

IMPLEMENTING A DISCHARGE NURSE ROLE

STREAMLINING THE DISCHARGE PROCESS ON A POSTPARTUM UNIT BY

IMPLEMENTING A DISCHARGE NURSE ROLE

A DOCTOR OF NURSING PRACTICE PROJECT SUBMITTED TO THE OFFICE OF
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Abstract

Background: Hospital discharge planning is mandated by the federal legislature arguing that education classes increase the knowledge and skills of parents to better care for themselves and their newborn (Wagner & Washington, 2016), which likely reduces readmission. Instrumental teaching involving physical and psychological changes which affect the woman and/or newborn health such as jaundice and postpartum blues and depression are a necessary part of the discharge teaching (Suplee, Kleppel & Bingham, 2016). The American College of Obstetrician and Gynecologists (ACOG) released Committee Opinion number 736 which encourages revision of the postpartum care plan in the transition from intrapartum care to postpartum care (ACOG, 2018).

Purpose and Objectives: The purpose of this evidence-based quality improvement project was to reduced couplet discharge time to meet the target goal of discharge within 2 hours from the discharge order by using a designated discharge nurse to facilitate patients transition back to the community.

Methods: Data was collected during three phases. The first phase conducted an informal author-developed survey of the MBU staff and couplet discharge baseline data via a retrospective chart review. The second phase included direct observations of the discharge process. The third phase consisted of a post-implementation author-developed survey and chart review.

Results: The pre-implementation chart review was compared to post-implementation chart review data and an overall decrease to the patient's discharge time was evident. Discharge times during the pilot project decreased to an average of 2 hours post-written discharge order, meeting project goals and reducing discharge times by 1-2 hours as compared to pre-implementation data.

Discussion: This evidence based-practice project reflect discussion found in the literature review that the role of a discharge nurse can enhance the patient's readiness for on-time discharge. Staff

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survey participation decreased in the post-implementation survey from 22 participants to 13 focusing on nurses who predominantly worked day shift during the peak hours of couplet discharges and indicated similar pre-intervention concerns such as pharmacy delays and the need to have a discharge tool as a checklist. Short-term objectives were met with an overall decrease of on-time discharge from 3-4 hours to 2 hours and increased staff satisfaction measured using Likert scale questions. The implementation was to originally run from March 1 to March 31, it stopped on March 23 due to unavailability of the assigned discharged nurse. This resulted in lower patient sample numbers during the implementation chart review.

Conclusion: Adaptation of a discharge nurse role can enhance patient discharge education, increase nurse's satisfaction, and decrease on-time discharge delays. By adding a discharge nurse role into any hospital unit, discharge patient readiness is increased.

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Introduction

Hospital discharge is not a single event isolated from the rest of the patient's care. It is a complex event that depends on multiple activities to be completed throughout the hospital stay. Timely transition from hospital care back to the community is integral to a patient's recovery and independence. While patient discharge varies from one individual to another, it can be an organized transition involving discharge planning and task completion (Waring et al., 2014). Effective and timely discharge can reduce readmission rates, diversion of patients to other hospitals due to lack of beds, improve satisfaction scores, and improve length of stay (Lin et al., 2012). A delayed patient discharge can create a bottleneck effect and push sister units (e.g., Labor and Delivery and Postpartum/Mother-Baby Units) to hold on to their patients longer, therefore decreasing their bed capacity and network diversion.

Improving the discharge process requires planning to prevent delays. Any holdup on the supply of beds can create a challenge for the Labor and Delivery and Postpartum/Mother-Baby Units (MBU) potentially compromising the well-being of the mothers and their infants. Discharge for the Mother-Infant couplet is dependent on readiness of both patients, this is unique to this patient population. This is a daunting challenge as various services are involved in the discharges (i.e., nurses, obstetricians, pediatricians, pharmacists, audiologists and more) and each provider or service must be a coordinated. Rapid turnover accounts for hurried discharge teaching education as well.

At Tripler Army Medical Center (TAMC) Postpartum women receive discharge information for herself and infant hours before discharge home. TAMC's MBU nurses must coordinate and educate their patients discharges while balancing a full load of four couplets. Currently, patients are being discharged on average 4 hours past the provider's discharge orders/

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target goals. Plus, the hospital has had to divert patients to other institutions due to discharge bottleneck/back-up seventeen times in Fiscal Year 2020.

Therefore, the purpose of this evidence-based quality improvement project is to improve up to 10% Mother-Infant couplet discharge time over the next three months by establishing a program to: 1) create and utilize an assigned discharge nurse, and 2) standardized a discharge checklist. The discharge nurse will plan and coordinate patient's discharges by providing a consistent education program, tracking, and completing patient's discharge checklists and facilitate their hospital discharge.

Background

The Institute of Healthcare Improvement (IHI) recommends orchestrating the discharge process one day ahead of time to avoid a bottleneck effect (IHI, 2003). Tripler Army Medical Center (TAMC) Mother-Baby Unit (MBU) needs an effective and efficient discharge process to support its patient's continuity of health care, avoid bottleneck, and retain hospital revenue. This process will decrease the number of patients transferring to out-of-network providers due to unavailability of beds in the MBU unit, which occurred 13 times during Fiscal Year 2020 secondary to a prolonged discharge process. A retrospective analysis conducted at the TAMC MBU clearly documents a delay in timely discharge. Over eight months, March to October, the average discharge time exceed the target discharge timeframe by an average of 3-4 hours (Appendix A).

Phase one of the needs assessment was to conduct an informal survey (Appendix C) of MBU staff. Staff were diverse and included Registered nurses (RN), Licensed Practical nurses (LPN), Medical Doctors (MD), Doctor of Osteopathic (DO), and Midwives who predominantly work on the day shift where most discharges take place. The staff were asked question about

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their perceptions related to the discharge process. For example, questions included: Do you feel that there is a standard and efficient discharge process; do you feel that patients/families are discharged on-time (within 2 hours of the discharge order after activation of the order); and what are the barriers for timely discharge? Staff responses were analyzed, and findings highlighted three categories that impede timely discharge, these are: provider delay, patient's barriers, and pharmacy delay. Provider delay involves missing discharge orders, discharge orders not matching discharge instructions, or missing provider (attending provider) notes (Figure 1). Patient's barriers to timely discharge included waiting on a car seat and waiting on home transportation. Pharmacy delay involved a delay in the availability of discharge medications/vaccines at time of discharge. While 81% of staff agree that there is a discharge progress, 55% either are neutral or disagree the process is standardized or efficient. Respondents reported a high level of desire for implementation of a new 'discharge nurse' role (Figure 2). Lastly, to support an efficient discharge process, staff also recommended the following: 1) routinely administered vaccines (e.g. MMR, Varicella, Tdap, and flu) should be stocked in the MBU refrigerator, 2) circumcisions should be completed a day prior to discharge, 3) a discharge video for patients to view from their rooms should be created, and 4) support staff (e.g. nursing assistants) should assist by picking up medications/vaccines from the pharmacy at the start of shift the day of the planned discharge and escorting mother and baby to curbside pickup for car seat check.

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Figure 1. Barriers for timely discharge in TAMC's MBU

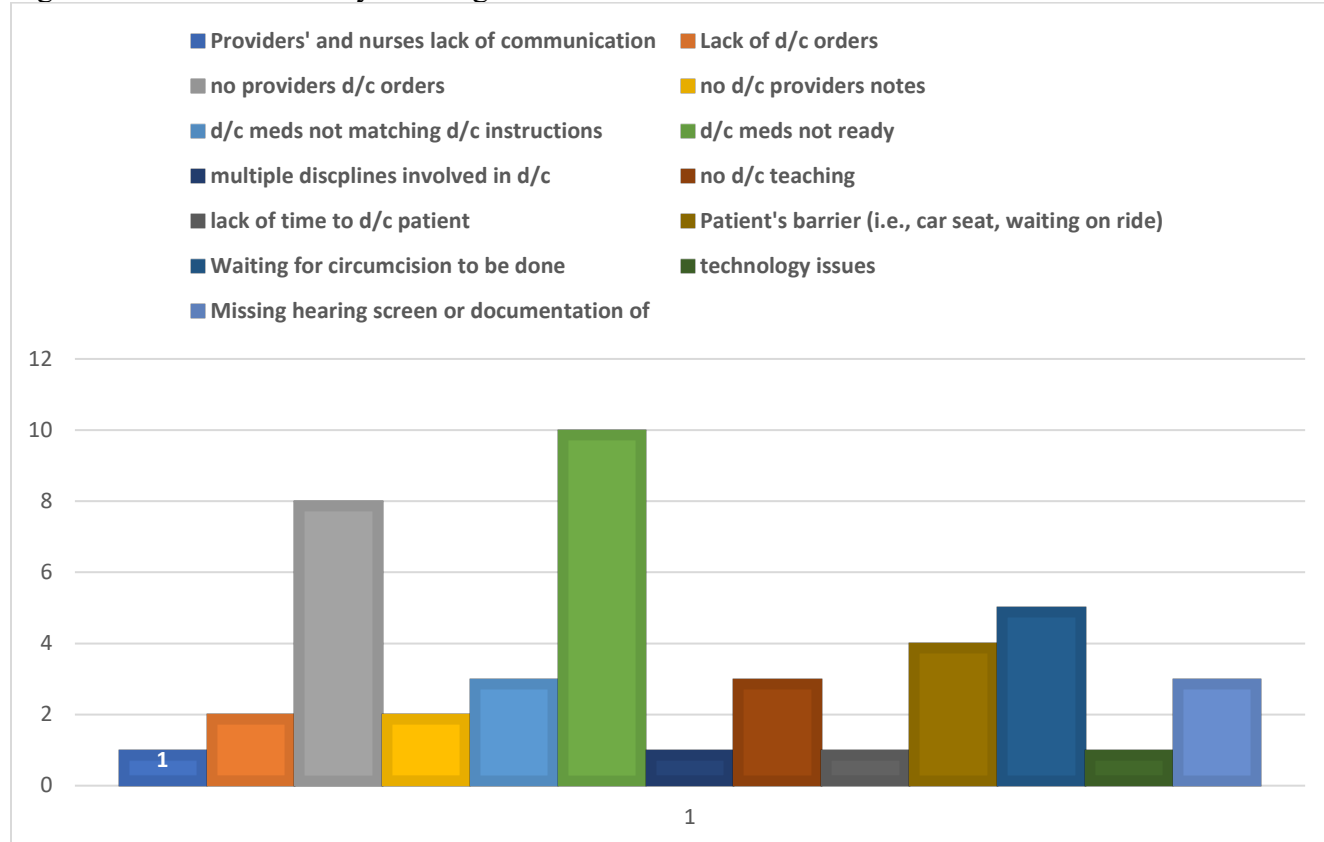
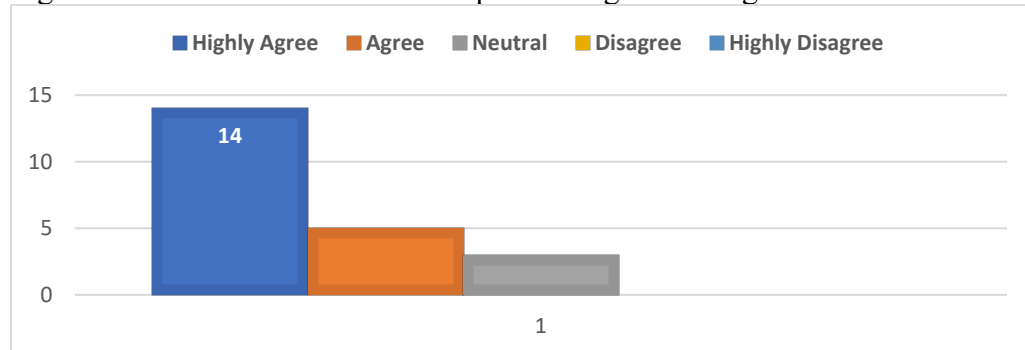


Figure 2. Can MBU benefit from implementing a discharge nurse role?



