

2014

# Food For Thought: Nutrition Education and Nutrient Delivery at Two Local Elementary Schools

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## Recommended Citation

Bodmer, Jenna, "Food For Thought: Nutrition Education and Nutrient Delivery at Two Local Elementary Schools" (2014). *Family Medicine Clerkship Student Projects*. Book 10.  
<http://scholarworks.uvm.edu/fmclerk/10>

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# Slide 1: Project Information



## **“Food For Thought: Nutrition Education and Nutrient Delivery at Two Local Elementary Schools”**

### **Jenna Bodmer, MS3, Class of 2016**

- Rotation location: Newbury Health Clinic in Newbury, VT
- Project location: Newbury, VT; Woodsville, NH; East Thetford, VT
- Rotation month and year: December ‘14/January ’15
- Project mentors: Dr. Melanie Lawrence, Dr. Rebecca Yukica, Laura Remick

# Slide 2a: Problem Identification



- Obesity and related complications soar nationwide, even in kids
  - ✦ Nationwide 2012: 17% of 2-19 year olds obese (35% of adults)
  - ✦ Vermont high schools 2013: 13% obese
  - ✦ Newbury Elementary 2014: 16% overweight, 20% obese
- Orange County is in the top 4 most obese counties in Vermont
- A year ago, my health clinic did a project comparing amounts of sugar in foods. All foods were collected from the local high school, mainly in vending machines.



# Slide 2b: Problem Identification



- We also focus on nutrition during well-child checks, and I started to wonder what type of nutrition education kids are getting at school as well as what foods they are provided with for lunch at school. Overall, I thought it was a good possibility for me to explore the topic further and stimulate change if needed.
- I spoke with my preceptor who is very interested in community nutrition and has collaborated with a local pediatrician in the past to create elementary school outreach programs.
  - They were mostly concerned about snacks in schools.
- Together, we chose two area elementary schools to compare, and expected to find differences based on patient reports as well as my preceptor's community knowledge.
  - I interviewed a school nurse and head chef at Newbury Elementary and a PE teacher/Wellness Committee member at Woodsville Elementary about nutrition education as well as food provided at each school, and actually discovered that both were doing quite well but had some room for improvement.
- I decided to utilize the information and present it to various community health providers: a school nurse, a community healthcare coordinator, as well as my family medicine preceptor and the local pediatrician.
  - ❖ This may further shape office practices and nutrition education , and serve as evidence in pushing for nutrition changes in schools as needed.

# Slide 3: Public Health Cost



- **Obese children and adolescents have a high risk of becoming obese adults**
  - Resulting health problems long-term include stroke, heart disease, type 2 diabetes, sleep apnea, osteoarthritis, and higher risk of some cancers
  - Leads to hospitalizations, complications, and treatment expenses
- **Obesity-related hospital costs nationwide for youth age 6-17: \$127 million a year as of 1999**
- **Obesity-related medical expenditures in Vermont adults: \$183 million a year as of 2004**
- **In VT, Medicare and Medicaid pay 50% of all adult medical costs due to obesity. This means that we all pay!**
  - Medicare: \$38 million per year
  - Medicaid: \$52 million per year

# Slide 4: Community Perspective



- **Family Medicine physician and owner of Newbury Health Clinic**
  - “I’ve heard that one school in the area is serving brownies and chocolate milk for snack. . . I’m curious to find out what is going on at these schools. I’d like to go to the schoolboard!”
- **School nurse at Newbury Elementary**
  - “Kids seem to enjoy the food here. I don’t hear any complaints.”
  - “Kids here are pretty healthy for the most part. I don’t have anyone with type 2 diabetes or anything like that, that I know of.”
  - Provided me with BMI data from PE classes
- **Director and Head Chef at Newbury Elementary**
  - “One great aspect (of our school) is that we use only fresh foods. I don’t buy canned foods anymore, it’s all fresh. I make my own whole grain pizza dough!”
  - “I’d love to have whole families involved along with the kids. I’d be willing to teach a cooking class to parents here in the kitchen maybe once a month, about healthy cooking at home.”
- **Physical Education teacher and Wellness Committee Member at Woodsville Elementary**
  - “I think that our (cafeteria) vendor is dedicated to great taste along with nutrition and that they are flexible and open to creativity.”
  - “Sometimes things fit under the new guidelines but still aren’t healthy options. They were serving whole wheat cookies as snack and Diet Snapple! The Wellness Committee put an end to that.”
  - “I’d really like to see more focus on wellness and health and making it fun for kids, instead of counting calories and dieting. I heard a 9-year-old talking about burning off lunch calories the other day!”

