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A Pilot Program to Improve Patient and Family Experience Scores and Quality of Care of the Hispanic Population in an Urban Pediatric Emergency Department.

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A Pilot Program to Improve Patient and Family Experience Scores and Quality of Care of the Hispanic Population in an Urban Pediatric Emergency Department.

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By

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Abstract

Problem Description: Emergency Department (ED) patients express decreased patient and family experience (PFE) scores when they feel disrespected (such as experiencing long wait times), experience ineffective communication, or have difficulty accessing care. These issues could lead to inequalities and adverse health care outcomes, especially among those of different races and ethnic backgrounds. The goal of this quality improvement (QI) project was to evaluate the PFE scores and the quality of care of the Hispanic population at a thirty-five-bed emergency department within a freestanding pediatric, academic medical center located in a large urban area.

Rationale: The theoretical framework guiding this QI project was the Leininger's theory of culture care diversity and universality. This framework allowed for the understanding of cultural similarities and differences to encourage the delivery of culturally consistent care in the promotion of health and well-being. The QI project framework applied the Kellogg logic model for the systematic application of interventions to address the low patient and family experience scores among Hispanic population that utilize the ED.

Interventions: The project purpose applied a multi-tiered approach to examined the impact of ED staff education and training, implementation of interpretation devices, and a patient throughput algorithm (dynamic queuing) on dissatisfactory patient experiences scores within the local ED. The QI project assessed both primary and secondary sources of data to determine the impact of the interventions.

Results: The results identified that implicit bias/inclusion/anti-racism training, video-remote interpreting, and dynamic queuing can enhance patient experience scores. *Dynamic Queuing* is

a standardized algorithm implemented in the electronic health record (EHR), to determine which patients should be placed in an exam room based on a weighted score comprised of their severity of illness and the total time in the emergency department waiting room.

Summary: The multi-tiered approach to addressing patient and family experience scores and the quality of care of the Hispanic population in the ED focused on education, training, interpretation, and overall throughput. The association between the interventions and the outcomes indicated positive results for the majority of the intended outcomes of the QI project; however, further study and correction of COVID-19 contextual elements are needed to solidify specific recommendations.

Conclusions: This QI project demonstrated the benefits of implementing of video-remote interpreting and dynamic queuing in the EHR provide benefits of enhancing patient experience and reducing barriers to care for Hispanic patients.

Keywords: emergency department, emergency department throughput, Hispanic or Latino, limited English proficiency, patient experience, dynamic queuing, bias training

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Problem Description

The Healthy People 2020 (HP2020) initiative is designed to promote individual health and wellbeing while focusing on the prevention of diseases within the United States (Office of Disease Prevention and Health Promotion, 2019). One of the goals of the HP2020 initiative is to reduce ineffective communication between patients and providers, which includes, improving provider listening, ensuring clear patient explanations, exhibiting respect for the patient, and ensuring there is sufficient patient/ provider clinical time to complete all the above (Office of Disease Prevention and Health Promotion, 2019). If an individual is dissatisfied with the clinical care they receive, feel disrespected, or have ineffective communication with their provider there is a direct correlation with poor patient experience scores related to the specific institution or practice (Elliott et al., 2010). More importantly, unfavorable patient experience ratings are associated with noncompliance with recommended treatment plans, decreased medication adherence, and poor follow up care that can lead to adverse outcomes (Kim-Romo et al., 2014).

Health and health care disparities refer to the differences between populations or groups that are closely linked and can cross many capacities, including race/ethnicity, disability, and socioeconomic status (Artiga et al., 2020). The provision of medical care to another individual who neither speaks nor understands the primary spoken language creates a health care disparity, the potential for adverse patient outcomes, and poor patient satisfaction (Dunlap et al., 2015). It is these health care disparities that provided the impetus for the Institute of Medicine (IOM) (now referred to as the National Academy of Medicine) to create a subcommittee on the

standardization for health care quality improvement (Institute of Medicine [IOM], 2009). The subcommittee was tasked with reviewing health disparity data among ethnic groups and making recommendation to define, collect, and implement tracking mechanisms to use race and ethnicity data with the goal to reduce disparities in health care systems (IOM, 2009). Through the collection of validated demographic data, disparities in healthcare can emerge to guide interventions to reduce the differences among populations or groups (IOM, 2009). As the above research has indicated, decreased patient satisfaction can lead to health care disparities and adverse outcomes. The purpose of this Scholarly Project (SP) was to examine the impact of dissatisfactory patient experiences scores at the local level and implement solutions to address potential related health care disparities and the prevention of possible adverse outcomes.

Problem Background

The impact of poor patient experience scores is not shared equally among all races and ethnicities (Eskes et al., 2013). As an example, those who self-identified as Hispanic consistently reported a lower satisfaction with communication between their providers when compared to others of different race and ethnic backgrounds (Villani & Mortensen, 2012). It has been shown that decreased patient experience scores may highlight health care disparities and barriers to care in Hispanic, Spanish-speaking families (Sobo, Seid, & Reyes Gelhard, 2006). This is especially concerning due to the fact that the Hispanic/ Latino population is the fastest growing population in the United States (Eskes et al., 2013). It is estimated that the “Hispanic population is the largest non-English speaking minority presenting to U.S. emergency departments (ED), accounting for almost 15% of the ED patient population” (Balakrishnan et al., 2016, p. 369). Racial and ethnic disparities in pediatric medical outcomes are well described. In a review of the literature, Flores & The Committee on Pediatric Research (2010), identified racial and ethical

inequalities exist across the care continuum including access to care, preventive services, treatment of chronic diseases, and quality of care. The pediatric emergency department is not immune to these disparities. Recent studies have revealed differences in multiple areas of care, such as lower acuity patient triage scores (Zook et al., 2016), rates of diagnostic testing completed such as CT scans performed for head traumas, performance of laboratory testing, and pain management (Marcin et al., 2018).

Local Problem

The IOM identifies patient centered care as a fundamental element of quality. The level of quality related to patient-centered partnerships and experiences can only be assessed through patient-family surveys and reports of care (Co et al., 2011). The Patient and Family Experience (PFE) surveys at Ann & Robert H. Lurie Children's Hospital of Chicago (Lurie Children's), are conducted through a third-party vendor, National Research Corporation Picker (NRC Picker), to assess the quality-of-care delivery. Historically, the PFE data representing the Emergency Department (ED) at Lurie Children's, has trended above the Children's Hospital Association national benchmark, which indicates PFE results that are statistically significantly greater than the mean. In Fiscal Year (FY) 2019, the ED PFE scores were separated by race and ethnicity to better assess the details of the PFE scores. The results of the assessment showed the PFE scores were significantly lower in the Hispanic population than the self-identified White population. In fact, the Hispanic population scored below or statistically significantly below the benchmark in nine out of fourteen questions when compared to the White population. The divergence of PFE scores places the Hispanics population at risk for potential adverse outcomes.

In FY 2019, 11,984 Hispanics and 27,563 Whites completed the Lurie Children's PFE survey (NRC Picker, 2019). The questions that the Hispanic population scored the poorest can be

grouped into general themes related to courtesy and respect, care provider careful listening, and confidence and trust of the care providers. These general themes take on a new meaning and clarity when the open-ended comment section was analyzed. Out of 281 responses from the Hispanic population, three specific areas of concern were established. The first concern was related to excessive wait times, which included time waiting in the actual waiting room, time to see the provider, and the delays related to the discharge process. The percentage of wait time concerns accounted for 62% of the total responses. The identified concern is consistent with research, which has shown that ED wait times of Hispanic populations can be greater than 10% longer than non-Hispanic White populations (Park et al., 2009). The second concern was related to communication and the lack or timeliness of care updates. While the final concern was related to the overall facility, specifically the cleanliness of the areas, the lack of distraction areas (i.e., children's play area), and the quality of telephonic interpreter services (NRC Picker, 2019). The combination of the standardized questions and the open-ended questions provided insight into the opportunities surrounding the concerns of the Hispanic population.

Available Knowledge

Literature Review

A search strategy was conducted that included the application of keywords to identify relevant studies. Keywords included emergency department, emergency room, ethnic groups, Hispanic or Latino, limited English proficiency or communication, patient satisfaction, and patient experience. The databases searched included CINAHL, PubMed, PsychInfo, and Mendeley which generated 105 articles published between 2009 to present. Of the 105 articles, a total of 22 articles were relevant to the address the search question. The literature was separated into four main categories which included, six articles supporting the problem background, five

articles associated with patient satisfaction significance, five intervention articles supporting ED communication, and six intervention articles related to ED wait times (see Appendix A).

Synthesis of the Evidence

In the synthesis of findings, four of the studies provided context to address patient satisfaction through communication interventions for patients in the emergency department. Two level II quasi-experimental study design and one level III qualitative design study, focused on examining ED communication. These studies provided insight on increasing patient satisfaction by providing patients materials on what was expect in the ED process and providing frequent updates and providing patients with distraction activities (Hermann et al., 2019; McFarlan et al., 2019; Wright et al., 2013). Aaronson et al. (2019) identified a quality improvement approach that consisted of training ED staff in the importance of effective communication and how training can improve staff communication skills, knowledge, and attitudes. These four articles contribute to the EBP problem by providing tools and interventions to address patient satisfaction scores at the local level. The communication problem identified in these studies is consistent with the EBP problem, based on PFE scores and patient comments regarding dissatisfaction with communication.

The remaining five articles examined how PFE scores are affected by ED wait times and interventions that can be deployed to minimize the negative results. A RCT study by Cheng et al. (2013) provided evidence that implementing a rapid assessment team or fast-track model decreased the overall ED length of stay, which had a secondary effect of reducing the “left without being seen” rate for the study organization, which reduces organizational liability and loss of revenue (Cheng et al., 2013). In a quasi-experimental study (Level II), Ng et al. (2010) focused on applying Lean methodologies to improve productivity, reduce wait times, and

improve overall patient satisfaction scores. The Lean concepts applied in this study focused on the reduction of systematic waste and adding value in the flow of the patient. The elimination of waste included the reduction of time to be seen by a provider, ensuring supplies are readily available, and increasing the turn-around-time for diagnostic results, to name a few. There were three (level V) QI articles that focused on setting ED patient expectations (Lowe et al., 2018), addressed ED flow with a nurse coordinator (DeAnda, 2018), and identified systems or processes to reduce the time to the provider in the ED setting (Love et al., 2012). The fourth level V article applied an empirical simulation model using actual ED patient data for one year. The model combined the Emergency Severity Index (ESI), arrival patterns, and cycle times known as the dynamic queuing method to improve the overall length of stay (LOS) in the ED (Ferrand et al., 2018). The combination of the severity of illness and operational data such as accumulated wait time may provide another tool to improve the length of stay and experience score within the ED. These studies are consistent with the EBP problem, based on PFE scores and patient comments regarding dissatisfaction with ED waits, especially among the Hispanic population.

Rationale

Theoretical Model

The theoretical framework guiding this project development is the Leininger's theory of culture care diversity and universality, which is also known as the culture care theory (CCT) (see Appendix B). The basic assumptions and key concepts of this theory embrace the understanding of cultural similarities and differences to encourage the delivery of culturally consistent care in the promotion of health and well-being, but also within disability or death (McFarland & Wehbe-Alamah, 2019). The CCT is guided by the sunrise model, which identifies cultural and social

structure factors, worldviews, cultural beliefs and practices that need to be incorporated into the delivery of care within a culture (McFarland & Wehbe-Alamah, 2019).

Providing insight into the most effective interventions to correct the low patient and family experience scores for self-identified Hispanic patients will be essential to the SP success. Identifying the cultural and social factors that attribute to lower PFE scores is essential not only to providing quality of care, but also to addressing the existing perception that the Hispanic population are not treated with courtesy and respect.

Project Framework

The planned work and proposed results will be structured through the use of the Kellogg logic model (Kellogg, 2004). The application of the logic model provides a systematic approach to understanding the resources needed, activities required for change, what and who will be reached by the changes, resulting in the outcomes and the impact of those outcomes (Kellogg, 2004). The application of the logic model will allow for the systematic application of interventions to address the low patient and family experience scores among Hispanic population that utilize the ED at Lurie Children's.

Specific Aims

Diversity and inclusion are core values of Lurie Children's which supports an organizational goal to provide the best care and experience (Lurie Children's, 2020). The promotion of this goal is embraced by three pillars, which include, drive to zero harm, enhance communication between patients, families, and providers, and achieve patient/ family experience scores at or above national means (Lurie Children's, 2020). The disparities of PFE scores in the Hispanic population identified equality gaps in how the Hispanic population perceive their health care experience when compared to the White population. The interventions of this pilot project

are aimed to assess ED wait times and language barriers of care coordination to promote more equitable care in the Hispanic population. A secondary aim is to provide interventions to identify patients and families who have a low level of English language proficiency and provide systems to improve overall communication. The third aim is to increase emergency department staff and licensed independent providers' (physicians, nurse practitioners, and physician assistants) cultural awareness knowledge through education and training to support the ethnically diverse patient population the ED serves.

Context

Population

Lurie Children's Hospital (Lurie) is located in the region of Cook County, Illinois. This region is comprised of multiple cities, towns, villages, and townships that includes the City of Chicago as the largest city in Illinois and the third-most populated city in the United States (Cook County Government, 2018). The United States Census Bureau (2018) highlights that the number of Hispanic populations is higher in Chicago than the region of Cook County, 29% to 25%, respectively (Cook County Government, 2018). In addition, it has been reported that between 2000-2010 there was a 44% increase in the Hispanic population throughout all of Cook County, with the biggest growth occurring in the City of Chicago (Community Health Status Report, 2010).

Setting and Resources

Lurie Children's is a non-profit, free standing, pediatric tertiary care hospital located in the urban setting of Chicago, Illinois. In 2001, Lurie Children's hospital was the nation's first pediatric freestanding hospital and the first hospital in Illinois to earn the American Nurses Credentialing Center's Magnet Award for Nursing Excellence. In 2019, Lurie Children's

completed their re-designated site survey for a fifth time; less than 1% of hospitals have been designated three times (Lurie Children's, 2020, para. Get to Know Us).

Lurie Children's has 368 licensed inpatient beds and 14 outpatient centers. The main campus includes a thirty-five bed, Level One trauma center that has an annual volume of 58,000 visits in fiscal year 2019. The thirty-five bed ED consists of three 10-bed 'pods,' two 2-bed trauma bays, and a fast-track area for low acuity patient visits. The ED provides an initial patient acuity based on an Estimated Severity Index (ESI) with Level 1 as critical and Level 5 as non-urgent. The three pods are separated by patient acuity with Pods 1 and 3 caring for patients of high to intermediate presentations or ESI Levels 1-3, while Pod 2 is an area that cares for patients with lower acuity of ESI Levels 4-5. The fast-track area operates only during 'high-season,' which is typically November through March annually and is staffed with one nurse practitioner and one registered nurse who care for the lowest acuity patients or Level 5. The ED practices a 'pull-to-full' process, which attempts to decrease wait times by pulling patients back to exam rooms upon arrival until all rooms are filled.

Lurie Children's believes that all patients and families have the right to thorough information regarding diagnosis, prognosis, and treatment in a language the patient and family understands and strives to achieve this service. Although the interpreting services team at Lurie Children's is talented and skilled, there are only 16 full-time Spanish interpreters to serve patient and families with routine checkups, specialist visits, and emergency care. For example, the ED has a dedicated Spanish interpreter who provides single coverage five days a week (Monday-Friday) from 10am-10pm. The Language Services department is supported solely through philanthropic funds, which has not obtained the level of support required due to competing organizational foundation campaigns. Because Language Services could neither physically nor

financially scale to meet the demand, the organization adopted a telephone-based interpreting service. The phone-based interpretation is always available for more than 180 languages; however, connections and quality of the interpreting services with this system can be questionable at times. In addition to the in person and phone-based interpretation, in 2014 Lurie Children's adopted a Video Remote Interpreting (VRI) system from In-Demand Interpreting Company. There are currently fifteen VRI mobile carts throughout the organization, with one of the VRI mobile devices located in the ED.

Congruence of Project with Organizational Mission and Values

Lurie Children's internal core values includes diversity and inclusion, which supports an organizational goal to 'Provide the Best Care and Experience' (Lurie Children's, 2020). The promotion of this goal is embraced by three pillars, which include, 'Drive to Zero Harm,' 'Enhance communication between patients, families, and providers,' and 'Achieve Patient/ Family Experience scores at or above national means' (Lurie Children's, 2020). In order to support these core values and overall goal, Lurie Children's recently recruited a vice-president and chief diversity and inclusion officer into the newly created leadership position. This new position and department will examine the diversity of the Lurie Children's workforce, equality of care throughout the organization, and the necessary services to support the racial and ethnic minorities served. The new vice-president and the Office of Diversity and Inclusion play a vital role in achieving the organizational mission and the success of the SP, which will be described later in the proposal. The fact that one-third of Lurie Children's patients live in under- resourced Chicago neighborhoods and more than one-fourth of patients and their families primarily speak Spanish underscores the need to support the core values (Lurie Children's, 2020).

Evaluating Change and Readiness for Change

Addressing the identified local problem at Lurie Children's supports the mission and vision of the organization. The organizational Vision 2025 goals specifically emphasizes the ability to "Care for More Children" and "Provide the Best Care Experience" (Lurie Children's, 2020). As a result of these goals, the organizational leadership is fully supportive of quality improvements that can be disseminated throughout the institution, particularly when the efforts are improving equity, diversity, and inclusion, while reducing healthcare disparities. In fact, Lurie Children's recently finalized the 2019 community health needs assessment which identified several areas of concentration. One of these identified areas of priority included access to care which incorporated the proximity to healthcare services, but also the quality and cultural responsiveness of the healthcare services (Community Health Needs Assessment, 2019).

The long-term outcomes of addressing the local problem are to provide stabilization of PFE scores between ethnical and racial groups. The ability to partner with senior leaders, such as the new chief of diversity/ inclusion officer and the Departments of Interpreter Services, Patient and Family Experience, Data Analytics and Marketing for more inclusive messaging are some of the stakeholders willing to address the local problem.

Strength and Weaknesses

As mentioned above, the long-term goal of addressing racial and ethnical disparities has the support of senior leadership, which includes access to resources (intellectual and technology) to accomplish the goal. The availability to access historical and real-time unit and organizational data is a strength that allows for comparisons of baselines and future interventions. The knowledge and dedication of both internal and external stakeholders is an asset to achieving positive outcomes. Weaknesses include staffing challenges, which could affect the availability of staff time to be associated with the project, time commitments with competing projects, and

having the ability to address other factors effecting ED and organizational patient throughput. The challenges and weaknesses identified have been recently intensified through the 2020 pandemic and can progress to organizational threats. For example, the fiscal impact of COVID-19 has had a direct effect on the closing of two operational units within Lurie Children's. The Medical Observation Unit (MOU) and the Intermediate Medical Care Unit (IMCU) are critical to the operations of the ED throughput and affect admissions of observation and critical care patients. There is a potential that selected interventions, specifically ED wait times, could be negatively affected due to the COVID-19 closure of the MOU and IMCU. Patients who previously would be admitted to these two units may now have a prolonged admission wait time in the ED, which could subsequently decease the availability of exam rooms for patients arriving to the ED. However, the consequences of doing nothing to decrease the ED LOS may lead to an adverse patient event. Not addressing the racial and ethnic inequality is a disservice to all cultures and does not align with the mission and vision of Lurie. If decreased PFE scores for the Hispanic population continue, there will be a direct effect on Lurie Children's reputation and potentially regulatory findings. The inability to address the local problem may also lead to a reduction in Hispanic patient volume, which would have an effect on revenue.

External Funding

The DNP Scholarly Project utilized no external funding sources for the development or implementation of the project. Excluding the student's time, all funding for the scholarly project was supported through Lurie Children's 'in-kind' donations through resources and operational funding.

Memorandum of Understanding

The memorandum of understanding (MOU) provides written documentation of the agreement between the Doctor of Nursing Practice (DNP) student at Boise State University and Lurie Children's Hospital. The MOU was evaluated and accepted with signatures of the DNP student and LCH representative on January 5, 2021 (see Appendix C).

Interventions

Logic Model

The Kellogg Foundation (2004) logic model served as the template for the development of desired outcomes, activities of change, the outputs of the activities, and the resources required for the initiatives to be achieved (see Appendix D). The logic model interventions consist of a multi-tiered approach that addressed ED staff education, ED wait times, and improvements in Spanish translation (see Table 1). The outcome goals focused on several levels to affect the Hispanic population PFE scores through learning, awareness, operational changes, and the use of electronic devices for interpretation.

The ED staff education was accomplished through a partnership with Adeola Oduwole, Vice President of the Diversity and Inclusion Department and Dr. Jennifer Cartland, Vice President of Data Analytics and Reporting at Lurie Children's. The utilization of educational materials produced by the Department of Diversity and Inclusion focused on the cultural sensitivity and implicit bias education to improve cultural understanding and potential stereotypes that impede care delivery. The Department of Diversity and Inclusion developed the educational/ training materials in conjunction with an external company who specializes in healthcare-centered organizational development solutions.

The implementation of the dynamic queuing model and the patient and family experience outcomes included a combination of internal and external departments and organizations. Two

teams were developed, which included a Dynamic Queuing Team and the PFE Team. The Dynamic Queuing (DQ) Team included the Departments of Data Analytics and internal and external Epic Analysis that supports the electronic health record. The DQ team developed a weighted scale, which was applied and consistently recalculated in the Epic EHR based on patients ESI score and LOS prior to being placed in an exam room (door to room total time). Patients that have a lower ESI score would move up in the 'queue' based on the patients overall LOS. The PFE team consisted of the Department of PFE, Diversity & Inclusion, and NRC Picker. The teams met on a consistent basis to evaluate the project aims, assess the interventions, and review the project timeline. Senior leadership and executive sponsors were provided project updates at a predetermined bi-monthly frequency. Short-term outcomes 1-8 were addressed in the Scholarly Project.

Table 1. Short, Intermediate, and Long-Term Outcome Goals

Outcome 1 – Short-term	75% of emergency department staff at an Urban Academic Medical Center (UAMC) attended and completed cultural awareness and implicit bias training focused on communication styles, cultural values, cultural differences, and conscious awareness presented by the Diversity and Inclusion Department at Lurie Children's by May 2021
Outcome 2 – Short-term	After completing the cultural awareness and implicit bias education module by May 2021, 75% of the emergency department staff at an UAMC will demonstrate a 10% increase in understanding of cultural awareness and implicit bias comprehension when comparing pre-test and post-test scores.
Outcome 3 – Short-term	After completing Dynamic Queuing education by May 2021, 75% of the emergency department Charge Nurse staff at an UAMC will demonstrate a 15% increase in understanding of Dynamic Queuing when comparing pre-test and post-test scores by May 2021.
Outcome 4 – Short-term	Emergency Department 'Door to Room' average time decreases from 15 minutes to 12 minutes 35% of the time when greater than 15 patients in the ED as indicated through daily dynamic queuing data reports from June 2021 through September 2021.
Outcome 5 – Short-term	55% of Spanish-speaking patient population who utilize the emergency department at an UAMC received interpreting services per policy when they self-identify as limited English Proficiency measured through NRC Picker Patient and Family Experience (PFE) Survey question "If you

	needed language interpreting for your child's visit, did you get it? "by September 2021.
Outcome 6 – Short-term	55% of Spanish-speaking patient population who utilize the emergency department at an UAMC received Video Remote Interpreting (VRI) services at triage when they self-identified as limited English Proficiency by August 2021.
Outcome 7 – Short-term	Spanish-speaking patient population who utilize the emergency department at an UAMC center show an increase in satisfaction scores for the questions: "Did nurses explain things in a way you could understand," as indicated by NRC Picker PFE results June-September 2021 as associated with scores February through May 2021.
Outcome 8 – Short-term	100% completion of 18 (1 meeting x 18 weeks) emergency department staff feedback sessions using the Scholarly Project Feedback Tool to collect information on project progress and potential improvements to occur May 2021 through August 2021.
Outcome 9 – Intermediate	100% of emergency department staff at an UAMC and completed cultural awareness and implicit bias training focused on communication styles, cultural values, cultural differences, and conscious awareness presented by the Diversity and Inclusion Department at Lurie Children's by May 2022.
Outcome 10 – Intermediate	After completing the cultural awareness and implicit bias education module by May 2022, all new staff or staff that transferred to the emergency department at an UAMC will demonstrate a 15% increase in understanding of cultural awareness and implicit bias comprehension when comparing pre-test and post-test scores.
Outcome 11 – Intermediate	75% of Spanish-speaking patient population who utilize the emergency department at an UAMC received Video Remote Interpreting (VRI) services at triage when they self-identified as limited English Proficiency by August 2022.
Outcome 12 – Intermediate	Emergency Department overall length of stay for discharged patients decreases by 5 minutes 45% of the time by October 2022.
Outcome 13 – Intermediate	75% of Spanish-speaking patient population who utilize the emergency department at an UAMC received interpreting services per policy when they self-identify as limited English Proficiency measured through NRC Picker Patient and Family Experience (PFE) Survey question "If you needed language interpreting for your child's visit, did you get it? "by October 2022.
Outcome 14 – Intermediate	After completing Dynamic Queuing education by May 2022, all new staff or staff that transferred to the emergency department at an UAMC will demonstrate a 20% increase in understanding of Dynamic Queuing when comparing pre-test and post-test scores by May 2022.
Outcome 15 – Intermediate	Spanish-speaking patient population who utilize the emergency department at an UAMC have a sustainable increase of 80% positivity rate in satisfaction scores for the questions: "Did nurses explain things in a way you could understand," as indicated by NRC Picker PFE results by June 2022.

