

Screening for Alzheimer's Disease in Vermont Primary Care Practice

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Introduction

- Alzheimer's Disease (AD) is a form of progressive dementia that affects 5.3 million Americans and is the sixth leading cause of death in the US.
- Age is a major risk factor for disease, and 1 in 8 Americans over 65 can expect to develop AD.
- The U.S. healthcare system spends \$172 billion/year on patients with AD and dementia, more than half of the Medicare budget. This cost is estimated to increase to over \$1 trillion by 2050.
- In 2003, the US Preventative Services Task Force (USPSTF) concluded that screening older adults for dementia is ineffective due to insufficient means of preventing or slowing its progression.
- In 2011, the National Institute on Aging published new diagnostic criteria for AD.
- In accordance with these guidelines the Centers for Medicare and Medicaid Services released rules for the new Annual Wellness Visit that include the detection of cognitive impairment.
- Our goal was to identify the attitudes and practices of primary care physicians (PCPs) in Vermont (VT) related to screening for AD and dementia.

Methods

Survey:

- A survey was distributed to 280 PCPs throughout VT by email or fax; 63 surveys were completed.
- 19 multiple choice questions assessed practices and attitudes relating to the screening, early detection, and diagnosis of AD and dementia.
- Data was analyzed using Microsoft Excel.

Focus Group:

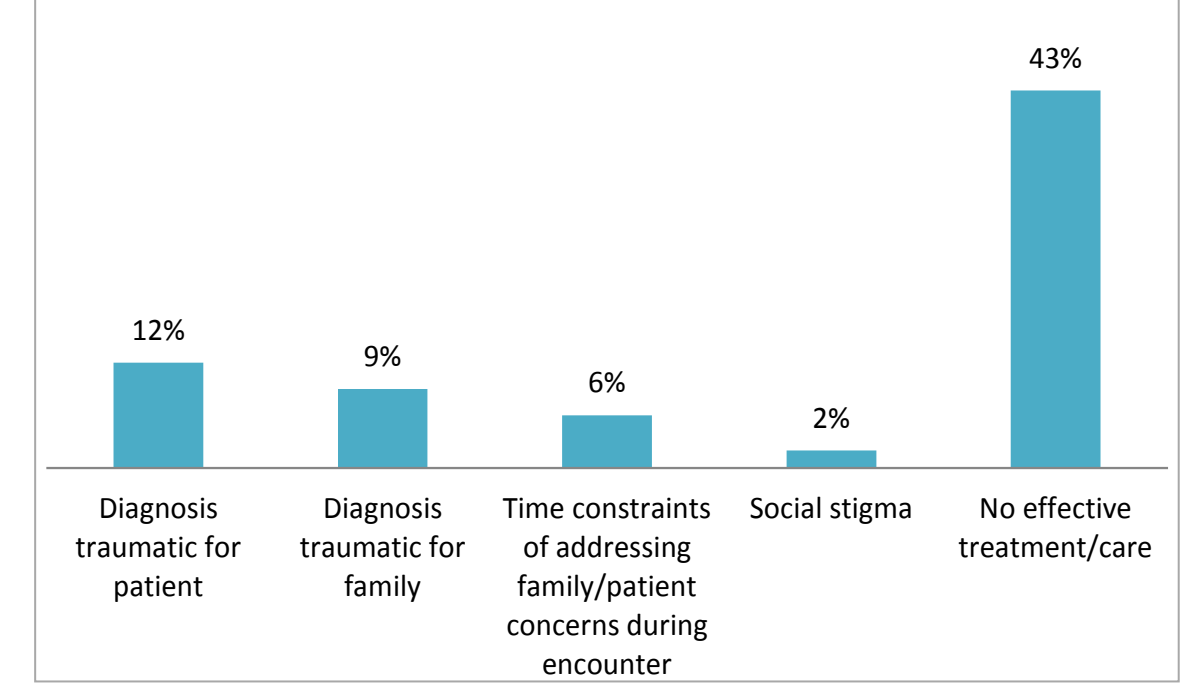
- Patients with AD and other forms of dementia, and their caregivers, attended a 2-hour focus group.
- 13 participants provided their perspectives on the benefit and/or harm of early detection of AD and dementia and shared their personal experiences.

Results



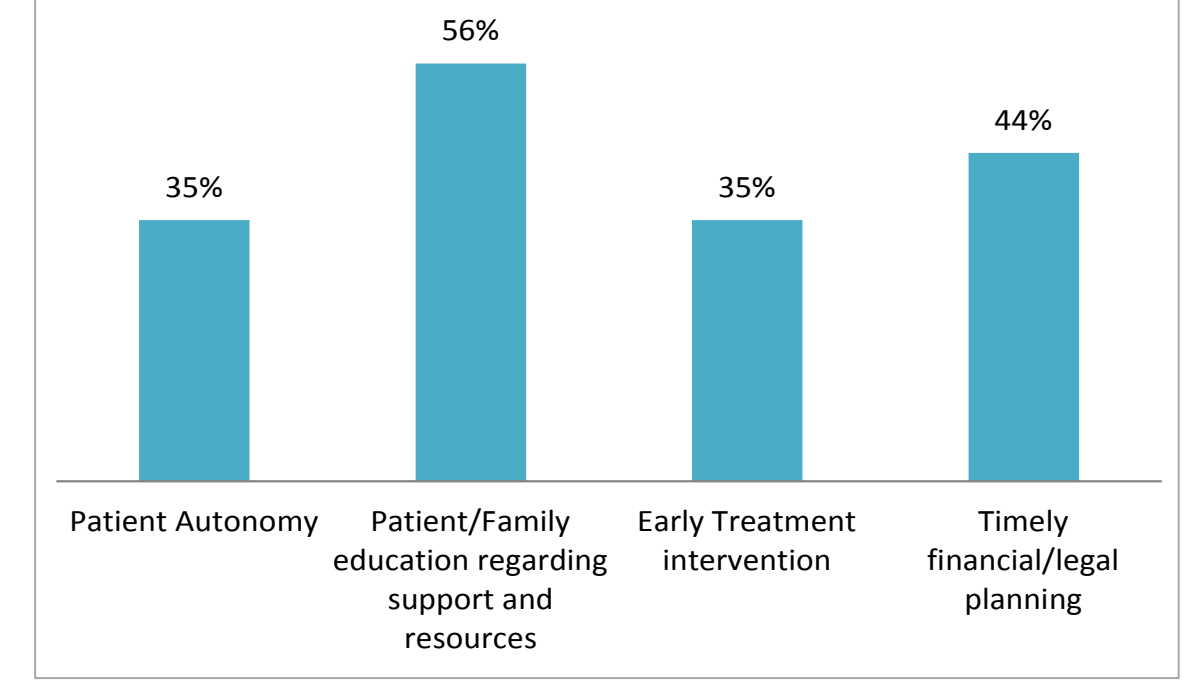
“The medical establishment doesn't think it makes a difference in terms of medication, but it makes a difference to the patient. I didn't know what was wrong, and that was scary. Having the diagnosis was a big help for me, personally.”
 - Focus Group Participant

Physician reported reasons why early detection of AD is *not* important*



*Participants could select more than one answer

Physician reported reasons why early detection of AD is important *

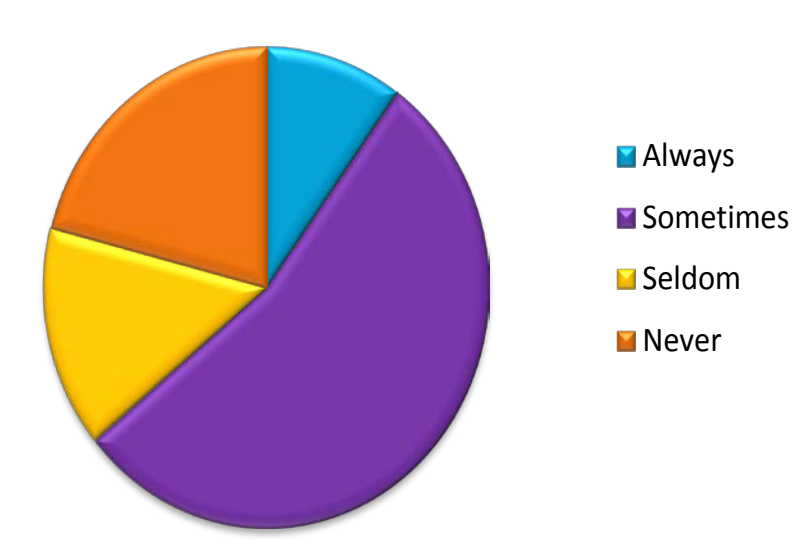


*Participants could select more than one answer

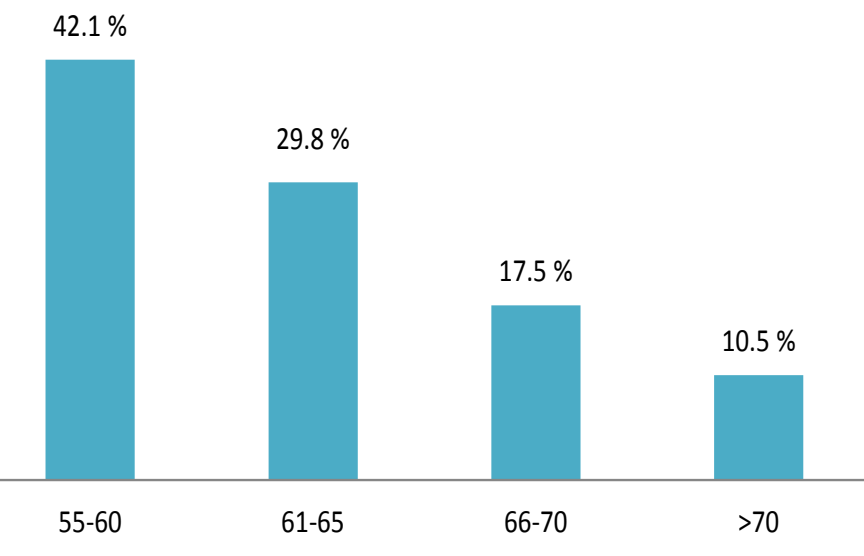


“Even if they don't have a lot of medication for me, I can make a new normal. Adjusting to that is what I need to do, not focus on what I can't do....One piece of information can make the difference in a family's whole life”
 - Focus Group Participant

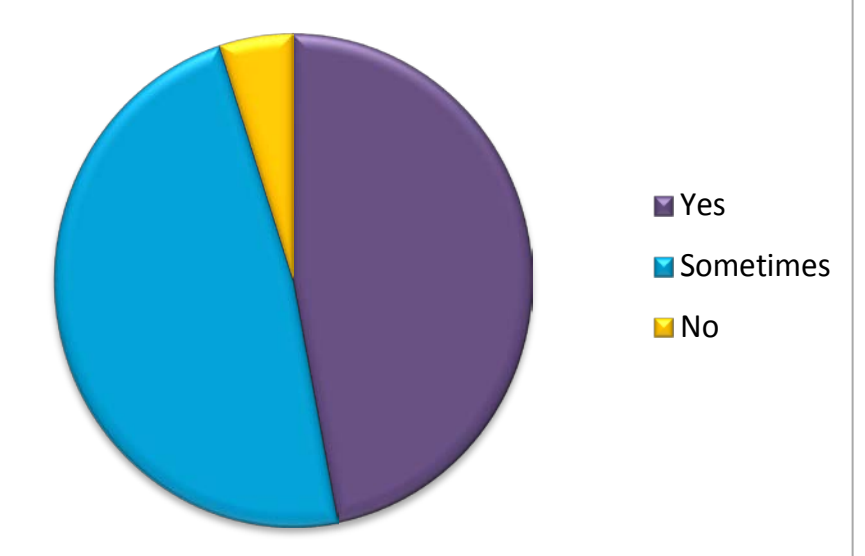
Tendency of physicians to screen older patients for AD during their annual wellness visit



Age of patient at which physicians first consider a clinical diagnosis of AD



Do you encourage family members to attend encounters with your elderly patients?



Discussion

- 78% of PCPs believe that there are reasons why early detection of AD is not important; of those, 87% cite no effective treatment or cure as the main reason. Those 94% of PCPs who think that it can be important believe that the most important reason for early detection is to provide support and resources for the patient and family.
- Focus group members felt that regardless of a cure, a diagnosis is essential in order to learn about and find ways to live happily with their disease, and stressed the importance of an early diagnosis in initiating support groups and family planning.
- While the most common reason why physicians don't always screen for AD is due to other medical issues that are more pressing, caregivers and patients believe that cognitive status should be addressed in every appointment because it's an everyday struggle.

Conclusion

- The USPSTF statement that there is insufficient evidence to recommend routine screening for dementia has caused controversy in the medical community.
- We have found that PCPs in VT are reluctant to routinely screen for AD and dementia, in large part due to the perception that early diagnosis of AD in the absence of a cure serves no purpose.
- Our interactions with patients and their caregivers taught us that experiencing cognitive decline without a diagnosis is extraordinarily distressing; the diagnosis itself facilitates acceptance of a “new normal” and enables adaptation to life with AD or other dementia.
- We conclude that screening and early intervention for AD and dementia are extremely important. We encourage PCPs to be proactive in screening so that patients can plan, and maintain quality of life, prior to the onset of late-stage disease.

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Breathing Easy:

Lung Health and Associated Conditions in the Day Care Setting

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Introduction

Air pollutants are associated with many health risks. Children in the day care environment are uniquely susceptible to lung damage, infection, systemic illness & pollutant triggered hypersensitivity reactions. The latest public report by the CDC reports Vermont's (VT) asthma rate is the highest in the country at 11.1%.^a This project compared VT's

day care regulations regarding specific environmental factors linked with health risks to regulations in six surrounding New England states. We sought to assess whether VT's regulations adequately protect children in day care.



Methods

Reviewed regulations on EPA-identified pollutants: CO, pesticides, radon, biological contaminants, asbestos, smoking, ventilation & volatile organic compounds (VOCs).^b

- Compared VT day care policies to surrounding New England states: CT, NH, ME, MA, RI, & NY.
- Made recommendations to improve VT day care regulations

Pesticides

- Used to eliminate rodents, insects, etc.
- Associated risks: damage to the central nervous system, liver, and respiratory tract
- Associated with certain types of cancers
- Triggers asthma



^c Current VT regulations restrict application methods and timing to limit children's exposure.

Recommendations For Vermont

Carbon Monoxide (CT, MA, NY)

- A detector on each floor
- Inspection of fossil fuel burning devices
- Prohibit use of portable heaters

Radon (CT, RI)

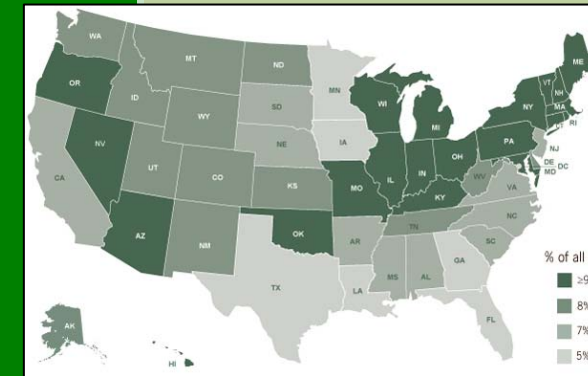
- Annual testing
- Maintain levels below 4 pCi/L

Pesticides (CT, NH, NY)

- Provide written notice of intended use to parents

Biological contaminants (CT, MA NH)

- Notify parents of pets on the premises ^c



2009 CDC Adult asthma levels ^f

VT meets or exceeds regional standards for:

- Asbestos,
- Smoking,
- Ventilation,
- Lead & VOCs.

Conclusions

Vermont either meets the standard or leads the way among other New England states in protecting the health of children in child care settings with regards to ventilation, smoking, asbestos, and volatile organic compounds. Vermont should consider the addition of mandatory radon testing, more comprehensive CO monitoring, and parental notification of pesticide use and the presence of animals to child care regulations. The addition of more extensive lead testing requirements, such as those in Massachusetts, would also be beneficial for protecting overall children's health.

Carbon Monoxide

- Odorless colorless gas produced by burning fossil fuels
- CO poisoning decreases oxygen delivery
- Long-term damage to central nervous system & heart



- VT fire codes require all buildings used for sleeping be equipped with one or more carbon monoxide detectors. Placement is not specified. No specific child care center regulation exists. ^c

Dust, Mold, Pet Dander



- Can cause shortness of breath, rashes, eczema, and induce asthma attacks even in otherwise healthy people.
- Common trigger of hypersensitivity reactions and asthma causing allergic rhinitis, urticaria and difficulty breathing. ^d

^e Current VT regulations state that conditions must be sanitary but do not address mold or pet allergen exposure.

Radon

- Colorless odorless gas formed in soil uranium breakdown
- VT levels rank in the highest EPA Category (2-4 pCi/L) ^e
- Number one cause of lung cancer in non-smokers ^e



^e VT does not currently have any regulations regarding radon testing, prevention, exposure or remediation.

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Should 16 Year-Olds Be Allowed to Donate Blood? A Vermont Perspective



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Introduction

Supplying adequate blood for transfusions is an ongoing challenge for blood collection agencies.¹ One potential source of increased Whole Blood (WB) supply is among 16-17 year-olds, whose donation rates are still quite low. In 2010, donors aged 16-18 years-old provided 14% of all WB collected by the American Red Cross.² Young donors may represent an opportunity to establish a committed, long-term blood donation base as they are more likely to return after first donation and donate at a higher yield rate than older donors.³ However, younger donors also have higher rates of adverse events during donation.⁴ Currently, 38 states allow 16 year-olds to donate blood with parental consent but Vermont is not among them.⁵

Our study examines the public's comfort with 16 year-olds donating blood. As blood donation is a voluntary system, ascertaining the perspective of the general population regarding this issue could contribute to a policy debate surrounding the minimum age of donation.

Methods

- An anonymous survey was distributed to 2000 adult blood donors from the American Red Cross Northern New England Blood Services Region (ARC).
- The mailing list included randomly selected Vermont residents, who had donated blood from 2009 – 2011.
- The survey contained 7 demographic questions and 15 statements addressing attitudes towards 16 year-olds donating blood.
- Statements were chosen to represent three domains regarding safety, autonomy, and benefit to society. Within each domain, a global statement was included to assess attitudes apart from blood donation.
- Survey statements were based on a 3-point Likert scale: Agree, Neutral, or Disagree.
- This study was approved by the UVM Office of Research Protections and ARC IRB.
- Chi-squared analysis was conducted for the statement “A 16 year-old should be allowed to donate blood.” Likert-scale responses were aggregated as averages within domains and reported with 95% CI. T-tests were used to compare sub-population domain score means.

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Survey Respondent Demographics

Table 1	% Total Responses
Gender (n=520)	
Male	39.8
Female	60.0
Other	0.2
Age, years (n=521)	
18-20	2.5
21-30	6.3
31-40	8.6
41-50	18.6
51-60	26.9
61+	37.0
Frequency of Donation, times per year (n=490)	
<2	12.0
2-4	76.5
4+	11.4
Report having children 16-17 y/o (n=519)	
Yes	9.4
No	90.6

Should 16 Year-Olds Be Allowed to Donate Blood?

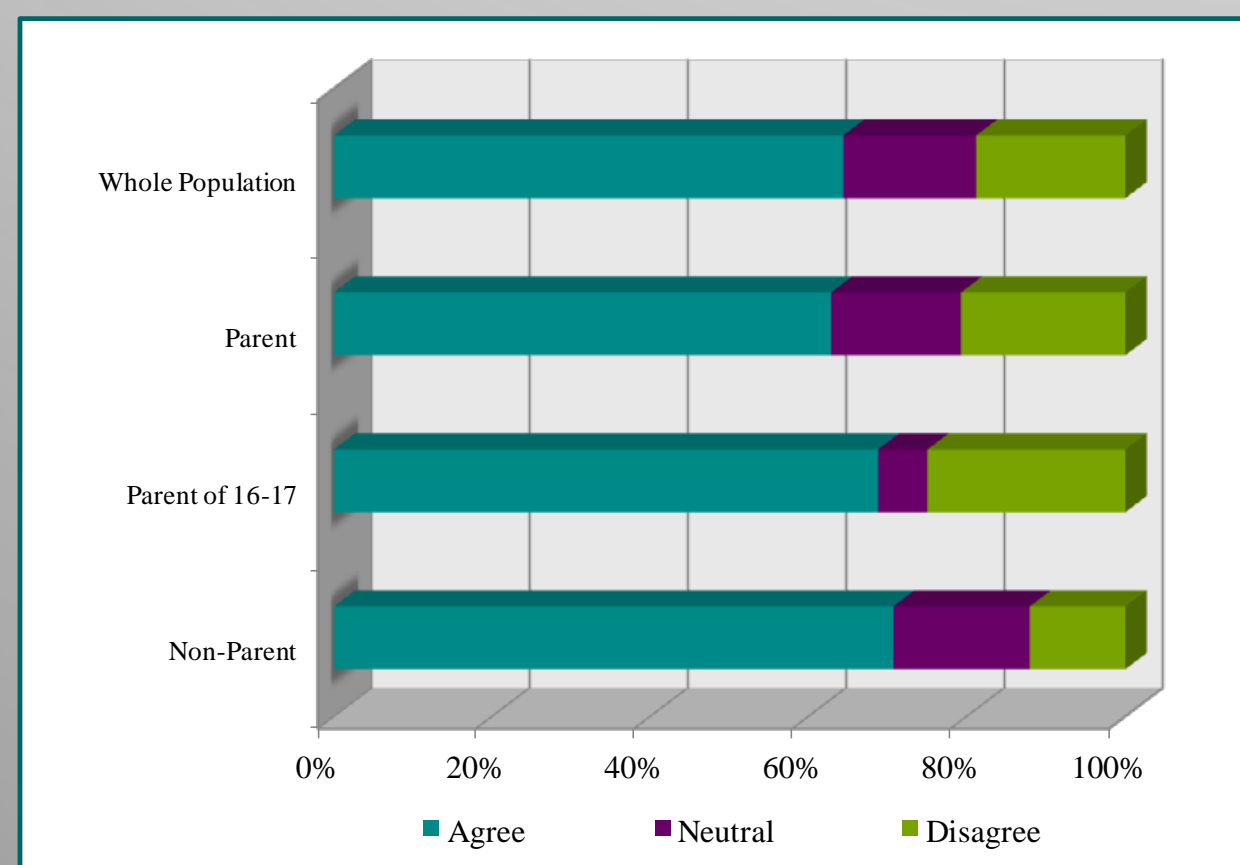


Figure 2: Responses to the statement “A 16 year-old should be allowed to donate blood” for all respondents and for three sub-groups: All Parents, Parents of 16-17 year-olds, and Non-Parents. The data shows that 62% of all respondents agreed with allowing 16 year-olds to donate blood, and the agreement amongst the sub-groups ranged from 62–70%.

