

The Influence of Organizational Jurisdiction, Organizational Attributes, and Training Measures on Perceptions of Public Health Preparedness in Alberta

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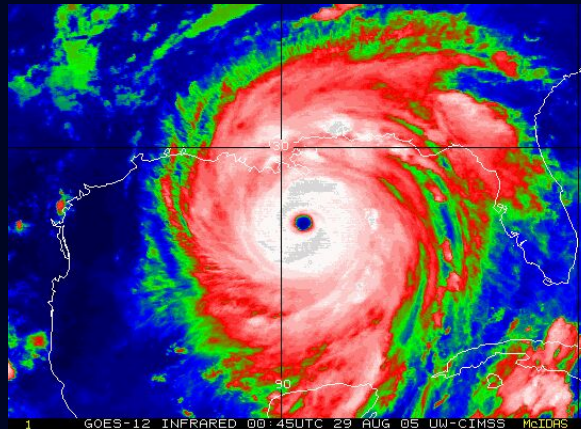
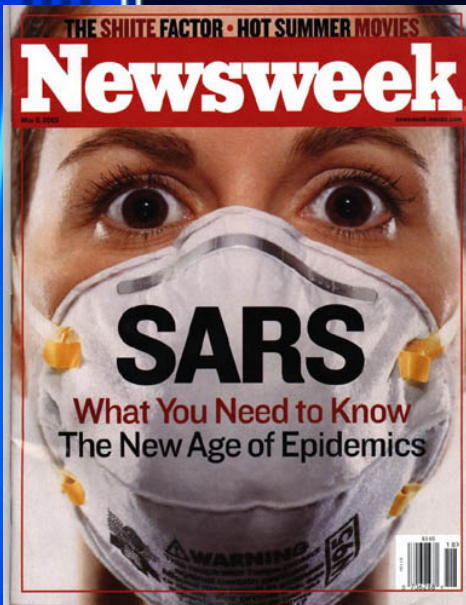
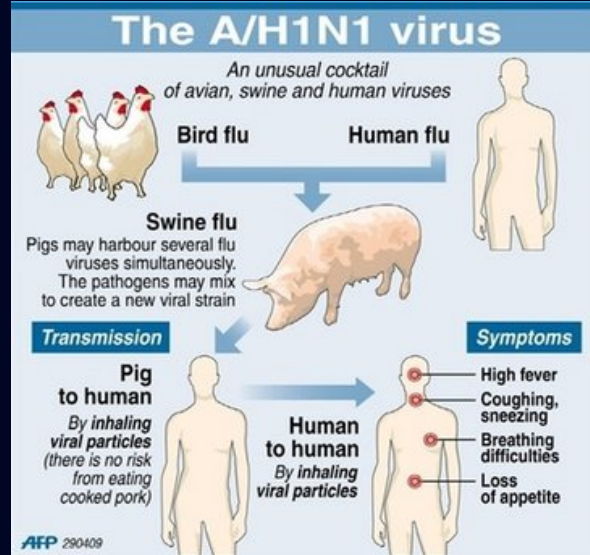
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Outline

- Background
- Research Objective
- Research Questions
- Study Design
- Results
- Conclusions
- Implications for Policy and Practice

Public Health Threats



Public Health Preparedness

- Multifaceted planning process designed to protect communities by coordinating and integrating activities to strengthen the ability to prevent, respond to, and recover from major events such as natural disasters, acts of terrorism, infectious disease outbreaks, or other manmade disasters, particularly whose scale, timing, or unpredictability threatens to overwhelm routine capabilities
- Limited knowledge exists on the correlates of organizational- and system-level public health preparedness

Preparedness in Canada

- Asch *et al.* (2005) found 27 published population-based instruments for planning or evaluating preparedness (government, private enterprise, professional associations); two available in the peer-reviewed literature
- Lack of standardized measures and metrics

Research Objective

- To examine how different aspects of public health preparedness relate to specific organizational characteristics in the province of Alberta, Canada

