

2019

Promoting Healthy Habits and Active Living for Children and Families at the Well-Child Visit

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Holland, Jennifer E., "Promoting Healthy Habits and Active Living for Children and Families at the Well-Child Visit" (2019). *Family Medicine Clerkship Student Projects*. 476.

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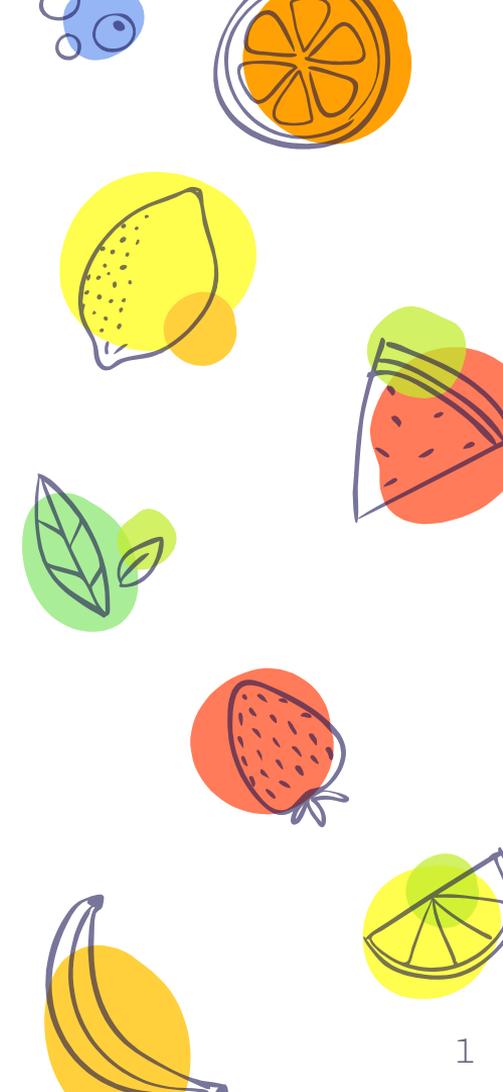
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- 5** or more **FRUITS & VEGETABLES**
- 2** hours or less of **RECREATIONAL SCREEN TIME**
- 1** hour or more of **PHYSICAL ACTIVITY**
- 0** sugary drinks, **MORE WATER**

Promoting Healthy Habits and Active Living for Children and Families at the Well-Child Visit

Jennifer E. Holland
March-April 2019
Brandon Medical Center, Brandon, VT
Mentor: Dr. George Fjeld



2A. Problem Identification

Healthcare providers at **Brandon Medical Center** need **evidence-based, efficient** ways to discuss and reinforce **healthy habits** for kids and families at the **well-child visit**.

“We are seeing the prevalence of obesity increase here in Brandon and it’s a problem that really worries us. We know that if we address these problems with kids and teens it will help them as adults.”

Dr. George Fjeld
Family Medicine Provider
Brandon Medical Center

- Currently, 1 in 5 school age children in the U.S. has obesity.¹
- Children with obesity are at higher risk of developing chronic health conditions and diseases that may affect their physical and emotional health, e.g. asthma, sleep apnea, bone and joint problems, type 2 diabetes, heart disease, social isolation, depression, lower self-esteem.¹
- Children with obesity are more likely to be obese in adulthood. Obese adults are at higher risk of developing heart disease, type 2 diabetes, metabolic syndrome, and several types of cancer.¹
- Brandon Medical Center providers have expressed interest in finding a standardized approach to addressing and managing obesity in their pediatric patients.

