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Leadership in Medicine

KANOF INSTITUTE OF PHYSICIAN LEADERSHIP

MED TALKS

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CONTENTS

Implementing a Delirium Prevention Plan in a Local Hospital

Susie Fitzgerald, DO

Introduction

After learning about advocacy through the Leadership College, I started thinking about the rural community in which I work in Sampson County, specifically the lack of services and resources I knew to be available to my patients. I started reading about social determinants of health and how important this is to patients' wellbeing and to the overall wellbeing of the community. The World Health Organization (WHO) defines social determinants of health as "the conditions in which people are born, grow, live, work and age." Many studies over the years have demonstrated the importance of social determinants of health to a person's overall health and wellbeing. Clinical care accounts for only 20% of overall health within a community. I was alarmed that in my clinic we did not screen for social determinants of health. By not screening, we were potentially missing very important information about our patients that could help us better understand their situation, barriers to care and other problems such as food insecurity or housing insecurity that impact overall health.

For my Leadership project, I wanted to implement screening for social determinants of health in my clinic, located in Spivey's Corner, NC. The clinic opened in July 2023. Ultimately, I would like for all the clinics associated with Sampson Medical Group to implement this screening as well. I believe that putting into place a consistent screening tool and providing patients with appropriate resources, I can serve as a better patient advocate and improve the overall health of my community.

Method

In order to put a screening protocol in place, I first had to develop a list of community resources that I could use to refer patients who screen positive on the social determinants of health screening tool. I first reached out to all the Sampson Regional Medical Center (SRMC) outpatient clinic managers and front desk staff to learn about any community resources they were familiar with. Then I met with a social worker at the SRMC hospital to learn about the resources she uses when patients are discharged from the hospital. I also met with the director of the Sampson County Health Department and with Susan Spratt, Endocrinologist at Duke, and lead on SDOH screening implementation at Duke, to discuss the NC Care 360 and 211 websites for additional community resources. I have reviewed several different screening tools including the ones from the AAFP, CMS and NCDHHS. The one from NCDHHS, I believed, was the best one to start with. It covers food insecurity, housing and utilities insecurities, transportation issues and interpersonal safety. Initially, this will be printed out and given to patients on their first visit or their annual visit. IT will ultimately need to build the questions into the EMR, but this was not able to be done within the timeframe of this project.

If a patient screened positive for any of the social determinants of health on our screening tool and they indicated that they would like assistance, I used the resource list to direct them to the applicable agency where they can get help. It will initially be a brochure of resources or a list of contact information that we can give them on their visit, and they would have to contact the organization themselves.

What will still need to be put in place is how to follow up once a patient has been identified with a need and directed to a particular agency. It would be great to "close the loop" so that we know that the patient's need has been met or if they are still requiring assistance and further referral.

Results:

I met with the CEO of SRMC and he has been onboard with my project from the beginning. I submitted the screening tool and was given approval to start screening in August 2023. Since I started screening, I have screened 57 patients. Of these 57, 10 have screened positive and 6 received information regarding community resources. Four patients indicated that they did not want any assistance. I plan to rescreen all positive patients after 6 months for ongoing assistance and every year for all patients.

Conclusion:

I believe that by implementing this important screening, I have already been able to help patients in a way I have never done in the past. More work, of course, needs to be done. The screening tool is currently done by hand. It should ideally be integrated into the EMR with automatic reminders about when to rescreen and if resources were given. It would also be beneficial to have a way to know if the patient was actually able to get help from any of the resources provided. Also, I would like all our outpatient clinics to participate in this screening. My clinic is currently the only SRMC clinic doing this type of screening. There are 5 other clinics in the SRMC system that should also be doing this screening. I plan to work with hospital administration and the clinic managers of all the outpatient clinics to make this screening standard practice within our system

Knowledge is Power: Effective Strategies for Delivering Evidence-Based Diabetes Care to African Americans

Carla Holder, MD, MPH, FAAP

Introduction

Type 2 Diabetes Mellitus (T2DM) is a public health emergency that has had a profound effect on the state of healthcare in the United States and around the world for over the past several decades. This complex and deadly disease has affected millions of people of all races and ethnicities. However, African Americans have been disproportionately affected by this disease, which has contributed to soaring health care overutilization, increased T2DM-related morbidity, and early mortality. The U.S. Department of Health and Human Services (DHHS), Office of Minority Health (OMH), reported that in 2018, African American adults are 60% more likely than non-Hispanic Caucasians to be diagnosed with T2DM. African Americans are twice as likely than non-Hispanic Caucasians to die from complications from diabetes.[1]

According to Robins et al, economic disadvantages may play a crucial role in the disproportionately high prevalence of T2DM among African Americans, primarily African American women.[2] The principal objective of this pilot program involved using managed care data to identify a cohort of African American patients who have poorly controlled Type 2 Diabetes Mellitus (T2DM) with at least one comorbidity, who are at risk for poor outcomes. Poorly controlled T2DM in this pilot was defined as a patient with a Hemoglobin A1c (Hb A1c) at or above 8%. The goal was to address social determinants of health through enhanced health literacy, fostering self-empowerment and facilitating access to newer, effective, anti-diabetic drugs that might improve clinical outcomes in high-risk populations, such as the African American population.

A crucial consideration related to the adverse outcomes as a consequence of the sequelae associated with T2DM is the failure of the healthcare industry to focus on reducing the devastating effects of social determinants of health (SDoH). Although SDoH are wide ranging in scope, they have a direct impact on the health and well-being of populations of lower socio-economic status and minority populations.[3]

Addressing SDoH has proven to be a daunting task. According to the Office of Disease Prevention and Health Promotion of the U.S Department of Health and Human Services, SDoH are the conditions in the environment where people are born, live, learn, work, play, worship, and age that affect a wide range of health functioning, and quality-of-life outcome and risks.[4] One of the principal objectives of Healthy People 2030, under the Health Care Access and Quality Domain, is to improve health communication by increasing the proportion of adults whose health care providers involved them in decisions.[5]

Addressing each domain of Healthy People 2030 demands the collaboration between all facets of health care, including, but not limited to, individual providers and healthcare workers, private practices, large and community hospital systems, non-governmental agencies (NGOs) and other nonprofit organizations, and managed care organizations (MCOs), just to name a few. It also requires the active participation of individual patients and their families, community partnerships, local, state, and federal legislators, governmental agencies, and various advocacy groups.

According to Healthy People 2030, a significant number of African Americans lack access to the essential healthcare services required to sustain a state of good health and well-being.[3] Increasing health care access and quality, and improving the communication between providers and their patients, is key to self-empowerment and advancing the goal of achieving health equity for people of all races and ethnicities.

In addition, the NCQA has prioritized identifying and reducing health disparities to improve health outcomes for all races and ethnicities.[6] Hb A1c control (<8%) has been identified by the NCQA as one of the important metrics of the HEDIS Comprehensive Diabetes Care goal for 2023.[6] Furthermore, NCQA has incorporated race and ethnicity stratifications to additional HEDIS measures over the next few years in the attempt to reduce health disparities and to work toward closing health care gaps for all races and ethnicities.[6] Reducing health disparities, through increased access to care and access to more effective treatment, by improving health literacy in at-risk populations, could potentially transform the health care industry over time and improve health care outcomes for all races and ethnicities.

According to Dr. Robert Gabbay, the chief scientific and medical officer for the ADA, diabetes care must focus on each individual patient to achieve optimal results.[7] The newer, anti-diabetic drugs may not be the answer for every patient, but according to the 2023 ADA guidelines, it is important to use evidence-based recommendations to drive better care for all individuals with diabetes, including vulnerable communities and those at highest risk.[7] This includes the expanded use of the newer, anti-diabetic drugs, including the SGLT-2 inhibitors and GLP-1 agonists, when clinically indicated for a patient. This approach requires the use of the Chronic Care Model, which emphasizes the person-centered team care, and consistent communication between the treatment team and the patient, to ensure each patient is getting the best care and follow-up.[8]

The American Diabetes Association recommends the use of these newer anti-diabetic medications, in patients with established atherosclerotic cardiovascular disease (ASCVD), congestive heart failure, or chronic kidney disease (CKD).[7] These medications are considered significantly beneficial for improving blood sugar control and reducing the risk of poor outcomes secondary to these comorbidities. The newer classes of diabetic medications have shown to improve health outcomes in these patients, including improved glycemic control, weight loss, the reduction of cardiovascular disease, the incidence of ESRD in patients with chronic kidney disease, and the risk of premature death.

According to the FDA compendium, SGLT2 receptor antagonists, such as dapagliflozin, work by inhibiting the sodium-glucose cotransporter 2 (SGLT2), thereby reducing reabsorption of filtered glucose and promoting urinary glucose excretion. Decreased sodium reabsorption and increased delivery of sodium to the distal tubule also occur. Several physiological functions may be influenced, including decreased intraglomerular pressure (believed to be mediated by increased tubuloglomerular feedback) and lowering of both pre- and afterload of the heart and downregulation of sympathetic activity.[9] GLP-1 receptor agonists, such as semaglutide, work by reducing fasting and postprandial blood glucose by stimulating insulin secretion and lowering glucagon secretion. In addition, GLP-1 is a physiological regulator of appetite and caloric intake, and the GLP-1 receptor is present in several areas of the brain involved in appetite regulation.[10]

However, from a Managed Care standpoint, the challenge often lies in balancing cost, efficacy, and accessibility. These newer medications are expensive, which may make them less accessible for marginalized communities. Formulary decisions, tiered medication lists, and prior authorization requirements can also serve as barriers to access to these newer anti-diabetic medications. Due to the high cost of these newer drugs, and underutilization of these drugs in patients that are at higher risk for poor outcomes, it is essential for both patients and their providers to be educated on the availability of the newer, effective, anti-diabetic drugs, and the potential benefits they offer to improve the health and well-being of patients with uncontrolled T2DM. Addressing these disparities may involve increasing awareness about these newer medications among healthcare providers, patient education initiatives, and advocating for policy changes that make these medications more financially accessible.

Although the cohort of patients in this pilot project are primarily covered by Medicaid and have access to the newer, anti-diabetic agents, studies have shown that on a larger scale, African Americans and other minorities have overall decreased access to these newer agents, which may be linked to poorer outcomes.[11]

The purpose of this project was to address the Healthy People 2030 domain of increasing health care access and quality by improving communication and collaborative health care decision making between patients and their providers. This pilot program used managed care data to identify African American patients with poor diabetes control and at least one comorbidity, who could potentially benefit from the newer, anti-diabetic treatments. Managed care resources were used to reach both patients and their prescribing providers to increase health literacy and self-empowerment of the identified patients who were at risk for poor outcomes because of T2DM, and to promote shared decision making between patients and their providers.

Method

A thoughtful and measured approach was used in launching this pilot program. After discussing the pilot project with the Chief Medical Officer of one of the two Medicaid health plans in North Carolina and the Regional Vice President of Pharmacy for the Southeast Region, it was decided to initially start with a single, Medicaid health plan in North Carolina. Carolina Complete Health was selected to identify patients who met the inclusion criteria to participate in the program. This allowed the team to test the efficacy of the program in a controlled setting prior to considering a larger scale implementation throughout the enterprise. If the pilot was successful, with achieving the established metric, this would strengthen the case for expanding the pilot program on a larger scale to other regions of the enterprise.

Prior to starting to work with our diverse and multi-talented team, the project proposal was submitted to the compliance department for a rigorous compliance review and request for an approval to proceed, which was granted after a thorough review of the overall purpose of the pilot program, its primary objectives, and the required resources, including projected costs to implement the program.

A diverse team was assembled to undertake this project. Comprising the team was myself, a Centene Pharmacy Services Medical Director, and the team lead for this project; the Centene Pharmacy Services Clinical Programs team; the Centene Center for Health Transformation; and the Centene Pharmacy Services Data Analytics Team. Our team members were very engaged, and we met at least twice a month for over 6 months to review the project objectives, the implementation of the program and its progress, and the interpretation of the results at the completion of the program. Other departments were consulted, which included the CMO of Carolina Complete Health and his team, the Centene Regional Pharmacy VP of the Southeast Region, the Centene Marketing and Communications Team, the Utilization Oversight Workgroup leaders, and the Duke Center for Behavioral Economics.

Inclusion Criteria:

- The use of managed care claims data was used to identify African American members that had poorly controlled T2DM (Hgb A1c levels at or above 8%) that were not being treated with either a GLP-1 receptor agonist or an SGLT2 inhibitor prior to the initiation of the program.
- The selected members had to be of African American race, have a confirmed diagnosis of T2DM, with at least one comorbidity (chronic kidney disease (CKD), congestive heart failure (CHF) or other cardiovascular disease, including atherosclerotic cardiovascular disease (ASCVD), or obesity.

Cohort

- After the analytics team from the Centene Center of Health Transformation conducted an in-depth analysis of members from CCH who met the inclusion criteria, 139 targeted members that met the inclusion criteria, and their prescribing providers, were selected to be included in the pilot program with the approval from the CCH CMO.

Outreach (Patients/Members)

- A member letter was drafted that was straightforward, clear and concise, that explained that the health plan identified them as having T2DM that was poorly controlled and that there are newer diabetes medications now available that could potentially improve their health and sense of well-being.
- The letter encouraged the members to call their provider and make an appointment to discuss their treatment options at the time they were reading the letter. This component was suggested by the Duke Center of Behavioral Economics.
- The drafted letter was rigorously reviewed by Carolina Complete Health and the State Department of Health and Human Services prior to being approved.
- Once the letter was approved, the letters were mailed to the members on **May 18th, 2023,** by the Centene distribution center.

Outreach (Providers)

- A letter campaign was also initiated to reach the prescribing providers for the targeted members, advising them of the newer anti-diabetic medication treatment options, recommended by the ADA, that may potentially improve their patient's T2DM control.
- The letter also encouraged the providers to schedule an appointment with the targeted patient to discuss these options further.
- The Carolina Complete Health formulary was extensively reviewed to determine the preferred and non-preferred agents for both the GLP-1 receptor agonists and SGLT-2 inhibitors and if step therapy was required.
- Once the provider letter was approved by Carolina Complete Health and the State, the letters were faxed to the providers on **June 1st, 2023.**

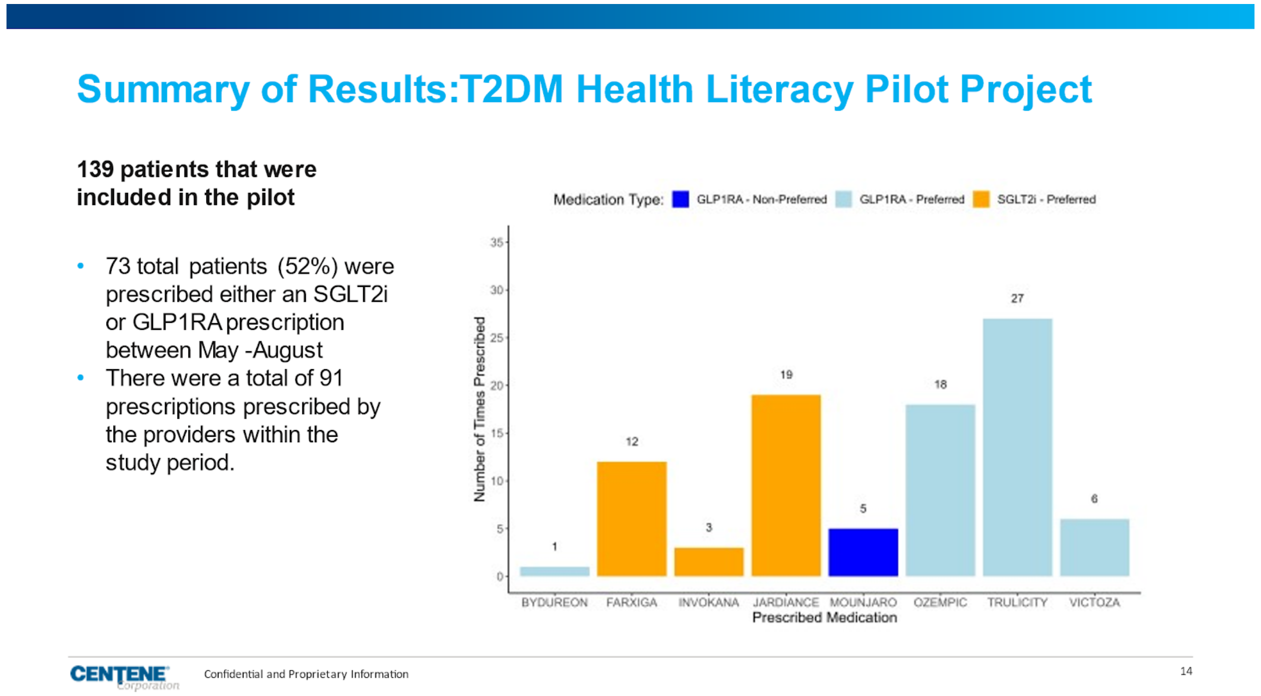
Follow-up

- The Centene Pharmacy Services Analytics team scheduled monthly reviews of the claims data on the 18th of the month for three months (May through August 2023).
- Claims data was reviewed by the Centene Pharmacy Services data analyst monthly to determine if targeted members were newly prescribed either a GLP-1 receptor agonist or an SGLT-2 inhibitor during the monitoring period.

Results

Newer Diabetic Treatments

- 39 members that met inclusion criteria were mailed the approved letters on May 18th, 2023.
- The prescribing providers were faxed the approved letters on June 1, 2023.
- 73 total patients (52%) were prescribed new prescriptions for either an SGLT2 inhibitor or an GLP-1 receptor agonist (a total of 91 prescriptions were prescribed within the study period).