Outcome 16– Long-term	Increased staff self-perceived cultural awareness, knowledge, and comfort with cultural competence skills.
Outcome 17 – Long-term	Hispanic patient and families demonstrate improvement (positive shift) in patient and family experience scores as plotted on process control charts.
Outcome 18 – Long-term	The Healthy People 2020 goal of reducing ineffective communication between patients and providers is realized by improved patient and family experience scores, specifically related to communication.

Correlation of interventions with Theoretical Model

The Culture Care Theory (CCT) is concentrated on the individual as a whole and includes how the individual views health, illness, social, political, cultural beliefs and practices that can influence well-being (McFarlan et al., 2019). There are four tenets of the CCT, which include; 1. there are care differences and similarities between cultures, 2. that community structures influence care, 3. understanding cultural differences influences health outcomes, and 4. the ability to incorporate the three previous tenets allows for culturally consistent care (McFarlan et al., 2019). The identified interventions of this SP incorporate the four tenets of the CCT through the appreciation of the Hispanic culture and limitations to care. Identification of barriers to accessing ED medical care due to operational inefficiencies, or communication obstacles, or both, directly affects the well-being of the Hispanic patient. Improving the cultural knowledge base of ED staff promotes understanding of the Hispanic culture and reveals individual biases.

Timeline

The Scholarly Project timeline will consist of six phases, which include assessment, planning, implementation, data collection, data analysis, and dissemination (see Appendix E). These phases will occur over a three-year period beginning August 2019 and ending May 2022. The first stage will consist of the assessment phase and include understanding the identified problem on a national, state and local level. The process of conducting a literature review and

developing and refining a problem statement will be followed by finding solutions and interventions to address the identified local problem, including a full organizational assessment.

The second stage or the planning phase will continue with the review of literature, focusing specifically on evidence-based practices surrounding interventions to decrease emergency department wait times, enhance communication for those with limited English proficiency, and cultural sensitivity/ implicit bias education. During this phase, the SP document will be started and include the addition of the theoretical model, logic model and timeline. In addition, the identification of internal and external stakeholders, development of project teams, development of a communication plan, and meeting schedule, creation of a budget, outcomes evaluation plan, and presentation for project approval will occur in this phase.

The third stage will involve the implementation phase and include holding kick-off meetings with the project teams followed by regular follow up meetings and preferred communication plan to the stakeholders. The development and execution of interventions, education, and training, will be performed during this phase.

The fourth stage includes the data collection phase that will consist of the gathering of both qualitative and quantitative data. These data will include pre-and post-educational intervention tests on knowledge of cultural sensitivity and implicit bias training content, as well as knowledge of the Dynamic Queuing process, emergency department throughput data, such as ‘door to room’ times, and overall length of stay. During this phase, the collection of patient experience scores will continue with additional data points on interpreting services and availability.

The fifth stage includes the data analysis phase and includes the systematical evaluation and interpretation of project data using statistical analyses.

The final stage or the dissemination phase will involve the presentation and defense of the DNP SP to the Faculty at Boise State. In addition, the project will be presented to the Lurie senior leadership team and the Emergency Department faculty and staff. The conclusion of this phase may include the publication of a project-related article in an appropriate professional journal or presentation at a professional conference.

Measures

The DNP Scholarly Project will incorporate a mixed-method data collection process to obtain information related to specific aims and overall goals of the project. Logic models serve as the template for the development of desired outcomes, activities of change, the outputs of the activities, and the resources required for the initiatives to be achieved (Hickey & Brosnan, 2017). The logic model interventions consist of a multi-tiered approach that addresses ED staff education, ED wait times, improvements of available language translation, and staff feedback sessions. The outcome goals and metrics include both quantitative and qualitative measurements and include short-term, intermediate, and long-term impacts. The project will concentrate on several levels of action-orientated implementations to affect the Hispanic population PFE scores through learning, awareness, operational changes, and electronic devices. The data collection procedure will focus on ensuring that the data collected contains the intended measurements to address the project aims, confirming the measurements are valid while controlling for any biases and protecting data confidentiality. The DNP SP project will access both primary and secondary sources of data to assess the impact of the interventions. The primary source of data collection will involve staff comprehension tests that will measure educational interventions. Specifically, the ED staff will attend cultural awareness and implicit bias training (Outcome 1) that focuses on communication styles, cultural values, cultural differences, and overall conscious awareness that

will be assessed using a pre-test and post-test assessment tool (Outcome 2). A similar process will measure the ED Charge Nurses' understanding of an ED throughput process, Dynamic Queuing, which will be measured using a pre-posttest survey (see Appendix F) immediately before and after providing education on the topic (Outcome 3). The collection of this primary data will successfully measure the education and training associated with the scholarly project (Sylvia, 2018).

The secondary sources of data collection will occur through the Epic electronic health record (EHR) and data collected through NRC Picker that measures PFE scores. The secondary data sources have large sample sizes which include standard reporting structures and trending of information (Sylvia & Terhaar, 2018). The EHR and PFE data is currently available, vetted, and accepted throughout the organization. The EHR data includes patient demographics, including patient race, ethnicity, and language (Johnson & Sylvia, 2018). The ED EHR time stamps every encounter from arrival, triage, room placement and all care interactions through discharge or admission from the organization. The secondary sourced data will measure the quantitative data points regarding the ED average time for patients to be placed in an exam room or 'door to room' time (Outcome 4), which will be extracted from the EHR and entered into an Excel spread sheet for tracking and evaluation. In addition, aggregated PFE reports provided by NRC Picker will allow for measurement of patient-family experience scores as they relate to the availability of interpreting services (Outcome 5), the use of VRI (Outcome 6), and nurse communication (Outcome 7). The validated PFE reports are obtained after the visit encounter through either email, text, of phone consisting of targeted questions regarding the care experience. A comprehensive Outcomes Evaluation Table can be found in (Appendix G). The ED staff will

have opportunities to provide feedback on the DNP project (see Appendix H) and offer any suggestions to improve processes (Outcome 8).

Analysis

The purpose of program evaluation is to understand and examine the functions and outcomes of the program under review (Reavy, 2016). A program evaluation with uncertain alignment of the stakeholder's goals and expectations will result in misaligned inquiries resulting in out-of-scope assessments, incorrect application of methods, or an unproductive design that results in inadequate results (Hickey & Brosnan, 2017). The goal of a program evaluation is to methodically assess the program's processes and results (Hickey & Brosnan, 2017). As the authors stated, the benefit of a well-structured program assessment allows for future program development and overall improvement to ensure intended outcomes are achieved. The appropriate means of program evaluation may include multiple methods as it is normal to include more than one type of data collection process in program evaluation.

The application of quantitative analysis will be used to measure the increase of emergency department staff self-perceived cultural awareness, knowledge, and comfort with cultural competence skills. Specifically, after completing the cultural awareness and implicit bias education module by May 2021, 75% of the emergency department staff at an urban academic medical center will demonstrate a 10% increase in understanding of cultural awareness and implicit bias comprehension when comparing the aggregated results of the individual pre-test and post-test questions. The ED staff roster will provide a nominal count of attendees based on the attendance roster of eligible ED clinical disciplines (Outcome 1). A Cultural Awareness and Implicit Bias Test (CAIBT) applied in a pre-test and post-test survey design will be used to measure emergency department staff knowledge before and after attending a cultural awareness

and implicit bias education and training didactic intervention. The pre-test and post-test will survey will consist of ten questions utilizing a 5-point Likert scale (1-strongly agree/ 5-stongly disagree) collected via Survey Money. Staff knowledge of cultural awareness and implicit bias as an aggregated mean will be collected via Survey Monkey questionnaires for both pre and post-test (Outcome 2). Descriptive statistics of the aggregate mean for each item on the questionnaire will be calculated pre- and post-intervention. The goal is to quantify the emergency department staff participants knowledge of cultural awareness and implicit bias education and training following a didactic intervention. Similarly, a Dynamic Queuing Operations and Knowledge Test (DQOKT) will determine the charge nurse knowledge and understanding of the dynamic queuing process. The use of a five-question Survey Monkey DQOKT survey using descriptive statistics will determine the impact of the didactic training for the charge nurses (Outcome 3). The application of dynamic queuing processes will also be determined by the throughput of ED patients. The focus will include the measurement of the 'door to room' average time using dynamic queuing data from the EHR, which is entered into Excel to assess and compare times when the ED has an overall census of fifteen or more patients (Outcome 4).

The DNP SP will examine whether Spanish-speaking patient population received the interpreting services required by organizational policy and federal law. Through NRC Picker PFE surveys results, the question 'if you needed language interpreting for your child's visit, did you get it' will be collected and analyzed using descriptive statistics of counts (Outcome 5). In addition, the NRC Picker surveys, combined with Epic EHR workbench and data analytics reporting, will examine the delivery mode of interpreting services at triage, if requested. This data will also be assessed using descriptive statistics of percentages (Outcome 6). Ultimately, one of the primary objectives is to improve communication, especially for those that have limited

English proficiency. Therefore, the assessment of satisfaction scores for the questions: “Did nurses explain things in a way you could understand,” as indicated by NRC Picker PFE results will be quantified using descriptive statistics of percentages (Outcome 7).

The qualitative data will include a weekly emergency department staff feedback session on the DNP SP over eighteen weeks. The feedback sessions will focus on the project implementation and status checks on project processes. In addition, the sessions will be followed up with short interviews for any additional topic clarification. This information will be documented using The Scholarly Project Feedback Tool in Word format and transferred to Excel so results can be categorized and reported by the number of similar responses to improve upcoming phases of the project (Outcome 8).

Ethical Considerations

Ethical considerations and protection of participants

The ethical considerations for this SP included the study of pediatric patients and the Hispanic minority population. The study of pediatric patients raises ethical concerns due to their inability to often make choices on their own and their vulnerability to understanding what the study encompasses. The Hispanic minority population emphasizes concerns about informed decisions, informed consent, low levels of language understanding, and the quality of translation. The SP data collection does not include patient identifiers to maintain privacy, confidentiality, and compliance with the Health Insurance Portability and Accountability Act (HIPAA). In order to address the ethical considerations, the author has competed CITI training and submission of the SP to the Lurie Children’s Institutional Review Board (IRB).

Conflicts of Interest

The author of this SP has no financial incentives, third party affiliations, and no conflicts to disclose.

Biases

In order to control for the potential of bias, the DNP SP manager will partner with departments throughout the organization to provide education and training for the primary data interventions. The socially desirable response bias can be controlled for by allowing others to perform the education and assessment of the education (Hickey & Brosnan, 2017). In addition, the online survey responses will be anonymous and use aggregated data. The secondary data will control for potential biases by not collecting any patient names or identifying information which will also protect for patient confidentiality (Hatry, 2015).

The DNP SP will employ two different participant selection processes for both the primary and secondary data sets. The primary selection process will encompass the entire ED staff as an organizational goal to provide education on cultural sensitivity and implicit bias training. All ED employees will be selected as participants to obtain the required education. The secondary selections process will examine all patients presenting to the ED between the months of May 2021 and October 2021. The aggregated data will examine throughput times by race and ethnicity. In addition, NRC Picker will be providing patient and family survey results on monthly intervals during May and October 2021, which are provided in aggregate.

Threats to Quality

The Scholarly Project is subjected to a number of threats to quality. The data collection for those self-identifying as Hispanic can be captured as ‘unknown’ unless data is provided from other parts of the Electronic Health Record (EHR) to validate the ethnicity. The correct identification of ethnicity is imperative to conduct proper selection process and correct

composition of groups (Hall & Roussel, 2017). Another limitation is the Scholarly Project was completed within a free-standing, academic, urban medical center emergency department and designed as a Quality Improvement/Process Improvement project rather than research, which limits the generalizability of findings to other settings (Zaccagnini & Pechacek, 2021). There is also the potential for response bias to patient and family experience surveys from the Hispanic population, if they feel positive responses may either improve the care they receive or improve the access to the care.

IRB Application and Project Determination

An IRB application for the scholarly project was submitted to the Lurie Children's Hospital Institutional Review Board (IRB) for review and status determination. The Lurie Children's IRB determined this project did not meet the definition of human subjects' research and was considered a QI project. A Letter of Determination indicating that this project met criteria for Quality Improvement was issued on March 12, 2021 (Appendix I).

Project Budget

The DNP SP pilot program involves multiple resources to support the QI project, which includes the expertise of both internal and external departments and programs. The SP project manager identified the needed resources in a Project Expense Report (see Appendix J). The inclusion of individual and departmental specialists to provide training, education, data analytic, and other support were considered essential and their services were provided as an 'in-kind' donation from Lurie Children's. The development of a 3-year budget (see Appendix K) highlighted the diversity of staff required for the SP to be successful. Implementation of the dynamic queuing electronic health record program, including the support and training

surrounding this application relied heavily on internal (Lurie) personnel and comprises the primary category of expense. The 3-year budget identifies the related expenses of the SP as it expands after the pilot phase. The budget for the SP is nearly entirely supported by organizational 'in-kind' donations through resources and operational dollars. The expenses for Video Remote Interpreting (VRI) i-Pads to be used in the emergency department triage area will be funded through operational dollars.

The Statement of Operations (see Appendix L) provides a snapshot of the revenue and expenses for the SP pilot program from May 1st, 2021 through September 30th, 2021. In addition to the 'in-kind' donations, the opportunity to reduce patients Left Without Being Seen (LWBS) is indicated as source of operating income. There is a high number of Hispanic patients that comprise the LWBS patient population at Lurie Children's. The reduction in wait times, implantation of VRI, cultural sensitivity, and implicit bias training directly addresses the reason patients leave without being (LWBS) seen by the clinical staff. Simulated data estimated that a modest annual reduction of 14% or 200 LWBS patients can be realized through the implementation of the SP aims. The 14% reduction of patients who LWBS would results in an average gross charge of $1900 per patient, resulting in an annual billable service of $380,000. After accounting for insurance coverage and historical actual revenue returns, the average net revenue of 20% of gross charges equals $380 per patient or $76,000 annually. The SP project reduction of 0.54 LWBS patients per day over the five-month pilot phase resulted in $31,920 net revenue.

Results

Contextual Elements that Interacted with the Interventions

The Implementation of the Scholarly Project (SP) was completed throughout a four-month period beginning May 2021 and concluding August 2021. In March 2021, before the intervention, the Lurie Children's Hospital ED experienced an unexpected increase in pediatric patient volume, consistently high patient acuity, and prolonged psychiatric patient visits. The abnormal increases in pediatric ED volume were a sharp contrast to the previous eleven months of record low visits due to the COVID pandemic. The irregular pandemic volumes required adjustments to typical staffing models with the temporary reduction in nursing and paramedic positions. As a result, when visit volumes rapidly increased in March 2021, there was an inability to meet the demand due to a lack of staff. ED patient throughput was directly affected by increased wait times, which led to an increased LWBS volume and overall decreased patient satisfaction. The staffing positions that were previously placed on hold were released and posted for hire. As a bridging measure, approval was obtained to hire traveler nurses; however, the traveler market was inadequate for reasons the traveler companies identified as the result of nurse "burnout" or "COVID- related" concerns. Organizational incentive pay programs were established to entice staff to work additional shifts, but the results were suboptimal. The factors mentioned above directly affected the implementation period and required increased communication with team members to address the changing local environment.

Steps of the Interventions and Details of the Process Measures, Outcomes and Analysis

The SP pilot program consisted of eight interventions, which included both quantitative and qualitative outcomes measurements.

Outcome 1 – partially met. The Diversity and Inclusion Department partnered with an external vendor who specializes in healthcare-centered organizational development and training. The vendor is a full-service Diversity and Inclusion consulting firm that is headquartered in

Chicago and has provided training for over 30 years. The required training consisted of 3-hour training sessions, which included didactic “lectures”, self-reflection, “role-playing”, and interactive activities. The initial training sessions were reserved for ED staff and faculty, but also opened to physicians in other departments of the hospital. As a result of the COVID-related factors mentioned earlier, the training sessions were required to reduce the number of participants in each training session to 10-12 individuals, depending on the size of the conference room. The size of the training sessions, the need to staff the ED, and the vendor schedule required the extension of training session dates from the end of June 2021 through August 2021. This outcome was partially met by achieving the percentage of staff trained but did not reach the desired timeframe of March 2021 to May 2021. Out of the 50 eligible ED staff required to take the training, 40 staff or 80% were able to complete the training by August 2021 (see Appendix M).

Outcome 2 – not met. Each training session was led by two members of the vendor company and two members of the diversity and inclusion department, who received specialized training and certification in the educational materials. The topics covered in each session included information on understanding and managing bias, providing culturally competent care, dimensions of diversity, benevolence, conscious inclusion, and cultural inclusion. The initial goal of this outcome was to quantify the emergency department staff knowledge of cultural awareness and implicit bias education and training following the didactic intervention. The measurement of this intervention would have used descriptive statistics of the aggregate mean for each item on the questionnaire calculated pre- and post-intervention. The design of the original pre-post survey was modified by the outside consulting company to focus on a retrospective questionnaire survey of the attendees. In May 2021, the survey developed by the

consulting company concentrated on examining the participants perceptions, insights, and reflections of the training session rather than quantifying knowledge. The name of the survey was also changed from the "Cultural Awareness' and Implicit Bias Test" to the "Implicit Bias, Inclusion and Anti-Racism Evaluation and Measurement." Immediately after each training session, each participant was instructed to complete a 14-question survey (see Appendix N). The survey was provided at the end of the training sessions and included questions that measured the "before" and "now" results on a five-point Likert scale from strongly-disagree to strongly-agree (see Appendix O).

There were 40 survey responses to the survey questions. Overall, there was an increased understanding or awareness of structural racism and harmful biases with improvements ranging from 2.50% to 28%. Three questions scored above a 20% increase of strongly-agree or agree from the "before" and "now" assessment. The first question, "I understand what it means to be an anti-racist organization" showed a 25% increase in understanding after the training was completed. Another question, "I can articulate Lurie Children's commitment to equity, diversity and inclusion" improved 27.5% in the "now" compared to the "before". The greatest increase from the "before" to the "now" assessment was 28% for the question, "I am confident that I know how to respond to an incident of racism at Lurie Children's" (see Appendix P).

Outcome 3 – met. This outcome aimed to demonstrate a 15% increase in charge nurse knowledge after providing a dynamic queuing education didactic intervention. On May 27th, 2021, twelve charge nurses or 82% of the eligible staff received a five-question Dynamic Queuing Operations and Knowledge Test (DQOKT), 45-minute PowerPoint educational training, followed by the DQOKT post-test. The pre-test score was 2.58 and the post-test score equaled 3.83 or a 48.4% increase (see Appendix Q).

Outcome 4 – partially met. The goal for this outcome included developing a standardized algorithm labeled *Dynamic Queuing* (DQ), which would be implemented in the electronic health record (EHR), to determine which patients should be placed in an exam room based on a weighted score comprised of their estimated severity index (ESI) and time in the waiting room. The prioritization of ED patients has historically been achieved through the ESI level or the criticality of the condition. DQ allows for real-time operational data to be combined with the clinical assessment to improve throughput of lower priority patients. The lower priority or non-urgent patients not only represent over half of the ED volume, but this population has the highest left without being seen (LWBS) rates. The purpose of DQ is to decrease the variation between charge nurses to improve patient throughput. On June 1st, 2021, the DQ application was activated as a tracking board view for the charge nurses in the EHR. The individual patient DQ score is updated every minute in the EHR, providing an additional way for charge nurses to sort and prioritize patient placement. As described above, the contextual elements of increased patient volume, increased acuity, and decreased staffing impacted the baseline data (5/1/2021 – 5/31/2021) for door to room time, which averaged 44 minutes (see Appendix R). In June 2021, when there was more volatility in the patient volumes – some days reached over 180 patients – the average door to room time remained at 44 minutes (see Appendix S). The combination of increased daily patient volume and decreased staffing directly affected the average door to room times throughout the implementation phase of the Scholarly Project. In July 2021, the average door to room time increased to 72 minutes (see Appendix T); in August 2021, the trend continued with an average door to room time of 93 minutes (see Appendix U); in September 2021, the average door to room time reached a peak of 128 minutes (see Appendix V).

The DQ application was activated in the EHR on April 1, 2021, but it was not immediately visible to the ED charge nurses. April 1 through May 31, 2021 provided a baseline understanding or simulation of how lower acuity patients were placed in rooms without having the DQ tool to support decision making. During the baseline period, there were 7,386 total patients visits. Of the 7,386 patients, 2,644 (35.8%) were placed with the same prioritization that DQ recommended in the background, i.e., the charge nurses' pre-training behavior aligned with DQ 35.8% of the time. The DQ charge nurse training occurred on May 27, 2021, and the application was made visible to this group on June 1, 2021. The preliminary data from June 1, 2021, through July 14, 2021, indicated that DQ was being applied 42.1% of the time by the charge nurses to place lower acuity patients. The data indicated that under similar patient volume conditions, DQ was able to reduce the average door to room time. DQ's effects on door to room time become apparent when the ED has a daily volume of at least 120 patients and the improvements increase as ED volume increases (see Appendix W).

The LWBS rates are directly correlated with door to room time (waiting room time) and exponentially increase as wait times increase. The data indicated the rate of LWBS increases after a patient spends more than 31 minutes in the waiting room within the local environment (see Appendix X). The utilization of dynamic queuing reaches an inflection point at 135 patients, indicating LWBS rates continue to increase as patient volumes increases, but at a lower rate when using dynamic queuing (see Appendix Y).

Outcome 5 – met. This outcome aimed to identify the Spanish-speaking population that utilizes the ED and assessed if they received language interpretation for their child's visit if needed. The deidentified measurement was collected through a third-party vendor using the NRC Health Equity Patient Experience Survey, which is sent to each patient who utilizes the ED

services. The baseline data include the dates of 9/1/2020 through 5/31/2021 and identified a total number of respondents (N=672) who listed Spanish as their primary language, of which 85.8% (*n*=577) preferred Spanish language interpreting for their visit. If an interpreter was used for the visit, the mode of delivery included, 20% by phone, 2.6% video remote interpreting, 50.1% in person, and 26.7% did not receive any interpreting services. Data for the period 6/1/2021 through 8/31/2021 identified 84.2% (*n*=273) of patients and families with Spanish listed as the primary language preferred to have language interpreting for their visit. If an interpreter was used for the visit, the mode of delivery included, 22.1% by phone, 8.2% video remote interpreting, 40.2% in person, and 29.5% did not receive any interpreting services. Those reporting the use of video interpreting has increased substantially (2.6% to 8.2%); however, the percentage of families who reported not getting interpreting services as preferred has also increased (26.7% to 29.5%). This could be related to the substantial increase in volume from June 2021 through August 2021 and the lack of available staffing resources.

Outcome 6 – met. Patients and families enter the main ED through double doors and are directed to the registration desk located directly next to the triage nurse station. Registration provides a "quick-registration" to enter the patient into the EHR system and then directs them to the triage nurse for evaluation. On May 5, 2021, the registration desk and the triage area had two iPad Pro 12.9-inch 4th generation tablets installed on articulating arms. The articulating arms allowed for visualization of the video remote interpreter between the staff member and the patient/ family. It was discovered that the mounting system of the articulating arm reduced the volume control and made it difficult to turn on or off the iPad. In addition, when a patient self-identified as limited English Proficiency or preferred interpreting services, the VRI process was started at registration. When the patient moved from registration to the triage nurse a new VRI

encounter session was created, losing the consistency of the same interpreter and required the need to repeat information for a second time. On May 10, 2021, the iPad articulating arms were replaced by two mobile interpreting carts that allowed the registration staff to move the mobile cart to the triage nurse to continue the triage intake using the same interpreter. The EHR report classified two deidentified data fields and compare the registration demographical data with the triage question, "Do you prefer to have a language interpreter for your healthcare visit?" The baseline data for this question included May 2021, which indicated that registration identified 641 Spanish speaking patients as needing interpretive services, 67.7% (*n*=434) of those patients received interpreting services in triage. In June 2021, registration identified 620 Spanish speaking patients as needing interpretive services, 72.1% (*n*=447) of those patients received interpreting services in triage. There has been a 6.5% improvement in identified patients receiving interpreting services May 2021, through June 2021 (see Appendix Z).

Outcome 7 – met. This goal measured an increase for the question, "Did nurses explain things in a way you could understand" using the NRC Picker patient and family experience scores. The baseline data range included September 1, 2020, through May 31, 2021, and showed an above benchmark (75.2%) positivity rate (*n*=3027); however, the rate has trended down from 82.3% at the end of May 2021 to 79.7% at the end of August 2021 (see Appendix AA). When assessing the positivity and negativity rates through the ED qualitative analysis, wait times was the leading factor for poor ratings (see Appendix BB). Out of 338 qualitative wait time comments, 270 were negative and 68 were positive.

Outcome 8- partially met. The outcome for this goal was to provide informal feedback sessions to collect information on the pilot progress and potential improvements using a Scholarly Project Feedback Tool with five standardized questions. This outcome was to begin on

May 2021, but did not begin until June 14, 2021. The total of 18 feedback sessions were to be completed between May 2021 and September 2021. A total of 10 sessions were completed due to staff availability and on-going operational challenges. Preliminary feedback has been supportive of dynamic queuing; however, discussions on the EHR "view" of dynamic queuing occurred with recommendations to move from the "ED tracking" to the "ED manager" view to improve the visibility. The feedback regarding the video remote interpreting centered around the concerns related to the articulating arm configuration. The staff identified an immediate solution to improve the functionality by placing the video remote interpreting iPad on a mobile cart. The feedback sessions addressed issues, which included both positive feedback and opportunities for improvement for video remote interpreting and dynamic queuing (see Appendix CC). Unfortunately, the identified topics were quickly consumed by competing factors, which included concerns related to staffing, patient volume, and overall acuity.

