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Research Programs

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This summer, I was partnered with Dr. Thomas Ledbetter of Baylor Family Medical Center Waxahachie. As a patient-centered physician, he saw my project going in a direction that was focused on patient satisfaction and care improvement. However, after much discussion and research, I began to realize that patient satisfaction did not always correlate with improved health outcomes. At that point, I began to explore the realm of patient engagement. Dr. Ledbetter and I knew that we wanted to target a high cost disease state with our engagement study, which is why I decided to create a survey that measured engagement in diabetic patients. To prepare my questions, I incorporated the tasks that the American Diabetes Association sees as important for diabetics to do with the wording of the Patient Activation Measurement (PAM) Scale. This allowed the survey to target the patient specifically to determine how they perceived the importance of participating in each aspect of diabetes management, instead of it being simply a checklist.

The survey consisted of ten statements, which patients could circle 1, 2, or 3 depending on how important it was to them (1 = not important at all, 3 = very important). We initially had a five point scale, but changed it in order to make adding easier for the patient. The number responses for each of the statements were summated to give a total score out of 30. Patients were

then divided into particular groups based on their final score (Level 1 (1-14), Level 2 (15-24), or Level 3 (25-30)). For each level, I identified a problem, recommended intervention, and an approximation of how many years a patient could expect to lose off of their life based on how they have been managing their care. Most of the problems and interventions were formulated by following a model similar to the PAM Scale and analysis. For example, for the patients at lower activation levels, I recommended that the patient attend educational sessions and have more frequent physician visits. This helped in a many ways, but most significantly in two areas. First, it helped the physician guide the appointment by identifying the areas that the patient specifically needed assistance with, which allowed the physician to have a more efficient and targeted appointments. Secondly, it helped the patient see how the decisions that they make every day affect how long they will live. Recent literature is pushing towards a kinder, gentler approach when talking to patients about their diabetes. However, I saw the need to make this survey more of a wakeup call for patients, which is why I diligently searched for a “Year’s Lost” chart to help patients relate appropriate management with a longer life.

Of the 18 physicians in the Baylor Health Care System that I asked to take part in surveying their diabetic patients, 16 of them returned at least one survey. A total of 270 surveys were initially distributed and 143 were received for analysis. The physicians all returned varying amount of surveys, which led to some variability in the data analysis. However, to be considered for the analysis physicians had to have returned at least 5 surveys and had to either engage or not engage over 75% of the time. For example, a physician who returned 5 surveys, but only engaged 3 out of the 5 times, was not considered in the analysis. There were 11 physicians with 5 or more surveys who had trends, 7 of them engaged more than 75% of the time and 4 of them chose not to engage 100% of the time. For each of these 11 physicians, the raw scores of each of

their patients were averaged to give a total score for the physician. Out of the 7 physicians who chose to engage, 6 of them had patient activation averages in Level 3. Meaning, as a whole, their patient population is engaged and comfortable managing their Diabetes. For the 4 physicians who chose to never engage, all of them had patient activation averages in Level 2. These findings provide evidence that physicians who are more willing to engage with their patients, in turn, have patients who are more willing to engage with the management of their disease. Usually for numbers, on 1-10 you write the word and on 11+ you use a figure, but it seems to work in this case.

Of the 143 patients who completed the survey, 52 of them were reached by phone and agreed to a phone interview. I asked them a series of questions and to conclude my conversations asked them if they needed any additional care. A total of 17% of patients requested assistance and care coordination. These names were sent to Dr. Thomas Ledbetter for further action.

To complete this project, I spent most of June doing literature research, shadowing Dr. Ledbetter, and attending business meetings. In my time at the main office, I developed my survey and planned how it would be carried out. In July, I presented to the physicians who would be assisting with the survey and began collecting data. I typically worked anywhere from 40 to 45 hours a week. In most meetings, I took more of an observant role. However, creating my own project allowed me to feel like a leader. Not just in the personal sense, but in a way that someone hoping to understand the role of a Chief Medical Officer should. I was able to see how my project could benefit many patients and providers, which gave me great pleasure.

The mission of Baylor Scott & White Health is “to serve all people by providing personalized health and wellness through exemplary care, education and research as a Christian

ministry of healing.” Since my project was aimed at the importance of patient engagement, I was specifically working with the idea of personalized health. By seeking to identify each patient’s weak points, the approach that they will be getting in regards to their diabetes management allows for each patient to be cared for uniquely. Further, by looking into provider engagement, I was trying to show the physicians who participated in my study the importance of continually taking the time to give exceptional care to their patients. With the results of my study showing that provider engagement affects patient engagement, it proves the importance of physicians listening to their patients and identifying where they need assistance with the management of their care. I am currently surveying physicians to ask how my survey affected them, but already have strong data to prove that it meant a lot to the patients who took part in it. My survey is currently still in use at three of the practices in the Baylor Health Care System and will continue to benefit patients and physicians as long as it is in use.