2B. Problem Identification: By the Numbers

Rutland Regional Medical Center 2019 Needs Assessment:²

- ✗ Adults:
 - ✗ Rutland County has the second highest obesity rate in VT: 30%
 - ✗ 13,000 in Rutland County are Overweight, 12,000 are obese
- ✗ Children & Teens:
 - ✗ 16% of high schoolers in Rutland County are obese
 - ✗ 29% of Rutland students have 2+ fruits or vegetables a day
 - ✗ 33% of high schools eat breakfast 7 days a week

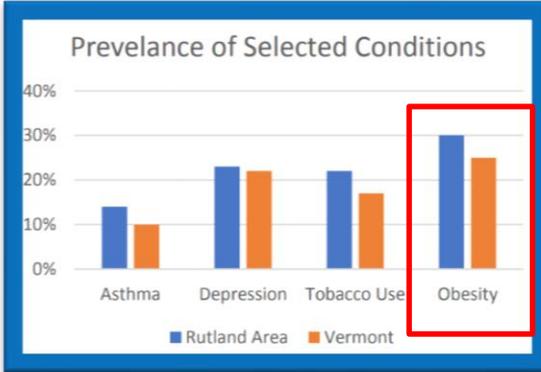
Brighter Futures Report 2018 - Rutland County:³

- ✗ Many families in Rutland County struggle with food insecurity, affordable housing, and transportation
- ✗ 42.2% of children under age 6 live in poverty
- ✗ 16.4% of children under age 9 are in DCF custody

State of Obesity – Vermont Overall Data:⁴

- ✗ 14% of 2-4 year old children on WIC in VT are obese (2014)
- ✗ 12.6% of high schoolers in VT are obese (2017)

COMMUNITY HEALTH NEEDS ASSESSMENT
 RUTLAND REGIONAL MEDICAL CENTER
 EFFECTIVE OCTOBER 1, 2019



2018 REPORT
How are Vermont's Young Children and Families?

Current Status

CHILD POPULATION
under age 9

The percent^{*} of children under 9 years old **increased** from 44.9% (5,347) in 2010 to **46.2%** (4,951) in 2016.

INCREASED TO 46.2%

**Denominator is children under 18 years old.*

CHILDREN LIVING IN POVERTY
under age 6

The percent of children under 6 years old living in poverty^{**} **decreased** from 43.2% (1,426) in 2010 to **42.2%** (1,302) in 2016.

DECREASED TO 42.2%

***Living below 200% of the Federal Poverty Level*

3. Public Health Impact and Unique Considerations in Rutland County

- The Community Health Centers of the Rutland Region (CHCRR) have **70+ providers who serve over 33,000 patients in the Rutland region.**
- Healthcare traditionally focuses on managing obesity and obesity-related diseases
 - It is estimated that obesity-related direct healthcare costs (i.e. medical expenses) as well as indirect costs (i.e. absenteeism and pre-absenteeism) in the U.S. cost \$147 billion dollars per year.⁵
 - **Obesity-related expenses cost the state of Vermont between \$615-718 million dollars per year.**⁶
- By focusing on a consistent, low-cost, preventive approach, we can **encourage behavior changes for individuals and communities** that will increase the over all health of the region, as well as eventually reduce some of the financial burden caused by obesity.
- Family Practices are the **ideal place to implement a childhood obesity intervention** because in one day, one week, or one month you may see each member of a family together or separately, giving providers **numerous opportunities to reinforce the same message.**

4A. Community Perspective and Support

Dr. Victoria Rogers is the Medical Director of **Lets Go!**, an obesity prevention, treatment, and management initiative that is based in the state of Maine and in Mount Washington Valley, New Hampshire. They also partner with organizations like YMCA and other healthcare sites throughout the country. They work to bring evidence-based healthy living strategies like the 5-2-1-0 message to child care providers, health care practices, schools and out-of-school programs, and workplaces.



“It’s a healthy eating and active living program, not an obesity program. We wanted to address this in a respectful way. We didn’t want to cause any eating disorders. We wanted a message that would be low-literacy, cross-cultural, and cross all barriers. We wanted to put everyone on the same playing field....It’s incredibly powerful to have a caregiver and child fill out the questionnaire together and see them start to ask each other about how often they *really* eat take out or have fruits and vegetables.”

