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Coastal Impact Public Health: At-Risk Populations (PHS)

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Delimiting Populations Vulnerable to Storm Surge

The Problem:

1. Develop an emergency management registry for the medically fragile defined by physicians

   - Level 1 (High Priority)
     Patient requires uninterrupted health care
     Medical services required within 24 hours
   - Level 2 (Moderate Priority)
     Patient requires medical services within 48 hours
   - Level 3 (Lower Priority)
     Patient requires medical services within 1 week

2. Determine the magnitude and scope of the registry population

Identify the Vulnerable:

1. Medically Fragile: determination based on literature review (8%)
2. Ages 65+ and 75+ years
3. Other groups (poverty, race, etc.), social vulnerability index (SoVI)

Event Example:

1. A slow moving hurricane: category 4/5
Definition of the Medically Fragile¹:

**Insulin Diabetes Calculation**
(National Diabetes Information Clearinghouse of National Institute of Diabetes and Digestive and Kidney Diseases)
Estimated **1.96%**--in ENC **49,153**

**Chronic Obstructive Pulmonary Disease (COPD) Calculation**
(National Health Interview Surveys)
Estimated **3.89%**--in ENC **97,484**

**Long-term Treatment Calculation (LTOT) Calculation**
(National Health Interview Surveys)
Estimated **0.33%**--in ENC **8,377**

**End-Stage Renal Disease (ESRD) Calculation**
(Annual Data Report of the National Renal Data System)
Estimated **0.14%**--in ENC **3,511**

**Congestive Heart Failure Calculation**
(National Health and Nutrition Examination Survey)
Estimated **1.76%**--in ENC **44,138**

Estimated **8%**--in ENC **202,663** using 2,507,844 as base ENC population²

¹Appendix 1 from RENCI Coastal Impact on Public Health: At Risk Populations Regional Special Medical Needs Registry Proposal for Eastern North Carolina (12-18-07)
Percent of County Populations 65 Years and Older

2000

ENC Population GTE 65: 281,381 (11.8%)

2006

ENC Population GTE 65: 311,176 (12.1%)

2000 - 2006

ENC Pop. GTE 65 Change: 29,795 (+10.6%)

Data Sources: NC State Data Center
US Census Bureau
NC One Map

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Eastern North Carolina Counties:
Medically Fragile (0.08) Block Group PopulationsAffected by a Storm Surge
Generated by a Slow Moving Category 4 or 5 Hurricane

2006

ENC Population: 2,568,962
ENC Population Medically Fragile (0.08): 205,517

Surge Affected ENC Population: 398,169
Surge Affected ENC Medically Fragile (0.08): 31,853

Data Sources: NC State Data Center
US Census Bureau
NC OneMap