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Improving Specialist Referrals in Outpatient Primary Care: An Evidence-based Practice Quality Improvement Project

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by

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This is to certify that the DNP Project Final Report by

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Abstract

Background: In the United States, more than a third of patients receive specialty referrals per year, constituting more than half of outpatient visits. Patients require efficient, immediate referrals for specialty-based treatment plans and the prevention of worsening conditions.

Purpose: This evidence-based practice improvement project aimed to improve the specialty-provider referral system for a community-based outpatient primary care clinic.

Methods: The IOWA framework for evidence-based practice implementation and the Institute for Healthcare Improvement (IHI) Model for Improvement provided the context to guide the implementation of this project, utilizing the Plan-Do-Study-Act (PDSA) quality improvement tool for rapid change assessment. A master referral list for referrals was created and collected over 18 weeks, bi-weekly measurement focused on the primary wait times for referrals, completed referrals by specialists, and patient satisfaction surveys. Provider satisfaction was additionally utilized to guide decision-making and feedback in the referral system.

Results: A successful completion of the specialty referrals from the beginning of this project resulted in an increase in completed referrals from (n=11, 52.4 %) at baseline to (n=25, 96.2 %) of referrals completed at the end of the project: for a total of 44% increase in referral completions over an 18-week period. Of the 135 patients who completed surveys, 129 (95.5%) reported feeling more satisfied with the referral process due to increased autonomy in making their appointments. Of these 135 patients, 83.7% (n=113) were able to make an appointment in under 2 weeks, and 92.6% reported no difficulty in scheduling the appointment.

Discussion: Patient and provider feedback led to the adoption of this process improvement protocol for specialty referrals. This improvement created a faster, more streamlined response

time for patients needing immediate specialty treatment, preventing further disease progression and possible complications from delay in care.

Keywords: specialty referrals, primary care providers, referral delays, specialty referrals

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Chapter 1: Problem Identification and Evidence Review

Background and Significance of the Problem

A fundamental role of primary care providers (PCPs) includes supporting patients through holistic care by identifying, preventing, and treating illness. PCPs aid in managing health problems through referrals to specialty providers such as allergists, pulmonologists, endocrinologists, orthopedists, and dermatologists. These referrals are important for further evaluation and diagnosis of patients' conditions, to include more effective care guided by their disease process needs. Lack of follow-up with specialist care is associated with increased morbidity and mortality. Patients who were noted to have a continuity of care had lower mortality rates over a relatively short period of time. The purpose of this evidence-based practice improvement project was to improve the primary care to specialty services referral system at an outpatient primary care medical practice.

Referring a patient to a specialty provider has been recognized as a serious issue across healthcare systems due to the delays in the referral process, often part of challenges in the organizational system where care is delivered. According to Almansoori et al., (2012) most referrals rely on paper-based systems. A paper-based system is a referral written with the patients' demographics, insurance information, and reason for referral that is often manually faxed to the specialist office. Some referral processes in PCP offices continue to rely heavily on paper-based systems despite many practices transitioning to electronic healthcare records (EHRs). The paper-based referral systems cause an unacceptable delay in completing the referral process. These delays in referrals include both paper-based transmissions not being received

through the faxes, and no follow-up phone calls to schedule an appointment with the patient. Frequently, issues with the completion of the referral process are due to an internal system malfunction and a lack of communication PCPs and specialists. Longer wait times are associated with delays in diagnosis, greater healthcare costs, and worse outcomes for the patient (Cain & Collins, 2018).

Additionally, even the referral processes that are done through EHRs are known to be "lost" in the virtual transmission between providers (Zhong et al., 2017). The referral process additionally affects the patients' experience with the provider or the specific practice and may cause a delay in time to a diagnosis with a decline in their overall health status. The goal of the IOM Quadruple Aim is to improve the individual experience of care; improve the health of populations; reduce the per capita cost of healthcare and improve the experience of providing care (Sikka et al., 2016). The referral process is linked to the quadruple aim because when a patients' care is delayed it affects their health long-term including increased cost of treatment and mortality for the patient. The provider and patient are affected by these delays which also decreases patient satisfaction with the healthcare system.

Description of Local Problem

Specialists' referrals are a critical part of primary care, and at a small pediatric office in Connecticut this is not an exception. The PCPs refer patients daily to receive expert opinions across a variety of specialties in order to achieve the best health outcome for each patient. When referrals are not received in a timely manner the patient cannot be seen by the specialist (SP), and as a result, the patient's health is at higher risk because of the delay in care. PCPs and specialists agree that one of the main causes of the referral delay is the long time spent in finding the proper specialist by using the paper-based referral process which relies on fax and telephone

transmissions as the primary communication methods (Almansoori et al., 2012). Furthermore, this type of fragmented care can lead to patient and provider dissatisfaction, resource waste, and potentially devastating health consequences (Vimalananda et al., 2019). The referral process at this practice consumes a large amount of time and delays in care occur and can be detrimental. In order to improve the referral process, implementing an electronic referral system to move the paper-based referral process into an electronic-based form is merited.

The small pediatric office in located in Middlebury Connecticut, is a pediatric primary care office that provides accessible pediatric primary care services to infants, children, and adolescents at each developmental life stage. There are six medical providers five medical doctors, and one advanced practice registered nurse (APRN). Other direct care providers are five licensed practical nurses and four medical assistants. Other key personnel at the office include four receptionists, two billing and coders, and one referral coordinator. The PCPs monitor physical and psychosocial growth and development, age-appropriate screenings, diagnosis, and treatment of acute and chronic disorders, manage serious illness, and when appropriate send referrals for more complex conditions to sub-specialties. The electronic health record (EHR) system utilized by the small pediatric office is Allscripts, and the practice estimates about 3,744 patients treated a year with approximately 1,248 specialists' referrals a year which include allergists, orthopedics, nutritionist, endocrinologist, pulmonologist to name a few, based on clinical diagnosis. Referrals are currently captured in Allscripts through a referral "task" that is then sent to the medical assistants and licensed practical nurses (LPNs) to be completed. The referral coordinator also receives most of these referrals.

The initiation of the current referral process is as follows: 1) the PCP identifies the patient's treatment requiring a referral; 2) an in-office specialist is recommended by the PCP in

the office notes specifying the reason for a visit, demographics, and pertinent bloodwork; 3) the completed and signed referral is faxed over to the specialist office by the referral coordinator. Then, the "central referrals" or "secretary" receives a fax and consults with a specialist to address if the patient is appropriate for treatment with a said specialist. The specialist office accepts new referral patients after this review and is then scheduled for an appointment by their office secretary. If the referral is denied, then return fax is sent to the PCP with a denial reason. The small pediatric office currently tracks these referrals by calling the specialty office to follow up on whether the referral was received and if an appointment was scheduled with the patient. See Appendix A for the Baseline Process Map.

