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## Assessing the Need and Desire for Nutritional Education

Marc Robert Hammond  
*The University of Vermont*

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# Assessing the Need and Desire for Nutritional Education in St. Albans, VT

FAMILY MEDICINE: DECEMBER  
2019-JANUARY 2020

PROJECT MENTOR: MAX BAYARD,  
MD





# Problem Identification and Description of Need

## The Need for Improved Nutrition

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**Many people suffer from health conditions that may be affected directly by diet and nutrition including:**

- Diabetes, hypertension, hyperlipidemia, iron deficiency anemia, obesity, coronary artery disease, and cerebrovascular disease.

**According the National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP):**

- Less than 1 in 10 children consume enough fruits and vegetables.
- 19% of young people aged 2 to 19 years and 40% of adults are obese.
- Current guidelines recommend less than 2300 mg of sodium daily, while Americans on average have more than 3400 mg. >70% of this sodium comes from packaged/processed food. Too much dietary sodium intake is a key driving factor for worsening of hypertension.
- Having low levels of iron during pregnancy and early childhood is associated with mental and behavioral delays in children. 14% of children aged 1 to 2 years and 16% of pregnant women are iron deficient.

**Education of providers and patients alike may help decrease the prevalence of these health issues and their sequelae.**

# Public Health Cost and Unique Cost Considerations in Host Community Nutrition and Overall Health in St. Albans, VT

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## **The St. Albans Behavioral Risk Factor Surveillance System Data (Vermont Department of Health) from 2016 reports the following:**

- 14% of St. Albans area adults reported being in poor health.
- The majority of those reported to have poor physical health and poor mental health, reside in households with annual incomes <\$25,000. The prevalence of obesity is also higher in low income households.
- St. Albans has a higher prevalence of obesity and diabetes when compared to the state of Vermont (33% vs 28% and 10% vs 8%, respectively).
- Chronic cardiovascular disease prevalence in St. Albans is the same for the state of Vermont, 8%.
- The consumption of vegetables 3 or more times per day is slightly less in St. Albans (17%) compared to Vermont (20%). The St. Albans number drops to 14% for low income households (<\$25,000).
- The number of people with obesity, diabetes, and CVD in St. Albans has increased slightly in recent years.

# Public Health Cost and Unique Cost Considerations in Host Community Nutrition and Overall Health in St. Albans, VT

## Take-homes:

- A significant portion of the St. Albans Community suffers from poor nutrition as evidenced by the prevalence of chronic conditions which are heavily influenced by diet, including obesity, diabetes, and cardiovascular disease
- The overall health and nutrition of people living in St. Albans is generally poorer in low income households
- The St. Albans Community has slightly poorer health and nutrition when compared to the entire state of Vermont.



# Community Perspective on Issue and Support for Project

## Community Interviews

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- Dr. Max Bayard, a primary care physician in St. Albans, VT shared his outlook on the overall health and nutrition of the community in his area:
  - He states it is difficult to give an overall impression of the nutritional health of his patient population given that there is “dramatic variability from person to person”. Compared to Tennessee where he used to work, the population in St. Albans “seems to be more interested in a healthy lifestyle.
  - He recommends appointments with a dietician/nutritionist to about 75% of his patients and estimates that only about 25% of those asked will follow through.
  - When asked how providers could improve the nutritional health of their patients, he says that having easier access to a nutritionist would be a good first step. “The appointments [with a nutritionist] can be pretty pricey and there’s not that many of them [nutritionists]. He also states, “It would be better if we had better education. Often times, we learn as we go. It would be nice to be provided with evidence-based information to have at our fingertips. For example: glycemic index, does it matter or does it not matter? Does avoiding or consuming food with a high glycemic index affect outcomes?”.