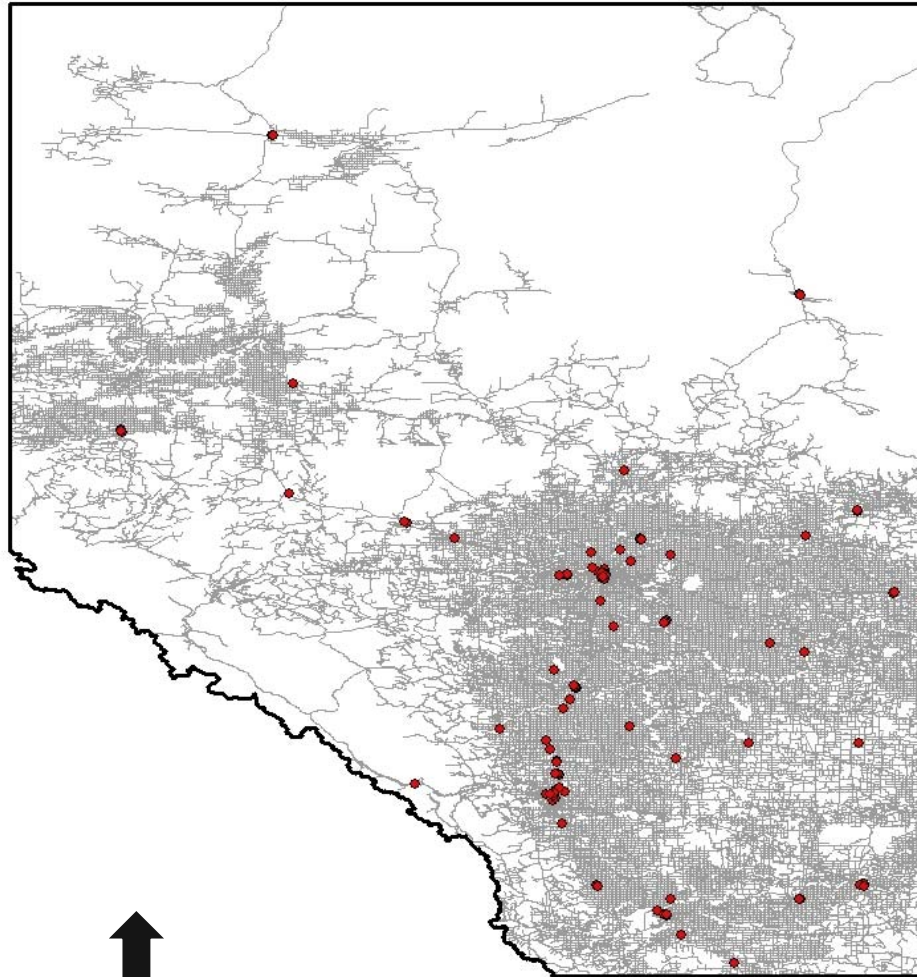
Research Questions

1. What is the association between perceived human and material resources preparedness and organizational elements, such as size, training opportunities, and jurisdiction?
2. What is the association between perceived informational needs and these same organizational elements?
3. What is the association between whether or not an organization exercised its public health response plan in 2006 and these organizational elements?

Organizational Survey

- Online questionnaire
- Conducted between Nov 2007 and April 2008
- Stratified random sampling technique
- 125 organizations geographically spread across four jurisdictional levels (provincial, regional, city, and town/village)
- Respondents described organizational attributes, training opportunities, and perceptions of organizational preparedness

AHFMR - Alberta Respondents



0 75 150 300 Kilometers

- Respondents
- Roadway

Dependent Variables

- Subjective Measures (via Factor Analysis)
 1. Perceived Human and Material Resources Preparedness
 2. Perceived Informational Needs Preparedness
- Objective Measure (via Logistic Regression)
 1. Dichotomous Indicator of Whether Written Emergency Response Plan Exercised in Practice or Real Situation in 2006

Human and Material Resources Measure

Availability of ...

1. Personnel trained in public health
2. Personnel trained in emergency management
3. Training programs for staff
4. Technology and equipment for public health preparedness/emergency management

Informational Needs Measure

Availability of ...

1. Regional activities related to public health preparedness
2. Other organizations' public health preparedness activities in the area
3. Provincial activities related to public health preparedness
4. Availability of information on provincial sources of funding

Independent Variables

- Attributes
 - Jurisdictional Level
 - Principal Focus
 - Year of Establishment
 - Employee and Volunteer Numbers
- Training
 - Needs Assessment (knowledge, skills, abilities)
 - Exercises or Courses
 - Agency-Specific Job Descriptions

Descriptive Statistics

Variable	Percentage
Organizational Principal Area of Focus	
- Emergency Management (EM)	37.60%
- Public Health Preparedness (PHP)	4.80%
- EM/PHP	21.60%
- Other	36.00%
Jurisdictional Level of Organizations	
- Provincial	22.40%
- Regional	19.20%
- City	24.00%
- Town/Village	34.40%
Exercised Preparedness Plan in 2006	48.15%

Variable	Mean (Standard Deviation)
Organizational Size	
- Employees	12.52 (34.53)
- Volunteers	13.19 (46.26)
Annual Budget	\$656,510 ((\$2,593,850))

Statistical Analysis

- Multiple linear and logistic regression
- Test association of the three preparedness outcomes with organizational characteristics

Results

- Training opportunities associated with perceived human and material resources preparedness
- Organizational size associated with perceived information needs preparedness
- Organizational jurisdiction associated with whether organization has exercised their written preparedness plan

Training Opportunities

- Accessible and effective training programmes in a number of formats for staff are essential for maintaining a public health system capable of responding to contemporary public health threats
- Inadequate training is a barrier to improving levels of preparedness

Informational Needs

- Essential that adequate personnel are available to prepare for and manage the informational demands that arise at a time of an emergency
- Not having enough personnel dedicated to planning and responding to emergencies is a significant barrier to preparedness both within organizations and across jurisdictions

Exercising Preparedness Plan

- Smaller municipalities have primarily relied upon counties or regional network supports for disaster-related functions since higher jurisdictional levels are better prepared for managing emergencies (Florida)
- Few counties, cities, or towns have the capacity to respond to public health emergencies independently (US)
- Develop formal relationships with other organizations outside the jurisdiction to ensure services are available if needed

Conclusions

- Organizational characteristics associated with different dimensions of preparedness
- Consideration of range of organizational attributes necessary
- Little is known comparatively about how prepared organizations either view themselves or are in terms of objective markers
- Important step towards building a standardized preparedness metric and linking it to different organizational characteristics

Implications for Policy and Practice

- Measures that reliably assess system strengths and weaknesses are necessary to bring about changes to improve system weaknesses before they become a liability during a disaster or other public health event
- Development and use of such indicators to assess overall system preparedness as well as levels of preparedness would help address a gap in the current public health emergency surveillance and response system

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