The unintended consequences of the pilot program included the ED staff unfavorable perceptions related to dynamic queuing and the underlining purpose of using dynamic queuing during the feedback sessions (Outcome 8). Throughout the feedback sessions, staff would comment whether using dynamic queuing (DQ) was really a tool to increase revenue by decreasing LWBS rates. It is believed that the unfavorable comments were related to the constant lack of staffing and the perception that this was "one more thing to complete" and not the DQ process itself. The increase in LWBS rates due to patient volumes and substandard staffing was causing increased stress on the entire staff. Communication was provided to the staff on an individual and group level to ensure that application of DQ was to ensure the lower acuity patients were not overlooked. The use of DQ could have an effect on decreasing LWBS rates, but the primary purpose was to decrease organizational liability. Another unintended

consequence of the pilot program was the development of a patient and family expectation and informational handout that was produced in both English and Spanish. Due to the longer waiting times, the staff suggested the creation of a handout that was provided to patients and families that explained 'who' staffs the ED, reasons for waiting, and organizational resources available to visitors (see Appendix DD). In addition, the staff felt that including information in both English and Spanish about what is included in the triage process and potential reasons for waiting would be beneficial (see Appendix EE).

Every attempt was made to avoid missing data; however, results were only captured for the first eleven questions of the Implicit Bias, Inclusion and Anti-Racism Evaluation and Measurement survey. The survey was completed using the Survey Monkey platform, which was determined to have a maximum response limit of total questions based on current subscription level. The three questions not captured included question 12, 13, and 14. These questions assessed if the "facilitator was effective," if the "session was useful to me," and if the "session met its stated purpose." There were no additional data missing.

The costs associated with the pilot project exceeded the estimated expenditures in supplies and equipment by a total cost of $2,350. The replacement of the video remote interpreting articulating arms with mobile interpreting carts was required to maintain functionality and interpreting consistency. The total costs related to the pilot program were estimated at $88,039.43, which was comprised primarily of staffing and educational expenses. Due to the reduced class size of the implicit bias, inclusion and anti-racism training and decreased length of class time from 4-hours to 3-hours, there was an expense savings of ($8,452.15). The total cost of the pilot program was $81,937.28 with in-kind donations equaling $81,937.28. The initial response to the implicit bias, inclusion, and anti-racism training

demonstrates an invaluable educational experience that can only be built upon to achieve the organizational goals. The investment in interpretation devices adds value to the patients, families, and the staff to improve communication and health outcomes.

Summary

Lurie Children's embraces three pillars, which include drive to zero harm, enhance communication between patients, families, and providers, and achieve patient/ family experience scores at or above the national mean (Lurie Children's, 2020). The implementation of the pilot project resulted in several benefits to achieve the above-mentioned objectives. The three most productive interventions included the implicit bias, inclusion, and anti-racism training, video remote interpreting in triage, and build and implementation of dynamic queuing. The implicit bias, inclusion, and anti-racism training provided insight for the participants to examine explicit or implicit biases. Through the individual exploration of diversity, equity, and inclusion, one was able to gain skills to support racial fairness and the diversity of cultural backgrounds. Scores indicated that individuals acknowledged that racism has a downward effect on health care and outcomes. The application of video-remote interpreting (VRI) achieved two goals. First and foremost, VRI provides the ability to communicate in the primary spoken language to ensure proper identification of health care needs and promotes improved patient outcomes. Secondly, providing interpretive services is required by federal law, state law, and Lurie Children's policy.

The development and implementation of dynamic queuing algorithm in the EHR is an achievement of the pilot program that will have lasting implications and sustainability. The DQ tool determines which patient should be placed in an exam room based on their estimated severity index and length of stay. The ability for charge nurses to use the DQ tool removes the variation in patient placement to improve throughput and patient satisfaction. Future versions of

the DQ platform would include additional variables such as vital signs, pain scales, and past medical history. The full impact of these three outcomes will continue to be assessed as the effects of the contextual elements stabilizes.

Interpretation

The multipronged approach to addressing patient and family experience scores and the quality of care of the Hispanic population in Lurie Children's ED focused on education, training, interpretation, and overall throughput. The association between the interventions and the outcomes indicated positive results for the implicit bias, inclusion, and anti-racism training delivered during the implementation phase. There was 100% completion of the retrospective pre-post survey with a range (2.5% - 28%) of improved understanding or awareness of the content. The dynamic queuing educational didactic outcome highlighted a 48.4% increase between pre and post-test scores. These outcomes are consistent with the literature review completed during the planning phase of the pilot project. Aaronson et al. (2019) highlighted how training ED staff to improve effective communication can affect staff communication skills, acknowledge, and opinions. The barriers associated with language was improved with the implementation of the video-remote interpreting system in triage. The initial data revealed a 6.5% improvement in identified patients receiving interpretive services. Effective communication in the identified primary language is essential to providing quality care. In fact, Fields et al. (2016) recognized that language barriers are one of the greatest sources of health care disparities.

The impact of the pilot project on improving health outcomes and access to care connects the patient to the healthcare system. The improvement in communication, staff awareness of cultural differences, and overall throughput has a direct effect on the patient experience (Sonis et al., 2018). The progress made to improve the overall experience and reduce barriers to care,

especially in Hispanic, Spanish-speaking families effects the individual and the larger healthcare system as a whole (Sobo et al., 2006).

The complete results of the identified outcomes were not achieved during the implementation phase. As mentioned, the development and implementation of dynamic queuing was achieved; however, the overall results of improved patient throughput were not realized. One of the fastest methods of reducing ED crowding and overall wait times is to increase the throughput efficiently and effectively (Ferrand et al., 2018). The reduction in wait times was not achieved to the level anticipated due to a 45% shortage of nursing staff in the ED. The rapid increase in patient volume beginning in March 2021 continued throughout the implementation. In March 2021 the average patients per day was 100.7 and increased to 160.3 patients per day or 59.2% by August 2021. The overall patient length of stay increased from a goal of 3-hours to 5:04 for all patients and the door to exam room increased from a goal of 30 minutes to an average of 2:02. Ultimately, the increase in throughput metrics resulted in a LWBS of 10.6% (baseline 2.1%) precipitated by a hospital census of 90% and increased ED patients waiting for an inpatient bed at 7.2% (baseline 4.5%). The ability for staff to perform essential roles and responsibilities was overextended resulting in opportunity costs of sustaining normal operations.

Policy Implications

Patients and families who need routine and specialty healthcare require access to care to prevent potentially life-threatening illnesses. Patients' families are focusing on their loved ones and are overwhelmed navigating the complexity of the health care system, delays in care can lead to sub-optimal outcomes while increasing stress and anxiety. Patients and families waiting for 6, 8, or 12-hours to be assessed in an ED, delays in surgical procedures or the inability to be transferred to a higher level of care is a patient safety issue and ultimately increases healthcare

costs. Access to care is needed more than ever, but this requires access to nursing services to provide quick and efficient care.

There are several meaningful policy and political implications of the pilot project, which have application at the organizational and state level. The organizational policy recommendation involves implicit bias, inclusion, and anti-racism training at the time of onboarding and annual review classes tied to performance evaluations. This training is currently mandated for all Lurie Children's employees, which will span over three years. The structured training and simulation update classes would solidify the knowledge gained and continue to affect the overall culture.

The pilot project outcomes identified the inability to provide an appropriate level of nursing care which directly affected ED operations, but more importantly, could impact the health and well-being of the overall public. The political implication of the pilot project involves the recommendation that the State of Illinois should immediately enact the Nursing Licensure Compact (NLC), Senate Bill 2068 (SB 2068), which supports multistate licenses for Registered Nurses (RN). The NLC allows for qualified registered nurses in participating states to have one multistate license with the ability to practice in any state that is part of the compact. The State of Illinois is one of 12 states that does not participate in the NLC. While belonging to the NLC is not a total solution to the nursing shortage, it does reduce the bureaucracy and time associated with obtaining an RN license from the Illinois Department of Financial and Professional Regulations, allowing for quicker onboarding of nurses.

The chronic understaffing conditions have only been magnified by the COVID-19 pandemic (Lasater et al., 2021). Lower RN staffing has also been associated with adverse patient outcomes due to the overwhelming nurse-to-patient assignments, which includes in-hospital mortality. The unintended omission of patient care is a direct reflection of the inadequacy of

nurse staffing (Griffiths et al., 2018). Even though there is strong evidence that the correlation between insufficient nurse staffing levels can adversely affect patient outcomes; there is an increasing number of studies showing the association of low nurse staffing contributes to decreased nurse retention (Burmeister et al., 2019). The combination of nurse staffing levels and nurse availability is projected to be exacerbated by the number of RNs leaving the profession due to moral distress, burnout, or retiring in record numbers (Moloney et al., 2018). In the recent Illinois Nursing Workforce Center Registered Nurse Survey 2020, 52% of the respondents are 55 years old or older and of the group, 31% are between the ages of 55-64 (Illinois Department of Financial and Professional Regulation - Illinois Nursing Workforce Center [IDFPR/ INWC], 2021). The global and local nursing shortage is undisputable. Unfortunately, Illinois is one of five states that is projected to have the greatest estimated shortage of nursing by 2026 (Mercer, 2021).

The pandemic has affected the availability of nursing resources. It has become clear that if Illinois became a compact state, there would be a positive impact on nurse availability, which is currently lacking in both adult and pediatric facilities. The delays in processing Illinois Registered Nursing Licensure and the processing of nursing applications inhibit the immediate availability of nurses wanting and willing to work in the State of Illinois. If Illinois adopted SB 2068 and enrolled in the Nursing Licensure Compact, the availability of Registered Nurses would be streamlined. As Connolly states, “A nimble and flexible regulatory response regarding the nursing workforce is essential to a fully integrated public health approach to national crisis and pandemics” (Connolly et al., 2021, p. 254).

The NLC increases access to care, protects patients’ safety, reduces costs, and supports the opportunity to provide improved patient outcomes. The lack of inclusion in the nursing

compact escalates the nursing workforce shortage and intensifies the stress on nurses who need relief. The current and future nursing shortages are real, which is a public safety concern. The pilot project provides operational and patient experiences results. This local evidence provides tangible data to inform policymakers on how the enactment of NLC could directly impact public health and safety.

Limitations

There are several limitations of the pilot project, which are recognized; however, the results of this project are not research-based and therefore not generalizable. The focus of this QI project is to serve as proof of concept that staff education on implicit bias, inclusion, and anti-racism can increase individual understanding and awareness of these important topics. The QI project also identified dynamic queuing as a tool to improve ED throughput, specifically for lower acuity patients. Dynamic queuing may offer perspective for other urgent care or outpatient programs at Lurie Children's. The implementation of video-remote interpreting provided improved access to limited English proficiency patients, so care could be provided efficiently and effectively.

The patient and family participants in the pilot program were from one unique practice setting. Lurie Children's is a non-profit, academic, free standing, pediatric tertiary care hospital with a thirty-five bed ED, Level one trauma center located in urban Chicago. Inclusion of other participants from non-academic or rural settings may have resulted in the utilization of different resources or composition of the patient population.

Another limitation included potential threats to internal validity. The dynamic queuing didactic education was presented by a member of the ED leadership staff. The pre and post-test assessment, which was also administered by a member of the ED leadership team, may also have

been affected. Efforts were made to control for the charge nurses' socially acceptable responses to the dynamic queuing assessment through a comprehensive review of the DQ concepts and asking indirect questions during the educational session (Bergen & Labonte, 2020).

Another limitation of the pilot program involved the compounding variables of the contextual elements. The setting was subjected to an increase in ED patient waiting or boarding for inpatient beds, which had an impact on resources and artificially inflated the patient wait time. When ED beds are occupied with pending admissions the door to room time is affected. In an attempt to control for this limitation, the door to room time was examined for those patients who were only dispositioned home. However, once ED beds are blocked, volume or acuity increases, and if staffing is not sufficient, the door to room time is negatively exaggerated. To address this limitation, I recommend that the implementation phase continue until the contextual elements discussed in this report return close to baseline.

Conclusions

The pilot program identified multiple approaches to improve the Hispanic populations experience in an urban pediatric emergency department. The implementation of education and training within the ED to improve implicit bias, inclusion, and anti-racism understanding was a success. However, to achieve long-term sustainability, the organizational administrative support must be engaged and committed to achieving lasting behavioral change (Rotteau et al., 2015). The sustainability of the DNP project is supported by multiple organizational leaders, including the chief executive officer, who has determined all employees are required to receive cultural sensitivity and implicit bias training over the next three years. The organizational drive to achieve better cultural awareness is currently being woven into Lurie Children's strategic planning process, as observed through the creation of the new created Department of Diversity

and Inclusion. To achieve the long-term goals of the DNP project, the education of staff must continue to occur through standardized departmental orientation process and modification of behaviors over time.

The efforts of a quality improvement process are ineffective if the postimplementation successes are unsustainable or revert back to sub-optimal processes (Ament et al., 2017). There are many factors that can affect the sustainability of a process such as cost, regulatory changes, trust, internal and external policies, resource utilization, to name a few (Ament et al., 2017). The implementation of video-remote interpreting, dynamic queuing in the EHR, and continued education of dynamic queuing with staff are additional successes of the pilot program.

Unfortunately, at this time the pilot program has not achieved the level of results to draw specific conclusions as to which outcome or combination of outcomes would achieve the desired results. The current COVID related contextual elements affecting staffing, patient volume/ acuity, and overall throughput has left a void in the final results. The correction of the nurse staff vacancies is a local and national concern. The improvement of the 45% nursing deficit with the Lurie Children's ED must be corrected to provide the level of care required and achieve the pilot program throughput outcomes. Therefore, the recommendation is to continue the DNP project in the implementation phase until the local environment stabilizes. The dynamic queuing process has indicated benefits and will continue as a sorting tool of the ED charge nurses. The video-remote interpreting and implicit bias, inclusion, and anti-racism training will also remain in place and departmental and organizational goals, which have shown positive results.

The realities of the contextual elements described throughout this report provides others insight on barriers that could affect the local environments. The dissemination of the current and future findings of the pilot program will be shared with Lurie Children's, the Children's Hospital

Association ED Directors forum, and other professional conferences. The continuous focus on PFE metrics that are broken down by race and ethnicity will provide a measure of progress and must be made available to all employees within the organization. Ultimately, the aims of the DNP project promote the overall goals of Lurie Children's and is consistent with the culture of endless innovation and improvement.

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Appendix A: Literature Review Summary Table

Literature Review Summary Table

Search Statement: The PICOT format (P = Hispanic/ Latino patients and families; I = improving emergency department wait times and communication of care; C = NA; O = Patient and family experience score increase; T = NA) was used to develop the question, "In an urban medical center Emergency Department (ED), will Hispanic/ Latino patient and family experience scores increase in by improving ED wait times and communication of care?" The databases CINAHL, PubMed, PsychInfo, and Mendeley were searched (2009 to present) using the following keywords: emergency department, emergency room, ethnic groups, Hispanic or Latino, limited English proficiency or communiction, patient satisfaction, and patient experience. The search generated 105 articles, with a total of 12 being relevant to the address the search question resulting in one level one, two level twos, three level three, and five level five articles.

TITLE OF ARTICLE	AUTHORS	RESEARCH QUESTION OR AIM OF THE ARTICLE	TYPE OF STUDY (DESIGN)	LEVEL / QUALITY OF EVIDENCE	Description Of Sample (if applicable)	OUTCOME MEASURES	RESULTS/KEY FINDINGS
Background							
1. **Patient Experience in a Spanish Pediatric Emergency Department**	Cristina Parra, Nuria Carreras, Alba Verges, Victoria Trenchs, Carles Luaces (2019)	To study experience reported by pediatric patients (aged 8-18yo) when visiting ED.	Prospective, descriptive study	Level V; Grade B	A 12-question survey based on Picker Patient Experience Questionnaire. Questions included: wait time and setting, medical staff explanations and actions, treatment, discharge – children filled them out at discharge (n=170).	Satisfaction experience evaluation survey directly with children in a Pediatric ED.	80% said treated well- the patient experience of children in the Pediatric Emergency Department was positive, although some aspects should be improved. • 17% said longer wait than expected

							• 44.7% said not enough to do when waiting • 3% said pain not correctly treated • 14.7% said lack of privacy • 10% said not enough information given during visit (Parra et al., 2019)
2. **Language Matters: Race, Trust, and Outcomes in the Pediatric Emergency Department**	Arielle Fields, Manjusha Abraham, John Gaughan, Christopher Hanies, K. Sarah Hoehn (2016)	The purpose of the study was to explore the relationship among race, ethnicity, language, trust and health care outcomes.	Prospective cross-sectional study	Level IV; Grade B	Completion of a demographic survey, a Pediatric Trust in Physician Scale, and the Group-Based Medical Mistrust Scale. (n = 475); 21.35% white, 35.05% African American, 53.36% Hispanic	Outcomes variables included analysis of medications and test were ordered as indicated in the patients' medical record. Two primary outcomes included whether X-rays were ordered or not and if the patient was admitted	• Findings found that race and ethnicity influence trust and mistrust toward the provider and that language barriers proved to be one of the greatest causes of health care disparities.
3. **Racial and Ethnic Disparities in**	Xingyu Zhang, Maria	The focus of the study was to investigate	Cross-sectional Study	Level IV, Grade B	The study population consisted of pediatric patients 18 years and	The primary study outcome variable	• Findings included the Black and Hispanic pediatric

Emergency Department Care and Health Outcomes Among Children in the United States.	Carabello, Tyler Hill, Christopher R. Friese, Prashant Mahajan (2019)	associations of racial/ ethnic disparities in emergency care and treatment using a nationally representative sample of US children.			younger that were included in the National Hospital Ambulatory Medical Survey Emergency Department Sub file (NHAMCS-ED) between 2015-2016. (n=78,471)	included the Emergency Severity Index (ESI) rating, ED disposition, medical resource utilization, wait time, length of visit, and racial/ ethnic category.	patients experience disparities in how they were classified (ESI), if they needed admission to the hospital, and experienced longer wait times.
4. **Emergency Department Patient Experience: A systematic Review of Literature**	Jonathan D. Sonis, Emily L. Aaronson, Rebecca Y. Lee, Lisa L. Philpotts, and Benjamin A. White (2018)	The objective of this study was to perform a systematic review of existing literature to identify specific factors most commonly identified as influencing ED patient experience.	Systematic Review	Level III; Grade B	Search yielded 1625 citations and after exclusion 107 publications were included for data extraction	Common themes related to patient experience	• The findings showed that wait times was the most commonly cited reason for decreased patient experience, followed by; staff empathy, compassion, patient demographic factors, ED environment of care, and patient expectations
5. **Parameters affecting length of stay in a pediatric emergency department: a**	Kevin D. Hofer and Rotraud K. Saurenmann (2017)	The goal of this study was to identify and quantify variables which affect Emergency Department	Retrospective observational study	Level III: Grade B	A total of 5695 pediatric visits were analyzed from a large academic Swiss regional hospital. Of the 5695 visits, 4885 met eligibility criteria.	The outcomes measured included: ED occupancy, physician referral, time of admissions,	This study found that overall, ED occupancy increased LOS by the following: • being referred by another physician,

retrospective observational study		Length of Stay (LOS). (n=4885)			All patients were required to be 18 years old or younger between the dates of October 1, 2011 and September 30, 2012	arrival patterns, travel distance from hospital, seasonality, and type of diagnosis	• arriving in the morning • being older than 11 years old • diagnosis of gastrointestinal infection.
Patient Satisfaction Significance							
6. **Decomposing the Gap in Satisfaction with Provider Communication Between English- and Spanish-Speaking Hispanic Patients**	Jennifer Villani & Karoline Mortensen (2012)	To determine the potential reasons for why Spanish-speaking Hispanics report lower satisfaction with health care provider communication than English-speaking Hispanics.	Retrospective analysis from 2007-2009	Level III; Grade B	16,243 Hispanic population completed the Self-Administered Questionnaire. Of the respondents, only those with complete data points were included in the study (n=2,242).	Medical Expenditure Panel Survey (MEPS) + Patient satisfaction results	• Spanish speaking Hispanic families less satisfied than English speaking Hispanics (difference of 7.3 percentage points) • Differences in provider (race, ethnicity, gender, language) did not explain the variation in satisfaction scores (Villani & Mortensen, 2012) • Reasons for the Gap: 1. Acculturation 2. Health Insurance Coverage 3. Level of Education
7. **Do Hospitals Rank Differently on HCAHPS for**	Marc N. Elliott, Willian G. Lehrman, Elizabeth	To address bias in hospital-level scores that might result from differences in	Comparative case study design	Level V; Grade B	• Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) data was	HCAHPS survey comparison using frequencies and	• Finding indicate that hospitals "rank" (the relative scores of hospitals for patients of a given type) vary

Different Patient Subgroups?	Goldstein, Katrin Hambarsoomian, Megan K. Beckett, Laura A. Giordano (2010)	patient response tendency. evaluations of patient experiences are patient-mix adjusted by patient characteristics, such as age, education, self-rated health, preferred language, and service line, for public reporting.			analyzed from 2,684 acute and critical access hospitals from Oct. 2006 to June 2007. • HCAHPS contains data on 1,203,229 adult patients discharged from medical, surgical, or maternity	means for 16 HCAHPS reportable items.	substantially by patient health status and race/ethnicity/ language, and moderately by patient education and age ($p < .05$) for almost all measures.
8. **A Comprehensive View of Parental Satisfaction with Pediatric Emergency Department Visits**	Terri L. Byczkowski, Michael Fitzgerald, Stephanie Kennebeck, Lisa Vaughn, Kurt Myers, Andrea Kachelmeyer (2013).	The goal of this study was to develop an inclusive view of aspects of care associated with parental satisfaction with pediatric ED visits.	Retrospective observational study using both quantitative and qualitative data.	Level II, Grade B	A random sampling of 40-50 patients (18 years and younger) that visited the ED at a large, urban tertiary care, pediatric teaching hospital between the years of 2003-2008 (n= 2,442).	Qualitative and quantitative data consisted of Consumer Assessment of Healthcare Providers and Systems survey and open-ended questions that were coded to determine overall satisfaction and areas of focus.	• Quantitative findings showed patient satisfaction was affected by how well the physicians and nurses work together, wait time, and pain management. • Qualitative findings showed that wait time directly affects satisfaction, but also staff showing courtesy, respect, kindness, and caring words and behaviors also

							impacts satisfaction.
9. **Understanding patient satisfaction in a hospital emergency department.**	Ana Maria Soares and Minoo Farhangmehr (2015)	The purpose of this study was to examine and understand satisfaction in the ED from a health care marketing perspective. Specifically, investigating the key drivers of what affects satisfaction in this type of department.	A prospective study design	Level I; Grade C	The sample inclusion criteria included the following: age 18 and above, able to read and write, discharged immediately after being treated in the ED, able to answer a questionnaire when leaving the ED (n=84). The setting was a medium sized public hospital located in Northern Portugal.	Patient satisfaction was assessed using a satisfaction survey adapted from the EUROPEP questionnaire which was validated and had internal consistency.	The results showed that three themes affected patient satisfaction in the ED: 1. Technical quality of health care; 2. Interpersonal behavior; and 3. waiting time. Wait time is the predominate driver for decreased satisfaction (Soares & Farhangmehr, 2015)
10. **Emergency Department Crowding is Associated with Reduced Satisfaction Scores in Patients Discharged from the Emergency Department.**	Karis L. Tekwani, Yaniv Kerem, Chintan D. Mistry, Brian M. Sayger, Erik B. Kulstad (2013)	The purpose of the study was to examine the association of patient satisfaction, ED crowding, the ED Work Index (EDWIN) and hospital diversion.	Retrospective, Cohort study	Level II; Grade B	Patients (n= 1591) that received care in the ED at an urban, academic medical center and returned a patient satisfaction survey between August 1, 2007 and March 31, 2008.	• A total of 1591 surveys were returned, which were distributed at random to both pediatric and adult patients. The EDWIN score was calculated following a	• The mean satisfaction score was 77.6 and the mean occupancy rate was 1.23. • The hospital diversion rate was not statistically significant. • The study concluded that increased ED crowding was significantly

						formula of multiple variables. • A EDWIN score of <1.5 equaled a manageable ED; • 1.5-2 equaled a busy ED; and • a score greater than 2 equaled a crowded ED	associated with reduced patient satisfaction
Emergency Department Communication Interventions							
11. **Framework for Analyzing Wait Times and Other Factors that Impact Patient Satisfaction in the Emergency Department.**	Olanrewaju A. Soremekun, James K. Takayesu, and Stephan J. Bohan (2011)	The aim of this study addressed the application of other service industries (Non-medical) to analyze the psychological perception of ED wait times and patient satisfaction.	Non-research evidence	Level V; Grade B	N/A	Through the research on the psychology of waiting one can assume the following five key concepts effect patient satisfaction in the ED: 1. design of the emergency department;	• Improvements in environmental conditions (i.e. seating arrangements) and immediate bedding processes can influence perception of waiting. • Customer service training, reducing unoccupied time, clear expectations,

						2. Early interactions during the wait period; 3. Occupied time vs. unoccupied time; 4. Uncertain waits vs. known, finite waits; and 5. Starting the processes earlier	and improving communication can also reduce the perception of wait time
12. **When Patients Are Impatient: The Communication Strategies Utilized by Emergency Department Employees to Manage Patients Frustrated by Wait Times.**	Elizabeth L. Cohen, Holley A. Wilkin, Michael Tannebaum, Melissa S. Plew, Leon L. Haley (2013)	The study examines how emergency department (ED) staff identify patient frustrations about wait times and how effective their communication is in easing the patient's frustrations at a large, inner-city, public hospital in the southeastern United States.	Qualitative descriptive study using semi-structured Interviews	Level III; Grade C	18 emergency department staff members (8 paramedics, emergency medical technicians; 5 registered nurses; and 5 social service workers)	Three interview guides were used for three categories of ED employees, transcribed, and coded using NVivo9, qualitative data analysis software. Responses and themes collected for the following: 1. Responses to patients frustrated with delays	• Question 1: staff found that patients attributed delays to neglect and that patients did not understand that other patients need more urgent care. • Questions 2: staff strategies included, 1. Making wait time more productive; 2. Communicating the severity of their illness; 3. Highlighting other patient circumstances; 4. trying to direct

						2. Staff strategies to avoid patient frustrations with delays 3. Factors that made the staff feel more or less successful with communicating to frustrated patients	patients away from the ED. • Question 3: Staff stated allowing patients to talk and not cutting them off and providing more frequent updates seemed to work better.
13. **Improving Patients' Experiences Communicating with Nurses and Providers in the Emergency Department.**	Robin M. Hermann, Elizabeth Long, Rebecca L. Trotta (2019)	The purpose of this study was to examine patients' communication experiences with nurses and providers in the ED and fast-track areas to identify best practices at a large, urban, northeastern academic medical center emergency department.	Qualitative study with semi-structured interviews	Level III; Grade B	A stratified sample of 2-4 men and women from the following age groups: 18-29, 30-44, 45-65 and 66+. Total sample size equaled 30 participants.	Audio recorded telephone interviews were transcribed and coded for the following questions: 1. How often did nurses and providers treat patient with courtesy and respect? 2. How often did nurses and	The findings included: 1. Demonstrating courtesy and respect are essential to the patient's overall communication experience. 2. Providing undivided attention, not rushing someone, and taking time to listen improved the patient's experience. 3. Providing step-by-step explanations of

						providers listen carefully to patients? 3. How often did nurses and providers explain things in a way that patients understand?	the disease process, treatment, and discharge instructions also was a theme that improved the patient experience.
14. **Patient Satisfaction with Nursing Care in an Urban and Suburban Emergency Department.**	Greg Wright, Sherry Causey, Jacqueline Dienemann, Paula Guiton, Frankie Sue Coleman, Marcy Nussbaum (2013)	The aim of this study that was to investigate the patients' perception of direct interventions that were designed to reduce dissatisfaction with wait times; conducted at two sites.	Case controlled quasi-experimental design	Level II; Grade B	Patients 21 years or older, able to give consent and could read English or Spanish at both an urban and suburban ED were eligible for the study. The control group (usual care) for both sites had a n = 246 and the intervention group both sites n = 327.	• Patient satisfaction was measured using the 4-point Likert scale within the validated Consumer Emergency Department Satisfaction Scale (CECSS) (Wright et al., 2019)	• Providing comfort items including handing out an informational brochure, providing frequent updates, offering distraction activities, and decreasing the lights increased patient satisfaction in the urban ED. • The suburban patients did not view the interventions as helpful in reducing dissatisfaction with wait times.