Summary of Results:T2DM Health Literacy Pilot Project

139 patients that were included in the pilot

- 73 total patients (52%) were prescribed either an SGLT2i or GLP1RA prescription between May -August
- There were a total of 91 prescriptions prescribed by the providers within the study period.

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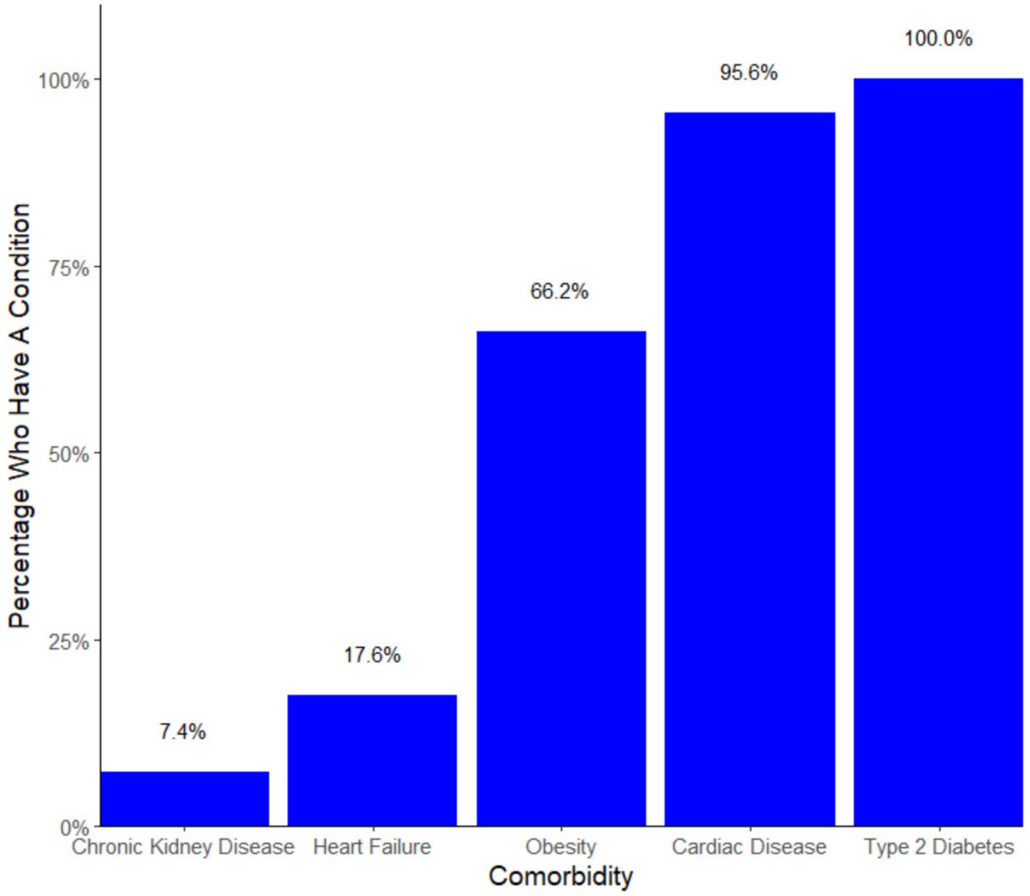
Claims Data Breakdown:

139 targeted patients in the CCH cohort that met inclusion criteria:

- 73 (52%) patients had new claims for either an SGLT2i or GLP1RA prescription between May – August 2023.
- 91 total new prescriptions were prescribed between May – August 2023.
    - SGLT2i
        - 34 SGLT2i prescriptions were all preferred (Farxiga, Invokana, and Jardiance).
    - GLP1RA
        - 57 total GLP1RA prescriptions:
- 52 (91%) were preferred (Bydureon, Victoza, Ozempic, Trulicity)
- 5 (9%) were non-preferred (Mounjaro)

Member Comorbidities

Comorbidity analysis

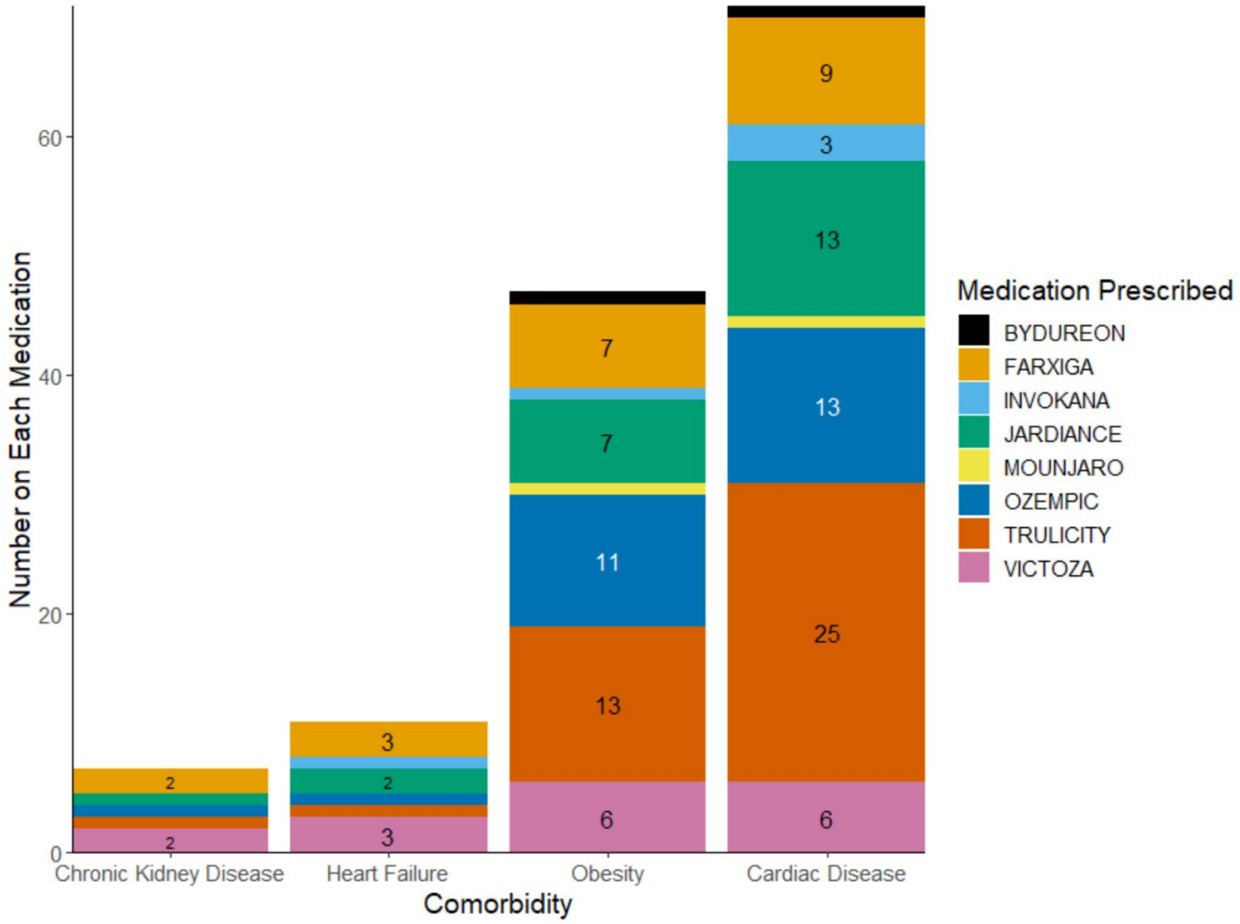


- Note that all members had T2DM (Confirmation of inclusion criteria)
- Nearly all had cardiac disease and a majority were also obese.
- CKD patients were lower than expected.

Prescribed Medications by Comorbidity Status

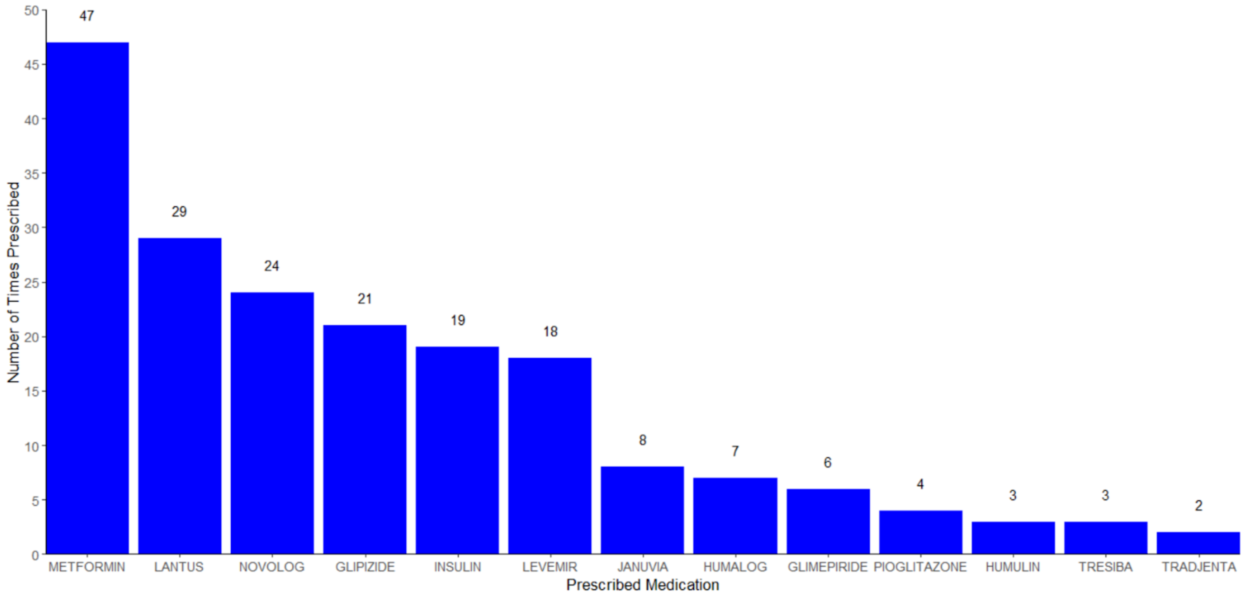
Prescription patterns do not appear to differ by comorbidity in this cohort of patients with the exception of Jardiance.

- Trulicity appeared to be used mostly in patients with comorbid heart disease.
- Ozempic appeared to be prescribed more in patients with comorbid obesity and heart disease.
- Farxiga, Invokana, and Jardiance were collectively prescribed most in patients who were diagnosed with congestive heart failure as expected.



Patients were also being treated with other anti-Diabetic Medications during the monitoring period (May through August 2023)

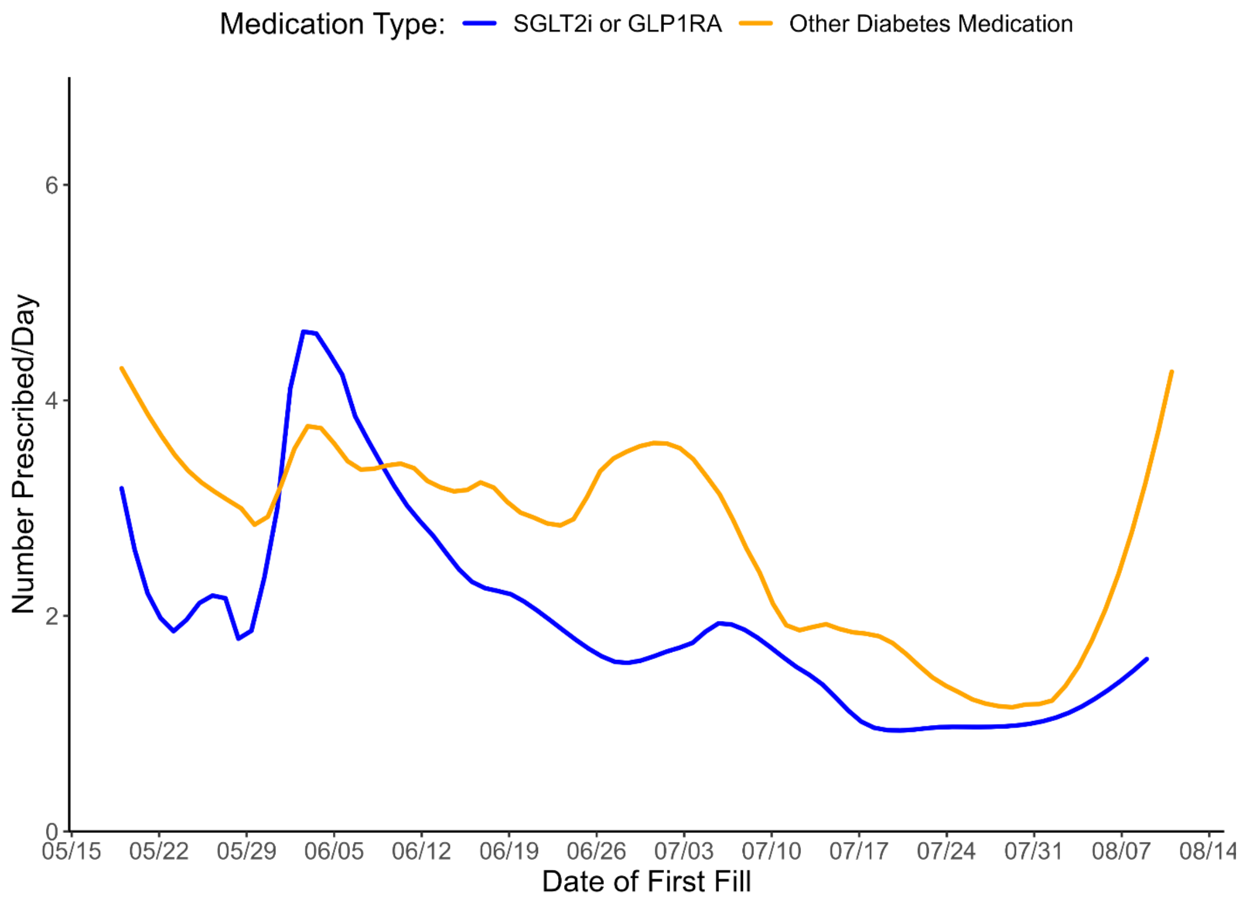
- Metformin was the primary anti-diabetic drug being used for the treatment of T2DM by the prescribing providers prior to prescribing either an SGLT2i or a GLP1RA.



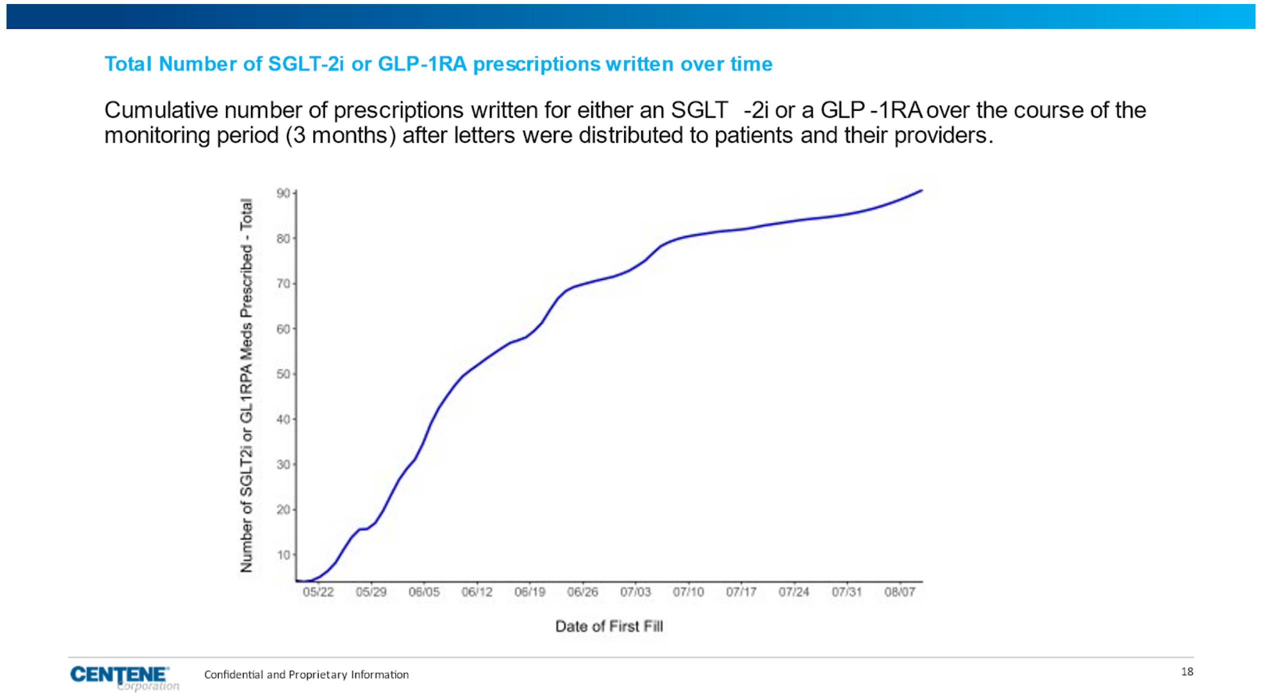
Temporal Analysis

The graph depicts the first fills of all prescriptions between May and August 2023.

- There is a noticeable increase within the first month after the member and provider letters were distributed to the participants of the study.
- This suggests an immediate effect of the intervention.
- New prescriptions for either an SGLT2i or GLP1RA continued throughout the monitoring period (May through August 2023).



Total Number of New Anti-Diabetic Prescriptions over time (May - August 2023)



Total Number of SGLT-2i or GLP-1RA prescriptions written over time

Cumulative number of prescriptions written for either an SGLT -2i or a GLP -1RA over the course of the monitoring period (3 months) after letters were distributed to patients and their providers.