Phase two of the need's assessment included direct observations of the discharge process. Two patient discharge observations were conducted by a member of the MBU Practice Council (UPC) and the MBU Clinical Officer in-charge (COIC). They concluded that discharge delays are largely due to the pharmacy delay. Delays associated with the pharmacy included: staff

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picking up incomplete patient medication orders (bags), having to submitting and re-submitting discharge medication orders, and staff making multiple trips to pick up vaccines or waiting on vaccines requests.

Concluding elements from the informal survey and direct observation highlighted that inefficiencies and time delays were related to difficulties in 1) gathering medications for discharge and 2) providers' order clarifications or delays. The use of an assigned discharge nurse to coordinate the overall discharge effort with a focus on improving outcomes related to pharmacy delay and tracking providers will likely have a positive impact on timely patient discharge.

In consultation with key stakeholders (MBU staff, leadership, and administrators) the need for implementing a discharge nurse who can focus on: 1) efficiency and effectiveness related to provider and pharmacy communication and planning, and 2) assisting with additional administrative, organizational, and patient educational needs related to discharge will improve discharge timelines, as well as reduce the discharge workload for nursing staff enabling them to concentrate on their non-discharge patient care duties.

Description of Problem

Per the Newborns and Mothers Health Protection Act of 1996, insurance companies are required to cover forty-eight hours of care for vaginal deliveries and ninety-six hours after a caesarean birth (Kuper, 1997). Hospital discharge planning is mandated by the federal legislature arguing that education classes increase the knowledge and skills of parents to better care for themselves and their newborn (Wagner & Washington, 2016), which likely reduces readmission. Instrumental teaching involving physical and psychological changes which affect the woman and/or newborn health such as jaundice and postpartum blues and depression are a

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necessary part of the discharge teaching (Suplee, Kleppel & Bingham, 2016). The American College of Obstetrician and Gynecologists (ACOG) released Committee Opinion number 736 which encourages revision of the postpartum care plan in the transition from intrapartum care to postpartum care (ACOG, 2018). Many hospitals across the United States use a discharge checklist as a guide to provide patients discharge readiness, while other medical centers have dedicated staff for patient discharge.

TAMC is composed of sixteen beds/bassinets in the MBU unit and eleven beds in the LD unit. Hospital discharge planning at the MBU unit relies on unstructured and fragmented workflow which includes patient education, discharge and breastfeeding classes, and car seat tests, audiology tests, and other miscellaneous services and tasks (e.g., medication and discharge physician orders and pharmacy filling and delivering medications). Nurses are responsible for orchestrating and coordinating these multitude of tasks often conducted by other numerous and varied professional staff. The intuitional goal/anticipated discharge time is two hours from the written discharged order. The MBU has a prolonged discharge time over four hours past the expected discharged timeframe. TAMC MBU discharges are divided by AM and PM. TAMC MBU AM discharge definition includes any discharge that takes place before or at 12:00 pm. PM discharges are defined as afternoon or evening discharges after 12:00 pm.

When all beds are occupied in both units (LD and MBU) the hospital has no choice but to divert patients to other hospitals. At TAMC, the LD unit diverted patients thirteen times in Fiscal Year 2020 (October 2019 to September 2020) resulting in 17 individual patients who delivered in private out-of-network hospitals for an average cost of \$9,000 to \$17,000 for vaginal deliveries and \$15,000 to \$25,000 for cesarean delivery. The overall number of patients diverted

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to other hospitals is directly related to the lack of bed availability on the MBU unit which is hindered by ineffective discharge workflow and delayed discharge times.

Compounding the issue at TAMC is the utilization of multiple nursing staff as discharge nurses. This requires additional training and time to orient each MBU nurse on each shift to the discharge roles and tasks. Currently, shift charge nurses take on extra burdens in helping nursing staff on the weekends, evening shifts, and holidays. During weekends and holidays, the MBU shift charge nurse duties involve shift rounding with medical providers, conducting the daily patient discharge class, documentation of discharge class attendance, discharge medication pickup and immunization as ordered. This leaves insufficient time to do a thorough one to one discharge class with ten to sixteen patients daily pushing the bedside nurse to complete the assigned patient's discharges.

Research conducted by Kang et al., 2019, support the notion of a specified discharge nurse. Their report documented that discharge process involves patient education as well as multitasking discharge coordination and order's clarification. If not conducted by a specified discharge nurse, the roles associated with the discharge process leaves general nurses frustrated over the patient's lack of preparation for discharge. The education process needs to start at the time of admission by using the implemented MBU unit admission binder that serves as a guide for the necessary education prior to discharge. A specified discharge nurse can continue and expand on that education by providing a structured daily class, gather discharge medications and vaccinations, refer patients in need for social work or case management, and utilize a checklist to verify the couplet for discharge readiness. Discharge readiness perception by the mother can reduce unplanned readmission to the hospital (Lin et al., 2012). Maternal postpartum readmission includes patients with existing comorbidities as hypertension and diabetes, infection

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and psychiatric illness and post cesarean section (Clapp et al, 2016). Re-admission average is within 7-days post-discharge.

Improvement on the discharge process by utilizing a specified discharge nurse will improve timely discharge and compliance with TAMC targeted goals. Currently, patients' discharges are delayed from the time the order is written to the actual discharge time by 4 hours (Appendix A). As TAMC discharges the mother/baby as a couplet, no individual discharges are done, therefore orders medications and teaching needs to be completed for the couplet. As discussed, discharge readiness relies on additional internal stakeholders/staff which are required to complete newborn screenings, circumcisions, and audiology screening. Newborn screening program offers timely genetic disease recognition with appropriate intervention to all infants and can only be done after 24 hours of life. Circumcisions are completed during day shift per hospital policy to have a urologist in-house for questions and emergencies. According to the American Academy of Pediatrics (AAP) infants cannot be discharged from the postpartum unit without proof of a hearing test (Newborn Hearing Screen Program, Hawaii State Legislature §321-361, 2001). Hearing screen audiologist technician's late charting or lack of documentation has been identified as a variable in delayed daily discharges. Favorably, the timing of hearing screening tests has been optimized from completing it prior to discharge to the day after birth and is not considered a barrier to on-time discharge.

If implemented, the planned MBU specified discharge nurse will assist patients and their families to be prepared for the transition from hospital to home with adequate education to recognize signs and symptoms of illness in mom and newborn. This discharge nurse will attend daily provider rounds at 0800; use a daily checklist to track the couplet discharge tasks; facilitate the unit discharge class at 0900 or meets one-on-one with patients and their families to instruct

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them on the proper at home care and answer any questions; picks-up and deliver discharge medications and vaccines as needed; schedule a newborn 2-day follow-up appointment; inspect infant car seat fit; and accompanies patient off-unit to their vehicle. The discharge nurse therefore will free up bedside nurses to continue to provide safe and efficient care to all assigned patients, as well as be freed to admit a new patient, decreasing the need for the hospital to go on divert and thereby likely increase patient satisfaction with the institution.

PICOT

In a (P) tertiary hospital mother-baby unit serving women of childbearing age ready for hospital discharge, (I) using a designated discharge nurse to facilitate patients transition back to the community, (C) compared with the current process of not using a designated discharge nurse, (O) reduces couplet discharge time to meet the targeted goals of discharge within 2 hours from discharge order.

Purpose and Objectives

The purpose of this evidence-based quality improvement project is to streamline the discharge process and reduce patient's discharge time via implementing a designated/specified discharge nurse role to discharge over 90% of Mother-Baby couplets within a two-hour timeframe from their designated discharge time (AM/PM).

The short-term objectives are to: 1) evaluate the effectiveness of the newly implemented designated discharge nurse role on patient's discharge readiness/meeting TAMC targeted discharge times (2 hours post written order), and 2) evaluate staff satisfaction with the newly implemented discharge process. Long term objectives are to: 1) have a sustainable designated

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discharge nurse assigned to the MBU Monday through Friday 0800-1600, and 2) avoid patient diversion by 100%.

Stakeholders include the MBU UPC members, OIC (Head Nurse), OB/Peds providers, and nursing staff to include ancillary staff.

Conceptual framework

The Iowa Model of Evidence-Based Practice to Promote Quality Care will guide this project. This model was created in 1994 and revised in 2015, it guides healthcare providers when evaluating and utilizing research evidence into practice (Titler et al, 2001). This model is divided into identify triggering/opportunities; state the question or purpose; form a team; assemble, appraise and synthesize body of evidence; design and pilot the practice change; integrate and sustain the practice change; and disseminate the results (Brown, 2014). TAMC uses an A3 process based on Lean culture format that incorporates all the steps of the Iowa model. The A3 process is divided into the following steps: identify the problem or need; understand the current situation/state; develop the goal statement-develop the target state; perform root cause analysis; brainstorm/determine countermeasures; create a countermeasures implementation plan; check results-confirm the effect; update standard work (Bassuk & Washington, 2013). (Refer to Appendix E: for a detailed example of the Iowa model and the A3 process format).

Literature Review & Synthesis

Search Strategy

Literature on the discharge process was collected by searching several databases. Searched databases included PubMed, Medline, EBSCOhost, and CINAHL. Search words included the terms discharge process, follow-up appointment, admission, care delivery, nurse

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satisfaction, discharge nurse satisfaction, discharge planner, discharge planning, care coordinator, HCAHPS, patient education, patient satisfaction, discharge nurse, evidence-based practice competencies and discharge nurse, healthcare quality and patient satisfaction, admission nurse, obstetric nursing, and mother-baby dyad discharge, delayed discharge, and discharge patient medications. Excluded material included opinion papers and case scenarios. Studies that were included were written in English from 2005 to 2020. A total of 2008 articles resulted when using the searching key terms “patient discharge” or “discharge nurse” or “obstetric nursing”, continued filtering produced 1020 articles when adding “discharge planning”, 1000 resulted with the addition of “discharge process”. A total of 72 articles resulted when limited search by key terms “discharge planning or discharge process”, “discharge nurse role”, and “patient satisfaction.” The article abstracts were reviewed for relevance and level of evidence. A total of 18 articles were relevant for this review/synthesis (see Appendix D).

Grading Tool

Mosby’s hierarchy for evaluating evidence for practice is the grading tool that was used when analyzing the articles while gathering data for improving pregnancy intention screening via One Key Question implementation. Figure 3 shows the criteria system which is then applied to the literature matrix level of evidence. Table 1 summarizes the articles for each level.