							• The suburban site had a higher proportion of white patients ($P < .001$) than Hispanic/ Latino ($P < .05$), more private insurance ($P < .001$) and the patients were older in age ($P < .001$) (Write et al., 2019)
15. **Training to Improve Communication Quality: An Efficient Interdisciplinary Experience for Emergency Department Clinicians.**	Emily L. Aaronson, Benjamin A. White, Lauren Black, David F. Brown, Theodore Benzer, Allison Castagna, Ali S. Raja, Jonathan Sonis, Elizabeth Mort (2019)	The goal of this study was to develop and implement a multidisciplinary interactive course focused on provider-patient communication for staff at an urban university-affiliated ED.	Quality Improvement	Level V; Grade C	287 course participants with the following breakdown: 33 Attending MD; 36 Resident MD; 166 Nurses; 23 Nurse Practitioners; and 29 Physician Assistants	Participants were asked to evaluate the training using the 4 Kirkpatrick domains of attitude. Learning, knowledge, and skills on a 4-point Likert scale (Aaronson et al., 2019).	The 2-hour multidisciplinary communication training exhibited positive outcomes in the participants practice, skills, knowledge and attitudes, which the majority (96%) believed was a valuable use of their time (Aaronson et al., 2019) Pre and post evaluations were completed using a paired *t* test with a *P* value < 0.05 considered significant. • Valuable use of time ($P < .001$)

							• Applicable to practice ($P < .001$) • Trained feasible skills ($P < .001$) • Increased knowledge of communication context ($P < .001$) • Ability to perform detailed skills ($P < .001$) • Realized the importance of communication ($P < .001$)
16. **Nurse-Leader Collaborative Improvement Project: Patient Experience in the Emergency Department**.	Susan McFarlan, Danielle O'Brien, Eryn Simmons (2019)	The goal of this study was to assess the effect of hourly nurse and nurse leader rounding on patients experience in an urban community ED.	Quasi-experimental	Level III; Grade C	• 90% of the average daily census (175 patients) were rounded on by ED staff and leaders. • The training of 106 staff and 6 leaders on patient rounding was completed to improve the ED Hospital Consumer Assessment of Healthcare Providers and Services (HCAHPS)	HCAHPS scores implemented in November and December 2017.	The application of ED rounding impacts patient experience through proactively assessing patient needs and providing timely communication. HCAHPS scores increased over baseline for the following 5 questions: • Response to concerns: 6 to 21 • Staff working as a team: 12 to 22 • Likely to recommend: 9 to 15

							• Staff identified themselves: 9 to 99 • Overall rating: 8 to 20 (McFarlan et al., 2019)
Emergency Department Operations – Wait Time Interventions							
17. **Testing of the 'Always Events' approach to improve the patient experience in the emergency department.**	David John Lowe, Dagshagini Taylor, Nicola Littlewood, Scott Hepburn, Paul Bowie (2017)	The focus of the article was to develop interventions to improve communication and provide information for patients presenting with minor injuries to affect the patient's perception of wait times.	Quality Improvement project	Level V; Grade C	A convenience sample of 68 patients received a questionnaire in the month of March 2016 asking the question, "what should always happen in the Emergency Department" Two additional convenience samples of 100 patients each occur pre-intervention (August-October 2016) and post-intervention (October 2016 to January 2017).	A four question 5-point Likert scale questionnaire was developed to assess the interventions, which included: 1. Distribution of informative posters of the process in the waiting area, sub waiting area, and individual exam cubicles. 2. The use of posters, videos, web-links, and cards that were distributed at triage.	The study found that information development and educational interventions had a moderate positive effect on the patient experience by providing more information and increasing understanding of how the ED works
18. **Managing responsiveness in the**	Yann B. Ferrand, Michael J.	To investigate ways of improving patient length of	Empirical simulation model	Level V; Grade B	ED patient data for one-year period (2010) represented 31,044	• Emergency Departments	The application of dynamic priority queue with patients prioritized

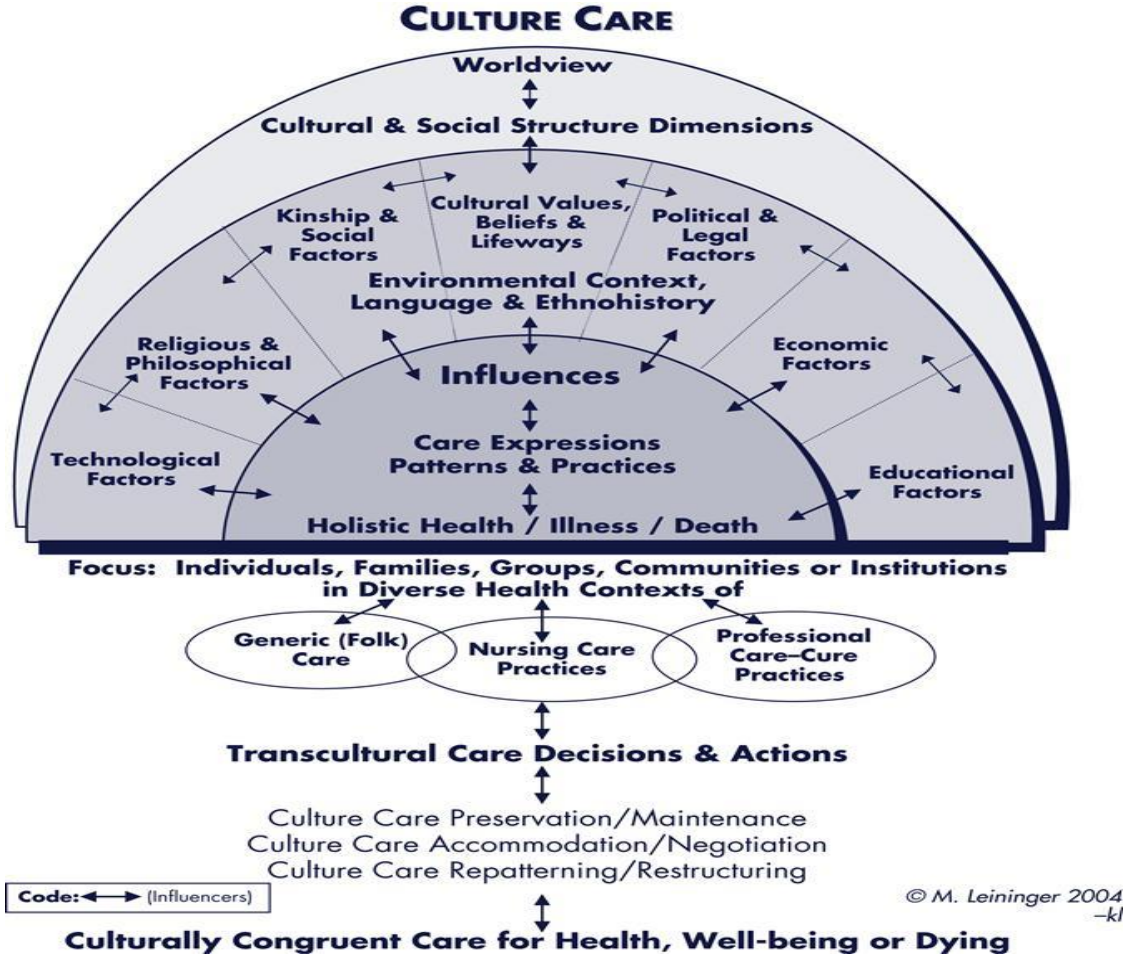
emergency department: Comparing dynamic priority queue with fast track.	Magazine, Uday S. Rao, Todd F. Glass (2018)	stay (LOS) in a pediatric ED, without adding resources.			patients and included acuity level and individual time stamps of service time and wait time. In addition, staffing schedules were assessed for the same period and overlaid into the simulation model.	categorize patients by the Emergency Severity Index (ESI) with ESI 1 as critical and ESI 5 as non-urgent. • Most patients presenting to the ED are ESI 4 and 5, which also typically have the longest LOS. • Using a fast track and Dynamic Priority Queue (DPQ) with the ESI category can	using ESI drastically improves the overall amount of accumulated wait time and flow time of a patient.

						improve overall LOS.	
19. **Applying the Lean principles of the Toyota Production System to reduce wait times in the emergency department.**	David Ng, Gord Vail, Sophia Thomas, Nicki Schmidt (2010)	The goal of this study was to apply Lean practices to patients with a discharge disposition to improve ED efficiency to reduce wait time and improve patient satisfaction in a hospital in Windsor, Ontario between 2005 and 2007.	Quasi-experimental study	Level II; Grade B	Annual ED census of roughly 55,000 patients	Monthly ED departmental metrics tracked with 2005 as a baseline and 2007 results as the outcomes: • Mean time to physician (111 min to 78min) • Mean length of stay (3.6 hours to 2.8 hours) • Patients that left without being seen (7.1% to 4.3%) • Overall patient satisfaction scores (79.8% to 83.1%) (Ng et al., 2010)	This study identified that implementing the philosophies of the Toyota Product System (Lean thinking) the organization was able to improve productivity, reduce ED LOS, reduce wait times, and improve patient satisfaction scores.

20. **Implementing wait-time reductions under Ontario government benchmarks (Pay-for Results): A Cluster Randomized Trial of the Effect of a Physician-Nurse Supplementary Triage Assistance team (MDRNSTAT) on emergency department patient wait times.**	Ivy Cheng, Jacques Lee, Nicole Mittmann, Jeffrey Tyberg, Sharon Ramagnano, Alex Kiss, Michael Schull, Fergus Kerr, Merrick Zwarenstein (2013)	The goal of this study was to examine the effect and any barriers to initiating a physician and nurse triage team to assess the ED length of stay (EDLOS) among discharged patients in the ED at a tertiary level hospital in central Toronto.	Randomized-controlled trail	Level I; Grade B	The total number of patients in the study equaled 6,336 with 3173 visits in the intervention and 3163 in the control. The study period occurred over a 26-week period from (Oct. 1, 2009 – Apr. 1, 2010), during this study time the ED received 45,000 patient visits with an admission rate of 22%.	The primary outcome was the median EDLOS time for control group vs. MDRNSTAT group. Descriptive statistics was used for analysis with *P* value < 0.05 as significant. • EDLOS was decreased by 24 minutes for higher acuity patients (P = .005) • EDLOS was decreased by 56 minutes for lower acuity patients (*P* = .0001)	• The decreased time to physician or Licensed Independent Practitioner improved the overall emergency department length of stay. • Compared to the usual nurse-triage system, which is only a sorting mechanism the MD/RN Supplementary Triage Assistance team (MDRNSTAT) was able to interact and start interventions on patients without needing ED space after the initial RN triage was completed. • In addition, the secondary effect was a decrease in the left without being seen (LWBS) rate, which is a liability for the

							organization and a loss of revenue.
21. **Stop the Bottleneck: Improving Patient Throughput in the Emergency Department.**	Ray DeAnda, (2018)	The goal of this quality improvement project was to assess if a nurse flow coordinator improved an admitted patients' throughput from the ED to the inpatient bed at a North Texas urban hospital ED.	Quality Improvement	Level V; Grade C	The sample included ED admissions between the hours of 3 and 11PM for two 8-hour shifts on a Monday and Tuesday.	The difference between ED inpatient admissions with and without a flow nurse coordinator during the identified times was plotted on X-MR control charts and run charts.	• The implementation of a flow nurse coordinator decreased the average throughput of inpatient admissions from 104 minutes to 84 minutes (20% decrease) (DeAnda, 2018).
22.**The Effectiveness of a Provider in Triage in the Emergency Department.**	Robert A. Love, John A. Murphy, Timothy E. Lietz, Kathleen S. Jordan (2012)	The goal of this quality improvement project was to implement a provider in triage to increase patient flow, decrease length of stay, and reduce patient who leave without being seen.	Quality Improvement	Level V; Grade C	The sample included patients presenting to the ED between the hours of 10AM and 11PM after March 8, 2011.	The data was measured by time stamps in the electronic health record, total number of patients, and the percent difference from the baseline date of January 2011.	The provider in triage increased proficiency in patient flow and reduced the number of patients who leave before being seen (LWBS). • Time to provider decreased from 75 minutes (Jan. 2011) to 25 minutes (July 2011). • LWBS decreased from 3.39% (Jan. 2011) to 0.93% (July 2011) (Love et al., 2012)

Appendix B: Culture Care Theoretical Model



Appendix C: Memorandum of Understanding

Memorandum of Understanding

Memorandum of Understanding

Between

David C. Kruger, Doctor of Nursing Practice (DNP) student

Boise State University

and

Ann & Robert Lurie Children's Hospital of Chicago (Lurie Children's)

This Memorandum of Understanding (MOU) outlines the terms and understanding between the *David C. Kruger*, a DNP student at Boise State University, and *Lurie Children's*, to implement interventions to reduce the overall emergency department (ED) length of stay, identify patients and families who have a low level of English language proficiency and provide consistent access to interpreting services, while increasing the ED staff cultural awareness to promote more equitable care in the Hispanic population.

Background

The impact of poor patient experience scores is not shared equally among all races and ethnicities (Eskes et al., 2013). As an example, those who self-identified as Hispanic report a lower satisfaction with communication between their providers when compared to others of different race and ethnic backgrounds (Villani & Mortensen, 2012). It has been shown that decreased patient experience scores may highlight health disparities and barriers to care in Hispanic, Spanish-speaking families (Sobo, Seid, & Reyes Gelhard, 2006). This is especially concerning due to the fact that the Hispanic/ Latino population is the fastest growing population in the United States (Eskes et al., 2013). It is estimated that the "Hispanic population is the largest non-English speaking minority presenting to U.S. emergency departments (ED), accounting for almost 15% of the ED patient population" (Balakrishnan et al., 2016, p. 369). Racial and ethnic disparities in pediatric medical outcomes are well described (Flores & The Committee on Pediatric Research, 2010). In a review the literature, Flores & The Committee on Pediatric Research (2010), identified racial and ethical inequalities exist across the care continuum including access to care, preventive services, treatment of chronic diseases, and quality of care. The pediatric emergency department is not immune to these disparities, as recent studies have revealed differences in multiple areas of care including triage scores (Zook et al., 2016), rates of CT scans performed for head traumas, performance of laboratory testing, and pain management (Marcin et al., 2018) to name a few.

Purpose

The disparities of PFE scores in the Hispanic population identified equality gaps in how the Hispanic population perceive their health care experience when compared to the white

population. The review of literature validates that health disparities are real and can result in poor outcomes if not addressed. The interventions of this pilot project are aimed to assess ED wait times and language barriers of care coordination to promote more equitable care in the Hispanic population. A secondary aim is to provide interventions to identify patients and families who have a low level of English language proficiency and provide systems to improve overall communication. The third aim is to increase emergency department staff and Licensed Independent Providers' cultural awareness knowledge through education and training to support the ethnically diverse patient population the ED serves.

Intended Project Outcomes

The Hispanic population who utilizes the emergency department at Lurie Children's will demonstrate:

- Improved patient throughput by a decreased 'door to room' times.
- Improved interpreting services at triage when Hispanic patients self-identified as limited English Proficiency.
- Increased NRC Picker Patient and Family Experience (PFE) Survey scores for the question "If you needed language interpreting for your child's visit, did you get it?"
- Improved patient an increase in satisfaction scores for the questions: "Did nurses explain things in a way you could understand," as indicated by NRC Picker PFE results.

Duration

The DNP Scholarly Project intervention timeline will consist of twenty-months and begin September 2019 through April 2022 and consist of six phases. The phase include assessment, planning, implementation, data collection, data analysis, and dissemination. The first stage will consist of the assessment phase and include understanding the identified problem on a national, state and local level while completing a full organizational assessment. The second stage or the planning phase will continue with the review of literature, focusing specifically on evidence-based practices surrounding interventions to decrease emergency department wait times, enhance communication for those with limited English proficiency, and cultural sensitivity/ implicit bias training. The third stage will involve the implementation phase and include holding kick-off meetings with the project teams followed by regular follow up meetings and preferred communication plan to the stakeholders. The fourth stage includes the data collection phase that will consist of the gathering of both qualitative and quantitative data. The fifth stage includes the data analysis phase and includes the systematical evaluation and interpretation of pre and post data using statistical analyses. The final stage will be reviewed in the reporting section of this Memo of Understanding.

Reporting

The DNP project manager will provide by-monthly updates and milestone achievements to the organizational stakeholders and project team. The final stage or the dissemination phase will involve the presentation and defense of the Scholarly Project to the Faculty at Boise State in

April, 2022. The DNP student will submit a Final Project Report for publication in ScholarWorks. ScholarWorks is a collection of services designed to capture and showcase all scholarly output by the Boise State University community, including doctoral dissertations and doctoral project reports. In addition, the project will be presented to the Lurie senior leadership team, the Emergency Department faculty and staff. The conclusion of this phase will include the publication in the appropriate professional journal.

No personal identifiers will be included and all data will be reported in aggregate form. The author welcomes any comments or suggestions from *Lurie Children's*, but reserves the right to publish findings and analysis according to professional standards and principles of academic freedom. For any work of a scholarly nature, the author agrees to follow the organization(s) preferences in how it is to be named (or not) in the work.

Complete this section by adding the information below, after conversation with the organizational liaison/representative:

Agency preferences for how they are named/referred to within the student's work: by organizational name or solely by general type of agency within a region?

In the student's Final Report?	No restrictions, as deemed appropriate by student
In an abstract?	No restrictions, as deemed appropriate by student
In professional presentations?	No restrictions, as deemed appropriate by student
In professional publications?	No restrictions, as deemed appropriate by student
Any restrictions in the discussion of project details?	No restrictions

Student Contact Information

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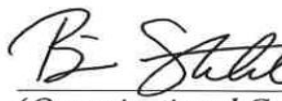
Date: 1/5/2021
(*DNP Student signature*)
(*David C. Kruger*, Boise State University DNP student



Date: 1/5/2021
(*Organizational Contact signature*)
(*Brian M. Stahulak, Sr. Vice President & Chief Nursing Officer, Ann & Robert H. Lurie Children's Hospital of Chicago*)

Appendix D: Logic Model

Resources/Inputs	**Activities**	**Outputs**		**Outcomes: Short term**	**Outcomes: Intermediate**	**Outcomes: Long term**
What we invest: resources and contributions	What we do	What we accomplish or produce from the activities	Who we reach with our activities	The expected changes attainable during the DNP Scholarly Project timeline.	The expected changes attainable 6 months - 2 years after the DNP Project is implemented.	Fundamental changes for participants or community because of project activities, 3-5 years after project implementation .
The human, financial, organizational, and community resources available to direct toward the project activities.	The processes, tools, events, technology, and actions that are intended to bring about changes	Direct products and services generated from program activities	Intended targets of the program services and activities	Specific changes in program. SMART. Label as Process Outcome (PO) or Change Outcome (CO)	Specific changes in program. SMART. Label as Process Outcome (PO) or Change Outcome (CO)	Represent changes in status, condition or well-being. Consider: health impacts, economic impacts, environmental impacts, societal impacts.
PERSONNEL: • Staff from the Office of	• Secure evidence-based training	• Emergency Department Staff improved	• Emergency Department Staff	1.(PO): 75% of emergency department	9.(PO): 100% of emergency department	16.Increased staff self-perceived

Diversity and Inclusion. • Center of Organizational Development • Emergency Department Staff • Emergency Department Leadership • Emergency Department Educator • Administrative Staff SUPPLIES/ EQUIPMENT: • Marketing materials • Paper and copy supplies • PowerPoint INFORMATION TECHNOLOGY: • Video projector / screen • Microphone SPACE:	materials for cultural awareness education through the Diversity and Inclusion Department at Lurie Children's. • Secure evidence-based training materials for implicit bias education through the Diversity and Inclusion Department at Lurie Children's. • Schedule education sessions for all emergency department staff. • Secure location/ conference room for	knowledge of cultural awareness and implicit bias. • Increased awareness of Hispanic culture. • Evidence-based educational materials for future staff education.	• Hispanic Patient and Families that utilize the Emergency Department	staff at an urban academic medical center attended and completed cultural awareness and implicit bias education focused on communication styles, cultural values, cultural differences, and conscious awareness presented by the Diversity and Inclusion Department at Lurie Children's by May 2021	staff at an urban academic medical center attended and completed cultural awareness and implicit bias education focused on communication styles, cultural values, cultural differences, and conscious awareness presented by the Diversity and Inclusion Department at Lurie Children's by May 2022.	cultural awareness, knowledge, and comfort with cultural competence skills.

