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CREATING A GUIDE FOR PATIENT SELF-MANAGEMENT OF WEIGHT LOSS (FOR MANAGEMENT OF DIABETES)

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March – April 2014
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Problem Identification and Description of Need

• In my first week working with Dr. Flynn, I saw more patients coming in with a diagnosis of diabetes than those without; this is likely untrue, but it certainly felt like that. I realized how big of an issue diabetes really is, and hoped to work on a project targeted towards diabetes. While I noticed medical and medicinal management of patients with diabetes was adequate, there was a large gap in patient self-management of their diabetes – they followed their prescriptions, but did not seem to have changed other aspects of their lives, most importantly, their diets.

• Diabetes in the US: 3
  • 5.9% of the population (18.8 million people) have diagnosed diabetes.
  • 8.3% of the population (25.8 million) have diabetes (including estimated undiagnosed)
  • 25% (79 million people) are categorized as prediabetes.

• Diabetes in Maine: 1
  • 8.4% of people have diagnosed diabetes.
  • 11.4% of adults have diabetes (includes estimated undiagnosed)
  • 35% of the population are estimated to have prediabetes. However, only 6% are diagnosed with prediabetes due to the lack of awareness and screening.
  • Diabetes is the 7\textsuperscript{th} leading cause of death in Maine.

• Diabetes is associated with significant morbidity, mortality and serious complications including heart disease, stroke, kidney disease, blindness, neuropathy and amputation. 3
  • According to the American Diabetes Association, “in 2007, diabetes was listed as the underlying cause on 71,382 death certificates and was listed as a contributing factor on an additional 160,022 death certificates. This means that diabetes contributed to a total of 231,404 deaths.”
Problem Identification and Description of Need (Cont.)

• The onset and the complications of type 2 diabetes can be prevented with proper lifestyle changes, which can be encouraged through education. These lifestyle changes include diet, exercise, and regular medical visits. Obesity is one such modifiable risk factor that is not being well-managed in most patients.²

• Weight loss management in medical practice:
  • Overweight and obesity affects 70% of adults in the United States, however only a small percentage of patients report that they receive advice regarding diet changes and counseling by their healthcare provider. ⁵
  • Many patients report that they would try to improve their diet and lifestyle if they had insight into how to prepare more healthier meals, including ideas for new recipes and foods to cook with. ⁵
  • Poor diet is a major contributor to coronary heart disease, diabetes, hyperlipidemia, and stroke, as well as continued complications from these diseases. ⁵
Public health cost and unique cost considerations in host community

• National:
  • The total cost of diagnosed diabetes in the United States in 2012 was $245 billion; $176 billion was for direct medical costs.\(^2\)
  • The medical expenditure of patients with diagnosed diabetes averages 2.3 times higher than those without diabetes.\(^2\)
  • People with diabetes comprised 44% of all new cases of End Stage Renal Disease, which results in costly dialysis.\(^3\)
  • “More than 1 in 10 health care dollars in the U.S. are spent directly on diabetes and its complications, and more than 1 in 5 health care dollars in the U.S. goes to the care of people with diagnosed diabetes.”\(^7\)

• Maine:
  • The total state cost of diabetes is over $776 million per year, of which 2/3 is related to direct medical bills, or about $518 million.\(^4\)
  • For each amputation resulting from diabetes, the average cost in Maine is $31,506.\(^4\)
  • Obesity in Aroostook County is the highest among Maine counties and is a major contributor to morbidity and mortality (interview with Stacy Boucher); the relationship to cost being that
  • Aroostook County is also at a lower socioeconomic status than the average of Maine, making health care expenditure a much more difficult subject with patients. Many times here, I saw patients deny medications because they couldn’t afford their copays.\(^8\)
Community Perspective 1

- **Name withheld, MSHS, District Public Health Liaison, Maine CDC and DHHS**
  - Very excited about the project as it falls within the Aroostook District Public Health Improvement Plan (DPHIP) to inform, educate and empower people about public health issues, specifically to “promote messages that empower individuals to engage in self-management and healthful behaviors” (Aroostook DPHIP)
  - Thought the idea was excellent and targeted a large public health issue with a new and innovative strategy.
  - We discussed using the stages of change model as a guide for the patients, in order to have them evaluate and self-assess where they personally are in regards to implementing change
  - The physician and health center needs to be seen as a partner and not as an authority figure – in this community, that will be difficult, as many patients still think of a doctor as an authority figure (in my patient interactions, I saw a lot of “Whatever you think is best, Dr. Flynn.”)
  - We also discussed readability of the pamphlet and discussed word-choices, such as avoiding “lifestyle change” and “modify”, in order to not deter patients, as well as adding motivational quotes within the pamphlet in order to support the patient.
- **Survey of Providers at Pines**
  - helped to identify specific resources to use,
  - helped to determine the most important points to include in the pamphlet, and what advice to give
  - felt that the project adequately addressed a specific need and in an effective manner
Community Perspective 2

- Name withheld, Aroostook Mental Health Center

- So many diseases relate to lifestyle choices, which are the hardest to change, but the best to change for our health. Diabetes is definitely a consequence of obesity, and obesity is one of the more important modifiable risk factors, and one of the things that Jessica talks about with her patients when they come in to talk about behavioral change.

