



A MULTI-LEVEL APPROACH TO NURSING RESEARCH ON
EMERGENCY PREPAREDNESS AND DISASTER MANAGEMENT TO
ADDRESS THE NEEDS OF VULNERABLE POPULATIONS

Joan Valas, PhD, RN, ACNP-BC
Post-Doctoral Research Fellow
Center for Health Disparities Research
University of Pennsylvania School of Nursing
and
NJ 1 DMAT NP/SNS



Objectives

- Describe the social forces that predispose groups of people to be more vulnerable than others to the impact of disasters
- Describe interdependent levels of analysis at which disasters and determinants of health impact may be broadly understood
- Recognize the impact of the multi-level approach to nursing research in addressing the needs of diverse populations during a disaster or emergency



5 Minute Exercise

- Pick a group spokesperson at your table
- Discuss among your table – what vulnerable groups might live in your surrounding community
- Do you think you know how to locate/contact them in an emergency?
- Write them on paper provided
- Spokesperson will read vulnerable groups and if groups know how to locate/contact

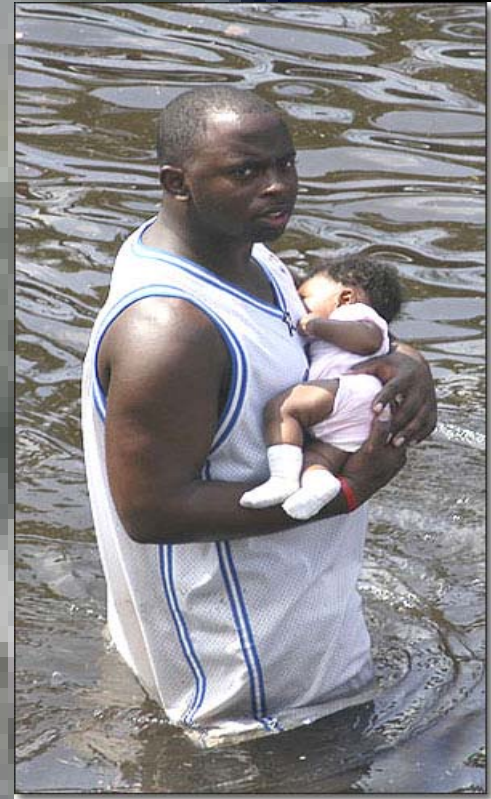


Who ?

- Is Vulnerable?
 - At-Risk?
- Have Special Needs?









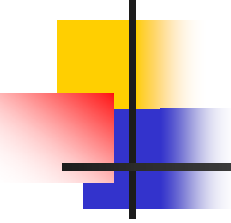
Vulnerable Groups, At-Risk Individuals, Special Needs Populations

- Racial/Ethnic Minorities
- Seniors and/or frail elderly
- Low income
- Children
- Child-bearing Women
- Homeless
- Chemically dependent
- Chronically III
- Prisoners, Ex-convicts, registered offenders
- Disabled
- Mentally III
- Transient (tourists)