• Conference Rooms FINANCIAL: • Staff Education & Training Time • Supply and equipment costs • Administrative support costs	educational sessions.					
PERSONNEL: • Staff from the Office of Diversity and Inclusion. • Center of Organizational Development • Emergency Department Staff • Emergency Department Leadership • Emergency Department Educator • Administrative Staff	• Create a cultural awareness and implicit bias Survey to measure staff knowledge pre and post training. • Validate the survey with the staff of the Office of Diversity and Inclusion. • Validate the survey with the Center of Organizationa	• Emergency Department Staff assessment of cultural awareness and implicit bias. • Increased awareness of Hispanic culture. • Validate the educational materials. • Measure the impact of the education and training.	• Emergency Department Staff • Hispanic Patient and Families that utilize the Emergency Department	2. (CO): After completing the cultural awareness and implicit bias education module by May 2021, 75% of the emergency department staff at an urban academic medical center will demonstrate a 10% increase in	10.(CO): After completing the cultural awareness and implicit bias education module by May 2022, all new staff or staff that transferred to the emergency department at an urban academic medical center will demonstrate a 15% increase	

SUPPLIES/ EQUIPMENT: • Survey Platform INFORMATION TECHNOLOGY: • Electronic Pre-Post Survey FINANCIAL: • Staff Education & Training Time • Survey Platform (Survey Monkey or other)	l Development. • Develop a survey distribution list. • Solidify the mode of data collection.			understanding of cultural awareness and implicit bias comprehension when comparing pre-test and post-test scores.	in understanding of cultural awareness and implicit bias comprehension when comparing pre-test and post-test scores.	
PERSONNEL: • Center of Organizational Development • Emergency Department Staff • Emergency Department Leadership	• Create a Dynamic Queuing Survey to measure staff knowledge pre- and post-training. • Validate the survey with the Center of Organizationa	• Emergency Department Staff assessment of cultural awareness and implicit bias. • Increased awareness of Hispanic culture.	• Emergency Department Staff • Hispanic Patient and Families that utilize the Emergency Department	3. (CO): After completing Dynamic Queuing education by May 2021, 75% of the emergency department staff at an urban academic	11.(PO): 75% of Spanish-speaking patient population who utilize the emergency department at an urban academic medical center received Video	

• Emergency Department Educator • Administrative Staff SUPPLIES/ EQUIPMENT: • Survey Platform INFORMATION TECHNOLOGY: • Electronic Pre-Post Survey FINANCIAL: • Staff Education & Training Time Survey Platform (Survey Monkey or other)	l Development. • Develop a survey distribution list. • Solidify the mode of data collection.	• Validate the educational materials. Measure the impact of the education and training.		medical center will demonstrate a 15% increase in understanding of Dynamic Queuing when comparing pre-test and post-test scores by May 2021.	Remote Interpreting (VRI) services at triage when they self-identified as limited English Proficiency by August 2022.	
PERSONNEL: • Staff from Information Management • Internal EPIC (EHR) Analyst	• Create simulation model to test Dynamic Queuing. • Modify Dynamic Queuing weights for	• Improve efficiencies for patient throughput. • Development of a standardized algorithm that determines the	• Emergency Department Staff • Hispanic Patient and Families that utilize the	4.(PO): Emergency Department 'Door to Room' average time decreases from 15 minutes to 12 minutes 35%	12.(PO): Emergency Department overall length of stay for discharged patients decreases by 5 minutes 45%	

• External EPIC (EHR) Analyst • Emergency Department Staff • Emergency Department Change Nurses • Emergency Department Educator • Emergency Department Leadership • Emergency Department Performance Improvement Project Specialist • System Reporting Specialist SUPPLIES/ EQUIPMENT: • PowerPoint • Paper • Printer • Market materials	Estimates Severity of Illness (ESI) and overall length of stay (LOS). • Re-simulate Dynamic Queuing Models • Create balancing measures • Train Emergency Department Charge Nurses and Staff on the Dynamic Queuing Model. • Track all data metrics, with specific focus on 'Door to Room' and 'Overall Length of Stay for Discharged Patients.'	next patient that should be roomed next based on ESI level of weighted LOS. • Decreased inconsistencies between all Charge Nurses. • Non-bias approach to patient throughput.	Emergency Department • All Patient and Families that utilize the Emergency Department.	of the time when greater than 15 patients in the ED as indicated through daily dynamic queuing data reports from June 2021 through September 2021.	of the time by October 2022.	

INFORMATION TECHNOLOGY: • Video projector / screen • Simulation Software • Computers • Skype meetings SPACE: • Conference Rooms FINANCIAL: • Staff Education & Training Time • Supply and equipment costs • EPIC Analyst costs?						
PERSONNEL: • Staff from the Patient and Family	• Incorporate Two Interpreting Questions on Patient	• Develops a standardized way to measure the availability of	• Hispanic Patient and Families that utilize the	5.(PO): 55% of Spanish-speaking patient population	13.(PO): 75% of Spanish-speaking patient population	

Experience Office. • NRC Picker (Patient and Family Experience Vendor). • Emergency Department Leadership SUPPLIES/ EQUIPMENT: • Marketing materials INFORMATION TECHNOLOGY: • NRC Pickers Patent and Family Experience Survey	Experience Surveys that have not asked previously. • Question #1: "If you needed language interpreting for your child's visit, did you get it? (Y,N,N/A) • Question #2: If an interpreter was used for your child's visit, how were they reached? (In-Person, Phone, Video). • Benchmark these standardized questions with the Children's Hospital Association.	interpreter services. • Identifies compliance with governmental and regulatory bodies. • Draws awareness to potential resource needs.	Emergency Department • All Patient and Families that require interpreting service who utilize the Emergency Department.	who utilize the emergency department at an urban academic medical center received interpreting services per policy when they self-identify as limited English Proficiency measured through NRC Picker Patient and Family Experience (PFE) Survey question "If you needed language interpreting for your child's visit, did you get it? "by September 2021.	who utilize the emergency department at an urban academic medical center received interpreting services per policy when they self-identify as limited English Proficiency measured through NRC Picker Patient and Family Experience (PFE) Survey question "If you needed language interpreting for your child's visit, did you get it? "by October 2022.	

PERSONNEL: • Interpreting Services • Foundation • Marketing • Facilities • Information Management Department Emergency Department Leadership • Emergency Department Educator SUPPLIES/ EQUIPMENT: • Video Remote Interpreting (VRI) I-Pad • Emergency Department Staff • Articulating arm to mount the I-Pad • Signage INFORMATION TECHNOLOGY: • Data Port • I-Pad Configuration	• Solicit the Foundation Department for any donors to support the VRI costs. • Purchase I-Pad and Articulating Arm • Create marketing materials with the Marketing department to highlight VRI. • Place workorder for IM to validate the data port. Place workorder for facilities to install the I-Pad and Articulating Arm.	• Improved communication with Spanish-speaking patients and families. • Emergency Department staff improved assessment of reason for visit • Emergency Department staff improved communication of ED expectations and process flow.	• Emergency Department Staff • Hispanic Patient and Families that utilize the Emergency Department	6.(PO): 55% of Spanish-speaking patient population who utilize the emergency department at an urban academic medical center received Video Remote Interpreting (VRI) services at triage when they self-identified as limited English Proficiency by August 2021.	14.(CO): After completing Dynamic Queuing education by May 2022, all new staff or staff that transferred to the emergency department at an urban academic medical center will demonstrate a 20% increase in understanding of Dynamic Queuing when comparing pre-test and post-test scores by May 2022.	17. Hispanic patient and families demonstrate improvement (positive shift) in patient and family experience scores as plotted on process control charts.

SPACE: • Signage location to market the VRI service. • Location to install the Articulating Arm Articulating Arm Costs • Marketing Materials FINANCIAL: • I-Pad costs						
PERSONNEL: • Staff from the Patient and Family Experience Office. • NRC Picker (Patient and Family Experience Vendor). • Emergency Department Leadership	• Benchmark the results with the Children's Hospital Association. • Provides a secondary measure to assess the activities to improve the patient and family experience for	• Develops a standardized way to measure the availability of interpreter services. • Identifies compliance with governmental and regulatory bodies. • Draws awareness to	• Hispanic Patient and Families that utilize the Emergency Department • All Patient and Families that require interpreting service who utilize the	7.(CO): Spanish-speaking patient population who utilize the emergency department at an urban academic medical center show an increase in satisfaction scores for the	15.(CO): Spanish-speaking patient population who utilize the emergency department at an urban academic medical center have a sustainable increase of 80% positivity	18. The Healthy People 2020 goal of reducing ineffective communication between patients and providers is realized by improved patient and family experience scores,

SUPPLIES/ EQUIPMENT: • Marketing materials INFORMATION TECHNOLOGY: • NRC Picker Patient and Family Experience Scores	the Hispanic population that utilize the emergency department staff at an urban academic medical center.	potential resource needs.	Emergency Department	questions: "Did nurses explain things in a way you could understand," as indicated by NRC Picker PFE results June-September 2021 as associated with scores February through May 2021.	rate in satisfaction scores for the questions: "Did nurses explain things in a way you could understand," as indicated by NRC Picker PFE results by June 2022.	specifically related to communication .
PERSONAL: • Emergency Department Staff • Emergency Department Leadership • DNP Project Manager SUPPLIES/ EQUIPMENT: • Computer	• Conduct weekly staff feedback session with the emergency department staff at an urban academic medical center. • Secure location/ conference room for	• Increased staff awareness of DNP project. • Increased DNP manager awareness of project. • Knowledge transfer of project processes	• Emergency Department Staff • DNP project manager	8. (PO): 100% completion of 18 (1 meeting x 18 weeks) for emergency department staff feedback sessions to collect information on project progress and potential improvements to occur May		

• Pen/ Paper/ Post-it notes INFORMATION TECHNOLOGY: • Word/ Excel Programs	feedback sessions.			2021 through August 2021.		

Appendix E : Timeline

Project: A Pilot Program to Improve Patient and Family Experience Scores and Quality of Care of the Hispanic Population in an Urban Pediatric Emergency Department.

Activity	Month/Year																						
	8/19 – 12/19	1/20 – 5/20	5/20 – 7/20	9/20	10/20	11/ 20	12/ 20	1/ 21	3/ 21	4/ 21	5/ 21	6/ 21	7/ 21	8/ 21	9/ 21	10/ 21	11/ 21	12/ 21	1/ 22	3/ 22	4/ 22	5/ 22
ASSESSMENT																							
Identification of problem																							
Literature Review																							
Refine Problem Statement																							
Identify Interventions																							
PLANNING																							
Create Logic Model and Timeline																							
Identify Stakeholders (Internal and External)																							
Create Dynamic Queuing Project Team																							
Create PFE Project Team																							
Schedule Kick-off Meeting for both Teams																							
Develop Project Charters, Scoping, Mission																							
Build Dynamic Queuing into Epic																							
Develop Manual version of Queuing (if needed)																							
Develop pre-post Assessments for Education																							
Schedule Cultural and Bias Education Sessions																							
Develop Educational Assessment Tool																							
Secure Video Remote Interpreting Hardware																							
Create Electronic/ Written expectation info.																							
Develop NCR Picker interpreting questions																							
Create Communications Plan																							
Develop Budget																							
Project Review with faculty/ facility mentor																							
Submit Project to IRB																							

Project: A Pilot Program to Improve Patient and Family Experience Scores and Quality of Care of the Hispanic Population in an Urban Pediatric Emergency Department.																							
Month/Year																							
Activity	8/19 – 12/19	1/20 – 5/20	5/20 – 7/20	9/20	10/20	11/ 20	12/ 20	1/ 21	3/ 21	4/ 21	5/ 21	6/ 21	7/ 21	8/ 21	9/ 21	10/ 21	11/ 21	12/ 21	1/ 22	3/ 22	4/ 22	5/ 22
IMPLEMENTATION:																							
Kick-off Meeting with Dynamic Queuing Team																							
Kick-off Meeting with PFE Team																							
Reoccurring Meetings with Dynamic Team																							
Reoccurring Meetings with PFE Team																							
Dynamic Queuing two-week simulation																							
ED Staff Cultural and Bias Education																							
ED Staff Education of Dynamic Queuing																							
Activate NRC Picker Interpreter Question																							
Spanish Electronic Video Activated in Wait Area																							
Activate VRI Interpreting in Triage																							
Implement Written Spanish Patient Information																							
Activate Dynamic Queuing																							
Data Collection:																							
Baseline ED Data																							
Baseline PFE Data																							
Collection of Implementation ED Data																							
Collection of Implementation PFE Data																							
Interpretation Questions Collection																							
Collection of Dynamic Queuing Education																							
Collection of Cultural and Bias Education																							

Project: A Pilot Program to Improve Patient and Family Experience Scores and Quality of Care of the Hispanic Population in an Urban Pediatric Emergency Department.

Month/Year

Activity	8/19 – 12/19	1/20 – 5/20	5/20 – 7/20	9/20	10/20	11/ 20	12/ 20	1/ 21	3/ 21	4/ 21	5/ 21	6/ 21	7/ 21	8/ 21	9/ 21	10/ 21	11/ 21	12/ 21	1/ 22	3/ 22	4/ 22	5/ 22
DATA ANALYSIS:																						
Evaluation of Pre-Post Data																						
DISSEMINATION:																						
BSU, Lurie, ED Faculty and Staff																						
Publication in Professional Journal																						

Appendix F: Dynamic Queuing Operations Knowledge Test

Ann & Robert H. Lurie Children's Hospital of Chicago®

Dynamic Queuing Charge Nurse Survey

1. Which of the following best explains the Dynamic Queuing process?

- ○ Decreased patient wait times
- ○ Reduce left without being seen (LWBS) rates
- ○ Changing nursing assignments based on hourly patient arrival patterns
- ○ Prioritization of rooming patients based on acuity and wait times
- ○ Increased variability of Charge Nurse processes

2. Which pair of Patient Acuity levels (ESI) are most likely to leave without being seen if the wait times in the ED become too long?

- ○ 3 & 4
- ○ 4 & 5
- ○ 3 & 5
- ○ 2 & 3
- ○ 2 & 5

3. There are two beds available in the ED, which two patients will receive a room assignment (First & Last Name)? *

	Time	Dyn Que	Acuity	Name/Age/S	Alias	Reg	Iso	Chief Complaint	CC Comment	Intake	Temp	Pulse
	02:00	481.6	3	Star, Patrick (5Y M)	—	✕	—	Gastrointestinal...	abd pain with fever, re...	—	—	—
	01:46	212.8	4	Arnold, Hey (9Y M)	—	✕	—	Trauma &/or Inj...	2 inch scalp laceration,...	—	—	—
	01:42	204.8	4	Funnie, Doug (6Y M)	—	✕	—	Fever/Temperat...	sore throat, sibling has...	—	—	—
	01:37	97.4	5	Neutron, Jimmy (7Y M)	—	✕	—	ENT Signs &/or...	ear pain x 1d, no fever	—	—	—
	01:27	349.6	3	Turner, Timmy (6Y M)	—	✕	—	Trauma &/or Inj...	dog bite 3 days ago, P...	—	—	—
	01:23	83.4	5	Pickles, Angelica (11Y F)	—	✕	—	Dermatologic Si...	rash to arms, exposed...	—	—	—
	01:18	156.8	4	Boop, Betty (13Y F)	—	✕	—	Animal Bite	possibly bit by a bat, n...	—	—	—
	01:13	587.2	2	Cheeks, Sandy (4D F)	—	✕	—	Newborn Issues...	4d old infant, rectal te...	—	—	—
	01:08	136.8	4	Finster, Chuckie (4Y M)	—	✕	—	Gastrointestinal...	vomiting x 1d, no diarr...	—	—	—
	01:04	257.6	3	Mouse, Minnie (13Y F)	—	✕	—	Respiratory Sig...	hx asthma, inc WOB,...	—	—	—
	00:56	451.2	2	Thorn, Eliza (19D F)	—	✕	—	Newborn Issues...	19 day old, born at 35...	—	—	—
	00:49	49.4	5	Duck, Donald (6Y M)	—	✕	—	Ophthalmic Sig...	eye drainage, no fever	—	—	—
	00:19	77.6	3	Flintstone, Pebbles (26...	—	✕	Contact	Gastrointestinal...	diarrhea & vomiting x4...	—	—	—
	00:05	43.2	2	Jetson, Judy (16Y F)	—	✕	—	Endocrine Sign...	hx IDDM, glucose resu...	—	—	—

4. After how many minutes in the waiting room does the likelihood of patients leaving without being seen begin to dramatically accelerate? *

- ◯ 15
- ◯ 20
- ◯ 30
- ◯ 45
- ◯ 60

5. Lurie Children's Hospital is the first Children's Hospital in the country to utilize Dynamic Queuing in an Emergency Department setting. *

- ◯ True
- ◯ False

Appendix G : Outcomes Evaluation Table

Outcome	Data Collection Instrument/ Data	Analysis Goal	Analytic Technique
(1) 75% of emergency department staff at an urban academic medical center attended and completed cultural awareness and implicit bias training focused on communication styles, cultural values, cultural differences, and conscious awareness presented by the Diversity and Inclusion Department at Lurie Children's by May 2021	**Instrument:** Emergency Department Staff Attendance Roster. The tool is comprised of an emergency department staff roster and includes all clinical disciplines (Registered Nurse, Certified Nurse Assistant, Student Nurse Assistant, and Emergency Department Partner (Paramedic). **Data:** • The primary data collection will include all clinical disciplines who are actively working and not on any type of leave (i.e. Family Medical Leave Act, Personal Leave, or Sick Leave), representing the denominator. • The collection of emergency department staff attendance will occur on the training dates.	1. Emergency Department Staff improved knowledge of cultural awareness and implicit bias. 2. Increased awareness of Hispanic culture. 3. Evidence- based educational materials for future staff education.	The Scholarly Project tool is open sourced and developed by the DNP student and consist of the emergency department staff roster that are eligible for training. Comparison of staff eligible and staff attendance will be calculated as a percentage and displayed in a graph.
(2) After completing the cultural awareness and implicit bias education module by May 2021, 75% of the emergency department staff at an urban	**Instrument:** Cultural Awareness and Implicit Bias Test (CAIBT) Scholarly Project tool will be developed by the DNP student in conjunction with the Department of Diversity and Inclusion and the	1. Emergency Department Staff assessment of cultural awareness and implicit bias.	A pre-test and post-test design will be used to measure the emergency department staff knowledge before and after attending a cultural

academic medical center will demonstrate a 10% increase in understanding of cultural awareness and implicit bias comprehension when comparing pre-test and post-test scores.	Center for Organizational Development. **Data:** • Staff knowledge of cultural awareness and implicit bias will be collected using descriptive statistics through the comparison of the aggregate means of the pre and post-test responses. • The primary data will be collected through an online survey tool using Survey Monkey and consist of ten factual questions to measure content comprehension.	2. Increased awareness of Hispanic culture. 3. Validate the educational materials. 4. Measure the impact of the education and training.	awareness and implicit bias educational and training didactic intervention. Descriptive statistics through the comparison of the aggregate means for both pre-test and post-test and displayed in a graph.
(3) After completing Dynamic Queuing education by May 2021, 75% of the emergency department staff Charge Nurses at an urban academic medical center will demonstrate a 15% increase in understanding of Dynamic Queuing when comparing pre-test and post-test scores by May 2021.	**Instrument:** Dynamic Queuing Operations and Knowledge Test (DQOKT). The Scholarly Project tool will be developed by the DNP student in conjunction with the Department of Diversity and Inclusion and the Center for Organizational Development. A pre-test and post-test design will be used to measure the emergency department Charge Nurses knowledge before and after attending a Dynamic Queuing education didactic intervention.	**1.** Emergency Department Staff assessment of cultural awareness and implicit bias. **2.** Increased awareness of Hispanic culture. **3.** Validate the educational materials.	Descriptive statistics through the comparison of the aggregate means for both pre-test and post-test. The data will be displayed in a graph.

	Data: • Staff knowledge of Dynamic Queuing will be collected using descriptive statistics through the comparison of the aggregate means of the pre and post-test responses. • The primary data will be collected through an online survey tool using Survey Monkey and consist of five factual questions to measure content comprehension.	**4.** Measure the impact of the education and training.	
(4) Emergency Department 'Door to Room' average time decreases from 15 minutes to 12 minutes 35% of the time when greater than 15 patients in the ED as indicated through daily dynamic queuing data reports from June 2021 through September 2021.	**Instrument:** Epic EHR Reporting Workbench Door to Room Report. The Epic EHR Reporting Workbench Door to Room time is a report that is currently tracked daily as an aggregate value in a non-bias approach to patient throughput. **Data:** • Every patient visit includes the time stamp of registration, which is considered the arrival time or "door" and the time the patient is placed into an exam room or "room."	1. Improve efficiencies for patient throughput. 2. Development of a standardized algorithm that determines the next patient that should be roomed next based on ESI level of weighted LOS. 3. Decreased variation of patient placement between all Charge Nurses.	Organizational Epic EHR data report that is reported in minutes. Pre-pilot data in minutes for the average door to room time is compared to the average door to room time for the time period May 2021 through September 2021 and displayed in a graph.

	• The accumulated time between the door and room is calculated in minutes.		
(5) 55% of Spanish-speaking patient population who utilize the emergency department at an urban academic medical center received interpreting services per policy when they self-identify as limited English Proficiency measured through NRC Picker Patient and Family Experience (PFE) Survey question "If you needed language interpreting for your child's visit, did you get it?" between May 2021 and September 2021	**Instrument:** NRC Picker Health Equity Patient Experience Survey. The tool will include a quantitative deidentified measurement collected by a third-party vendor (NRC Picker) on the Patient and Family Experience (PFE) Survey. The survey question, "If you needed language interpreting for your child's visit, did you get it" has been added to the PFE Survey as of September 1, 2020. **Data Categories:** • The percentage of limited English Proficiency patients completing the PFE NRC Picker Survey and responding to the identified question.	1. Develops a standardized way to measure the availability of interpreter services. 2. Identifies compliance with governmental and regulatory bodies. 3. Draws awareness to potential resource needs.	Contracted services from NRC Picker to provide deidentified survey responses between May 2021 and September 2021. Percentage will be presented in the form of a table and line graph to display progress and response trends.
(6) 55% of Spanish-speaking patient population who utilize the emergency department at an urban academic medical center who self-identify as limited English Proficiency or prefer interpreting services are offered Video Remote	**Instrument:** Epic EHR Reporting Workbench Triage Report to be created through Data Analytics Reporting (DAR) with supervisor permission. The Epic Electronic Health Record (EHR) Reporting Workbench Triage report will pull two deidentified data fields from registration demographic information, which includes	1. Improved communication with Spanish-speaking patients and families. 2. Emergency Department staff improved	Descriptive statistics through the comparison of the aggregate means for all patients who self-identify as limited English Proficiency or prefer interpreting services at triage.

Interpreting (VRI) services at triage by August 2021**.**	"language" and "need interpreter." The report will compare the registration demographical questions with the triage question "would you prefer an Interpreter for this visit?" If the answer is "yes," the triage question will also include the mode of preferred Interpreting services (i.e., telephonic, in person, or VRI). **Data:** • Data will consist of HIPPA protected information and include deidentified, aggregated EHR information. • The data will measure the differences between the registration demographics information and the use of VRI at the time of triage.	assessment of reason for visit 3. Emergency Department staff improved communication of ED expectations and process flow.	The data will be displayed in a graph.
(7) Spanish-speaking patient population who utilize the emergency department at an urban academic medical center show an increase in satisfaction scores for the questions: "Did nurses explain things in a way you could understand," as indicated by NRC Picker PFE results May-September 2021 as associated with	**Instrument:** NRC Picker Patient Experience Survey data. The data collection tool, includes: 1. A quantitative deidentified measurement collected by a third-party vendor (NRC Picker) on the Patient and Family Experience (PFE) Survey.	1. Develops a standardized way to measure the availability of interpreter services. 2. Identifies compliance with governmental and regulatory bodies.	Contracted services from NRC Picker for data collection tool #1 to provide deidentified survey responses between May 2021 and September 2021. The data will be displayed in a graph.

scores February through May 2021.	**Data:** • The percentage of limited English Proficiency patients completing the PFE NRC Picker Survey and responding to the identified question.		
(8) 100% completion of 18 (1 meeting x 18 weeks) emergency department staff feedback sessions to collect information on project progress and potential improvements to occur May 2021 through August 2021.	**Instrument:** The Scholarly Project Feedback Tool: 1. A qualitative five question standardized feedback questionnaire to elicit staff participants' feedback on the DNP Scholarly Project and identify any barriers encountered. 2. Informal staff feedback sessions will occur once a week from May 2021 through August 2021 and be collected/ documented in Microsoft Excel format.	1. Draws awareness of potential resources needed or additional education provided.	The Scholarly Project Feedback Tool will be developed by the DNP student for data collection. A qualitative five question staff standardized feedback questionnaire to elicit participants feedback on the DNP Scholarly Project and any barriers encountered. Data will be categorized by topic.

Appendix H: Scholarly Project Feedback Tool

Scholarly Project Feedback Tool

1. Are you currently using the Dynamic Queuing tool in Epic? If so, how is it working?
2. If you are not using the Dynamic Queuing tool, why?
3. How can the Dynamic Queuing tool be more useful?
4. What is working well with Video Remote Interpreting in triage?
5. What Is not working well with Video Remote Interpreting in triage?

Appendix I: Scholarly Project IRB Acceptance or Letter of Determination

Ann & Robert H. Lurie Children's Hospital of Chicago

Association for the Accreditation of Human Research Protection Programs, Inc. — Full Accreditation

Non-Human Subjects Research Determination

David Kruger, DNP
Nursing

PROJECT TITLE: A Pilot Program to Improve Patient and Family Experience Scores and Quality of Care of the Hispanic Population in an Urban Pediatric Emergency Department.

IRB 2021-4439

Acknowledgement Date: March 12, 2021

The Office of Research Integrity and Compliance (ORIC) has reviewed the project referenced above. Based on the information provided, it has been determined that this project does not meet the definition of human subjects research as defined in 45 CFR 46.102, as it: 1) does not involve human subjects (data through intervention or interaction with the individual or identifiable private information), and/or 2) it is not a systematic investigation designed to develop or contribute to generalizable knowledge. Therefore, it does not require review by the Institutional Review Board.
If changes to this project occur in the future that require review of this determination, contact the Office of Research Integrity and Compliance.