# Slide 5: Intervention



- I designed a 20 minute powerpoint presentation and delivered it to healthcare providers in the area.
  - Discussed the growing problem of obesity, and new federal regulations designed to curb it
  - Summarized data gathered in interviews at both schools
  - Compared schools to each other
  - Suggested changes that each school could make in the future
  - Offered suggestions for changes in office practices and office collaboration with schools, for PCP's in the area
- Each slide was extensively annotated to make a full written report, so that it could be easily presented again or sent via email to other local providers

# Slide 6: Response



- I was able to present to many healthcare workers and engage in discussion as well
  - 1 school nurse, 1 community/healthcare coordinator, 1 Family Medicine doctor in Newbury, and 1 Pediatrician in Thetford
  - I emailed my presentation to PCP's and my interviewees at the schools for further future use
- The presentation was well-received at all locations and resulted in ideas for future change
  - The community/healthcare coordinator will coordinate with the nutritionist in the building to come up with ways to continue to tie healthy cooking into current community outreach programs
  - The two physicians will meet next month to discuss their school education and peer mentoring efforts at local schools regarding nutrition and oral health
  - The two physicians will discuss going to school Wellness Committees and/or school boards with suggestions for change
  - The Newbury chef was contacted to arrange for family cooking classes in conjunction with the Newbury Health Clinic's community outreach



# Slide 7a: Effectiveness and Limitations



- **Effectiveness**

- In terms of reaching many levels of healthcare providers and sharing the information gathered as well as my opinions for change, my intervention was successful
  - ✦ The annotated presentation may also continue to be passed on to others
- Effectiveness of the intervention in terms of actually enacting change is difficult to assess, since no changes have occurred yet
  - ✦ Suggestions for evaluating effectiveness would be to:
    - Track the number of people the presentation is shared with
    - Monitor PCP offices in the form of a patient survey to determine if nutrition education is provided during Well Child visits, and ask patients to note if this focus has changed since late 2014
    - Evaluate schools in 6 months to determine if changes have been made to current nutrition education curricula, or to the menu for snacks and meals in the cafeteria
    - At Newbury Health Clinic, track the number of community outreach sessions involving nutrition and compare this to 2014 (this includes outreach for kids in schools, as well as parent or family sessions outside of the office)

# Slide 7b: Effectiveness and Limitations



- **Limitations**

- I only compared 2 elementary schools in the area, and it is quite possible that others would have different approaches
- I focused on elementary schools, and it seems that unhealthy eating and snacking is more prevalent and possible for older kids (middle/high school)
- I did not focus on preschool-aged children, and if we focus on this group then children might never develop bad habits which lead to the high obesity rates seen in area elementary schools
- Time didn't allow for monitoring for effectiveness
- There are other providers in the area that were not yet reached with this presentation
- Bias may exist in comparing the two schools, due to personal experiences of myself and other collaborators
- I did not focus on physical activity/exercise, which is certainly an important contributor to healthy body weight
- I spoke to people with different roles at each school; it would lead to better comparisons if I had been able to speak with corresponding professionals at each school (both school nurses, both PE teachers, both chefs)

# Slide 8: Recommendations for Future Interventions



- **Develop a cooking class curriculum for families**
  - Topics: healthy grocery shopping on a budget, cooking healthy meals at home, packing nutritious lunches
- **Create a nutrition survey for kids and parents to fill out before their visit for Well Child Checks**
  - 5-2-1-0 program offers some in-office surveys, or one could be created to assess what foods kids are eating at school and at home, how much exercise they get, and how they learn about food and nutrition
- **Explore more schools**
  - Broader age range: preschool to high school
- **Create a peer-mentored nutrition curriculum at schools so that older kids could counsel younger ones and serve as positive role models**
  - Or incorporate this into similar programs that already exist such as Toothy Tigers/Brushy Beavers
- **Coordinate oral health and dental care visits for kids, either in the office or at school, as many kids do not have preventative dental care**
  - Introduce Toothy Tigers/Brushy Beavers to more schools in the area
  - Coordinate appointments with the current traveling van

# Slide 9: References



- Interviewees
  - ❖ PE teacher at Woodsville
  - ❖ Head Chef at Newbury
  - ❖ Nurse at Newbury
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