4B. Community Perspective and Support



COMMUNITY HEALTH CENTERS
OF THE RUTLAND REGION

Dr. David Schneider is a pediatrician at a pediatric practice within the Community Health Centers of the Rutland Region. He saw the obesity epidemic in Rutland first hand at his clinic. He came across the 5-2-1-0 program several years ago and was involved in some of the early research studies testing the efficacy of the program. His practice uses the Healthy Habits Questionnaire and has diabetes educators as well as staff trained in the 5-2-1-0 program.



“We were watching the obesity epidemic and nothing was working. We were sending kids to UVM and other places, but they weren’t getting better. So we felt that we needed to do something. 5-2-1-0 is the simplest, most reasonable method for people to keep up healthy living. Every body remembers it. It’s the most cost effective thing in the obesity epidemic. It’s a simple mantra to get people talking...[At his office] a lot of what we do is motivational interviewing and just meeting patients where they’re at. Lecturing doesn’t work, telling them they’re going to have diabetes in 3 years doesn’t work. Some of them aren’t ready to talk about it. But talking about 5-2-10 is a step in the right direction.”

5A. Intervention and Methodology: Implementing 5-2-1-0

Goal: Use consistent, easy to remember messaging at every well-child visit to encourage discussion about healthy habits and active living.



- 5** or more fruits & vegetables
- 2** hours or less recreational screen time*
- 1** hour or more of physical activity
- 0** sugary drinks, more water & low fat milk

*Keep TV/Computer out of the bedroom. No screen time under the age of 2.

- 1. Staff:** *Present the program to all of BMC staff and provide them with 5-2-1-0 talking points⁷*
- 2. Environment:** *Hang a 5-2-1-0 poster in every exam room and in the BMC waiting room*
- 3. Providers:** *Give providers American Academy of Pediatrics algorithm for addressing and managing childhood obesity⁸*
- 4. Patients:** *Every family presenting for a well-child visit will be asked to fill out a Healthy Habits Questionnaire⁹*
 - Rooming nurse to hand age-appropriate Healthy Habits Questionnaire to each family presenting for a well-child visit
 - Family instructed to fill it out as they wait for their provider
 - Provider reviews the answers on questionnaire with the family in the room and signs it
 - Family takes the questionnaire to the check-out desk to have their answers scanned to their chart
 - Family takes home their completed questionnaire with tips for healthy habits on the back
- 5. Tracking:** *BMI measured at each visit and tracked over time*

5B. Intervention & Methodology

“I’m putting this on the fridge to remind myself.”

12 year old patient after looking at the tips page

5-2-1-0 Healthy Habits

AGES 2-9



We want to know how your child is doing! Please take a moment to answer these questions.

Child's Name: _____ Age: _____ Today's Date: _____



1. How many servings of fruits and vegetables does your child have a day? _____
One serving is: 1/2 cup of fresh or frozen (the size of a fruit cup), 1 cup of leafy greens (a small salad), or a piece of fruit the size of a...

2. How many times a week does your child eat dinner at the table with the family? _____

3. How many times a week does your child eat breakfast? _____



4. How many times a week does your child eat takeout or fast food? _____

5. How much screen time does your child have each day? *Don't include school work.* _____

6. Does your child have a TV or keep a tablet or smartphone in their bedroom? _____



7. How many hours does your child sleep each night? _____

8. How much time each day does your child spend being active? _____
This means they are breathing harder and their heart is beating faster.

9. How many 8-ounce servings of these does your child drink a day?

_____ 100% juice _____ Water _____ Fruit or sports drinks _____ Whole milk

_____ Soda or punch _____ Nonfat (skim), low-fat (1%) or reduced-fat (2%) milk



10. Based on your answers, is there ONE thing you would like to help your child change now?
 Eat more fruits and vegetables Eat with your family more often Eat less fast food/takeout
 Drink less soda, juice, or punch Drink more water Be more active – get more exercise
 Spend less time watching TV or using a tablet/smartphone Get more sleep

Please share this form with your provider, then take it home with you. Thank you!

Turn this over for tips to get

Help your child live 5-2-1-0 every day!



Give foods fun names, like “x-ray vision carrots” and “mighty broccoli trees.”

