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# Evaluating Barriers to Health in Homebound Individuals

## A Collaboration with the Chittenden Emergency Food Shelf Homebound Delivery Program

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### Introduction

In Vermont, 14.4% of the population has one or more disability, with ambulatory disabilities comprising the majority<sup>1</sup>. Homebound seniors are frequently afflicted by multiple comorbid conditions. These conditions, such as hypertension and diabetes, can be worsened by food insecurity and lack of proper nutrient intake<sup>2,3</sup>. In Vermont, 10.9% of households reported food insecurity in 2007 and 62% of Vermonters reported some barrier to providing nutritious foods to themselves or their families<sup>4</sup>. In order to relieve some of the food insecurity faced by homebound individuals in Vermont, the Chittenden Emergency Food Shelf (CEFS) Homebound Delivery Program (HDP) currently serves 130 individuals, providing one week's worth of groceries to them each month. The aim of this project was to learn more about the homebound population served by the CEFS in order to better meet the needs of these individuals.

### Methods

#### Demographics:

	Number of Participants (n=35)	Percentage
<b>Gender</b>		
Male	9	25.7
Female	13	37.1
No Data	13	37.1
<b>Age</b>		
<45	2	5.7
45-60	9	25.7
61-75	18	51.4
>75	6	17.1
<b>Education</b>		
No High School	9	25.7
Some High School	6	17.1
High School Grad	11	31.4
Some College	4	11.4
College Degree	5	14.3
<b>Ethnicity</b>		
Caucasian	34	97.1
African American	1	2.9
<b>Smoking status</b>		
Yes	8	22.9
No	23	65.7
No Data	4	11.4
<b>Drinking status</b>		
Yes	3	8.6
No	28	80
No Data	4	11.4

#### Survey:

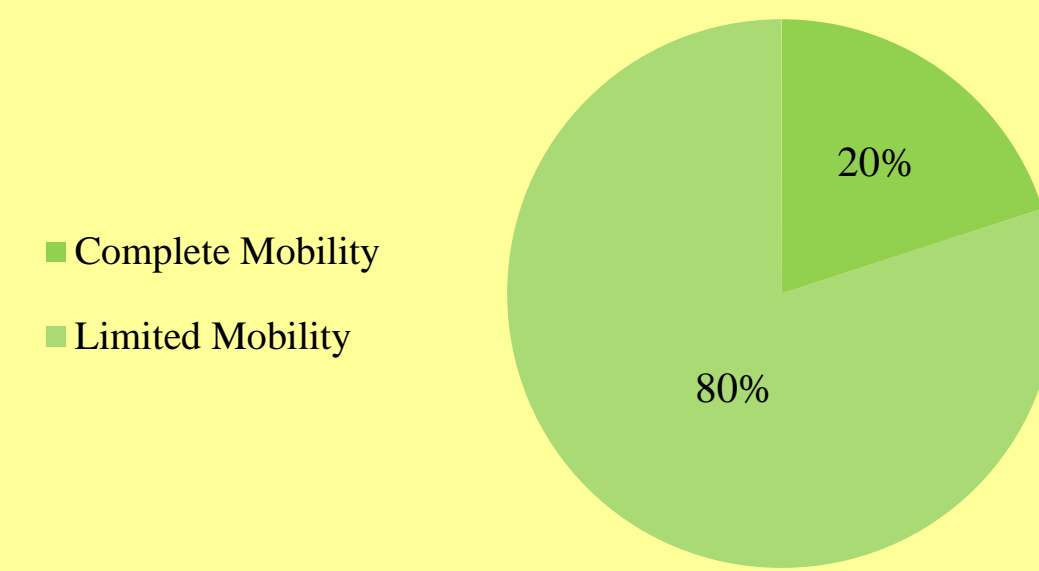
- A survey was conducted via telephone (n=26) and in-person interviews (n=9)
- 35 multiple choice questions assessed demographics, satisfaction of the program, mobility constraints, health care access and health status
- Data was analyzed with two-tailed Fisher exact tests using 2012 GraphPad Software.