Figure 3. Levels of Evidence

Level of evidence (LOE)	Description
Level I	Evidence from a systematic review or meta-analysis of all relevant RCTs (randomized controlled trial) or evidence-based clinical practice guidelines based on systematic reviews of RCTs or three or more RCTs of good quality that have similar results
Level II	Evidence obtained from at least one well-designed RCT (e.g., large multi-site RCT).
Level III	Evidence obtained from well-designed controlled trials without randomization (i.e., quasi-experimental)

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Level IV	Evidence from well-designed case-control or cohort studies
Level V	Evidence from systematic reviews of descriptive and qualitative studies (meta-synthesis)
Level VI	Evidence from a single descriptive or qualitative study
Level VII	Evidence from the opinion of authorities and/or reports of expert committees

Ackley, B. J., Swan, B. A., Ladwig, G., & Tucker, S. (2008)

Table 1. Mosby's Level of Evidence and Number of Relevant Articles

Mosby's Level of Evidence	Number of articles (Total of 18)
Level I: Meta-analysis	2
Level II: Experimental design (RCT)	1
Level III: Quasi experimental design	4
Level IV: Case-controlled, cohort, longitudinal studies	5
Level V: Correlation studies	4
Level VI: Descriptive studies	2
Level VII: Authority opinion or expert committee reports	0
Other: Performance improvement, case reports, literature review, etc.	0

Findings

Literature on this subject emphasizes that the use of a designated discharge nurse role positively affects nursing staff and patients. Admission nurses have been used in the past with positive results in decreasing staff overtime and fully completed admission physical assessment and education per JCAHO standards (Hlipala, Meyer & Wallace, 2005). The use of a discharge nurse using a similar approach would also aim in decreasing staff load by reducing overtime and increasing time spent with patients. Literature does show some gaps in evidence-based research on discharge planning and patient teaching specifically related to a designated discharge nurse role. Standard practice at TAMC MBU is to provide the bulk of education on the day of discharge, however a study by Horwitz et al. (2013) found that while patients perceive

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understanding of written discharge instructions as comprehensive the discharge planning and follow up are not perceived as adequate.

After reviewing each article for topical focus, stated method, sample description, and main findings a comprehensive summary is presented below and divided by 3 categories: discharge un-readiness, discharge planner, and discharge medication process (see Appendix D for full description of each article reviewed).

Discharge un-readiness

The literature search associates patient's discharge un-readiness and poor health outcomes with decreased understanding of the discharge instructions. Lin et al concluded that patients are discharged from hospital "with insufficient planning, poor instruction, inadequate information, lack of coordination and poor communication" among health care members (2012). Discharge delays can be related to non-modifiable factors such as changes to health status, however, modifiable factors such as communication barriers and postpartum teaching incongruences are among many of the characteristics found by Rochester et al (2018). Research conveys poor communication between the health team and patients as a reason for delay discharges (Oppen et al., 2019; Zakzesky et al., 2015) quoting an opportunity for early inter-professional team engagement focusing on discharge coordination and decreased readmission. Discharge teaching delivery and the methodology used by the instructor affects the patient's comprehension and compliance to treatment (Malagon-Maldonado et al., 2017; Atzema et al., 2013). Patient views discharge information as too long and broad or not enough which affects the patient's discharge readiness. The use of additional teaching methodology, i.e., discharge videos, were successfully used by Atzema et al in an emergency room department increasing patient's discharge instructions comprehension and patient's readiness to transition home (2013).

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One-to-one discharge instructions vs group classes provides a more intimate setting for patients to ask questions and feel that the teaching is more individualized to their needs (Wagner & Washington, 2016). An additional barrier to discharge readiness is lack of confidence from one parent or both. Malagon-Maldonado et al and Bernstein et al (2012) studies found that having specialized nursing staff as lactation consultants and postpartum community support can increase patient's confidence for discharge.

Discharge nurse/planner role

An assigned discharge planner serves as coordinator and facilitates patient transition from hospital back to the community and saves time and are cost-effective (Lin et al, 2012). Increased job satisfaction increased uninterrupted time with patients at bedside, and reduced workload were some benefits found by Lane et al (2009) when an ADT nurse position was created and piloted. Using an inter-professional or multidisciplinary approach to discharge can assist the discharge nurse to manage his/her time and prioritize discharges (Gray, 2016) directly reducing the time patients are waiting to be transferred from LD to MBU (Ciaremella, 2014). The literature review prioritizes the use of standardized checklists, standardized teaching content and discharge instructions with nurses to complete a discharge teaching class to cover discharge topics as specified by AWOHNN, AAP, and AAFP policies (Rhudy et al., 2010; Suplee et al., 2016; Top et al., 2016; Spiva et al., 2012; Buchko et al., 2012). To avoid inconsistent discharge information, patients would benefit of having nursing staff with structured discharge teaching knowledge for content and methodology techniques and decrease pamphlets and handouts given to patients consolidating them in a discharge instruction booklet (Suplee et al., 2016; Buchko et al., 2012). The discharge nurse can participate in hospital rounds, use patient-center care, assist the patient to set goals needed in preparation to community transition (Zakzesky et al, 2015).

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Discharge medication process

Pharmacy delays are a common complaint in patient's surveys and by hospital staff (Wright et al, 2017). Marriott and Bessell concluded that delays were due to discharge prescriptions orders errors made by providers and the time it takes to correct them, make alterations, or clarify them as well as lack of coordinated discharge planning (2008). Additionally, the lack of discharge planning and not involving pharmacist early on the patient's discharge can further delay identification of the patients going home increasing their medication waiting time (Marriott & Bessell, 2008). Hospital discharge process to include discharge medications aims to provide a safe and quality patient experience. However, Couturier et al found inconsistent results between hospital discharge and patients who received pharmaceutical counseling and any drug-related problems (2016). While patients mark pharmaceutical waiting time as a delay to discharge additional research is needed.

Limitations of the Review

Narrowing the articles using keywords may have narrowed the articles being generated to a small sample size, potentially restricting articles relevant to the study at hand. Some of the articles were from studies conducted over ten years ago or longer and may not reflect up to date data. Articles also vary on the length of the studies, some range from years to months, in small regional hospitals to large federal/university hospitals.

Methods and Procedures

Setting

Tripler Army Medical Center (TAMC) is a federal tertiary hospital in the Pacific Basin. Currently it supports 264,000 local active duty and retired military personnel, their families, and veteran beneficiaries (military.com). The Maternal-Child department is divided into outpatient

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clinics and inpatient settings, MBU and LD wards, overseeing the maternal care of high- and low-risk patients. The MBU is composed of sixteen beds/bassinets unit and eleven beds in the LD unit with an average of 130-140 babies delivered monthly. The project was implemented in the Mother Baby Unit (MBU) at TAMC with an average staffing of 4-5 RN, 1-2 LPNs, and 0-1 CNAs per shift.

Data source

This DNP project used a pre-post design including a chart review and a staff survey. The chart review was conducted before and after project implementation to measure on-time discharge rates. On-time discharge is measured by actual discharge time as compared to time of discharge order- the target goal is to discharge within 2 hours of the order. This project also used a pre- and post- survey to measure staff satisfaction with the discharge process. The surveys measured staff satisfaction with the pre-project process as compared to post-project process (post implementation of the designated discharge nurse for 30 days).

Implementation strategies

Following the Iowa framework model, a needs assessment survey and a retrospective chart review was completed in December 2020 identifying consistent variables delaying on-time discharges. Two meetings with TAMC research team and monthly stakeholder meetings were held to discuss found variables and the appropriateness of adopting a practice change with the piloting of a discharge nurse.

Design

A team was formed with MBU nursing staff and Maternal-Child CNS. The unit does not use a designated discharge nurse but tasks the discharges to the bedside nurses or if low census

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to an LPN. The use of a designated Monday-Friday 0800-1600 discharge nurse was piloted from March 15-April 15, 2021. The discharge nurse was responsible for attending morning rounds at 0800; tracking discharge orders and clarifying them as needed; using a discharge checklist to track completion of discharge tasks; facilitating one-on-one discharge teaching or group class at 0900; coordinating discharge medications pick-up; vaccinating patients as needed; scheduling follow-up appointments; checking newborn car-seat fitting; and accompany patient to discharge transportation. As this was implemented, the team assessed the appropriateness of using a discharge nurse via chart reviews and recommended practice changes or made additional adjustments as needed.

Human Subjects Consideration

This EBP does not qualify for human subject research as it focusses on nursing staff participation after making changes to on-time discharge barriers. There are no identifiers and the information collected via pre- and post-training surveys is anonymously received. Chart data collected was scrubbed of all patient identifiers.

Intervention

Data Collection Methods

The purpose of this evidence-based quality improvement project was to reduced couplet discharge time to meet the target goal of discharge within 2 hours from the discharge order by using a designated discharge nurse to facilitate patients transition back to the community compared with the current process of not using a designated discharge nurse was accomplished by the end of the project timeline.

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Baseline data was collected via a retrospective eight-month chart review and an anonymous survey. Two measurement tools were used in assisting with data collection: 1) satisfaction survey and 2) chart review for on-time discharge. Data was collected weekly which included the time of discharge and variables that delayed the on-time discharge. To measure satisfaction, the survey questions include: seven 5-point Likert scale questions, three multiple choice questions, and three section for comments. The questions rated the nursing/providers staff opinion on the discharge protocol efficiency and standardization (e.g., do you feel that patients/families are discharged on-time?), having necessary resources and training for discharge (e.g., do you feel prepared to discharge patients during your shift on-time?), and perceived barriers (e.g., do you feel that there is a standard and efficient discharge process?). The 5-point Likert Scale questions had answers choices ranging from “highly agree” to “highly disagree”. Qualitative question assessed needed educational resources to assist with the discharge process, staff comments and suggestions to improve existing discharge process. This survey provided quantitative data and qualitative data from the staff. This satisfaction survey was created specifically for this project by the Student NP with the help of the Project Chair, thus reliability and validity of the survey is based on content expert review only (See Appendix C for Satisfaction Survey- Pre and Post Intervention).

In the first phase, the pre-implementation survey was distributed to the MBU staff on October 15, 2020 in paper format on the unit and staff was directed to drop them off in a secured box in the MBU nursing staff lounge. The surveys remained anonymous. Additionally, data was gathered by retrospective chart review, Time 1 (March 2020-October 2020), and Time 2 (December 2020-February 2021). Time 1 data excludes the months of June-July 2020 due to COVID-19 pandemic directly increasing bedside nurses’ workload and decreasing data

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collection. Data was extracted from the electronic medical records by the UPC member to be analysed by the principal investigator. Data extracted includes needs assessment data from March 2020-October 2020 to identify variables. Data from December 2020-February 2021 is narrowed to providers' discharge order; medication and vaccine orders and pickup; discharge order time and actual discharge time without the use of a designated discharge nurse.

In the second phase, a designated discharge nurse was appointed to complete patient's discharges Monday-Friday from 0800-1600. Time 3 (March 1-March 23) chart review focused on patient's discharge data after implementing the use of a designated discharge nurse (see Appendix C for Chart Review Data Abstraction Tool). A second anonymous survey was distributed to the MBU staff 30 days after implementation of the designated discharge nurse. This information was gathered via chart review and data from the discharge checklist.

Data Analysis

Descriptive statistics, including mean and standard deviations for continuous variables and percentages for nominal data was used to analyze pre- and post-implementation charts review. Data collected from the surveys and chart review was analyzed and managed using Microsoft Excel spreadsheets and aggregated data tables. All qualitative data was analyzed using conventional content analysis. This includes reading all responses for overall orientation, labeling responses into initial codes, and finally combining codes into broader categories to be summarized. The use of a checklist as recommended by data obtained from the pre-implementation survey on Phase I tracked the daily discharges and tasks to be completed for on-time discharge (Appendix F) and added to the discharge variables.

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Results

Phase I- Pre-Implementation Data

A total of 22 participants completed the pre-implementation survey. Participant demographic characteristics included: 10 RN, 6 LPN, 1 CNA/Medic, 0 administrative staff, and 5 medical providers (MD/DO/Midwife). Identified barriers to discharge were divided on provider's delay, patient's barriers, and pharmacy delay. During the pre-implementation period a patient's discharge took an average of 3-4 hours. Table 2 describes the average rating for each Likert scale question. Some of the comments focused on lack of communication, provider's and pharmacy delays, the preference of a cheat sheet, streamlining patient handouts, and using a discharge checklist as educational tools.