Add veggies to foods you already make like pasta, soups, casseroles, pizza.

Keep washed and chopped veggies and fruits in the fridge so they are ready to grab and eat.

Add fruit to cereal, pancakes, or other breakfast foods.

Try fruits and veggies with dip such as salad dressing, yogurt, nut butter, or hummus.



Put away phones and turn off the TV during meals. Make it a time to sit and talk about the day.

Have craft items ready to go. You can even find supplies in your recycling bin!

Stock up on books, coloring sheets, and board games. Print free activity sheets from the internet.

Create an obstacle course with chairs, blankets, and other household items.

Play hide and seek!



Try jump ropes and hula hoops to keep the whole family active.

Use a balloon to keep your child moving. Try to keep it from touching the floor!

Turn on music and have a family dance party.

Go for a hike on trails or in the park. Look for animal tracks or collect leaves and stones.

Get outside and ride bikes or play tag. Look up different tag games online.



Freeze fruit, like berries, in ice cubes. Watch your water change color as they melt!

Use cool cups, bottles, or straws to make water extra fun!

Add fresh fruit or herbs to water for natural flavor. Try mixing flavors, like watermelon and mint.

Try mixing seltzer with a splash of juice.

Suggest a glass of water or milk instead of juice.

6A. Measuring Success: Present and Future Data

Preliminary findings:

- Administered both versions of the Healthy Habits Questionnaire (Ages 2-9, Ages 10+) to 5 families at well-child visits ranging from 2 years old to 13 years old
- Families found it easy to fill out the questionnaire while waiting for their provider
- It quickly facilitated conversation about diet and exercise between family and provider
- Providers are interested and excited to use the questionnaire
- Need to train all rooming nurses and medical assistants to be able to find the form and know when to provide it to families
- Need to train front office staff to scan the completed form back to the patient's chart when booking their next appointment at check out

6B. Measuring Success: Present and Future Data

Future Data:

- Quantitative Data
 - Number of Healthy Habits Questionnaires completed and scanned back to patient charts
 - Number of well-child visits that document discussion of 5-2-1-0 in EMR
- Qualitative Data
 - Feedback from children and families about their experiences using the 5-2-1-0 information at subsequent visits
 - Lifestyle changes reported by families at subsequent well-child visits
- Healthcare Outcomes Data
 - BMI tracking of all children and adolescents, particularly those who are overweight ($\geq 85^{\text{th}}$ percentile) or obese ($\geq 95^{\text{th}}$ percentile) and have received education about the 5-2-1-0 program

7. Evaluation of Effectiveness and Limitations

Evaluation of Effectiveness:

- BMI decrease in children whose BMI is $\geq 85^{\text{th}}$ percentile (clinical criteria for childhood overweight).
- More healthy habits recorded on Healthy Habits Questionnaires when compared across visits, e.g. endorsing eating more vegetables, getting more exercise, reducing screen time compared to the year before.
- While we may not see immediate changes, the goal of this intervention is to provide internal consistency for providers at each visit and to promote positive messaging for patients to encourage incremental behavior change.

Limitations:

- Behavior change is extremely hard and often takes time.
- There are many factors that contribute to childhood obesity such as genetics, environment, and socioeconomic status. A major limitation is that we are not able to change any of the other factors that may be playing a large role in a child's weight.

8. Future Directions

- Brandon Medical Center to be the CHCRR Pilot Site with the goal of incorporating the 5-2-1-0 Healthy Habits Questionnaire into all CHCRR site well-child visits
- Working with local schools and school lunch programs to reinforce and implement the 5-2-1-0 message
- Hanging 5-2-1-0 posters in local community centers, grocery stores, extracurricular and after-school program locations, and even cafeterias of local businesses
- Working with [RISE VT](#)⁹ to promote the 5-2-1-0 message as well as healthy habits and active living initiatives across the county
- Incorporate the [Small Steps Intervention](#)¹⁰ into adult wellness exams to address and manage adult obesity as well

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