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Discussion

The results of this pilot program were both exciting and encouraging. Addressing an important aspect of SDoH by enhancing health literacy via a dual letter campaign involving targeted patients and their providers, appeared to be an effective approach and is worth considering an expansion to other regions throughout the enterprise. If an expansion occurs, adding a control population to compare the results of the intervention cohort may further support the success of this approach. The preliminary results of the short monitoring period support the theory that empowering patients to actively participate in improving their own health and well-being through education can potentially result in moving a step closer to achieving health equity. An initiative, such as this program, can be pivotal in reducing health disparities and improving health outcomes, particularly for African American patients suffering from the devastating consequences of T2DM.

Leading this initiative within a large enterprise like Centene Corporation was at times a challenge. However, it proved to be an immensely fulfilling learning experience. Transitioning from an idea to developing a concept of how to increase awareness of the newer anti-diabetic medications available to African Americans took some time and collaboration with the clinical programs team in the Centene Pharmacy Services Department and the Centene Center for Health Transformation innovation team. It took several months from concept to implementation of the project. It required getting an approval at each step before I could move forward with the project. It was a time-consuming process, but I had a very committed team, which made all the difference. Sharing the significance of the project from a personal perspective and narrating my own story proved invaluable. The importance of the project, and making a difference, motivated the team to see the project through to the end. Our team met regularly from the beginning of the project to the very end, which allowed us to monitor our progress and make any changes to the protocol if necessary. I think this experience has enriched my leadership skills by teaching me how to transform an idea into a viable project within a large organization such as Centene.

The rate-limiting step was getting the member and provider letters approved by the State of North Carolina DHHS as well as Carolina Complete Health. The letters had to be amended several times. The member letter had to be easy to read, on a fourth-grade level, which proved to be more difficult than I had originally anticipated. Once the member letter was approved in record time (that is what I was told), the letter to the providers posed its own set of challenges. The provider letter had to include the preferred and non-preferred SGLT2 inhibitors and GLP1RAs. This was an interesting roadblock because if the program was successful in terms of increased claims for the newer anti-diabetic medications in the targeted group, this might initially result in increased costs for the health plan due to the expense of the newer medications. However, the pushback was emphasizing the long-term financial benefits as well. Although there may be increased financial impact initially, better management of T2DM could lead to fewer hospitalizations, and less need for emergency care, hospitalizations, and treatment of comorbidities associated with T2DM. This, in turn, could prove to be cost-effective in the long run by improving the overall health of the population and reducing healthcare costs over time. This was a consideration that led to the final approval of the project.

I also learned that reaching out to patients and providers using a letter campaign method was not as easy as it seemed. Not only did it have to be approved, but it was also expensive. Mailing costs and expenses associated with faxing to 139 providers had to be approved by the department. Thankfully, the costs were covered by my department and the letters to the members and providers, once approved, were dispatched without any complications.
This project took almost a full year to implement from start to finish. I have strengthened my leadership skills by leading a cross-departmental team through a complex project. Working together towards a common goal was difficult at times but very rewarding, especially because we were able to see positive results. This experience gave me valuable insight on what it takes to be a true leader, strategic thinker, and a project manager within a large organization. One of my most important strengths is that I work well in a team setting, and I enjoyed it very much. My team was just as motivated as I was to see this project to the end, which was quite fulfilling.

Conclusion

In summary, it became evident that collaborating with a diverse team can enhance the outcome of a challenging endeavor such as this project. Furthermore, the guidance of a seasoned mentor, along with strong relationships with organizational leaders, significantly expedited the progress of this pilot project.
I am convinced that our initial findings demonstrate the invaluable role of health literacy in disseminating potentially life-saving information.

The project earned a positive reception from organizational leaders, which, I believe, sets the stage for expansion in the future. The next steps of the project will focus on tracking the initial cohort of patients by monitoring their medication adherence and diabetes control (reduction in Hemoglobin A1c levels), as well as monitoring the reduction in comorbidities, emergency room visits, and hospitalizations over time. If these metrics yield successful outcomes, the goal is to expand the program to other areas within the organization and to potentially share our findings through academic publication.

The key insight that I have gained throughout this process is the importance of selecting a project that holds personal significance, and strategically putting together a team of individuals with relevant skillsets and strengths, that collectively contribute to a strong project and potentially successful outcome.

A Rural Community Collaboration to Expand Primary Care Access for Patients with Opioid Use Disorder (M-OUD)

Christine Khandelwal, DO, MHPE

Introduction

Although substance use disorders are estimated to occur in one in five patients in primary care, there is limited training in undergraduate and continuing medical education to manage opioid use disorder (OUD)s.1 Many barriers exist in treating OUD in the primary care setting. Studies have shown that there remains a perception that treating OUD is out of the scope of a primary care practice due to the lack of the time, resources, structure, and behavioral interventions required for OUD treatment.2,3,4 Other concerns of unspoken barriers include the belief that primary care (PC) providers cannot provide high quality OUD treatment and there remains a stigma and concern that patients with OUD are difficult and could overwhelm PC practices.2-4

Research has demonstrated that medication treatment for opioid use disorder (M-OUD) is effective in the long-term with medication and is considered first-line treatment for patients with OUD.5 It is therefore important to address the barriers by expanding knowledge to primary care providers in caring for patients with OUD. Expanding availability of OUD treatments and increasing the capacity for primary care providers in managing patients on with opioid use disorder increase the chances of recovery for their patients.6

Opioid use disorder should be treated as a chronic condition with longitudinal, team-based, patient-centered care.5,7 The American Academy of Family Physician position advocates for family physicians to manage patients requiring M-OUD as part of a comprehensive primary care practice.5,7 Therefore, education in the implementation of medication in treating opioid use disorder must be integrated in the medical training of future family physicians.

Background

Addressing the needs of patients in individual ways should always be the goal for any primary care provider. However, many primary care practices face resource constraints that limit the range of services that can be provided to care for their patients, especially with OUD. This is true in the county of Harnett, North Carolina. In an effort to improve and expand primary care delivery for patients who also have OUD, the Harnett Health Family Medicine Residency (HHFM) program, along with faculty from Campbell University School of Osteopathic Medicine (CUSOM), is developing a model of care to connect patients with external behavioral health providers and other community resources to complement what can be offered within the primary care practice setting. In a mutual partnership, these community resources and sites will also refer patients to the Harnett FM clinic to establish care with primary care physicians. More importantly, this care model will also focus on training the future workforce of Family Medicine Physicians and CUSOM medical students to be prepared for caring for patients in need of M-OUD as a part of their comprehensive care needs.
Recently, Harnett County has created a multidisciplinary opioid task force to include leaders from the regional communities including elected county leaders, county and tribal judges, law enforcement officers, prosecutors, public defenders, public health and behavioral health practitioners, emergency management professionals, school superintendents, and individuals working in community nonprofits. However, a fundamental gap in this community-wide collaboration was the lack of community-based, primary care physicians involved in caring for patients who require M-OUD as part of their overall health care needs. A proposal for this model of care was presented to this county task force to offer the HHFM program as a resource to provide primary care services for patients within the community who will continue managing their M-OUD as well. The task force leadership acknowledged this lack of insight in engaging primary care.

physicians to participate in this initiative and currently leaders from the HHFM program and CUSOM now actively participate on this county-wide task force.
To ensure we can achieve integration of substance use services within the HHFM primary care setting, we reached out to experts recognized at the state and national level in addiction medicine who are leading initiatives to improve care for patients living with OUD. In North Carolina, Dr. Robyn Jordan, and her colleagues, are nationally known for their work in addiction medicine. For example, Dr. Jordan has created the UNC Extension for Community Healthcare Outcomes for Rural Primary Care Medication Assisted Treatment (UNC ECHO for MAT) project. This was originally designed to improve the care for patients on chronic opioid medications and reduce barriers for the delivery of M-OUD by rural primary care providers in North Carolina. A key element was tele-conferenced sessions based on the University of New Mexico Project ECHO model, which comprised of case discussions and didactic presentations using a "hub and spoke" model, with expert team members at the hub site and community-based providers participating from their offices (i.e., spoke sites). Currently, Dr. Jordan and her team have recently developed a new program, the NC*STAR (North Carolina Substance Treatment and Recovery) Network program, with the goal to make a more sustainable impact on care delivery provided to patients with OUD. The NC*STAR Network has created a much-needed safety net system for treating opioid use disorder and other substance use disorders throughout NC, with a specific focus on the underserved populations.

The NC*STAR Network is a statewide initiative with an overarching goal of expanding access to addiction treatment for all citizens of North Carolina through a similar model of ECHO for MAT, the utilization of a Hub and Spoke model. The Hubs are academic centers with a strong focus on providing addiction treatment and education. Currently, the NC*STAR Network hubs are located only located at UNC, Mountain Area Health Education Center (MAHEC), and East Carolina University (ECU). In working with Dr. Jordan, her team and I have worked collaboratively with selected faculty at Campbell University School of Osteopathic Medicine, in partnership with the Harnett Health Family Medicine Residency Program. Currently, there is great need to establish a hub in Harnett County, NC to provide this service in this region. It is with the NC*STAR Network program, through the leadership and expertise of Dr. Jordan, that the HHFM program and CUSOM faculty, has established an academic detailing[8] approach to implement a quality improvement project to provide evidence-based care for patients with OUD.

Method

The NC*STAR Network is committed to keeping primary care practitioners up to date on evidence-based practice and to support all practitioners who are offering or want to offer the best care for their patients on chronic opioids and in addiction treatment. This is an interprofessional team of both addiction medicine specialists, counselors, and pain specialists to care for patients with chronic pain needs.
In participating in the NC*STAR Network in Harnett County, we will be able to offer primary care services while managing patients with M-OUD. We have also partnered with faculty who specialize in chronic pain with integrative medicine modalities and have partnered with a local provider who specializes in **addiction psychiatry**. Funding support for this program has been offered through the Harnett Opioid Task force and will be budgeted to support the educational component of this project in this early stage of the program.

Project design

Using the model of academic detailing will provide an interactive educational outreach to the family medicine residents and students to provide evidence-based information about M-OUD with the goal of improving patient care within Harnett County. This educational program will be delivered to the providers using a multi-modality approach, including one-on-one in the office setting, using tele-conferenced sessions comprised of case discussions and didactic presentations, and on-site visits when necessary. There will be 8 hours of free CME for our providers, including learning modules and didactics provided by experts in the field of addiction medicine, through the North Carolina Medical Board and the Substance Abuse and Mental Health Services Administration.[9] Evaluating the effectiveness of this program will include measuring selective changes from the provider's perspectives, patient-centered outcomes, and the quantitative data will be derived from existing health system administrative data and electronic medical records [EHRs]).

Quality Improvement Measures

A clinical staff member, a medical assistant with experience in addiction medicine, has been identified and designated as the clinical team member[s] responsible for specific tasks, including screenings and medication therapy follow-up with the community pharmacist who has been identified as a champion partner with this project.
The FM clinic will add an ICD-10 diagnostic worksheet to their EHR workflow to promote alignment with best practice as recommended by the NC*STAR Network team and will be implemented at the start of this quality improvement project. Referrals from outside community partners and healthcare professionals for people to establish with a primary care provider who can provide M-OUD will be tracked through the EMR system as well.
The outcome for the implementation (primary outcome) of this project as a clinic-level measure is the number of patient days of medication treatment of OUD over the 6 months of implementation of this program. The patient-level outcome for the effectiveness objective (secondary outcome) is days of acute care utilization [e.g., urgent care, emergency department (ED) and/or hospitalizations] over 6 months among patients with documented OUD prior to the participation of this care model with the HHFM clinic.

Performance Measures

The goals of this program at the provider-level include successfully identifying substance use disorders, offering patient support during M-OUD, and administering M-OUD to help patients achieve continuity of care with their provider. These will be identified through the EMR system data based on any new diagnosis and number of visits per patient with their provider.
Stigma has been identified as a central problem for patients seeking and receiving quality care and other services from health care providers and first respondents. To gauge attitudes and behaviors of direct service providers and help assess the impact of stigma reduction initiatives, interventions, or programs, researchers created a validated scale designed to assess negative attitudes and behaviors towards care for patients with opioid use. This scale, known as the *Opening Minds Provider Attitudes Towards Opioid-Use Scale (OM-PATOS)*[10] (Appendix A), will be provided to all providers, staff, and faculty who will be participating in this program, both pre-and-post participation. This scale is scored on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5) as the preferred response anchor, with statements worded to the negative such that lower scores (i.e., disagreement with the statement) indicating a lower level of stigma. Having distributed this scale anonymously (pre-training) has provided a baseline assessment of the attitudes and behaviors of program participants, which will help direct the education and training necessary to reduce stigma as best as possible.

Providers will also take a pre-and-post survey assessing their knowledge and confidence in caring for patients requiring M-OUD upon completion of learning modules and training. A validated tool developed and used by Gardner-Buckshaw et al[11], the *Medication Assisted Treatment (MAT) Self-Assessment Scale Pre-and-posttest* (Appendix B), will be implemented for provider prior to their participation with the NC*STAR program and 6 months following their participation in the program.

Results

Based on literature review, there are four essential elements that have been implemented and shown to be beneficial in creating successful M-OUD programs in rural primary care practices.12 These elements include care coordination, providers with prescription authority, counseling and psychosocial services, and counseling resources. However, how a rural community implements a program will depend greatly on stakeholder and community leaders working in partnership with the involvement of experts in the field.12

There are three innovative models of care that were found to represent promising ways to overcome several challenges to implementing M-OUD services in primary care practices in rural areas.12 These include the Hub and Spoke model, Project ECHO (Extension for Community Health Care Outcomes), and the Office-Based Opioid Treatment with Buprenorphine (OBOT-B) Collaborative Care Model.12 Because circumstances and resources vary greatly across communities, developing a primary care-based M-OUD in Harnett County has allowed the development of unique local solution based on the resources available in this region. Engaging with community leaders and an active county-wide opioid taskforce with funding support has proved to be an effective approach to initiate a quality improvement project with the Harnett Health Family Medicine Residency Program.

Currently, there are 24 participants who are part of the Harnett Health Family Medicine Residency Program who will be involved in this quality improvement project. Participants include 12 FM residents (4 per year for the three-year program), 5 faculty members, 4 medical assistants, 2 administrative support staff members, and 1 practice manager. All participants have taken the OM-PATOS survey on a commercial platform to offer anonymity prior to the educational intervention and working with the NC*STAR team. As this is a quality improvement project, faculty and the NC*STAR team will teleconference every other week for the first 2 months and monthly thereafter to ensure the quality improvement project is following necessary established guidelines and practices.

Pre-post analysis will test our hypothesis that providers will experience improvements in comfort in identifying patients suitable for M-OUD, self-rated competence in implementing M-OUD, and the willingness to implement M-OUD, we hypothesize that working with the NC*STAR Network will result in increased prescriptions for identified patients who would benefit from M-OUD.

Discussion

Identifying the gaps of care within a community and learning more about the resources and partnerships within that community are the first important steps to implement a much-needed OUD primary care program. As a palliative care and hospice physician, prescribing opioids is an essential part of my practice to offer improvement of quality of life for my patients with serious illnesses. Unfortunately, I have recognized barriers to ensure continuity of care and quality of care for my own patients due to the lack of community support and stigma to opioids.

As a new physician practicing in Harnett County, it was imperative for me to learn who my community resources and colleagues were to help care and support my complex patients who struggle with OUD. While my understanding of how the opioid epidemic has affected Harnett County, I was fortunate to learn about the Harnett County Opioid Task force. In meeting with the leaders working on the taskforce, it was evident to me that primary care providers were the missing link to ensure continuity of care for patients living in a rural community. Furthermore, having known the work by Dr. Jordan and the NC*STAR Network within the state of North Carolina, I saw this as a great opportunity to partner with her and create a much-needed training program in Harnett County. A leader in the region and state and Program Director of the Harnett Health Family Medicine Residency Program, Dr. Regina Bray-Brown, has been actively advocating for support for her residency program to have more training and education in OUD and M-OUD for the residents. This became a great opportunity to create a partnership to implement a regional training program with a statewide network to serve a rural, underserved population in Harnett County.

Introduction

During the next phase, we plan to disseminate lessons learned and tools developed by this quality improvement project, working in collaboration with community partners to evaluate the sustainability of community-based, primary care OUD program. Future work could focus on the effects of implementation strategies to improve care within a rural community and engaging other stakeholders within the community. This program may provide information that will be useful in developing and implementing a train-the-trainer strategy for other rural communities in the future.

With this collaboration among stakeholders in a rural community, and in working with the NC*STAR Network, our goal is to create a "hub-and-spoke" model of support within Harnett County. The goal is to support the other rural primary care practices in the future. Future expansion of this program will extend the Harnett Health Internal Medicine Residency Program upon completion and data review from this quality improvement project.