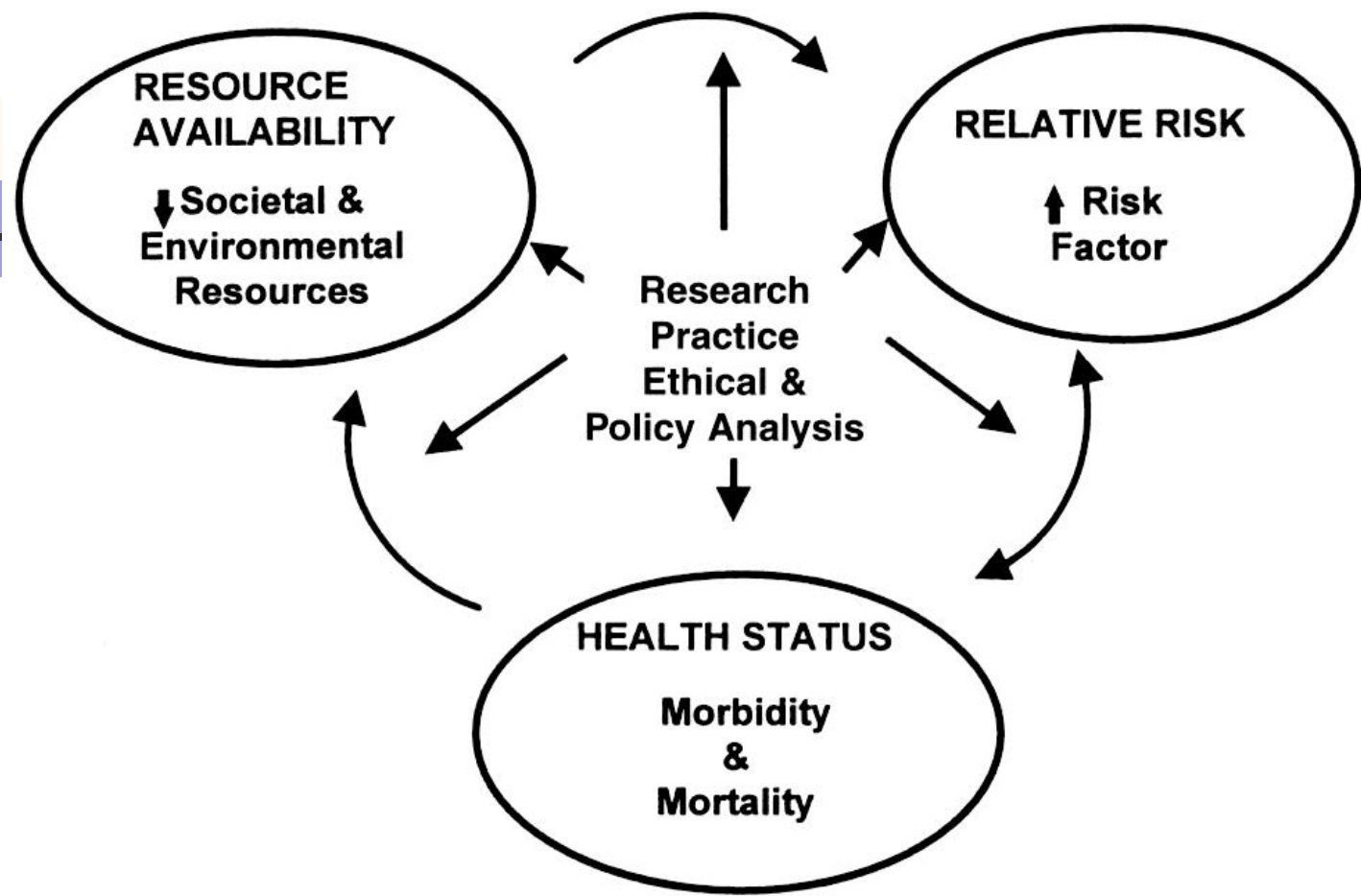
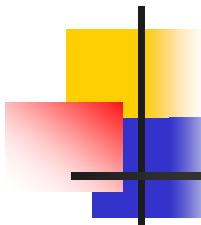
Approaches to the Research

How do we talk about this?



Models of Vulnerability and Models to Study the Vulnerable

It's not just about the who
It's also about the how



Vulnerable Populations Conceptual Model for Research and Practice
Flaskerud: Nursing Research 47(2), March/April 1998, 69-78.



First Relationship

- Resource Availability
 - Socioeconomic and environmental



Second Relationship

- Relative Risk and Health Status
 - Increased exposures lead to increased morbidity and mortality
 - This may lead to further risk factors



Third Relationship

- Health Status and Resource Availability
 - Morbidity and mortality feed back into resource availability and further deplete availability of resources

Pick your disaster





What are disasters?

- The usual definitions
 - Natural
 - Man-made
 - Terrorism



What are disasters? The Not-So-Usual

- Are both materially and socially constructed
- Experienced differently by different groups/individuals
- Occur at the intersection of nature and culture
- Are channeled and distributed within society according to political, social and economic practices



What social forces predispose groups of people to be more vulnerable than others to the impact of disasters?

