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# Improving the Lives of the Diabetic Community at Grand Valley State University

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# Improving the Lives of the Diabetic Community at Grand Valley State University

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## *ABSTRACT*

The American Diabetes Association (ADA) is an organization whose mission is to improve the lives of those affected by diabetes. This is done by funding research, raising awareness in the community, educating the public on the disease, and making resources available to those affected by diabetes. Being students of Grand Valley State University, we had the opportunity to collaborate with the West Michigan ADA to improve the lives of those with diabetes on the GVSU's Allendale campus. To do this, we created a convenient way for those with diabetes to keep track of their carbohydrate intake by creating a guide that provides useful nutritional information. The nutritional facts for five food items from five popular dining locations on campus were intentionally selected to serve the needs of the diabetic population. This guide was successfully distributed on campus, along with being shared with our partners at the ADA and Students with Diabetes club at Grand Valley. Some challenges faced during researching, constructing, and distributing this guide included time restraints, limited market and advertising knowledge, lack of graphic design experience, and limited monetary funds. There are many opportunities to expand the guide in the future, such as adding more information for a larger variety of dining places and food items. In addition, to accommodate for more information being added, an app could be created in place of the guide that would keep all the information updated and organized.

## *INTRODUCTION*

Diabetes is a metabolic disease in which the body does not produce enough insulin. This results in elevated glucose levels in the bloodstream. Insulin is a hormone that aids glucose into cells to provide them with energy. If insufficient insulin is present, the glucose stays in the bloodstream causing the blood glucose levels to increase. Diabetes can have detrimental effects on the body which include damage to the eyes, kidneys, and nerves. It can also cause heart disease and strokes (Diabetes, 2015).

Diabetes has become a worldwide epidemic that continues to grow at an alarming rate. A recent analysis conducted by the Center for Disease Control reports that if the current trends continue at the same rate, then as many as 1 in 3 U.S. adults are at risk for diabetes by 2050 (CDC, 2010). Equally as shocking according to the CDC, 1 in 3 children born in 2000 will develop Type 2 diabetes (Pollan, 2008). Diabetes, if not managed, can be an extremely debilitating disease, and therefore is an issue if not researched and taken care of. This creates a problem as diabetes is more complex than many Americans are aware of. There are many misconceptions and lack of knowledge on the severity of what diabetes actually entails. Not only does diabetes adversely affect the health of the country, but it also has a negative impact on the economy. According to Nabhan, currently the estimated healthcare cost for diabetes America faces is about 245 billion dollars annually. 1 in every 4 dollars spent on hospital care in America can be traced to diabetes. If no action is taken towards reducing diabetes, Americans could potentially end up paying as much as 1.3 trillion dollars annually for the treatment of diabetes (Nabhan, 2013).

Thankfully, there are organizations such as the American Diabetes Association

(ADA) whose focus is on researching and eradicating diabetes, along with improving the lives of those who are affected by this disease. The ADA was founded in 1940, where the membership was limited only to physicians, health professions, and corporations during its first thirty years. The ADA has expanded greatly as it is now a volunteer driven organization with over a million volunteers (ADA, "About Us"). This organization serves individuals with Type I, Type II, gestational diabetes and pre-diabetes. They also serve those who are affected second hand by this disease or those who just want to be more educated on the subject. The ADA serves its mission, which states, "To prevent and cure diabetes and to improve the lives of all people affected by diabetes" in ninety different locations throughout the United States. Specifically in West Michigan, the ADA fulfills its mission through a variety of community events including; Step Out: Walk to Stop Diabetes and Tour De Cure. They uphold their mission by providing others with useful information including referrals, education programs, networking and partnerships within the community, and various programs to help people with diabetes manage a healthy lifestyle.

Throughout the semester we had the opportunity to research, interview, analyze, and volunteer with the West Michigan American Diabetes Association located in Grand Rapids, Michigan. Although this location has endured in success, there continues to be many areas of need that could improve the organization greatly. (1) Improvement with the connections between the many associations, as they are largely spread throughout America. This large spread makes it difficult to communicate and collaborate with every location. (2) To create more opportunities to educate the public regarding details about diabetes and breaking misconceptions. (3) To share more

information about the services they offer, connections in local schools, and how they can improve the community.