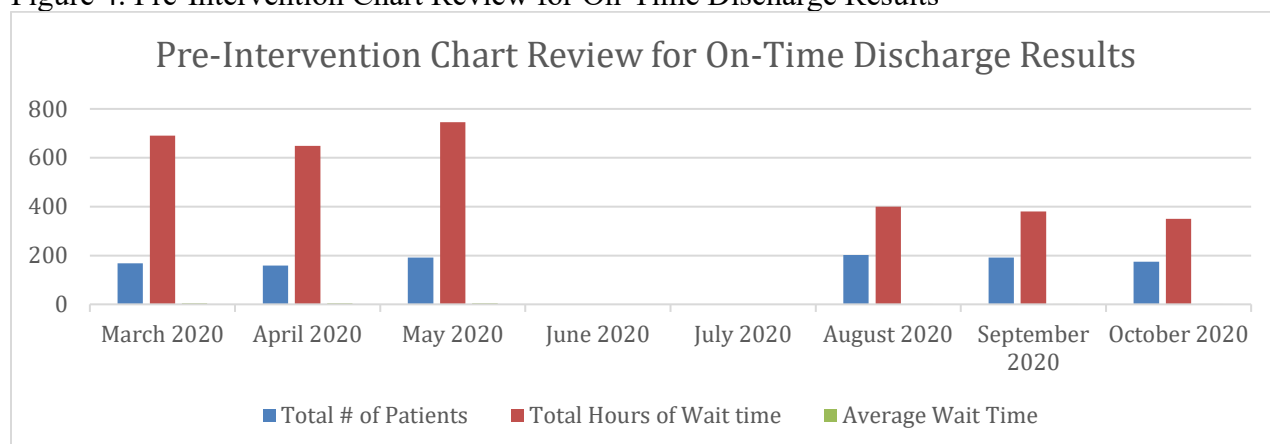
Table 2. Staff Survey Pre-Implementation

Question Number	Q3: Are you satisfied with the current discharge process?	Q4: Do you feel that there is a standard and efficient discharge process?	Q5: Do you feel that patients/families are discharged on-time?	Q7: Do you feel prepared to discharge patients during your shift on-time?	Q8: Do you feel you have the necessary resources to discharge your patient on-time?	Q9: Do you feel prepared to deliver comprehensive discharge instructions to meet all of your patients and their newborns needs?	Q10: Can MBU benefit from implementing a discharge nurse role?
Average Rating	3.72	3.59	3.13	3.86	3.95	4.27	4.5

Direct observation by a member of the MBU Unit Practice Council (UPC) and the MBU Clinical Officer in-charge (COIC) confirmed discharge set-backs due to pharmacy and providers' delays and barriers. Retrospective chart review analysis from March to October (Figure 4) shows an average discharge time exceeding the two-hour target discharge timeframe by an average of 3-4 hours; data from December 2020-February 2021 re-affirmed the above-mentioned discharge barriers.

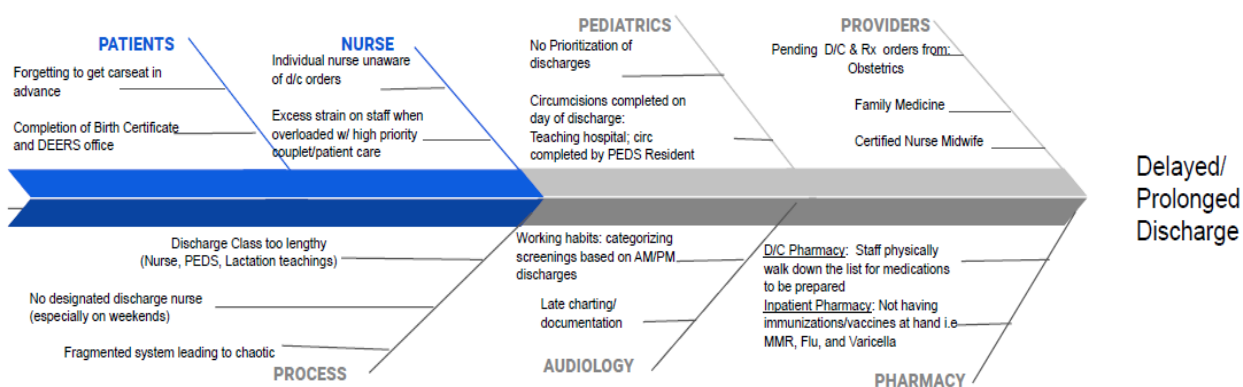
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Figure 4. Pre-Intervention Chart Review for On-Time Discharge Results



Data obtained from the staff survey, direct observation, and retrospective chart audit was presented to the MBU stakeholders. Figure 5 provides an example of the data presented including the variables that delay or prolonged the discharge process. These identified variables directed the project intervention to implement a designated discharge nurse role with specific job responsibilities.

Figure 5. Delayed/Prolonged Discharge Variables



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Phase II- Discharge Nurse Pilot Implementation

Role of the Discharge Nurse as Implemented. The Discharge Nurse Pilot Project was implemented on March 1, 2021. The discharge nurse, an LPN, was assigned to work Monday through Friday 0800-1600, see Table 3 for a typical workday. She worked as a liaison between patients, nurses, pharmacy, and medical providers ensuring that all discharge needs, and tasks were completed for an on-time discharge. Tailored bedside discharge information was provided to all patients to include discharge follow-up appointments for Mom and baby with referrals as needed.

Table 3. Discharge Nurse Daily Routine

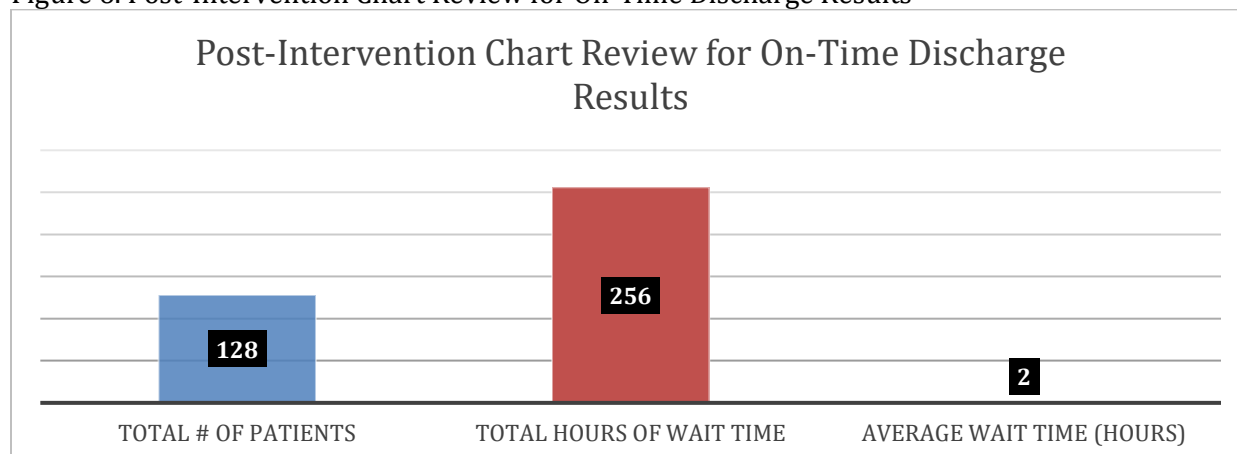
Time	Task
0800-0830	MBU ward daily huddle with providers, charge nurse, and daily nursing staff
0830-0900	Ward providers' rounds
0900	Ongoing communication with pharmacy to order patient's discharge medications and vaccines Ongoing communication with Family Practice/Obstetrician providers and Midwives for order clarification
1000-1600	Ongoing picking up discharge medications and vaccines Ongoing bedside discharge teaching Ongoing-infant car seat check and accompany patient to discharge pickup area

Phase III- Post-Implementation Data

The pre-implementation chart review was compared to post-implementation chart review data and an overall decrease to the patient's discharge time was evident. Discharge times during the pilot project decreased to an average of 2 hours post-written discharge order, meeting project goals and reducing discharge times by 1-2 hours as compared to pre-implementation data. While originally the implementation was to run from March 1 to March 31, it stopped on March 23 due to unavailability of the assigned discharged nurse. This resulted in lower patient sample numbers during the implementation chart review (Figure 6).

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Figure 6. Post-Intervention Chart Review for On-Time Discharge Results



Thirteen participants completed the post-intervention staff survey. Participant's demographics included: 6 RN, 5 LPN, 2 CNA/Medic, 0 administrative staff, 0 MD/DO/Midwife. Eleven of the participants worked day shift 0645-1915 and two responded working "other" shifts. The data highlights the same problem the pre-survey data (Figure 1); persistent issues with medications being ready on time for patient discharge (Figure 7). The post-implementation survey highlighted that both the patients and staff highly benefitted from a designated discharge nurse; 90.7% of participants indicated that they highly agree that having a designated discharge nurse benefited the MBU (Figure 8).

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Figure 7. Post Project: Data Barrier for timely discharge in TAMC's MBU

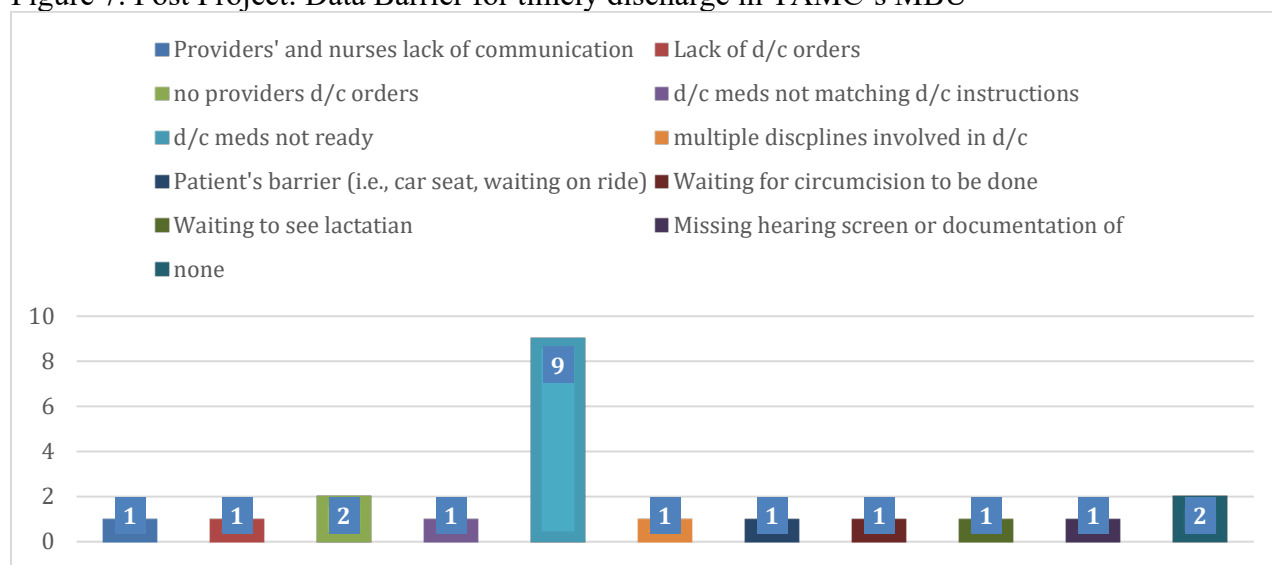


Figure 8. How has the implementation of a designated discharge nurse benefitted MBU?