Respondents by County

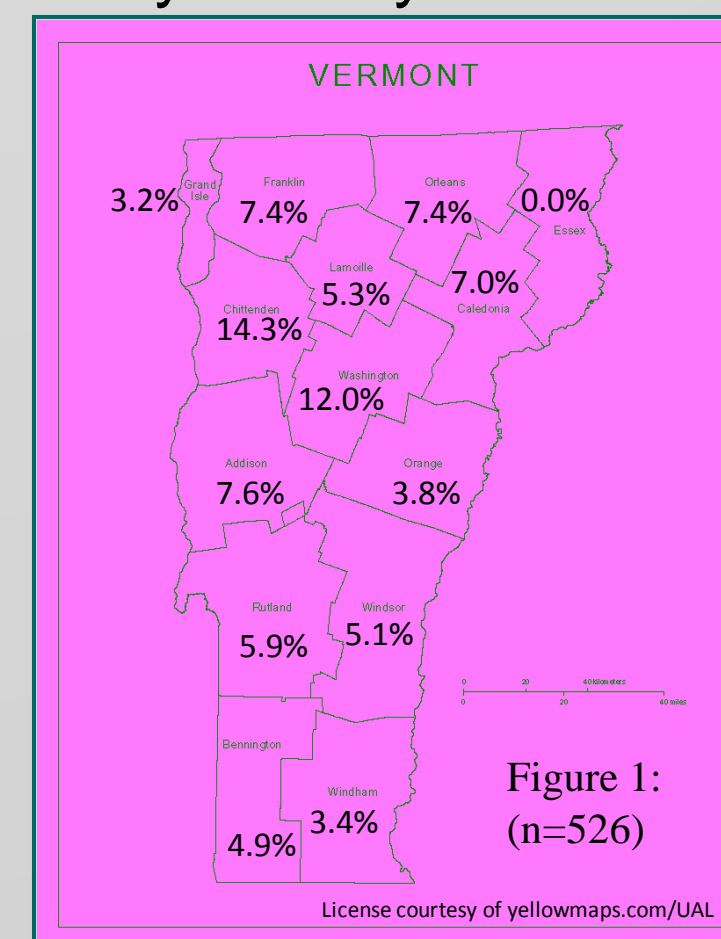


Figure 1: (n=526)

Domain Scores

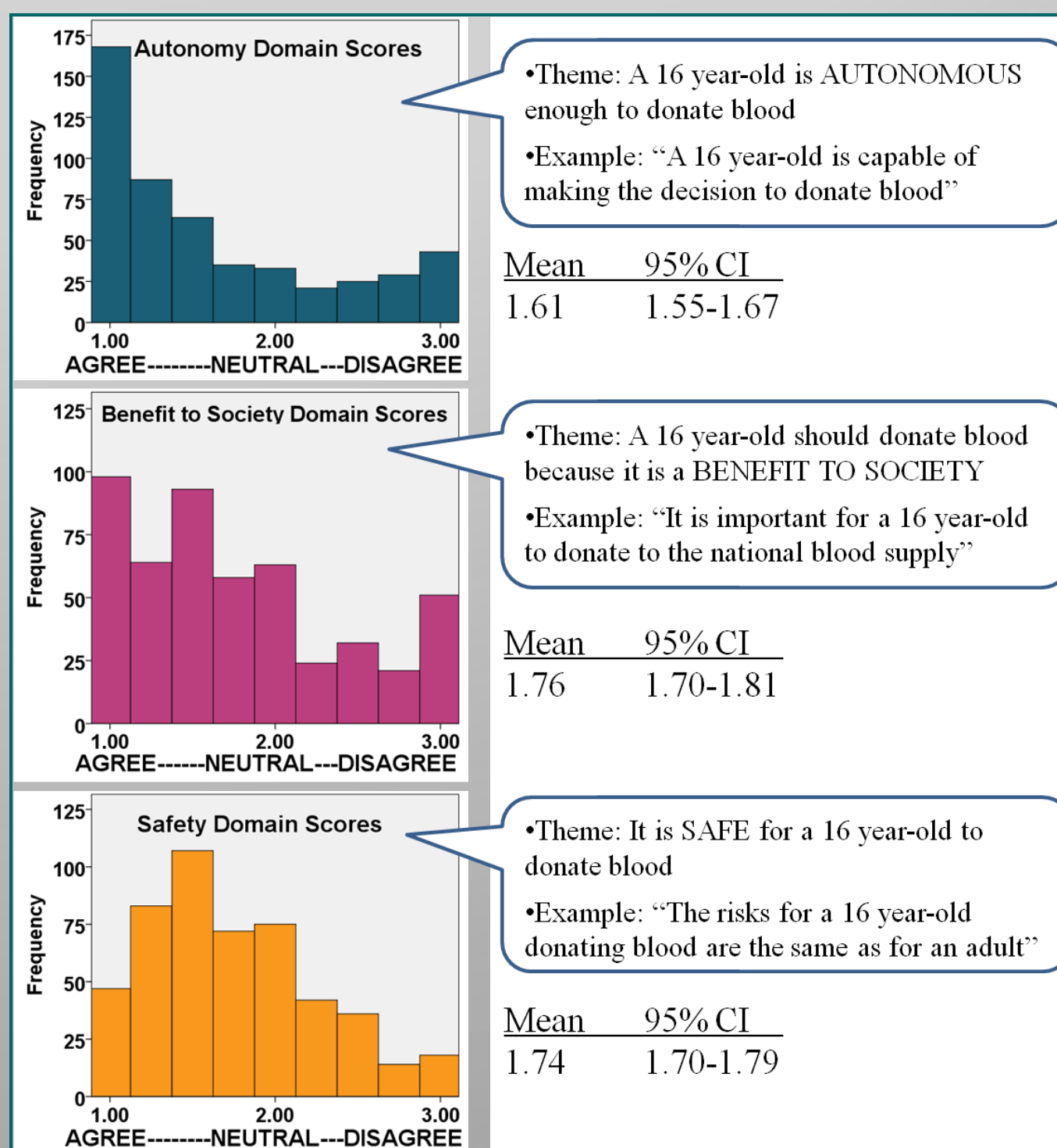


Figure 3: Mean scores and 95% CI for the three domains that encompassed the statements in the survey: Autonomy, Benefit to Society, and Safety

Results

- The majority of survey respondents agreed that 16 year-olds should be allowed to donate blood.
- There was a general consensus in favor of 16 year-old blood donation regarding the domains of autonomy, safety, and benefit to society.
- Support was most robust for autonomy.
- All sub-populations (all parents, parents of 16 and 17 year-olds, and non-parents) were in favor of 16 year-olds donating blood across all domains.
- Global domain statements were consistent with the blood donation domain scores, with slightly less agreement for the benefit to society domain. Respondents overwhelmingly agreed with the global statement, “A 16 year-old should participate in community service,” indicating that it was not an accurate reflection of the respondent’s views on the benefits of 16 year-old blood donation to society.

Study Limitations

- Distribution of the survey only to prior blood donors may limit the ability to use this study as a representation of the views of the whole population of Vermont.
- The questions were not validated.
 - No previous studies were available to assist with question creation.
 - Questions were not previously tested for predictability with individuals who had made a decision about a 16 year-old donating blood.
- The majority of respondents were older than the average age of the current donor population.

Conclusions

- The survey results suggest that Vermont blood donors, regardless of age, gender, or parenthood, favor allowing 16 year-olds to become blood donors, even though Vermont currently does not allow it.
- Future studies could be expanded to include non-blood donors to make a broader statement about how comfortable residents are with allowing 16 year-olds to donate blood in Vermont.

Acknowledgments

- Dr. Thomas V. Delaney (statistical support)
- American Red Cross mail center in Dedham, MA

Exploring Barriers to Exercise among Adolescents at the Burlington Boys and Girls Club

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Introduction

The Boys and Girls Club of Burlington (BGCB) is a non-profit that holds after-school activities for adolescents, including music, art, technology, and sports. The BGCB has struggled to encourage physical activity (PA) among many participants. We designed our study to identify deterrents to PA, as well as possible ways to improve participation.



Participants universally favored swimming

Methods We administered an optional, 10-question survey in a “check the box” format to 44 adolescents. Following the survey, participants were separated by gender for loosely-structured focus groups.

1. Survey topics included:

- Participants’ preferred activities at the BGCB
- Barriers to PA
- Opinions of possible additional activities

2. Focus group topics included:

- PA that kids participate in outside of the BCGB
- Favored field trips and incentives

Determined statistics were calculated using SAS 9.3. The Wilcoxon rank-sum test was used to evaluate statistical significance.

Age	21 Boys	23 Girls
9-11	13 (61.9%)	18 (78.3%)
12-14	8 (38.1%)	5 (21.7%)

Table 1: participant breakdown by age and gender



Figure 1: Favorite Choice Time Activities

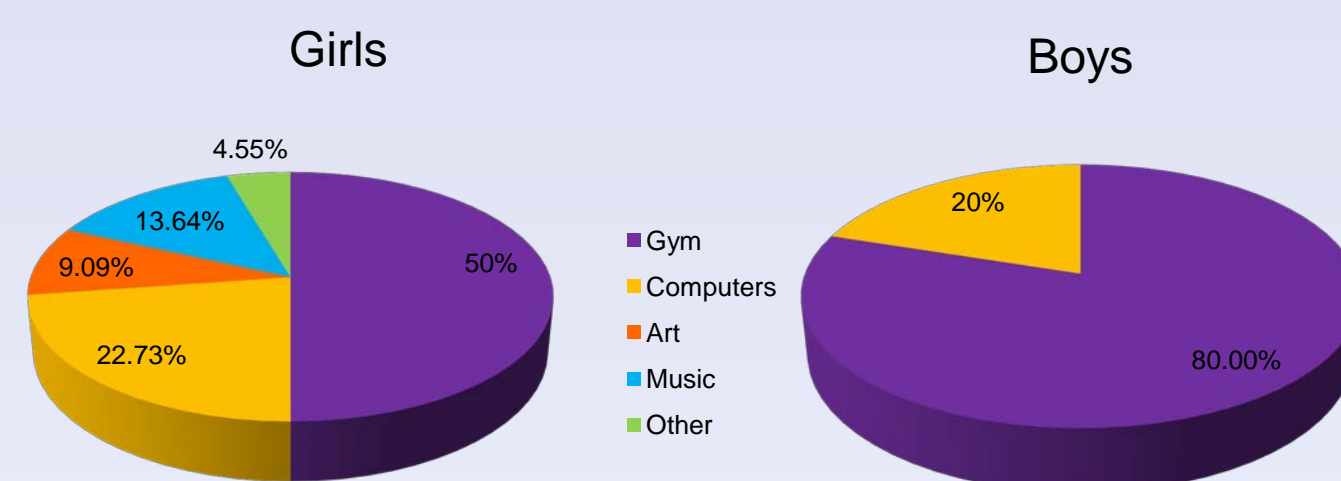
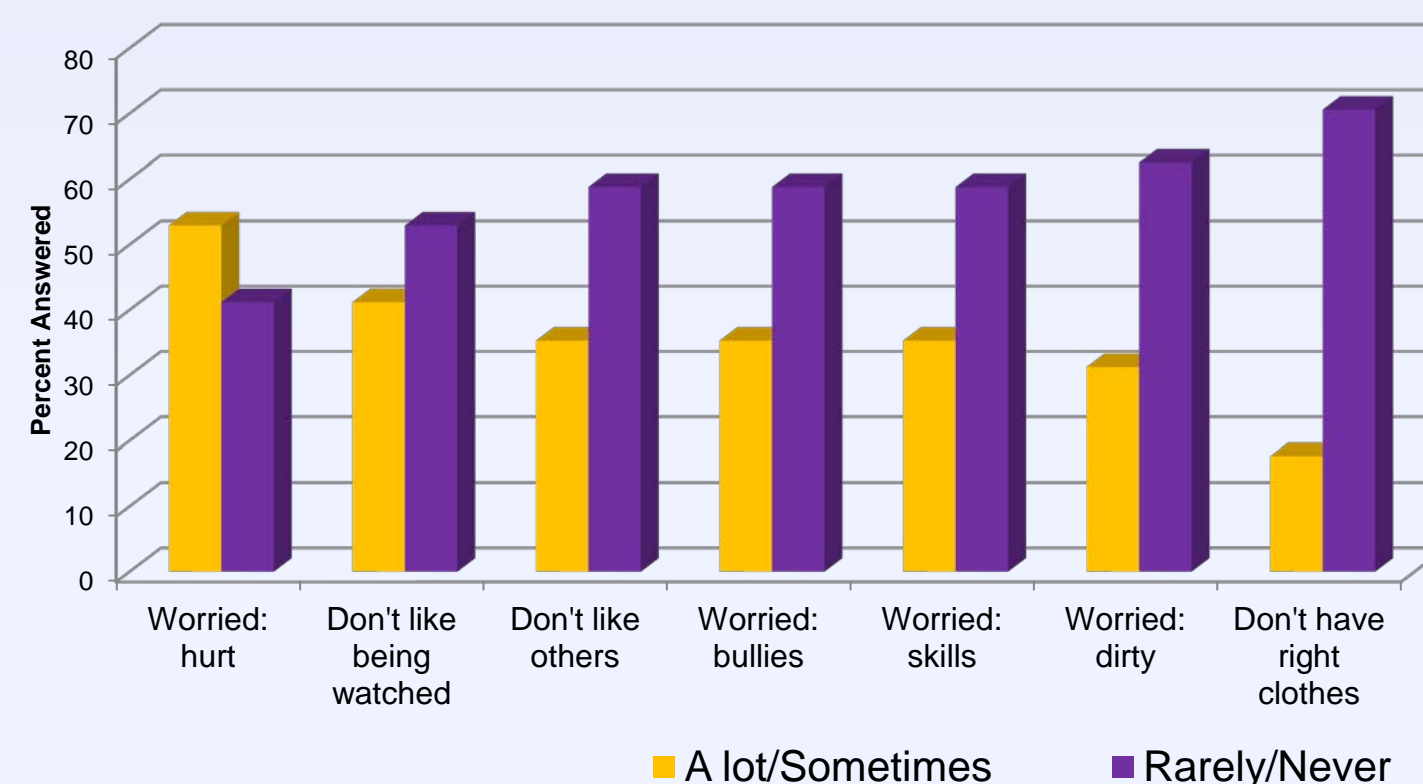


Figure 2: Reasons Kids did not Favor Gym



Results

- Gym was the favorite activity among both boys and girls of all ages (64% of respondents) (Figure 2)
- 21% favored the Computer Room
- Non-gym-favoring youth (NGFY) were most worried about getting hurt (56.3%) and being watched (43.8%) (Figure 3)
 - Younger group was more "worried about getting hurt" than older group (p=0.0095)
- Of current activities, NGFY like swimming (100%), nature walks, and capture the flag (Figure 3)
- Of potential activities, NGFY were most interested in rock climbing, ice skating, and skiing (Figure 4)
- NGFY preferred small groups over large groups by 3:1. Gym-favoring youth had no such preference
- 88% of NGFY preferred PA with both boys and girls

Figure 3: Current Activities Rated by NGFY

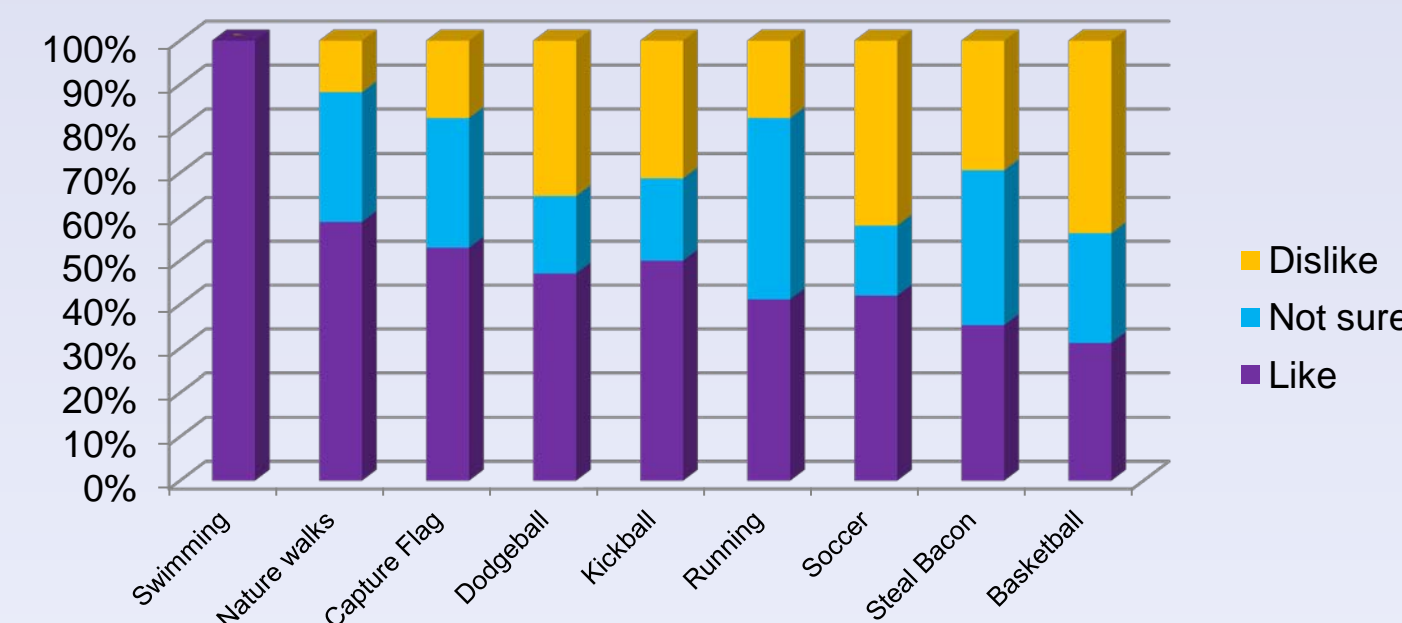
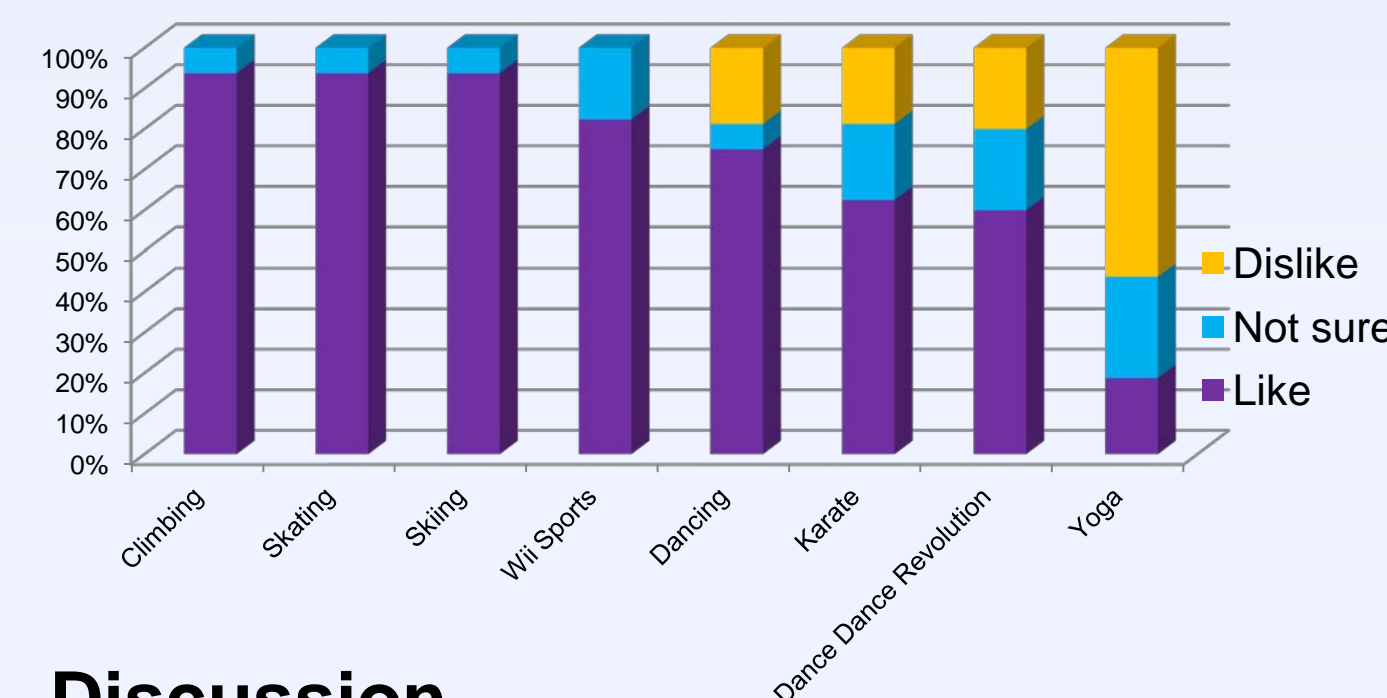


Figure 4: Proposed Activities Rated by NGFY



Discussion

Many of our findings supported related literature:

- Concern about being watched by others or lacking physical skills can be a barrier to PA.^{4, 6}
- While computers and technology serve as significant distracters from PA, many opportunities exist to harness it as an incentive as well.^{1, 2}
- Bullying can be a major barrier. Younger children preferred physical activity with same-aged peers, citing “meanness” and “ nastiness “ among older peers during focus groups.

Other findings were inconsistent with literature:

- The majority of children, including NGPY, preferred mixed gender activities, despite studies suggesting the presence of the opposite gender was a barrier.^{3, 6}

Our study was limited by the fact we offered the survey as an alternative to other free-time activities. Many students chose the computer room over the survey. These students may have also been less likely to participate in PA, skewing our sample representation.

Our Recommendations

- Limit PA identified as requiring a higher skill level, such as basketball. Alternatives include kickball and dodge ball
- Expand popular existing activities, such as nature walks and capture the flag
- As swimming was favored by 100% of NGFY, consider efforts to expand pool access year-round
- Incorporate new activities with an emphasis on smaller groups (e.g. climbing, skiing, or ice skating)



Basketball received mixed reviews from participants

- Increase safety measures during PA, perhaps by increasing staff supervision or non-contact sports
- Create incentives for PA by incorporating it into field trips, which have high popularity
- Continue to offer predominantly coed activities
- Continue to keep youth separated by age groups
- Next year offer a computer-based survey to better access the opinions of computer-favoring youth

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Introduction

- The prevalence of overweight / obese children aged 2-5 in the United States is 21.2%. The National Center of Health Statistics estimates a 30% increase in the prevalence of obesity between 2001 and 2004.
- The Vermont Department of Health estimates that about 30% of low income children between 2 and 5 years of age are overweight or at risk of becoming overweight.
- Physical activity programming at child care centers is the most important predictor of physical activity in preschool-aged children, more important than the child's socioeconomic and demographic characteristics.
- Although the National Association for Sports and Physical Education offers some guidelines, there are no clear recommendations for physical activity in childcare settings in Vermont and nationwide.

Objective

- Assess the physical activity of preschool-aged children attending Burlington Children's Space (BCS).

Methods

Parent questionnaire

- Parents' opinions about physical activity at BCS were assessed using questionnaires.

Teacher questionnaire

- For each day during a one week period at school, BCS preschool teachers were asked to enter the number of minutes spent on a given activity and the percentage of students who participated in each activity.

Workshop

- Following the initial teacher questionnaire, researchers held a workshop with BCS preschool teachers to discuss childhood obesity, the importance of offering a diversity of physical activities, and best practices to incorporate activity into the curriculum.

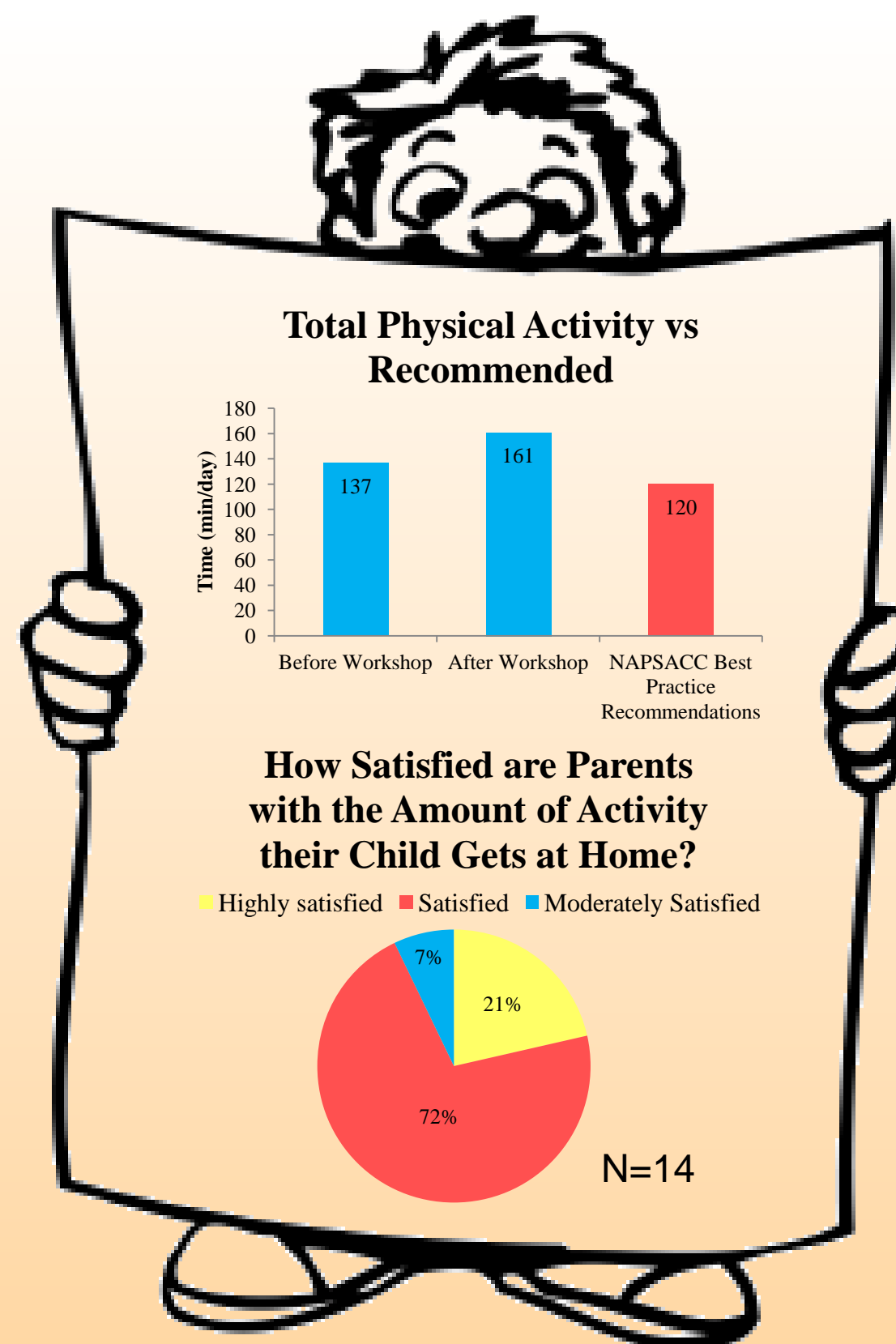
Teacher post-workshop questionnaire

- Teachers again completed a physical activity questionnaire. All teacher questionnaire results were analyzed following the second survey to minimize bias.