# Community Perspective on Issue and Support for Project

## Community Interviews

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- Ashley Brisbin, a primary care physician assistant in St. Albans, VT shared her outlook on the overall health and nutrition of the community in her area:
  - “I would say it’s relatively poor, there are a lot of people who are overweight or have diabetes. Many of them don’t have the financial ability to buy healthy foods or exercise in a gym. Also, I feel like many do not know how to eat properly. Education is limited due to having few dietitians in the area and time constraints in the office.”
  - She recommends appointments with a dietitian/nutritionist to about 75% of her patients and estimates that only about 15-20% of those asked will follow through.
  - When asked how providers could improve the nutritional health of their patients, she states, “If we had more time to discuss [nutrition] with the patients that would be huge. If we had access to more free or low-cost fitness groups, patients may take advantage of that. Our training in nutrition is not where it should be. I did a lot of learning on my own but in school I learned very little”.

# Intervention and Methodology

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- Patients in an outpatient primary care clinic in St. Albans, VT were provided with a survey that would assess:
  - The patient's confidence in their nutritional skills and knowledge
  - Their willingness to go to a nutrition appointment
  - Their preference in who would provide the nutritional education to them
- The survey on the following page was filled out by 30 patients in the clinic.
- Providers in the outpatient clinic were provided with the survey results and engaged in discussion.



# Intervention and Methodology

## Nutrition Survey

**1) I have an adequate understanding of what I need to eat to have a healthy diet.**

- 1-not confident at all
- 2-somewhat unconfident
- 3-neither confident nor unconfident
- 4-somewhat confident
- 5-very confident

**2) How confident are you in your ability to prepare nutritional meals?**

- 1-not confident at all
- 2-somewhat unconfident
- 3-neither confident nor unconfident
- 4-somewhat confident
- 5-very confident

**3) How often do you cook/prepare your own meals at home?**

- 1-never
- 2-sometimes
- 3-often
- 4-almost all of the time
- 5-all of the time

**4) Prior to reading/hearing this, I was aware that cooking leafy green vegetables like spinach with lemon juice helps increase dietary absorption of iron from these vegetables.**