Throughout this team project, our group has had the learning opportunities to understand how food plays an important factor in diabetes. One factor that could possibly increase the chance of developing diabetes is a poor diet and a sedentary lifestyle. However, it must be noted that a diet alone is not the only factor in developing diabetes. According to a study by the Institute for Health Metrics and Evaluation, overweight and obese people in America combined represent two thirds of the nation's population (Wilke, 2014). Studies show that becoming overweight is a major risk factor in developing Type 2 diabetes. Today about 30 percent of overweight people have diabetes in America, while 85 percent of those with diabetes are overweight. Cases of diabetes have risen along with obesity, with the prevalence doubling over the past 20 years (Powell, 2012). However, it is crucial to understand that not every obese individual has diabetes or is insulin resistant (Dunning 2013). This leads to the key fact that food is not the only cause of diabetes, which is a common misconception. As the director of market development and special events of the West Michigan ADA location pointed out, diabetes is a complex illness and misconceptions are commonly used to explain the cause of diabetes, which becomes problematic with lack of education. An example of how the lack of education becomes problematic can be found in schools. Diabetes is considered a disability, thus by federal law, public schools must accommodate children whom are diabetic (ADA, "Diabetes Care"). If teachers are misinformed about this disability they will be unable to take precautions in the classroom and implement

rules to accommodate the needs of children affected by diabetes.

Being in an educational setting at the collegiate level, our group believed we could best work with the American Diabetes Association to educate the public on diabetes and how food plays a factor. In return, this will help improve the lives of all those affected by diabetes. Our partners, the ADA of Grand Rapids and the Students with Diabetes club at GVSU, were both looking for ways to advance the public outlook on diabetes. One way includes knowledge about how eating impacts diabetes. Whether one has diabetes or not, it is critical for people to become aware of the food makeup they consume. This can be difficult due to the fact that many food corporations hide what they put in their food. For example in *Stuffed and Starved*, Patel discusses how food companies deliberately hide nutritional information from the public, for selling purposes and control (Patel, 2012). Similarly Moss describes how many of these food corporations add large quantities of sugar to almost everything, even foods one would think would not contain much sugar. For example, sugar is surprisingly abundant in milk. 12 ounces of milk contains approximately 4 teaspoons of sugar from the lactose (Moss, 2014). A dentist who measured the sugar content in cereal discovered that a third of the brands of cereal had sugar levels between 10 percent and 25 percent of the daily recommended values. While another third of all cereal brands has up to 50 percent. Specifically, Super Orange Crisps, had a sugar load of 70.8 percent. The sweetest cereals, unfortunately are most heavily advertised to children (Moss, 2014). As one can see, the more knowledge people have, the more aware they are about these situations and the less likely they are to be fooled. Thus, our group's initiative is focusing efforts towards educating the public and helping them

become more cognizant of what they are putting in their bodies, which creates opportunities for better management for diabetes.

With the help and advice from our partners, we have proposed three reasonable, feasible, and beneficial action plans that our group could carry out to help the American Diabetes Association, Students with Diabetes Club at Grand Valley State University, and the diabetic community. After much collaboration with our partners from the ADA and the Students with Diabetes Club, we have decided to pursue one of the plans we believe will have the best and most practical impact on the diabetic community.

#### *ACTION PLAN OBJECTIVES*

The action plan we decided to carry out was the most effective, efficient, and attainable idea that would benefit the lives of the diabetic community at GVSU, along with educating and raising awareness of diabetes on campus. Before we arrived to the conclusion on the proposed plan to be carried out we had brainstormed two other possible ideas. One of these ideas was to conduct a survey regarding what knowledge people had about the American Diabetes Association and diabetes as a whole. The results of the survey would've been analyzed with the analysis being reported back to our partners at the West Michigan ADA. The ADA would have this information available for further research and a resource tools to educate the public. The second idea consisted in creating a pamphlet of frequently asked questions along with the answers to these questions. Common misconceptions and reasons to why they are wrong would have been included in this pamphlet. These pamphlets could be posted at different sites throughout Grand Rapids. We decided to carry out our third plan, which involved the nutritional

eating guide. The plan was to create a convenient and easy tool that would be beneficial to not only those with diabetes but also who are interested in the makeup of the food they are consuming, especially the amount of carbohydrates. This guide focuses on the five most purchased items at five popular dining areas at the GVSU campus in Allendale.