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Comprehensive Tobacco Cessation Program for Elective Foot and Ankle Surgery Patients

Jennifer A. Kipp, DPM

Introduction

Tobacco use continues to be one of the greatest public health concerns worldwide. An estimated 1.1 billion people smoke tobacco products globally. In the United States (U.S.) alone, 400,000 people die each year from complications associated with tobacco use. Illnesses resulting from tobacco use costs our healthcare systems over $3.8 billion annually. 16.5% of adults in North Carolina are active tobacco users. In 2019, 32% of U.S. high school students reported using electronic cigarettes in the 30 days prior.8

Combusted tobacco is comprised of four main components: smoke, hydrogen cyanide byproduct, carbon monoxide byproduct, and nicotine. The harm caused by inhalation of tobacco smoke happens by several important mechanisms. Smoke inhalation inhibits vascular endothelial growth factor (a substance that encourages the growth of new blood vessels), alters fibroblast migration and survival, and inhibits osteogenic differentiation and proliferation of osteoprogenitor cells, all which negatively affect soft tissue and bone healing processes. Hydrogen cyanide inhibits respiratory enzymes and metabolism of oxidative energy at the cellular level. Carbon monoxide reduces oxygen carrying capacity and its release into tissues, putting the body in a hypoxemic state. Nicotine is a vasoconstrictor, predisposing patients to thrombosis, and also inhibits collagen production which adversely affects wound healing. All these elements can delay wound healing and affect post-operative outcomes.1,5 Electronic cigarette use can also cause oxidative stress, inflammation, and cytotoxicity.4

The adverse effects of smoking on heart and lung health are well-known. However, its impact on surgical outcomes is not as well known to patients.3,9 Foot and ankle surgery literature has reported delayed osseous and wound healing rates in elective foot ankle surgery among patients who smoke tobacco.2,5,6 There is also evidence to support that smoking cessation prior to elective orthopedic surgery reduces post-operative complications.7

In the foot and ankle clinics at Atrium Health Wake Forest Baptist, a Level 1 trauma and academic medical center, patients are briefly counseled on smoking cessation pre-operatively. While it may not be feasible to spend an extensive amount of time counseling every pre-operative patient, providing resources may help patients to abstain from tobacco use prior to surgery, with the goal of decreasing post-operative complications.

Perioperative smoking cessation intervention programs with counseling, educational pamphlets, and pharmacotherapy have proven to be more effective in promoting cessation than those receiving brief advice alone.10 Atrium Health Wake Forest Baptist currently has a Tobacco Cessation Clinic targeted exclusively toward oncology patients. This clinic is staffed with specialists who provide the tools and information to cancer patients aiming to reduce or cease their tobacco use. The current clinic individualizes patient treatment plans and follows up with patients during their tobacco cessation journey. The aim of this current project is to develop a relationship with the tobacco cessation clinic, establish a referral system for foot and ankle surgery patients, and track the progress those enrolled who are attempting to quit smoking in preparation for elective foot and ankle surgery to optimize outcomes.

Method

Through a series of virtual meetings with a member of the tobacco cessation clinic, information about the current tobacco cessation clinic was obtained. Currently, oncology patients treated at Wake Forest are routinely referred to these clinics. More recently, the clinic has considered expanding to provide services to other specialties. However, the Department of Orthopaedics and Rehabilitation, which encompasses podiatry and foot and ankle patients, has not been integrated into this referral system.

After a referral has been placed, a Tobacco Cessation Navigator contacts the patient via phone. A brief, 15-minute interview is conducted to answer questions about the patient's tobacco use behaviors. The patient is educated on the different resources that the clinic offers, and the navigator explains what can be expected at their first appointment. There is an option for both virtual and in-person appointments. Throughout the cessation journey, patients will attend follow up appointments either virtual or in-person and receive follow up calls to track progress.

The success of expanding the tobacco cessation program will be measured via tracking of referrals and phone surveys of current enrollees. Currently, patients are called at months 1 and 6 to gauge their progression and satisfaction in this program. A survey has been developed for patients at 1, 3, 6 months, and 1-year post-enrollment to check-in. Not only does this data collection track progress, but it also keeps patients accountable and can identify any weaknesses in the program or concerns that patients may have.

As the referral base increases, there will be a need for follow-up phone surveys. Currently, the tobacco patient navigators complete these. In an attempt to manage the increase anticipated increase in volume, Wake Forest medical students will be recruited to participate in these phone surveys.

Results

After multiple meetings with the Tobacco Cessation team and discussion about expectations and goals, approval was granted for the expansion of the program resources to elective foot and ankle surgery patients wishing to quit smoking in preparation for surgery. Referrals have been capped to ten per week to initially, in an attempt to not overload the clinic. A set of instructions have been provided to foot and ankle providers on how to place a referral of a patient to the cessation clinic. At this point in the expansion of the program no elective surgery patients have chosen to partake in the program. Most patients being recommended into this program so far have been at a clinic about twenty-five minutes away.

In collaboration with the Tobacco Cessation Navigator, a standardized list of phone survey questions was developed. During these follow-up phone calls, patients will be asked a short list of standardized questions inquiring about their last tobacco use, if they are still enrolled in the treatment program, and if they believe the resources, they have been provided through the program have helped with their cessation goals. The responses will be recorded and uploaded into a RedCap file specifically for foot and ankle patients.

Discussion

At the beginning of this program expansion, the main concern was the feasibility of the anticipated referrals to the cessation clinic. However, there have been far fewer than expected patients who have expressed interest in the program. Part of this may be due to the lack of proximity to the cessation clinic to one of the foot and ankle clinics that I have been working in for the last several months. Even after explaining that there are virtual options, patients have not chosen to participate. I anticipate that as I begin to work in clinics closer to the tobacco cessation clinic that I will see more interest among patients. As I work with more providers, my goal is to educate them about the available resources and to encourage them to keep the tobacco cessation clinic in the forefront of their minds when attempting to optimize their patients' health prior to surgery.

Often the response from patients who received a recommendation to participate has been that they do not need to see a doctor to quit and that they can do it on their own. As a resident, I do not have an established practice where I can consistently try to implement and encourage office staff and other providers to adopt this as a resource option. Adding another task to a clinician's already busy day can be a difficult process to adopt. However, by continuing to encourage providers about the potential benefits of this resource I am optimistic that referrals will increase over time.

One of the difficulties in this process was in the development of an order set in the EMR system. We collaborated with the Information Technology (IT) department in an attempt to streamline the referral process, with the idea that less "clicks" from a provider's end will result in more buy-in. Unfortunately, the IT department cannot accommodate this request soon as there is a large merger between two health systems. Due to this, the current referral order is not streamlined and can appear confusing to providers and residents who are trying to place a referral. This perceived extra work may result in less referrals from providers.

Additionally, the telephone encounter forms were planned to be uploaded into each patient's EPIC chart. Again, this was unable to be accommodated as the IT department has put on hold any changes into the origination's EPIC system. Due to this, the decision to use RedCap, an online secure database which holds surveys, was established. While not ideal, this temporary location will still allow for the storage of patient survey information until the transition back to EPIC can be completed. Since there has not been success in enrolling patients into the cessation clinic thus far, medical students have not been recruited to assist with telephone surveys as there is not a need yet. However, when the need increases, there is a process in place and surveys that have been developed and are ready to be used.

Communication, collaboration, and problem solving were the most frequently used leadership skills in this project. Frequent meetings were held and were mostly spent troubleshooting. However, I believe we have established an effective structure for enrolling and tracking patient progress. I anticipate as patients become enrolled in this clinic and once the hospital mergers have commenced, that this will be an easy process for both providers and patients.

Conclusion

Over the duration of this project, I have learned that patients truly are undereducated on the negative effects of tobacco use on post-operative outcomes as well as overall health. In taking the time to ask patients about their knowledge on the topic over the course of this year, it has opened my eyes to the need in expanding and promoting resources. This project has expanded beyond the Leadership College, as I have presented on the need for the development of a smoking cessation program at multiple foot and ankle conferences in the last year. There has been great feedback from providers across multiple states who all agree that these resources must be available and easily accessible. With time and persistence, I am optimistic that this program will be a feasible option for many patients who are trying to live a healthier lifestyle but need additional assistance in achieving their goals. Over the course of the next two years at Wake Forest, I will continue to educate patients and providers on this opportunity in hopes that it will gain traction and become a routine part of our foot and ankle clinics.

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Breast Center Program Development Plan at WakeMed Health and Hospitals

Michalina Kupsik, MD

Introduction

and implementing patient centered goals of care leads to improved outcomes for patients (1,2). Having both clinical and administrative champions is key to facilitating this model (3). Currently, breast cancer care at WakeMed is clinically integrated into a multidisciplinary team with frequent communication between providers which allows for excellent care of the patients. However, inclusion into the national accreditation program for breast centers (NAPBC, 4) will allow for a systematic approach to adopt newer treatments more quickly for patients, increase standards across the hospital system and foster innovation.

The first step towards adopting these standards and a requirement for NAPBC accreditation is the creation of a Breast Program Leadership Committee (BPLC). The purpose of this project was to implement the first step of achieving this accreditation within our large, community-based health care organization. Historically, the administration at WakeMed has been supportive of achieving NAPBC accreditation, however they have been reluctant to offer the resources needed to achieve this goal. The most pressing resource being administrative staff, however other resources such as data mining, data management and quality control auditing also are key to a successful breast program. System-wide changes have prevented collaboration in the past; however, the development of a new medical oncology department lifted many structural barriers by having patient care services under one institution.

The BPLC must consist of current specialty board certified physicians and other clinical staff and administrators who care for breast cancer patients at the organization. A community or patient representative is also encouraged to join the committee. Recruitment of these individuals was not expected to be difficult since many physicians and employees had expressed interest in joining this working group and advancing accreditation with NAPBC.

The largest barrier to creating this working group was the logistics of organizing and maintaining the group from an administrative standpoint. The requirements of the BPLC are to designate bylaws, policy and procedures for the breast program and distribute these policies and procedures to the breast cancer team. The BPLC oversees and monitors compliance of NAPBC standards, as well as NCCN (National Cancer Care Network) guideline adoption and compliance and approves of breast cancer team members functioning within the breast center to ensure that they are professionally credentialed and that they follow the standards of care within breast cancer care. The group is required to meet at least four times a year to plan, develop, implement and evaluate all activities of the breast center; oversee and monitor compliance of NAPBC standards and review the breast center data annually. To organize this governing body and to be in compliance with all requirements, administrative personnel are needed for bookkeeping, chart/data inquiry, scheduling the quarterly meeting and managing the meeting agendas. Finding administrative assistance is challenging within a large organization such as WakeMed because on its face value this requires funds and resources, meanwhile the benefits to those outside of the clinical care of the breast cancer patient may seem obscure and unnecessary.

It was further difficult to navigate the various levels of bureaucracy within the system to identify an administrator to act as an administrative assistant for the breast program. First, each department defers fiscal responsibility to another department if there is ambiguity as to who is responsible for financing a new initiative. Second, the administrators did not grasp the complexity of this task and the crucial need for administrative leadership to play an active role. Third, it was difficult to identify an administrator that had adequate authority and desire to unilaterally allocate an administrative staff member to this role.

I used the skills that I developed at the Kanof Institute for Physician Leadership through the North Carolina Medical Society to influence coworkers and leaders around me to standardize and structure our breast program at WakeMed and start the first step of NAPBC accreditation, which was the creation of a breast program leadership committee.

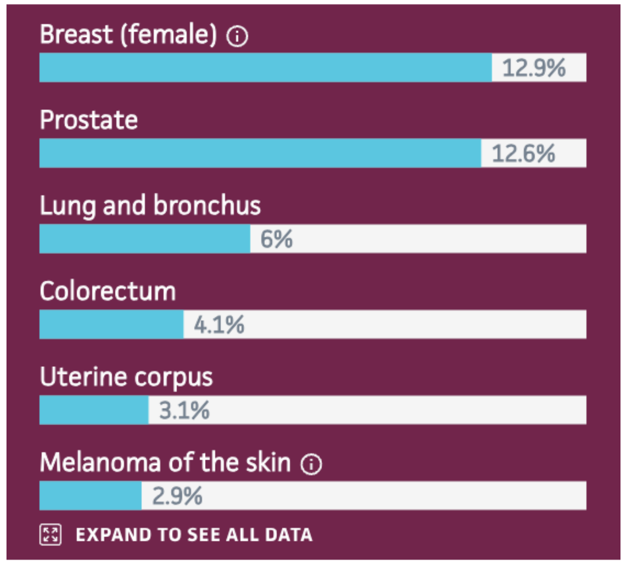
Method

To start the first step of NAPBC accreditation, I identified allies within the institution's leadership to approve an FTE position and find an administrator to work on this project with me. My next step was to create a task force to meet and evaluate gap analyses at our institution and implement strategic plans to start the process of NAPBC application. With the right administrator and together with the task force, we identified members to invite to the BPLC and set the first agenda for the inaugural BPLC meeting. To set up a functional BPLC, it was important to identify the team members as well as develop their roles. NAPBC requirements are multidisciplinary and complicated which requires a team of individuals with different areas of expertise to work together towards the common goal of establishing a comprehensive breast program. I had set up several meetings both individually and as a group with the various administrators who had an interest in making the breast program successful. Meetings included individuals from medical oncology, surgery, pathology and radiology.

Results

Early in the process it became clear that to make this a successful program two types of people were needed: individuals who could work on the details of the project and provide administrative assistance, as well as people connected within the system who could approve and sanction this program by the medical institution. The leaders within the institution needed to buy-in to this program so that they could allow us the resources needed to support the program. A large obstacle from the early inception of this project was the complicated logistics of obtaining data, creating program documents and setting coordinated agenda items. Identifying individuals that had previously been involved in this type of project and learning what their roles were was extremely helpful in navigating these obstacles. It would have been ideal to have a full-time, employed administrator to coordinate this project, however this was not provided. Finding individuals that would be willing to donate their time and who were committed to improving breast care at our institution, was the first step to achieving the goal.

At the time, the medical oncology department, while interested in advancing breast oncology care in general under the umbrella of all cancer advancement, was deciding which individual solid tumor programs to promote and nurture early on as a pilot initiative. There were thus competing interests and other providers present were advocating for their own programs being implemented first. The support of the surgery department and system administrators who had come from other programs that had thriving breast centers was helpful in achieving a commitment from the medical oncology department to make the breast cancer program a top priority. Breast cancer is the most common non cutaneous cancer in America and one in eight of all women will develop breast cancer in their lifetimes (5).



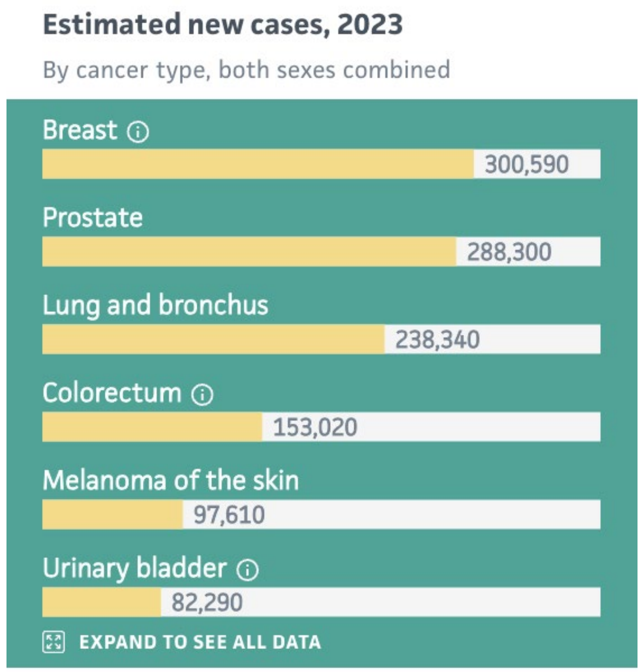
Probability of developing cancer, 2017-2019

By cancer type

Lifetime risk or risk for those who are cancer free at the beginning of selected age interval.

Data sources: DevCan version 6.8.0, National Cancer Institute, 2022

For this reason, I expected breast cancer care to inherently be a high priority for the institution, which was however not the case. This suggested more advocacy and education would be necessary throughout the entire process. In meeting with stakeholders of the cancer departments, an early idea was to support a pancreatic cancer center. The reason for this was due to the incidence of this cancer being lower and the volume of these cancers being low at the organization. This would in turn make it easier for the system due to a lower number of providers that care for these patients and a more manageable database (lower patient population?). Consequently, there would be much less work and planning by the institution to implement this program. From a strategic standpoint it would furthermore attract more of this patient population, a population that is currently not getting their care at this organization. Meanwhile, a breast program would not necessarily draw more breast patients in the short term (explain why not). These fiscal interests were the key drivers of strategic planning. Considering this, the most critical component to start an NAPBC program would be advocacy for breast patients within our institution. To achieve this, identifying leaders who were passionate about improving breast cancer care and convincing others who did not to get on board with this program, was a crucial first step. As no concrete steps had been taken to advance any cancer program, it suggested grassroots efforts by physicians such as myself would be the determining factor to allow us to lay the groundwork for a successful, comprehensive, multidisciplinary breast cancer program.



American Cancer Society, 2023

Executive leadership and the medical oncology leadership sanctioned the creation of a BPLC, recognizing the BPLC as having the authority to set policies and guidelines for breast care at the organization which was a key step in starting the process. But before the BPLC could meet, many items needed to be addressed. A systematic review of requirements to achieve NAPBC accreditation compiled with lists of already achieved conditions and a gap analysis would need to be performed prior to the first BPLC meeting. A small working group was created to lay the groundwork for performing these tasks, prior to the first BPLC. This small working group had to be created first because it would be easier to complete the early clerical requirements by a focused, smaller group. By having the groundwork completed first, this would allow for the larger, mostly clinically focused BPLC to focus directly on reviewing the data and setting protocols. The time spent in each BPLC meeting would then be more focused and productive.

I was able to then organize this small working group of like-minded individuals from my prior meetings and networking engagements. Together with this group we started to take the individual steps needed to create an NAPBC accredited program. We began by going through every gap in the institution, step by step. Each person in the group donated their time because of a commitment to making this project successful. Our team consisted of a senior pathologist, with experience from another NAPBC program, an imaging administrator with a similar experience, the executive director of oncology, a project and operations administrator and me, a breast surgical oncologist. Due to other work and clinical obligations, sometimes the group met monthly, sometimes quarterly. To achieve and maintain accreditation, we would have to have a system in place to pull our patient metrics from our electronic medical database. Our pathologist was able to recommend that we meet with our tumor registrar. This is a role within each hospital that is mandated by the state. A role which I did not know existed prior to learning from our pathologist about the process of cancer registration and reporting. Our team quickly identified who our registrar is at WakeMed, brought this person in to join the team and we learned about the role of the registrar at our institution and how they could assist us in the NAPBC accreditation process. This individual would be able to provide the necessary data for the application. Once we all became acquainted and the registrar learned about our engagement in improving the program, they were also able to benefit from us by inquiring about documentation practices which would improve their workflow. From working with the registrar, we realized how much it would take to pull and organize our institution-wide data and that the start date for our breast program leadership committee would have to be delayed as we prepared further.