Clinical Question

To ensure that the small pediatric office is providing the best practice to the patients being referred to specialty providers, a comprehensive search of the literature guided the review of the following clinical question: In a primary care outpatient center (P), what are best practices for specialty referrals (I) compared to current practices (C) to reduce patient wait time and increase patient and provider satisfaction (O)?

Search Strategy

A search was conducted utilizing the following databases: CINAHL and MEDLINE. Keywords used for the search were "specialty referrals," "primary care providers" with Boolean Operator "AND" with "referrals", "referral delays", "referral systems" AND " specialty providers", " wait times" AND " patient satisfaction", "specialty care" AND "referral or patient" satisfaction. Limitation parameters were set to narrow the search and focus on the topic by utilizing Boolean operations as well as filtering search results to peer-reviewed literature in

academic journals, English language only, and articles published between 2005 to 2021. (See Appendix B, Figure 1 for search results).

External Evidence

In studies of the patient experience, 18–21% of patients reported that their lives have been affected by the wait to see a specialist (Harrington et al., 2014; Sanmartin et al., 2006). Patients rarely receive any communication about the progress of their referral with the traditional referral method. According to Mohammed et al, (2018) the System Coordinated Access Program, a federally funded program, was developed to implement and integrate an innovative electronic referral solution within several local health integration networks (LHINs) across Ontario. The eReferral Solution is designed to streamline the referral process for family physicians and specialists and supports an efficient workflow within and across practice sites. Using the eReferral Solution increases the likelihood of a seamless referral process. eReferral prompts a complete submission of referrals with no missing information, improves communications between health care providers, and tracks patients' referrals.

Similarly, according to Almansoori et al., (2012), San Francisco General Hospital has implemented an electronic referral system that creates a direct communication between primary care providers and specialist reviewers. This system requires the provider to submit the referral request to be reviewed and responded to by clinicians. This system also allows specialists to communicate back to the referring provider to address the patient's issue. Evaluation of wait times mostly focused on the time between when a patient visits a specialist and when they receive the treatment/testing prescribed by the specialist, a metric referred to as wait time two (Harrington et al., 2014).

Patient feedback from a qualitative study in conducted in Alberta, Canada expressed patients' frustration with the lack of information once their referral process starts. Patients in the study reported feeling as if their referral had been sent into a "black hole," which left them to speculate that no one was looking into their healthcare ailment. Thus, the delay in care due to referral wait times can affect the patient's overall health in many ways.

Internal Evidence

Currently, at the small pediatric office in Connecticut patients are referred out through an electronic referral system that does not notify the provider if the referral was not successful. Patients are told to follow up if they do not hear from the specialist in a two-week time frame. (See Appendix A). It is difficult for the provider to track the referrals once they are sent because there is limited communication between the receiving specialty office and the referring office. The referral that is sent electronically is received via fax by the external provider and then a file for that patient is created by the receptionist at the small pediatric office. The PCP's reasoning for the referral, insurance verification, and demographics is often confirmed before an appointment is scheduled by the specialty office.

This current practice at the small pediatric office contributes to the delay in care for various reasons. Within any part of the referral process, there could be a miscommunication in the information faxed or an additional requirement for the referral to be accepted that is not readily available. Many referrals do not include a transfer of information, either to or from the specialist; and when they do, it often contains insufficient data for medical decision making. Care across the primary-specialty interface is poorly integrated. Furthermore, PCPs often do not know whether a patient actually went to the specialist, or what the specialist recommended. In similar circumstances, many patients reported experiencing stress, pain, a greater reliance on

over-the-counter medications, and challenges with work and maintaining the same level of income during the wait time, and delay in their care (Harrington et al., 2014). According to Sanmartin et al.,(2006), the median wait time for medical specialists ranged from 39 to 76 days and for surgical specialists from 33 days to 66 days. With a few exceptions, patient factors were not associated with wait times from primary care to specialty care.

Recommendations Based on the Evidence

The level of evidence for the 7 studies reviewed varied with evidence levels of 1, 4, 5, and 6. The use of the eReferrals showed a decrease in wait time and an overall increase in the response times of the specialty referrals in 5 of the 7 articles synthesized. The outcomes of the articles synthesized included eReferrals, provider satisfaction, patient satisfaction, workflow improvement, and response times. Based on the evidence collected the recommendation is to proceed with the implementation of eReferrals as a tool to decrease wait time, improve response time, positive workflow improvement, patient satisfaction, and provider satisfaction. (See Appendix C, Figure 2, and Figure 3 for Evidence and Outcome Synthesis Table).

Project Purpose

The purpose of this project is to improve the primary care to specialty service referral system for this small pediatric office in Connecticut to improve wait times and dropped referrals for patients which will eventually lead to better care for these families. As part of improving this referral system, increased patient satisfaction and provider satisfaction are expected to additionally improve.

Chapter 2: Project Plan and Methodology

Project Goals

The global aim of this project is to improve the specialty referral process, decrease the time to referral appointments, and ultimately increase patient and provider satisfaction. The specific aims include 1) improving the specialty referral process by engaging the patient in scheduling their appointment; 2) decreasing wait times for specialty referrals (measured in days and weeks from referral to scheduled appointment); 3) decreasing dropped referrals for patients; 4) patient satisfaction (measured using a self-report, 3-item questionnaire); and 5) provider satisfaction (through qualitative feedback in project evaluation). The secondary aims of this project include increasing patient and provider satisfaction related to specialty referrals through anecdotal qualitative feedback.

Framework

The Institute for Healthcare Improvement (IHI) Model for Improvement, the Plan-Do-Study-Act (PDSA) tool will be used to guide the implementation of this work. During the ("plan") state of this project, the project lead will provide education on the referral system, including the benefits of eReferral, and the issues that can arise when treatment is delayed. The standards of care related to patient comorbidity have been directly associated with wait times for specialist referrals. The overview of this project was discussed during the monthly mandatory in-services where major stakeholders were present, allowing for staff feedback and buy-in ("plan"). After implementation ("do") approval was obtained and the staff was educated on the proposed practice change, a master referral list /patient specialist form was created, and follow-ups with all referrals were conducted every two weeks. The ("study") part of the project included the utilization and review of the data on a weekly basis. The final ("act") phase will allow for

revision of the referral process based on what was learned during the PDSA cycle on an as-needed basis. See Appendix D, Figure 4 for PDSA Cycle.

Context

The project setting a pediatric practice in Middlebury, Connecticut, a free-standing, privately owned medical clinic. The patient population served ranges from newborns, toddlers, and adolescents with different acute and chronic disease comorbidities. Insurances accepted include Medicaid Husky, Medicare, and commercial insurances (e.g.: Aetna, Anthem Blue Cross Blue Shield, United Healthcare, and Cigna). This specific clinic has fifteen primary care suites and one negative pressure room, five restrooms, and 8 large offices.