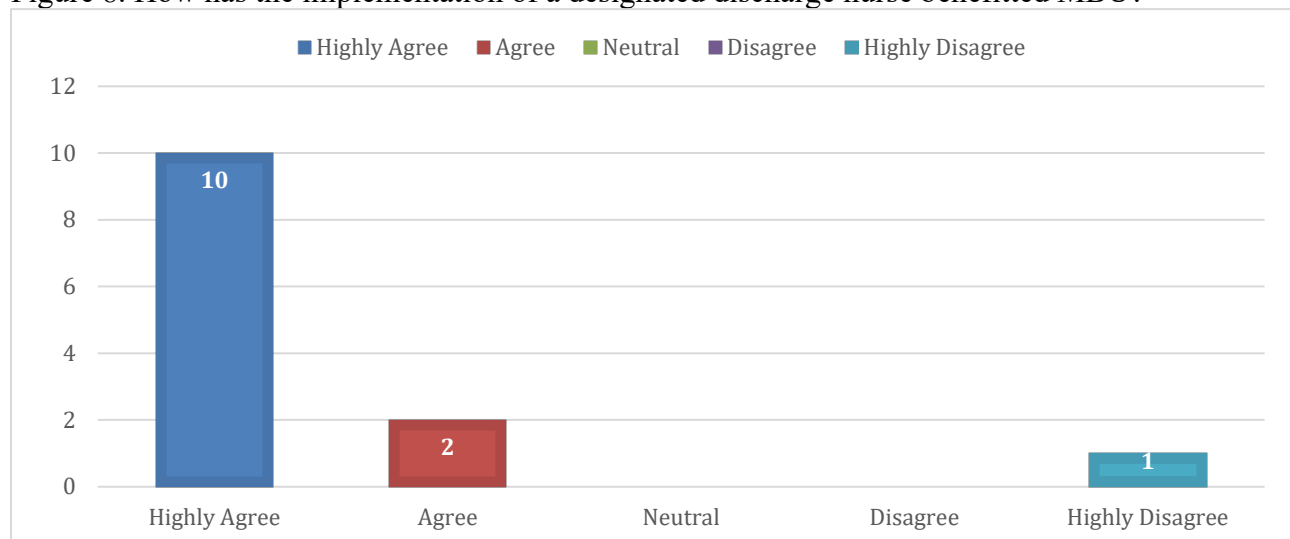


Table 4 describes the average rating for each Likert scale question in the post-implementation staff survey. Some of the results are consistent with pre-intervention responses such as pharmacy delay, and preference for a discharge checklist. Participants also suggested, in a qualitative text box question, ideas for future directions which included standardized discharge handouts and a discharge video as a backup when the discharge nurse is not available.

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Table 4. Staff Survey Post-Implementation

Question Number	Q3: Are you satisfied with the current discharge process?	Q4: Do you feel that there is a standard and efficient discharge process?	Q5: Do you feel that patients/families are discharged on-time?	Q7: Do you feel prepared to discharge patients during your shift on-time?	Q8: Do you feel you have the necessary resources to discharge your patient on-time?	Q9: Do you feel prepared to deliver comprehensive discharge instructions to meet all of your patients and their newborns needs?	Q10: Can MBU benefit from implementing a discharge nurse role?
Average Rating	4.3	4.07	3.92	4.38	4.38	4.61	4.53

Discussion

This evidence based-practice project reflect discussion found in the literature review that the role of a discharge nurse can enhance the patient's readiness for on-time discharge. Staff survey participation decreased in the post-implementation survey from 22 participants to 13. The post-implementation survey staff were nurses predominantly working day shift during the peak hours of couplet discharges. These nurses had similar pre-intervention concerns as pharmacy delays and the need to have a discharge tool as a checklist. All short-term objectives were met with an overall decrease of on-time discharge from 3-4 hours to 2 hours and increased staff satisfaction measured using Likert scale questions. In the pre-implementation phase, staff was asked if they were satisfied with the current discharge process yielding a 3.72 average score to a 4.3 average score post-implementation.

Strengths

The MBU UPC staff and leadership involvement in the project directly affected the positive outcome of this project. Their guidance and assistance to gather chart data and staff surveys during COVID-19 restrictions allowed the DNP student to complete the needs

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assessment. The nursing staff knowledge on the use of EBP models as the A3 format also served as a strength and was a natural fit to the unit.

The overall strength is the use of a designated discharge nurse to complete all discharge by using a discharge checklist to keep track of all the tasks and activities needed for on-time discharge. Adding the discharge nurse or charge nurse to round at the existing multidisciplinary allowed for on-time communication on daily discharges and alerted staff of possible discharge delays.

Limitations

Time was one of the most limiting factors in this project. Time was impacted by the COVID-19 pandemic and institutional factors related to approvals and communication across departments which are common in large hospitals. Lack of interdisciplinary collaboration/involvement from the Pharmacy department and some medical providers increased communication time and limited scope of the intervention related to medication readiness. The inconsistency of medical providers discharge process, which is a common issue nationally, varied among family practice, obstetricians, midwives, and the pediatric departments increasing the time it took to obtain discharge orders and discharge medications. Additionally, at this site, family practice providers do not participate in the morning daily MBU huddle limiting their active participation on using a discharge nurse.

The COVID-19 pandemic decreased the allowable time for in-hospital research and information had to be gathered via the MBU UPC and content expert. In-hospital data collection was only able to start once State of Hawaii COVID-19 restrictions changed from Tier 2 to Tier 3 on February 25, 2021. Finally, the timeframe to run this project was shortened from 30 days to

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23 as the assigned discharge nurse left to attend a military training and due to short-staff no additional nurse replaced her.

Sustainability

This project resulted in practice change. The MBU is continuing to use of a designated discharge nurse Monday-Friday 0800-1600. The discharge patient checklist is available in a folder at the nurse's station for all bedside nurse to use when the discharge nurse is not available. Daily obstetrician/discharge nurse rounds continue with the charge nurse stepping in during weekends or holidays. It will be important to revisit this project and obtain data after measures have been in place for several months to understand if additional changes were needed or if the infrastructure left continues to be stable.

Dissemination Plan

Oral and poster project presentation using the A3 format was conducted on April 27, 2021 at the Nurse Practice Council with over ten hospital ward UPC representatives present (Appendix G). The data presented is useful to not only the MBU but to the surgical floors for which similar data can be compared against their discharge variables. Data can also be used by Labor and Delivery to assist with discharge projections and changes needed to decrease the discharge time.

Conclusion

The aim of this project was to reduce maternal infant discharge time on the MBU. The project was conducted for 23 days with weekly data review conducted by the project leader and the MBU UPC nurse. Baseline discharge time fluctuated from three to four hours before implementation of the designated discharge nurse to an average of two hours after

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implementation. The willingness from the MBU staff to step in and be open to a practice change allowed for the success of this project.

Practice changes not only are reflected on the utilization of a discharge nurse Monday-Friday 0800-1600, but the addition of a nurse to morning providers round, a discharge checklist, and the ability to tube down the list of patient's discharge scripts for one easy time to pick up all medications. The success of this project validates the importance of integrating nursing staff into the discharge planning as delay variables can be anticipated and mitigated by these care providers. Future quality improvement projects should assess the impact of utilization of a discharge nurse role in a non-COVID time where group discharge classes are held rather than individual bedside discharge instructions.

References

- Ackley, B.J., Swan, B.A., Ladwig, G., & Tucker, S. (2008). Evidence-based nursing care Guidelines: Medical-surgical interventions. (7). St. Louis, MO: Mosby Elsevier
- Anderson, N., de Drew, C. K. W., & Nijstad, B. A. (2004). The routinization of innovation research: a constructively critical review of the state-of-the-science. *Journal of Organizational Behavior*, 25(2), 147–173. <https://doi-org.eres.library.manoa.hawaii.edu/10.1002/job.236>
- Atzema CL, Austin PC, Wu L, Brzozowski M, Feldman MJ, et al. (2013) Speak Fast, Use Jargon, and Don't Repeat Yourself: A Randomized Trial Assessing the Effectiveness of Online Videos to Supplement Emergency Department Discharge Instructions. *PLoS ONE* 8(11): e77057. <https://doi:10.1371/journal.pone.0077057>
- Barnett, J., Vasileiou, K., Djemil, F., Brooks, L., & Young, T. (2011). Understanding innovators' experiences of barriers and facilitators in implementation and diffusion of healthcare service innovations: a qualitative study. *BMC health services research*, 11, 342. <https://doi.org/10.1186/1472-6963-11-342>
- Bassuk, J. & Washington, I. (2013) The A3 Problem Solving Report: A 10-Step Scientific Method to Execute Performance Improvements in an Academic Research Vivarium. *PLOS ONE* 8(10): e76833. <https://doi.org/10.1371/journal.pone.0076833>
- Bernstein, H., Spino, C., Lalama, C., Finch, S., Wasserman, R., & McCormick, M. (2012). Unreadiness for Postpartum discharge following healthy term pregnancy: Impact on Health care use and outcomes. *Academic Pediatrics*, 13(1), 27-39. <https://doi-org.eres.library.manoa.hawaii.edu/10.1016/j.acap.2012.08.005>
- Brown, C. G. (2014). The Iowa Model of Evidence-Based practice to promote quality care: An

IMPLEMENTING A DISCHARGE NURSE ROLE

- illustrated example in oncology nursing. *Clinical Journal of Oncology Nursing*, 18(2), 157-159. <https://doi.org/10.1188/14.cjon.157-159>
- Bucho, B., Gutshall, C. H., & Jordan, E. T. (2012). Improving quality and efficiency of postpartum hospital education. *Journal of Perinatal Education*, 21(4), 238-247. <http://dx.doi.org/10.1891/1058-1243.21.4.238>
- Cawthon, C., Walia, S., Osborn, C. Y., Niesner, K. J., Schnipper, J. L., & Kripalani, S. (2012). Improving care transitions: the patient perspective. *Journal of Health Communication*, 17 Suppl 3, 312–324. <https://doi-org.eres.library.manoa.hawaii.edu/10.1080/10810730.2012.712619>
- Ciaramella, J., Longworth, N., Larraz, L., & Murphy, S. (2014). Improving Efficiency, Consistency and Satisfaction on a Mother-Baby Unit With the Discharge Nurse Position. *Nursing for Women's Health*, 18(4), 333–339. <https://doi.org/10.1111/1751-486X.12138>
- Greenhalgh, T., Robert, G., Macfarlane, F., Bate, P., & Kyriakidou, O. (2004). Diffusion of Innovations in Service Organizations: Systematic Review and Recommendations. *Milbank Quarterly*, 82(4), 581–629. <https://doi.org/10.1111/j.0887-378X.2004.00325.x>
- Hayajneh, A., Hweidi, I., & Abu Dieh, M. (2020). Nurses' knowledge, perception and practice Toward discharge planning in acute care settings: A systematic review. *Nursing Open*, 7(5), 1313-1320. <https://doi.org/10.1002/nop2.547>
- Hesselink, G., Zegers, M., Vernooij-Dassen, M., Barach, P., Kalkman, C., Flink, M., Öhlen, G., Olsson, M., Bergenbrant, S., Orrego, C., Suñol, R., Toccafondi, G., Venneri, F., Dudzik-Urbaniak, E., Kutryba, B., Schoonhoven, L., Wollersheim, H., & European HANDOVER Research Collaborative (2014). Improving patient discharge and reducing