At the end of my time in the leadership college, I was not able to meet my goal of having our first BPLC meeting at the organization. The process led me to learn more about the logistics of setting up an NAPBC accredited program and that there were many more steps that would need to be completed prior to our first meeting. I am still committed to the project and have a clearer idea of what is necessary to complete it as well as a team of people behind me who will help me achieve this goal.

Discussion

To obtain approval from the organization to create a BPLC required a significant amount of networking, planning and endurance. One surprising thing during this process was realizing that the cancer and hospital administrators' primary goal was growing the program by increasing patient volumes. Other considerations such as quality, infrastructure and support were a secondary priority. When these secondary priorities aren't addressed early in the process, over time, as a cancer program grows, a gap appears between patient volume and patient quality of care. As a provider in breast care who sees a significant amount of community involvement around this disease, it was also surprising to see that breast care was not necessarily one of the most important cancer lines within the institution. Breast cancer care is not only important because it is so ubiquitous but also because within the community, it is a very emotionally charged disease process. Improving care and demonstrating it with accreditation is not only the right thing to do for our patients and for the community, but because of its ubiquity and strong patient engagement, it also is fiscally advantageous to focus on breast care within an institution. Over time, a commitment to quality and innovation leads to more treatments and services being offered that were not present previously. These additional services generate revenue for the institution. Some of these treatments WakeMed is taking steps to establish, however again, WakeMed is choosing to focus on growth as a primary endpoint and quality is either a secondary endpoint or may not even be a focus.

One such treatment that is conspicuously absent at WakeMed is radiation oncology care. Radiation therapy is a large source of institutional revenue which is currently being outsourced to other institutions in the area. (6) Currently, WakeMed has applied for approval with the state for a linear accelerator to begin offering radiation oncology services. It is important that we set up this department at WakeMed, however care must be taken to set it up well so that we do not outgrow our resources too fast, as we have done in other departments.

As novel adjuvant therapies such as new chemotherapy and immunotherapy options are available to more patients in more clinical settings, this is another place where there is room to grow revenue. Emerging adjuvant therapies and approvals are constantly being introduced and it is important that the institution has medical oncologists that are engaged in keeping track of these advances so that patients have access to these new therapies. Placing the burden on each medical oncologist to keep up with these changes is the current model at many institutions, including WakeMed. NAPBC accreditation would help to streamline staying current with these treatments, so that this is shared with the providers across the institution. The institution can then track compliance to see if there are gaps in education of the providers and implementation across the institution of these therapies. When individual oncologists try to provide emerging therapies, there can also be resistance from insurers to cover these therapies. Writing evidence-based protocols into our institutional guidelines would decrease the number of peer-to-peer reviews and rejections of coverage. This would allow our oncologists to focus on the care of their patients rather than on administrative hurdles from insurers.

Improved lymphedema screening and treatment is another area of missing revenue at WakeMed. Currently patients are seen prior to surgery and then screened for lymphedema one month after surgery.

These patients are not tracked long term due to a lack of bioimpedance machines and staffing. After the patient's screening exam one month after surgery, patients are instructed to return if they notice early signs of lymphedema. However, early diagnosis and management of lymphedema, prior to clinical signs has been shown to decrease the burden of lymphedema. (7) Enhanced screening every six months would require a coordinated and creative effort by the institution which requires more resources and effort by the institution. However, doing this would lead to earlier diagnoses and more diagnoses in our patient population who would then stay within the system to receive their therapies. This is not only better for patient care, but also allows us to increase these services and thus increase our revenues.

WakeMed started a Plastic Surgery Department, which benefits a comprehensive breast program. However, the focus is on all aspects of plastics cases and not on breast reconstruction. This is another example of growth without evaluating needs. If an emphasis was made on breast reconstructive surgery, it is highly likely more patients would stay within the institution for their reconstructive surgery and we could offer options sooner rather than later, such as autologous free flap reconstructions, which could help ease an already tough process for the patient.

A commitment to quality also leads to recognition within the medical community and our patient community, which results in better outcomes for the patient and the institution (8). This may be slower growth than what the current model is providing, however this leads to more consistent long-term growth and retention which will lead to increased revenue in the long term. By skipping the necessary first steps and focusing solely on patient volume, revenue is increased only in the short term. This short-sighted approach will inevitably lead to gaps and lapses in care which can degenerate to a loss in trust by the community in the institution. In turn, this may lead to patients requesting that their care is directed towards another organization in the area. Once that trust is lost within the community, it is hard to get it back and will take significant more resources and time to win back. Meanwhile, neighboring institutions in the area have a nationally recognized academic brand and can lean heavily on that brand. Of the three medical institutions in the county, WakeMed, being one of them, only one has achieved NAPBC accreditation. However, both of WakeMed's competitors can portray a certain element of authority in breast cancer care due to their brand recognition. Even though WakeMed has a record of accomplishment for taking care of all the patients in our county and has been serving the community the longest, we do not have the same name recognition and must earn our place in the cancer care community with superior outcomes.

In light of the above, it is reasonable to suggest that the lack of immediate financial incentive for institutions to set up and maintain higher standards, the focus shifts to other things. Medical institutions should value improvement and quality and impose certain basic standards for their patients. Within some areas of medicine this is being done because it is mandated, such as patient privacy and hospital safety (9,10). In other areas this is done because it improves outcomes and decreases costs (11). Even though NAPBC accreditation improves patient outcomes and leads to higher visibility of the program within the community which leads to more patients and more services offered at the institution for those patients, this is such a sub-specialized area, that administrators may not understand the inherent value of implementing this program. Thus, the burden thus falls on the clinicians to hold the institution up to higher standards. Working on this project over the course of the past year has taught me that true quality improvement for our patients requires that physicians are engaged in the process. Medical institutions will not improve patient quality unless it is mandated or unless we do it for them. It is important to not be complacent and wait for the institution to do what is right for our patients, but rather make the first move ourselves.

Conclusion

My goal for this project was to create a breast program leadership committee at WakeMed and to have our first meeting. The only easy part of this process was identifying my project. From the beginning, a large amount of persuasion and influence was needed through many formal and informal meetings to convince the WakeMed administrators that this was a valuable goal for the institution. Finding a group of individuals committed to seeing the project through was vital to follow through with the next steps of the project. It was extremely fulfilling and validating when this group came together. Tackling the next steps, while daunting, was much easier as a team. This project is still far from completed, as the many small tasks are now being addressed systematically. Our goal is to meet every month until our first BPLC meeting, which is tentatively set for January. Even then, the BPLC meeting is still the first step towards NAPBC accreditation, however it is my hope that once these meetings start, the process will become more ordered and consistent. I plan to continue this process one step and a time until NAPBC accreditation is achieved, and all the members of the breast cancer team are involved in continued quality improvement and innovation for our patients.

Revitalization/Expansion of the Local County Medical Society: Building a Blueprint for Success

Katie Lowry, MD, MPH, FAAP

Purpose: The core purpose of this leadership initiative was to expand and revitalize the Robeson County Medical Society, an institution with a rich history spanning back to its establishment in 1882.

The initial passion for this project stemmed from my interest in revitalizing my county medical society in Robeson County, NC. I wanted to lead a process to bring my Physician and Physician Assistant (PA) colleagues to the table to expand the current membership of the Robeson County Medical Society. This process could include expanding membership to colleagues from Scotland County, and possibly combining counties to become The Robeson- Scotland County Medical Society.

Introduction

This project is important to me as an individual physician, and to my region of the state, in that it will enhance physician recruitment and retention for the Robeson County Community. Robeson County has a historically low number of primary care physicians to patient in a job (economic) and health resource shortage area. An increase in the number of physicians in the community will impact access to healthcare of the community, increase community engagement with physicians, and lessen physician burnout through connectiveness with peers. Shanafelt et al includes lack of social support and community as one of the key drivers of physician burnout. Cultivating a sense of belonging is an intrinsic motivator and key component of our well-being. (Shanafelt and Noseworthy, 2017) This project will provide a blueprint for expansion and revitalization by the following strategies:

- Actively recruit new members.
- Outreach to new physicians in the community.
- Host networking events and other targeted efforts.

The goal is for this blueprint to also be used to create a plan for other County Medical Societies to build community and a sense of belonging for physician and PA colleagues alike. Building community includes learning how to strengthen relationships between the physician community and local healthcare entities, i.e. the community hospitals and independent practices in other counties. The Robeson County entities include UNC Health Southeastern in Lumberton and its affiliate clinic sites; residency programs through Campbell School of Medicine; Scotland Health and its affiliate clinics; independent practices with NCMS membership, and other organizations like Robeson Health Care and its FQHC clinics which employ Physicians and PAs. Another goal for the expansion and revitalization process is to create, strengthen, and forge new relationships through mentorship via UNC-Pembroke's Health Careers Opportunity Programs (HCOP).

In order to accomplish these goals, the approach must be strategic. To start, it is important to expand the current established organization, The Robeson County Medical Society. Each invested and engaged physician will then recruit one potential member. Reviewing organizational literature was helpful in establishing our direction. A recent study explored what impacted members in a Health Care Professional Association and found that the perceived value of membership dues and members' attitudes toward an association were pivotal predictors of both renewing membership and advocating it to others. Conversely, experiences of membership drop had a negative influence on these behavioral outcomes. Importantly, the study also underscored the significance of personal benefits derived from association membership in influencing recommendations to others, although it was not a significant factor in renewing membership (Ki, 2018, Pg.7). Other studies suggest that members' satisfaction with benefits provided by an association, could predict their decision to renew impact others as well to join: "when members perceive that their membership dues are a good investment, indicating that they receive real benefits and value from their membership fees, they tend to give recommendations to others to join the association. Such member behavior would significantly affect the association's expansion of its membership and bolster its influence and power." (Ki, 2018, Pg.7)

Method

Prior to the start of the relaunch process, a lunch meeting focus group with young physicians (3 Family Physicians and 2 Pediatricians) was conducted to establish interest. The focus group served as a pivotal starting point for membership.

Three surveys were completed with RCMS members and potential members. Individual interviews were conducted with leaders within the NCMS and five leaders within local county medical societies.

The process further required a revision of the constitution and bylaws, election and installation of officers to reorganize the Society and the expansion. Membership recruitment strategies included: medical staff announcements at department meetings of Pembroke Family Practice, and UNC Health Southeastern biweekly Community Provider Meeting virtually, electronic text messaging personally sent by me to membership and potential members, one on one lunch meetings with established medical society members, zoom meetings and in person socials with established members and potential members. The overall objective for the recruitment strategies was for each member of the RCMS to recruit a new member.

Results

A first survey was administered to RCMS Membership and potential members to understand logistics such as time and day of meeting, format and goals for the RCMS. Although it was a smaller sample, the response rate was 70% (see Appendix 2). Based on the survey data, multiple events were planned and completed. Events welcomed the member's spouse and significant other to build camaraderie not only among the providers but with and among their families. A second survey was conducted among existing membership in July and resent again in August to understand what topics members would like to see discussed. The response to the second survey was 50%. Results showed that members expressed interest in CME events to enhance professional knowledge and development as well as community engagement and improving health and wellness of the community. Other input included networking opportunities as well as membership growth and collaboration (see Appendix 3).

A third survey administered in July and August, was sent to RCMS past and potential members. The response rate was 11% or 4 responses (see Appendix 4).

Survey 3:

RCMS Past and Potential Member survey.

Surveys sent to 38 email addresses (3 addresses were invalid).

Response 4 out of 35 members, which included 2 NCMS members.

Three of the respondents planned to join the RCMS.

The remaining respondent, noted "Work/life balance is tricky with family members with dementia." As a possible concern in joining

Responses:

1.What was contributing factor to not being a member included:

- "Meetings interfere with work/family obligations (sports, school, etc.)"
- "I have never considered membership in RCMS."
- "Oversight on application, office did not check the box."

5, Primary reason attended meeting included: (3 of the 4 responded):

- Death of colleague
- Interact with colleagues.
- Meet other physicians.

RCMS Events Timeline

Jan. 2020	Robeson-Scotland County Social at UNC-P with Dr. Cummings/Dr. Jones
Nov.2021	RCMS/NCMS Legislative Update, Lumberton, NC
Feb. 2022	RCMS Legislative update with NCMS and Sen. Danny Britt
Mar. 2022	UNC-P Distinguished Speaker Series outing with Dr. Megan Ranney
May 2022	RCMS/UNC-SE *Lecture Series Physician and Provider Wellness Dr. Joseph Jordan,* NCPHP
Oct. 2022	Robeson-Scotland Medical Mixer, Chancellor Update with Chancellor Dr. Cummings, Office of Regional Initiatives, UNCP
Jan. 2023	RCMS 2023 Officer Installation
Apr. 2023	Robeson-Scotland Medical Mixer at the Thomas Hub, UNCP
June 2023	RCMS Membership Meeting, Happenings on Elm, Lumberton, NC
Sept.2023	RCMS Family Fun Day, UNC-P Game, Pembroke, NC
Sept.2023	RCMS Mental Health Awareness 5K, Lumberton, NC

Discussion

The survey data revealed members need for a sense of community and inclusion as well as the importance of a network of local physicians. Other findings showed the desire to improve the membership and the opportunity to get to know colleagues. The need for community and belonging was further reinforced by the qualitative question around the importance of membership.

Member responses were also collected via text messages and one specifically focused membership question, highlighted "their why" for joining the RCMS. Some of the feedback included the following:

- "My why is about fellowship with other physicians and getting to know their spouses and families. I have been a member since 1998."
- "My why is staying connected to colleagues".
- "I initially wanted to join in hopes to see other physicians' thoughts on midlevel scope creep and potentially try to help educate our local physicians on the dangers of online NP mills, while trying to persuade physicians that mid-levels need appropriate supervision. But also, as a way to be socially connected to other physicians in a broader way through service and mentoring."

However, to revitalize and expand RCMS, it is vital that we strategize and develop methods to increase the number of members, services and resources offered through coordinated efforts. Based on findings, we were able to identify core efforts to achieve the purpose to include:

1. **Actively recruiting new members.** Marketing through hospital staff meetings/outreach efforts; Reaching out to new physicians in the area and secondly hosting networking events. Offering incentives (bragging rights, awards, etc.) for current members referrals based on colleague recruitment efforts. This will be a new award shared at the annual meeting and with eligibility determined and confirmed by the RCMS executive committee.

2. Build/enhance strong relationships within other local healthcare organizations (hospitals, hospital clinics, independent practices, residency programs). This can be accomplished by using current RCMS members from the aforementioned organizations and designated as RCMS champions. Both local hospitals have community provider meetings, which would provide an ideal recruitment forum and platform. These entities can help to provide resources and sponsorship for networking opportunities.

3. **Expansion is only possible with strong leadership (first identify leaders) and effective governance (set up structure of accountability).** Well-defined goals are key

to the expansion success and will require a dedicated and engaged board who are strong and efficient in communication and transparent in their efforts.

4. **Robeson County Medical Society would also be charged with incorporating advocacy and community engagement .as a priority in achieving these goals.** We will work with NCMS, local representatives and health leaders to address complex healthcare issues and promote issues with our physicians and the patients we serve.

As a part of the county societies discussion group brought together by NCMS leadership, there was excitement and a shared interest in promoting and continuous group meetings with particular emphasis on: 1.) Creating a County Society Discussion Board to share best practices and a way to connect county and specialty society leaders; 2.) Adding data about state and county membership numbers; 3.) Education about governance processes and the ability to weigh in on proposed policies affecting the membership.

5. **Limitation of this project.** Expansion into Scotland County proved to be a small challenge for this project. Currently, RCMS has several Robeson County physicians who work in Scotland County. However, the majority of the Scotland County physicians do not currently just live in Scotland County, but also in Moore County just north of the target area. created an attendance barrier and provided the need to host events centrally at UNC-Pembroke. As indicated by survey responses, there is still a strong desire to expand to Scotland County and this will continue to be a focus for future recruitment.

In summary, expanding RCMS requires strategic recruitment; strong leadership and governance; community engagement and value-added benefits. As the RCMS grows, like other larger County Societies, value added benefits will match the resources of the organization.

Conclusion

My leadership project is to create a blueprint for successful revitalization/expansion of the local Medical Society by sharing key successes/failures of thriving societies. The local county MS is the lifeline of support for the Physician/PA in the community. My passion is for every Physician and PA to be connected and involved with their local medical society and state medical society. To this end, it will be imperative to have a physician champion, preferably 2 or 3. This can look different for different counties. It may be comprised of the executive committee of the county society or set up into separate committees.

- 1st Champion: Responsible for details of meetings, events, emails, zoom, etc. (LOGISTICS)
- 2nd Champion: Hospital liaison/membership recruiter
- 3rd Champion: County Society representative to the NCMS (Usually the President), convene with other local societies and have the access to data and newly formed discussion board.

The MOST important takeaway from this leadership project is two-fold. There is a need for membership accessibility and access to real-time data to support membership recruitment and retention. In regard to County level or State level membership, make the process automated and remove the subscription options to only opt out once a member has opted in. This would minimize the number of members whose membership lapses or drops and remove any doubt about the membership process. Physician's may be relying on their employment organizations to register and maintain individual memberships for their various general and specialty societies. Automating the process, frees up the time of the Physician and PA and the administrative team charged with keeping up with this process on their behalf. This is particularly true as organizations are in a flux of administration shortages and turnover. Ultimately, this will decrease the associated administrative burden for both the providers and the medical societies. As for the real time access to data, it will require minor process changes at the State Society level. Currently, the member's access options are limited to state membership status by county. Adding a new tab such as one that breaks down the county membership versus state level would be helpful. At the convened meeting of the county society leadership with the state society leadership, all participants were interested in continued sharing of ideas and best practices through the County Discussion Board. With its construction, access to membership data could be assured.