Target Population

The population targeted in this project is pediatric patients ages 0-21 years old that are referred outpatient to a specialist. The different specialist office included in the referral process is Orthopedics, Neurology, ENT, Gastroenterology, Ophthalmology, and Cardiology. Some of the referrals that were excluded due to extraneous wait times included Behavioral Health and Dermatology. Connecticut Children's Medical Center (CCMC) was the highest patient referral because they covered so many different specialties and were able to assess patients within a week of receiving all required paperwork. Many of the referrals were initially sent to CCMC and if unable to see the patient a second referral was sent to another specialty office.

Project Measures

The data collected includes wait times (in days and weeks from referral to scheduled appointment), completed referrals with patients for specialty referrals, patient satisfaction, and provider satisfaction. Referral and time to completion will be collected by a manual chart review and kept track of the data in an excel document. A patient and provider satisfaction survey was

created by the DNP student of this project and implemented as part of this work. Additional items of the survey for the patient report were also added. Both surveys are 3 items long, reflect over available satisfaction surveys from the available literature and online, and were printed and given at the end of the appointments for patients.

A master referral list was created, and all specialist information was updated, printed, and given to patients when leaving the pediatric office either by PCP or referral coordinator. The data collected bi-weekly included how many referrals were sent in total. Once a total was calculated referrals were then sorted into specialty categories and then specialty was either called or checked by the referral coordinator through CCMC EHR whether the appointment was booked within a 2-week time frame. Once the appointment was confirmed patient was then called to complete the patient feedback survey. Providers completed surveys at the end of the project because it was more efficient. A referral is completed and clinical recommendations are sent to PCP all gaps in care are closed at this time.

Key Stakeholders

The key stakeholders providing support for this project include xxx FNP-BC who is a family nurse practitioner and PCP at the small pediatric office and will serve as the DNP Practice Mentor; xxx the medical assistant/secretary, and xxx the referral coordinator as part of the workflow clinical support staff. Project oversight will be provided at Sacred Heart University by DNP Project Faculty Advisor, Anna Goddard, Ph.D., APRN.

Project Design

Implementing strategies help providers improve the effectiveness of the referral process, the dissemination of evidence-based practices (EBP), and subsequent health outcomes (Byron et al., 2019; Hinde et al., 2020). The integrative quality improvement approach utilized in this

project is the Plan-Do-Study-Act (PDSA) cycle because it focuses on change and translates ideas and intentions into action. In the "plan" phase the improvement goal, population, when it is taking place and the specific data collected are outlined. Next is the "do" phase which explains what steps are taken to effectively implement the change and execute it. The "study" phase allows for the interpretation and evaluation of the data collected. Lastly, the "act" phase is where corrective actions are taken after results have identified a problem or deviation from the expected outcome of the implemented change. Refer to Appendix D Figure 4 for the PDSA cycle.

Ethical Merit and Project Approvals

This project meets the full criteria for a quality improvement project, focusing on systems change and only measures data related to system improvement. Therefore, this project does not require an IRB review. Permission for implementation of the proposed eReferral process was obtained from the providers, xxx APRN, and xxx the manager at the small pediatric office in Connecticut. No additional approval was required. See Appendix H, Table 1 for the SHU Quality Improvement Project Criteria for Quality Improvement**.**

Barriers to Implementation

The barriers that were identified included eReferrals not being received through electronic fax, lack of support from the providers contacting specialty offices due to time constraints, no designated location to follow up on referrals that were completed, patient compliance, and resistance to change and inconsistency with the process of sending referrals. By addressing each barrier, the overall problem with the eReferrals not being completed due to lack of follow-up can be improved. Creating a standardized process that is easy to follow will eliminate these barriers and others as they arise. (See Appendix F, Figure 7 for Barriers Diagram).

Data Analysis Plan

The data to be collected (including wait times to referral, completed referrals, patient satisfaction, and provider satisfaction) will be summarized in terms of numbers and percentages over time. The wait times for referrals will be collected by days and weeks from the referral by the provider to the scheduled appointment completed. The data will be summarized by counts and percentages and looked at over time.

A run chart will be utilized to plot observed data in a time sequence, which will include both the occurrence of completed referrals and patient satisfaction. A total of the completed referrals versus sent referrals will be counted over an 18-week time frame and percentages of the surveys completed by providers and patients will be discussed. This chart will be presented at the monthly staff meetings to give staff a visual presentation of the progress of the implemented intervention. See Appendix J, Figure 9 for a run chart of patient satisfaction and referrals completed.

Implementation Timeline

The project was approved for implementation in June 2021 and is set to be implemented in October 2021. Implementation included educating stakeholders, creating documents, and assigning roles to stakeholders included in data collection. From October 2021 through February 2022 data was collected every 2- weeks and documented on an excel spreadsheet. Changes or deviations from the original plan were done during this time frame. Ongoing feedback from the providers and staff was incorporated at this time. From February 2022 to March 2022 all data is collected and interpreted into run charts and bar graphs to quickly review the results. Recommendations and sustainment opportunities are summarized and presented to the small pediatric office in Connecticut at a staff meeting. The final DNP project will be disseminated as

a project poster, available to the small pediatric office, and presented as part of the NU 820 final assignment. Final presentation to be completed at Sacred Heart University in April 2022. (See Appendix G, Figure 7 for Implementation Timeline).

Resources

The identified resources for this project included staff participation and paper to print the surveys for patients (related to satisfaction of the patient and providers), which are considered negligible. Other materials are not needed to support this project, nor is there a budget required for it to be successful. Stakeholders, however, are an essential part of the efficiency of this project. The key stakeholders include the project director, practice manager, department manager, nurses, medical assistants, IT, and patients. The patient and provider satisfaction surveys were completed over the phone which allowed for less time spent collecting data and more time spent with the patient.

Chapter 3: Project Implementation, Results, and Discussion

Project Implementation

Implementing strategies help providers improve the effectiveness of the referral process, the dissemination of evidence-based practices (EBP), and subsequent health outcomes (Byron et al., 2019; Hinde et al., 2020). The practice change proposed for this project is as follows: The DNP project lead created a master referral list and specialist information document for the area. Patients received the specialist referral with the phone number to make appointments. This process was communicated to the team members and key stakeholders including the goals and expectations by an office meeting presentation led by the DNP student to make sure everyone is aware of this new workflow change. See Appendix E, Figure 5 Process Map with eReferral Improvement.

Plan

The DNP project lead created a master referral list and specialist information document for the area. The master referral list consists of the name of the medical office, the providers affiliated, location, contact phone number, and fax number of different specialties that are sub-categorized by specific specialty. This document has been updated with new providers who are accepting patients and it is also easier to find information and has a designated area. Prior to creating the master list, there were multiple places to find referral data sheets and it was inconsistent with what was available to the patient. Access was requested from the small pediatric office to Connecticut Children's Medical Center (CCMC) to reference whether an appointment was made for a patient. The implementation of the CCMC access streamlined this process and made it faster. Prior to this implementation, patients would call to follow up on documents required to make the appointment. Patients now receive the specialist referral

information with the phone number to make their own appointment. A master referral list was created, and all specialist information was updated, printed, and given to patients when leaving the pediatric office either by PCP or referral coordinator. Patient contacts specialty office within 2 weeks and makes an appointment. If completed within 2 weeks appointment is confirmed within the eReferral system if the patient was sent to (CCMC) or specialty office was called by project lead if the patient was sent to ENT, Dermatology, Neurology, Nutrition, or Ophthalmology. A referral is completed, and clinical recommendations are sent to PCP all gaps in care are closed at this time. The patient completed a 3-question survey post completion of the survey.