After research and collaboration with our partners at the ADA, we concluded that the guide should include the serving size, total calories, total fat, carbohydrates, dietary fiber, sugars, and protein. The dining places that were chosen for the guide included Einstein's Bagels, Subway, Panda Express, Which Wich, and Freshens. The guide improves the lives of the diabetic community on campus by providing a resource for those to keep track of their carbohydrate intake. This is especially important for ones with Type 1 diabetes who need to know the exact amount of carbohydrates ingested in order to calculate the dose of insulin needed to administer. This resource is intended to be easily accessible, convenient, and accurate for those with diabetes to help aid a healthy eating track. Those with diabetes need to know how much insulin they need to control their blood glucose levels. If they do not inject a sufficient amount of insulin, complications could occur. Thus, our guide provides a convenient way to locate select information needed for this type of situation, which overall improves the lives of the diabetic community on campus. The guides will hopefully encourage students to use this information as another means to help them make healthier food choices or at least be aware of what they are consuming.

This action plan coincides greatly with the work of the American Diabetes Association. We are helping the diabetic community on campus by providing accessible and effective information that can

help them live a healthy lifestyle, pursuing the ADA's goal of educating the public, and supporting GVSU's Students with Diabetes club by providing awareness about diabetes on campus. The American Diabetes Association prides themselves on the resources and services that are made available to those affected by diabetes. The brochure adds to the many resources the ADA can provide people with.

### *METHODOLOGY*

We focused our interest in researching five popular dining locations on campus, in order to provide the nutritional information to an abundance of people. We understood that the location, cost, food served, and ability to use meal plan dollars all became a factor in students' decisions on where to eat. More research was conducted to determine the nutritional information that is necessary and useful for those affected by diabetes to track what they consume. After discussing with our partners at the American Diabetes Association, along with collecting information from credible articles, books, and web addresses, we collectively decided that serving size, total calories, total fat, carbohydrates, dietary fiber, sugars, proteins were all crucial components to implement in our guide.

To collect the information we went directly to the manager and employees of each location where they gave a report on the most purchased food items. Grand Valley's nutritionist informed us that the nutrition information for these food items were available online on the college's dining website. Hence, the collection of information was straightforward. We went directly to the dining locations, which included Einstein's Bagels, Subway, Panda Express, Which Wich, and Freshens. The employees and managers were all extremely cooperative and eager to be a part of the

action we are taking to help the diabetic community at Grand Valley. Every location, in coherence with the Grand Valley's nutritionist, suggested we go onto the college's dining website to obtain direct web links to the businesses corporate website to find the nutritional facts on the food items. Determining the most efficient and effective way to create the guide was the next priority. After researching different styles of brochures, we decided to use a template from Microsoft Publisher that was aesthetically appealing, but also delivered the information in a clear and concise manner. We did not want to make the brochure appear too complicated as this might turn some people away.

Throughout the process of constructing the guide promptly and adequately, we had to collaborate with many people. Throughout the entire span of carrying out this action plan, we collaborated most with our community partner, the director of market development and special events at the West Michigan's American Diabetes Association, whom was previously introduced. In addition, we kept in contact with officers from the Students with Diabetes Club at Grand Valley State University, where they gave us insight on the lack of resources for the diabetic community on campus. We also had guidance from both the campus dining's food service director at Grand Valley State University and Grand Valley's nutritionist. Lastly, we collaborated with the employees and managers at Einstein's Bagels, Subway, Panda Express, Freshens, and Which Wich.

### *RESULTS*

The results of the nutrition guide were all around positive. The guide is eye catching but also easy to read (see Appendix A). The style we chose is unique as it opens up horizontally and small enough to conveniently fit in student's backpacks or

purses. For these reasons we believe the guide will be popular with the student population. The finished guides were set out in each of the dining locations that were included in the guide. This way, students could easily locate the brochure. In addition, we informed the employees of the dining locations how to use the guide of students brought up questions regarding the nutritional facts on certain meals. Next, we sent the guide to our partners at the ADA. They were impressed with the final product and believed the information and style was displayed well.