- Poverty
- Race and Ethnicity
- Social Networks, Social Support, Social Capital
- Physical Limitations (Disabilities, Chronic Illness, etc)
- Gender

Tying things together

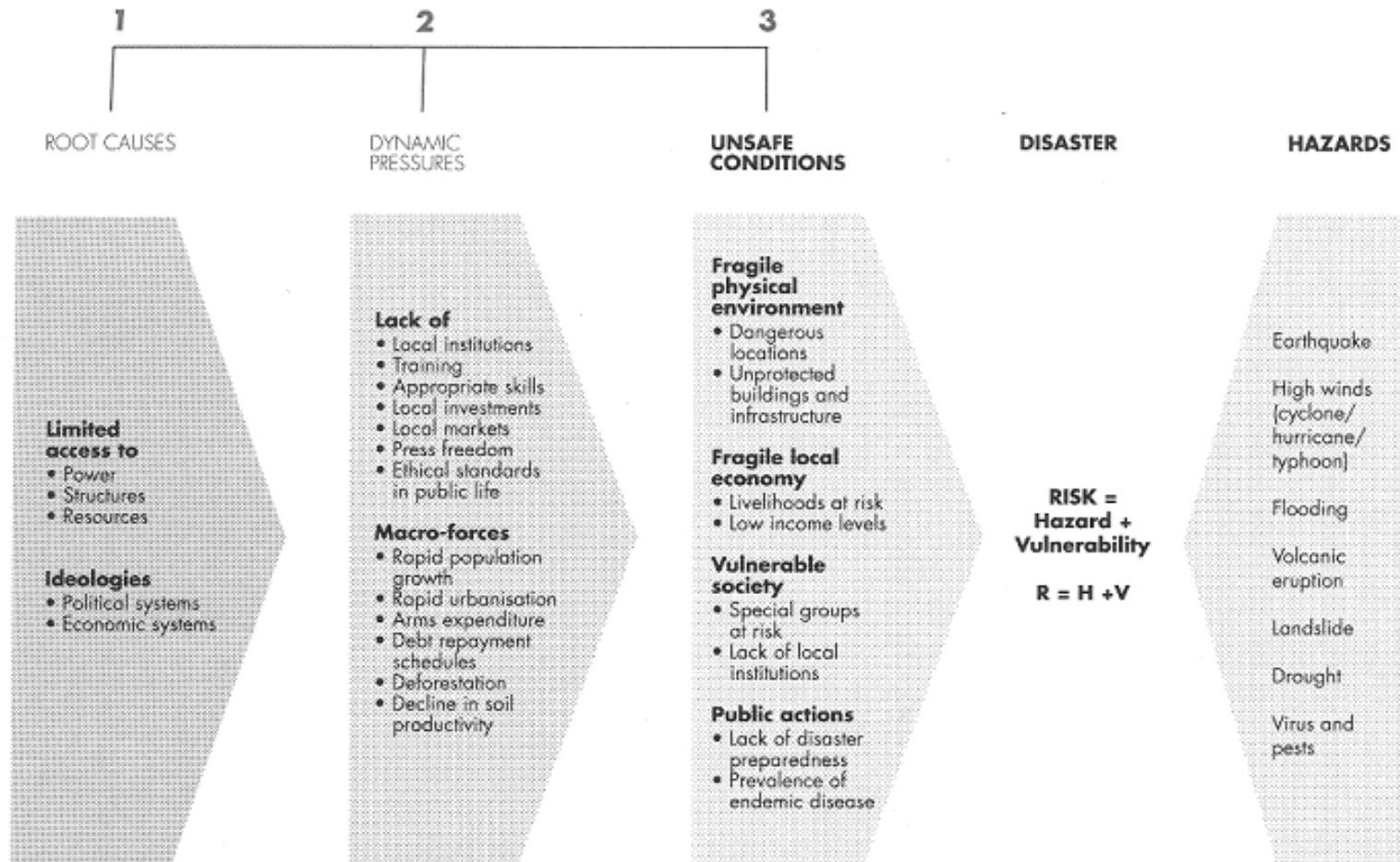




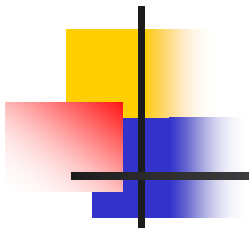
Pressure and Release (PAR) Model Blaikie et al. (1994)