This process was communicated to the team members and key stakeholders including the goals and expectations by an office meeting presentation led by the DNP project led to make sure everyone is aware of this new workflow change. See Appendix E Figure 5 for Process Map with eReferral Improvement.

Do

During this phase, approvals were obtained, and all the staff was educated proposed practice change. Create the master specialty referral list and information about the specialty given to patients. Was unable to update the EHR system to remind patients to call for their specialty appointment but was able to obtain access to CCMC EHR to view when a patient's appointment was confirmed for their specialty providers Then, follow-up with all referrals every 2 weeks to address if any referrals were dropped. Lastly, obtained patient/provider satisfaction surveys.

Study

The data collected was from the total of referrals that was sent and how many out of the sent were completed with an appointment booked within 2 weeks. Information collected from CCMC EHR showed whether the patient had an upcoming appointment or was already evaluated by a specialist. Results of the completed patient and provider surveys were also depicted in percentages based on yes and no 3 -point questionnaires. Refer to Tables 2 and 3 for questions assessed in the patient and provider survey results.

The baseline data is retrieved through a chart review of the submitted referrals in Allscripts. Also, the appointments that are made by the patients and attended data will be retrieved by reviewing clinical notes returned by the specialty office monthly. Other data that will be reviewed through the project are the current stakeholders' knowledge and the satisfaction with the referral process quality improvement plan, and current patient satisfaction with the referral process.

Data were collected and stored in an excel spreadsheet format, only accessible to the DNP project lead Kimberly Gaznabie and Project Mentor XXX APRN. Data analysis includes statistical analysis and graphs to depict the data in a visual format. This data is stored on a password-protected flash drive to ensure confidentiality. No patient identifiers were utilized, however, patient diagnosis along with a specialty in which they are referred to was used to trend data.

Act

The PDSA cycle improvements were made to the project such as using CCMC access to find out if patients were able to make appointments or not. Also, we recognized that sometimes the provider forgets to give the information sheet and if the provider is unable to give it at check out the referral coordinator could follow up with the patient to give them the information about

the specialist. Based on the results of patient and provider satisfaction it was decided to continue with using CCMC access for patient appointment follow-up and to allow the referral coordinator to provide patients with specialist information. As these are also efficient ways to get information about specialty referrals to the patient.

Results

This section will review the different improvements in the specialty referral process that were made by engaging the patient in their appointment scheduling. Other results that will be summarized include the wait times for specialty referrals, the number of dropped referrals for patients, patient satisfaction, and provider satisfaction. A summary of the results can be found in Appendix I, Figure 8, and Appendix J, Figure 9.

Patient Engagement

This project aimed to involve the patient in scheduling appointments for specialists, versus the front desk or administration making an available appointment for the patient. To accomplish this task, the small pediatric office utilized the master referral lists created by the DNP student and the eReferral systems for providers and empowered the patient to make their own specialty appointment to include addresses and patient phone numbers. To meet the objective of specific aim 1 (involving the patient in scheduling their appointments), the small pediatric office specifically gave the specialty referral information and specific address and phone numbers to the patient to involve them in their care. The overall aim was to improve the referral process overall by involving the patient in the process. At the advent of implementing the specialist referral process, approximately 35 referrals at baseline specialty referrals within a two-week time frame. At the end of this project, approximately 95% of specialty referrals created their own specialty appointment because of this change in practice.

Wait Time for Specialty Referrals

Prior to the implementation of this project, baseline wait times were not collected. However, anecdotal feedback from employees, provider staff, and patients were that the wait times to see a specialist were too long and that this was a problem that needed to be addressed. During this study period, 135 patients received a referral to a specialist. The wait times for referrals from the PCP to the specialist decreased from 28 days to 14 days throughout the 18 weeks of this project implementation, wait times (in days from PCP referral to specialty referral appointment).At the small pediatric office patients were unaware of which referrals were dropped or rejected in the process which could cause a longer delay in care.

Dropped Referrals

There were not many dropped referrals as they were being addressed every 2 weeks. For those referrals that never made it to the specialist, the parents would notify the small pediatric office after talking to the specialist, and an appointment. These referrals that were dropped initially in the first week had an appointment by week 2. Of 135 patients who completed a patient satisfaction survey during the study period, 113 (83.7%) were able to make an appointment in under 2 weeks.

Patient Satisfaction

During this project "study" time of the PDSA, 135 patients received a referral for services. Of those 135 patients, 125 patients (92.6%) reported they did not have difficulty scheduling a specialist appointment. In a sample of 135 patients, 129 patients (95.5%) reported feeling more satisfied with the referral process because they had increased autonomy in making their appointment and less frustration from not hearing from the specialty office. See Table 2.

Table 2

Patient Satisfaction Survey Results

Total Completed Patient Surveys n=135 with Yes/No Percentages

Was scheduling your appointment with the specialist difficult?	Yes 10 (7.4 %)	No 125 (92.6%)
Did it take longer than 2 weeks to make the appointment?	Yes 22 (16.3%)	No 113 (83.7%)
Are you satisfied with your care and referral to the specialist?	Yes 129 (95.5%)	No 6 (4.44 %)

Provider Satisfaction

A survey was given to the provider at the practice (N=5) to assess their buy-in and satisfaction with the referral process change. All 5 (100%) of the providers reported that the referral process was easy to follow, made scheduling specialist referrals easier, and was satisfied with the process. See Table 3.

Table 3.

Provider Satisfaction Survey

Total Completed Provider Surveys n=5 with Yes/No Percentages

Was the referral process difficult to follow?	Yes	No (100 %)
Did the referral process make follow-up with the patient and specialist easier for you?	Yes (100%)	No
Overall, are you satisfied with the referral process?	Yes (100%)	No

Chapter 4: Discussion of Project Findings and Evaluations

Discussion

The specialist referral process was identified as an area of need for this outpatient primary care practice. The purpose of this project was to improve the specialty referral process for the providers and patients which was deemed successful by the providers and patients alike through positive satisfaction scores by both groups. While there was a slight decrease between 10/31/21 to 11/21/21 due to COVID-19 and a decrease in patients seen and subsequent referrals, there was an increase in referrals during the holiday season (11/21/21 to 1/2/22). Incidental specialty referrals were not previously tracked as part of the office protocols, so this was not something noticed prior.

To note, directly proportional to the increase in specialty referral completions (as well as the decreases in time to referrals), patient satisfaction increased over time as seen in the run chart in the results section and the patient satisfaction shown in Appendix H.