Sincerely,

Institutional Review Board
Ann & Robert H. Lurie Children's Hospital of Chicago

Appendix J: Scholarly Project Expense Report

	Scholarly Project Expense Report					
Source of Expense	**Expense Description**	**Dollar Value**	**Type of Cost**	**Description of Cost**	**Estimated Volume**	**Expense Per Unit**
Staffing (In Kind)		Cost $	Fixed or Variable			
Office of Diversity and Inclusion Trainer	Salary offset for project	$40.00/hour	Variable	Salary support per hour for emergency department staff education and training.	24-hours	$960.00
Center for Organizational Development Coordinator	Salary offset for project	42.50/hours	Variable	Salary support per hour for survey development.	18-hours	$765.00
Emergency Department Manager	Salary offset for project	56.24/hour	Variable	Salary support per hour SP support and data monitoring.	160-hours	$8,998.40
Emergency Department Educator	Salary offset for project	59.33/hour	Variable	Salary support per hour for staff education and coordination	30-hours	$1,779.90
Emergency Department Interpreter	Salary offset for project	36.90/hour	Variable	Salary support per hour to provide input and coordination of VRI interpreting services	80-hours	$2,952.00

Patient and Family Experience Coordinator	Salary offset for project	41.34/hour	Variable	Salary support per hour for creation of the PFE survey questions and monitoring of results.	82.5-hours	$3,410.55
Emergency Department Performance Improvement Project Specialist	Salary offset for project	53.77/hour	Variable	Salary support per hour for data tracking	160-hours	$8,603.20
Systems reporting Specialist	Salary offset for project	46.21/hour	Variable	Salary support per hour for development of Epic tracking tools	80-hours	$3,696.80
Information Management Technician	Salary offset for project	31.68/hour	Variable	Salary support per hour for internal Epic build	8-hours	$253.44
Internal Epic (EHR) Analyst	Salary offset for project	48.11/hour	Variable	Salary support per hour for external Epic build	200-hours	$9,622.00
Administrative Support	Salary offset for project	29.90/hour	Variable	Salary support per hour for Scholarly Project support and scheduling	60-hours	$1,794.00
		Total				**$42,835.29**
Dynamic Queuing Epic Application		Cost $	Fixed or Variable			
External Epic (EHR) Analyst	Epic build for Dynamic Queuing	$75.00/hour	Variable	Analyst salary for Epic build per hour	40-Hours	$3,000.00
		Totals				**$3,000.00**

Administrative Supplies		Cost $	Fixed or Variable			
Paper, copy supplies, handouts, printer materials	Materials for meetings and communication	$250.00	Variable	Supply Costs - Office	1-Each	$250.00
Meeting Refreshments	Refreshments for meetings	$75.00	Fixed	Refreshments to be purchased through approve vendor	6-Each	$450.00
		Totals				**$700.00**
Supplies & Equipment		Cost $	Fixed or Variable			
Video Remote Interpreting (VRI) i-Pads	i-Pads to be used for VRI	$1,000.00	Fixed	Equipment Cost	2-Each	$2,000.00
Articulating Arm Mount of i-PADs	I-Pad mounts to secure the i-Pads at Registration and Triage	$75.00	Fixed	Equipment Cost	2-Each	$150.00
Data Port Installation	Data port installation for Registration Desk	$300.00	Fixed	Equipment Cost	1-Each	$300.00
VRI signage	Patient and Family signage about VRI	$125.00	Fixed	One-time cost of signage	2-Each	$250.00
		Totals				**$2,700.00**
Survey Development		Cost $	Fixed or Variable			

Development of Staff Cultural Awareness and Implicit Bias Survey	Development of survey in Survey Monkey	42.50/hour	Variable	Salary for Center for Organizational Development Coordinator	2-Each	$85.00
Development of a Dynamic Queuing Survey	Development of survey in Survey Monkey	42.50/hour	Variable	Salary for Center for Organizational Development Coordinator	2-Each	$85.00
Develop a NRC Picker Interpreter Survey Question	Addition of two question to NRC Picker Survey	41.34/hour	Variable	Salary for Patient and Family Experience Coordinator	1-Each	$41.34
		Totals				**$211.34**
Education & Marketing		Cost $	Fixed or Variable			
Education and Training of Emergency Department Registered Nurses	Education for staff on Cultural Sensitivity and Implicit Bias Training	$39.00/4-hour	Variable	Salary per hour for education and training	76-staff	$11,856.00
Education and Training of Emergency Department Paramedics	Education for staff on Cultural Sensitivity and Implicit Bias Training	$24.75/4-hour	Variable	Salary per hour for education and training	12-staff	$1,188.00
Education and Training of Emergency	Education for staff on Cultural Sensitivity and	$150/4-hour	Fixed	Salary per hour for education and training	28-staff	$16,800.00

Department Physicians	Implicit Bias Training					
Education and Training of Emergency Department Support Staff	Education for staff on Cultural Sensitivity and Implicit Bias Training	$19.45/4-hour	Variable	Salary per hour for education and training	16-staff	$1,244.80
Education and Training of Emergency Department Registered Nurses	Education for staff on Dynamic Queuing	$39.00/hour	Variable	Salary per hour for education and training	76-staff	$2,964.00
Education and Training of Emergency Department Physicians	Education for staff on Dynamic Queuing	$150/hour	Fixed	Salary per hour for education and training	28-staff	$4,200.00
Training Materials for Education	Education materials for Cultural Sensitivity, Implicit Bias, and Dynamic Queuing Training	$150.00	Fixed	Cost of materials for education and training	1-Each	$150
Marketing Materials of VRI Services	Patient and Family Handouts and Brochures for VRI Services	$190.00	Fixed	Cost of materials for patient and family marketing	1-Each	$190.00
		Totals				**$38,592.80**

					Sub Total	**$88,039.43**
					In Kind Support	**$87,339.43**
					TOTAL	**($700.00)**

Appendix K: Scholarly 3-Year Budget Plan

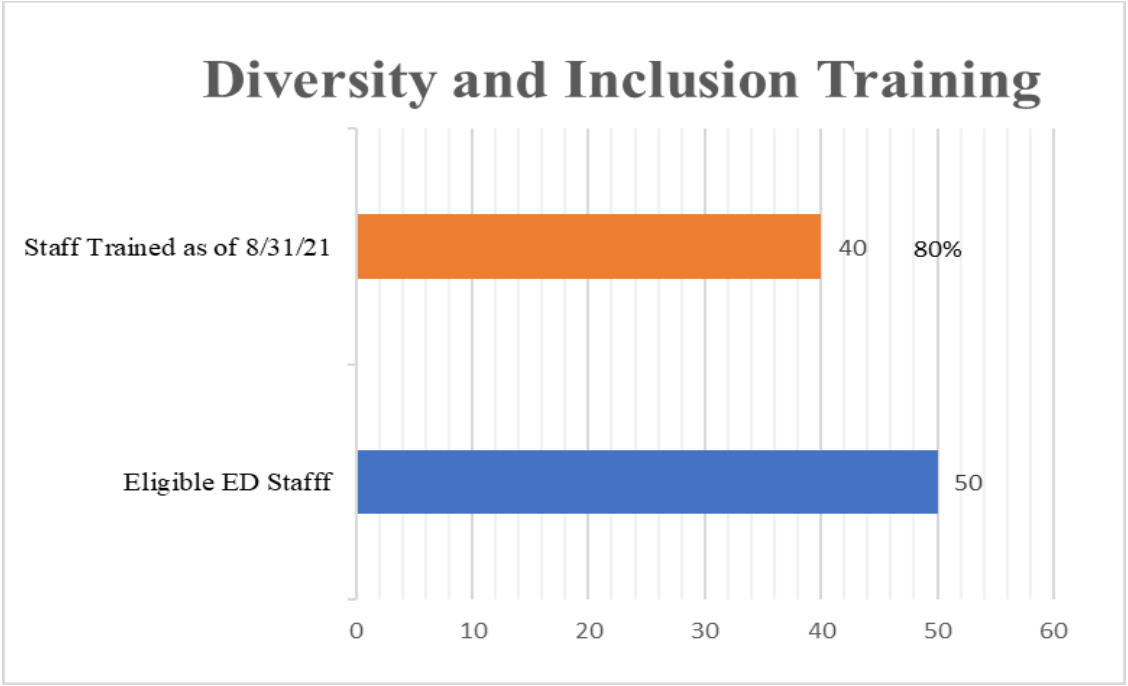
Revenues	Year 1	Year 2	Year 3	Rational
Reduction of Left without being seen (LWBS) through reduced wait times				Simulated results of reduced LWBS equals 200 patients (14%) at an average gross rate of $1900 per patient is $380,000 annually. Average net revenue at 20% of gross charges equals $380 per patient or $76,000 annually.
Total Operating Revenue	$76,000.00	$76,000.00	$76,000.00	
Expenses				
Staffing	$42,835.29	$65,243.49	$64,892.40	Full project team expenses for first year. Part-time 0.25 FTE manager, 0.33 FTE of ED Educator, 0.25 FTE Systems Reporting Specialist, and 0.10 FTE of Administrative Support
Dynamic Queuing Epic Application Build	$3,000.00	$750.00	$750.00	Epic maintain fee of program
Administrative Supplies	$700.00	$735.00	$770.00	Assumes a 5% increase annually
Supplies & Equipment	$2,700.00	$1,250.00	$1,312.50	Replacement of Video Interpreting Remote (VRI) i-Pads & signage with 5% increase per year

Survey Development	$211.34	$150.00	$150.00	Continuing education and on-boarding new employees
Education & Marketing	$38,592.80	$7,871.51	$8,125.10	Year One: Full team oriented & trained to Cultural sensitivity & Implicit bias and dynamic queuing education. Years 2-3: On-boarding of new staff: 6 RN, 3 Paramedics, 4 Physicians, and 2 support staff (averages) with 3% Increase in salary and 5% increase in marketing
Subtotal of Operating Expense	$88,039.43	$76,000.00	$76,000.00	
In Kind	$87,339.43			
Total of Operating Expense	$700.00	$76,000.00	$76,000.00	
Net Operating Income	-$700.00	$0.00	$0.00	Gross revenue estimate

Appendix L: Scholarly Project Statement of Operations

Statement of Operations		David Kruger
Revenues	**Year One**	**Comments**
Reduction of Left Without Being Seen (LWBS) through the reduction of wait times	$31,920.00	Simulated results of reduced LWBS equals 200 patients (14%) at an average gross rate of $1900 per patient is $380,000 annually. Average net revenue at 20% of gross charges equals $380 per patient or $76,000 annually. The reduction of 0.54 LWBS patients per day annually equals 84 patients from May 1st through September 30, 2021 or $31,920 in net revenue.
Salaries for project team (including RNs, Educators, and Data Analysis.	$42,835.29	Full project team expenses for first year. Part-time 0.25 FTE manager, 0.33 FTE of ED Educator, 0.25 FTE Systems Reporting Specialist, and 0.10 FTE of Administrative Support
Program Support	$44,504.14	Includes Dynamic Queueing Build, Supplies & Equipment, Survey Development, & Education & Marketing
Total Revenues	**$119,259.43**	
Expenses		
Salary	$42,835.29	
Dynamic Queueing EPIC Application Build	$3,000.00	
Administrative Supplies	$700.00	
Supplies & Equipment	$2,700.00	
Survey Development	$211.34	
Education & Marketing	$38,592.80	
Total Expenses	**$87,339.43**	
Operating Income	$119,259.43	
Total	**$31,920.00**	

Appendix M: Diversity and Inclusion Training



Appendix N: Implicit Bias, Inclusion and Anti-Racism Evaluation and Measurement

Ann & Robert H. Lurie Children's Hospital of Chicago

Barcode Removed

Implicit Bias, Inclusion and Anti-Racism Evaluation and Measurement

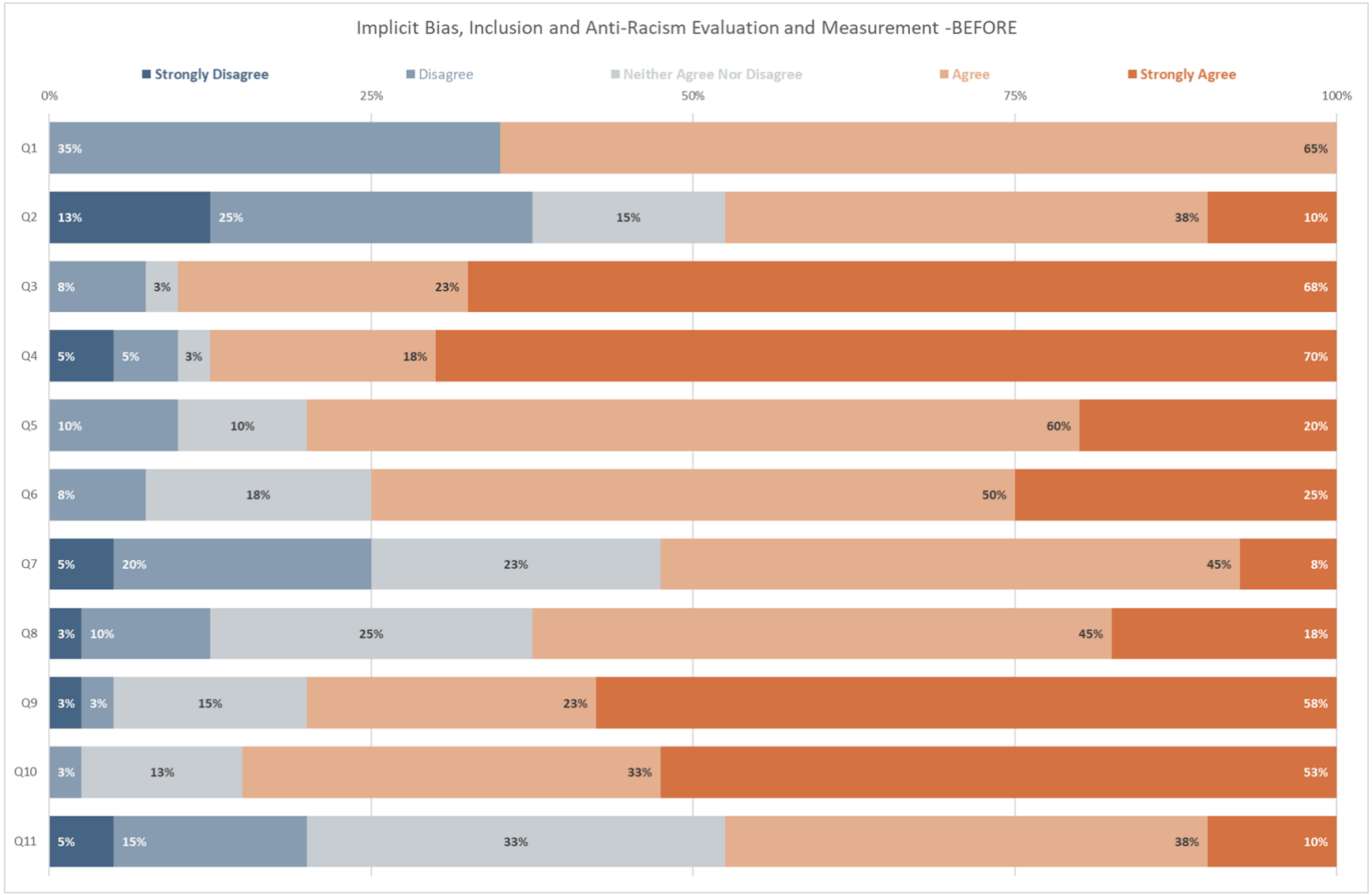
INSTRUCTIONS: For each item below, please mark the circle that corresponds to your level of agreement **NOW** and **BEFORE** the training session.

1. I feel discomfort or fear of saying the wrong thing when talking about race at work.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
2. Structural racism (i.e. structured racialized practices, policies, and history) perpetuates inequities and harmful biases.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
3. Structural racism has a downstream effect on health care and outcomes.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
4. I know how to identify examples of interpersonal/ individual racism (i.e. using coded language, questioning someone's competence based on their race or ethnicity).	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
5. I know how to identify examples of institutional racism (i.e. when organization programs or policies work better for White people than for people of color, usually unintentionally or inadvertently).	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○

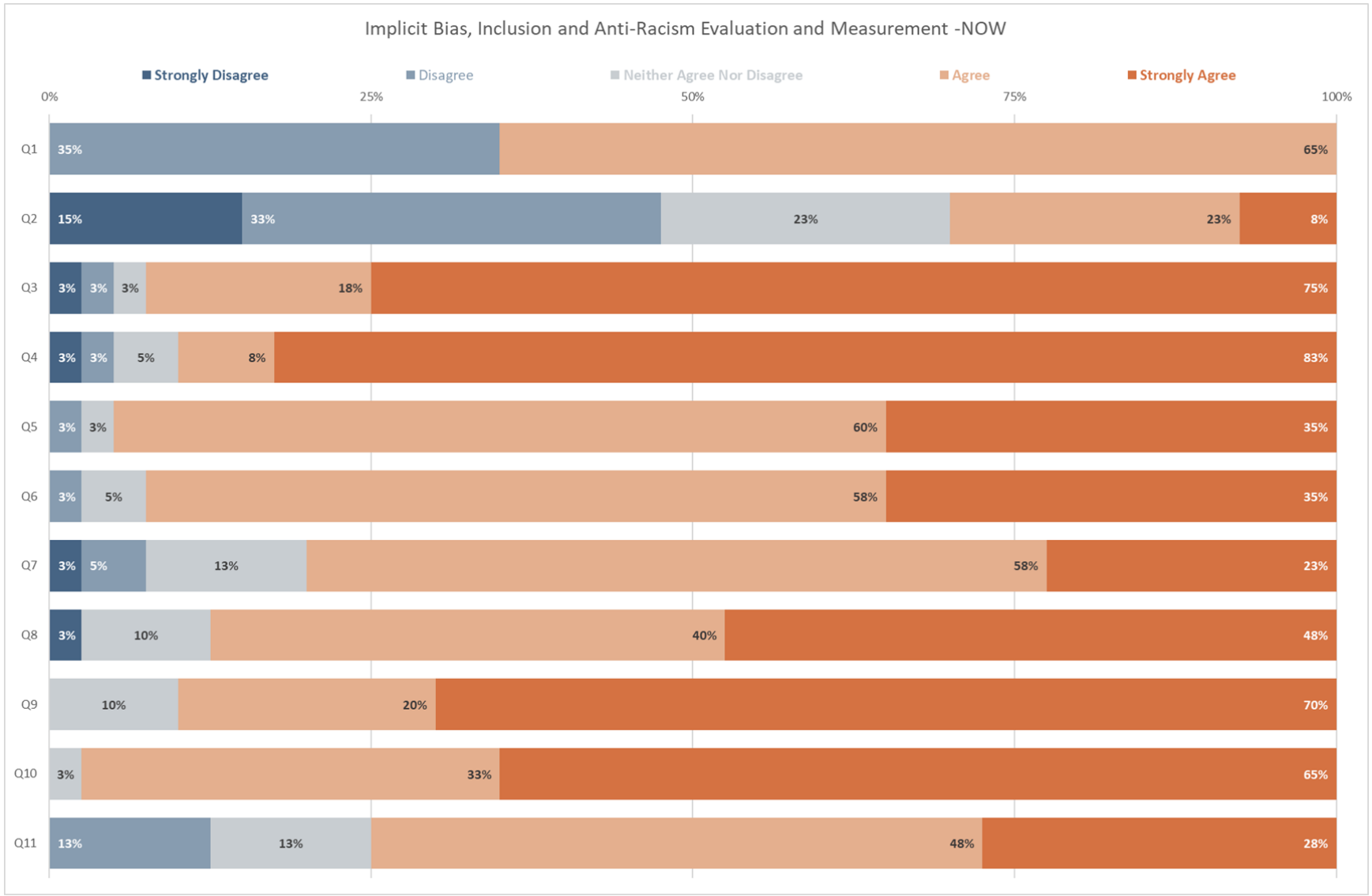
6. I am confident that I know how to respond to an incident of racism at Lurie Children's.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
7. I believe equity, diversity & inclusion are important to Lurie Children's.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
8. I can articulate Lurie Children's commitment to equity, diversity & inclusion.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
9. I believe anti-racism is an important goal for Lurie Children's.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
10. I understand what it means to be an anti-racist organization.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
11. The facilitators were well organized and communicated the material in an understandable way.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○

12. Overall, the facilitator was effective.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
13. Overall, the session was useful for me?	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○
14. The session met its stated purpose.	Strongly Disagree	Disagree	Neither Disagree Nor Agree	Agree	Strongly Agree
NOW	○	○	○	○	○
BEFORE	○	○	○	○	○

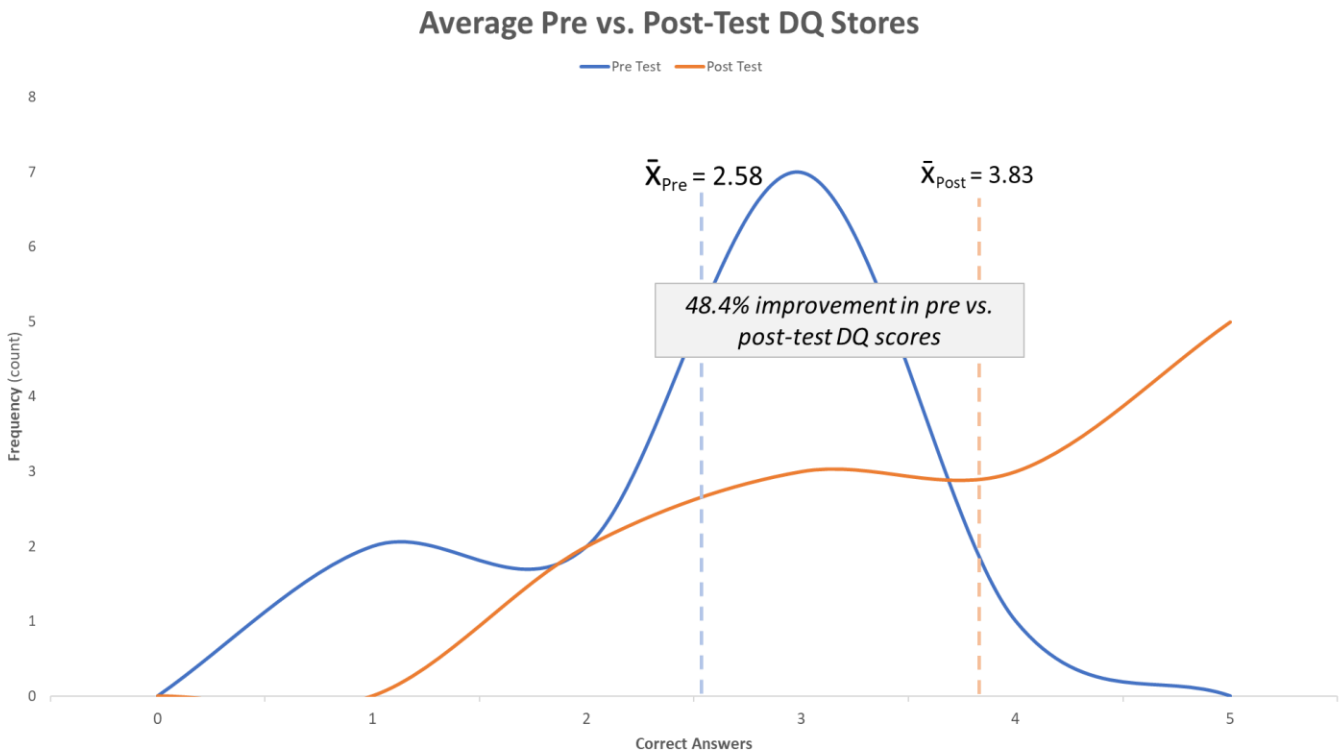
Appendix O: Implicit Bias, Inclusion and Anti-Racism Evaluation and Measurement -Before



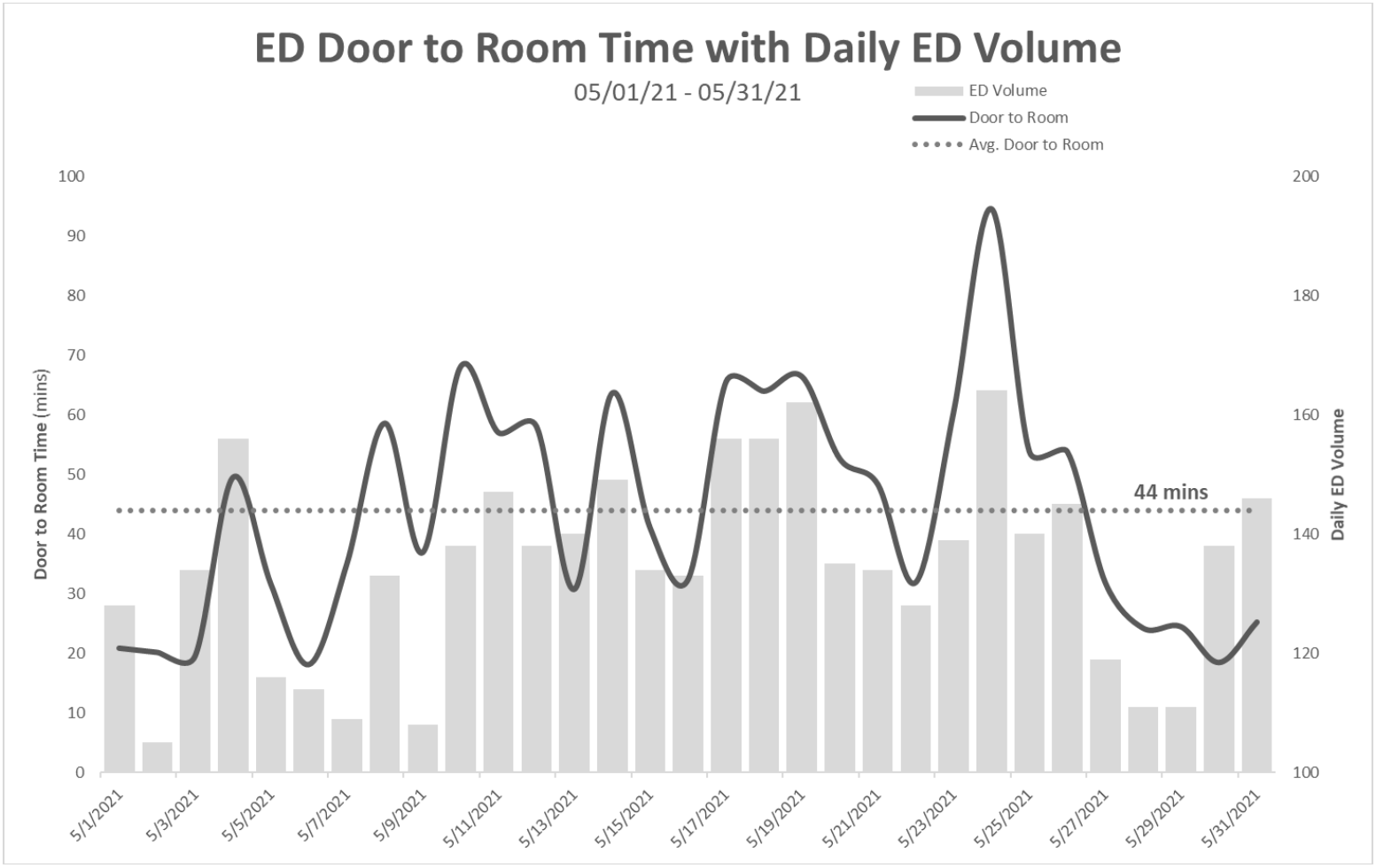
Appendix P: Implicit Bias, Inclusion and Anti-Racism Evaluation and Measurement - Now