- Disasters arise from some form of root causes that are historically and structurally embedded in the cultural fabric of society.
- Root causes include:
 - limited access to power structures, resources,
 - ideologies that maintain political and economic systems.

THE PROGRESSION OF VULNERABILITY



PAR-model after Blaikie et al. (1994:23)



The interdependent levels of analysis at which disasters and determinants of health impact may be broadly understood

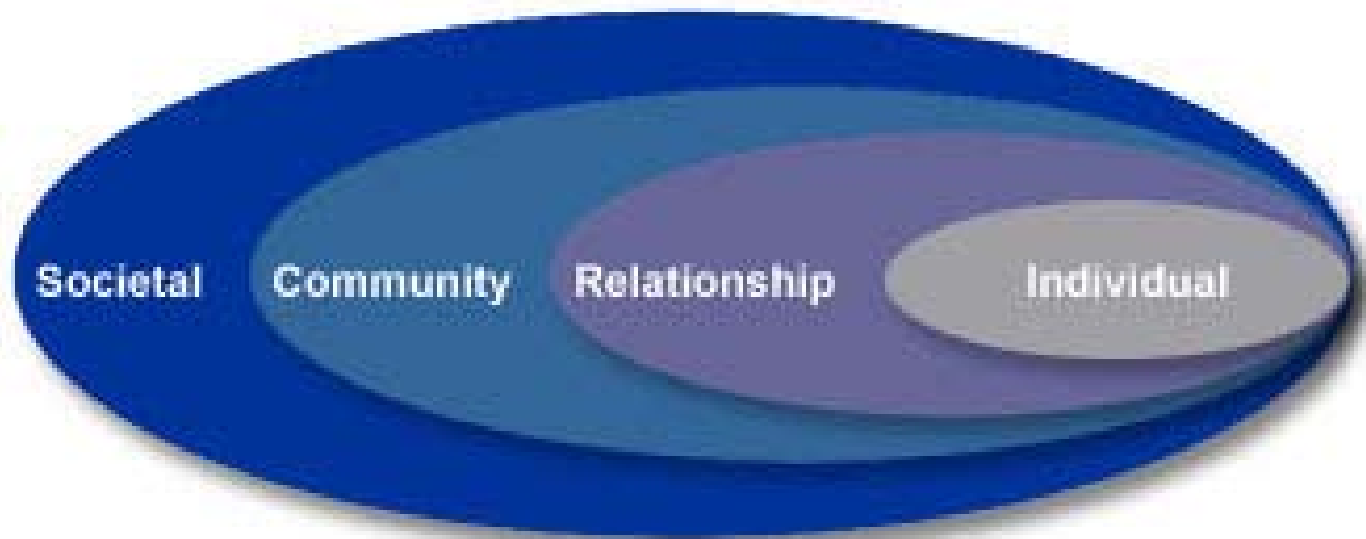


Levels of Analysis

- Ecological Models
- Multi-Level



The Social-Ecological Model



Source: Dahlberg LL, Krug EG. Violence-a global public health problem. In: Krug E, Dahlberg LL, Mercy JA, Zwi AB, Lozano R, eds. World Report on Violence and Health. Geneva, Switzerland: World Health Organization; 2002:1-56.

The Social Ecological Model



■ Individual

Identifies biological and personal

■ Relationship

Relationships with others

■ Community

The settings, such as schools, workplaces, and neighborhoods, in which social relationships occur

■ Societal

The broad societal factors that factors include social and cultural norms. Other large societal factors include the health, economic, educational and social policies that help to maintain economic or social inequalities between groups in society.