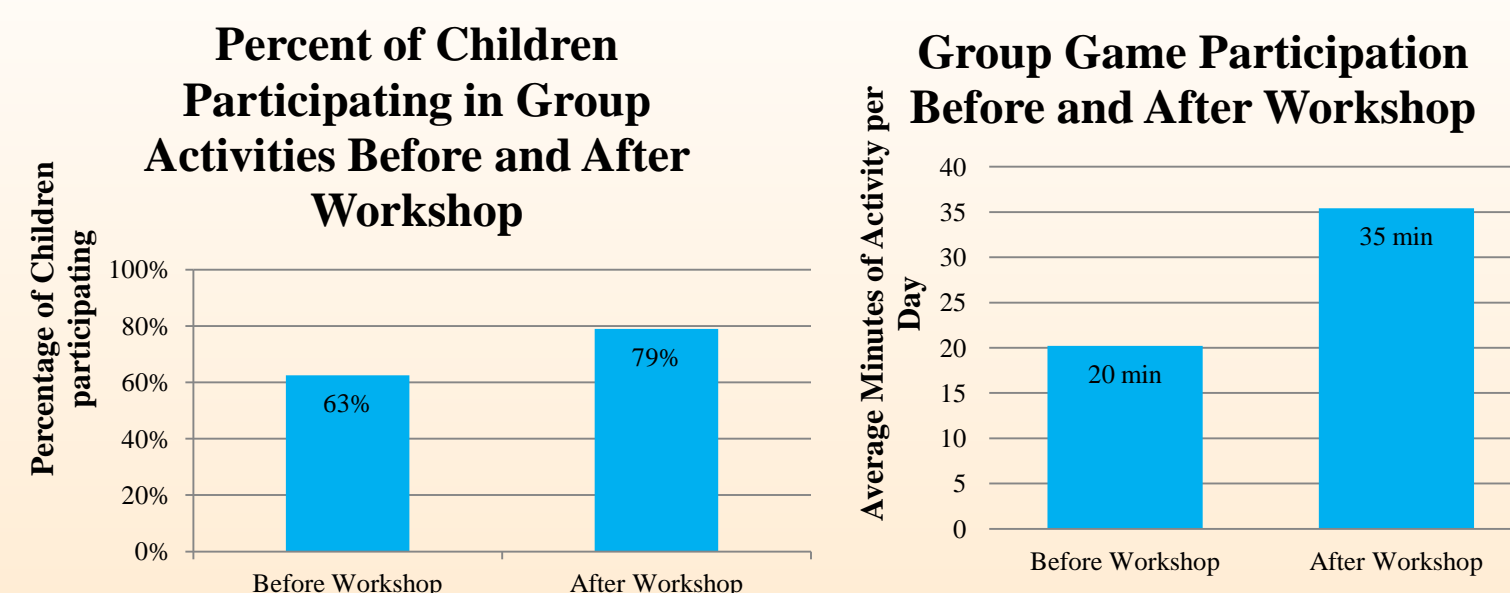


How Does BCS size up?

BCS preschool children participated in an average of 136.5 min/day and 148 min/day of exercise in the first and second surveyed weeks respectively. This *exceeds* the 120 minutes of combined free play and structured activity time recommended by NAPSACC.



How effective was our workshop?



Goals reported by BCS teachers after the workshop:

"Include ALL children in active participation."

"Encourage activity on the playground – play and facilitate more"

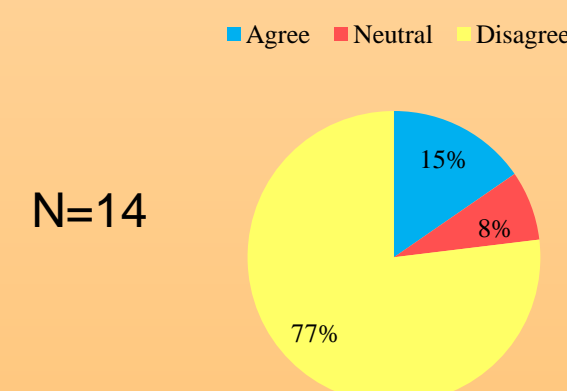
Effect of workshop

Group games allow a teacher to encourage multiple types of exercise (bone strengthening, muscle strengthening, moderate intensity aerobic, and vigorous intensity aerobic exercise). Each type is important for a child's healthy physical development.

New and useful information from the workshop included the "need for bone strengthening activity"
--BCS teacher

Exercise Outside of School

Winter Limits My Child's Activity

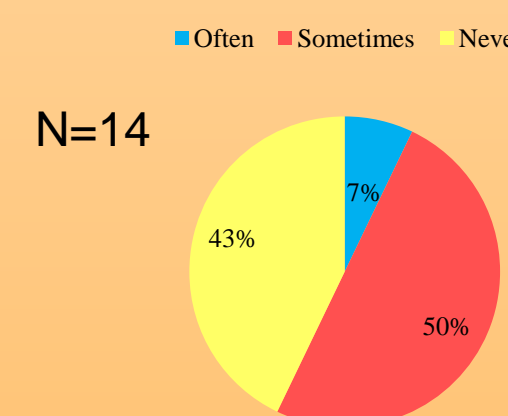


"We snowboard, sled, etc. and get MORE activity in the winter"
--BCS parent

"[In the winter], we still walk everywhere and sled"
--BCS parent



How Often Do You Speak With a Pediatrician About Physical Activity?



"We really only see [our pediatrician] once a year, so we discuss other things"
--BCS parent

Conclusions

Applicability

- While BCS was shown to meet or exceed requirements for physical activity in preschools, much of our research may be applicable to other preschools in the state and country in order to address the childhood obesity epidemic.

Lessons from BCS:

For preschools failing to meet standards for physical activity, aspects of the BCS model that could be implemented include:

Culture: Creating a culture of physical activity at the childcare center.

- For example, BCS recommends children not attend school if they are too sick to go outside to participate in physical activity.

Education: Devoting resources to training and ongoing education of childcare center staff.

- Our workshop had an impact on physical activity at BCS and shows promise for future training opportunities.

Creativity: Finding creative ways to put physical activity into preschool curriculums.

- BCS has largely replaced the model of "recess" with more participatory "adventures," physically active outings that are interdisciplinary and highly participatory.

Call to action

- Implement standards for preschool physical activity
- Improve physical activity screening in the health care setting.



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Assessing Health Needs of the Burlington Probation and Parole Population

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INTRODUCTION

The Burlington Probation and Parole population confronts numerous social, economic, and healthcare challenges upon their return to the community. While health and healthcare issues of inmates have been studied extensively, the health status and medical issues of the reentry offenders, particularly in rural areas have not been previously assessed. Data about health risks, major medical issues, and lifestyle choices among offenders on parole in the rural setting may prove helpful in the identification of preventative measures and development of strategies to promote positive health behaviors among the target population. The aim of this study is to evaluate the health risks among offenders on parole in the Burlington area and guide recommendations towards improving their health outcomes through community and educational initiatives. We also sought to gain a better understanding of the barriers within the rural setting that prevent positive health behaviors among the parolees upon their reintegration into the community.

METHODS

Study population. Men and women 18–60 years old of the Burlington Probation and Parole office have been chosen to participate in this study. A low-risk offender on parole was defined as an individual released from prison in the past 6 months who was non-institutionalized at the time of study, living in the community, and was assigned to a parole officer for further supervision.

Survey design. A 30-question health-risk assessment was designed to gather data including health risks and quality of life of the parolees in the Burlington area. The questionnaire evaluated health-related needs and challenges of the parolee population (access to clinics, possession of health insurance, parolee's concerns and wishes regarding their health status, etc.). Additionally, the survey assessed parolee's knowledge of available health services and attitudes towards tobacco use, diet, and their current health habits. Demographic data was also gathered to evaluate characteristics specific to parolees in the rural setting. The questionnaire was administered in-person on a voluntary basis by the research group and Burlington Probation Office employees at both the Burlington, VT office and a worksite in Winooski, VT. In total, 122 surveys were administered, of which none were excluded.

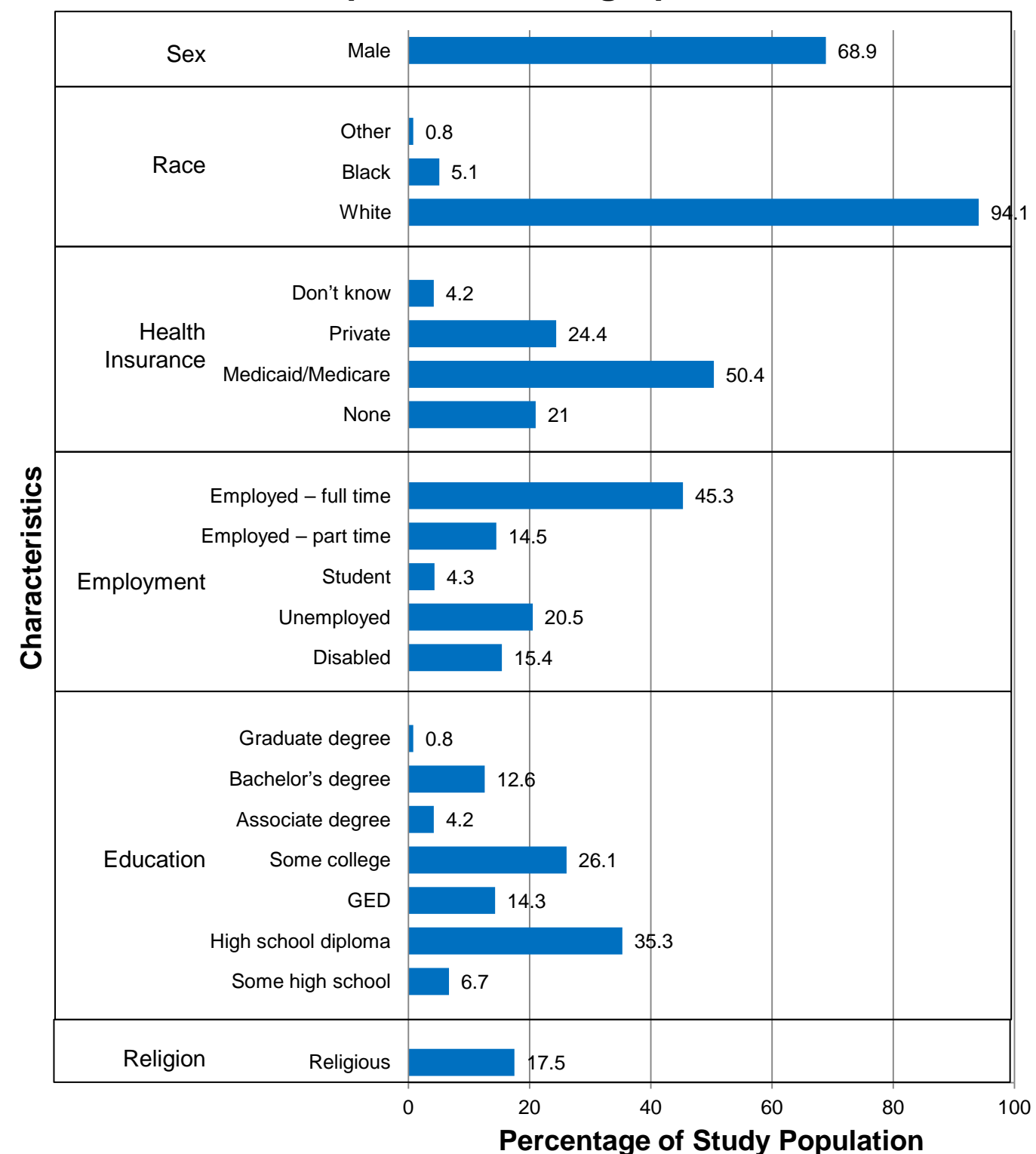


"[I need] a provider who looks at my mental health record, not my domestic assault record."

"[I worry about] what past drug use has done to my body"

"[I worry about] not being able to afford hospital bills if I get sick"

Population Demographics



DATA ANALYSIS

Statistical analysis was performed using SPSS Statistics 20 software (SPSS, Inc., Chicago, IL, USA). Analytical findings allowed us to describe the major areas of healthcare improvement for low-risk offenders that require solutions. These findings were compared with those outlined in the Healthy Vermonters 2009 data.

Comparison of Study Population to Healthy Vermonters Data

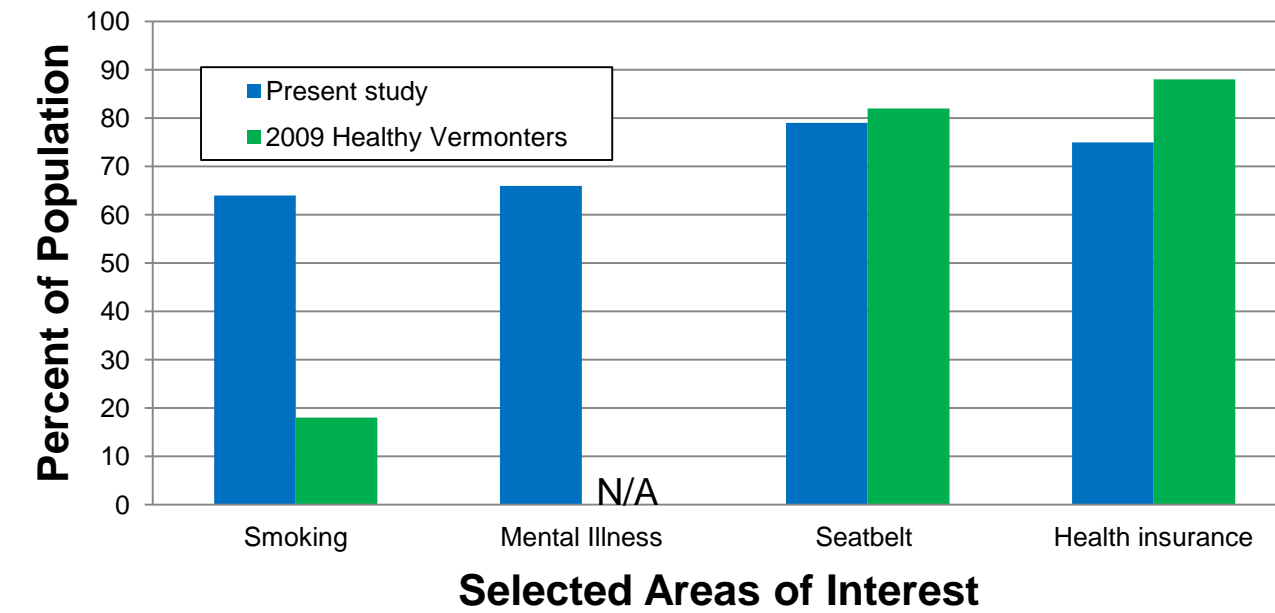
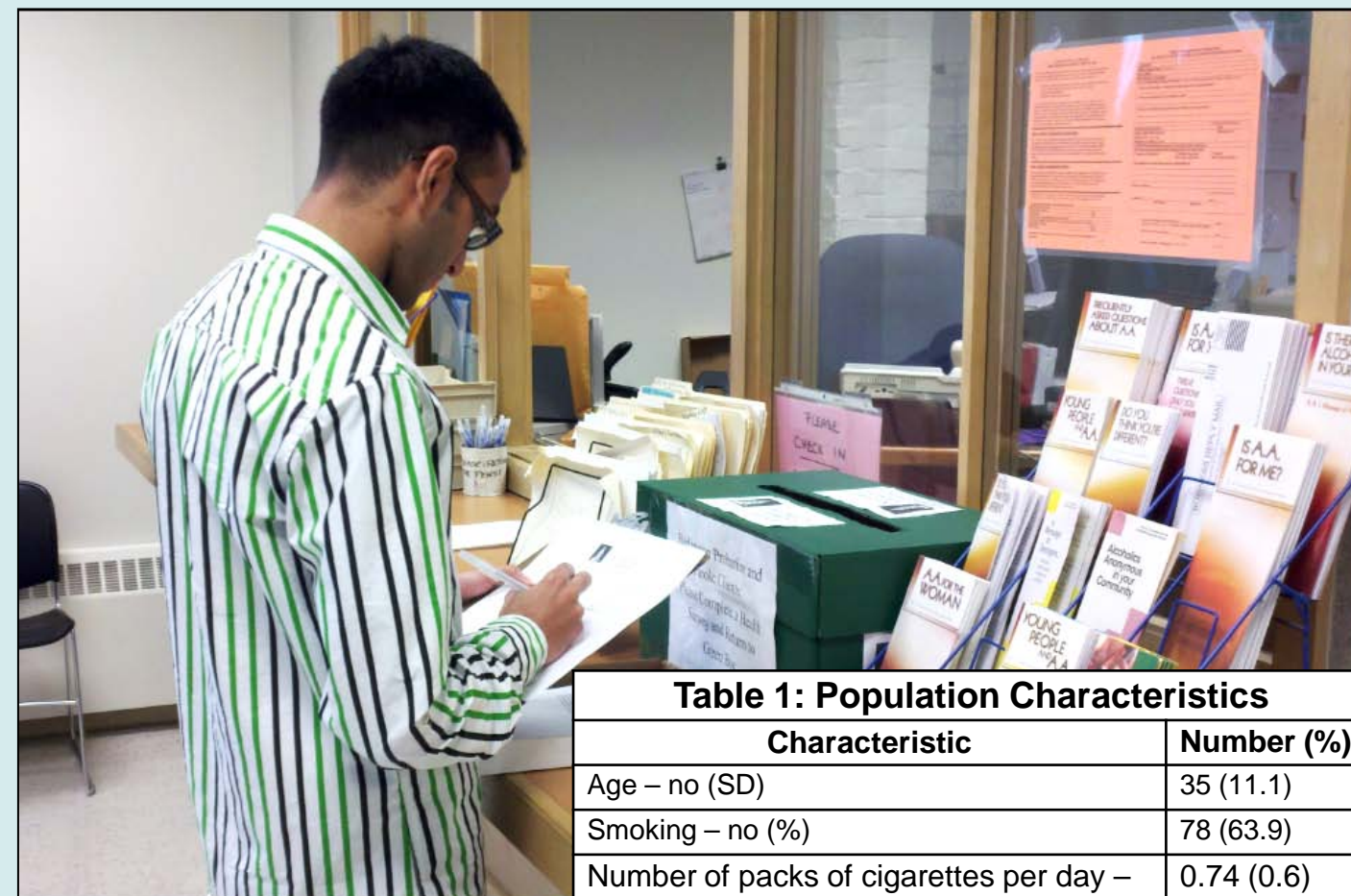


Figure Legend - Smoking: 63.9 % of respondents reported currently smoking cigarettes, average no. packs per day is 0.74 ± 0.6 . Healthy Vermonters 2009 reported 18.0 % of people smoke cigarettes. **Mental Illness:** 66.0 % of respondents reported a diagnosis of mental illness including depression, ADHD, anxiety, Bipolar Disorder, or Schizophrenia. Data was not available for the percentage of Vermonters suffering from depression. **Seatbelt:** 79.0% of respondents reported seatbelt use compared to 82% of Healthy Vermonters. **Health Insurance:** 74.8 % of respondents reported having health insurance. Healthy Vermonters 2009 reported 87.5 % of people have health insurance.



"[I worry] that doctors will not properly treat me"

"[I wish I could] quit smoking: reach a balance of work, diet and exercise"

"[I need] treatment for substance abuse and co-occurring disorders"

"[I need] a steady doctor or family doctor"

Table 1: Population Characteristics

Characteristic	Number (%)
Age – no (SD)	35 (11.1)
Smoking – no (%)	78 (63.9)
Number of packs of cigarettes per day – mean (SD)	0.74 (0.6)
Survey responders who reported being a patient in the ER at least once during the last 12 months – no (%)	53 (47.3)
Sad or depressed – no (%)	
Never	15 (12.7)
Sometimes	88 (74.6)
Most of the time	14 (11.9)
All of the time	1 (0.8)
Nutrition	
Exercise 30 minutes/day at least 3 days/week	89 (73.6)
Soda	
No. (%)	70 (57.4)
Drinks/week – mean (SD)	6.0 (8.3)
Safe sex practice	
Condom use	44 (36.7)

RESULTS & DISCUSSION

Demographic characterization of survey responders showed that the majority were Caucasian males in their mid-30s with at least a high school diploma, and part-time employment. Survey data identified five problem areas for healthcare improvement. These areas were identified based on explicitly expressed needs from the survey, noted deviation from Healthy Vermonters 2009 standards, as well as available community resources. The identified problem areas were mental illness/depression, smoking, safe sex practices, health insurance status, and nutrition/fitness. Some positive findings include an overall awareness of the importance of healthy lifestyle choices. Many respondents reported dissatisfaction with their current weight, diet, and fitness level and were interested in learning about available services. Additional comments made by respondents implied an awareness that changes to their smoking and eating habits would be beneficial to their health. To improve the health of this community, we have made evidence-based resource pamphlets for the Burlington Probation and Parole Department recommending community resources to help with these problem areas.

CONCLUSION

The healthcare needs of the Burlington Probation and Parole population have never before been comprehensively assessed. Our project has generated preliminary data which describes the health problems, needs, and concerns of this population. Smoking and mental illness/depression have been identified as prominent areas of concern. Future directions should include identification of the most successful resources as well as an in-depth training for staff to address these problem areas.

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Depression in the Elderly: Attitudes of Seniors and Practices of Healthcare Providers

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 University of Vermont College of Medicine¹, Cathedral Square Corporation²

Introduction

Support & Services at Home (SASH) is a model for independent housing for seniors that was developed in 2009 by a partnership of community providers and Cathedral Square Corporation. Results of a 2010 PHQ-9 screen on depression administered to seniors living at Heineberg Senior Housing, a Cathedral Square community, found that 30% of residents had mild depression, 6% moderate depression, and 6% moderate to severe depression. This topic has been targeted by SASH coordinators so that they may provide more support for their residents. Furthermore, a high prevalence of depression amongst the elderly population has been well-documented and this disease is often under-diagnosed, under-treated, or missed altogether³.