Lastly, revitalization of the Robeson County Medical Society is personal. It is all about legacy building for the young physicians and PAs who will join this workforce after me, who are from Robeson County and who have returned to Robeson County to impact the health and welfare of their communities. Physician collegiality, which the state and local society affords, matters! It contributes to wellness and burnout prevention and grows our profession. Strong physician leadership impacts our profession, our neighbors, our communities, our region, and our state. Here's to the next 100 years!

References

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Appendix 1: Stakeholder Notes

Pender-New Hanover Stakeholder Interview CEO Bonnie Brown

Deeply integrated with NCMS, she has been executive for 39 years.

PA do not hold office or vote.

PEER to PEER recruitment, Physician Families helping Physician Families

Use to be more male physicians' way for wives and families to connect.

Problems: Hospital Owned Practices made it hard to connect; Now Physician friends are not fellow physicians but friends of their children's teammates.

County and NCMS Collaborative Meeting May 8, 2023

Alamance/Caswell

Wake County

Durham/Orange

Mecklenberg County

Brunswick County

New Hanover/Pender

Cleveland County

Robeson County

Chip Baggett "Collective Voice despite political differences. What is best for our physicians and our patients"

Pain Points: ALL expressed components of regrouping. Some were doing complete revamp of operations (ex. Mecklenburg) define ROI with membership what is the WHY? Understanding the demographics from young families to retired physicians.

Many using in person socials to promote collegiality, so physician families get to know each other. "Used to have Alliance Societies."

Many using operational assessments to evaluate needs.

NCMS goals of GROWING Membership

Pain Points: Data needs updated systems.

Competing needs for physicians (busy schedules, family etc.)

Continuity of Leadership

LEAD CONFERENCE

"Let your voice be heard."

Open forum discussion. County will be able to send a delegation and report on a policy issue. Topics will help inform NCMS policy agenda.

Wayne County Medical Society Stakeholder Interview Dr. David Tayloe, Jr.

"We are regrouping now with a focus on recruiting all providers (physicians, nurse practitioners, and physician assistants) into the organization for the same $300 per year. This $300 pays for the physician, a significant other, and a guest couple to attend the very nice holiday dinner-dance in December and attend the usual four meetings a year of the society. I have worked with Louis Thomas, the Executive Director of the UNC Provider Network (PN) in our region so that he has explained to me and to employee providers that there are funds in at least two categories within the PN that can pay the county medical society dues, and he has encouraged me to refer potential society members to him for assistance with dues payment. We have decided to focus our meetings on provider wellness during our two 2023 fall meetings 2023. We have tried to promote the essential truth that there is value in knowing other members of the local provider community in a social context. I will eventually get around to rewriting our by-laws. Damian McHugh of Curi will be our speaker for the September 28th meeting at a local country club located on the Lenoir-Greene side of Wayne County. There is an evidence base to support the importance of physicians sharing their stress stories with each other as all strive to avoid burn-out. Some of us handle the stress better than others, and we need to share the keys to our successful coping efforts with other providers." **From Email Correspondence in follow up to telephone conversation.**

Columbus County Medical Society Stakeholder Interview Dr. Jugta Kahai

Has been in existence for 30 years. Described as a close-knit group. They have been going through restructuring for 1.5 years, currently 16 members. They extended membership to include NP's as they wanted to confer the team-based model of care as they sought to tackle the Opioid Epidemic in their community by impacting long term change in prescription habits and are concentrating on this effort through CME. They are integrated with the NCMS. Dr. Kahai Stated the Columbus Regional Hospital is supportive as the Chief of Staff is a county member. Have quarterly meetings.

Review Societies:

Bonnie Brown-Pender/New Hanover Medical Societies

Frank Snyder-Wake County Medical Society

Frank Snyder-Durham Orange Medical Society

Jugta Kahai- Columbus County Medical Society

Dave Tayloe-Wayne County Medical Society

Reviewed websites:

https://www.meckmed.org/

https://nh

pcms.org/

https://www2.ncmedsoc.org/wake-county-medical-society-membership

https://brunscomedsociety.org/

https://mysmms.org/

https://www.ggsm.org/index.html

Appendix 2: RCMS Survey 1

Appendix 3: RCMS Survey 2

Appendix 4: RCMSPM Survey

Appendix 5: RCMS 1972 bylaws

Appendix 6: RCMS revised bylaws in process

Improving Patient Satisfaction with Anesthesia through Improving Communication

Jacqueline Njapa, MD

Introduction

Satisfaction, while important, cannot be considered as an objective indicator of the quality of anesthesia care administered. However, it remains the best way to assess the outcome from the patient's point of view. Patient satisfaction offers opportunities for evaluating the non-technical aspects of medical care. [1]

For most patients, having surgery triggers stress. The thought of having anesthesia can compound this feeling, creating situational anxiety because of a lot of unknowns about the practice of anesthesia or its benefits. Most patients are pre-occupied with its dangers from personal experiences or from knowing an individual who may have had an undesirable experience during the perioperative period and assume it may have been anesthesia related. My mother died shortly after having undergone a hysterectomy. It was assumed that it was due to the anesthesia; no one considered the potential complications from surgery.

I was 16 years old at the time. I later grew up with the belief that anesthesia was dangerous, and most people did not survive it. No one took the time or effort to explain things to us. It left us with this anxiety about anesthesia.

Preoperative anxiety can be a major problem for patients. 3 distinctive dimensions identified: fear of the unknown, fear of feeling ill, and fear of dying. [2] In a prospective study of 190 patients, 57% (n=91) of them did not feel calm prior to surgery while most that reported calmness, attributed this to earlier positive experiences of feeling cared for and secure, being well-informed and having positive expectations. This supports the need to pre-operatively evaluate a patient's state of mind and understand their concerns so they can be addressed, provide them with emotional support thereby decreasing their anxiety and while making their surgical experience more positive [2].

Not having enough time to engage and communicate with the anesthesia team certainly adds to this uncertainty. A lot of these fears are attributed to the dangers of anesthesia as many patients lack a basic understanding of the role of the anesthesiologist as their strong advocate in keeping them safe and comfortable during these critical periods.

Patients who have been able to spend a reasonable amount of time getting to know the anesthesia team and plan, what to expect while under anesthesia and who have their concerns addressed, acknowledge that this approach reduces their stress as they prepare for surgery and throughout the peri-operative period.

Frequently, a patient's initial information of what their anesthetic plan and management may entail is provided by non-anesthesia personnel such as pre-surgical navigational nurses or the surgeon's staff. These providers do not have as much understanding of the practice of anesthesia and hence are limited with the type of information to convey to patients prior to them meeting their anesthesia team. This can generate anxiety from inaccurate assumptions and contradictory information on the day of surgery. This sometimes creates confusion and mistrust when patients eventually communicate with their anesthesia team.

Some patients who go through a preSurgical clinic for screening may have an opportunity to speak to pre-operative nurses or an anesthesiologist depending on the clinical establishment. Most patients only meet their anesthesiologist just prior to their procedure and hence do not have an opportunity to establish a longer patient-provider relationship that will enhance trust. Due to the fast-paced nature of the practice of modern medicine, we do experience significant constraints with spending a longer time discussing patient's concerns while simultaneously managing the operating rooms, performing interventions like nerve blocks and supervising multiple anesthesia providers.
Since most patients are evaluated by their anesthesia team on the day of surgery, obtaining adequate information on their medical histories, establishing criteria for appropriateness and communicating instructions for medications to be taken prior to surgery, will all better prepare patients, alleviate their fears, lower cancellations and delays, improve communication between patients and providers and most of all improve patient satisfaction. Patients presenting for surgery who often have significant comorbidities or who are undergoing complex procedures, present challenges for both the patient and their providers and hence the need for clear and improved communication. [3]

All parents whose children are admitted for surgery have a right to receive preoperative information. This will enable parents to prepare their children for surgery. [4]
Pediatric patients make up a significant portion of our patient population and present their own unique needs and challenges because they mostly cannot adequately communicate their concerns.

Frequently, most of the patient satisfaction screenings and surveys are geared towards adult patients. This creates a void, and more work needs to be done to directly involve our pediatric patients and properly evaluate and assess their concerns, alleviate their anxieties and improve their satisfaction during the preoperative period. [5] Six dimensions of satisfaction identified in 17 studies using 14 unique satisfaction measures of preoperative care in children include:

- "Staff rapport and communication"
- "Anesthetic and nurturing quality of care" (8 satisfaction measures) "Information given" (7 satisfaction measures)
- "Postoperative symptom control" (in 6 measures) "Hospital experience" (in 5 measures) and "Involvement in decision-making" (in 3 measures).
- Parents felt the most important of these measures were "staff rapport and communication", "information giving" and "decision-making" [5].
- Unfortunately, only 3 studies asked about the child's satisfaction and all of the studies questioned the parents. None directly analyzed the child's responses. Future studies are needed to directly involve the pediatric patient to determine their satisfaction during the preoperative periods and hence develop a patient-focused standardized measure for pediatric patients during the preoperative setting. [5]

Method

My goal with this project as an anesthesiologist, is to seek ways to improve communication and trust with our patients and help them understand that our primary objective is to keep them safe, comfortable and alive during the peri-operative period, even when they are unaware as a consequence of sedation or being under general anesthesia.
In collaboration with my anesthesiology colleagues and department, pre-operative clinic team (nurses and physicians) and our hospital administrators at Novant-New Hanover Regional Medical center, we sought to create multiple channels of communication to reach out to as many patients as possible before they present for surgery.

Our aim is to enhance the patient's experience, improve their medical knowledge and what to expect on the day of surgery. The hope is that they feel more empowered and comfortable expressing and discussing their needs with their anesthesia provider prior to providing an informed consent for anesthesia.

We as anesthesia providers should not see these tools as absolving us of our responsibilities to still adequately communicate with our patients directly and address their individual concerns while improving their anesthetic experience.

We designed different modalities of communication including:

A. Face to face interviews at the pre-operative visit on the day of surgery
B. Pamphlets are available at the presurgical clinic or on the day of surgery.
C. Telephone interviews or tele-health visits prior to surgery to speak with an anesthesiologist.
D. Watching educational videos via I-pads provided during their preoperative visit at the pre-Surgical clinic (Medical Mall).

E. Creating a link/patient portal into patient's chart where they can access most of the above information including educational videos. Patients can access this portal from home via their phones or personal computers. Surgeons are encouraged to refer patients to access the link to their MyChart accounts.
F. SURVEY: A patient survey was designed and distributed to a sample of patients coming to the Presurgical Clinic in preparation for their upcoming surgeries.
119 patients were surveyed over 7 days.

Survey questions

- What are your biggest concerns about anesthesia for your surgery?
- What can your anesthesia doctor do to make your surgical experience better?
- We want to provide information based on what you have stated above. How do you prefer to get your information? You may mark more than one:
- Educational handout/pamphlets.
- Watching educational videos during your pre-Surgical visit.
- Watching educational videos at home online.
- Accessing a link to the patient's chart (MyChart — Pamphlets and videos).

Results

A. Survey questions and responses (number of patients).
   1. What are your biggest concerns about anesthesia for your surgery?
      - None (98)
      - Treating and preventing nausea (24)
      - Not waking up from anesthesia (18)
      - Waking up during surgery (11)
      - Explain the process (5)
      - Having respiratory issues during / after surgery (5)
      - Dying due to adverse reactions from anesthesia (4)
      - Worried about the length of surgery / anesthesia (3)
      - Worried about history of being a difficult intubation (3)
      - Scared of being overdosed by anesthesia medicines (3)
      - Worried about pain (1)
      - Fear of not knowing what to expect (2)
      - Fear of lying flat (1)
      - Fear of being cold (1)
      - Recovery time (1)

    - Praying (1)
- Long lasting cognitive effects of anesthesia (2)
- Side effects of anesthesia (2)

2. **What can your Anesthesia doctor do to make your surgical experience better?**
    - Nothing (78)
    - Explain the process before starting (22)
    - Make sure I wake up (16)
    - Prevent nausea (13)
    - Make sure I don't wake up during surgery (11)
    - Pain after surgery (9)
    - Be kind (7)
    - Keep me calm (5)
    - Do it right (4)
    - Take good care of me (4)
    - Worried about dying (3)
    - Be confident (3)
    - Is the care giver a Christian? (2)
    - Be fun; tell a joke (2)
    - Put the lights down and count backwards (1)
    - Provide relevant information (1)
    - Give alternative medications to narcotics (1)
    - Pray with me (1)
    - Increasing concerns regarding my dementia (1)
    - Less is better, give me just enough to do the job (1)

3. We want to make information based on what you have stated above. How do you prefer to get your information?
    - You may mark more than one:
    - Educational handout / pamphlets. (119 Patients)
    - Watching educational videos during your Pre-admission visit (41 patients)
    - Watching educational videos at home online (48 patients)
    - Accessing a link to the patient's chart (MyChart. — Pamphlets and videos). (88 Patients)

B. The patient portal — MyChart link.

Someone from the Anesthesia Department will be reviewing your medical history before the day of your procedure. You will meet your anesthesiologist and nurse anesthetist on the day of surgery. In the meantime, you can familiarize yourself with what to expect from your anesthesia team via reviewing the pamphlets, educational videos or accessing your patient portal "MyChart" to access these information and video links.

Link to PATIENT PORTAL — MyChart.
To find out more about anesthesia via the patient link: - In your MyChart account —> click MENU,

- scroll down RESOURCES,
- click on EMMI PATIENT EDUCATION.
- In the search bar type "ANESTHESIA" to see videos about General, Spinal and Regional "Nerve Block" Anesthesia.

C. PAMPHLET:

What is anesthesia?

It is a medical term for different types of medicines that people get before and during surgery. There are different forms of anesthesia.

a. *General Anesthesia:* medicines are given to make you completely unconscious/unaware of the surgical procedure. Examples of surgeries that need general anesthesia include heart surgery, abdominal surgery, brain surgery.
b. *Regional Anesthesia:* medicines are given to block only a part or region of the body. This block can be used as the main anesthetic for surgery (you may be awake and conscious of the surgery—such as a Ceasarean section) and or to help as pain relief during and after the surgery. Types of regional anesthesia include epidural block, spinal block, nerve blocks for upper extremities and lower extremities, eye block. Examples of surgeries where regional anesthesia is used: Ceasarean deliveries, cataract surgeries, foot surgeries including amputations, shoulder surgeries, other orthopedic surgeries for upper and lower extremity fractures (used as pain relief after surgeries), and for abdominal surgeries.
c. *Monitored Anesthesia Care (MAC):* This is a sedation-based anesthesia with varying levels of sedation ranging from very light/conscious sedation with almost a full level of awareness (cataract surgery) or deep sedation (less chance of awareness of surgical procedure) such as during a colonoscopy. The goal is to keep you safe, comfortable and relaxed for your procedure.
d. *Dental Anesthesia*: Pain and worry of dental surgery can be alleviated with medicines such as local anesthesia where the patient's gums are numbed, and they remain conscious of the procedure or may have MAC anesthesia with some varied degrees of sedation or alternatively they can undergo a general anesthetic such as during dental surgery for children or adults who are unable to tolerate the procedure.

D. Patient Educational VIDEOS:

- Tips on assisting patients to navigate their MY CHART to view EMMI Educational Videos.
- Open your MyChart Account.
- Click on the MENU button.
- Scroll down to the Resource Section.
- Click on EMMI PATIENT EDUCATION (VIDEO)
- Type in "Anesthesia" — several options: General, Spinal, Regional (Blocks), Pediatric etc.

Patients can also search for type of surgery/procedure, such as:

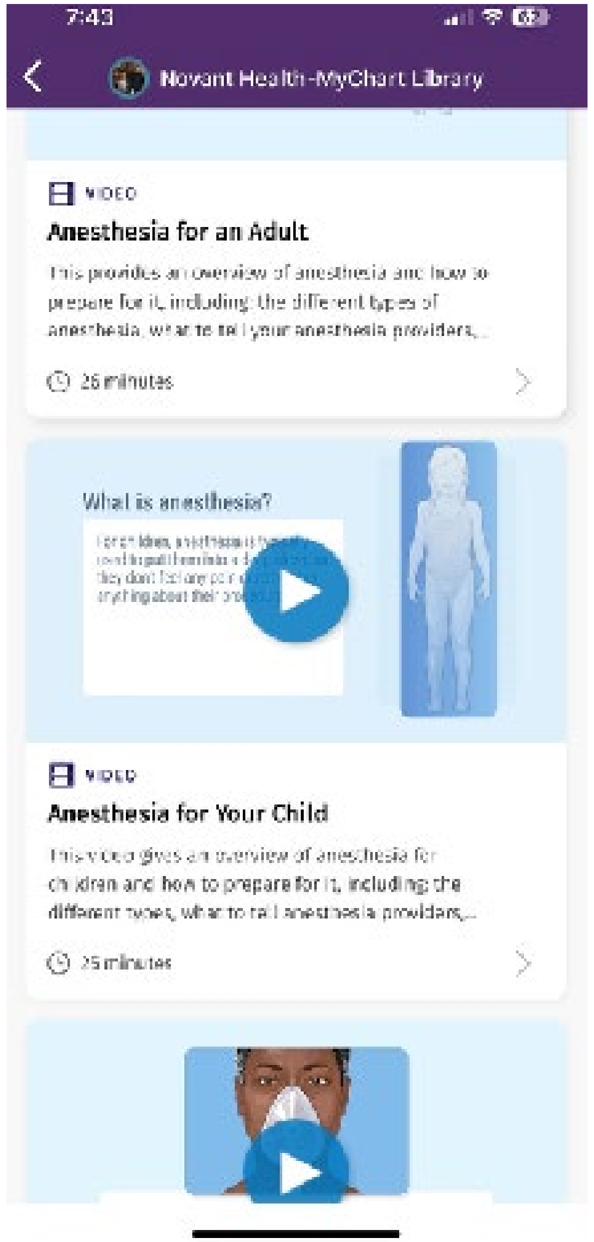
- Enhanced Recovery After Surgery (ERAS) Shoulder/Knee/Hip Surgery
- Abdominal Surgery
- Abdominal Aortic Aneurysm Repair (AAA)
- Colon and rectal surgery, spinal fusion, hysterectomy, craniotomy, nephrectomy etc.