A delay in medical care may result in late detection of disease, reduced survival, and potentially preventable human suffering (Harrington et al., 2014). While these outcomes were outside of the jurisdiction of this specific project's aim and data collection, improving a referral system internally will directly affect the ability to detect disease and thus reduce morbidity and mortality among patients and their families, as previously described in the available literature. It is an expectation that initiating the specialty referral process would aid in the early detection of disease and prevent human suffering because the patients experiencing the health concerns place a standard on their care.

Improving the referral process at the small pediatric office in Connecticut during this process means that patients ultimately have control over how long it takes for the escalation in their care. It can alleviate the daunting questions patients have such as how long it will take to see the specialty provider and will they contact me. Providers feel that reducing delay in care is a priority when treating patients and giving them the autonomy to hasten the process allows for overall greater patient satisfaction. Improving specialty referrals, similar to the results found here, has shown an increase in clinic capabilities including patient record system improvement and reduction reworks in the system, which also leads to reduced referral delays and improved patient satisfaction (Zhong et al., 2017).

Strengths and Limitations of the Project

The strengths of this project included provider and staff buy-in from the beginning of the project as the small pediatric office wanted to improve the system to better the care that their patients received. All the providers agreed that they did not want to see the patients fall through the gap within the system. Also, they all felt that the surveys were easy to complete and that the project did not cost the practice anything to implement, but still had such a huge impact on the patients' health outcomes. Limitations that were noted during the project were during peak COVID-19 months there were fewer patient responses and fewer referrals being sent out because patients were not able to come to the office and they could be treated via telehealth.

Chapter 5: Dissemination, Sustainability, Recommendations

This section will discuss the plans to disseminate this work, the sustainment of the process at the small pediatric office in Connecticut, and key lessons learned for implications for this project for nursing and the health care field at large.

Dissemination

This project summary will be disseminated through internal and external means. Project results were summarized and disseminated to internal stakeholders which include the department staff, department manager, and the project practice mentor. Presentations at staff meetings included the progress throughout the implementation of the referral process and ongoing staff feedback. Final dissemination will include a 1–2-page executive summary for the small pediatric office in Connecticut.

A poster presentation was created for the NU820 DNP course and will be presented on April 22nd as part of the project deliverables. A project abstract and paper summary of the project was submitted for NU 824 and a final copy will be uploaded to an external DNP project repository. Future manuscript submission to a peer-reviewed journal will be considered by the project faculty lead and practice mentor after the final oral presentation of the project was completed.

Sustainment

Standardizing the new implementation plan after being reviewed is what allows for sustainability within the organization (Stewart & DeNisco, 2019). Pursuing integration provides long-term follow-up and accountability not only for stakeholders involved but the organization. Trending results from the completed referrals can help demonstrate sustained gains, incremental improvements, and the need for reinfusion (Cullen & Adams, 2012). Those involved in this

strategy are the key stakeholders which are the project leader, project mentor and referral coordinator, and providers. The providers and practice manager decided they will keep all elements of this project in place to continue with this new streamlined patient referral process. The referral coordinator will continue to give providers the specialty information to give to patients at the end of their visit when care escalation to specialty is needed and the referral coordinator will also have continued access to the master referral list and CCMC EHR following up in two weeks on whether the patient has an appointment booked.

Key Lessons

Lessons learned through successful implementation of the specialist referral process include a faster and more streamlined process for patients needing immediate specialty treatment, essentially preventing further disease progression and possible complications from delay in care. Therefore, providing patients with the option to be proactive in their own care results in better patient outcomes. Providers also have more job satisfaction when their patients are following-up with their tailored treatment plan and not placing an undue burden on the provider and practice. Providers expressed their desire to see healthcare improve and patients advocate for their needs; the specialty referral process allowed for that to happen which is a very positive outcome of its implementation.

Summary of Recommendations

Overall, this project was able to expand the patient services to those who completed the specialty referral process at this outpatient pediatric primary care clinic. In essence, autonomy in healthcare can be strenuous, but results indicate that patients who advocate for their care decreased the wait time they experienced and prevented a delay in diagnosis and treatment of

disease. The improved referral process integrated patient advocacy, increased patient, and provider communication as well as satisfaction.

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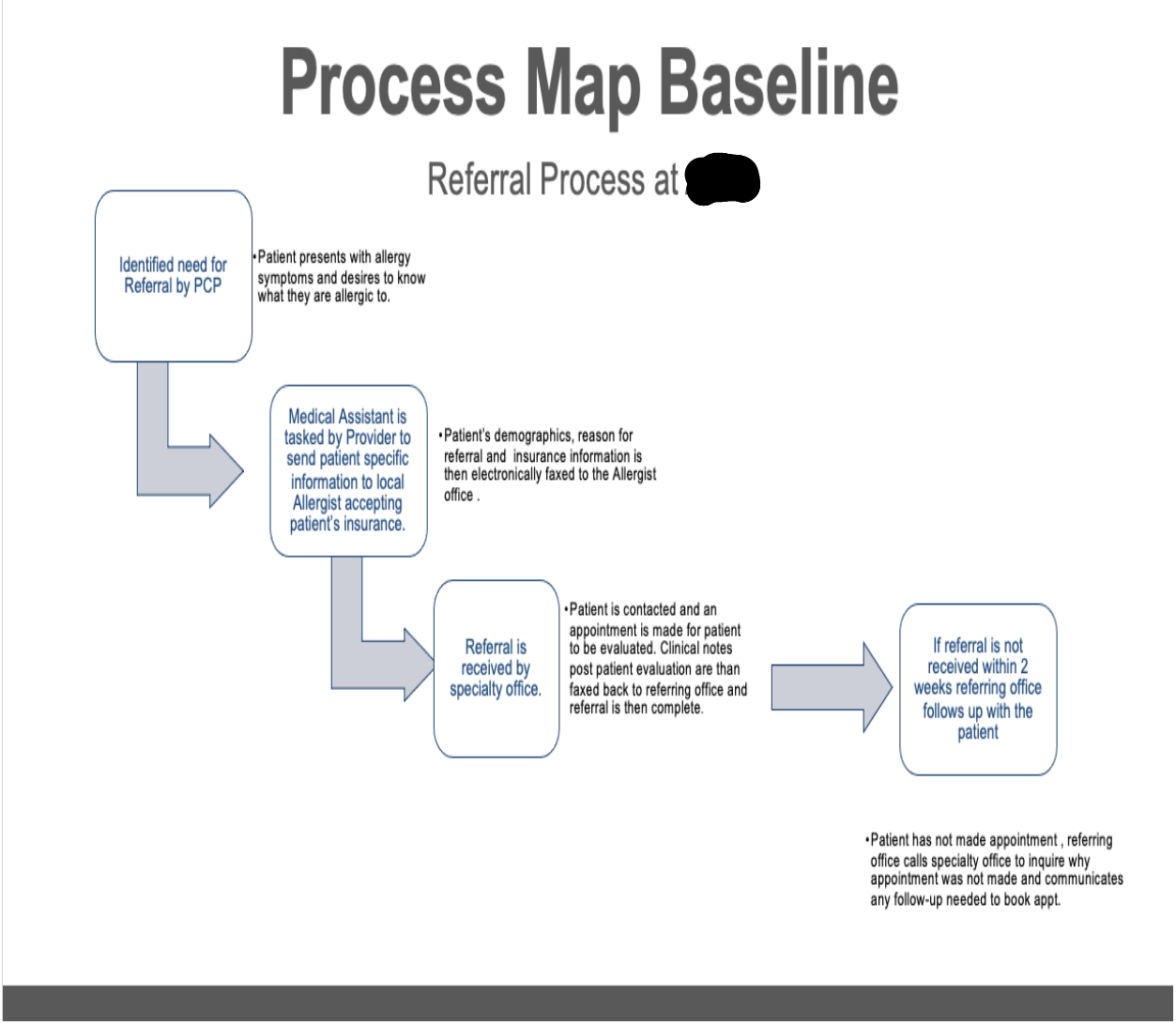
Appendix A