#### Detailed Interviews:

- Two individuals were re-interviewed in-person to gather qualitative perspectives on their lives and experiences with the program

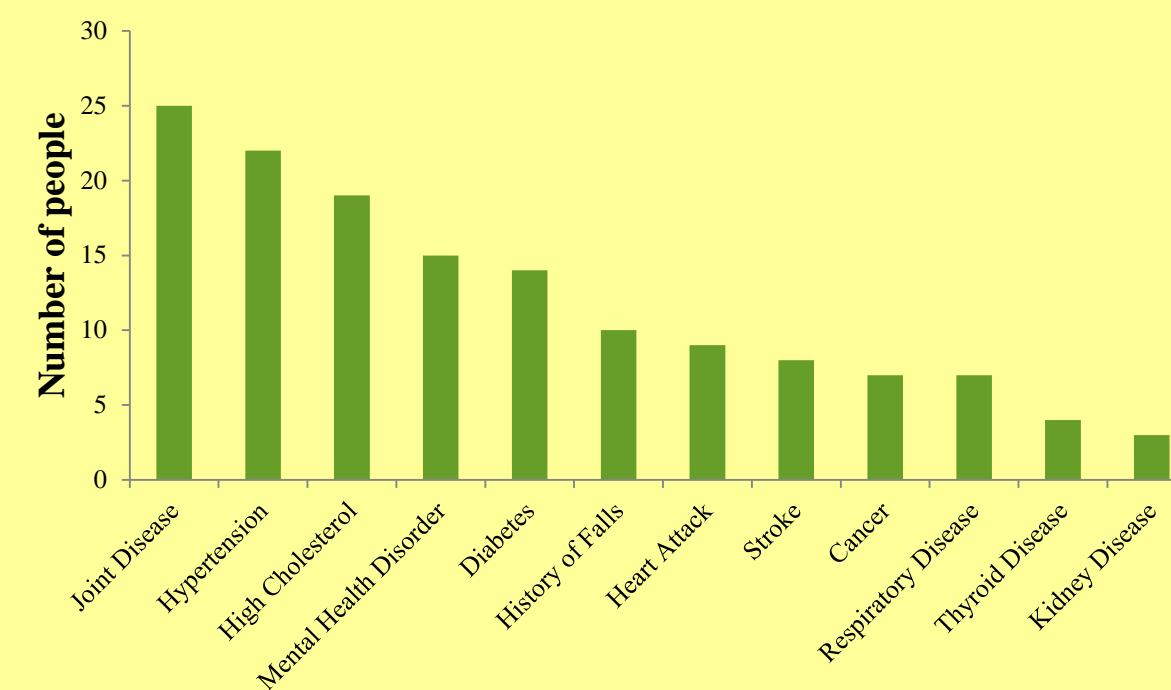
### Results

#### How Mobile Are You?

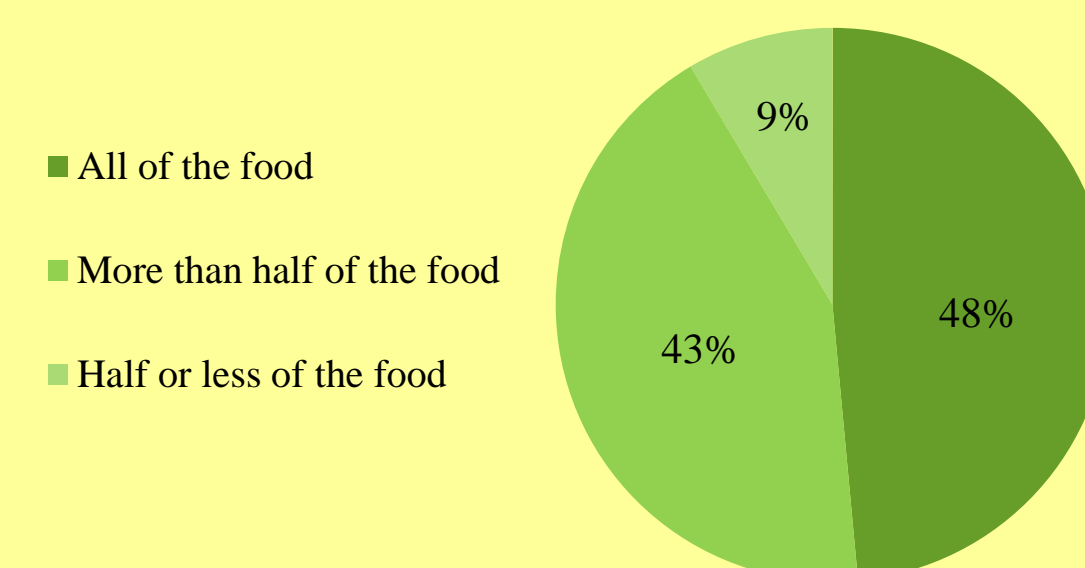


- The most common mobility limitation reported was difficulty walking around the house