Multi-level Analysis



Social / Environmental

Behavioral/ Psychological

Organ Systems

Cellular

Molecular

Source: Anderson, NB. (1998) Levels of analysis in health science: A framework for integrating sociobehavioral and biomedical research. *Annals New York Academy of Sciences* 840:563-576.

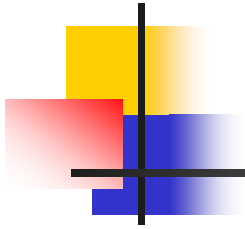
Some Indices of Various Levels of Analysis

Social/ Environmental	Behavioral/ Psychological	Organ Systems	Cellular	Molecular
Stressful life events	Emotion	Cardiovascular	Receptor number	DNA structure
Social support	Memory	Blood pressure		Proteins
Sociocultural groupings	Learning	Heart rate	Receptor sensitivity	mRNA
Economic resources	Diet	Ejection fraction	Cell number	tRNA
Family environment	Exercise	Occlusion	Dendritic branches	rRNA
Neighborhood characteristics	Smoking	Endocrine	Synapse number	Protooncogenes
Environmental stimulation and enrichment	Alcohol intake	Catecholamines	Cortical reorganization	Transcription factors
Environmental hazards	Drug abuse	Cortisol	Electrical conductance (e.g., cell firing)	Second messengers
	Perception	ACTH		Translation factors
	Stress appraisal and coping	GH		
	Language	Insulin		
	Personality	Immune		
	Aggression	Lymphocytes		
		Phagocytes		
		Cytokines		
		CNS		
		Evoked potentials		
		Cortical weight		
		Blood flow		
		Metabolic rate		
		ANS		
		SNS		
		PNS		

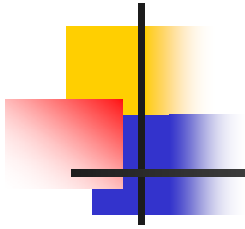


Other Approaches for Research

- Social Capital
- Social Justice
- Social Movements
- Community-Based Participatory
- Intersectionality Theory



Do these frameworks guide the research?



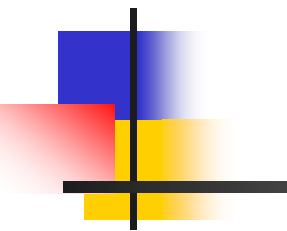
The impact of the multi-leveled approach to research in addressing the needs of diverse populations during a disaster or emergency



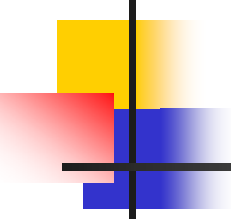
The Social and Cultural Dimensions of Disasters and Vulnerable Populations

- Individual
- Organizational
- Social
- Political

What research has been done?

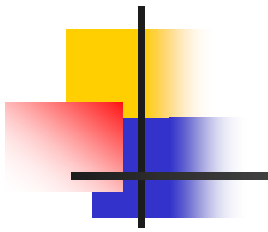


An integrative review of research published between January 2002 and January 2008 was carried out to examine the relationship between disasters and vulnerable populations. MEDLINE, CINAHL, and PsycINFO databases were searched using the MeSH terms disasters, natural disasters, terrorism, bioterrorism, emergency preparedness, crossed with vulnerable populations, special needs populations, at-risk populations.



The literature was then coded according to the type of disaster, a specific disaster event, on the basis of study objective, specific study population, significant findings and key implications. It was then further coded according to the level of analysis

Coding According to Level of Analysis



Level of Analysis	Journal Article	Vulnerable Group
Individual		
Organizational		
Social		
Political		



Findings

- Health service research
 - Service utilization
- Needs assessments
- Epidemiological
- Descriptive studies
- Few theory driven studies
- Vulnerable groups as a “convenience” sample



Implications for Research

- More focused research on specific vulnerable groups
- Multi-Level Analysis
 - Ethnographic, case study able to provide detailed accounts, have explanatory power to disentangle complex phenomena surrounding disasters and vulnerable populations