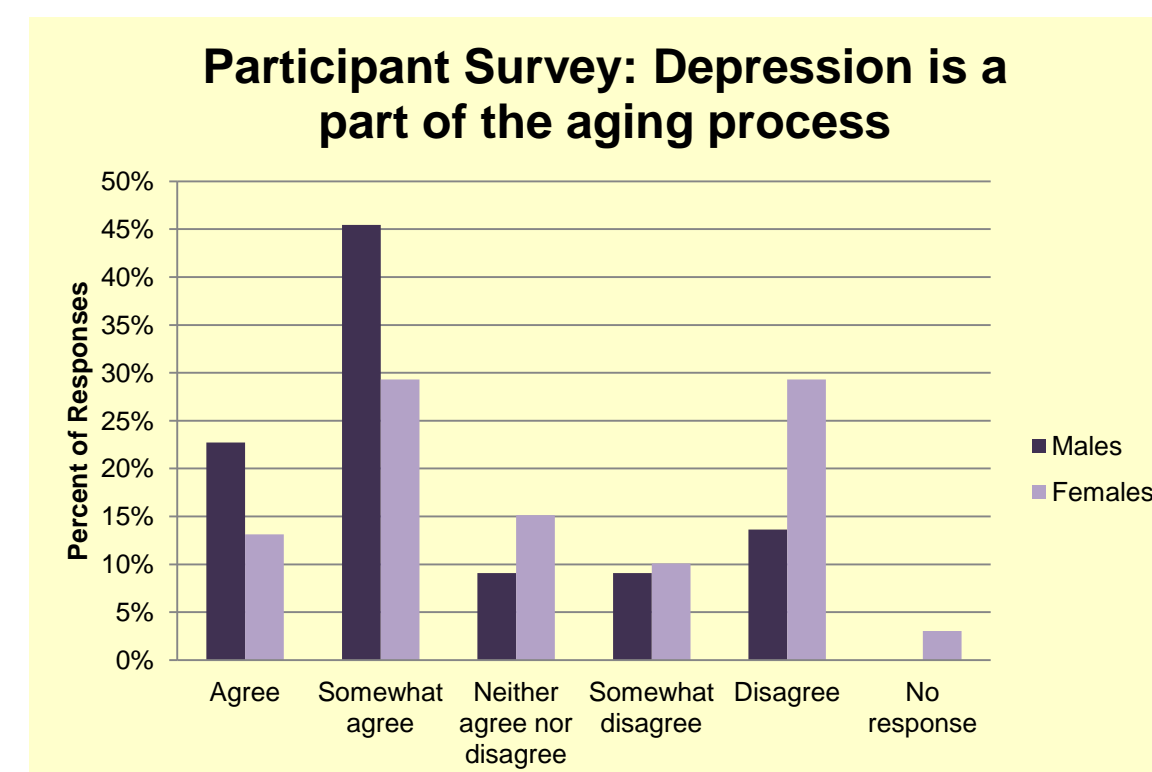
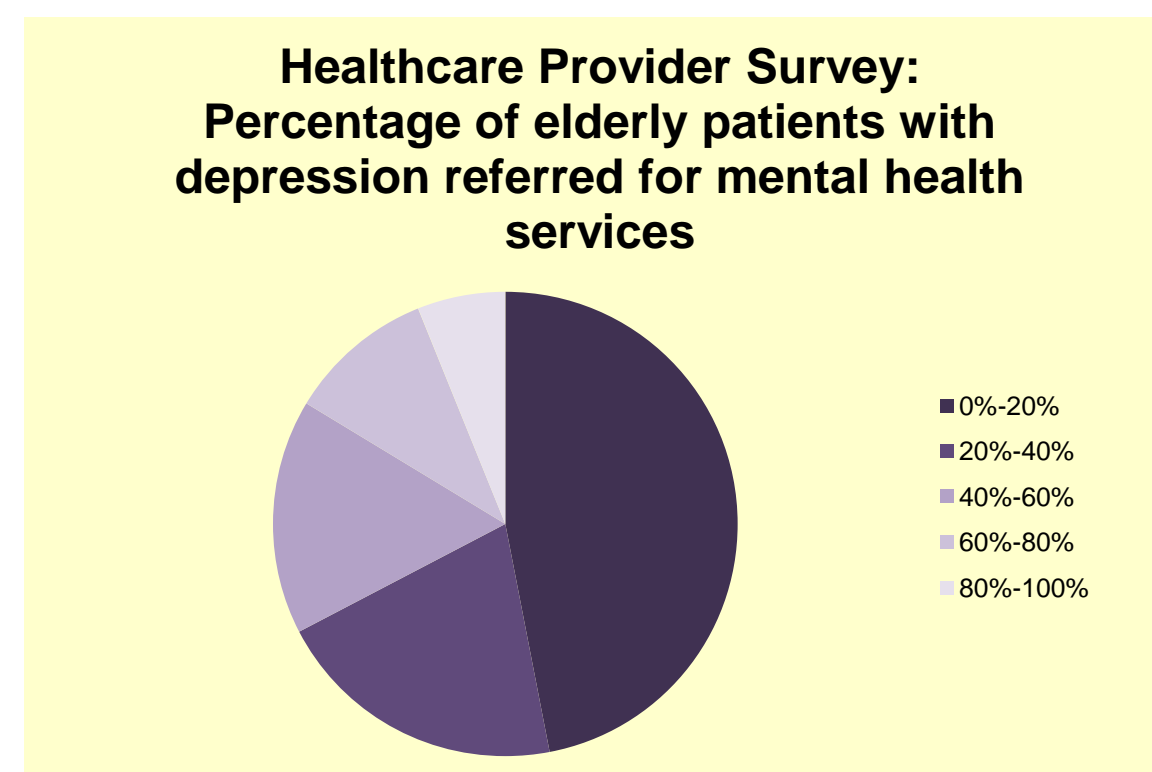
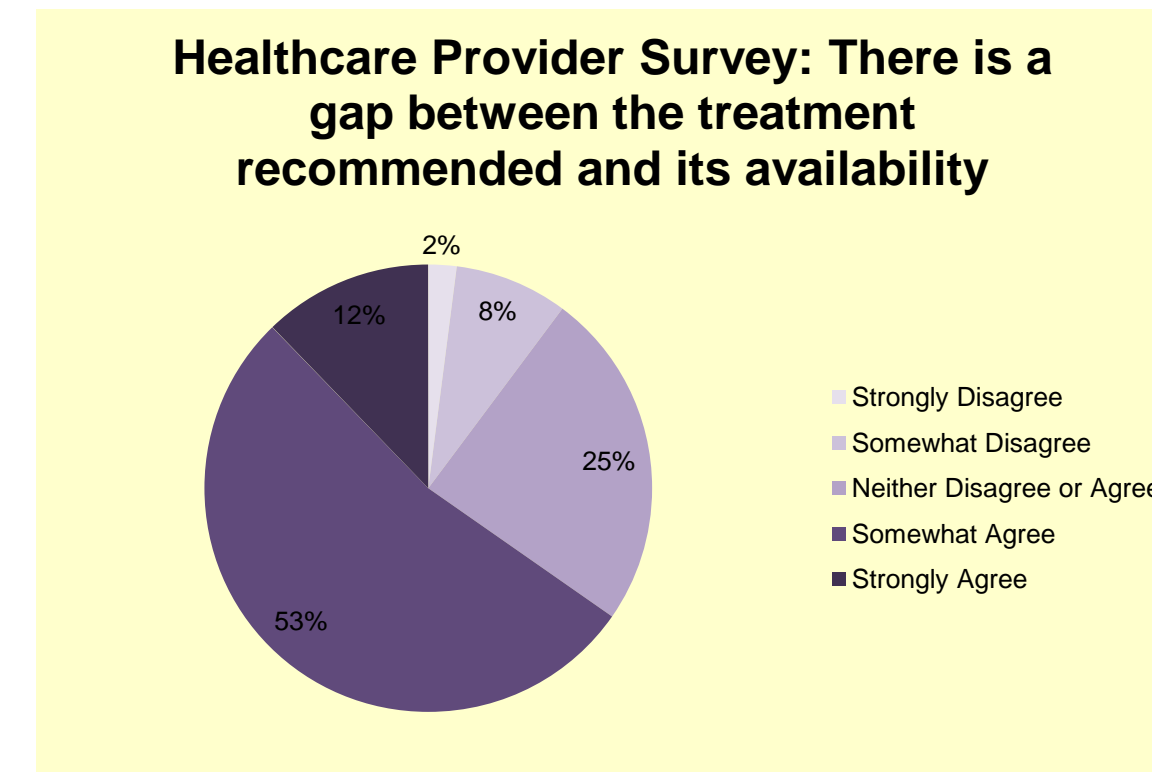
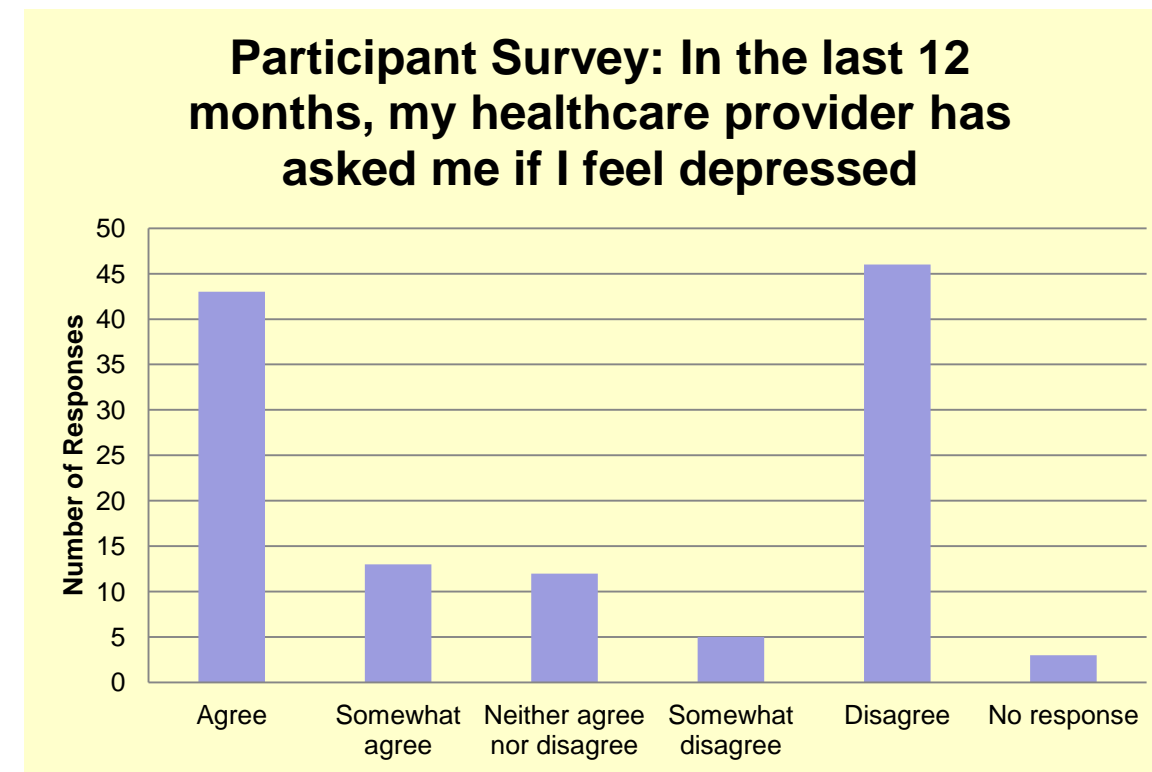
Project Aim

The goal of our project was to investigate depression in the elderly from the perspective of seniors and local primary care providers who serve this population.



Objectives

- Senior survey assessing how comfortable they are speaking to their physician about depression, to whom they may turn to for support, and barriers preventing them from seeking help
- Healthcare provider survey assessing their practices in screening and treating seniors for depression



Methods

In cases where there was a sufficient quantity of responses for testing, Fisher exact tests ($\alpha = 0.5$, 2-tailed) were completed; no testing was attempted if the quantity of responses was insufficient.

Healthcare Provider Survey

Participants: Primary care providers affiliated with Fletcher Allen Health Care

Survey: An anonymous 16-item questionnaire based on a survey by Glasser, et al.¹ was distributed via email. The response rate was 22.9% (49 out of 214).

Participant Survey

Participants: Individuals currently living in one of the following SASH residences: Cathedral Square Senior Living, McAuley Square Senior Housing, or Heineberg Senior Housing.

Survey: An anonymous 15-item survey was delivered to each resident's mailbox. Surveys were returned by the participants to collection boxes at each site and collected after two weeks. The response rate was 49.8% (123 out of 247).

Informal focus groups were held at Cathedral Square and Heineberg to better understand the residents' perspectives on depression and to gather suggestions to improve well-being.

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2. Snowden, M. Steinman, L. Frederick, J. *Treating depression in older adults: Challenges in implementing the recommendations of an expert panel*. Prev Chronic Dis 2008;5(1).
3. Starr, C. *Primary care doctors: Treat or refer depressed patients?* Medscape Business of Medicine. 2011 Sept 6

Discussion

Healthcare Providers (HCP's) reported varying levels of awareness regarding community resources available for the treatment of depression in the elderly. Nearly half of respondents answered that they use no standardized testing procedure in their evaluation of depression. However, the majority of HCP's responded neutrally or agreed that current treatments for depression in the elderly are effective. A majority also responded that they follow-up with patients referred for mental health treatments either "often" or "always". Finally, a majority of HCP's responded that they consider patient limitations either "often" or "always" when selecting a referral organization for elderly patients.

Of the 123 senior responses, 110 indicated agreement with the statement "If I felt depressed, I would bring up these feelings with my healthcare provider." 83.7% of respondents would turn to their support system if feeling depressed. Other resources cited for support included their HCP (82.9%), a private counselor/psychiatrist (40.7%), and other community health agencies (17.9%). On the majority of variables examined, such as seeking support and resources cited, no associations were found based on respondents' age or gender.

Barriers preventing seniors from seeking help included stigma, feeling of isolation, and time limitations at health appointments.

Suggestions for Cathedral Square

- Support groups for seniors to discuss depression
- Survey assessing residents' interests to guide activities
- Hotline or nurse to address health concerns more promptly
- Create family-centered events
- Social ambassadors encouraging attendance at events
- Assessing utility of evidence based programs² and services



An assessment of collaboration between area pediatricians and integrated services for families of young children in South Burlington, VT
Leah Carr, Wendy Davis MD, David Drimmer, Joey Hager, Hannah Foote, Nicholas Koch, Jerry Lee, Elizabeth Meyer, Dane Slentz, and Anjali Varigonda



BACKGROUND

It is widely accepted for pediatric and family medicine practitioners to use developmental screening tools for effective identification of children who require additional support. A recent study in *Pediatrics* reported that between 2002 and 2009, the percentage of pediatricians using standardized screening tools for developmental delay increased from 23.0% to 47.7%.¹ While improvement was found, less than half of pediatricians used these tools.

In addition, it is known that early intervention for children requiring extra support is essential for preventing further delay in reaching milestones.² Practitioners' use of screening tools and their collaboration with their community resources can contribute to better delivery of these services and aid in children meeting developmental milestones.

OBJECTIVES

1. Examine area pediatric practitioners' assessment of development through the use of available screening tools
2. Assess area pediatric practitioners' collaboration with community resources

METHODS

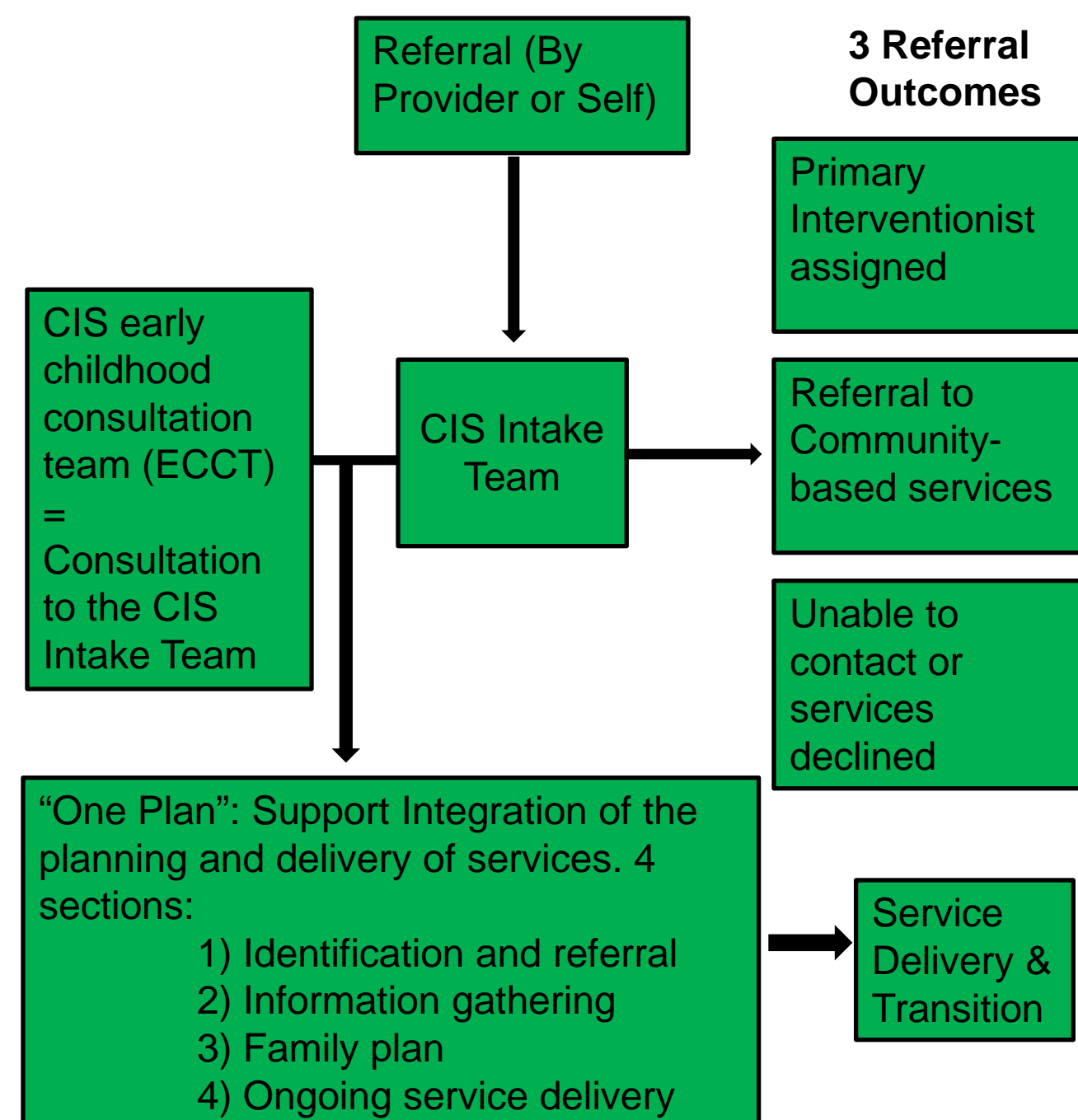
Interviews

- Interviewed 8 community pediatric healthcare providers (7 physicians, 1 nurse) serving South Burlington patients.
- Survey included open-ended questions targeting developmental assessment tools and community resource use

Focus Group

- Presented data at the medical staff meeting of the Vermont Children's Hospital / FAHC
- Post-presentation discussion yielded more qualitative data on the strengths and weaknesses of community resources such as Children's Integrative Services (CIS)

COLLABORATION WITH CHILDREN'S INTEGRATED SERVICES (CIS)



RESULTS

- Providers with mission statement addressing kindergarten readiness:
 - Yes (1)
 - No (6)
 - Did not respond (1)
- Most commonly used community resources used by providers (% providers, n=8):
 1. Visiting Nurse Association (83%)
 2. Children's Integrated Services (50%)
 3. Howard Center (50%)
 4. Essential Early Education (50%)
 5. Child Development Center (33%)
- Commonly used standardized developmental screening tools and guidelines (% providers, n=6):
 1. Bright Futures Guidelines (100%)
 2. Ages and Stages Questionnaire (67%)
 3. Denver Developmental Screening Test (33%)
 4. Modified Checklist of Autism in Toddlers (33%)
- Changes in community needs over recent years (# providers):
 1. Economic decline affecting patient care (2)
 2. Increased request regarding autism screening (2)
 3. Rise in immigrant population (2)
- Provider's use of Child Care Resources (CCR):

	Never heard of CCR	Infrequent Use	Don't require Use of CCR
Providers	1	1	1

DISCUSSION

Although we feel the results are representative of the South Burlington community, our research is limited by the low response rate (8/16 physicians contacted). Additionally, the number of questions implemented in our survey was slightly modified after the initial interviews were performed.

Our survey indicated that community pediatricians utilize resources in diverse ways. This variation prompted further exploration into the differences in resource usage.

We found that the practitioners who use CIS see this as a beneficial resource and would like to improve it further, whereas the majority of community practitioners choose not to use, or do not know of, the services of Child Care Resources. We feel it would be beneficial for Child Care Resources to explore why their services are not used optimally. From our discussions with the providers at the Pediatrics Focus Group, we gained some perspectives on a few areas of improvement:

- Communication (i.e. providers not receiving evaluations from CIS on their patients following referral to resources and the time it takes to process a case).
- Access to services (i.e. complications of dialing in, debates about who should contact CIS- doctor or patient's parent?)
- Lack of information regarding CIS within the community.

FUTURE DIRECTIONS

We identified several weaknesses that impair coordinated delivery of services by health care providers and community partners. These include: the CIS referral system; provider education and awareness of specific services (such as CCR); and communication between pediatricians and community partners. Improvement in these areas will increase efficiency and quality of pediatric care in the community. Based on our work, we propose further investment in the infrastructure that educates physicians and connects them to early life intervention services.

3 Squares VT Food Assistance Usage by Patrons at the Chittenden Emergency Food Shelf

Atiyeh, A., Blasberg, L., Cushmanick, K., Edberg, D., Jerome, M., Ng, P., Meehan, R., Carney, J., University of Vermont College of Medicine

Introduction

- The federally funded 3SquaresVT program (formerly Food Stamps) increases access to healthy food and helps to stimulate local economies¹.
- 10.9% of Vermont households are food insecure and 15.8% of children live in food insecure households².
- Many families are eligible for 3SquaresVT but choose not to enroll, hurting Vermont's economy and stressing charitable organizations like the Chittenden Emergency Food Shelf (CEFS).

Objective

This study aimed to examine the percentage of eligible food shelf patrons who are not using federal food assistance and the barriers involved.

Methods

- Eight question survey administered to patrons at CEFS
- Designed to assess usage of 3SquaresVT and collect demographic data
- 206 willing patrons interviewed
- Responses recorded on paper, transferred to online survey database, and analyzed via MS Excel
- Four surveys were excluded due to incompleteness
- 202 responses broken into categories of gender, age, household size, and time of the month patron visited CEFS
- Chi-squared analysis of each category according to usage and awareness performed using OpenEpi version 2.3.1
- Graphs exported from data on MS Excel

Results

Awareness of 3SquaresVT

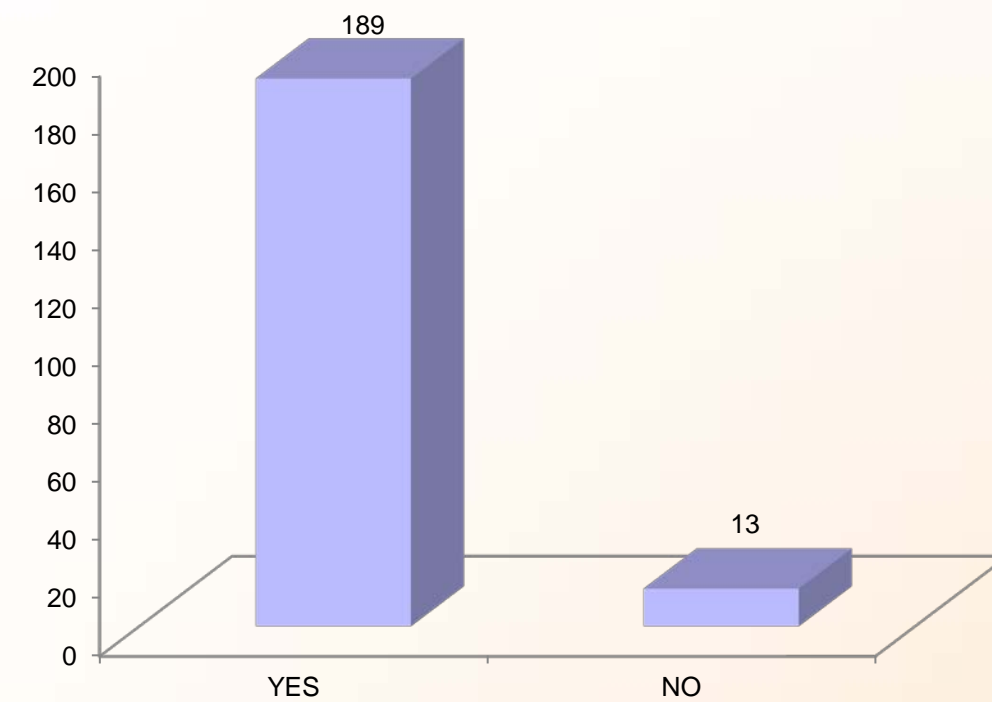


Figure 1- 94% of the 202 individuals surveyed were aware of the program.