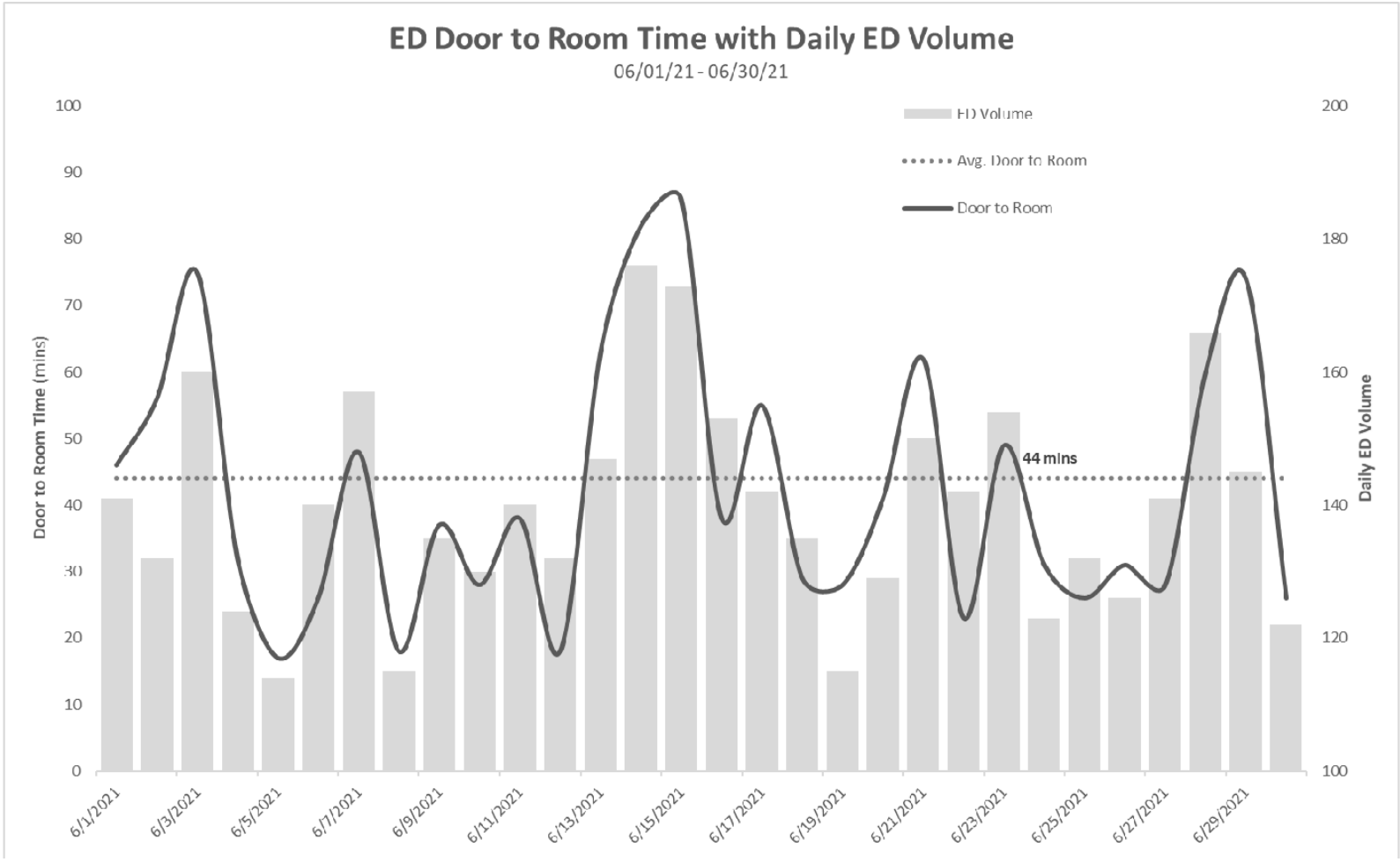
Appendix Q: Average Pre vs. Post-Test DQOKT Scores



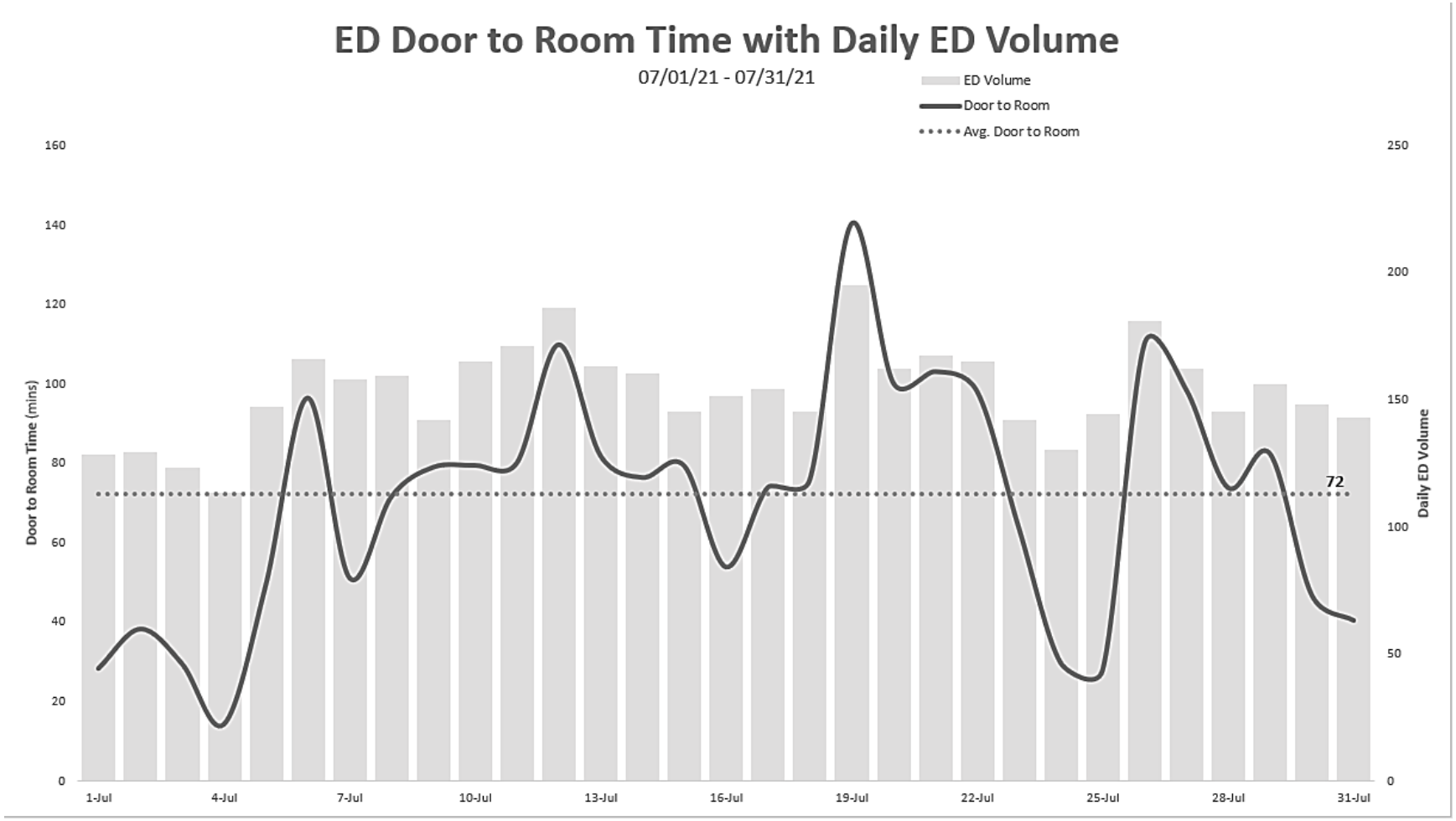
Appendix R: ED Door to Room Time with Daily Volume - May 2021



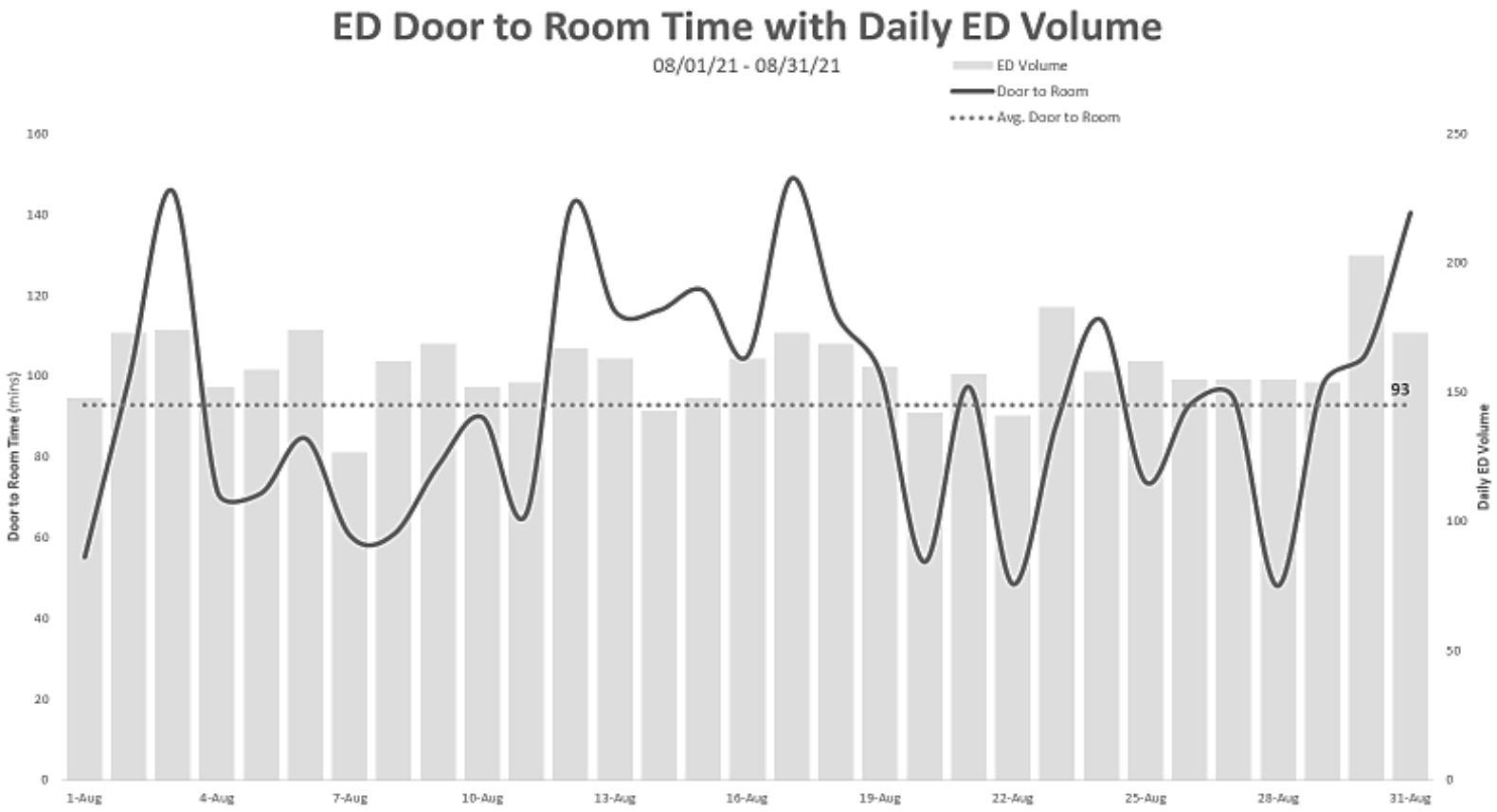
Appendix S: Door to Room Time with Daily Volume – June 2021



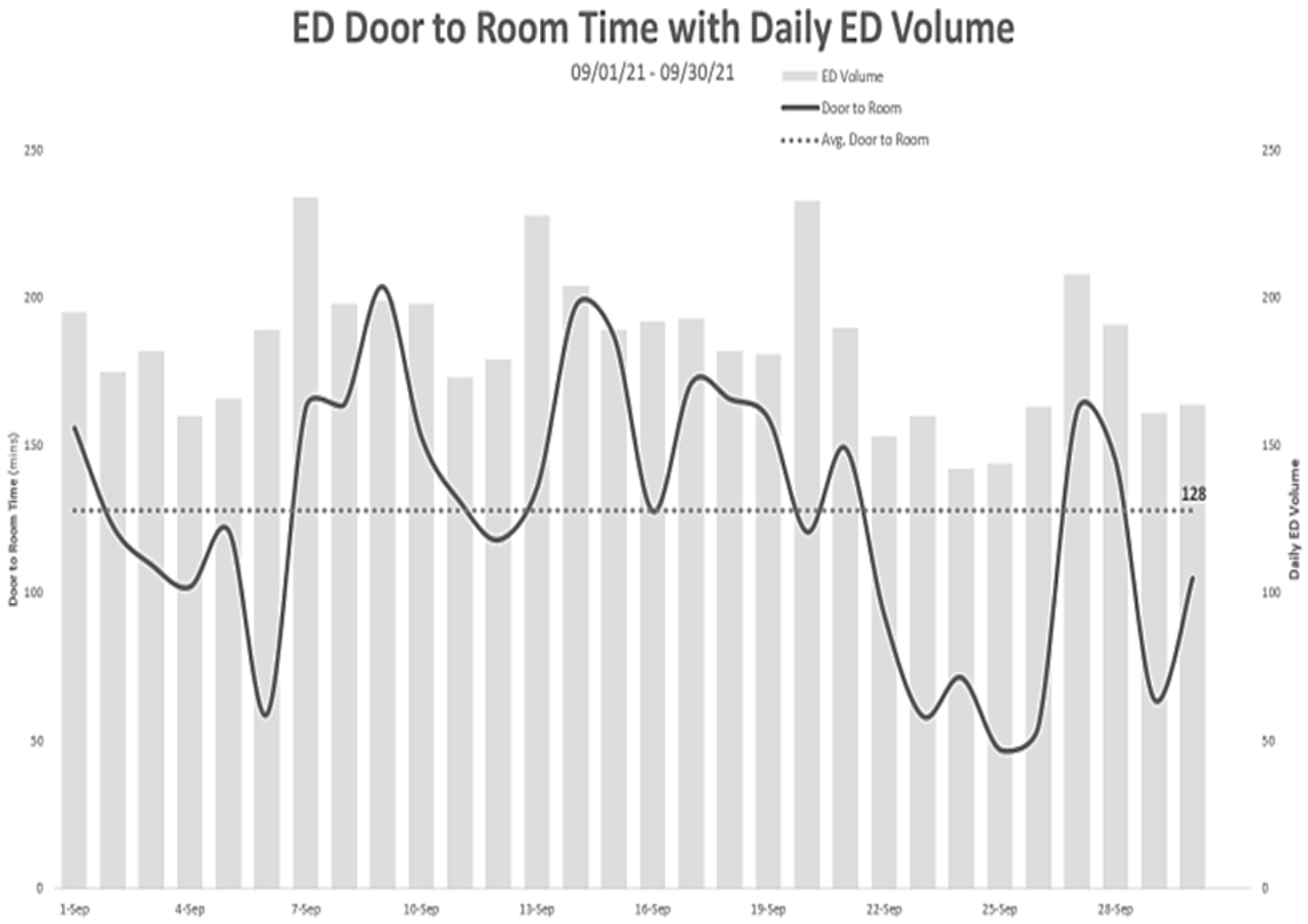
Appendix T: Door to Room Time with Daily Volume – July 2021



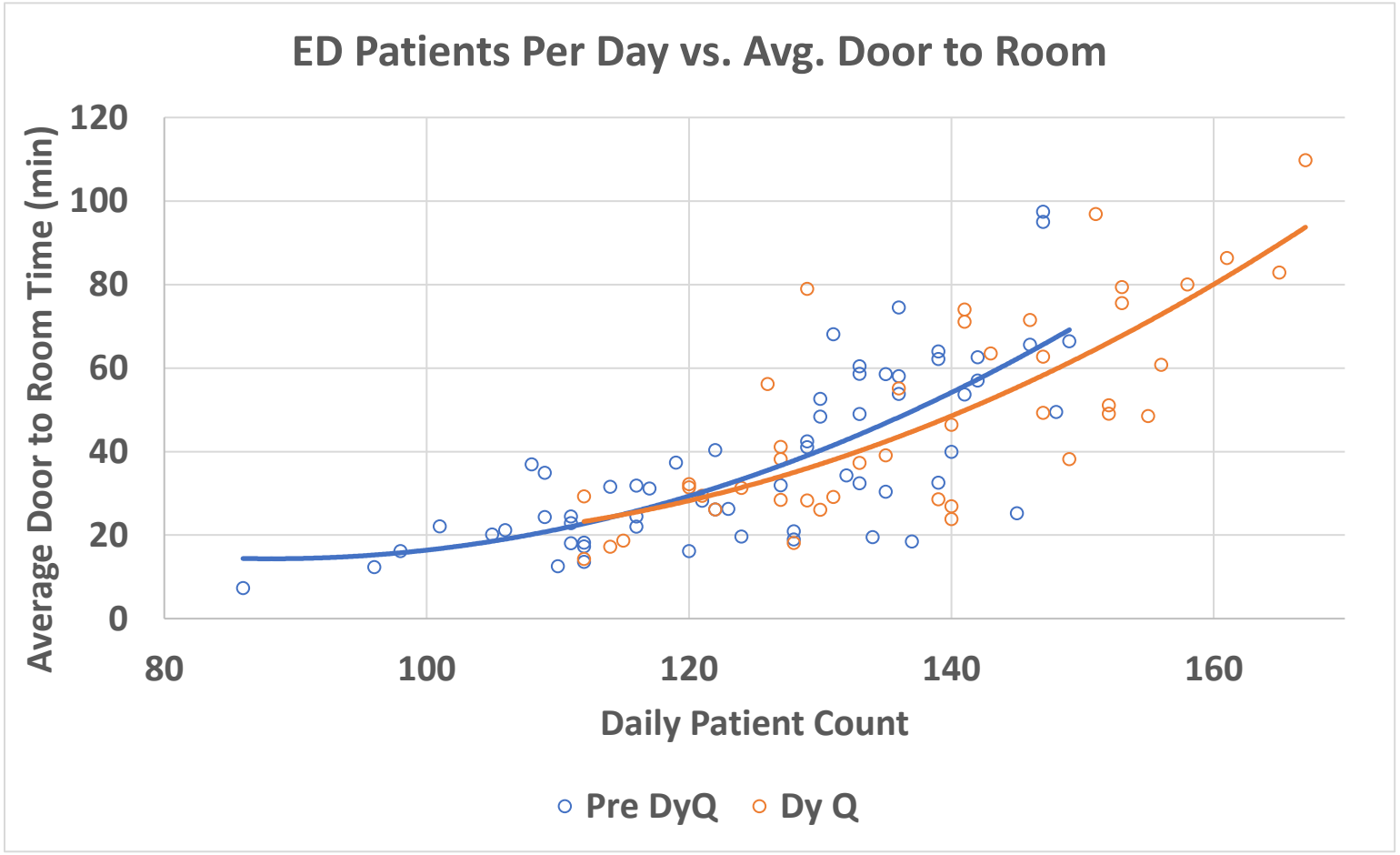
Appendix U: Door to Room Time with Daily Volume – August 2021



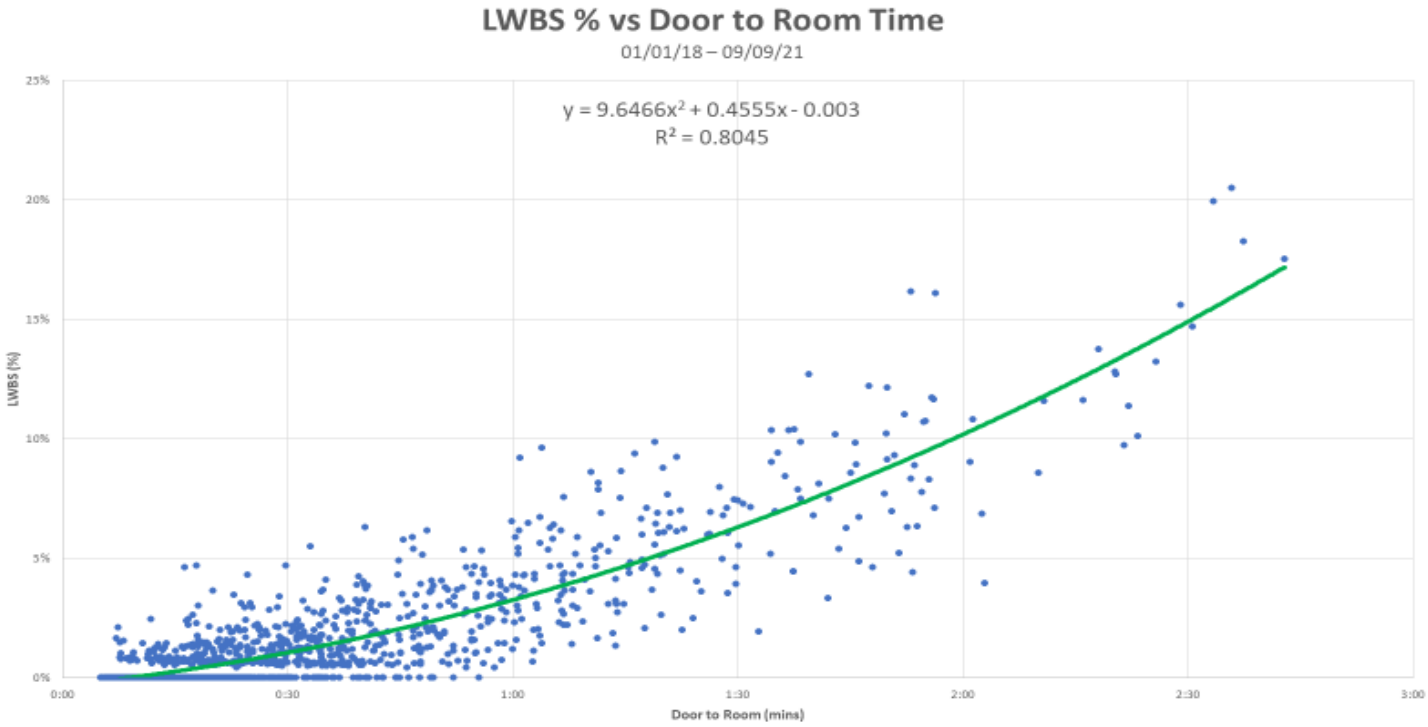
Appendix V: Door to Room Time with Daily Volume – September 2021



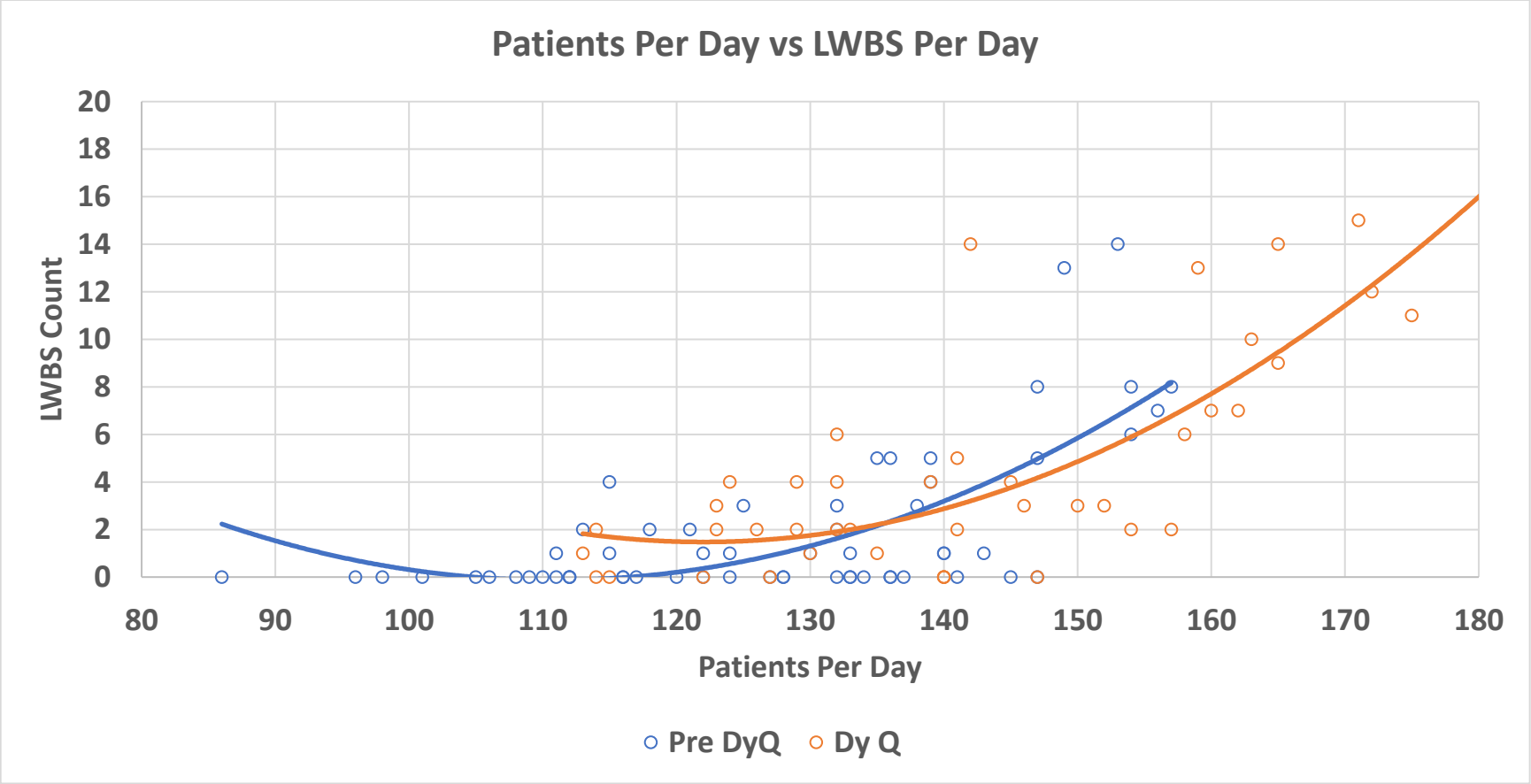
Appendix W: ED Patients Per Day vs. Average Door to Room – Dynamic Queuing