The biggest challenges and limitations presented with carrying out the plan were being under a time restraint. The process of creating this guide required many steps such as researching, brainstorming, collaborating with others, gathering information, constructing the guide, and distributing our work. All of this needed to be completed in only 16 weeks. During this time period we also had to develop new skills on how to make an efficient and effective guide. Prior to this project, our group had little marketing experience. Not only was this a challenge, but it also became a limitation of creating a guide that could be most appealing to those intended on use it. Our group also had lack of graphic design experience, which made it difficult to develop a guide that appeared professional. Lastly, a limitation we were presented with was finances. Unfortunately, we did not have the funds to ensure every student at Grand Valley could receive a copy.

#### *FUTURE CONSIDERATIONS*

The guide has a lot of potential to expand. To create a more complete nutrition guide, more campus dining locations could be included. Also, expanding the number of menu items would allow for more options. Accessing nutrition information from food

corporations is fairly simple. Our guide would be more beneficial to students and members of the diabetic community if it contained nutrition information from The Market and Engrained.

It would be a challenge to contain all of this information in one guide. In the future, this information could be accessed in an app, like MyFitnessPal. An app would allow for information to be updated regularly and efficiently. Furthermore, this concept could be applied more broadly to include restaurants in the local community to aid a broader range of people with diabetes. Most restaurants have nutrition information posted on their websites or printed on handouts in their locations, but sometimes it can be too time consuming or confusing getting to the information. The app could be designed to be simple and easy to use and people could create a favorite list of their favorite restaurants. Our research has been productive and beneficial to the GVSU community. However, further progress can be made in the future if others decide to pick up where we left off.

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Appendix A

Six-Inch Sandwich	Serving Size (Grams)	Total Calories	Total Fat (Grams)	Carbohydrates (Grams)	Dietary Fiber (Grams)	Sugars (Grams)	Protein (Grams)
Meat Ball Marinara	299	480	160	59	8	12	21
Spicy Italian	219	480	24	46	5	8	20
Chicken Bacon Ranch Melt	289	570	28	47	5	8	35
Turkey Breast	217	280	3.5	46	5	7	18
Veggie Delite	160	230	2.5	44	5	6	8

18	0	0	0	0	6	120	7 inches	Pesto
15	0	0	0	0	25	300	7 inches	Cheddar
17	0	0	0	0	3	90	7 inches	Chicken
25	2.5	0	3	11	11	220	7 inches	Club
17	1.5	0	2	1	1	90	7 inches	Turkey
Protein (Grams)	Sugars (Grams)	Dietary Fiber (Grams)	Carbohydrates (Grams)	Total Fat (Grams)	Total Calories	Serving Size (Small)	Sandwich	





Entrees	Serving Size	Total Calories	Total Fat (Grams)	Carbohydrates (Grams)	Dietary Fiber (Grams)	Sugars (Grams)	Protein (Grams)
Caramel Macchiato	16 fl oz	360	9	59	0	54	12
Vanilla Hazelnut Latte	16 fl oz	280	8	44	0	43	10
Egg, Bacon, and Cheddar Sandwich	236 g	520	19	56	2	6	29
Plain Bagel w/ Cream Cheese	144 g	410	15	57	2	7	11
Strawberry/Banana Smoothie	18 fl oz	380	0.5	92	1	79	5



Entrees	Serving Size (Ounces)	Total Calories	Total Fat (Grams)	Carbohydrates (Grams)	Dietary Fiber (Grams)	Sugars (Grams)	Protein (Grams)
Wild Strawberry	16	270	0	68	1	53	0
Maui Mango	16	260	0	64	1	46	0
Peas and Butter Protein	16	450	12	65	2	67	25
Oh Kale	16	260	0	65	2	43	1
Feelin' Peachy	16	250	0	62	1	46	0



Entrees	Serving Size (Ounces)	Total Calories	Total Fat (Grams)	Carbohydrates (Grams)	Dietary Fiber (Grams)	Sugars (Grams)	Protein (Grams)
Orange Chicken	5.7	380	18	45	0	19	14