3SquaresVT Participation

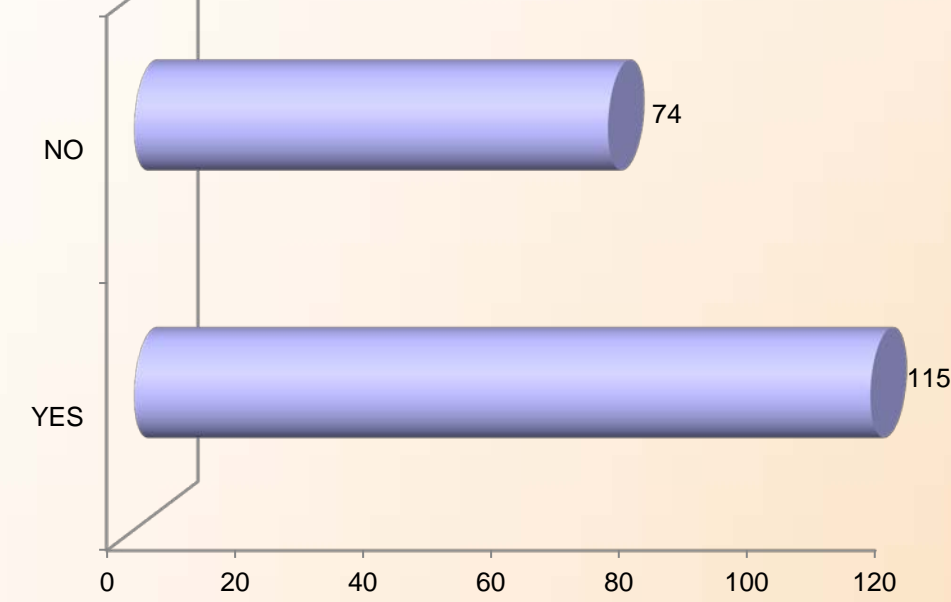


Figure 2- Of those aware, 61% were participating in 3SquaresVT.

Participation in 3SquaresVT by Month

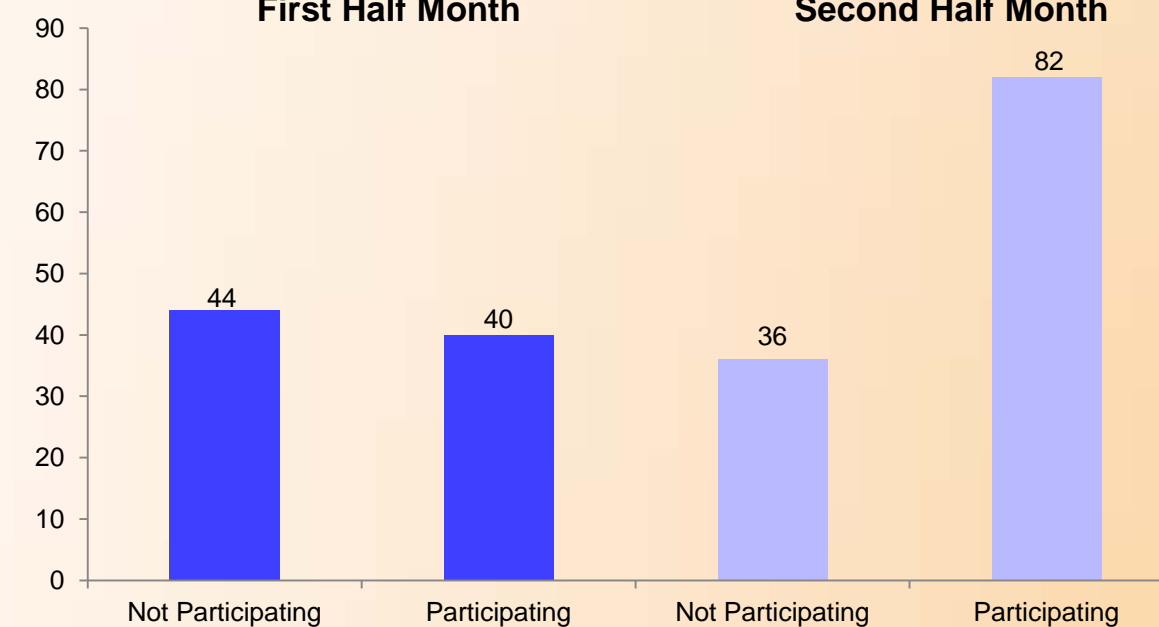


Figure 3- Patrons who frequent the CEFS during the second half of the calendar month are 1.7 times more likely to utilize 3SquaresVT.

Reasons for User Dissatisfaction

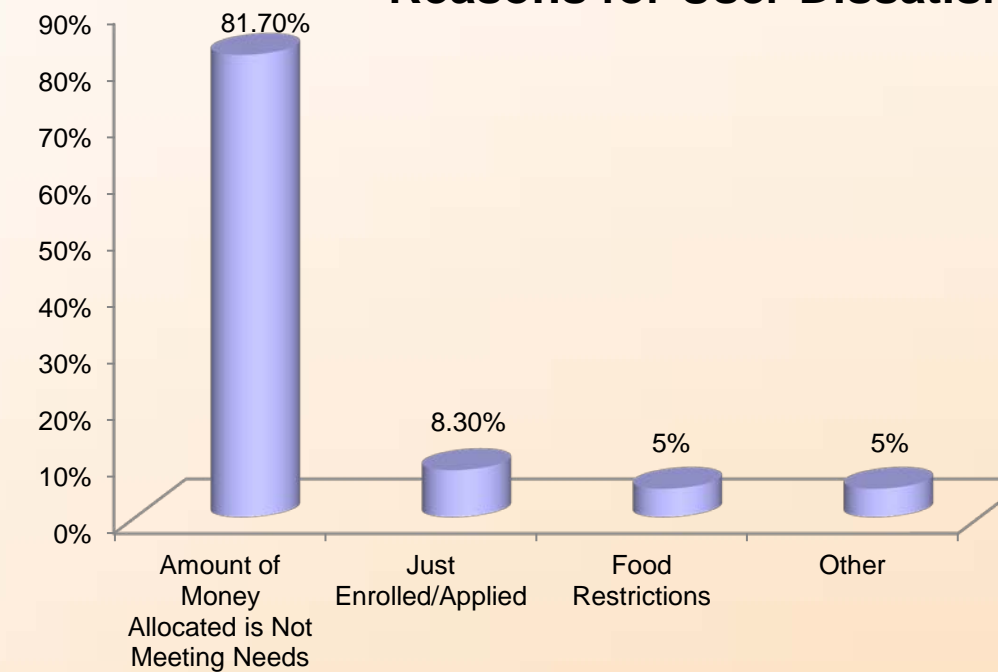


Figure 4- Of those using 3Squares, the main reason for the lack of satisfaction was the program did not offer enough money.

Barriers Preventing Participation

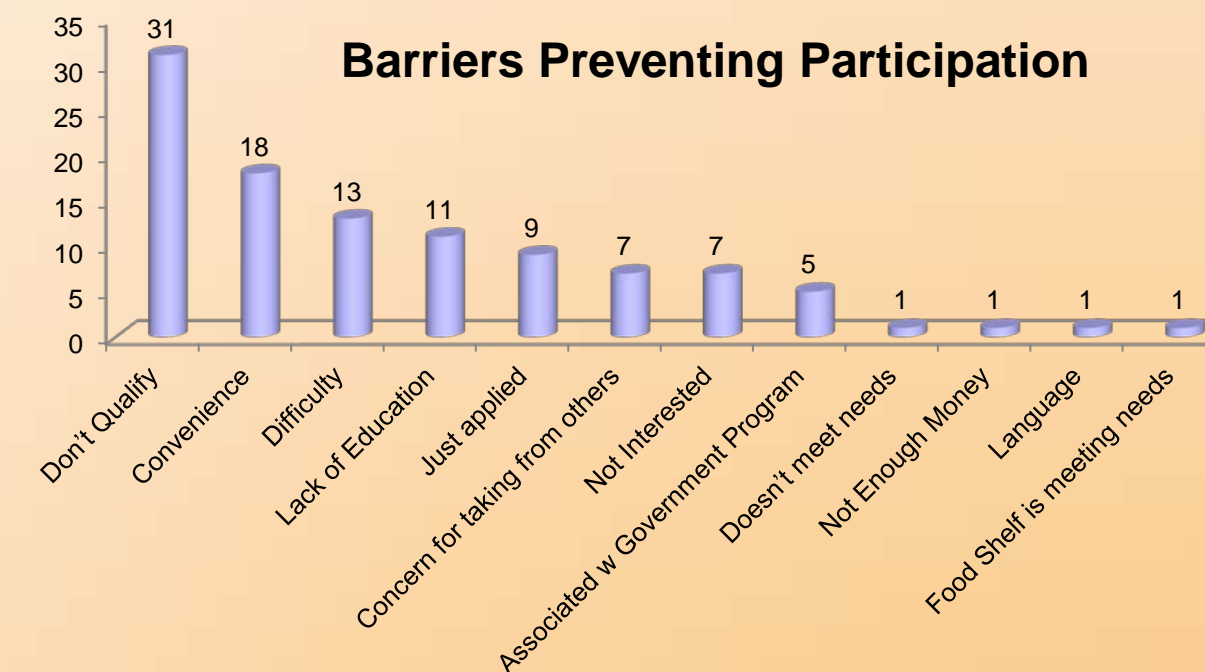


Figure 5- Not qualifying, convenience, and difficulty of applying are the main factors preventing participation in 3SquaresVT.

Participation in 3SquaresVT by Gender

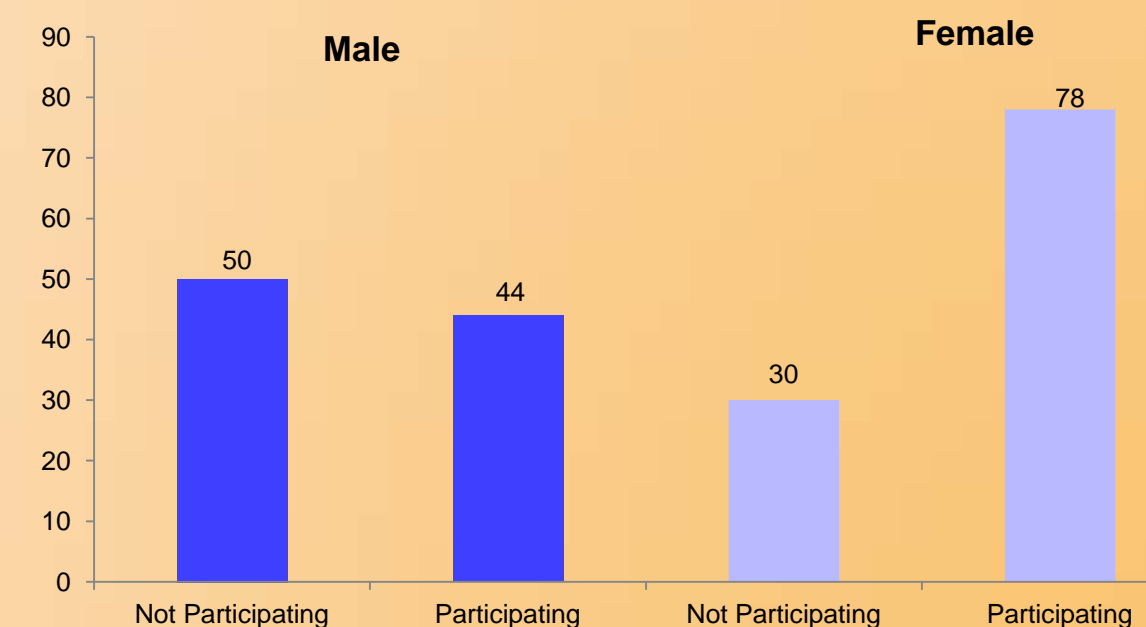


Figure 6- Women are 1.9 times more likely than men to participate in 3SquaresVT.

Conclusion

Reasons For Not Participating in 3SquaresVT Eligibility

- Forty-two percent of respondents not participating reported not qualifying for the program.
- Most reported ineligibility due to receiving other benefits (disability/SSI) or an income level that is too high to qualify.

Awareness of Available Resources

- Twelve percent of respondents reported being unaware of the program or not knowing how to enroll.

Application Process and Convenience

- Women are 1.9 times more likely to participate in 3SquaresVT than men.
- Patrons who use CEFS during the second half of the month are 1.7 times more likely to use 3SquaresVT.

Recommendations:

- Screen patrons to determine eligibility for 3SquaresVT.
- Incorporate education about 3SquaresVT into CEFS applicant's initial intake interview and subsequent visits.
- Cohorts such as men and patrons in the first half of the month should be targeted since they are least likely to be participating in 3SquaresVT.
- Fifty-two percent of 3SquaresVT participants are not satisfied with the amount of resources they receive. Efforts should be made to determine how supplemental resources can be improved to meet the needs of Chittenden County's underserved population.

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The Effects of Game Based Nutrition Intervention on 5th Graders School Lunch Choices

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University of Vermont College of Medicine¹, City Market ², Burlington School Food Service³

Introduction

Evidence shows that consumption of fruits and vegetables has health benefits, yet children across the country consume less than levels recommended by the USDA.^[i] Breifel et. al. showed that children aged 5-18 consume up to half of their daily nourishment in the school setting.^[ii] The National School Lunch Program (NSLP) aims to ensure access to nutritious food for school aged children.

The Burlington School Food Project aims to provide nutritious and appealing meals to all students which meet the NSLP guidelines. Observations demonstrate that although the food is available children do not always take advantage of the healthy options provided.^[iii] Studies have shown that where food is eaten as well as how food is marketed impacts the choices children make on what they consume.^{[iv],[v]} A recent study showed that intervention coupled with food-based education was successful in improving eating habits.^[vi]

Our goal was to improve the food choices made by 5th graders eating lunch at school through a game-based intervention. We hypothesized that by presenting fruits and vegetable in a fun and dynamic manner, in conjunction with education and role-modeling, we could increase the amount and variety of fruits and vegetables consumed by students at lunch.

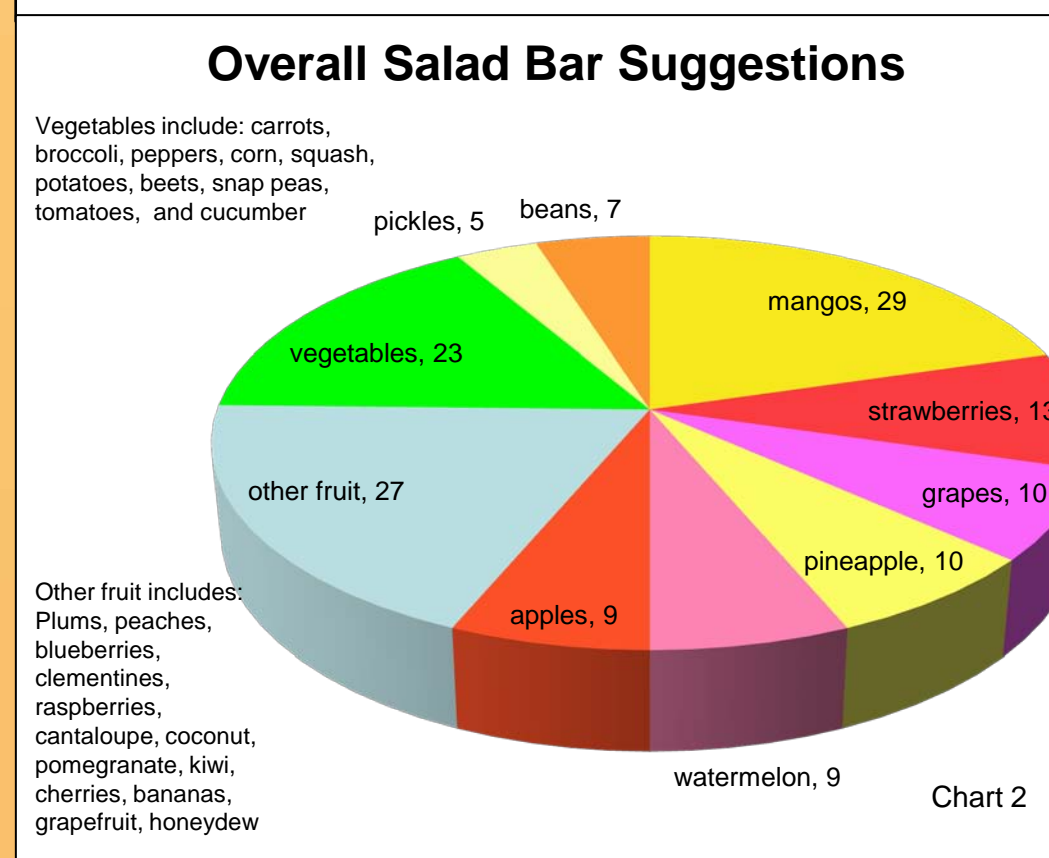
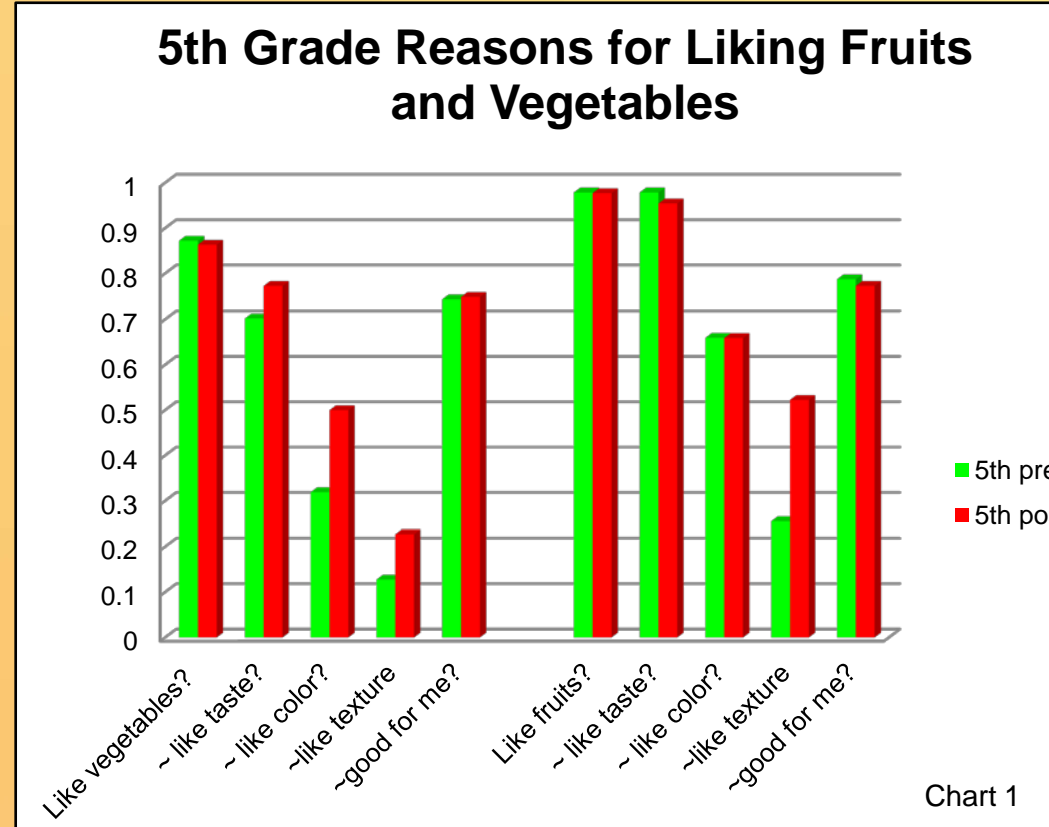


Result

There were 47 fifth grade students and 36 fourth grade students surveyed pre-intervention, and 44 5th graders and 32 4th graders post-intervention. Statistical analysis was performed using a t-test. Prior to the intervention, 5th graders liked the taste of fruits significantly more than 4th graders (97.9% vs 77.8%, p = 0.009), and also had a significantly higher belief that fruits were good for them (78.7% vs 55.6%, p = 0.028). After the intervention, a significantly higher number of 5th graders liked both the color of vegetables (50.0% vs 31.9%, p = 0.041), and the texture of fruits (52.3% vs 25.5%, p = 0.004) compared to pre-intervention. 4th graders showed no significant changes.

Table 1	5th pre	5th post	4th pre	4th post
Like vegetables?	87	86	79	88
- like taste?	70	77	72	78
- like color?	32	50	25	38
-like texture	13	23	11	28
-good for me?	74	75	58	53
-Not like taste	21	16	19	22
-not like color	13	14	17	13
-Not like texture	28	34	31	44
-Not good for me	4	2	3	6
Like fruits?	98	98	94	100
- like taste?	98	95	78	91
- like color?	66	66	50	59
-like texture	26	52	31	44
-good for me?	79	77	56	63
-Not like taste	4	5	6	6
-not like color	4	9	8	3
-Not like texture	28	18	14	13
-Not good for me	4	0	0	3

*all values are in percentages



Discussion:

More than half of elementary school students in Burlington are enrolled in the school lunch program, but many are not meeting daily nutrition goals as outlined by the USDA. Our pre-intervention survey demonstrated that a significantly higher proportion of 5th graders liked the taste of fruits and thought fruits were healthy compared to 4th graders. Post-intervention, a significantly higher proportion of 5th graders reported liking the color of vegetables and the texture of fruits as compared to 4th graders. Fourth grade responses did not change, demonstrating that the attitudes of the 5th graders did not influence the choices of the 4th graders. Our intervention was aimed to expose the students to familiar and unfamiliar fruits and vegetables to encourage them to try new healthy foods in the future. Although we observed an increase in the appreciation of fruits and vegetables in the 5th graders, we did not measure an increase in consumption of salad bar items, perhaps due to the fact that some items were not immediately available on the salad bar. While a one hour lesson may be enough to encourage more positive attitudes about fruits and vegetables, it may not be enough to influence eating habits. A larger study that introduces regular nutrition lessons and taste tests in classrooms may have a greater effect on students' attitudes and choices regarding healthy foods.

Limitations of the Study:

The lack of accuracy of self reporting of the students limited our data analysis. Due to limited time, we were only able to provide one 1 hour intervention, but a longer program may have had a greater effect.



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viii. <http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicId=29>

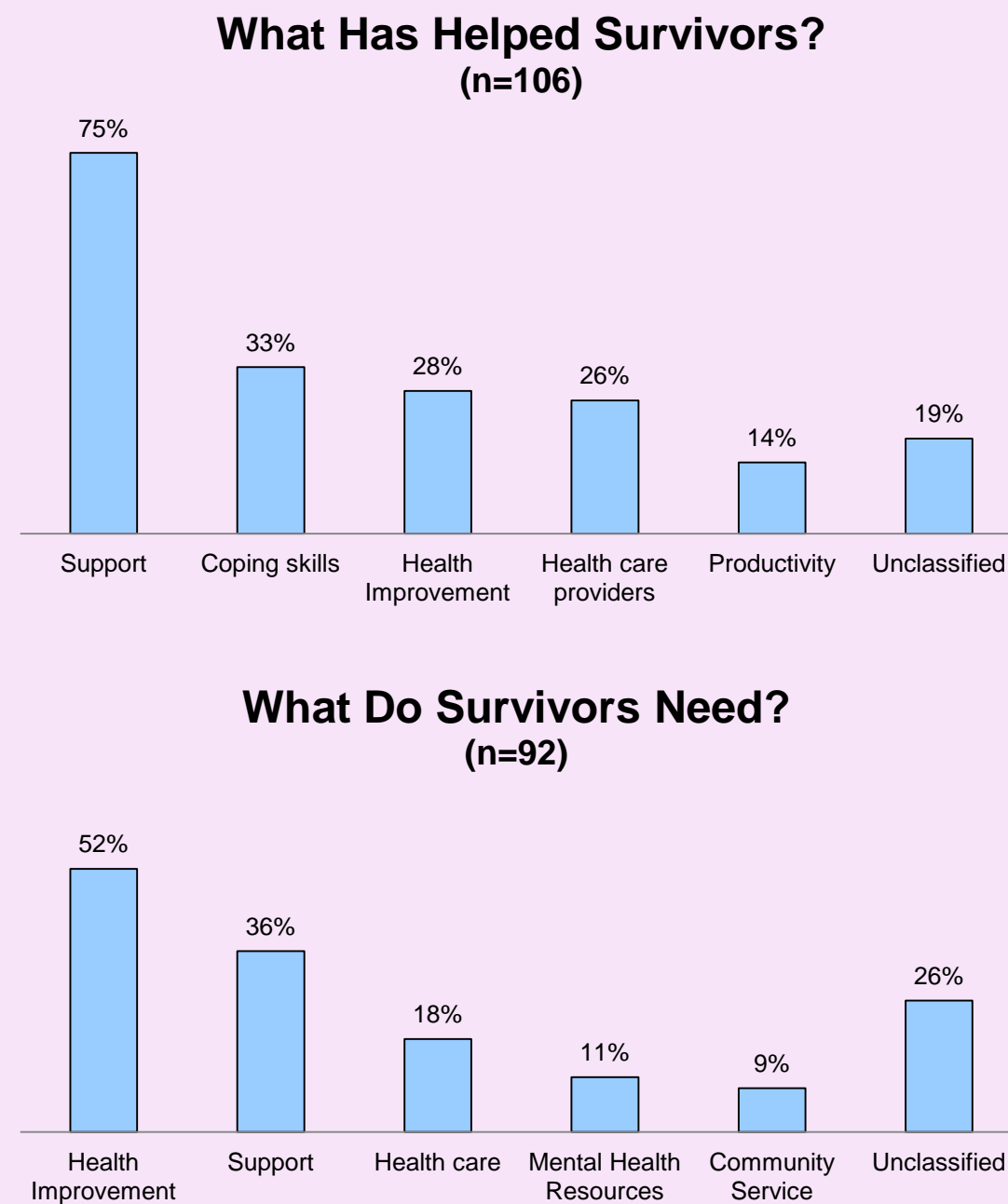
Background

- In Vermont, 500 breast cancer diagnoses are made annually^{1,2}.
 - As of 2005, epidemiological data suggest that as many as 7,000 breast cancer survivors were living in VT³.
- Dragonheart Vermont's "Survivorship NOW"⁴ initiative aims to bridge the gap between treatment and recovery.
- A literature review, including the Taking Charge⁵ program and a survivor needs assessment done by Dr. Geller⁶, supported conducting a needs assessment in three areas: exercise, nutrition, and emotional support.
- UVM COM paired with Dragonheart Vermont's "Survivorship NOW" initiative to determine how to best address these needs.

