Improving Physician-Family Communication in the PICU Using A Centralized Communication Board: A Pilot Study

Protocol Number

2025749-1

Principal Investigator

John-David Bruce

Sponsor

Augusta University Medical Center

Protocol Version

9 May 2023

version 2

Confidentiality Statement:

Study Personnel

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| --- | --- |
| **Principal Investigator** | Smitha Mathew, MD  Augusta University  Email: smmathew@augusta.edu |
| **Principal Investigator** | John-David Bruce  Augusta University  Email: JBRUCE@augusta.edu |
| **Co- Investigator** | John-David Bruce  Augusta University  Email: JBRUCE@augusta.edu |
| **C**o-Investigator | Julia Cook  Augusta University  Email: JUCOOK@augusta.edu |
| **C**o-Investigator | Mary Kate Standard  Augusta University  Email: MSTANDARD@augusta.edu |
| **Co-Investigator** | Haylee Sprangers  Augusta University  Email: HSPRANGERS@augusta.edu |

Table of Contents

[1. Background/Literature Review 5](#_Toc2)

[1.1 Background 5](#_Toc3)

[2. Rationale/Significance/Problem Statement 6](#_Toc4)

[2.1 Rationale 6](#_Toc5)

[2.2 Significance 6](#_Toc6)

[3. Study Purpose and Objectives 7](#_Toc7)

[3.1 Purpose 7](#_Toc8)

[3.2 Hypothesis 7](#_Toc9)

[3.3 Objectives 7](#_Toc10)

[4. Study Participants 8](#_Toc11)

[4.1 Study Population 8](#_Toc12)

[4.2 Number of Participants 8](#_Toc13)

[4.3 Selection Criteria 8](#_Toc14)

[4.4 Recruitment Procedures 8](#_Toc15)

[4.5 Risks 8](#_Toc16)

[4.6 Anticipated Benefits 8](#_Toc17)

[4.7 Vulnerable Populations 8](#_Toc18)

[4.8 Consent/Assent Procedures 8](#_Toc19)

[5. Study Design 9](#_Toc20)

[5.1 Study Design 9](#_Toc21)

[5.2 Study Design 10](#_Toc22)

[5.3 Study Duration 11](#_Toc23)

[5.4 Outcome Variables 11](#_Toc24)

[5.5 Study Procedures 12](#_Toc25)

[5.6 Withdrawal Procedures 12](#_Toc26)

[5.7 Locations/Facilities 12](#_Toc27)

[5.8 Data Collection 12](#_Toc28)

[5.9 Data Collection Sources 12](#_Toc29)

[5.10 Standard Tools 12](#_Toc30)

[6. Statistical Analysis 13](#_Toc31)

[6.1 Sample Size 13](#_Toc32)

[6.2 Planned Analyses 13](#_Toc33)

[6.3 Data Relevance 13](#_Toc34)

[6.4 Data Coding 13](#_Toc35)

[6.5 Data Analysis Tools 13](#_Toc36)

[6.6 Data Monitoring 13](#_Toc37)

[7. Data Handling and Record Keeping 14](#_Toc38)

[7.1 Subject Data Confidentiality 14](#_Toc39)

[7.2 Data Quality Assurance 14](#_Toc40)

[7.3 Data Storage/Security 14](#_Toc41)

[7.4 Study Records 14](#_Toc42)

[7.5 Retention of Records 14](#_Toc43)

[8. Study Considerations 15](#_Toc44)

[8.1 Research Personnel Training 15](#_Toc45)

[8.2 Unanticipated Problems and Protocol Deviations 15](#_Toc46)

[8.3 Study Modification and Discontinuation 15](#_Toc47)

[8.4 Study Completion 15](#_Toc48)

[8.5 Funding Source 15](#_Toc49)

[8.6 Publication Plan 15](#_Toc50)

[REFERENCES 16](#_Toc51)

[APPENDICES 17](#_Toc52)

# 1. Background/Literature Review

## 1.1 Background

Communication is an exchange of information using various types of mediums. In healthcare effective communication allows for safe and complete decision making amongst the medical team and patients and families. This can result in favorable outcomes, increasing compliance, improved patient and family satisfaction and overall wellness. Bartlett et a concluded in their study that ineffective communication increases the likelihood of preventable errors especially medical errors and increases the likelihood of medical malpractice (1). Communication in the Intensive Care Unit is a critical facet of care (2). This is especially significant and often lacking amongst the various medical team, patients, and families in the hospital setting. Communication in the ICU has made great strides in recent times especially with the implementation of the ICU liberation bundle with respect to family engagement. In pediatrics there is still a lot of work to be done. A recent systematic review by Mcsherry et al has highlighted some of these weaknesses in the Pediatric Intensive Care Unit (PICU) (3). This review demonstrated that physicians and families have different ideas about how to best communicate. While physicians are more likely to favor family meetings and have a structured discussion, families are more likely to appreciate bedside updates. Studies also demonstrate an inflated sense of communication ability amongst physicians. When evaluating a physician's self-perception of communication, they are more likely to overestimate their ability to effectively communication when compared top evaluation by bedside nurses and families. All this points towards the need for more effective communication strategies to improve outcomes and satisfaction in the PICU.