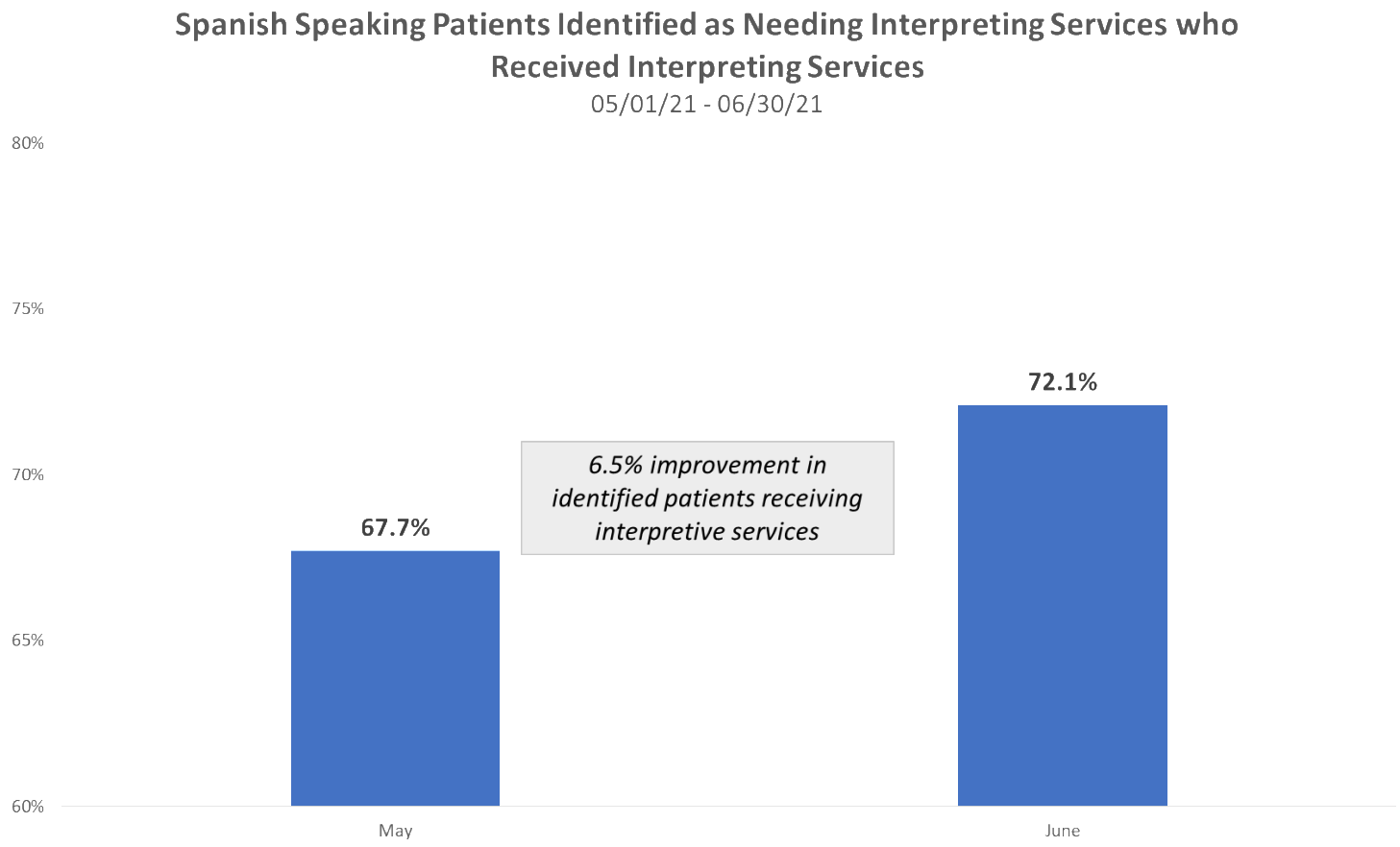
Appendix X: Left Without Being Seen vs. Waiting Room Time



Appendix Y: ED Patients Per Day vs. Left Without Being Seen Per Day – Dynamic Queuing



Appendix Z: Spanish Speaking Patients Who Received Interpreting Services



Note(s): *Date range 05/01/21 – 06/30/21; Sample sizes for May and June 641 and 620, respectively*

Appendix AA: "Did Nurses Explain Things in a Way you Could Understand"

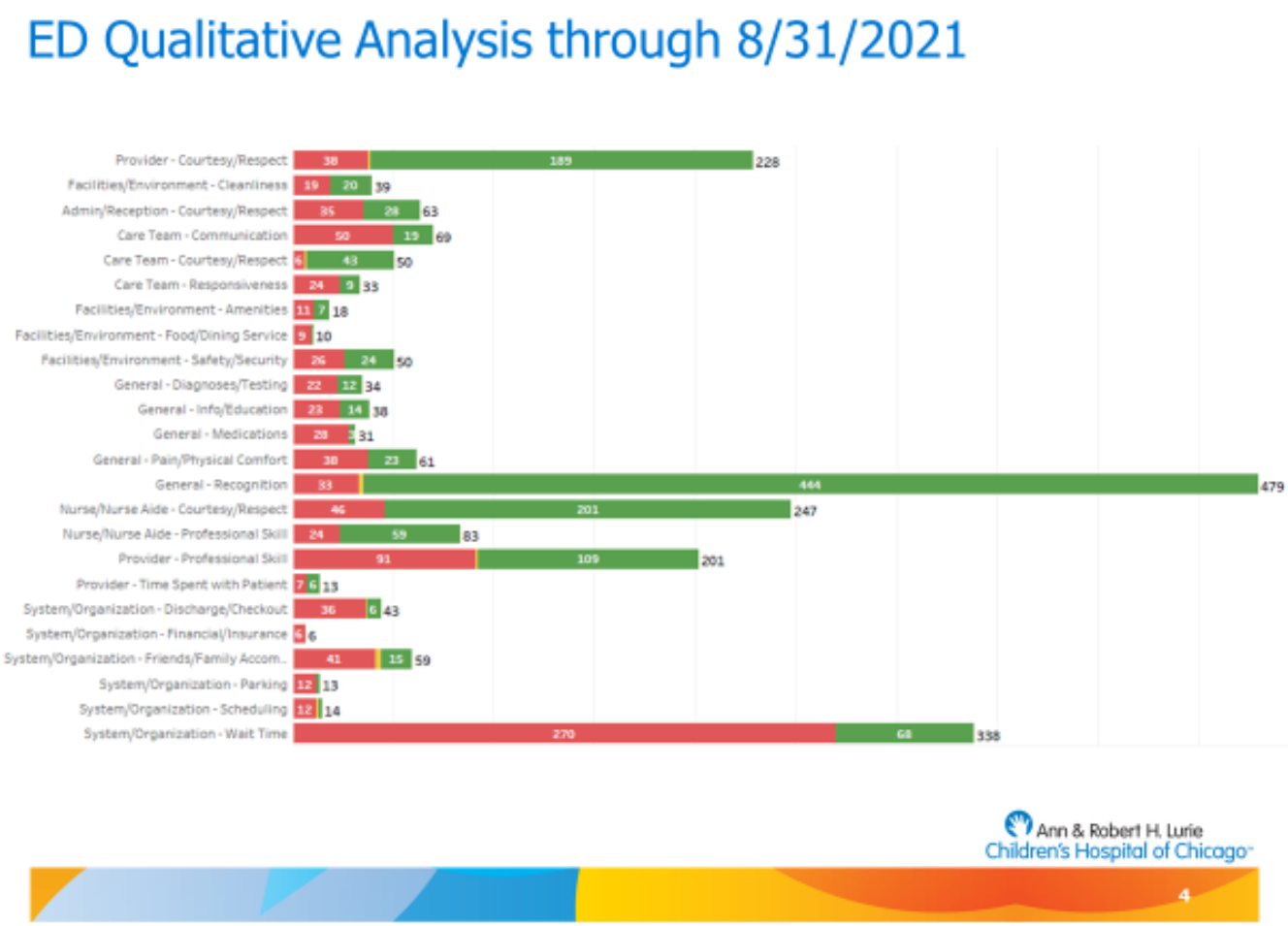
ED FY21 YTD Results through 8/31/2021

Question Text	Max. Benchmark	Pos %	n-size	FY21 Q1	FY21 Q2	FY21 Q3	FY21 Q4
How likely would you be to recommend this facility to your family and friends?	82.1%	84.3%	3,699	89.3% (n-size : 841)	92.5% (n-size : 787)	82.9% (n-size : 1,022)	75.0% (n-size : 1,049)
Did nurses treat you with courtesy and respect?	75.1%	83.7%	4,307	86.7% (n-size : 1,032)	89.2% (n-size : 883)	82.5% (n-size : 1,162)	78.4% (n-size : 1,230)
Did nurses listen carefully to you?	73.6%	83.7%	4,262	88.0% (n-size : 1,017)	89.3% (n-size : 878)	81.8% (n-size : 1,151)	77.9% (n-size : 1,216)
Did nurses explain things in a way you could understand?	75.2%	84.1%	4,233	88.4% (n-size : 1,005)	87.9% (n-size : 876)	82.3% (n-size : 1,146)	79.7% (n-size : 1,206)
Did you have confidence and trust in the nurses treating your child?	72.7%	83.2%	4,221	85.8% (n-size : 1,002)	87.5% (n-size : 873)	82.5% (n-size : 1,145)	78.5% (n-size : 1,201)
Using any number from 0 to 10, where 0 is the worst facility possible and 10 is the best facility possible, what number would you use to rate this emergency department?	78.5%	80.2%	3,735	85.1% (n-size : 848)	89.3% (n-size : 795)	78.7% (n-size : 1,028)	71.1% (n-size : 1,064)
Did you trust the care providers with your child's care?	69.6%	80.2%	4,092	83.6% (n-size : 956)	84.0% (n-size : 851)	79.5% (n-size : 1,120)	75.5% (n-size : 1,165)
Were you allowed to be involved in your child's visit as much as you wanted?	73.1%	86.6%	3,836	90.3% (n-size : 915)	89.4% (n-size : 813)	85.6% (n-size : 1,030)	82.4% (n-size : 1,078)

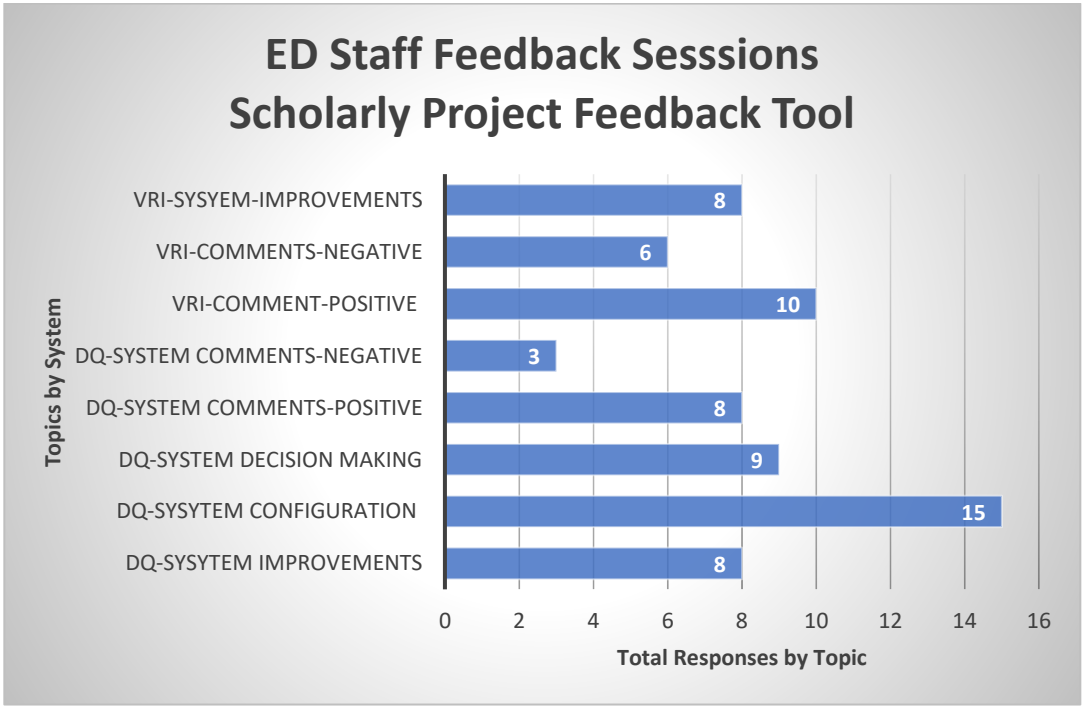
Results continued on next slide...

Ann & Robert H. Lurie Children's Hospital of Chicago

Appendix BB: ED Qualitative Analysis through 8/31/2021



Appendix CC: ED Staff Feedback Sessions



Appendix DD: ED Welcome Handout

Welcome to the Ken and Anne Griffin Emergency Care Center

On behalf of staff at Lurie Children's, we welcome you and express our commitment to provide your child with the best and most compassionate care during their stay in the Emergency Department (ED). We hope you will find the following information helpful.

Please do not allow your child to eat or drink anything without asking the nurse or doctor. Doing this may alter or delay treatment that is being planned for your child. Please ask your nurse or doctor/provider if you have any questions.

Staff of the Emergency Department:

In the Emergency Department, we work as a team. This team includes paramedics, nursing assistants, nurses, nurse practitioners, and doctors. Each member of our staff is identified by their hospital ID and title label on their badge. This means that there will be many different people entering your child's room. You will have an assigned nurse, but different nurses may come into the room to complete orders from the medical providers or to answer the call light.

You will also have an assigned medical provider, usually a resident physician or advance practice registered nurse (APRN). This person will be your central provider and contact with the emergency team. They are usually the first provider you will see during your visit. Below is an explanation of the different types of providers:

Resident Physician	Advanced Practice Registered Nurse (APRN)	Fellow Physician	Attending Physician
Licensed doctors who are getting additional training in pediatrics, and who may serve as the main medical provider for your child in the ED	A licensed independent provider who performs various aspects of patient care including diagnosis, treatments and consultations. They may conduct physicals, order tests, prescribe medications and serve as a patient's primary healthcare provider.	Licensed doctors who have completed their residency training in general pediatrics, and who are now training to be specialists in pediatric emergency medicine	Licensed doctors who have completed all of their training to specialize in pediatric emergency medicine, and now serve as the leader of your ED medical team. This doctor may be also referred to as the "head" doctor.

Lurie Children's is a teaching hospital. This means we train new doctors/staff how to appropriately take care of children. We ask for your patience during your visit.

Reasons for waiting...

We know that it is difficult to wait to see the doctor when you are worried and your child is not feeling well. Some of the reasons for delays in seeing the doctor once you are in the room can include:

- Another child is requires IMMEDIATE treatment
- Other children are currently being seen by the doctors/providers

Lurie Children's is a Level I Trauma Center. The ED sees patients first by how sick they are, then by the time they arrived. This makes it difficult to estimate how long it will be before you see the doctor/provider, but usually someone will see you within an hour after you are sent back to the room. In the meantime, the nurse will monitor your child and may start treatment, if necessary, while you are waiting.

Other reasons for delays/waiting after you have seen the doctor/provider include:

- Lab/imaging results — Take approximately 45 to 60 minutes
- Transfer to inpatient room — Approximately 45 to 60 minutes from the time the bed is ordered
- Consult with specialty service (i.e., Orthopedics, Neurology) — It is difficult to estimate an approximate wait time. We will keep you informed of any delays
- Need a plan from the specialty service
- Doctor/provider is writing discharge instructions and the nurse will be in as soon as he/she can

If you have concerns about how your child looks while you are in the Emergency Department, please notify/alert staff IMMEDIATELY.

Lurie Children's will send you a text or phone call survey within two days of your discharge. Please take a few minutes to reflect on your visit and share your experience in the ED. It is important to us to identify what we can do better to serve you. This survey allows our staff to get feedback on the quality of their work and our facilities. ***If we did not meet your expectations or you have a positive comment/experience you would like to report, please call Patient Relations at 312.227.4940.***

Ann & Robert H. Lurie Children's Hospital of Chicago

All, for your one:

While you are in the Emergency Department and hospital...

More Info	Description
Year-round Visiting Hours - Emergency Department - Inpatient - NICU/PICU/CCU (Intensive Care Units) - Observation Units	We kindly ask that visitors wear the badge that is given to them upon arrival by security. **EMERGENCY DEPARTMENT VISITS:** While we do not have visiting hours, **we do recommend that you keep the number of visitors at the bedside to a minimum.** We understand and appreciate family and friends at the bedside. However, the number of people at the bedside should stay small since **it is important that medical staff have access to the child in case of an emergency.** We allow family and friends to trade in/out of the room as many times as they want. Please see the security officers for access back into the emergency room. **INPATIENT VISITS:** 10 a.m.–8:30 p.m. for all visitors. Parents are allowed 24/7. All healthy visitors over the age of 16 years and healthy siblings of ANY age can visit during regular hours ONLY (no overnight visits). The number of visitors allowed is at the hospital's discretion and dependent on seasonal flu and outbreaks. If the PATIENT IS IN ISOLATION, parents are allowed 24/7 and healthy siblings must be over the age of 12 years to visit. **ICU VISITS:** Same as inpatient visits, but only THREE visitors are allowed at the bedside. NO CHILDREN UNDER 12 YEARS OLD are allowed at any point. **OBSERVATION UNIT VISITS:** Same as inpatient visits, and number of visitors allowed would be at the hospital's discretion and dependent on seasonal flu and outbreaks. It is important to check with staff in any department where you are being admitted to see what the visitor restrictions are. The Emergency Department will do their best to display notifications, but staff can also answer your questions regarding this matter. ***If at ANY TIME any visitors have a cough/runny nose, please wear a face mask when in the hallway or around the hospital to help prevent spread of infection. There are multiple hand sanitizer dispensers throughout the department if needed, as well as sinks in the patient rooms and bathrooms for your use.***
Wireless Network *(WiFi)*	The network is Lurie Children's Guest. No password is required. Please ask staff for assistance if you have any problems.
Pillow Speaker *(TV remote and call light)*	This is the "remote" that has buttons for the nurse call light and TV. The red "Nurse" button alerts staff that you need assistance. You may hear a voice from the speaker on the wall, or staff will come to the room to assist you and turn the call light off. To access the **TV**, press "power" and then press "TV" to view our limited local/cable channels. Use the arrow buttons to navigate the channels (child stations are 15–20). The volume is on the side. We also have a number of movies available, please ask staff to help you turn one on if you are interested. We ask that you choose appropriate viewing for your child.
Parking	**Self Parking:** Cost is $11 for up to 7 hours, and $15 for up to 24 hours with a validated ticket. Please see the security guard at the 2nd floor desk to validate your ticket. **Valet Service:** Available Monday–Friday, 5:30 a.m.–9 p.m. from the driveway. Cost is $15 for up to 7 hours, and $20 for up to 24 hours. Cash and major credit cards accepted FOR BOTH.
Interpreting Services	In-person Spanish interpreters are available 10 a.m.–12:30 a.m. Telephone interpretation and video interpreting services are available at the bedside to provide immediate access to more than 200 different languages 24/7. All are free of charge. Please ask for one if one is not provided.
Child Life	Child Life Specialists are healthcare professionals who help patients and their families navigate the process of illness, injury or hospitalization. They provide additional support to children and families during their time at Lurie Children's. Check with your nurse for Child Life Specialist availability.
Bathrooms	Located in the hallways. There is a changing table in the Family Lounge (near room 7 if not occupied) or in the bathrooms in the waiting room. Please check with staff if you need a specimen cup for a urine sample.
Food/Coffee Options	Food/drinks are allowed in the rooms. **ALWAYS** ask staff before giving your child anything. If your child cannot eat/drink, we recommend that you enjoy your food/drink outside the room. - **Sky Café (cafeteria):** 11th floor using the elevators in the main lobby - **Dunkin' Donuts:** At Prentice Hospital - **Starbucks:** At Northwestern Hospital ***There are also other options in the area around the hospital for food. Feel free to ask if you have any questions or need directions.***
Phones	To use the phone in your room, dial 9-1-area code-number. You can also use your cellphone in the room. If your cellphone needs to be charged, we have a charging station available in our waiting room for most phones. ***Disclaimer: We are not responsible for unattended, lost or stolen devices.***
Pharmacy	Outpatient Walgreens located *inside* the hospital is available M–F, 8 a.m.–7 p.m. and Saturday 9 a.m.–4 p.m. on the 3rd floor. ***We apologize for the inconvenience, but at this time we do not call ahead prescriptions.***
Chaplain	We have a chaplain available 24/7. Please ask staff to contact the chaplain at any time. The Chapel is located on the 12th floor and open 24/7.

Thank you!

Ann & Robert H. Lurie Children's Hospital of Chicago

225 East Chicago Avenue
Chicago, Illinois 60611-2991
312.227.4000

luriechildrens.org

Appendix EE: ED Triage Handout

Please DO NOT allow your child to eat OR drink anything without asking the nurse or doctor. Doing this may alter or delay treatment that is being planned for your child. Please ask your nurse or doctor/provider if you have any questions.

If you have concerns about how your child looks while you are waiting, or if something changes from when you initially arrived, please NOTIFY/ALERT the staff IMMEDIATELY by approaching any of the staff.

Ann & Robert H. Lurie Children's Hospital of Chicago
Kenneth & Anne Griffin Emergency Care Center

On behalf of staff at Lurie Children's, we welcome you and express our commitment to provide your child with the best and most compassionate care during their stay in the Ken and Anne Griffin Emergency Care Center. We hope you will find the following information helpful.

Triage is the first step, and this is where our care begins

Triage is the process hospitals use to make sure that patients with the most serious needs are treated first. Our triage nurses are specially trained in pediatric emergency nursing. The triage nurse will ask questions about:

- Current illness/injury
- Immunizations/Vaccines
- Allergies/Medical problems
- Exposure to contagious illnesses
- Medications given at home
- Recent travel inside and outside the U.S.

While we understand that you may frequently visit the hospital, it is safer and more efficient for the staff to ask these questions even if they are available in the previous charts, as they may not be up to date in the chart created in the Emergency Department (ED). If there are empty rooms available, you will be sent back when the second nurse or staff member obtains a current weight. We ask that you remove any heavy clothing such as sweatshirts and jackets, as well as heavy boots. Otherwise, we kindly ask that you have a seat in the waiting area for a room to become available and ready for you.

The next staff member you see will weigh your child on the appropriate scale. They may be checking:

- Temperature
- Blood pressure
- Heart rate
- Lung/heart sounds
- Oxygen level (if needed)
- Doing a specific exam of the injury

The nurse will use all the information found to make a decision on who needs to be called next to a room.

▶ ***In an emergency department, patients are seen FIRST by how sick they are, and then by the time they arrived.***

Reasons for waiting...

We know that it is difficult to wait to see the doctor when you are worried and your child is not feeling well. Reasons for a delay in going back to a room and seeing the doctor can include:

- Another patient requires IMMEDIATE treatment after seeing the nurse
- Beds or treatment rooms are full or need to be cleaned

Lurie Children's is a Level I Pediatric Trauma Center, which means that seriously ill/injured patients may be arriving through another door. The Emergency Department has different areas with different providers who will treat your child. Depending on the category assigned by the triage nurses, you may also be waiting for a specific room in a specific area. The staff may direct you to a particular area where your child will be seen, so please listen carefully to any instructions. The nurses in front will try their best to answer any questions you may have about your visit, but **an estimated wait time may not be accurate and may not be given**. We will do our best to keep you informed.

While you wait

To help move your visit along, the nurses may order an x-ray of an injured arm, leg, finger or toe. They will also try to make your child more comfortable by giving medications for fever, pain or itching if able. In addition to medications, a heat/ice pack may be given. Breathing treatments may also be started if the nurse feels it's necessary but a room is not available yet. In the meantime, the nurses who work in the triage area will monitor your child while they are waiting and may call you to the desk again to recheck him/her.