Figure 1

Process Map – Baseline Referral Process at AMG



Appendix B

Figure 1

Medline and CINAHL Search Results

Medline Search Results

Search Terms	Number of Articles Populated	Number of Articles Reviewed	Number of Articles Selected
Specialty referrals , primary care providers and referrals	25	12	1
Referral delays, referral systems AND specialty providers	20	4	1
Wait times AND patient satisfaction	48	3	2
Specialty care AND referral or patient satisfaction	12	6	1

CINHAL Search Results

Search Terms	Number of Articles Populated	Number of Articles Reviewed	Number of Articles Selected
Specialty referrals , primary care providers and referrals	5	3	1
Referral delays, referral systems AND specialty providers	10	5	0
Wait times AND patient satisfaction	15	4	1
Specialty care AND referral or patient satisfaction	28	3	1

Appendix C

Figure 2

Level of Evidence Synthesis Table and Outcome Synthesis

X (copy symbol as needed)	1	2	3	4	5	6	7
Level I: Systematic review or meta-analysis	X					X	
Level II: Randomized controlled trial							
Level III: Controlled trial without randomization							
Level IV: Case-control or cohort study				X	X		
Level V: Systematic review of qualitative or descriptive studies			X				X
Level VI: Qualitative or descriptive study, CPG, Lit Review, QI or EBP project		X					
Level VII: Expert opinion							

LEGEND
1=Harrington et al., 2014, **2=** Jaakimainen et al., 2014, **3=**Yeuen et al.,2009 **4=** Mohammed et al., 2020. **5=** Zhong et al., 2017 **6=** Almansoori et al., 2012, **7=** Sanmartin et al., 2006

Figure 3

Outcome Synthesis Table

Outcome Synthesis Table: PICO Question

↑, ↓, —, NE, NR, ✓ (select symbol and copy as needed)	1	2	3	4	5	6	7
eReferrals (eRef)	↓	↓	↓	↓	↓	↓	↓
Provider Satisfaction (PrS)	↑	↑	↑	↑	✓	✓	✓
Patient Satisfaction (PaS)	↑	↑	↑	↑	✓	✓	↑
Workflow Impact (WI)	✓	✓	✓	✓	✓	✓	✓
Response Time (RT)	↑	↑	NE	↑	↑	NE	↑

SYMBOL KEY
↑ = Increased, ↓ = Decreased, — = No Change, NE = Not Examined, NR = Not Reported (introduced at beginning but never reported at the end), ✓ = applicable or present
LEGEND

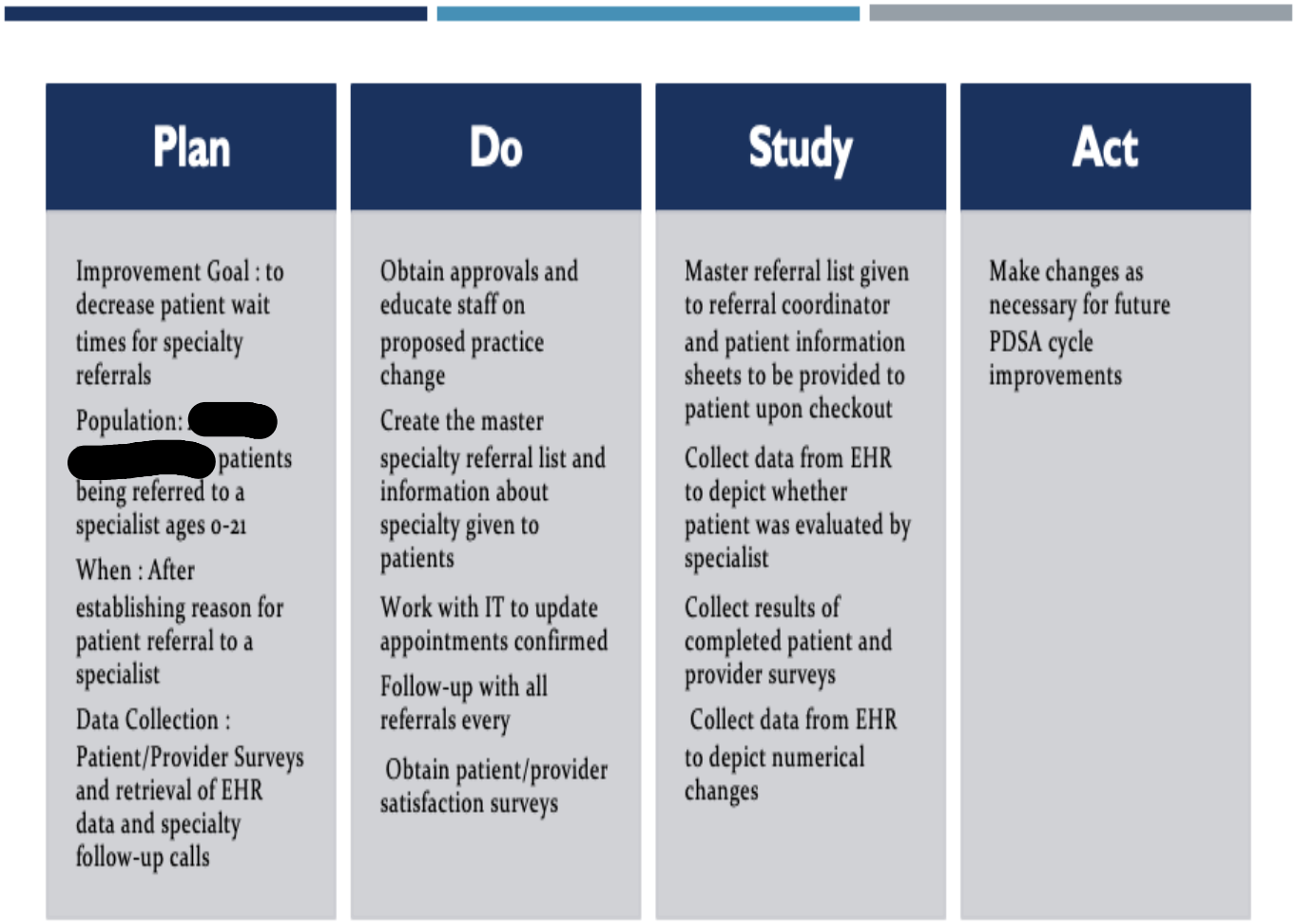
1=Harrington et al., 2014, **2=** Jaakimainen et al., 2014, **3=**Yeuen et al.,2009 **4=** Mohammed et al., 2020. **5=** Zhong et al., 2017 **6=** Almansoori et al., 2012, **7=** Sanmartin et al., 2006