Yes/No

**5) If my doctor offered it, I would go to an appointment entirely dedicated to nutritional advice.**

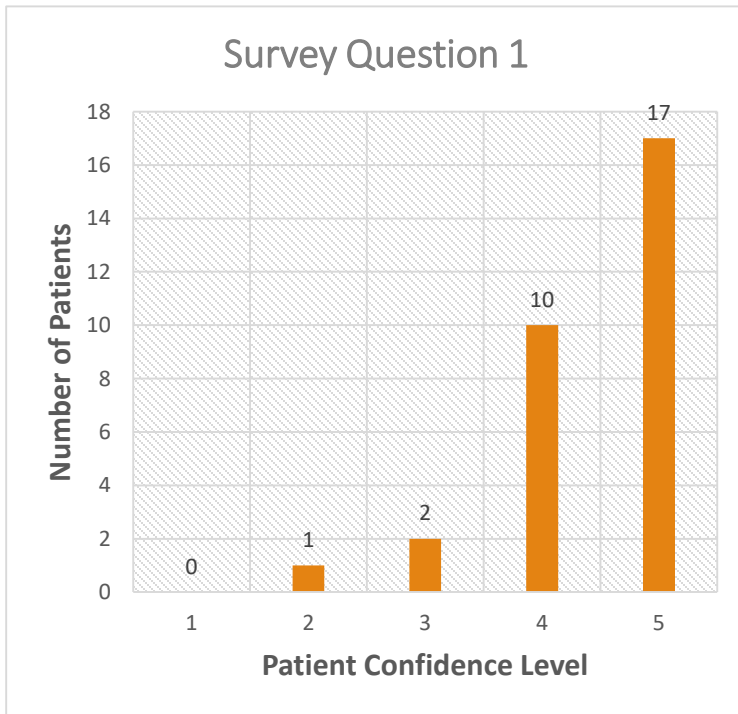
Yes/No

**6) I would strongly prefer to hear nutritional advice from my doctor, rather than a specialized nutritionist.**

Yes/No

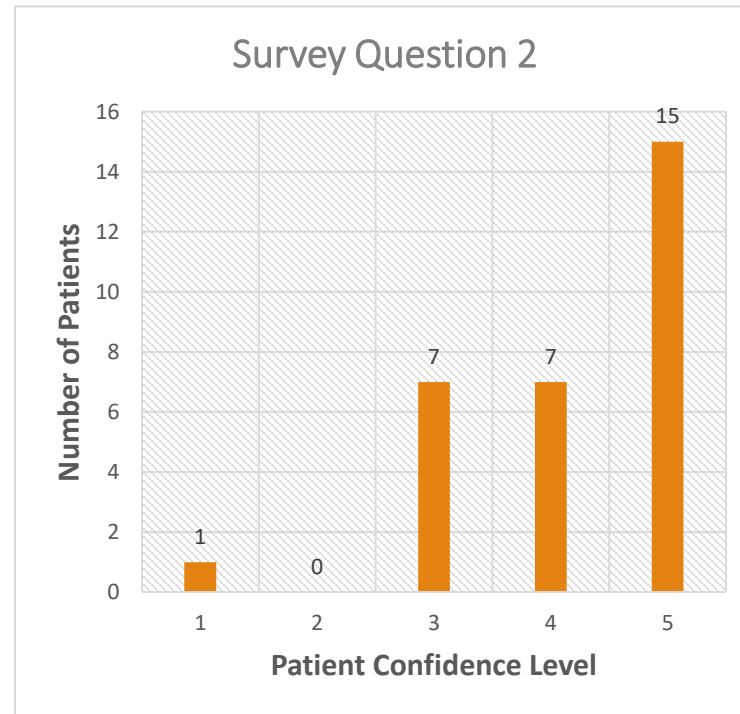
# Results

**1) I have an adequate understanding of what I need to eat to have a healthy diet.**



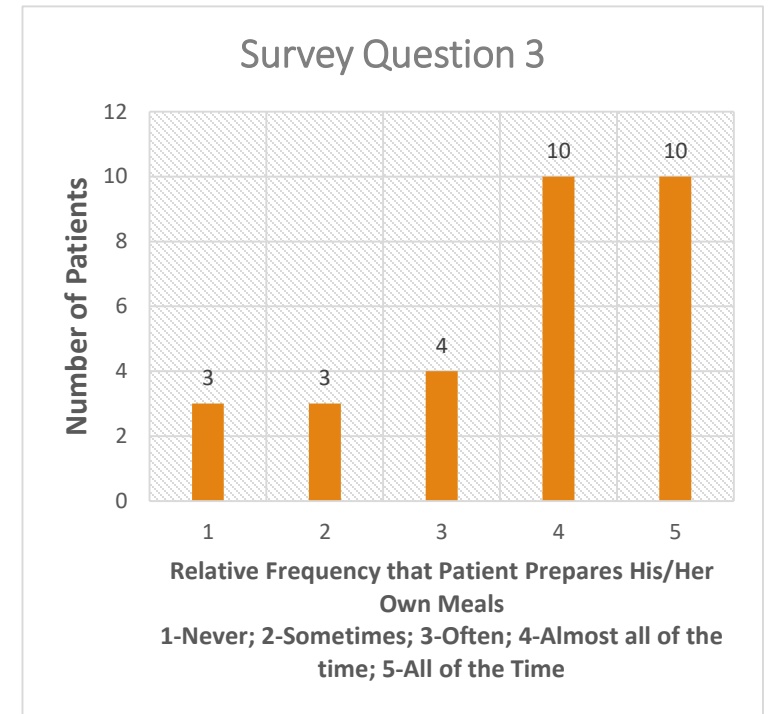
Mean = 4.4; Std Dev = 0.8

**2) How confident are you in your ability to prepare nutritional meals?**



Mean = 4.2; Std Dev = 1.0

**3) How often do you cook/prepare your own meals at home?**

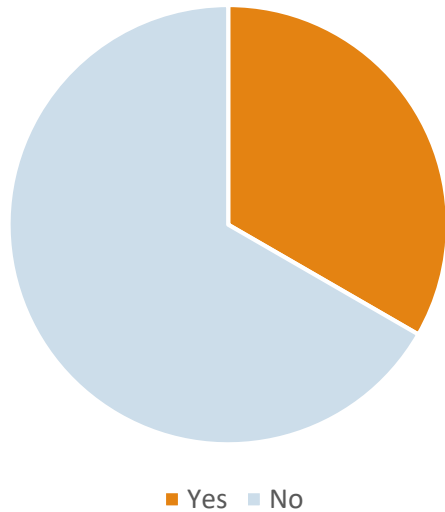


Mean = 3.7; Std Dev = 1.3

# Results

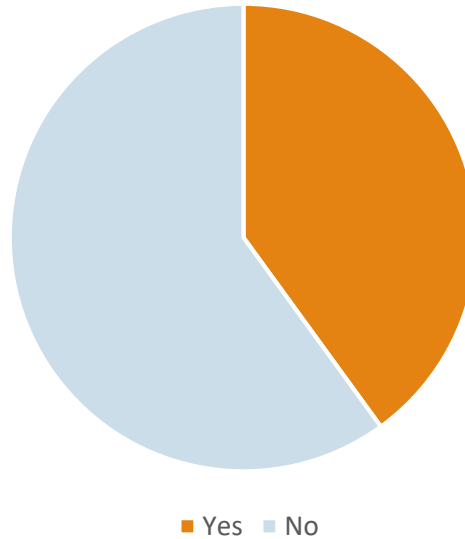
**4) Prior to reading/hearing this, I was aware that cooking leafy green vegetables like spinach with lemon juice helps increase dietary absorption of iron from these vegetables.**

Survey Question 4



**5) If my doctor offered it, I would go to an appointment entirely dedicated to nutritional advice.**

Survey Question 5



**6) I would strongly prefer to hear nutritional advice from my doctor, rather than a specialized nutritionist.**

Survey Question 6





# Evaluation of Effectiveness and Limitations

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- The survey provided useful information regarding patients' levels of confidence in their knowledge of nutrition and their perceived ability/willingness to apply that knowledge.
- Survey question #4 reveals that although most patients are confident in their knowledge of nutrition, there is still information that we can provide to them to improve that knowledge. One limitation is that the survey only addresses a single nutrition fact. It could be beneficial to ask patients more basic questions about nutrition to gain a better understanding of their knowledge.
- Most patients would not attend a nutrition appointment if offered one. Based on the survey alone, it is unclear whether this is because of a lack of interest in nutrition or if the patients believe a nutritionist would have little to nothing to contribute to their current knowledge base.
- Patients are relatively split when it comes to deciding whom they should see for this appointment. Survey question #6 would have been better asked with more answer options, as the binary "Yes/No" choice created some ambiguity. Some patients may simply not have a preference when it comes to receiving nutrition education.