Methods

- An anonymous two-page (16 item) survey assessed survivors' needs and community involvement.
- 127 surveys were obtained from breast cancer survivors out of the 208 identified cancer survivors attending the 4th Annual Vermont Cancer Center Breast Cancer Conference, October 2011 (7 respondents' data excluded).
- Dragonheart miniature batik dragons were provided for survey completion.
- Responses to open-ended items were re-coded into one of 6 categories.
- Likert-like scales (very unlikely, unlikely, likely, very likely OR strongly disagree, disagree, agree, strongly agree) were used for items targeting support program settings; responses were collapsed into 2 categories for the purpose of statistical analysis.
- 2 x 2 X² tests (alpha = .05, 1 tailed) were used to assess associations between participants' interest in nutrition/other programs and the settings of those programs.

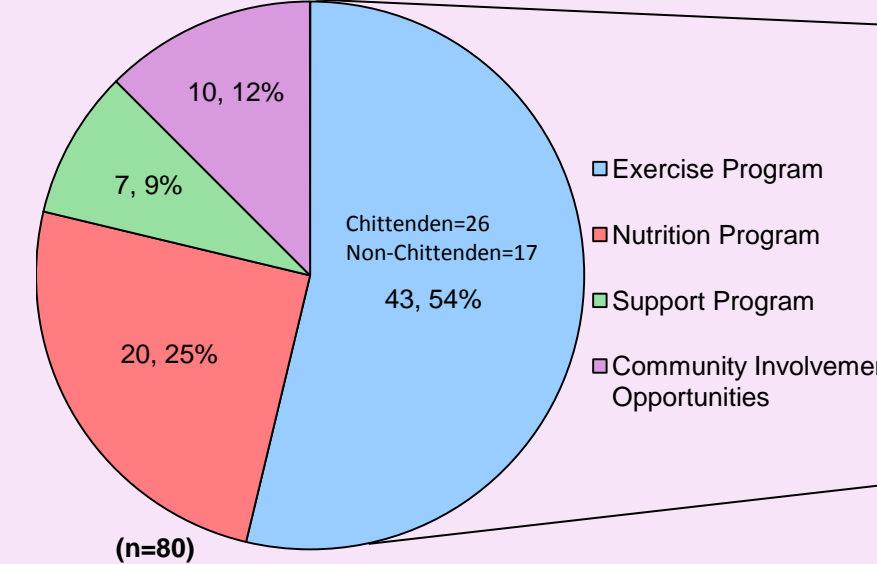
Results



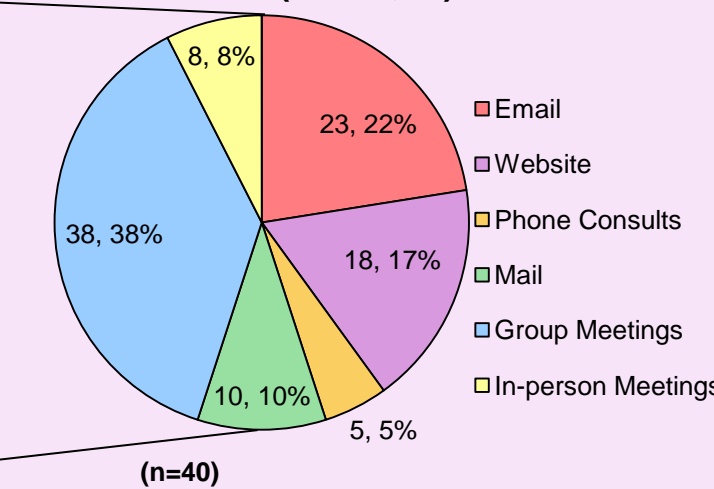
Demographics (n=127)

Category	Percentage
Location	
Chittenden County	57%
Not Chittenden County	43%
Age range	
<50	18%
50-59	39%
60+	43%
Diagnosis year	
Before 2007	54%
2008-2011	46%

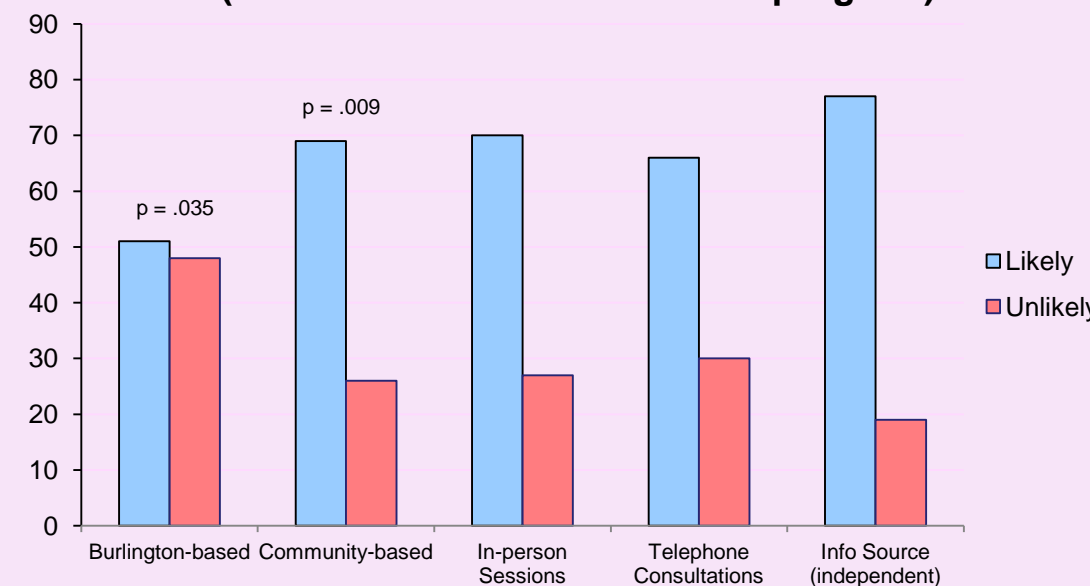
What Programs Do Survivors Want? (count, %)



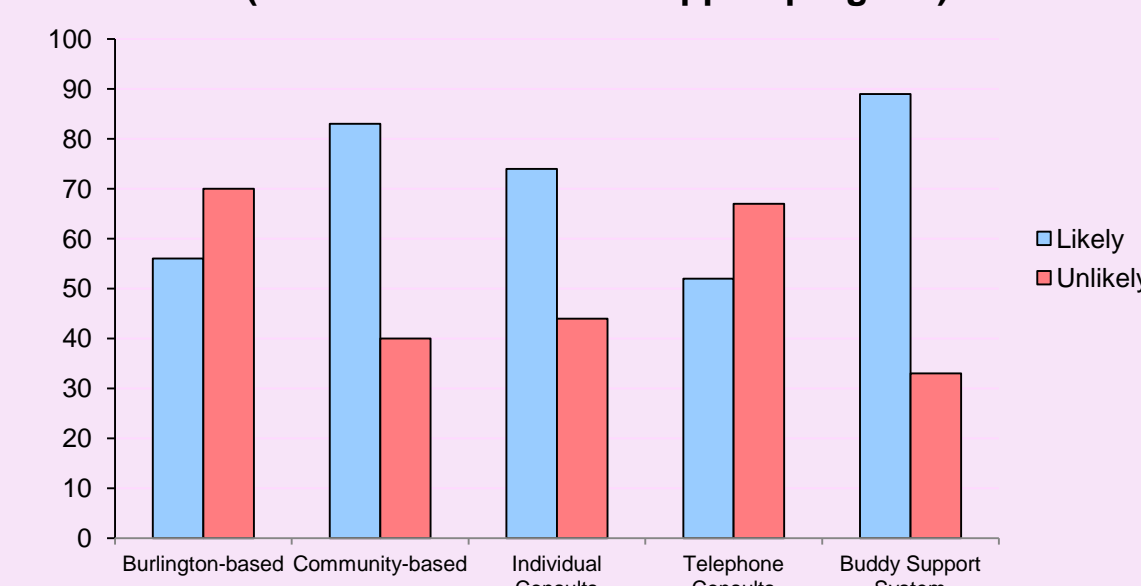
What Type of Exercise Program Do Survivors Most Want? (count, %)



What Type of Nutrition Program Are Survivors Likely to Use? (n=101 interested in a nutrition program)



What Kind of Support Are Survivors Likely to Use? (n=125 interested in a support program)



Discussion

- Respondents most frequently indicated that health improvement resources for nutrition and exercise would help them have a better quality of life.
- In these data, breast cancer survivors appear more likely to participate in an exercise program (relative to nutrition and other programs).
- Dragonheart Vermont's "Survivorship NOW" programming might benefit from a strong emphasis on exercise.
- 25% of respondents wanted to change their diet, indicating the importance of a nutrition component.
- According to respondents, a nutritional information source such as a newsletter would be well-received.
- Respondents cited the importance of support from family, friends and health care providers.
- Support is an ongoing need, especially in the transition from treatment to survivorship.
- Survivor matching (buddy system) could be used.
- Limitations to this study include: small population, survey respondent interpretation, bias imposed by conference themes.

Conclusion

Recommendations for "Survivorship NOW":

- Monthly newsletter/website with healthy cooking tips and consolidated nutrition information.
- "Satellite" exercise groups in communities outside of Chittenden County.
- A buddy-matching program for survivors – could be community-based.
- Giving back to the community via quilting, volunteer work, etc.

¹Breast Cancer in VT. VT Department of Health Vermont Cancer Registry. June 2009. ²Cancer Survivor Community Study. Vermonters Taking Action against Cancer. Feb 2011. ³Centers for Disease Control and Prevention (CDC). Cancer survivors—United States, 2007. *MMWR* 2011;60(9):269–272. ⁴Dragonheart Vermont. <http://dragonheartvermont.org/> 2011. ⁵Cimprich B, Janz NK, Northouse L, et al: Taking CHARGE: A self-management program for women following breast cancer treatment. *Psychooncology* 14:704-717, 2005 ⁶Geller, Berta. Cancer Survivors' Needs Survey. 2011.

Assessing Bullying Behaviors and the Efficacy of Bullying Prevention in Fourth Grade Classrooms

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INTRODUCTION

Bullying has recently gained notoriety as a serious concern across all countries. Bullying is generally acknowledged to be a repeated pattern of abuse communicated to a victim by physical, verbal, or written means which results in bodily harm or emotional injury. Victims of bullying have been shown to be at increased risk for suicide, depression, anxiety, headaches, or difficulty sleeping.

Puppets in Education (PiE) is a non-profit organization that uses interactive puppet shows and workshops to educate more than 8,000 children per year about disabilities, cultural diversity, and a wide variety of other issues. By performing its shows in classrooms throughout the state, PiE works to model realistic, challenging situations for children and to provide simple and practical strategies for dealing with them. Focusing our attention on the effects of bullying behaviors in schools, our team worked with PiE and several local fourth grade classes to determine the amount of information children retain from the organization's bullying prevention program, the effectiveness of the program in addressing and preventing bullying behaviors, and the students' overall perception of the program.



"Anyone can be a bully, and anyone can be bullied"

METHODS

- Three fourth grade classrooms at a Burlington, VT elementary school were selected for study (n = 55)
- Students and families were given the option to opt out of the surveys and focus groups
- Two written surveys were administered by school teachers prior to and after the bullying prevention puppet presentation
 - Surveys contained 10 questions in which students could circle multiple answers or indicate yes/no/I don't know
- Two focus group interviews were conducted after the puppet presentation to assess learning
 - Students were randomly assigned into groups of 3 or 4
 - Focus groups were recorded for analysis
 - Focus groups took place 2 days post-presentation and 2 weeks post-presentation
 - Responses were analyzed based on how many times an answer was mentioned
- Surveys and focus groups were analyzed using Microsoft Excel

RESULTS

A. Survey: Assessing Knowledge

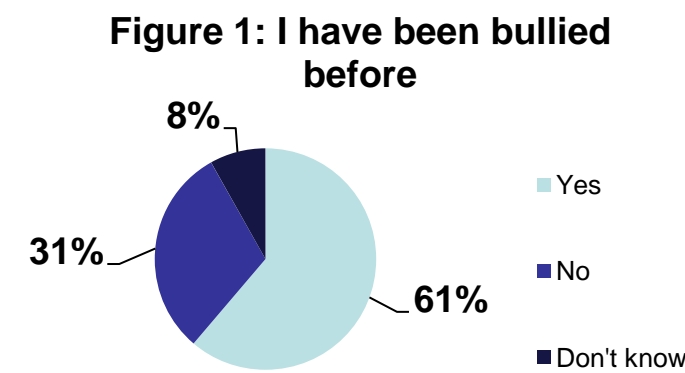


Figure 1. A majority of students reported experiencing bullying. This shows that the bullying prevention presentation is warranted

Figure 2: Summarized Evidence of Learned Concepts

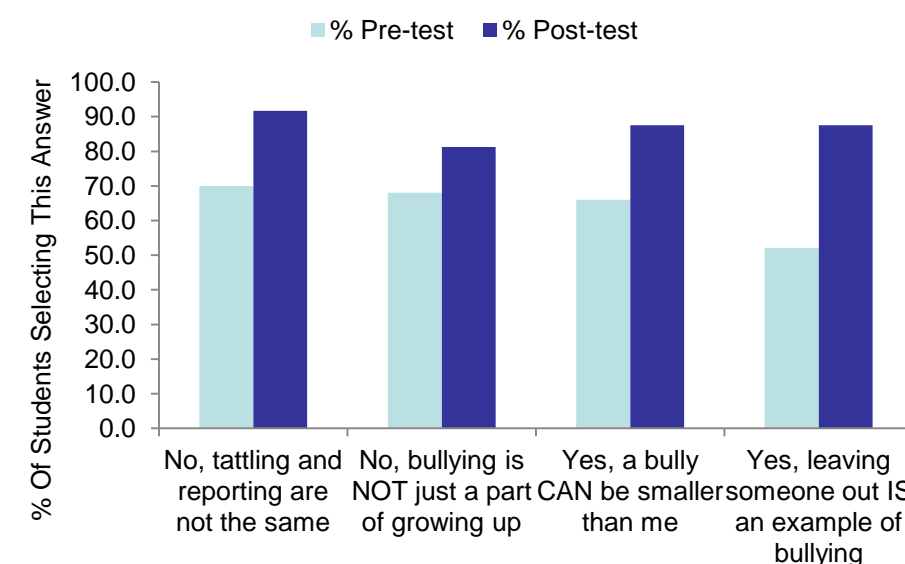


Figure 2. Pre- and post- test analyses show that more students indicated the correct answer following the puppet presentation. This demonstrates that the presentation was successful in teaching concepts

Figure 3. Students routinely identified "threatening", "teasing", and "pushing" as examples of bullying behavior; notably, they identified "leaves someone out" as a bullying behavior less frequently

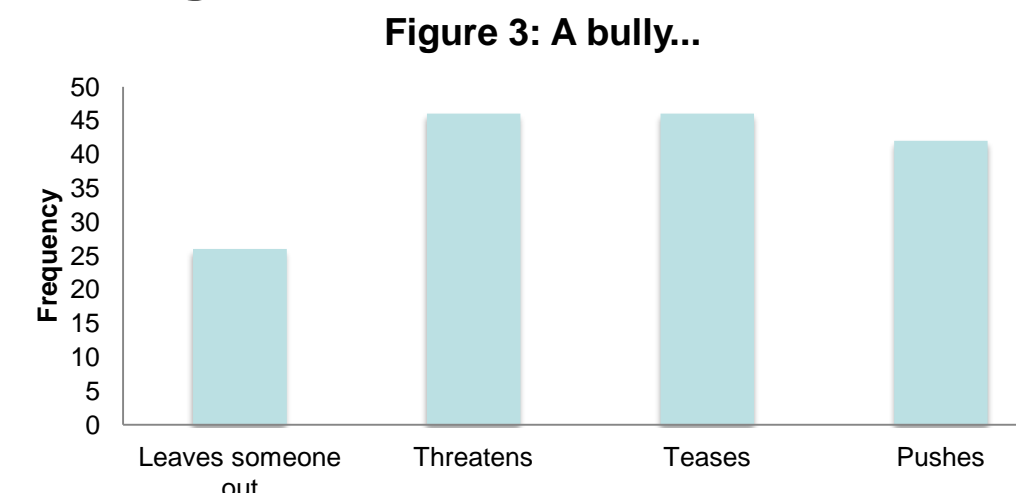
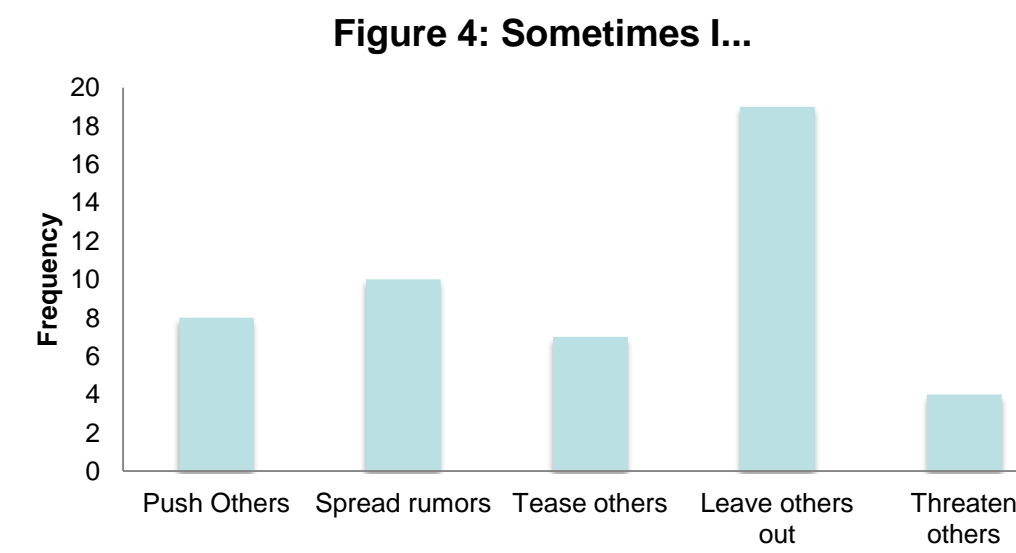


Figure 4. When polled about bullying behavior in which they have engaged, students identified "leaving others out" at almost twice the frequency of any other behavior.



B. Focus Groups: Exploring Behavior and Attitudes

Figure 5: What can you do if you are bullied? What would be most difficult? Easiest?

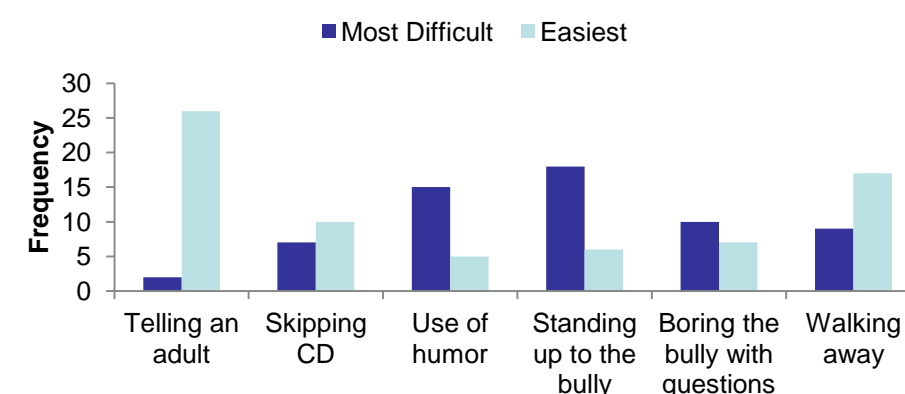


Figure 5. When asked what methods would be hardest when confronted with bullying behaviors, children most frequently voiced telling an adult to be easiest. Standing up to the bully would be the most difficult.

Figure 6: What can you do if you see someone being bullied? What would be most difficult? Easiest?

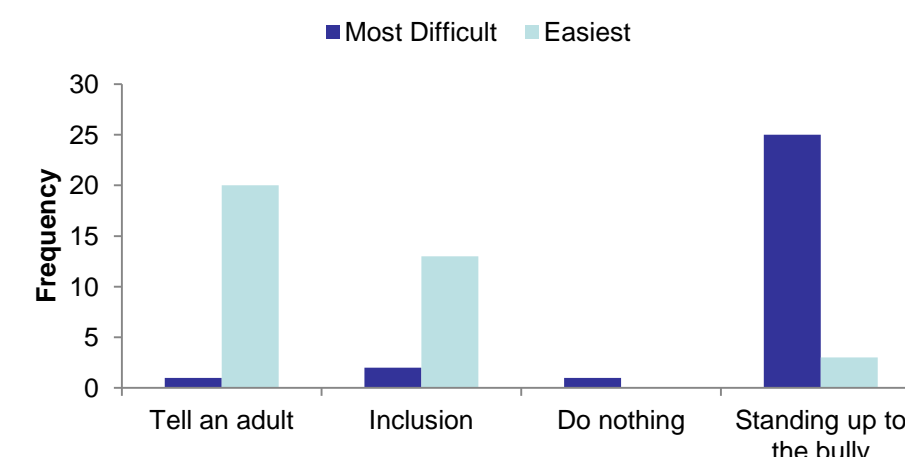


Figure 6. Most students thought that standing up to the bully would be the most difficult strategy to employ. In contrast most students found that telling an adult or including the person being bullied would be the easiest approaches to helping someone being bullied.

Figure 7: I won't help someone being bullied because...

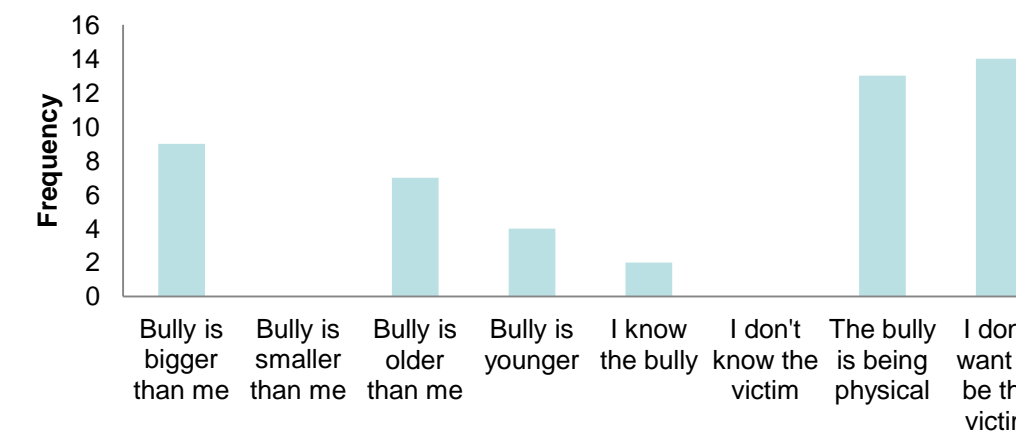


Figure 7. Children most frequently felt that fear of physical harm and being the victim would be an obstacle in helping stop bullying behaviors.