IMPLEMENTING A DISCHARGE NURSE ROLE

- hospital readmissions by using Intervention Mapping. *BMC health services research*, 14, 389. <https://doi.org/10.1186/1472-6963-14-389>
- Hlipala, L., Meyer, A., Wallace, O., & Zaremba, A. (2005). Profile of an admission Nurse. *Nursing Management (Springhouse)*, 36(6), 44–47. <https://doi.org/10.1097/00006247-200506000-00014>
- Horwitz, L. I., Moriarty, J. P., Chen, C., Fogerty, R. L., Brewster, U. C., Kanade, S., Ziaieian, B., Jenq, G. Y., & Krumholz, H. M. (2013). Quality of discharge practices and patient understanding at an academic medical center. *JAMA internal medicine*, 173(18), 1715–1722. <https://doi.org/10.1001/jamainternmed.2013.9318>
- Institute for Healthcare Improvement (2003). Optimizing patient flow: Moving patients smoothly through acute care settings. Retrieved from www.IHI.org
- Jónasdóttir, RJ, Jones, C, Sigurdsson, GH, Jónsdóttir, H. (2017). Structured nurse-led follow-up for patients after discharge from the intensive care unit: Prospective quasi-experimental study. *J Adv Nurs*. 2018; 74: 709– 723. <https://doi-org.eres.library.manoa.hawaii.edu/10.1111/jan.13485>
- Kuper, D. (1997). Newborn's and Mothers Health Protection Act. Putting the brakes on drive-through deliveries. *Marquette Law Review*, 80, 667-1135.
- Lane, B., Jackson, J., & Odom, S. (2009). Nurse Satisfaction and Creation of an Admission, Discharge, and Teaching Nurse Position. *Journal of Nursing Care Quality*, 24, 148-152. <https://doi.org/10.1097/01.NCQ.0000347452.36418.78>
- Länsisalmi, H., Kivimäki, M., Aalto, P., & Ruoranen, R. (2006). Innovation in Healthcare: A Systematic Review of Recent Research. *Nursing Science Quarterly*, 19(1), 66–72. <https://doi.org/10.1177/0894318405284129>

IMPLEMENTING A DISCHARGE NURSE ROLE

Lin, C., Cheng, S., Shih, S., Chu, C., & Tjung, J. (2012). Discharge Planning.

International Journal of Gerontology, 6, 237-240.

<https://doi.org/10.1097/NCQ.0b013e318227d645>

Longworth, N., Larraz, L., Ciaramella, J., & Murphy, S. (2013). The Implementation of the Discharge Nurse on a Mother–Baby Unit: A Conduit to Increased Patient Satisfaction. *Journal of Obstetric, Gynecologic, & Neonatal Nursing*, 42(s1), S4–S5.

<https://doi.org/10.1111/1552-6909.12051>

Military Advantage (2021). Tripler Army Medical Center Base Guide. Retrieved from

<https://www.military.com/base-guide/tripler-army-medical-center>

Newborn Hearing Screen Program, Hawaii State Legislature §321-361 (2001).

Retrieved from <https://www.capitol.hawaii.gov/session2001/status/SB1138.asp>

Opper, K., Beiler, J., Yakusheva, O., & Weiss, M. (2019, March 27). Effects of Implementing a Health Team Communication Redesign on Hospital Readmissions Within 30 days.

Worldviews on Evidence-Based Nursing, 16(2), 121-130.

<https://doi.org/10.1111/wvn.12350>

Rhudy, L., Holland, D., & Bowles, K. (2010). Illuminating hospital discharge planning: Staff nurse decision making. National Institutes of Health. *Applied Nursing Research*,

23(4):198-206. Doi: 10.1016/j.apnr.2008.12.003

Rochester, N., Banach, L., Hoffner, W., Zeltser, D., Lewis, P., Seelbach, E., & Cuzzi, S.

(2018). Facilitating the timely discharge of well newborns by using quality improvement methods. *Pediatrics*, 141(5): e20170872. <https://doi.org/10.1542/peds.2017-0872>

Spiva, L., & Johnson, D. (2012). Improving Nursing Satisfaction and Quality Through

IMPLEMENTING A DISCHARGE NURSE ROLE

- the Creation of Admission and Discharge Nurse Team. *Journal of Nursing Care Quality*, 27, 89-93. <https://doi.org/10.1097/NCQ.0b013e318227d645>
- Suplee, P., Kleppel, L., & Bingham, D. (2016). Discharge Education on Maternal Morbidity and Mortality Provided by Nurses to Women in the Postpartum Period. *Journal of Obstetric, Gynecologic & Neonatal Nursing*, 45(6), 894-904
- Titler, M. G., Steelman, V. J., Budreau, G., Buckwalter, K. C., & Goode, C. J. (2001). The Iowa model of evidence-based practice to promote quality care. *Critical Care Nursing Clinics of North America*, 13(4), 497-509. [https://doi.10.1016/S0899-5885\(18\)30017-0](https://doi.10.1016/S0899-5885(18)30017-0)
- Top, E., & Karaçam, Z. (2016). Effectiveness of Structured Education in Reduction of Postpartum Depression Scores: A Quasi-Experimental Study. *Archives of Psychiatric Nursing*, 30(3), 356–362. <https://doi.org/10.1016/j.apnu.2015.12.009>
- Wagner, D. L., & Washington, C. (2016). Patient Satisfaction with Postpartum Teaching Methods. *The Journal of perinatal education*, 25(2), 129–136. <https://doi.org/10.1891/1058-1243.25.2.129>
- Waring, J., Marshall, F., Bishop, S., Sahota, O., Walker, M., Currie, G., Fisher, R., & Avery, T. (2014). An ethnographic study of knowledge sharing across the boundaries between care processes, services and organisations: the contributions to ‘safe’ hospital discharge. *Health Serv Deliv Res*, 2 (29). <https://doi.org/10.3310/hsdr02290>
- Wright, S., Morecroft, C. W., Mullen, R., & Ewing, A. B. (2017). UK hospital patient discharge: the patient perspective. *European journal of hospital pharmacy: science and practice*, 24(6), 338–342. <https://doi.org/10.1136/ejhpharm-2016-001134>
- Zakzesky, D., Klink, K., McAndrew, N., Schroeter, K., & Johnson, G. (2015). Bridges

IMPLEMENTING A DISCHARGE NURSE ROLE

and Barriers: Patients' Perceptions of the Discharge Process Including Multidisciplinary Rounds on a Trauma Unit. *Journal of Trauma Nursing: The Official Journal of the Society of Trauma Nurses*, 22(5), 232–239.

<https://doi-org.eres.library.manoa.hawaii.edu/10.1097/JTN.0000000000000146>

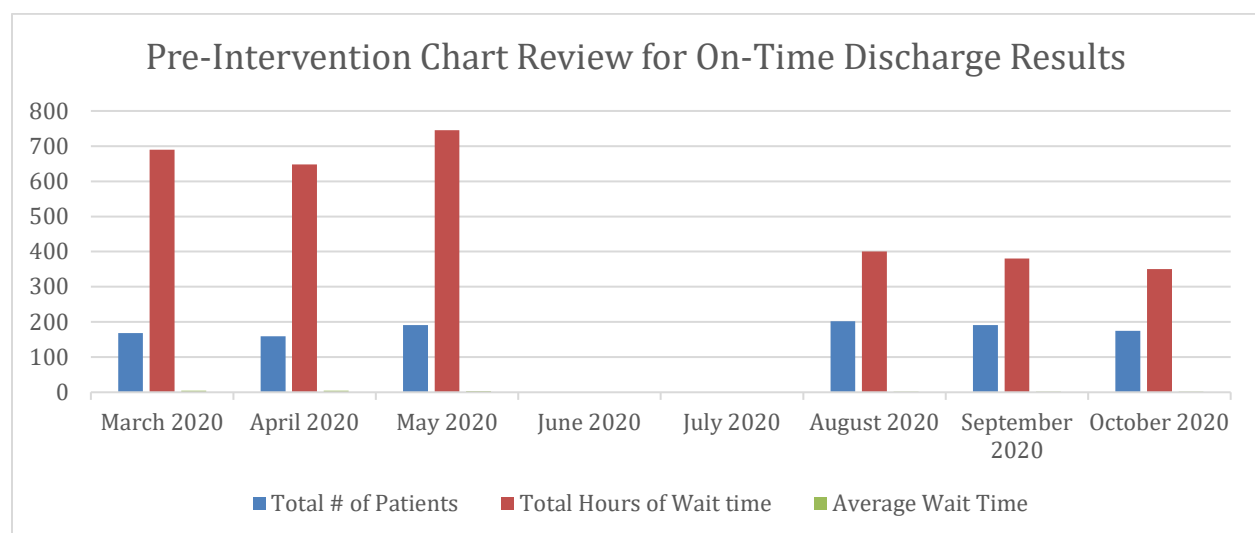
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Appendices

Appendix A: Chart Review for On-time Discharge Results

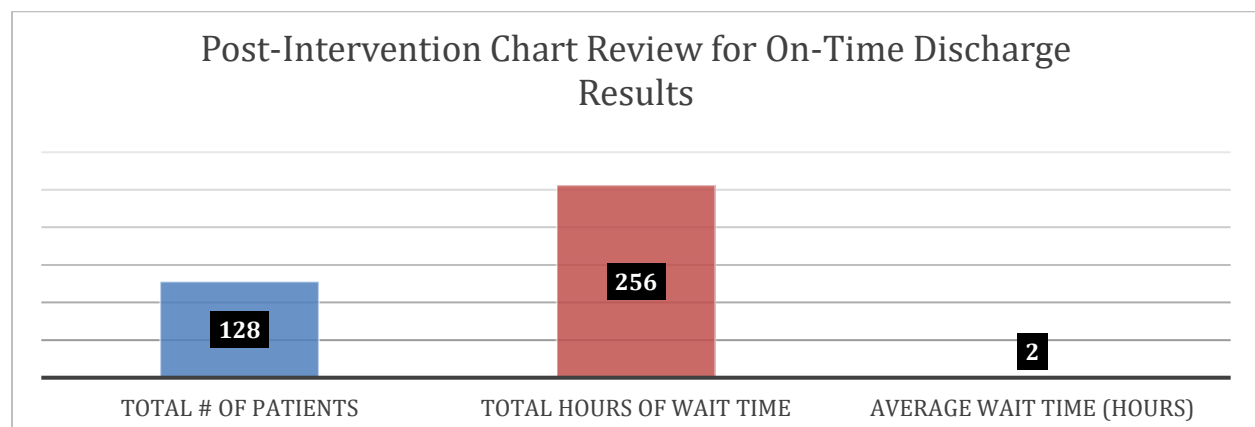
Pre-Intervention Data

	March 2020	April 2020	May 2020	August 2020	September 2020	October 2020
Total # Patients	168	159	191	202	191	175
Total Hours of Wait Time	690	648	745.25	400	380	350
Average Wait Time	4.1	4.1	4	2	2	2
Average baseline Wait Time 3.03 hours						
No data collected for June and July due to COVID-19 directly affecting nursing staff workload and data collection						



Post-Intervention Data

	March 1-23
Total # of patients	128
Total Hours of Wait Time	256
Average Wait Time	2



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Appendix B: Chart Review for On-time Discharge Data Abstraction Tool

Variable	Definition
Total number of patients	Monthly amount of patient
Time of anticipated discharge divided in AM and PM	AM discharge includes any discharge that takes place before or at 12:00 pm. PM discharges are afternoon or evening discharges after 12:00 pm.
Time of discharge teaching	Time recorded by the discharge nurse after completing the patient's discharge teaching and home care instructions
Total hours of wait time	Time the patients waits from the written provider discharge order to discharge from the MBU
Average wait time	Average time between the total monthly hours of wait time and the monthly number of patients
Barriers to discharge	Description of barriers delaying on-time discharge, e.g., vaccines, discharge medications, order clarifications