- It's possible that the solution to improving community nutritional health may include several changes to our current system. Clearly there is a need for more certified dietitians/nutritionists, and providers feel that they personally would benefit from more education. We also need to increase patient interest in their own nutritional health.
- Providers at the outpatient clinic were interested by the results that the survey provided. The results sparked a healthy discussion that made all of us question our roles and abilities to improve patient health with respect to nutrition.
- Another limitation includes the smaller sample size and the fact that the surveys were provided to people who regularly go to doctor's appointments. The survey does not address the St. Albans community as a whole and fails to include those patients who may be uninsured or otherwise financially insecure. This is problematic since lower income households tend to suffer from chronic health conditions partially related to poor nutrition, such as diabetes, hypertension, and obesity.

# Recommendations for Future Interventions/Projects

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- Better assessing patient knowledge of nutrition through more basic knowledge questions may better determine whether the patients' confidence in their own nutritional knowledge was appropriate or not, as well as help providers to determine knowledge gaps that can then be addressed.
- Assessing the nutritional knowledge of providers could help to identify knowledge gaps. Following up with teaching sessions or CME courses may better equip providers to counsel patients on nutrition.
- A project focusing on determining ways in which we can enhance patient interest in nutrition and implementing these strategies could improve patient dietary habits and overall health.
- Investigating ways to increase the nutritionist/dietician workforce in rural communities such as St. Albans might improve community health.

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# Interview Consent Form

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Thank you for agreeing to be interviewed. This project is a requirement for the Family Medicine clerkship. It will be stored on the Dana Library ScholarWorks website. Your name will be attached to your interview and you may be cited directly or indirectly in subsequent unpublished or published work. The interviewer affirms that he/she has explained the nature and purpose of this project. The interviewee affirms that he/she has consented to this interview.

Consented 2

Name: Max Bayard

Name: Ashley Brisbin