Vulnerable & At-Risk Populations Resource Guide
Introducing a new tool for preparedness planning

At any point in time, it can be argued that everyone may be “at-risk” in public health emergencies. One of the most challenging tasks when planning for at-risk groups is deciding how to define "at-risk." The Center for Disease Control and Prevention (CDC) defines at-risk populations as “those groups whose needs are not fully addressed by traditional service providers or who feel they cannot comfortably or safely access and use the standard resources offered in disaster preparedness, relief, and recovery.” Recently, at-risk populations have been incorporated into many of CDC’s new public health emergency preparedness capabilities, including community preparedness, emergency public information and warning, and medical countermeasure dispensing. (See latest grant guidance online at http://www.cdc.gov/phpr/coopagreement.htm.)

Vulnerability and Risk

Previous research and experience have demonstrated that socially vulnerable populations are more likely to be adversely affected in emergencies and disaster events [1,2]. By effectively addressing social vulnerability, both human suffering and the economic loss related to providing services and public assistance after an event can be decreased.

Frequently used interchangeably, the terms vulnerability and risk have very distinct meanings. In this case, we define the relationship between the two as the following: risk is directly affected by the hazard and the degree of vulnerability experienced by exposed persons over a particular period of time and area. The formula of this relationship is:

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\text{Risk} = \text{Hazard} + \text{Vulnerability}
\]

It is important for LHDs to consider this relationship as they develop and implement their preparedness plans. Risk to groups unable to access resources and services are often the result of existing vulnerabilities. For example, in hot summer months (hazard), those individuals who may have limited or no access to air-conditioning or cooling stations, such as senior citizens or persons living with physical disability (vulnerability), would be at greater risk of heat-related injuries (risk).

Vulnerability is defined as the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of an emergency. These groups would include, but be not limited to:

- Senior citizens
- Children
- Persons living with disability
- Non-English speakers
- Transient populations
- Remote/rural residents
- Disenfranchised groups

The North Carolina Preparedness and Emergency Response Research Center (NC PERRC) at the UNC Gillings School of Global Public Health has developed a quick online resource guide to provide a custom list of resources with accompanying jurisdictional maps to aide local health departments’ (LHDs) preparedness planning for vulnerable and at-risk populations. This brief presents an overview of the online resource guide, highlighting various aspects to help to identify and plan for vulnerable and at-risk populations, as well as ways to build community partnerships. In addition, we provide a review of the guide’s visual aids, demonstrating the CDC’s Social Vulnerability Index (SVI)[1].
The challenges of planning and preparing for multiple groups across a range of hazards and events may seem daunting.

Development of the Guide

The Vulnerable and At-Risk Populations Resource Guide is intended to support LHDs' planning and preparedness activities by providing a filter, or guide, for the extensive array of existing resources, templates, PowerPoints, and case studies.

The Guide was developed after a set of interviews and discussions with local and state stakeholders. The Guide was designed to create a quick and customized planning aide tailored to each LHD's specific interests and needs. Based on individual responses to a short series of questions, the Guide provides links to population-specific resources and tools to help LHDs work with vulnerable population groups to build or maintain partnerships. The tips and resources contained in the Guide provide information related to:

- Identifying Vulnerable and At-Risk Populations
- Planning for Vulnerable and At-Risk Populations
- Building Community Partnerships

Custom maps further help to illustrate each jurisdiction’s vulnerable populations at the census tract level. The automated guide allows LHDs instant feedback, thereby decreasing lag time to find information useful to planning and preparedness activities.

Social Vulnerability Index (SVI)

To help provide a framework to assist planning, the Social Vulnerability Index (SVI) is intended to spatially identify socially vulnerable populations, to more completely understand the risk of hazards to these populations, and to aid in mitigating, preparing for, responding to, and recovering from that risk.

The SVI originated through a collaboration among CDC’s National Center for Environmental Health, Coordinating Office for Terrorism Preparedness and Emergency Response (COTPER), and the Agency for Toxic Substances and Disease Registry's Geospatial Research, Analysis, and Services Program (GRASP) to produce a social vulnerability index with the intent to help state, local, and tribal disaster management officials identify the locations of their most vulnerable populations [2].

This index is divided across four domains to calculate vulnerability measures within and across these domains at the census tract level:

- **Socioeconomic Status**
  - Income, Poverty, Employment, Education
  - The socioeconomic domain includes:
    1) percent of individuals below poverty;
    2) percent unemployed;
    3) per capita income; and
    4) percent of persons with no high school diploma.

- **Household Composition/Disability**
  - Age, Dependency, Disability, Single-Parenting
  - The personal and household domain includes:
    1) percent of persons 65 years of age or older;
    2) percent of persons 17 years of age or younger;
    3) percent of persons more than 5 years old with disability; and
    4) percent of single-parent households, with children under 18.

- **Minority Status & Language**
  - Minority Status, Non-English Speaking
  - The race and ethnicity domain includes:
    1) percent minority; and
    2) percent of persons 5 years of age or older who speak English “less than well.”

- **Housing & Transportation**
  - Housing, Crowding, Transportation
  - The housing and transportation domain includes:
    1) percent multi-unit structures;
    2) percent mobile homes;
    3) crowding;
    4) no vehicle available; and
    5) percent of persons in group quarters.
The SVI divides 15 census variables across these four domains. When combined, they provide an overall summary of varying social vulnerability in a total composite value. Each tract is ranked according to its level of vulnerability in comparison to the average across the state. Those areas with more vulnerable populations are indicated by the darker color and those less vulnerable (in comparison to the state average) are lighter in color.

The information contained in the SVI can help LHDs identify hard-to-reach, underserved population groups in your service delivery area, their general location, and possible contact points in their communities. The SVI can be used to help create a profile of your county’s most populated vulnerable groups to help you move forward with your preparedness planning and activities.

This guide is designed primarily for individuals at local health departments and agencies who may find this information useful, including planners, preparedness coordinators, and public health personnel interested in identifying, engaging, communicating with, and providing services to vulnerable and at-risk populations during public health emergencies.

How to Get Your Report

1) Go to the online Vulnerable & At-Risk Populations Resource Guide at: http://cphp.sph.unc.edu/ncperrc/guide.html
2) Read through and answer the short questionnaire
3) Receive your custom report, including links to resources and tips, as well as your local SVI maps

Note: Once you close the report window in your browser, you will not be able to go back to it without starting the Guide over and creating a new report.

Be sure to enter your email address to receive an electronic copy of your custom report, with active hyperlinks to your resources.

Feedback and Comments

Any feedback, suggestions, recommendations, as well as additional resources and examples that might enhance and/or improve this online resource guide are welcomed. Send us an email at NCPERRC@unc.edu or call (919) 966-0341.

Conclusions

This work contributes to efforts to improve services and address public health preparedness planning and training as they relate to vulnerable and at-risk populations. While LHDs have an important role in leading at-risk population initiatives, it must be recognized that LHDs cannot do it alone. The success of at-risk populations planning largely depends on the strength of partnerships with members of vulnerable populations and the organizations that serve them. Ultimately, LHDs must decide how to define, identify, contact, and prepare at-risk populations in their communities.

References

   Available at: http://www.bepress.com/jhsem/vol8/iss1/3
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