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Appendix C: Staff Survey Pre and Post Intervention

Staff Survey: Staff Perspectives on the Discharge Process (feel free to write on front or back)

1. What is your role on Mother Baby Unit (5B2)?
 - a. RN
 - b. LPN
 - c. CNA/Medic
 - d. MSA
 - e. MD/DO/Midwife
2. What shift do you primarily work?
 - a. 0645-1915
 - b. 1845-0715
 - c. Other
3. Are you satisfied with the current discharge process?
 - a. Highly Agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Highly disagree

Note any comments/concerns:

4. Do you feel that there is a standard and efficient discharge process?
 - a. Highly Agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Highly disagree
5. Do you feel that patients/families are discharged on-time (within 2 hours of the discharge order after activation of the order)?
 - a. Highly Agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Highly disagree
6. (*pre-survey*) What are the barriers for timely discharge (within 2 hours of the discharge order after activation of the order) please describe: (*post-survey*) after initiation of the discharge nurse, what are the barriers for timely discharge (within 2 hours of the discharge order after activation of the order) or have they been resolved, please describe:
7. Do you feel prepared to discharge patients during your shift on-time?
 - a. Highly Agree
 - b. Agree

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- c. Neutral
 - d. Disagree
 - e. Highly disagree
8. Do you feel you have the necessary resources to discharge your patient on-time?
- a. Highly Agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Highly disagree
- If no, what additional resources do you need?
9. Do you feel prepared to deliver comprehensive discharge instructions to meet all of your patients and their newborns health needs?
- a. Highly Agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Highly disagree
- If no, what additional resources do you need?
10. (*pre survey*) Can MBU benefit from implementing a discharge nurse role (define what a DC nurse would do)? (*post survey*) Did the MBU benefit from implementing a discharge nurse)?
- a. Highly Agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Highly Disagree

Qualitative Items: Comments/ thoughts/ opinions:

Pre- Survey

11. List educational tools that you find better assist you with the discharge process:
12. As we all know, discharge planning starts at admission, could you support the notion of a discharge nurse helping to coordinate patients from admission to discharge?
13. Are you feeling open and ready for a change? Would you support a practice change related to discharge?
14. Add any comments or suggestions to improve the existing discharge process:

Post-Survey

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11. List educational tools that you find better assist you with the discharge process:
12. How has the discharge nurse helped to coordinate patients from admission to discharge?
13. Would you still support a practice change related to discharge?
14. Add any comments or suggestions to improve the existing discharge process:

IMPLEMENTING A DISCHARGE NURSE ROLE

Appendix D: Literature Review Table

Author and Date	Focus/Purpose	Stated Method	Sample Description	Main Findings
Discharge unreadiness-It can further be subdivided into -communication barriers -postpartum teaching incongruences				
Rochester, Banach, Hoffner, Zelster, Lewis, Seelbach & Cuzzi (2018)	How to improve newborn nursery throughput by increasing newborn discharges percentages after implementing a discharge checklist and an 1100 am discharge order	Focus groups, chart reviews	Chart review 2-year pre-intervention and 20-months post intervention	Discharge delays due to -Non-modifiable factors related to medical conditions, i.e., GBS, bili -Modifiable factors related to attending's workflow -Lack of communication between interns and attending physicians Creating and using a checklist identified discharge barriers and facilitated communication. Limitations the order time was the control variable as opposed to the time the patient physically left unit
Oppen, Beiler, Yakusheva, & Weiss (2019)	How does communication among interprofessional members affect timely, coordinated hospital discharge	Pre- and post-intervention design	RN and MD to answer three questions about interprofessional communication using a discharge communication survey. 413 preintervention and 191 postintervention patients were also surveyed	-Using Team Bedside Rounds (medical teams and RNs) and RN-to-RN bedside shift report directly decreased readmission rates -Lack of clarity and lacking communication between health team members and patients influence discharge readiness Limitations includes: -Lack of contemporaneous control group and small unit size -Small postintervention sample due to increased RNs bedside work demands and loss of physician champion
Wagner & Washington (2016)	To determine relationship between new mother's interaction and nurses providing postpartum teaching using varying methods.	Quasi-experimental study post-test survey design	53 participants were included in the study	-Mothers in the one-to-one discharge teaching and not in the group class teaching, felt in control over their discharge and perceived the information as important to them and their newborn's home care.

IMPLEMENTING A DISCHARGE NURSE ROLE

Author and Date	Focus/Purpose	Stated Method	Sample Description	Main Findings
				<ul style="list-style-type: none"> -Class teaching format is not tailored to each patient and some patients felt that some information was not needed -Instructions differ from the nurse giving the discharge class and the patient's bedside nurse -One-to-one teaching provides flexibility while group class does not
Zakzesky, Klink, McAndrew, Schroeter, & Johnson (2015)	To explore patient's perspectives about the discharge process, including multidisciplinary rounds	Qualitative, descriptive survey design	14 participants in a 32-bed inpatient intermediate care surgical/trauma unit	<p>Patients' perceived discharge readiness is affected by</p> <ul style="list-style-type: none"> -infrequent communication with the medical team -medical setbacks -insurance <p>Discharge readiness could be accomplished by</p> <ul style="list-style-type: none"> -timelines and tasks -frequent communication -social support -patient's motivation for discharge <p>Bedside nurses need to understand what factor are of high importance to a patient for a smooth discharge.</p> <p>The use of checklist can aid the patient to keep on track to discharge</p>
Malagon-Maldonado, Connelly, & Bush (2017)	To explore antepartum, intrapartum, postpartum discharge readiness to include how patients perceive their educational readiness.	Descriptive cross-sectional study using the Readiness for Discharge Scale (RHDS)-New mother form	185 uncomplicated vaginal or cesarean postpartum mothers	<ul style="list-style-type: none"> -98% patients perceived that postpartum education content was more than they needed. -Bottle-feeding moms discharge readiness was higher than breastfeeding moms -Bedside nurses with higher lactating education can deliver individualized information on breast- or bottle-feeding instructions -Discharge teaching delivery had a direct influence on patient's readiness
Atzema, Austin, Wu, Brzozowski,	To assess the effectiveness of a discharge online video of diagnosis specific discharge instructions.	Prospective, randomized controlled trial	133 patients, mean age 46.1 in an	<ul style="list-style-type: none"> -Comprehension level is key to understand discharge instructions and compliance

IMPLEMENTING A DISCHARGE NURSE ROLE

Author and Date	Focus/Purpose	Stated Method	Sample Description	Main Findings
Feldman, McDonnell, & Mazurik (2013)			emergency room department	<ul style="list-style-type: none"> -Using targeted discharge videos increased the patient understanding and readiness for discharge -Academic centers where discharge instructions average 76 seconds can benefit using technology to offset communication deficiencies Limitations -Single site study in a low socio-economic area -Educational level was not assessed
Bernstein, Spino, Lalama, Finch, Wasserman, & McCormick (2012)	To document the association between unreadiness for postpartum discharge and the state of health of the mother-baby couplet.	Prospective observational cohort study	The Pediatric Research in Office Settings (PROS) and AAP had a sample size of 4000 dyads	<ul style="list-style-type: none"> -Lack of confidence from one parent or both -Unreadiness was directly linked to maternal attitudes towards breastfeeding, formula feeding, hospital supplementation -Physical, psychological, and social well-being needs to be assessed by the discharge planner -Increase postpartum support and services to patients expressing unreadiness via education, care continuity, and community support
Discharge medication process				
Couturier, Carrat, & Hejblum (2016)	Find associations between hospital discharge components and adverse patients' outcomes post-discharge	Systematic review of observational and interventional studies	Twenty studies published between 2001-2015 with eleven studies being observational and nine interventional	<ul style="list-style-type: none"> -No consistent statistical connection between hospital discharge and patient outcome -Drug-related problems at discharge and its interventions due to pharmaceutical counseling, education, who reviewed medication with patients, medication reconciliation, and follow-up varied among the included studies
Marriott & Bessell (2008)	Investigating hospital discharge as viewed from the staff discharging patients	Questionnaires and focus groups	One-hundred and sixty-seven questionnaires	<p>Discharge process obstacles identified:</p> <ul style="list-style-type: none"> -Lack of coordinated planning -Discharge prescription errors and inaccuracies -Some doctors do not perceive the discharge medications process as needing to change -Other doctors suggested involving pharmacists in discharge planning

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Author and Date	Focus/Purpose	Stated Method	Sample Description	Main Findings
				<ul style="list-style-type: none"> -Timing between discharge order, discharge prescription and order clarification -Lack of discharge planning leads to inability on identifying patients waiting to be discharged The most critical obstacle identified is writing discharge prescription late in the discharge process
Discharge nurse/planner role				
Gray (2016)	Streamline the discharge process and discharge patients before 11:00 am	Well- designed controlled trial without randomization	Twenty-eight bed unit in a 958-bed teaching hospital HCAHPS data analyzed 17 months before and 20 months after improvement change for 37-month observation period	<ul style="list-style-type: none"> -Interprofessional approach to discharge planning -Daily meeting involves unit managers, case manager, social workers, charge nurses, pharmacists, and clinical nurses identifies obstacles and allows staff to find solutions together -Specific jobs were given to night shift nurses to prepare patients for discharge -Prioritize the discharge process -Limitations is the lack of standardization as patient census varies
Suplee, Kleppel, & Bingham (2016)	To investigate educational material and discharge information used by postpartum nurses	Exploratory qualitative study	6 focus groups of 5 to 11 nurses per group from six level III perinatal hospitals	<ul style="list-style-type: none"> -Inconsistent teaching from one patient to another -Lack of solid foundation or theoretical understanding of post-birth warning signs -Nurses can discuss how they give discharge education to understand what and how others are teaching
Top & Karacam (2016).	Evaluating the effectiveness of a structured education class in reducing postpartum depression scores	Quasi-experimental with pre-post tests and a control group	103 Turkish women, 52 in the intervention group, 51 in the control group. The Edinburgh Postpartum Depression Scale was used pre-post intervention	<ul style="list-style-type: none"> -Positive correlation between structured education and reduction in PPD scores -MBU would benefit from integrating this education method during the postpartum period. -MBU and other health care staff would benefit from this training -Study limitation is the small sample size
Rhudy, Holland, & Bowles (2010)	Understand RN's perception as discharge planners	Qualitative study using descriptive-	14 bedside care RNs from two hospitals	<ul style="list-style-type: none"> -Bedside nurses rely on their individual discharge script