(eRef)= **eReferrals**;(PrS)=**Provider Satisfaction**;(PaS)= **Patient Satisfaction**; (WI)= **Workflow Impact**;(RT) = **Response Time**

Appendix D

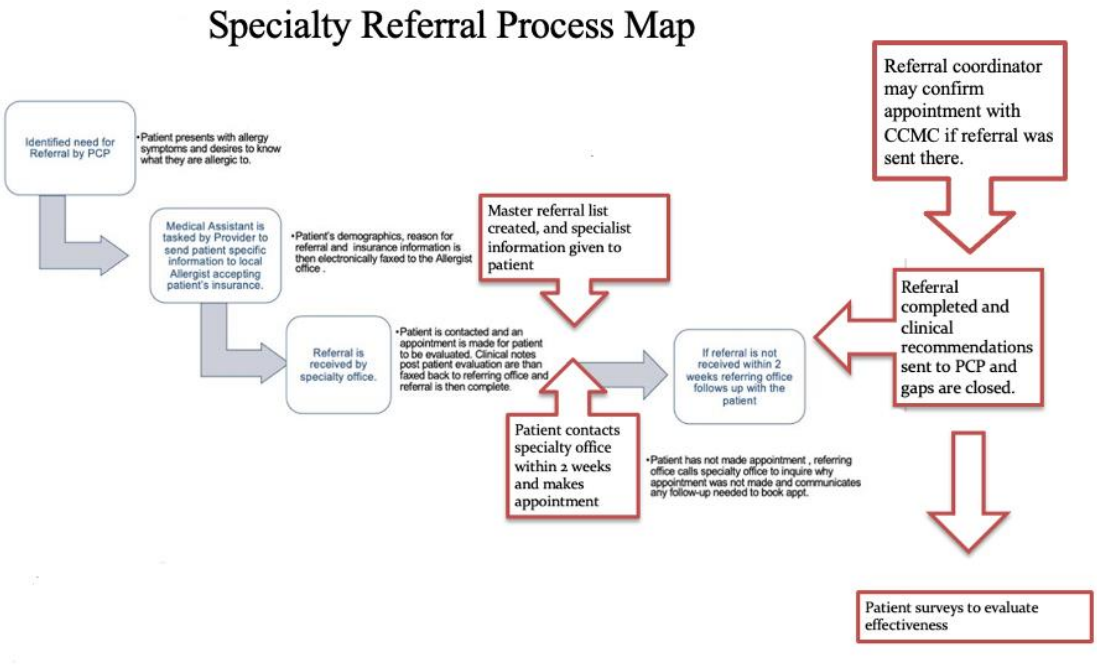
Figure 4

PDSA Framework for [redacted] Specialist Referral System Improvement



Appendix E

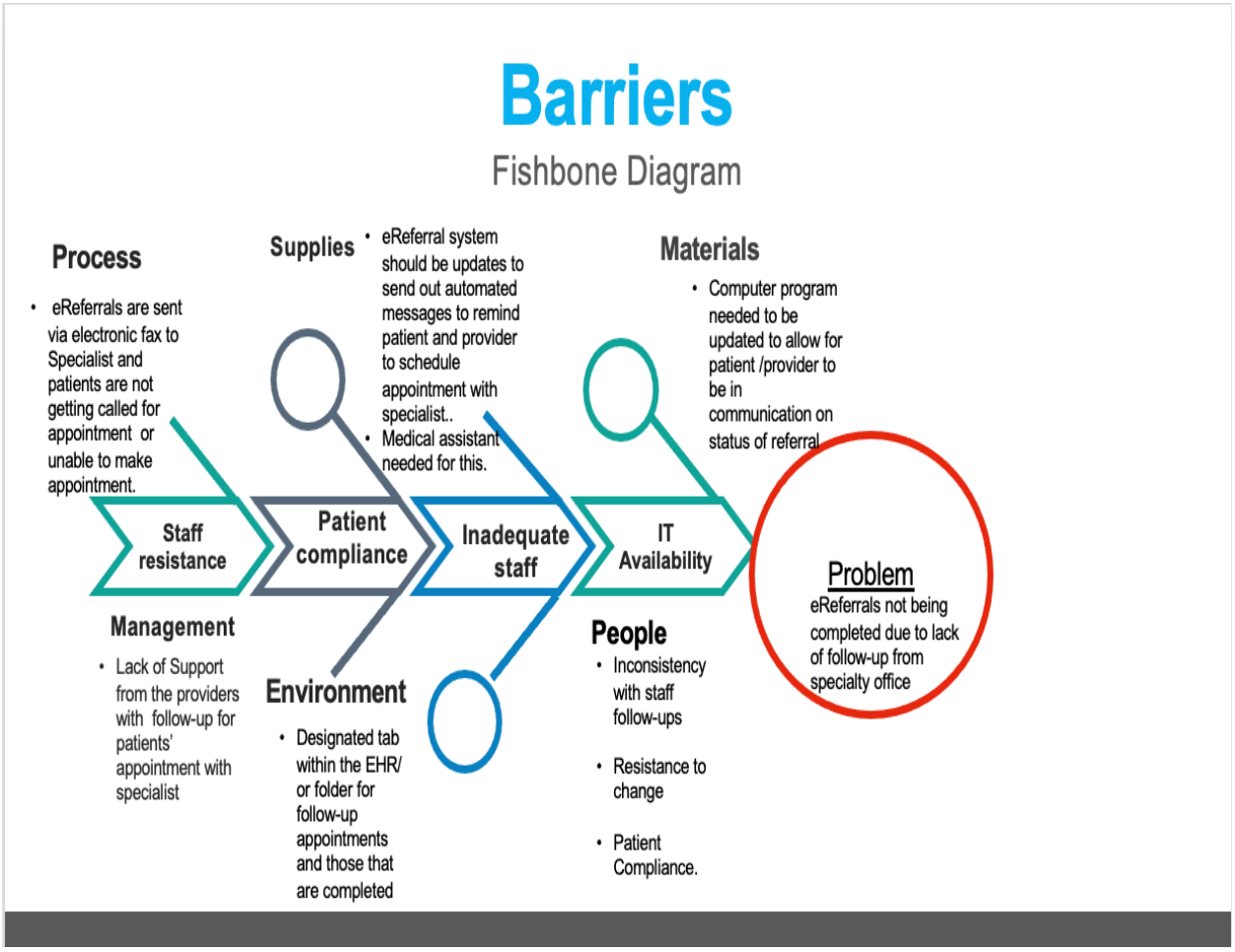
Figure 5



Appendix F

Figure 6

Barriers Diagram



Appendix G

Figure 7

Implementation Timeline

Date/ Time frame	Task	Proposed Plan
February-May 2021	Complete project proposal draft	Submitted to Project Advisor (Dr. Goddard) for review 6/3/21
June 7th,2021	Complete official DNP project proposal and present to [redacted] stakeholders and SHU DNP faculty project advisor, Dr. Goddard	Submitted to Project Advisor (Dr. Goddard) and presented to AMG stakeholders
June 2021-August 2021	Revisions to project proposal as needed	Completed
June 2021 -August 2021	Identify & obtain the required review and approval needed for implementation	Project planning for future implementation will include setting up the excel worksheet for data collection, educating all key stakeholders on proposed DNP project practice change to be initiated including who is in charge of each part of the project implementation, patient and provider satisfaction survey questions at completion of referral process, and creation of the master referral list. Any and all IT considerations will be planned and implemented this summer, prior to specialty referral process launch.
October- February 2021/2022	-Implement project - Track any deviations from project plan and make changes if needed	Ongoing feedback from the providers and staff will be collected and incorporated into the referral process system change. Data will be collected on the referral process change from October 2021 until February 2022 to allow for a full four months to measure the change
October- February 2021/2022	-Track progress and changes, frequency of use, and outcomes of eReferrals	In February 2021, data analysis of all outcomes will be conducted with [redacted] Goddard and [redacted] Recommendations and sustainment opportunities will be summarized and presented to [redacted] at a staff meeting. The final DNP project will be disseminated as a project poster, available to [redacted] and presented as part of NU 820 final assignment. A DNP final project paper will be written and submitted as part of requirements for the BSN-DNP program at Sacred Heart University.