While working on my Medical Humanities minor from Baylor University, I have taken many courses that focus on the importance of having a foundation of communication and understanding between a provider and the patient. My project allowed me to see how effective this approach was in the area of diabetes. Many physicians have told me that the survey helped them decide where they wanted to take the appointment and allowed them to only focus on the areas that the patient needed. This allowed for the physician to have effective communication with the patient and a better understanding of how well they were taking care of themselves. The concentration of Medical Humanities is very patient and relationship centered, which is why I guided my project where I did. I think my educational background from Baylor played a large part in the success of my internship experience and project.

My project incorporates two prominent healthcare topics, cost of chronic diseases and Patient Activation Measurements (patient engagement). As stated previously, Dr. Ledbetter and I wanted to target a disease state that was responsible for a large portion of healthcare costs. Chronic diseases cost \$1.5 trillion a year to treat, which makes up 75% of all healthcare costs (Anderson, Gerard). Of that percentage, diabetes attributes to 14% of all medical expenditures (American Diabetes Association). For this reason, I chose to target the diabetic population. Recently, the Patient Activation Measurement scale has gained great popularity. It aims to show how engaged each patient is with managing their care, which is why I formatted the wording of my survey to model the way they presented questions (Hibbard, Juddith). Patient engagement is slowly becoming more of an indicator for success than patient satisfaction, so I believe my survey will remain beneficial for quite some time. My project aimed to present personalized care to patients in a way that would help their health outcomes and, in turn, reduce costs.

In addition to the feeling of accomplishment after completing my project, I gained a lot of helpful skills and connections. Working with physicians and hospital leadership allowed me to learn how to hold myself in a more professional, respectable fashion. Although I have experience in leading organizations, I feel like my leadership skills are much improved and I believe that will benefit me throughout my entire life. Additionally, though I have done research before, I never have reached a point to where my work was worthy of publishing. However, the leadership of Baylor Scott & White Health found great interest in my project and are working with me to publish my research. This internship also opened a lot of doors for me in a networking sense. I had three letters of recommendation written for me by physicians and sent to medical schools that I am applying to. I am unsure of who designed this internship, but it is truly rewarding in so many ways.

At the beginning of this internship, my goal was to have a better understanding of the business side of medicine. During my time shadowing and working as a scribe, I was only exposed to the clinical aspect of medicine and often wondered what the leadership executives of healthcare systems did and how it affected the care that patients receive. Throughout all of the meetings that I attended during my internship, I began to gain a better understanding of how the business aspect of the medical field is crucial in determining its success. I have seen the leadership of the Baylor Health Care System work endlessly to create the smoothest, most efficient environment that they can for physicians and patients. Each day, I heard of meetings for many various topics and diseases, which provided me with the knowledge that the business realm of medicine is all inclusive in determining which areas to improve. They understand the importance of every aspect of the field and therefore labor over making sure all of them meet the Baylor Health Care System's high expectations.

Though this internship was only two months, it has impacted me greatly and has caused me to change my way of thinking about many things. Throughout this internship, I saw myself become more comfortable with my leadership skills. This internship removes the crutch that we have as undergraduates and forces us to act as employees in an independent manner. In an attempt to not burden those overseeing the program, I saw myself making more decisions independently and efficiently. Intellectually, I am more equipped to do research and gained invaluable insight into the way that a hospital system is run. I am now comfortable meeting with executives and people of great importance, which I believe benefitted me in my first medical school interview. My time at Baylor Health Care System has given me an open mind about research and shown me that I was doing the wrong type of research previously. I thrive better

working in areas that aim to better the treatment and care that patients receive. After working on this project, I am now open to performing research as a physician someday.

As a student who has recently applied to medical school, I cannot say enough about how much this internship has benefitted me. I wholeheartedly believe that it will help make me a better physician, researcher, and employee someday. With my understanding of both clinical and business aspects of medicine, I can be a well-rounded employee of a healthcare system in the future. Additionally, I was able to shadow some amazing physicians who showed me that it is still possible to listen to and comfort patients in the medical field today. I have shadowed many physicians before who seemed to look at their position as a business. However, my mentor for this internship, Dr. Ledbetter, has shown me what it looks like to be a physician when medicine is your calling. Seeing the joy he receives every day from serving his patients in both the clinical and leadership realms was the greatest “take away” for me. I would recommend the CMO internship to anyone who is looking for personal development and is willing to work hard. This experience has been one of the most rewarding times in my life, especially as a premedical student.

*Works Cited*

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