Figure 8: Are you comfortable at school? How has bullying quantity changed?

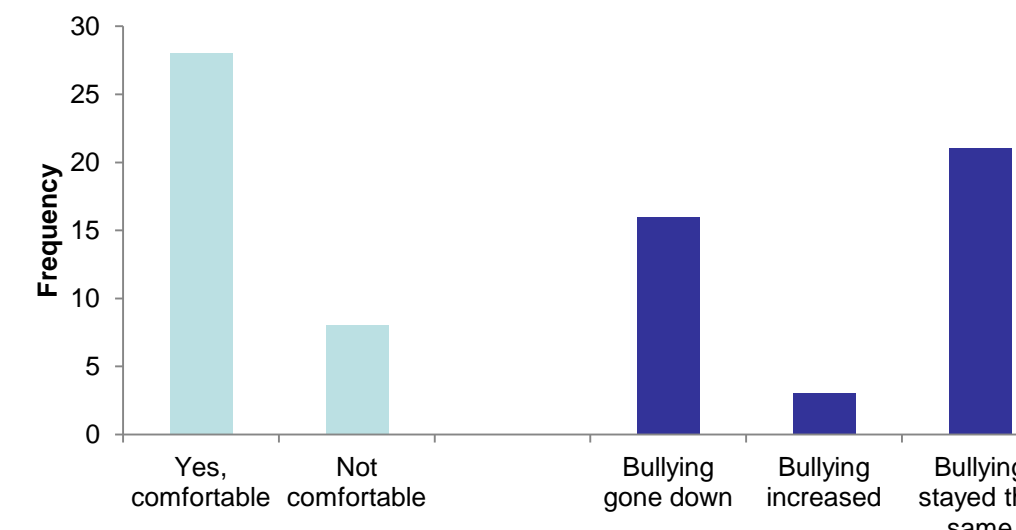


Figure 8. Children reported a decrease in bullying and an increase in comfort in dealing with bullying behaviors after the presentation.

"I think the way they did the presentation was good because if it was a bad presentation it wouldn't inspire you to use those tactics...it inspired people to use it and do it more often and stand up for themselves and their friends and others"



CONCLUSIONS

Analysis of the post-test demonstrated that an increased percentage of students expressed the desired or correct answer about bullying behaviors, indicating that the presentation was received

Students most frequently cited "Telling an Adult" and "Walking Away" as strategies they could and would use when faced with a bully, a finding consistent with recent literature in which 9-13 years olds suggested that telling a parent or adult was the most effective way to stop bullying.

Elements that would make them less likely to intervene were fear of becoming the victim or a fear of physical violence. The data from the pre and post surveys suggest that a large majority of students do feel that there are safe ways they can help when bullying behaviors occur

Students were able to recall all of the strategies introduced during the puppet presentation during both focus groups. Also of significance, a large majority of students reported that they felt more comfortable dealing with bullying after the presentation.

"Now I know, if I ever get bullied or my friends are being bullied, I know what to do"



Cremations, Dental Amalgams, and You

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Introduction

In Vermont, cremation has increasingly become an alternative to interment of an intact body. Many of the bodies being cremated contain dental amalgams, which are commonly used by dentists to repair dental erosion and caries (cavities). They are an economical option for caries repair, and remain popular. Roughly one third of all caries fillings done in 2002 in the U.S. utilized amalgam⁷. Amalgam is a metal alloy containing as much as 50% mercury by volume, a metal that is a known toxicant¹. Dental amalgams, may constitute a source of low level, continual exposure for those with these dental devices in situ and may be released to the atmosphere upon cremation.

The goal of this project was to investigate:

1. The status of the scientific opinion on potential health effects that may be associated with having dental amalgams.
2. To help refine State estimates of potential mercury emissions from Vermont crematoria.

Methods

- A literature review was performed on:
 - Health effects associated with exposure to elemental mercury and mercury in general.
 - Individual exposure to mercury as a result of dental amalgam installation.
 - State of current scientific and medical opinion on the potential health effects of dental amalgams, and recommendations for their use.
 - How to effectively communicate risk to both physicians and patients.
- Surveyed several Vermont crematoria (n=9) to obtain estimates of annual activity and trends.
- Obtained 2008 State of Vermont Ambient Emissions Inventory for Mercury from the ANR, DEC, Air Pollution Control Division. We researched the algorithm used to derive an estimated emissions value from crematoria.

“Dental amalgam has been studied and reviewed extensively, and has established a record of safety and effectiveness.” - ADA

Results

- The known effects of mercury include neurotoxicity, kidney toxicity, damage to the gastrointestinal tract, and possible termination of pregnancy. There are also acute allergies to mercury¹.
- It is debated whether chronic mercury toxicity from amalgams plays a role in multiple sclerosis, fibromyalgia, chronic fatigue syndrome, Alzheimer’s Disease, and Parkinson’s Disease¹.
- The U.S. EPA has established a chronic Inhalation Reference Concentration (RfC) of 0.3 ug/m³ for elemental mercury⁹. Some estimate this may equate to 114-144 ug/day¹. The California Environmental Protection Agency has established a Chronic Reference Exposure Level (REL) of 0.03 ug/m³ of mercury³.
- On average, a person with amalgam is estimated to be exposed to 1-5 µg of mercury vapor per day².
- Studies suggest children with amalgams have significantly higher levels of mercury in their urine and hair samples (3.763 µg/g vs. 3.457 µg/g, P=0.019 for urine, 0.614 µg/g vs. 0.242 µg/g, P=0 for hair)³.
- There are 2-12 times more mercury in body tissues of individuals with dental amalgams by autopsy⁴.
- The brain tissue of individuals with more than 12 amalgams was found to have an average of 300 ng Hg/g significantly exceeding the non-toxic level of 0.02 -36 ng Hg/g⁴.
- Studies in Japan have not found increased mercury in the atmosphere around crematoria⁵, however studies in New Zealand have found increased levels of mercury in the soil surrounding crematoria⁶.



Figure 1 – There are at least 9 crematoria dispersed through the state of Vermont, which each perform between 300 and 1,000 cremations per year. Eight locations are shown here.

Table 1. Estimated total mercury emissions from crematoria in VT in 2008^a

Emission Factor ⁸	1.49 g/body
Cremation Activity	1,975 per year
Total Mercury Emissions from Crematoria	6.49 lbs. ^b

^a Data from Vermont DEC. ^b Total mercury emissions in Vermont from all sources is 208.5 lbs.

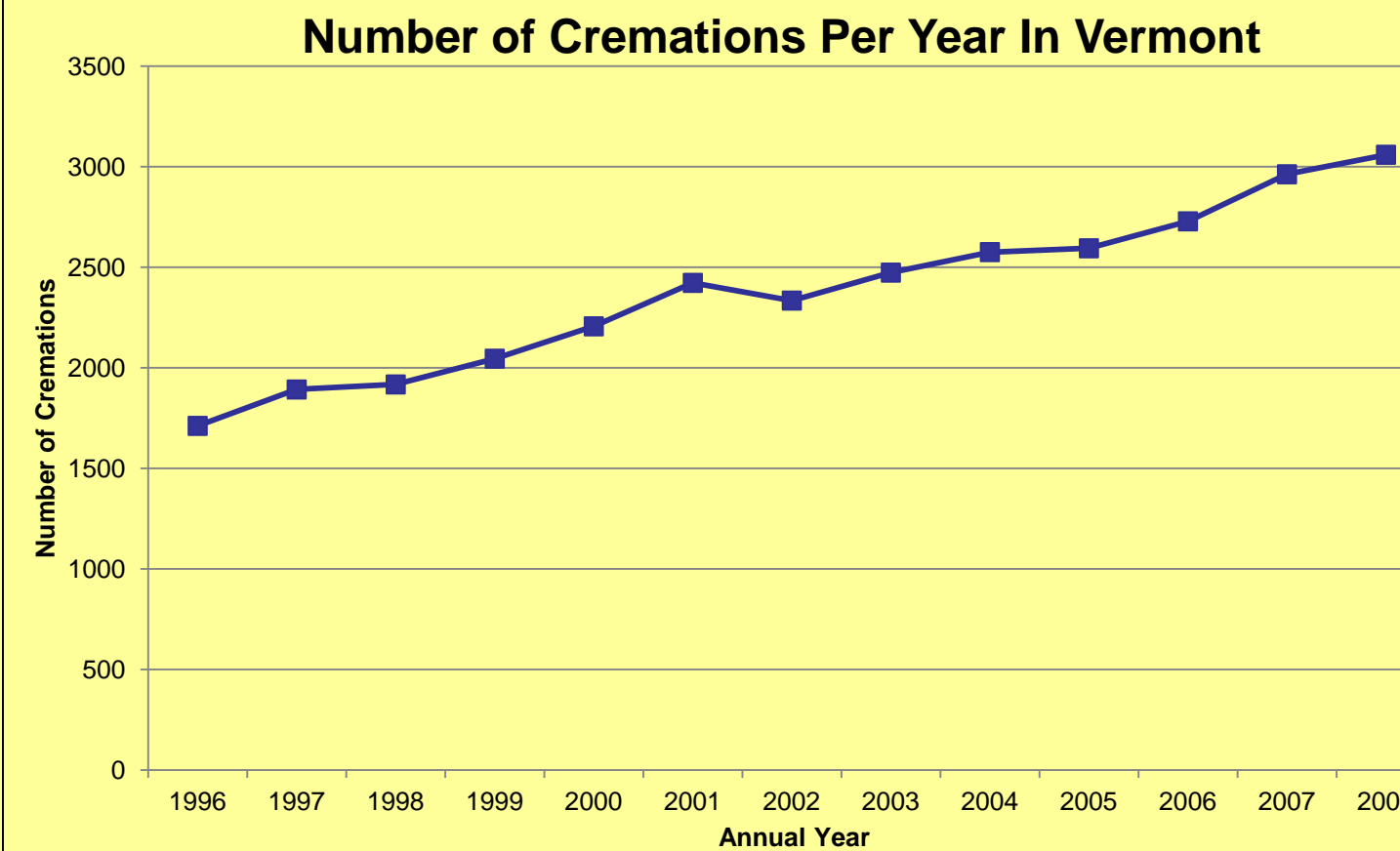


Figure 2 – There was a steadily increasing number of cremations per year in Vermont between 1996 and 2008⁷.

“...there is emerging consensus regarding the need to improve consumer education regarding dental amalgam and to better protect vulnerable subpopulations. There is also growing consensus to improve the care and consideration of patients who associate health symptoms with dental amalgam and the need to better educate the dentist and doctors who care for these patients.”

– FDA in 2010 Meeting of the Dental Products Panel¹

Discussion

- Studies have identified increased levels of mercury in the tissues of people with dental amalgams.
- It has been difficult to find a definitive method to measure mercury exposure in people with amalgams, and then to be able to compare studies that use different techniques.
- While mercury is a toxicant, it has been difficult for studies to find health effects significantly associated with dental amalgams. As shown, the FDA and the ADA have conflicting positions on the safety of dental amalgams.
- The trend of using cremation in Vermont is increasing. There is likely more mercury being emitted from crematoria than the 2008 DEC estimate indicates; the actual number of cremations in 2008 was higher than the estimate used in the algorithm. The estimate also does not account for where the emitted mercury is distributed, and the emission factor used is a national average.
- Many VT crematoria reported performing cremations for non-VT residents, and these cremations are not required to be reported. Thus the Vermont Department of Health Vital Statistics records may underestimate the number of cremations performed in VT, because they use VT death certificates to get their data.
- There is no actual monitoring being done of mercury emissions from crematoria in VT.

Conclusion

- Current studies of the safety of dental amalgams are limited by insufficient experimental designs and confined sample sizes. With increased understanding of mercury toxicity and improved experimentation techniques, researchers may soon validate that dental amalgams mildly increase the risk of pathology.
- We support the recommendations of the FDA, to not use amalgams in patients with known metal allergies and to discuss the risks and benefits with a dentist prior to amalgam insertion¹. It is crucial that patients are educated about possible health consequences before amalgam use, and are informed that current research is limited. Patients should also be made aware of alternative dental repair materials.
- The total number of cremations performed in VT should be monitored, as this information allow for an accurate determination of crematoria’s mercury emissions. We also encourage thorough analytical examination of crematoria to quantify the actual amount of mercury they release into the environment.

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Barriers to Complete Adult Vaccinations in Vermont

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Introduction/Background

- Child immunization is nearly universally accepted as an effective preventative measure against infectious diseases,¹ yet adult immunization rates continue to lag behind recommended levels.²
- Epidemiological trends suggest a correlation between vaccine administration and decreased rates of significant morbidity and mortality, hospitalization and emergency department visits, work absenteeism, and illness associated expenses.³
- As of 2010, Vermont is failing to meet its adult immunization goals by 13-43%.⁴
- This study aims to understand and identify specific barriers to adult immunization in Vermont.

Methods

- The survey group was health care practitioners involved in adult vaccination, so a public database of licensed physicians from the Vermont Department of Health (VDH) website⁵ was compared against email addresses provided by the VDH of family medicine and internal medicine doctors (qualifying physicians) with Vermont mailing addresses.
- Five hundred and seventy-two emails were sent to qualifying physicians with a web-link to the survey with a follow-up email reminder one week later.
- The survey consisted of 26 questions developed from the awareness-to-adherence model,⁶ and included questions about physician demographics, behaviors regarding recommendations to patients, sources of information, barriers to adult immunization, and opinions about possible interventions to improve adult vaccination rates.

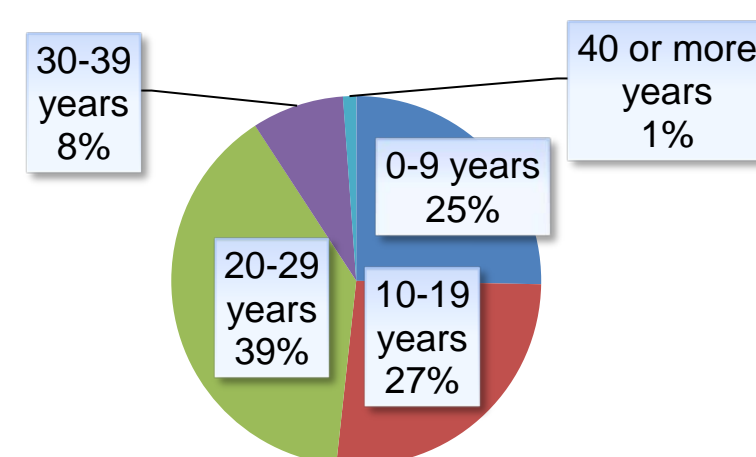
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Results

- A total of 88 people responded to the survey, giving us a response of 15.4%.
- Forty-four (50%) identified their specialty as internal medicine, 36 (40.9%) as family medicine, and one (1.1%) as pediatrics. An additional 7 (8.3%) identified other specialties.

Total Years in Practice



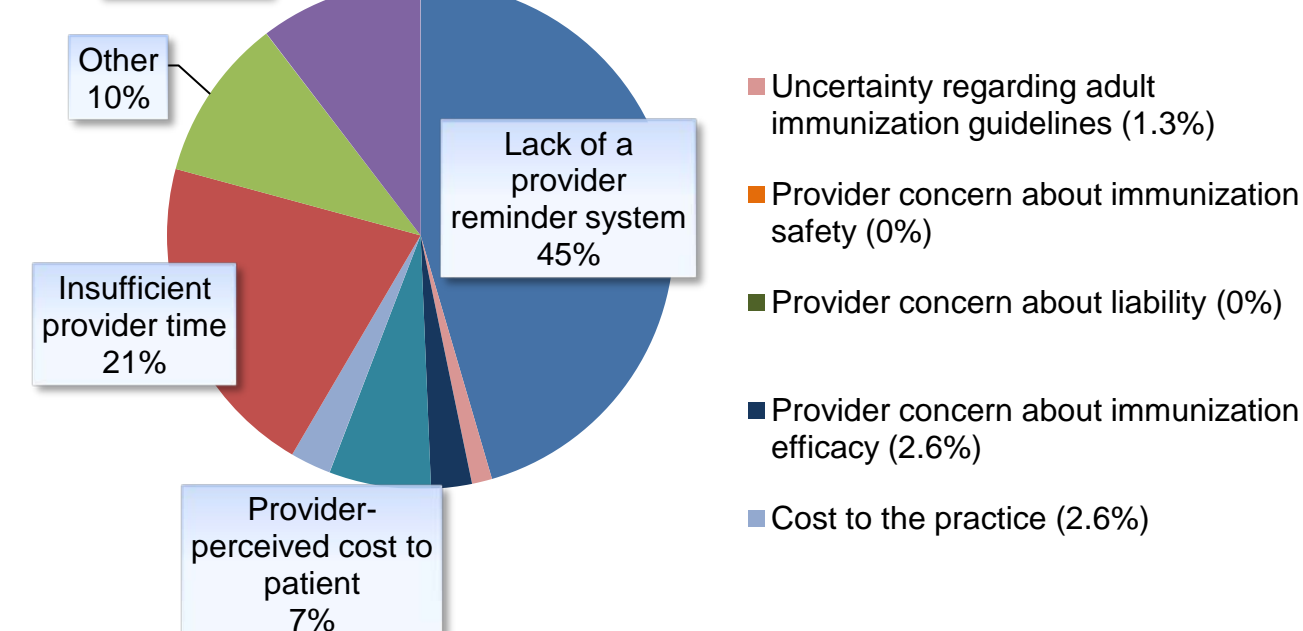
Provider Recommendations

Tdap Vaccination Population	
Adolescents and adults aged 11 to 64 years	83.00%
Adults aged 65 and older	50.00%
Patients whose last dose of Tdap was at least two years ago	10.20%
Patients at risk for tetanus due to injury	50.00%
Health care workers	47.70%
Other	12.50%

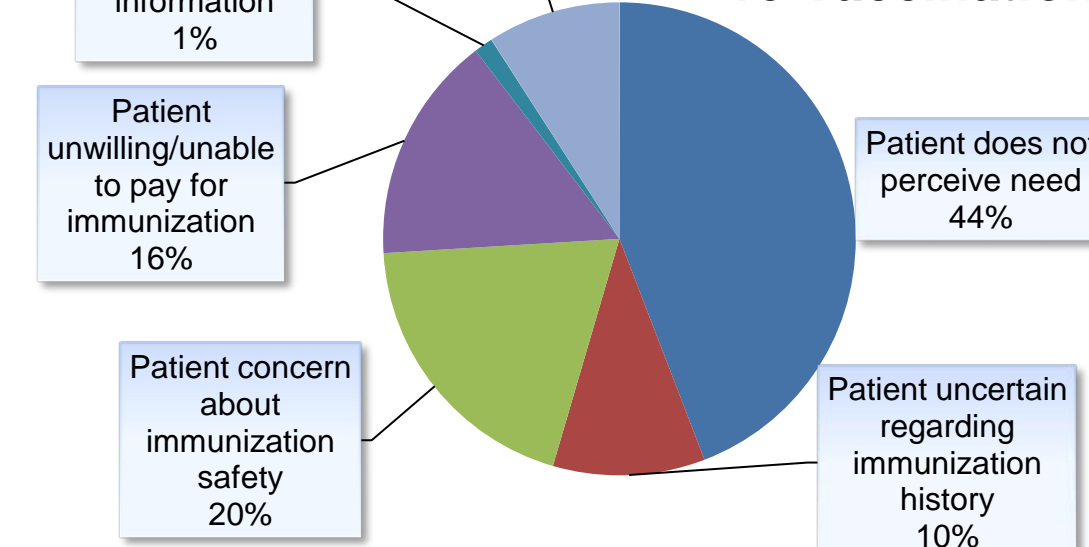
Zoster Vaccination Population	
Adults aged 50 years and older	17.10%
Adults aged 60 years and older	62.50%
Other	17.10%

PPSV23 (Pneumococcus) Vaccination Population	
Adults aged 19 years and older with chronic medical conditions	84.10%
Adults aged 19 years and older with a history of smoking	22.70%
Adults aged 19 years and older with a history of chronic alcoholism	36.40%
Adults aged 65 years and older	78.40%
Other	4.60%

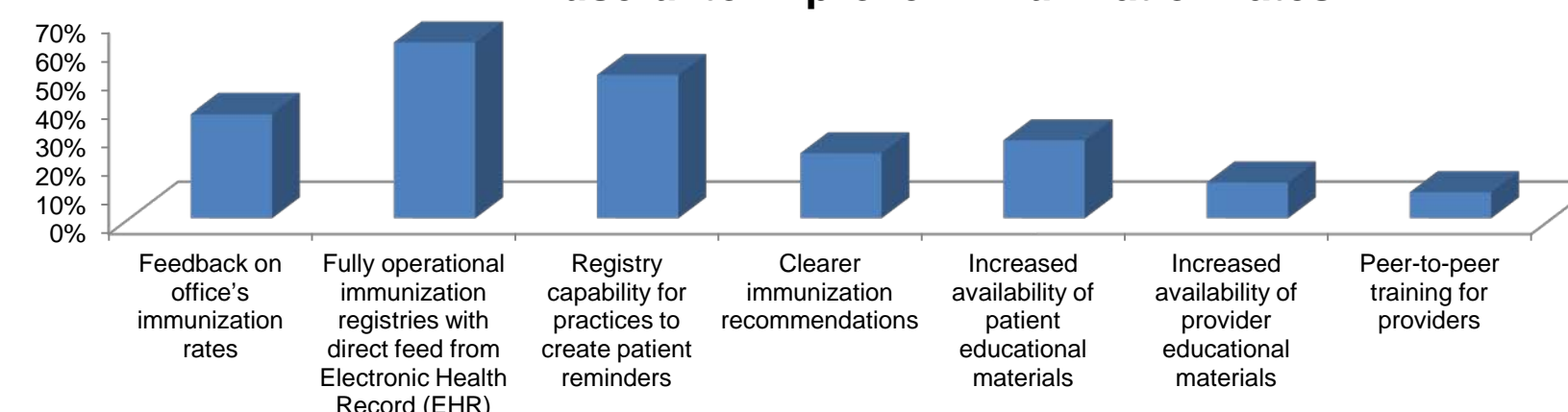
Primary Practice-Related Barriers to Vaccination



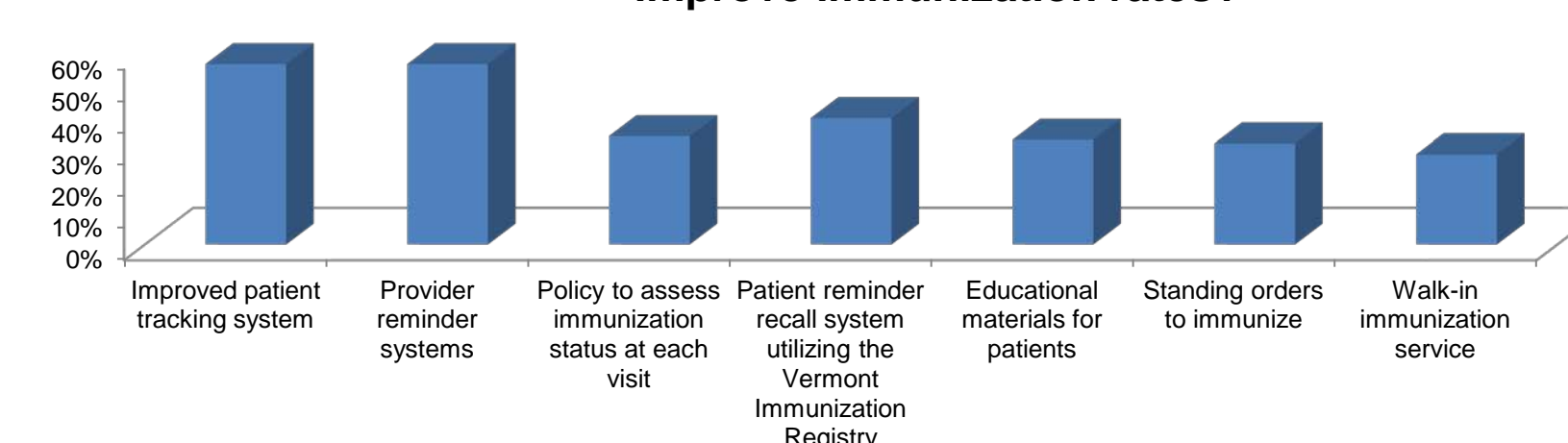
Patient-Related Barriers To Vaccination



What strategies from outside agencies might be useful to improve immunization rates?



What strategies within your practice might improve immunization rates?