February-March 2022	-Present final DNP project -Submit final DNP project -Submit executive summary	

Appendix H

Table 1

Quality Improvement Project Criteria Quality Improvement Project Criteria

Question	Yes	No
1. Is the project designed to bring about immediate improvement inpatient care?	X	
2. Is the purpose of the project to bring new knowledge to daily practice?	X	
3. Is the project designed to sustain the improvement?	X	
4. Is the purpose to measure the effect of a process change on the delivery of care?	X	
5. Are findings specific to this hospital?	X	
6. Are all patients who participate in the project expected to benefit?	X	
7. Is the intervention at least as safe as routine care?	X	
8. Will all participants receive at least usual care?	X	
9. Do you intend to gather just enough data to learn and complete the cycle?	X	
10. Do you intend to limit the time for data collection in order to accelerate the rate of improvement?	X	
11. Is the project intended to test a novel hypothesis or replicate one?		X
12. Does the project involve withholding any usual care?		X
13. Does the project involve testing interventions/practices that are not usual or standard of care?		X
14. Will any of the 18 identifiers according to the HIPAA Privacy Rule be included?		X

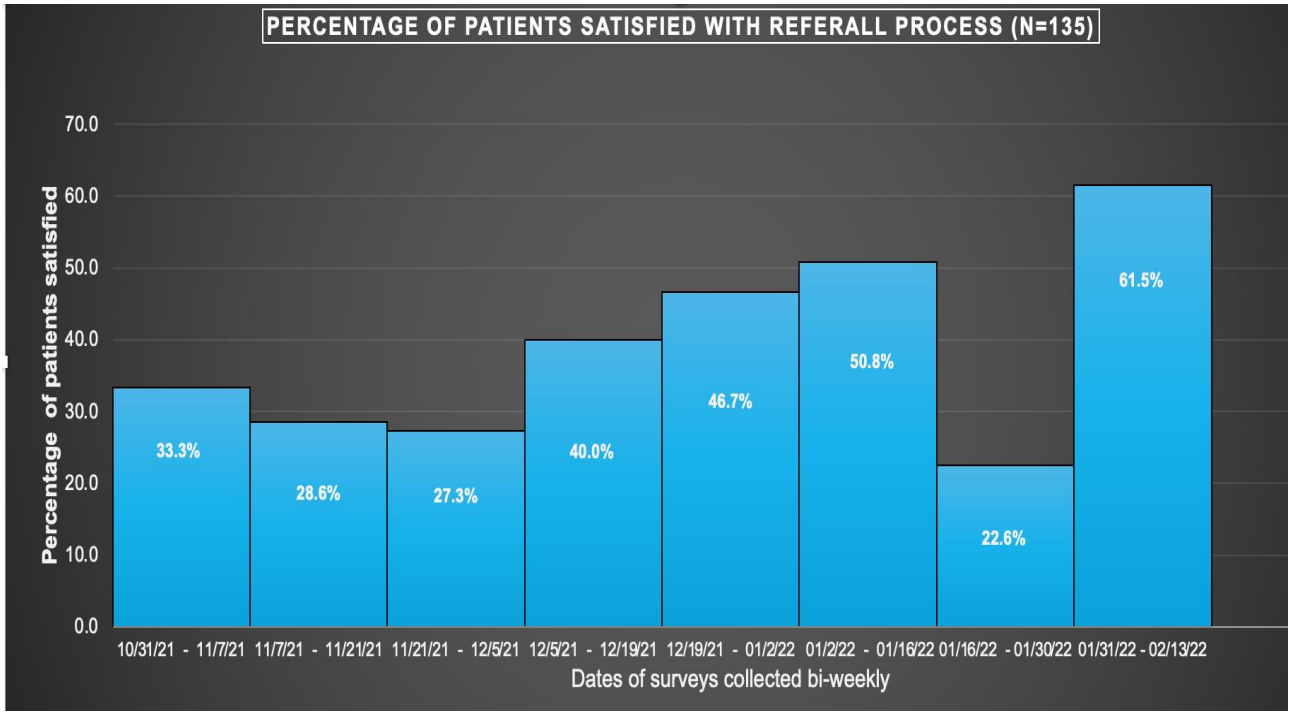
Note: Table 1 indicates the Quality Improvement Project criteria have been met. An answer of yes to all the items in l-l0 and no to all the items in 11-I4. The project does not qualify as human subjects' research and does require the Institutional Review Board at Sacred Heart University.

Adapted from Foster, J. (2013). Differentiating quality improvement and research activities. Clinical Nurse Specialist, 27(1), 10–3. https://doi.org/10.1097/NUR.0b013e3182776db5

Appendix I

Figure 8

Patient Satisfaction with Referral Process (N=135)



Appendix J

Figure 9

Run Chart of Patient Satisfaction Scores (orange) and Referrals Completed (blue)