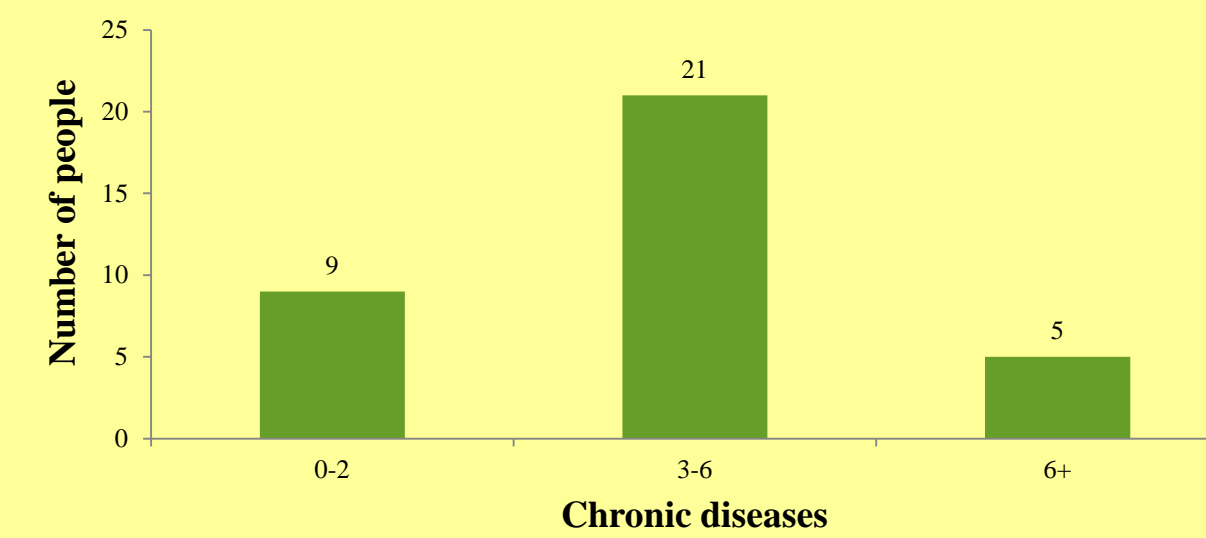
#### Burden of Chronic Disease



#### How much of the food you receive each month do you eat?



#### Prevalence of Chronic Disease in Homebound Program



- 66% of those surveyed reported living alone
- 100% of respondents had insurance with 91% being enrolled in either Medicare or Medicaid
- 63% of those with greater than 5 chronic illnesses stated a preference for pre-packaged food



**"I started working with the food shelf a few years back. They were a great help. Without them I don't think that I could survive. Because with the little income I get, social security is not that much, and my rent goes up...it's a great help. Whatever they bring me I use."**

**Diane, 87  
 Burlington, VT**

### Discussion

- Our population study included only 35 people, therefore the power was not large enough to produce significant comparisons between groups; however, general trends were noted, especially in the between the categories of age, number of chronic illnesses, and preference for pre-packaged meals over groceries
- Younger respondents ( $\leq 60$ ) held a stronger preference for prepackaged meals than did those over 60 (72% vs. 42%,  $p=0.15$ )
- 11% were referred to the HDP from a physician, while 71% discovered it through the food shelf or friends
- Overall satisfaction with the program was excellent
- Although the HDP is targeted toward homebound individuals, 20% of respondents categorized themselves as "completely mobile"
- Despite the average respondent reporting over four chronic medical conditions, 66% self-reported average to above-average health
- Participants tend to be connected to a number of other community organizations, such as 3SquaresVT, VNA, Meals on Wheels, and the Champlain Housing Trust
- Lack of health insurance does not appear to be a barrier to health in this population

### Conclusions

The majority of participants heard about the program through friends or the food shelf, suggesting that there could be a role for health care providers to vastly expand the homebound population served, assuming available resources and funding. Given the satisfaction and success with the program, the Chittenden Emergency Food Shelf Homebound Delivery Program serves as a model for addressing food insecurity in the homebound population.

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