Anesthesia videos include Pediatric Anesthesia and Regional Blocks for Orthopedic patients. Accessed via MyChart Library.
VIDEO: General Anesthesia overview. What is general anesthesia and how is it done?

VIDEO: Anesthesia for Your Child

Gives an overview of anesthesia for children and how to prepare for it, including different types, what to tell anesthesia providers etc.
Pediatric General Anesthesia: This medicine puts people into a deep sleep. Your child may need general

anesthesia if they need to be asleep during a procedure.



VIDEO

Anesthesia for an Adult

This provides an overview of anesthesia and how to prepare for it, including the different types of anesthesia, what to tell your anesthesia providers,...

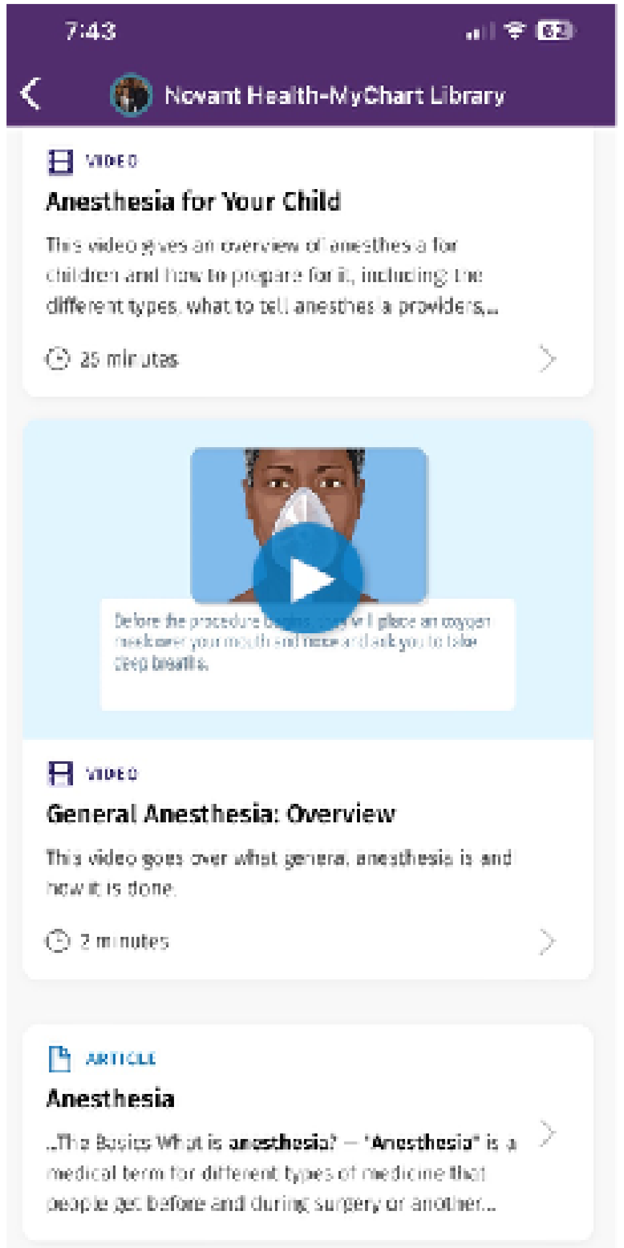
25 minutes

VIDEO

Anesthesia for Your Child

This video gives an overview of anesthesia for children and how to prepare for it, including the different types, what to tell anesthesia providers,...

25 minutes



VIDEO

Anesthesia for Your Child

This video gives an overview of anesthesia for children and how to prepare for it, including the different types, what to tell anesthesia providers,...

25 minutes

VIDEO

General Anesthesia: Overview

This video goes over what general anesthesia is and how it is done.

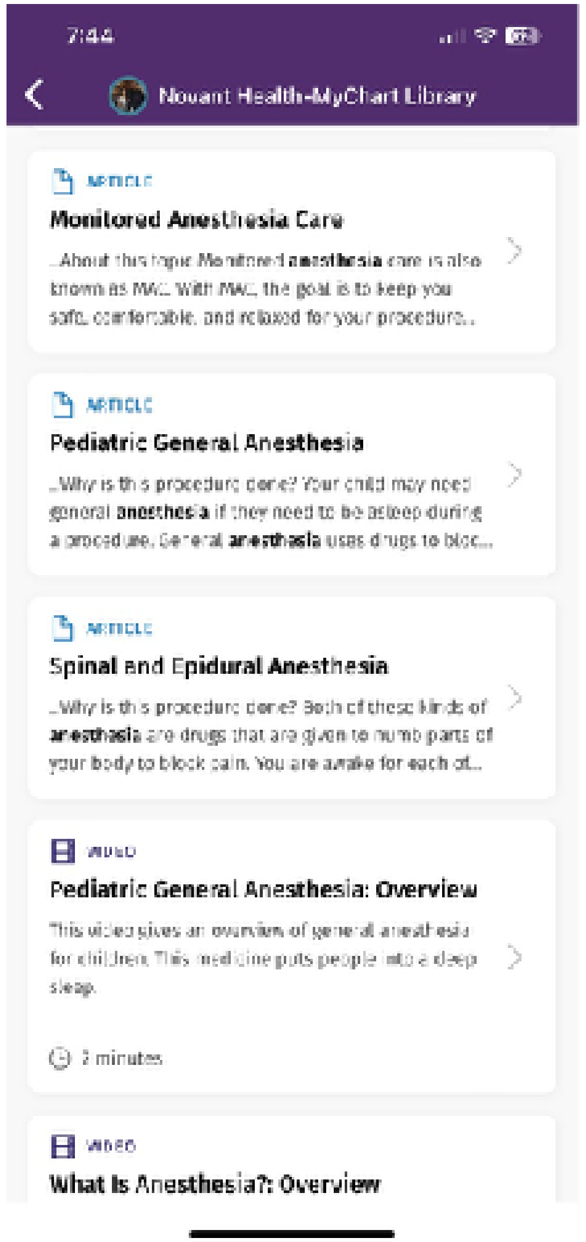
2 minutes

ARTICLE

Anesthesia

...The Basics What is **anesthesia**? — "**Anesthesia**" is a medical term for different types of medicine that people get before and during surgery or another...

VIDEO: Anesthesia for an Adult:
Provides an overview of anesthesia and how to prepare for it, including the different types of anesthesia, what to tell your anesthesia providers etc.



Monitored Anesthesia Care

...About this topic Monitored **anesthesia** care is also known as MAC. With MAC, the goal is to keep you safe, comfortable, and relaxed for your procedure...

Pediatric General Anesthesia

...Why is this procedure done? Your child may need general **anesthesia** if they need to be asleep during a procedure. General **anesthesia** uses drugs to bloc...

Spinal and Epidural Anesthesia

...Why is this procedure done? Both of these kinds of **anesthesia** are drugs that are given to numb parts of your body to block pain. You are awake for each of...

Pediatric General Anesthesia: Overview

This video gives an overview of general anesthesia for children. This medicine puts people into a deep sleep.

2 minutes

What Is Anesthesia?: Overview

Pre-operative Education has been added to every patient's MyChart account, so they all get instructions on how to look up information regarding anesthesia and nerve blocks including labor epidurals. Their surgical team is encouraged to remind them about these resources.
There is also the After Visit Summary (AVS), which has all of pre-operative instructions for patients including directions for patients to download all of the educational videos.

Part of patient communication is making them aware of some side effect from the anesthesia they can expect after surgery:

- Nausea and Vomiting
- Sore throat (usually from the breathing tube)
- Headache and minor muscle aches
- Drowsiness and tiredness throughout the day of surgery
- Confusion - primarily in older people or people with memory loss
- Unable to recall events of the day.
- Itching
- Chills and shivering when you are waking up.

Regional Anesthesia or nerve block side effects can include:

- Prolonged numbness from nerve block.
- Infection and/or bleeding at the injection site.
- Allergic reaction to the medicine.

Discussion

The purpose of this project was to seek ways to improve communication between the anesthesia provider (anesthesiologist) and the patient needing anesthesia with the goal of alleviating their fears and decreasing their anxiety with anesthesia. Ideally, we wish to be able to accomplish this on the day of surgery when we meet our patients and prepare them for surgery. Unfortunately, our interaction times may not be long enough to fully communicate and establish a deep enough patient-provider bond and connection to secure a deep trust with their care provider. Creating other tools of communication to introduce ourselves to our prospective patients has been well received and made a difference in our patient satisfaction scores. Our patients have appreciated our interest in their needs to better understand the "anesthesia" aspect of their surgery. They felt like their concerns would be validated by the anesthesia team because we were asking how best to help them through the process. Through the surveys, we learned that most patients already feel comfortable with their anesthesiologist and have a reasonable amount of trust in us and do not need any significant reassurances or ways to improve the communication process or their anesthetic experience. We also expected a lot of the younger demographic of patients (less than 40 years old) to prefer to gain more information digitally (videos, my chart link etc.) but they rather opted to have pamphlets, while the older demographic of patients was more open to using the patient portal link, videos etc. (a more interactive/visual medium).
There were not any significant challenges in data collection. The staff were very helpful.
A "tip" sheet was created for the registration staff to assist patients navigate their My Chart account. A phone number was also placed on their After Visit Summary (AVS) for patients to call if they needed help getting to the anesthesia education section on their My Chart account.

Some of the limitations of the project were the relatively smaller sample size of patients that we surveyed and for a shorter period of time. Some of this was due to needing approval from the hospital administrators to make sure that we were following appropriate guidelines.
We also were unable to capture pediatric patients during our project as most of them do not come through the preSurgical clinic.

Some lessons learned were how receptive our staff were in being a part of this project to improve patient satisfaction. They were engaged and provided ideas and assisted patients in participating. Our patients were grateful for our interest in making sure that their concerns were addressed, and needs met, thereby feeling less anxious about the preoperative experience.

Summary

This project reinforced the value and benefit of collaboration between teams for a common goal and greater benefit, which in this case means, improving patient satisfaction is just as important as improving patient care. This improves patients' compliance.
Seeking varied methods of communication with patients is a goal that should be embraced in order to foster and reinforce provider-patient relationships. Making the effort to spend adequate time in interacting, educating and explaining the medical and surgical plan with patients by their team, is worth prioritizing despite the busyness of our workflow. My colleagues now appreciate more that it is not only important to provide great anesthesia care but remember that the care of our patients begins way before they meet us. Connecting with patients, making them feel seen and heard truly does alleviate their anxieties about anesthesia, surgery and increases patient satisfaction. This is a goal worth striving for everyday!

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Bolstering Awareness of Rare Disease Through a Novel Approach

Dana Point, MD

Introduction

Rare disease represents a major challenge for patients, families, physicians, clinical staff, and educators. Rare disease is defined as any disease affecting fewer than 200,000 people in the United States. More than 90 % are without an FDA-approved treatment, and about 80% are genetic.[1,2] Rare diseases affect 30 million people in the US and up to 400 million worldwide with nearly three-quarters manifesting in childhood.[1,2] The purpose of this project was advocacy-driven, as it aimed to produce and promote a film documentary about a rare disease called Koolen-de Vries Syndrome (KdVS). My personal experience within my family, having a son with KdVS, served as a profound motivation to undertake this project, with the overarching goal of advocating for greater awareness and understanding of this condition.

KdVS, also known as 17q21.31 microdeletion syndrome and KANSL1-related intellectual disability syndrome, is a rare autosomal dominant, neurodevelopmental disorder with an estimated prevalence of 1 in 55,000 individuals. KdVS is caused by a microdeletion in chromosome 17q21.31 or a mutation in the KANSL1 gene. [3] KdVS was first reported in 2006, with core clinical features of KdVS including hypotonia, developmental delays with prominent speech and language delays, mild to severe intellectual disability, and dysmorphic features.[4] The dysmorphic features are characteristic of KdVS, making it a recognizable syndrome, and most individuals are described as having a friendly personality.[3] Additional features that are variable but still common in KdVS include cardiac and renal abnormalities, brain anomalies, and seizures. Approximately one-third of individuals with KdVS have a diagnosis of epilepsy; of those, one-third to one-half have intractable seizures.[5] The average age of seizure onset is 3.5 years. Two-thirds of individuals with epilepsy experienced at least one episode of status epilepticus. Although the phenotype spectrum is broad, the most common presentation is global delays in development.[6] While research into the genetic and phenotypic expression of this disorder has progressed, it remains mostly limited to the genetic science community. As a rare disease, there is little exposure for most of the general public to the difficulties facing a small population of affected patients and their family members. As medicine has grown more specialized with increased demands on providers, the struggle to coordinate care across a spectrum of disease presentations also presents unique challenges.

While members of the rare disease community devote significant financial and personal resources to address numerous challenges, children, in particular, need additional support and assistance dealing with feelings of isolation from their peers due to their rare disease.[7] The expanded role of patient advocacy organizations and patient engagement in clinical research continues to gain acceptance within the research community.[7] Film has been used as an effective method to demonstrate the complex problems associated with rare disease diagnosis, research, and therapy development. Filmmaking is a valuable tool in producing participant-generated films that serve as powerful and authentic advocacy tools with the ability to raise community awareness, engagement, and possible improvement in the lives of these patients.[8, 9] It is also easy to transmit across social media providing broad access to the wider community. The primary goals of my project were to engage a wider audience, with the intention of raising awareness and potential funding for further research and development. The secondary goals were to humanize this condition for the clinical health community and educators, while highlighting the struggles individuals with KdVS and their families face.

Method

Before commencing the filming process, careful planning was undertaken. We collaborated with notable professionals in the field, including Daniel DeFabio, the Creator of the DISORDER channel and Director of Community Engagement at Global Genes, and Dina Rudick, an Emmy-Award-winning Director and Producer. Furthermore, we engaged with Dr. David Koolen, the geneticist credited with discovering KdVS, to gain insights into his primary concerns regarding individuals with this syndrome.

In September, a dedicated group of young filmmakers converged in Wilmington, NC to work collaboratively on the production. Jessica Carlson and Lizzie Frankenthal, Founders of Young and Lucid Media, led the team in collaboration with Ashley and Dana Point. The roles of directors were undertaken by Alex Casimir and Clare Gostin. Post-filming, the production team faced the formidable task of condensing 14 hours of footage into a 12-minute documentary. To achieve this, we enlisted the expertise of editors, graphic designers, musicians, and artists. Furthermore, to ensure the ethical representation of patients affected by the disease, medical specialists and lawyers were actively involved in the production process. It is important to note that travel expenses for those involved were sourced through crowdfunding from family members, and the entire project team generously volunteered their time and expertise to contribute to this meaningful endeavor. Figure 1 lists all those involved in production of the film and their respective roles with Figure 2 demonstrating the timeline of production.

Figure 1. Film credits.

Person	Position
Alex Casimir	Director
Claire Gostin	Director
Jessica Carlson	Executive Producer
Luke Carlson	Executive Producer
Catha Day	Co-executive Producer
Ashley Point	Executive Producer
Dana Point	Executive Producer
Lizzie Frankenthal	Executive Producer
Matthew Kikenny	Co-producer
David Point	Co-producer
Alex Mansour	Music
Cole Bacani	Director of Photography
Brendan Bennett	Editor/Assistant Director
Kirsten Hoang	Editor
Reid Anderson	Sound mixer
Aodhan Ozawa Burns	Animator
Zack Chalmer	Colorist

Figure 2. Timeline of Project.

July 24, 2021	Meeting with Jessica Carlson, Owner of Young and Lucid Media
August 2021	Fundraising through emails, phone calls and personal contacts
September 15,2021	Meeting with Dina Rudick, advisor and award-winning producer/director
September 23-24, 2021	Filming in Wilmington, NC
October 2, 2021	First cut created
October 3, 2021	First review with producers
October 31,2021	Second review with producers
January 20, 2022	Animation recrafted after consultation with team
February 7, 2022,	Third review with producers
February 23, 2022	Review & Meeting with Dr. Koolen, geneticist who discovered KdVS
February 2022	Documentary submitted to multiple film festivals
March 2022	First award won, NFFTY

Results

After creating, “Davis Out of the Unknown,” the film was submitted to multiple film festivals and shown at several scientific meetings. The film features a family of five in North Carolina living with KdVS. It exhibits their experiences with diagnosis of the disorder, day-to-day life, and difficulties with seizures, speech and conditions facing the KdVS community. Figure 3 showcases the poster created by graphic designers for marketing purposes.