- As a behavioral therapist, we identified motivations and barriers in patient’s weight loss, both generalized and those unique to Caribou and Aroostook County.

  - Motivators:
    - New diagnosis of diabetes (or other weight-related disease)
    - Social support, such as someone who is losing weight with the patient
    - Support system – someone to check in with reinforcement of consequences, and to keep the goal fresh in mind – physicians, behavioral change therapists, dietitians and diabetes educators, a perfect use for the patient centered medical home.

  - Barriers
    - Socioeconomic status – many patients think eating healthy means eating organic, which equates to more expensive – also patients think exercise means you have to go to a gym, which also costs money.
    - Distance – many patients live a very long way from the resources that can help them the most – doctors, dieticians, the grocery store, gyms and recreational centers.
    - Cold winters in Aroostook County makes it difficult to get regular exercise, especially if they don’t like the winter
    - Food options are very limited, and there is a local abundance of fast food restaurants
    - Social situation – just like with smoking, it is much harder to lose weight if the patient feels alone, like their family and friends are all still eating whatever they like, but the patient is trying to be more conscious, can make losing weight very difficult.

  - Local Resources
    - Wellness and Recreation Center in Caribou– there are also hiking trails and fitness groups that get together
    - There are gyms, although they cost money, at the Motor Inn and at County Physical Therapy
    - In fall and summer, there’s a farmer’s market – this was used in a past project in order to encourage healthy eating (Nick Phillips, 2012)
    - Library for free internet access for online resources
    - Dietician and diabetes educators, all part of the patient centered medical home of Pines.
Intervention and Methodology

- A pamphlet was designed specifically for patients who’ve just been diagnosed with diabetes (imagining that this would be the initial motivator to lose weight), and who’ve been counseled to lose weight, but could be targeted to other patients who also need to lose weight.

- The pamphlet was designed based on motivational interviewing and the theory of the stages of change (see interview with Stacy Boucher), in order to be complimentary to a provider’s recommendation of lifestyle changes to a patient.

- The pamphlet was designed as a guide for patients to self-identify weaknesses in their weight-loss strategy with corresponding resources for the modification of those weaknesses.

- The main idea behind the pamphlet is to empower the patients to make changes in their life, particularly in a community where the doctor is often seen as an authority figure, and encourage them to view their doctor and health care providers as partners in health.

- Key areas I approached directly in the pamphlet (and not just provide resources on) were the idea of a lifestyle change vs. diet (with specific wording), the problem with ‘fad’ diets, and specifically cost-effectiveness when shopping.

- Resources in the pamphlet were chosen with barriers in mind, in order to make them accessible to as many people as possible. Resources were also chosen in order to include a selection from both the local level and the national level.

- The final panel is a patient self-identification of which stage of the stages of change that the patient is currently in, and their next steps to take for each stage. The steps were based directly off of motivational interviewing question strategies and provide appropriate steps, including scheduling an appointment with a health care provider/dietician, planning recipes, etc.
Results/Response/Data

• As the collection of qualitative and quantitative data for this pamphlet would be more long-term (as it takes time to lose weight right), the 5-week time-frame of this project was not conducive to data gathering.

• Provider Support:
  • In a survey of providers at Pines Health Services, there was widespread agreement that the pamphlet addressed an area of need in the community that was lacking, in a manner that placed control into the patients’ hands.
  • “I do think there is a need for this and that it would be a good supplement for when [providers] are encouraging weight loss”
  • “It’s nice that it isn’t too science heavy, but still gets its point across”
  • “We counsel this all the time, but never have enough time to go over it thoroughly with patients, so it’s nice they can take it home with them”
Evaluation of Effectiveness and Limitations

• Because the value of this pamphlet is self-motivation and self-management, effectiveness would have to be monitored via patient reporting, and as it takes time to lose weight, collecting data on the effectiveness is not possible in the scope of this project.

• My initial idea was to have an online counterpart website/survey where a patient could fill out their information (HIPAA-protected, of course) and the data would be collected into statistics, as well as give the patient feedback on where they are with their weight loss (thus being both data-collecting and another location to implement motivational strategy to improve patient outcomes: see Future Interventions/Projects), but again, this was not accomplished due to the 5 week time limit on the project.

• Limitations of the project include the time-frame, the patient population motivated to make the change, the community view of a doctor as an authority figure rather than a partner in health (this could be a key factor in determining whether a patient is motivated and ready to change their health on their own), and implementation of the pamphlet (as it relies on providers supplying the pamphlet, or the patients picking up the pamphlet).
Recommendations for Future Interventions

• Extension of the pamphlet into a counterpart website, that could be both data-collcting for monitoring statistics on the effectiveness of the pamphlet, as well as reports and recommendations sent to the patient, if they wanted them, with further motivational strategies and additional resources targeted to areas of difficulties identified within that survey that they filled out.

• Another idea for a project would be to take the same system of patient self-management of healthy behaviors and apply it to a whole range of lifestyle modifications, including smoking cessation, alcohol cessation, exercise initiation, and using protection with sex.

• Another project could be to choose an area with minimal resources on the subject that seems difficult for patients, such as avoiding the fast-food restaurants in the area, and develop strategies to make that particular area easier to manage for patients.
References Cited


References Used for Pamphlet Design

4. Other resources used are included within the pamphlet as sources for the patients.