide escapes, common shelters, implementing ADA accessibility guidelines, special needs awareness programs (SNAP)
- Workplace: space, lighting, energy backup, employee input
- Community: participatory planning process by persons with disabilities

### Environmental Factors: Assistive Technology

- Devices such as those that use a cardiac clip that uses technology-like action to move persons with mobility limitations down the stairs and other similar equipment need to be made available.

### Enhanced Training and Education for:

- First responders, disaster managers, county officials
- Employers, employees
- Persons with disabilities

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**American Public Health Association Meetings**

December 10-14, 2005

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