Figure 3. Promotional Documentary Poster

The film was successfully selected and screened at the following:

- National Film Festival for Talented Youth (NFFTY), Seattle, WA
    - NFFTY is the world's largest, most influential film festival for emerging filmmakers [10]
- Scout Film Festival, Boston, MA, Best Documentary by Filmmakers 19-24
    - Celebrating filmmakers and visual storytellers aged 24 and under
- Austin Film Festival, Austin, TX

    - Event plays host to the largest screenwriter's conference in the world[11]
- Beyond the Short, National
    - The channel has reached a fan base of 96,000 followers[12]
- Rare Fair, Raleigh-Durham, NC
    - Since 2018, The Rare Fair has been the only 100% inclusive event for the global rare disease community[13]
- 3 Global Genes[14]: Rare Health Equity Summit, Philadelphia, PA and Rare Patient Advocacy Summit, San Diego, CA (twice)
- Uno Sguardo Raro Film Festival (the European Rare Disease Film Festival), Rome, Italy. The film won the Premio Speciale USR-Telethon Award.
    - First International Film Festival that selects and promotes the best videos from all over the world on the theme of rare diseases, disability and social inclusion. [15]

Additionally, a large public screening was held in Wilmington, NC at the University of North Carolina-Wilmington (UNCW) Campus. The film screening and its promotion were also featured on WWAY and WECT, two local news stations. The screening of this film allowed multiple new connections and collaborations among the medical community of Wilmington and beyond. The film has also raised awareness within the rare disease community, resulting in requests for submission from RARE Revolution magazine and Simons Searchlight, two national advocacy groups.

Discussion

By producing and promoting this film, KdVS has become more widely recognized in the medical and larger rare disease community. This project clearly has intense personal meaning to our family and our KdVS community. Through this "novel" approach, we have been able to engage a large number of researchers and clinical professionals. The response has been so tremendous that we were able to establish a non-profit to work hand in hand with the current KdVS Foundation. The non-profit, My Kool Brother (https://mykoolbrother.org/), was founded shortly after the production of the film. This non-profit was established with the goal of developing better medical therapies and treatment options for individuals with KdVS.

Through partnerships with other rare disease organizations, including the KdVS Foundation, My Kool Brother will be able to fund pilot grants for further genetic analysis of the disorder, development of animal models, and further clinical testing and disease identification. Moving forward, future projects are planned for developing patient registries, natural history studies, and animal models. By partnering with other rare disease organizations, the long-term goal is to eventually develop translational therapeutic treatment strategies to address the challenges faced by the KdVS community.

Throughout this process of creating and promoting this film and eventually generating a nonprofit organization, the skills promoted by the Leadership College have been invaluable. Without the strategies of engagement, recruitment, and effective compromise and communication, this project and the ongoing efforts to continue the mission of advocating for KdVS and rare disease would not have been possible.

One of the major limitations of this project is that it is difficult to quantify or qualify the outcomes. This is inherent in many advocacy programs as it often takes years to see full results. While the film has been shown to a wide audience, as indicated by the multiple venues listed in the results, it is difficult to report on personal and individual experiences within the KdVS community. For example, the film resulted in a meeting of several KdVS families in Italy, during its showing in Rome. These individuals and families expressed the film was their first time having their rare condition represented and validated within the wider community.

One possible metric that could be tracked would be to assess by pre- and post-surveys pediatricians' likelihood of ordering complete genetic sequencing in individuals presenting with global delays and non-typical phenotypes before and after viewing the film. Early rare genetic disease detection is critical to reducing the "diagnostic odyssey" for patients and managing their condition. Earlier detection not only leads to improved outcomes, but also reduces healthcare spending. [16] Unfortunately, due to the rare presentation and limited exposure in traditional medical education, patients and their families can go years without a diagnosis. Film may serve as a surrogate to bolster exposure to these somewhat isolated communities of patients.

Conclusion

Film can serve as an effective medium for rare disease patient advocacy and awareness. For these small communities, it can be easily accessible and appeal to a wider community. There is value in physicians, educators, therapists, and even the wider community to see a less clinical and more complete view of individual patients. Presenting this work to the North Carolina Medical Society will further serve this ongoing project. It will foster more awareness and insight into the rare disease community, perhaps providing further connections with our state medical community, and opening additional opportunities for collaboration.

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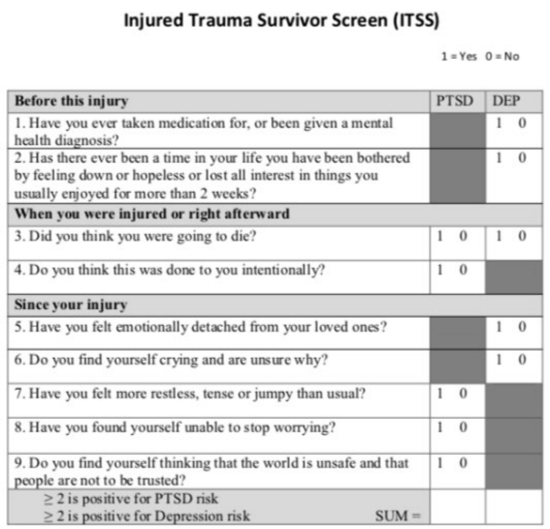
Implementing Post-Injury Mental Health Screening and Intervention at a Level I Trauma Center

Juliana Wulforst, PA-C

Introduction
The sharp, rhythmic, synchronous chirp of another trauma alert activates numerous pagers throughout a trauma center, setting off a series of events that ensures the incoming patient is given the best possible chance at survival. Historically, such a systematic and multidisciplinary approach has heavily focused on the identification and timely management of physical injuries with a primary focus on survival. While decreasing mortality is certainly of primary importance, there has recently been a vital shift in focus to not only saving a life, but to optimizing post-injury quality of life and patient-reported outcomes.[1] Currently, less than 10% of trauma centers screen for risk of depression and post-traumatic stress, while as many as 20-40% of civilians develop post-traumatic stress disorder and depression after injury.[2] As healthcare providers, we have a responsibility to constantly pursue avenues that enable us to provide more holistic care to all patients.

It has been shown that for a screening tool to be successful, it should be automated, clinician-administered, and validated for the population in which it is screening.[1] The current pace at which many trauma teams' function, often with resources already stretched thin, makes it less feasible to have a post-traumatic event screening tool clinician administered. However, it is feasible to make the process somewhat automated and to use a tool that is validated for the population receiving the screening. For adults, the Injured Trauma Survivor Screen (ITSS) is one of the validated screening tools that looks at risk factors for both PTSD and depression and is designed for inpatient use. The ITSS is a nine item "yes/no" response screen that considers each patient's pre-existing mental health history, specific details about the injury, and patient's disposition since the injury.

Method
Timing. Initially, the plan will be to administer the ITSS to every patient on post-trauma day one during their tertiary survey. Current recommendations regarding ITSS administration do not include an evidence-based timeline for when to implement this tool. Trauma patients are a unique population, because their level of acuity, hospital length of stay, and need for follow-up ranges very widely. Administered the screening on post-trauma day one ensures we capture the greatest number of patients. Although this may seem early in a patient's hospitalization, it prevents patients with shorter hospital stays from falling through the cracks. If a patient's mental status precludes them from participating on post-trauma day one, there will be handoff to subsequent providers that the screening needs to be completed prior to discharge, similarly to how we communicate about splenectomy vaccines needing to be completed before discharge on our splenic embolization/splenectomy patients.



Injured Trauma Survivor Screen (ITSS)

1 = Yes 0 = No

Before this injury	PTSD	DEP
1. Have you ever taken medication for, or been given a mental health diagnosis?	▨	1 0
2. Has there ever been a time in your life you have been bothered by feeling down or hopeless or lost all interest in things you usually enjoyed for more than 2 weeks?	▨	1 0
When you were injured or right afterward		
3. Did you think you were going to die?	1 0	1 0
4. Do you think this was done to you intentionally?	1 0	▨
Since your injury		
5. Have you felt emotionally detached from your loved ones?	▨	1 0
6. Do you find yourself crying and are unsure why?	▨	1 0
7. Have you felt more restless, tense or jumpy than usual?	1 0	▨
8. Have you found yourself unable to stop worrying?	1 0	▨
9. Do you find yourself thinking that the world is unsafe and that people are not to be trusted?	1 0	▨
≥ 2 is positive for PTSD risk ≥ 2 is positive for Depression risk SUM =		

Administration. Figuring out who is best suited to administer the ITSS has been a challenge, and the final decision may vary depending on the institution and their specific resources. Although having a "clinician administered" tool is ideal, our providers unfortunately do not have the bandwidth to take the time needed to administer a screening with such intimate questions. It would seem insensitive to include questions such as "did you think you were going to die?" in our typical string of questions regarding pain control, appetite, and disposition, to name a few. There was a suggestion of having the tool be administered by a nurse, since they often spend more time and build a more personal rapport with each patient, however in our current healthcare system they equally do not have the bandwidth. There was also discussion about having someone from the behavioral health team or the spiritual care team administer the ITSS. Ultimately, support from the information technology team has allowed for the exploration of a process where the ITSS can be administered virtually through a questionnaire in Epic, that the patient may complete via their smartphone or via a unit provided iPad (already readily available due to their utilization for interpreter services). While providers and nurses will need to encourage the completion of this online questionnaire, and in some cases may need to assist with its completion depending on physical ability, this method allows for the most streamlined and completion and its privacy will deter interviewer bias.

Inpatient Intervention. Once a patient screens positive for risk factors for either depression or PTSD or both, the provider will place a consult to our Behavioral Health Licensed Clinician (BHLC) colleagues, a team made up of social workers specifically trained to perform the initial assessments on patients with mental health needs. This team can administer additional screening tools, such as the PTSD Checklist-5 (PCL-5) or the Patient Health Questionairre-9 (PHQ-9) depending on the patient's ITSS results. Based on their evaluation, they may choose to 1) escalate the patient to a psychiatrist consultation for a psychiatrist to perform a more comprehensive evaluation 2) continue to follow the patient through their hospitalization and connect patients with appropriate community resources at discharge or 3) deem that the patient does not need or does not want any further evaluations or referrals. Ideally, there would eventually be a psychologist that specializes in post-traumatic and trauma-informed care on staff of the trauma team who could conduct a complete psychological evaluation and recommend appropriate methods and timing of follow-up based on their professional assessment. Unfortunately, the addition of such a position would likely face some pushback due to cost.

Education. Regardless of how a patient screens on the ITSS, it is important that patients and families receive dedicated education regarding both their injuries and their elevated risk of mental health challenges after a traumatic injury. Even though patients may screen negatively on the ITSS initially, they remain at high risk of later screening positively. Spearheaded by Dr. Jaclyn Portelli, The WakeMed Trauma Services Program has already published a comprehensive manual on holistic post-traumatic care, "Beyond The Injury: Support for Trauma Patients." A role has been created within Volunteer Services to assist with distribution of the booklets, however they are unable to review or answer questions on the information. In the future, it would be impactful to utilize a volunteer pre-health student seeking patient care experience as a Post-Trauma Care specialist to sit down with each patient and their families and review the booklet in a tailored, patient-specific fashion. They would be experts in the manual itself and would conduct brief visits to appropriate patients and families to conduct patient-specific education. This would be of no cost to the team or hospital itself, would provide a dedicated and specialized liaison in post-trauma care education, and would allow for pre-health students to gain valuable and meaningful patient-care experience before pursing their chosen profession (physician assistant, nursing, physician, social work, physical or occupational therapy, psychology, etc.).

Outpatient Intervention. It will be crucial to maintain a list of current outpatient mental health resources and practices that are available to our patients. Thankfully, our BHLC colleagues keep this information readily on hand. However, mental health care resources remain limited across our country, and even with appropriate referrals, it can sometimes take months to obtain an appointment with a provider. Given this limitation, a potential alternative may be hospital organized post-trauma support groups. Such groups could be moderated by a dedicated Behavior Health Licensed Clinician or peer-moderated and could occur both in person or virtually pending patient interest.[5] Depending on their popularity, these groups could eventually be separated into respective groups depending on the trauma experienced (motor vehicle collision, gun violence, assault, etc.) to better target trauma-specific experiences and post-traumatic symptoms. Further, any patient who did not receive inpatient screening should receive the ITSS at their outpatient follow-up appointment. Any patient who screened positively on their ITSS inpatient should be assessed for participation in outpatient resources and re-connected to such resources if necessary.

Results

Launching a pilot program. Determining what, when, who and how of the implementation of a post-injury mental health screening tool has consumed most efforts thus far. Support and outreach from an experienced Trauma Program Manager, Sarah McIntyre, sparked progress with this process. Independent research led to the selection of the ITSS as the preferred screening tool for our patient population and setting. Unique experience in inpatient trauma care along with discussion among provider peers assisted in the determination that post-trauma day one would be the ideal timing for screening. The advantage of ensuring a high percentage of patients screened before discharge outweighs the disadvantage of risking some false negatives due to the somewhat early nature of screening. Determining who should administer the screening was also based on personal experience working within our units; having a deep and personal understanding of provider's and nurse's current workload made it clear that this tool could not be reliably personally administered. Sarah McIntyre was able to provide connections to the Chief Medical Officer and director of Behavioral Health and multiple contacts within the informational technology department to discuss their experience with implementing online screening tools. Eventually connected with our systems Chief Information Officer, the necessary resources to request the creation of the online tool through Epic. In the interim while the online tool is being created and approved, an alternative plan will include administering the screening via paper in a similarly private fashion so as to not unnecessarily delay the implementation of screening. Multiple discussions with our BHLC colleagues have garnered their support to staff all positive ITSS screenings during a brief pilot. At the conclusion of the pilot, the number of related consults and their current staffing resources will determine if they can provider a longer-term commitment to the intervention efforts. As a result, all the pieces are in place to launch a three-month pilot in 2024 to better assess the process for successes, challenges, and areas for improvement.

Discussion

Future Screening Automation. Eventually, the plan will be for a "Mental Health Screening Tool" option to be added to standard trauma admission order sets to increase the level of automaticity without reliance on the provider remembering to order the screening tool. This order will trigger both the provider and the nurse to ensure the completion of the ITSS. In its early stages, the provider may have to review the Epic questionnaire result and manually enter the BHLC consult with an indication of "positive ITSS screen," however the plan is to eventually further optimize this automation with any result greater than or equal to two automatically triggering the consult.

Timing. Since the ITSS has not been validated for a particular time period after a traumatic event, timing of administration can be somewhat tailored to each institution. Unfortunately, the current plan to screen on post-trauma day one does not allow for the evaluation of any patients who are not admitted for less than 24 hours. However, if the screening can be implemented through a survey on Epic, it is likely the survey can still be sent to them from home. There was discussion about the appropriateness of administering the screening so early. It is possible that the prompt nature of the screening may affect a patient's answers to the "Since Your Injury" questions because it may be difficult to accurately self-evaluate themselves so close to the time of injury. However, this limitation is preferred to the alternative, which would require screening multiple days out, which would likely result in a significant drop of the number of patients screened since many patients discharge on PTD 1-4.

Administration. The biggest challenge has been determining the most efficient way to administer screening, as the original thought was to give each patient a hard copy of the screening to eventually be returned to the provider who would enter the results using an Epic dot phrase on the tertiary survey progress note. This method was labor intensive on the part of the provider and increased opportunities for patients to fall through the cracks considering the number of times the survey would need to change hands. Similarly, having nursing staff enter the screening results in the patient's chart predisposes the process to similar pitfalls. Interviewer bias may also influence the accuracy of the screening if it is not completed privately and honestly. Although having the screening integrated into Epic requires a multidisciplinary approach and will take more time to implement, the increased ease of completion, automaticity, and integration directly into Epic is worth the sacrifice upfront.

Resources. The implementation of this tool requires participation by providers, nursing staff, the behavioral health team, and the information technology team. Providers expressed severe concern that it was unrealistic to have the screening be self-administered due to already significant strain due to patient load and acuity. Nursing staff expressed similar concerns, although they would be more appropriate administrators due to the closer temporal and personal relationship they build with each patient. The behavioral health team has committed the resources to staff screening triggered consults during the pilot period but have expressed that depending on the number of consults, they may have to re-evaluate their commitment based on their available resources. This team already hosts regular peer support groups that are currently underutilized, but the resource is available. The information technology team has committed to assisting in attempting to integrate the survey into Epic for optimal streamlining of patient care and to protect patient confidentiality, however this process is not brief.

Leadership. The foundation of this project required transforming passion into action. Personal experience watching a loved one suffer through unidentified post-traumatic stress after a significant traumatic accident motivated this effort. The foresight and discipline to breakdown a larger goal into more manageable, timely smaller goals is crucial. The personability to be able to have honest and thoughtful conversations in multidisciplinary settings is also of utmost importance. However, the most important leaderships skill gained from this last year has been the ability to determine where I am lacking, whether that be in knowledge, resources, or time, and to thoughtfully incorporate team members to help to fill those shortcomings.

Conclusion

Trauma patients often go home with pain, injuries, medications, scars or incisions, and casts and splints. We print pages of "Discharge Instructions," reminding them how often to take their pain medication, what their activity limitations are, and when they should follow-up about their physical injuries. We address all their physical ailments and hospital course complications, but we fall short in addressing the emotional damage that occurs, and so often persists past the point of their physical healing. PTSD and depression are increasing in our patients and vastly impact their quality of life. Thankfully, the American College of Surgeons is going to start requiring "that all trauma centers must have a protocol to screen patients at a high risk for psychological sequelae with a process for referral to a mental health provider."

By utilizing the above framework, trauma centers across the country can implement a screening process more easily and quickly. This venture has determined that 1) the benefit of increased utilization will outweigh the sacrifice of clinician administration 2) the timing of administration is team dependent, but acknowledges the benefits and challenges associated with both earlier and later administration 3) optimal automaticity requires integration into an online survey that integrates seamlessly with the patient's electronic health record. Local and state societies such as the NCMS should work to increase awareness on the deep necessity of this type of screening and should publicize this framework for others to duplicate. The NCMS should also continue to advocate in legislature for expanded funding, coverage, and access for outpatient mental health resources. Implementing PTSD and depression screening in trauma patients will allow for the identification and early intervention of patients at increased risk of developing post-traumatic mental health challenges. Early intervention and support will allow for prompt treatment, increasing the patient's quality of life and decreasing their risk of prolonged or worsening post-traumatic stress and depression.

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