IMPLEMENTING A DISCHARGE NURSE ROLE

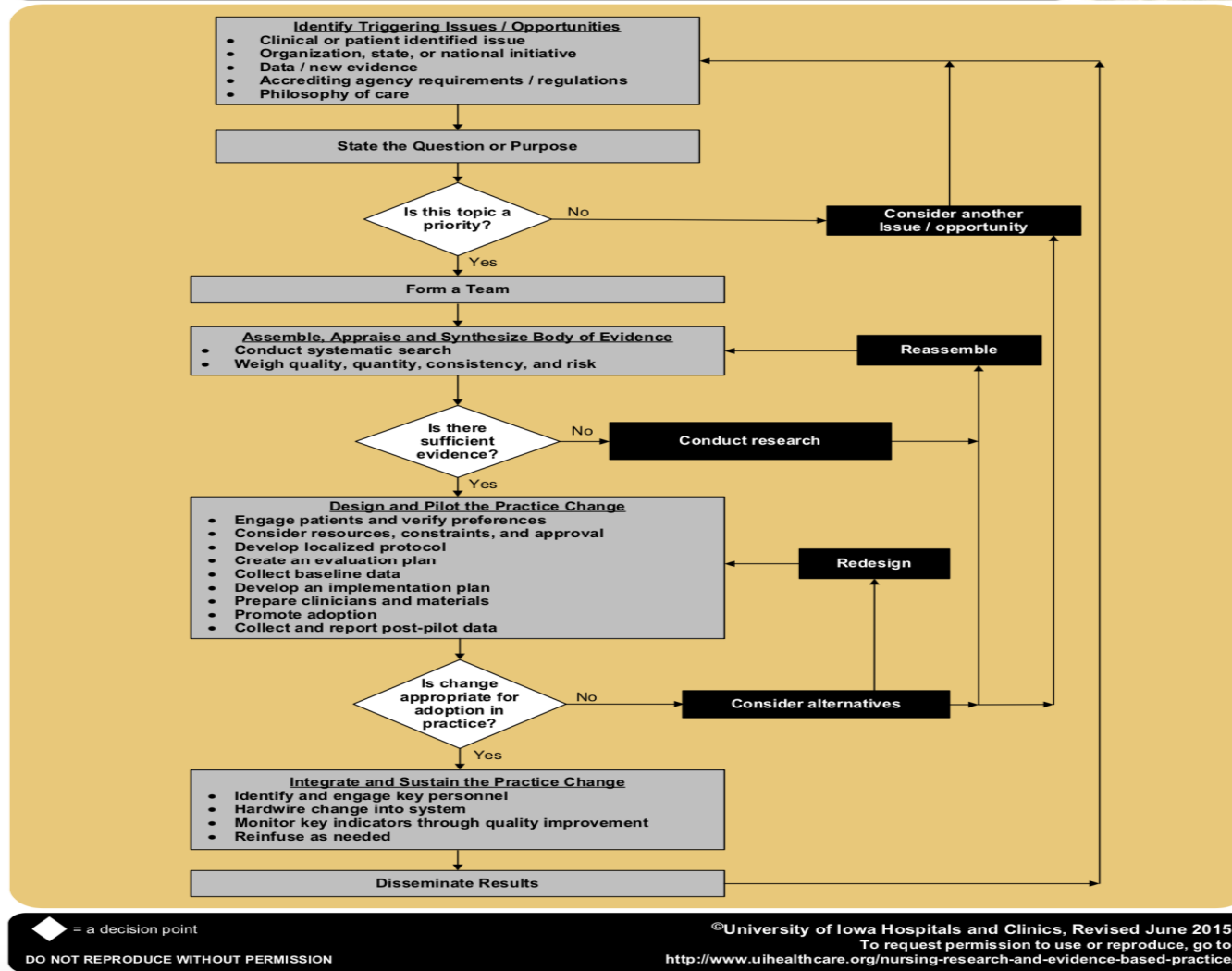
Author and Date	Focus/Purpose	Stated Method	Sample Description	Main Findings
		exploratory design		<ul style="list-style-type: none"> -Additional needed discharge resources were identified at various stages during the discharge directly influenced by the bedside nurse's judgement -Nurses identified themselves as discharge coordinators but focused only on activities of day of discharge -Verbal communication was preferred over electronic to include anticipated discharge date and any tasks needed. -Multidisciplinary rounds facilitated communication
Spiva & Johnson (2012)	Creating an Admission/Discharge (AD) nurse role to improve nursing satisfaction and retention	Pre-post	9 full-time AD positions created and staffed for a 633-bed hospital. 136 RNs completed the ADT survey	<ul style="list-style-type: none"> -AD checklist standardized for all units -AD work hours revolved during hospital peak hours 7 days a week tracked admission and disposition time and noted barriers. -Participated in hospital rounds -Increased bedside nurse satisfaction -Reduced time in patient's admission
Ciaremella, Longworth, Larraz, & Murphy (2014)	To assess the effect of a discharge nurse position on a mother-baby unit who can provide consistent parent education by utilizing a standardized process.	Descriptive study	A MBU with 1,800 births annually created a FT discharge RN position. HCAHPS survey scores before and after implementation	<ul style="list-style-type: none"> -Increased bedside RN satisfaction -Bedside RN voiced having more uninterrupted time with patients and better patient flow -Decreased patient waiting time transferring from LD to MBU -Increased HCAHPS survey scores
Buchko, Gutshall, & Jordan (2012).	To investigate the implementation of an evidence-based, streamlined, education process improving the quality and efficiency of postpartum inpatient education	Quasi-experimental pre and post-test design	Level III perinatal center with 3200 births annually with a convenience sample of 100 mothers and 52 RNs	<ul style="list-style-type: none"> -Staff formal training designated to standardize patient discharge instructions -Using a specific-tailor discharge instruction booklet eliminated additional handouts -Integrating educational topics into the patient's hospital stay improved nurses' documentation -Small sample size and high level of health literacy were limitations

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Author and Date	Focus/Purpose	Stated Method	Sample Description	Main Findings
Lane, Jackson, Odom, Cannella, & Hinshaw (2009)	To evaluate the effect of a newly developed nurse admission, discharge, and teaching position on nurse satisfaction and the quality of the admission and discharge process.	Pre and post-test design	18-unit nurses and chart review over a 3-month period pre- and post-implementation of the ADT nurse	<ul style="list-style-type: none"> -Job satisfaction increased by 25% -Additional time spent with patient increased by 38% -Bedside nurses workload reduce by 1 hour and 12 minutes -ADT nurse position can directly affect nurse's retention
Horwitz, Moriarty, Chen, Fogerty, Brewster, Kanade, Ziaecian, Jenq, & Krumholz (2013)	To evaluate necessary steps needed to change during their discharge process to target the current re-admission rates	Prospective observational cohort study	Sample population of 395 patients in a large urban hospital, mean age of 77, English-speaking and well-educated	<ul style="list-style-type: none"> -Patients lack understanding of key aspects of transitional care pertaining diagnosis and medications -Continuous use of medical terminology used in discharge instructions creates patients misunderstanding -Use patient-center care during transition -Use advance discharge planning, increase follow-up appointments, complete medication reconciliation, and communicate with outpatients' providers to continue patient care when discharged

Appendix E: Iowa Model & A3 Model

The Iowa Model Revised: Evidence-Based Practice to Promote Excellence in Health Care



IMPLEMENTING A DISCHARGE NURSE ROLE

A3 Format

Initiative / Project A3 Title



Alignment with Quadruple Aim Performance Process (QPP):
Accountable Leader:
Project Lead:

Location: Tripler Army Medical Center
Department:

Start Date:
End Date:

1. Clarify the Problem / Problem Statement Enter text	4. Determine Root Causes / Performance Gaps Enter text	7. Monitor Performance and Confirm Results Enter text
2. Break Down the Problem / Identify Performance Gaps Enter text	5. Develop Prioritized Projects / Countermeasures Enter text	
3. Set Improvement Target Enter text	6. Implement Projects / Countermeasures Enter text	8. Sustain Success / Transfer Knowledge Enter text

Team Members:
Improvement Scientist / Coach:

DHA 8-Step PPS Initiative / Project
Template September 2019

IMPLEMENTING A DISCHARGE NURSE ROLE

Appendix F: Discharge Nurse Daily Checklist

Room	Mom	Baby
	<input type="checkbox"/> D/C Order <input type="checkbox"/> D/C IV <input type="checkbox"/> Notes Ready <input type="checkbox"/> D/C Class <input type="checkbox"/> Notes Printed <input type="checkbox"/> Wheelchair? <input type="checkbox"/> Meds Ready <input type="checkbox"/> FL/MM/VA <input type="checkbox"/> Meds Picked up <input type="checkbox"/> Rhogam?	<input type="checkbox"/> Orders <input type="checkbox"/> Hrng <input type="checkbox"/> NBS <input type="checkbox"/> OFC <input type="checkbox"/> Weight <input type="checkbox"/> Bili <input type="checkbox"/> Circ <input type="checkbox"/> Circ ✓ <input type="checkbox"/> Bath <input type="checkbox"/> F/U App <input type="checkbox"/> Carseat <input type="checkbox"/> Notes Ready <input type="checkbox"/> Notes Printed Delivered @
	<input type="checkbox"/> Resolve NCPs <input type="checkbox"/> AD Memo <input type="checkbox"/> Postpartum D/C Note <input type="checkbox"/> Update Teach & D/C Note <input type="checkbox"/> Update Flowsheets <input type="checkbox"/> D/C ALL ORDERS	
	D/C Teaching @ _____ Left @ _____	
	<input type="checkbox"/> D/C Order <input type="checkbox"/> D/C IV <input type="checkbox"/> Notes Ready <input type="checkbox"/> D/C Class <input type="checkbox"/> Notes Printed <input type="checkbox"/> Wheelchair? <input type="checkbox"/> Meds Ready <input type="checkbox"/> FL/MM/VA <input type="checkbox"/> Meds Picked up <input type="checkbox"/> Rhogam?	<input type="checkbox"/> Orders <input type="checkbox"/> Hrng <input type="checkbox"/> NBS <input type="checkbox"/> OFC <input type="checkbox"/> Weight <input type="checkbox"/> Bili <input type="checkbox"/> Circ <input type="checkbox"/> Circ ✓ <input type="checkbox"/> Bath <input type="checkbox"/> F/U App <input type="checkbox"/> Carseat <input type="checkbox"/> Notes Ready <input type="checkbox"/> Notes Printed Delivered @
	<input type="checkbox"/> Resolve NCPs <input type="checkbox"/> AD Memo <input type="checkbox"/> Postpartum D/C Note <input type="checkbox"/> Update Teach & D/C Note <input type="checkbox"/> Update Flowsheets <input type="checkbox"/> D/C ALL ORDERS	
	D/C Teaching @ _____ Left @ _____	

Appendix G: A3 Poster

Start Date: September 2020
End Date: April 2021



1. Clarify the Problem / Problem Statement

Current discharge process leads to a prolonged discharge period more than 4-5 hours of anticipated discharge time. Discharges are divided into AM/PM without a distinction placed on the delivery type and time thus creating a bottleneck effect which directly impacts labor and delivery's transfer process.

Limited bed availability prevents timely transfers ultimately placing L&D on divert status & costing the hospitals thousands of dollars per year.

Goal: Streamline the discharge process to ensure all inpatient couplets receive discharge teaching, paperwork, medications, and immunizations (if applicable) within two hours of their delivery time on their designated discharge date within 6 months with a 90% or greater compliance rate.

2. Break Down the Problem / Identify Performance Gaps

LD divert status is directly correlated to the lack of bed availability on MBU due to the prolonged discharge process. The max bed capacity on MBU ward is 16 bed/bassinets & 11 bed in Labor and Delivery. Labor and Delivery diverted at least (transferring patients out of network providers/hospitals) 13 times FY 20 (Oct 2019- present) for a total of 17 patients (average financial cost of transfers -uncomplicated spontaneous vaginal delivery [SVD] \$9K-17K, 15K-25K cesarean delivery.)

3. Set Improvement Target

Implement a discharge nurse by March 2021 Monday- Friday from 0800-1600.

Patients will be discharged within two hours of receiving discharge order.

Patient's medications will be picked up by ancillary staff or discharge nurse within 2 hours of pharmacy receiving the discharge patient roster

4. Determine Root Causes / Performance Gaps

The diagram illustrates the discharge process flow. It starts with 'PATIENTS' (Pregnancy planned or not, Consistent BP, Confirmed GDM status) leading to 'NURSE' (Antenatal assessment, Discharge on schedule, Discharge on