Limitations

- This was an email survey, so the calculated response rate was likely lower than the actual response rate because nearly 100 emails were returned.
- The databases used did not distinguish between physicians currently in practice or those retired.
- Most responders indicated that they preferred electronic methods of communications and reminders to remain up to date on vaccinations, an inherent bias due to the method of correspondence.

Discussion

- Most respondents are familiar with and agree with CDC guidelines for adult vaccinations. There were no significant differences in physician behaviors regarding recommendations based on specialty, as family medicine and internal medicine physicians had similar responses.
- The majority of respondents reported adhering to CDC recommendations. A notable exception was in recommending the Tdap immunization to health care workers (47.7%). Considering the actual Tdap Vermont vaccination rates for health care workers as of 2009 are low,³ lack of physician recommendations may be contributing to lower than desired vaccination rates for this population.
- With regards to practice-oriented barriers, those surveyed noted a lack of a reminder system. The increased utilization of electronic medical records (EMR) may provide a vehicle for a reminder system, as well as incorporating a state immunization registry.
- The primary patient-related barrier was lack of patient-perceived need, which indicates that efforts towards education regarding benefits of vaccination might be fruitful in increasing vaccination rates.
- There appears to be no problem with access to information regarding vaccination guidelines, and rather, specific barriers seem to play significant roles in impeding complete adult immunization.

Future Directions

- Improved use of the electronic medical record should help with reminders, so this is likely not an area that requires much in the way of future studies.
- Also significant is the lack of patient-perceived need, which necessitates the need for more education about vaccines. Future studies should address the patient population directly to assess reasons for not receiving vaccinations.

Huntington's Disease: Assessing The Needs of Patients and Caregivers in Vermont

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Visiting Nurse Association of Chittenden and Grand Isle Counties, VT

Introduction

- Huntington's disease (HD) is an inherited neurological disorder that causes a progressive decline in motor, cognitive and psychiatric function.
- HD affects 30,000 people in the USA. In Vermont it is estimated that 69 individuals have HD and 420 people are at risk for developing the disease.
 - Crescent Manor Care Centers is currently the only long term care facility in Vermont that houses Huntington's patients. Patients receive care specific to HD including PT, OT, Speech Therapy and community activities. Currently, 13 of 40 beds are occupied.
 - There is one HD support group in the state located in South Burlington which meets once a month. Due to the low population of HD patients in the state, there is no single state government agency responsible for managing the care of HD patients.

Methods

A survey was conducted and was designed to investigate potential needs identified from our literature review and from information provided by the Huntington's Disease Society of America (HDSA). The survey was designed to be completed by either a patient, family member or professional caregiver. The survey contained categorical, Likert-style and open-ended questions. A draft of the survey was distributed for review to local health professionals, HD advocates, and patients in the Chittenden County HD support group. Edits were made based on the reviewers' recommendations. Paper copies were distributed to the support group and to Dr. James Boyd, who mailed the surveys to his patients and to Vermont neurologists. All surveys came with addressed, postage-paid envelopes to facilitate their return.

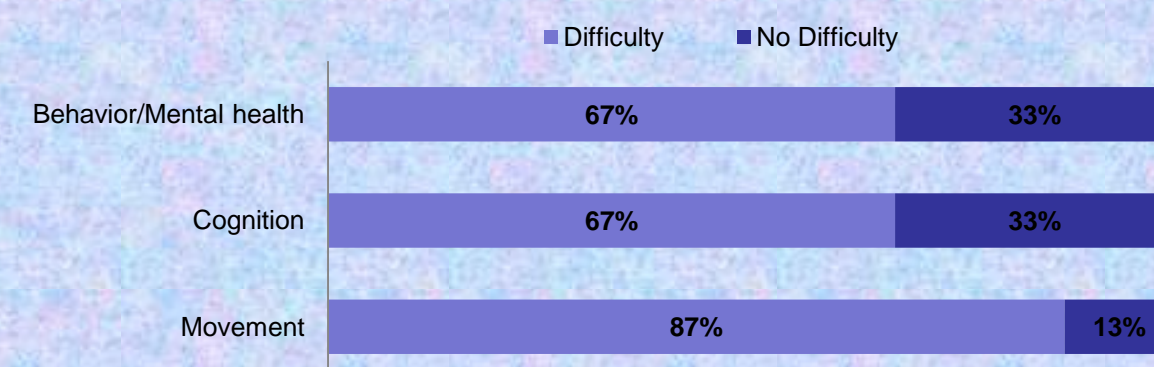


Photo: Kevin McGrath

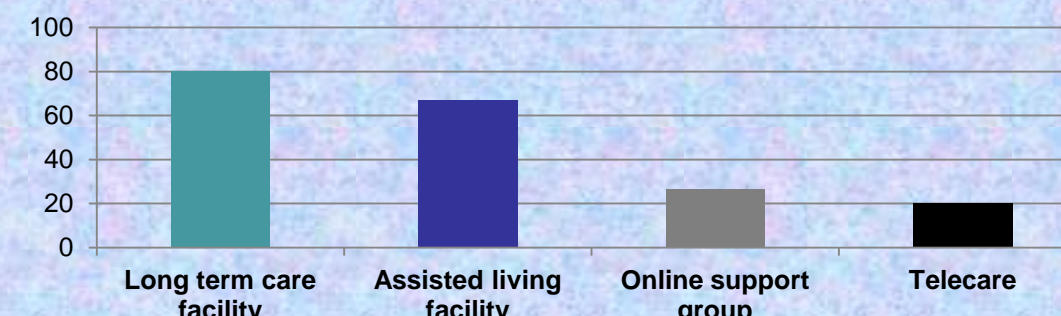
Results

- Age in years, median & SD: 52 ±14
- Of the respondents, 6 people were diagnosed within the past 3 years, 4 people were diagnosed between 3 and 8 years ago and 4 people have lived with an HD diagnosis for over 10 years.

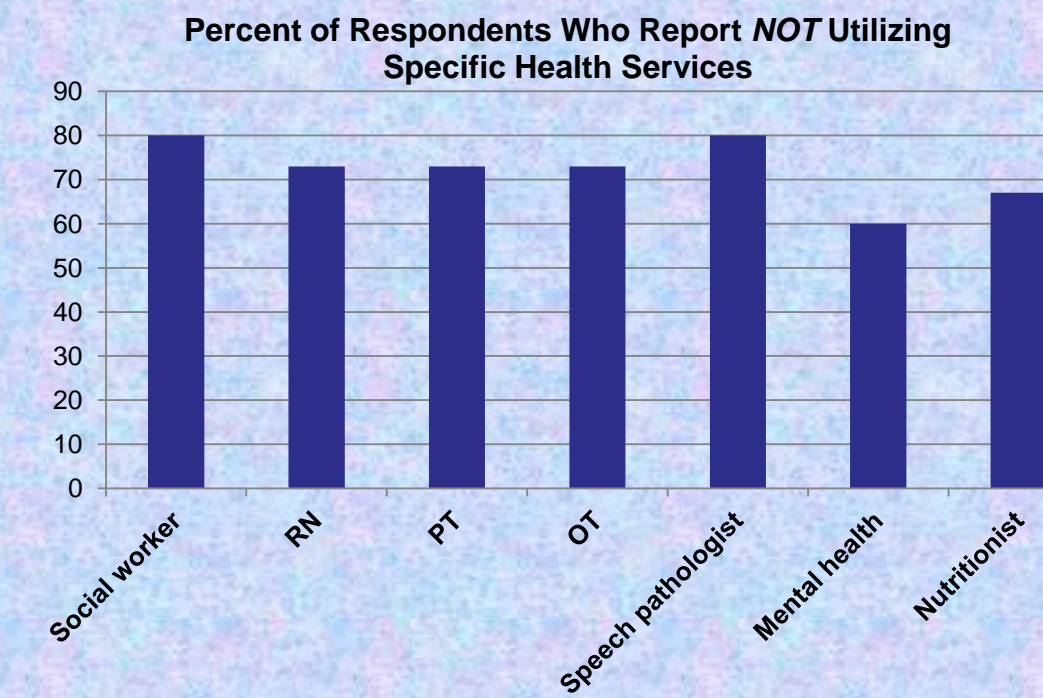
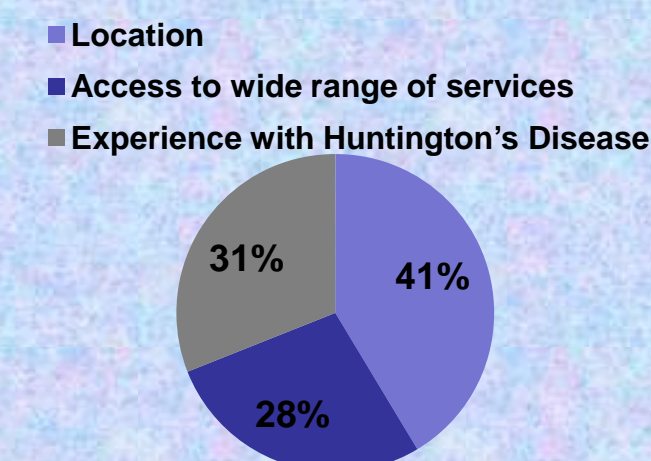
Symptoms with which patients reported having difficulty



Percent of respondents interested in:

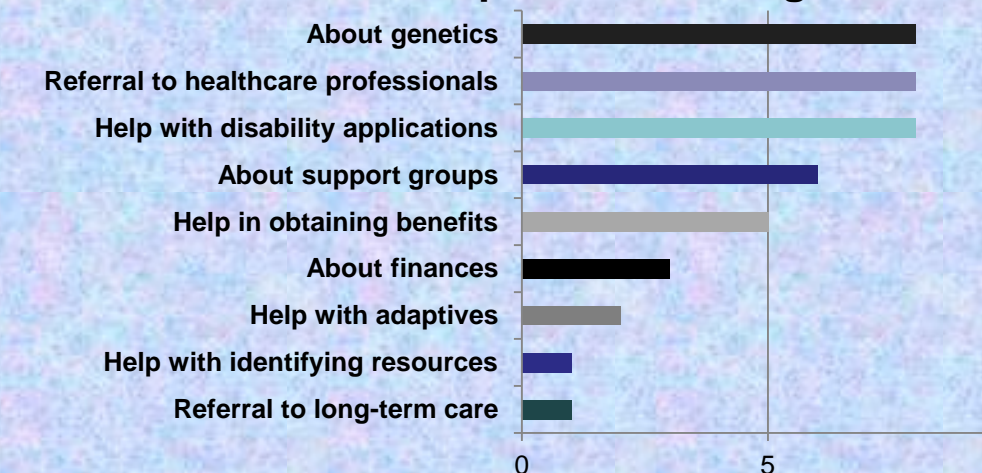


Priority for Outpatient Care



- Patients were generally satisfied or very satisfied with their access to all healthcare professionals. However, services appeared to be underutilized.

Number of respondents reporting information provided at diagnosis:



- Patients need more assistance with identifying resources.
- Currently, the vast majority of patients are driving 1 hour or less to see their neurologist and location is the top priority for outpatient care.

Discussion

- While most respondents were able to get help with healthcare referrals, financial disability applications and genetic counseling from their health care provider, only one individual was able to get help in identifying community resources. This omission highlights both the lack of social worker usage and an easily accessible central resource of information for Vermonters with HD.

- A very high percentage of respondents reported difficulty with movement and mental health, but only a minority of individuals utilized non-physician professionals in these areas. These results indicate that Vermont HD patients may need increased access to and coordination of care outside of regular neurological treatment.
 - Respondents reported a high level of interest in a long term care or assisted living facility in the Chittenden County, Vermont area. Currently no such facility exists, which leads to hardships for family members who must travel several hours to see HD residents at Crescent Manor in Bennington, VT.
- Limitations:**
- A limited number(15) of surveys were returned which did not allow for a statistically significant analysis.
 - The majority of responses (65%) were from patients with a HD diagnosis that was less than three years old, limiting the survey's accuracy by representing higher functioning patients' needs.

Conclusion

Having a case management system would potentially allow improved utilization of resources, including long-term care planning. An in-patient facility located in the Burlington area with easy access to multiple services would be of great benefit.

Acknowledgments

We would like to sincerely thank Dr. Jim Boyd and Linda Martinez for their guidance and help in putting this project together. We would also like to thank Mary Lomas for her invaluable insight into caring for a loved one with Huntington's disease. Additionally, thank you to all of the patients and families for participating in this project.

Introduction

- The local food environment plays an important role in defining the health of the neighborhood and is an important determinant of resident's dietary intakes.^[1]
- Specifically, food availability, affordability, and accessibility have been linked to diet quality and various health outcomes.^[2]
- Fresh fruits and vegetables are markers for nutritional diets.^[3,4] Grocery stores and super markets tend to have better quality fruits and vegetables, greater variety and better affordability than convenient stores that tend to have more prepared and higher calorie foods.^[5,6,7]
- People who live in neighborhoods with better access to supermarkets tend to have a greater daily intake of fruits and vegetables.^[7,8]
- Increased distance from supermarkets is negatively associated with healthy food intake in a study of pregnant women.^[2]
- "Food deserts" are areas that are devoid of a local supermarket where residents have a limited ability to purchase affordable healthy foods.^[10] They have become an emergent problem in the United States. This paucity of supermarkets in these areas combined with lack of private or convenient transportation among poorer residents may contribute to health disparities across socioeconomic classes.^[9,10]
- The town of Winooski, VT has a population of 7,267.^[11] Although there are local food markets and convenient stores within the town, Winooski lacks a larger grocery store.
- Insufficient public transportation and inadequate pedestrian sidewalks make it more difficult for residents to access supermarkets located in other towns.

Objective

The goal of this project is to evaluate transportation and ease of access to fresh produce in the town of Winooski.

Methods

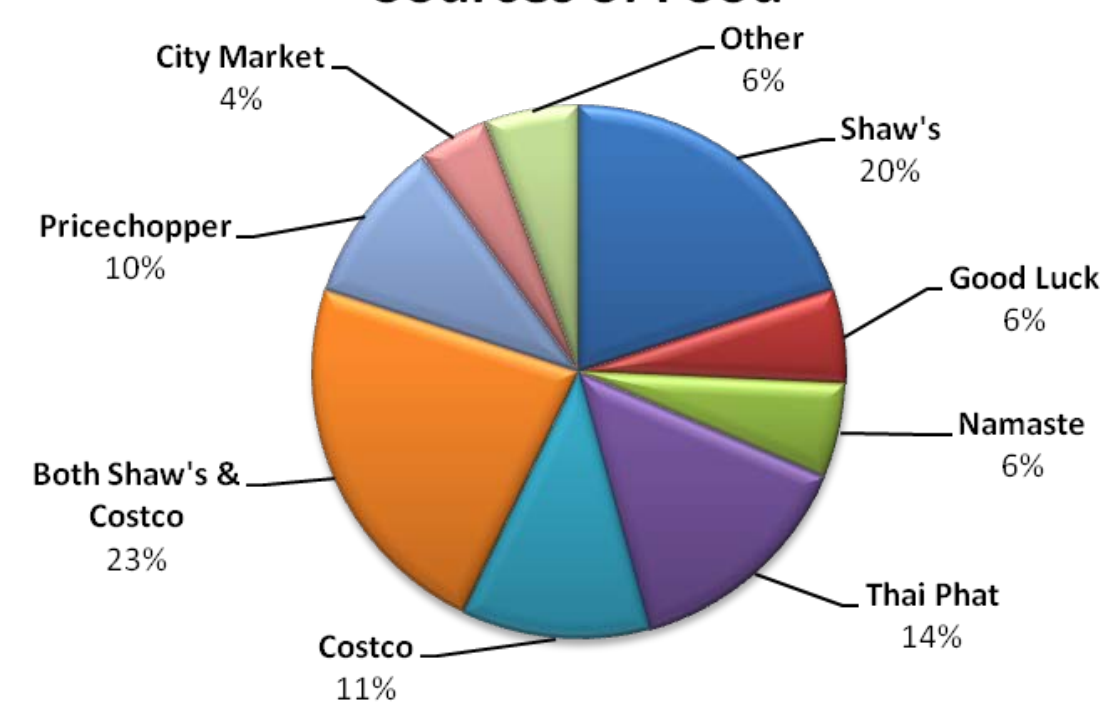
- Designed a survey to assess where residents of Winooski shop for produce and what barriers, if any, existed that prevented them from accessing fresh fruits and produce to meet their demand.
- Organized a community health fair at the O'Brien Community Center in Winooski.
- Administered surveys to residents at the Winooski Coalition for a Safe and Peaceful Community on two separate days (one during community health fair and another at a Thanksgiving community dinner).
- Analyzed data to make recommendations for the city of Winooski to address any barriers that prevented access to fresh produce.

Results – Participant Characteristics

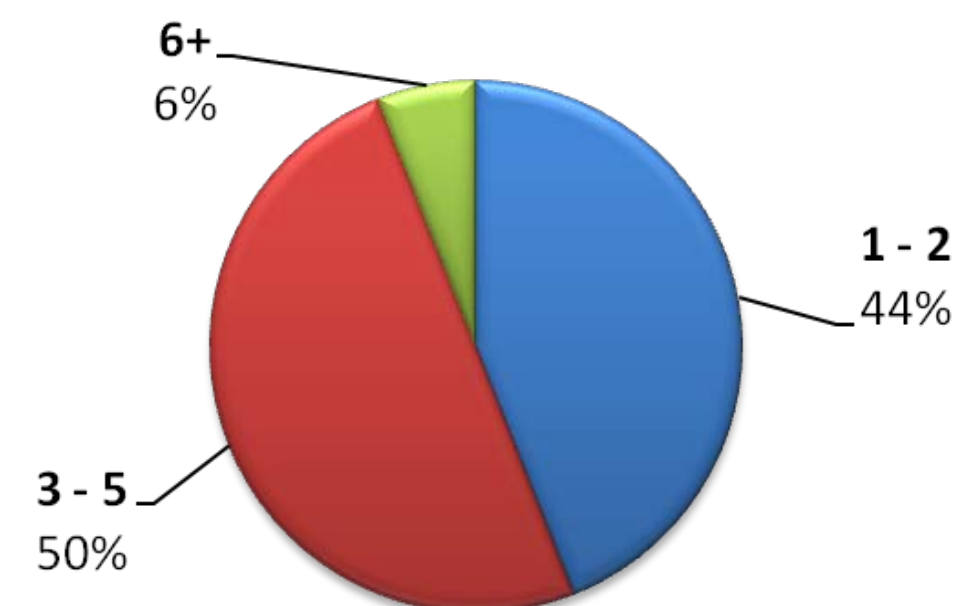


- The majority of participants indicated they obtain fresh produce from **Shaw's** or **Costco**.
- More than half of those surveyed consume greater than 3 servings of fresh produce daily.

Sources of Food

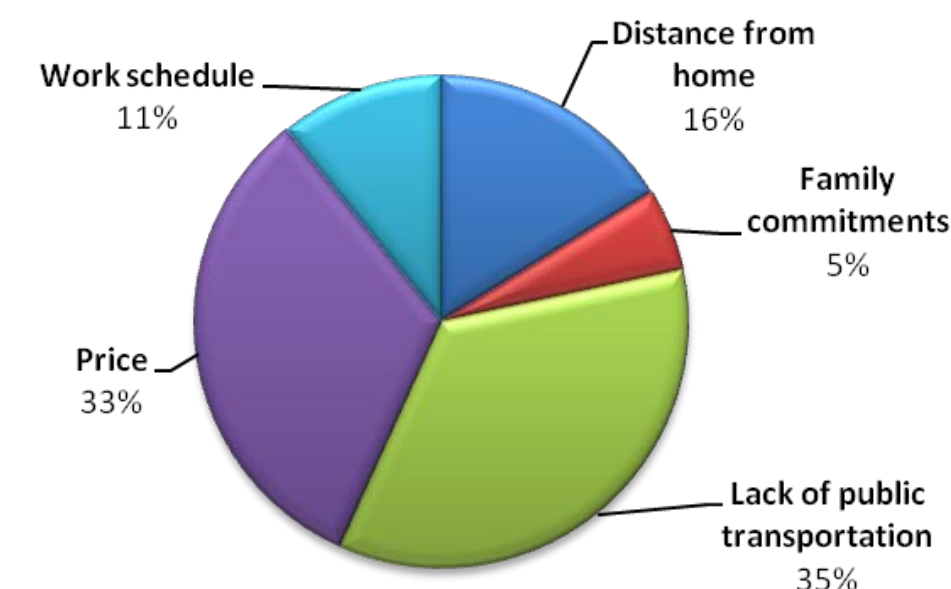


Daily Meals with Fresh Produce

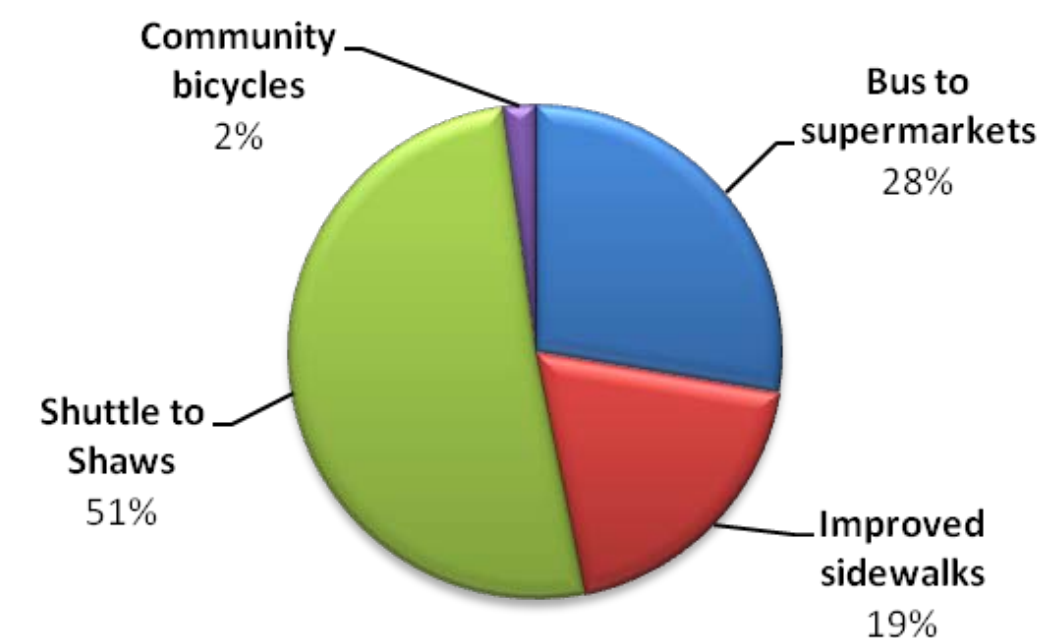


Results - Barriers to Fresh Produce

Barriers to Obtaining Fresh Produce



Suggestions for Improving Access to Fresh Produce



- Price and lack of access to public transport are key barriers to obtaining fresh produce.
- When considering the correlation between household size and servings of fresh produce consumed by each individual, Freeman-Halton extension of Fisher's exact test on the survey data yields a p value of 0.047 - indicating there is a small correlation between household size and servings of vegetables consumed.
- The nature of the relationship between household size and servings of vegetables was unanticipated, given that the larger households consumed more servings of vegetables per person.



Discussion

- Studies have shown that chain grocery stores and super markets have a larger variety of healthy produce that is more affordable (Nutrition Environment Measures Survey in Stores) which was also found in Winooski.
- 53% of participants reported that their primary source of fresh produce is a large store such as Shaw's, Costco, or Price Chopper
- Just over half of participants are consuming 3 or more servings of fresh produce daily, indicating that a number of residents are disadvantaged due to availability of produce in the smaller local markets.
- However, 51% reported that distance and/or transportation is an obstacle to accessing such stores.
- An overwhelming majority stated that the best way to increase access to the local Shaw's would be through an increase in public transportation to the site. The community feels strongly that a shuttle to Shaw's would be helpful in helping them increase accessibility to produce.
- Therefore, while people may be consuming adequate produce, it is important to ensure that they are obtaining their produce in a safe way.

Conclusion and Future Directions

- It would be beneficial for Winooski residents to have a focus group pertaining specifically to the issue of barriers to public transportation to grocery stores as a basis for developing a community action plan
- Change will need to begin from within the town itself, but will need the assistance of strong leadership.
- Although we did not record personal health information at the health fair, a number of people were found to have elevated blood pressures in the hypertensive range.
- Future studies could hypothesize a correlation between blood pressure and reported fresh produce consumption, and furthermore observe any connection with grocery store access.

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