# 2. Rationale/Significance/Problem Statement

## 2.1 Rationale

Communication in healthcare especially in the ICU is a very important component of care. Communication in the ICU has made great strides in recent times. However, there is still a lot of work to be done to continue to improve this area of care, especially in the pediatric field. We know that improving communication improves outcomes in our patients and families. This research is attempting to provide a novel communication tool to improve perceived communication between physicians and families in the ICU. (3)

## 2.2 Significance

Current literature demonstrates that there are barriers to effective, timely and accurate communication in the PICU. These barriers include but are not limited to varied goals of communication between families and providers, caregiver availability during normal rounding hours, and one-sided conversations from physicians to families. This pilot study is targeted to mitigate some of these barrier and evaluate this novel approach with the overall hope that this can be used on a larger scale. (3)

# 3. Study Purpose and Objectives

## 3.1 Purpose

The purpose of this pilot study is to evaluate the efficacy of of a centralized communication board located in each patient room in improving perceived communication between physicians and families in the PICU.

## 3.2 Hypothesis

It is hypothesized by using a communication board in the PICU we can improve perceived communication between families and physicians.

## 3.3 Objectives

Primary objective is to improve communication in the PICU by using our communication boards.

# 4. Study Participants

## 4.1 Study Population

Patients admitted to the Children's Hospital of Georgia PICU Ages 0-18 years. Since our main goal is improving communication in the ICU, any age and reason for admission is going to be included.

## 4.2 Number of Participants

100 patients.

300 family members (Parents, grandparents, legal guardians, etc)

75 Nurses

This will be a pilot study. As such we don't have a target power or population size. We have a wide inclusion criteria and a narrow exclusion criteria.

## 4.3 Selection Criteria

Inclusion Criteria:

Patients admitted to the PICU in the Children's Hospital of Georgia who are admitted for a minimum of 3 days. Age 0-17 years. We will assent able patients at this point. Will also consent family members at this time as well. Only parents of patients who meet above inclusion criteria will be consented and given surveys.

All nursing staff will be included.

Exclusion Criteria:

Non-Native English speakers, patients over 17 years of age.

## 4.4 Recruitment Procedures

1. Eligible participants will be identified upon admission

2. Upon reaching the third day of ICU admission, the family and patient will be approached to be assented/consented to the study.

3. If consented/assented to the study, they will be enrolled and family members/guardians will be given the first survey at that time.

For nursing staff – a teaching session about the project will be held on both day and night shifts. At that time nursing staff will e given consent forms and those agreeing to participate in the study will be given the survey at that time.

## 4.5 Risks

This will study will be minimal risk using de-identified PHI data.

## 4.6 Anticipated Benefits

Benefit from improved perceived communication with physicians using communication board.

## 4.7 Vulnerable Populations

This is a study about improving communication in the Pediatric Intensive Care Unit. . As such, our vulnerable pediatric population will be the subjects along with their family members.

## 4.8 Consent/Assent Procedures

We will have a team of three physicians, one physical therapist and one occupational therapist that will consent/assent patients/families. Once a participant is identified, the team will assent able patients and consent parents/guardians. Consent/Assent documentation will be included with the research packet.

The process will be that after three days in the ICU eligible patients will be identified. At this point a team member will approach the family and patient about the project. If the patient is old enough they will be assented by the team member at that time. During that time the team member will also provide consent letters to parents/guardians and go over the informed consent with them. Since this study is minimal risk otherwise, will only require consent from one parent for this study. Parents/guardians and patients will be able to ask questions during this whole process.

For nursing staff, they will all be approached in groups for teaching sessions about the project. At this time they will be provided consent forms and have time for questions about the project and the consent.

# 5. Study Design

## 5.1 Study Design

Prospective within subjects control study focusing on improving communication between physicians and families at the bedside in the PICU. A novel communication board that will be hung in the rooms to directly facilitate this communication.

Will use standard rounding model for the first 3 days that patients are in the PICU. If they remain admitted in the PICU for 3 days they and their family members/guardians will be approached consented and assented to the study. At this point, the communication board will be uncovered in the room. The caregivers will be oriented to the board by the team. This board includes places for both caregivers and physicians to add questions or updates. It also has areas to post pictures of accomplishments or early mobility milestones and includes an area for physicians to put overall goals of care. From that point on, physicians, either during or outside of rounds, should be using the board to help facilitate communication and goals of care.

Our aim is to show increased family member/guardian satisfaction with physician communication. The team will also be auditing on a weekly basis to assess how frequently the board is being used by physicians during rounds and outside of rounds. Will also be assessing how much the boards are being written on by families and staff. Nursing staff will also be surveyed before and after study is completed to assess efficacy of communication board. Data has suggested that nurses are good barometers for how communication between physicians and families is received.

Will use a modified Family Satisfaction with the ICU survey (FS-ICU 24R) to evaluate how satisfied families are with the care of their family members in the ICU. They specifically have a sub-section that can be scored independently that focuses on communication of goals of care satisfaction. In addition to the 10-question survey will also include a free response section for families to voice concerns or give praise as desired.

Surveys will be administered at the initiation of the switch to the communication boards. And then every week thereafter or at discharge/transfer or death. Any family member actively participating in the care will be able to fill out survey.

Nursing staff will be consented and given surveys at the beginning of the project and then the same survey at the end of the project.

Enrollment period will be 2 years.

Inclusion Criteria:

Patients admitted to the PICU in the Children's Hospital of Georgia who are admitted for a minimum of 3 days. We will consent/assent patients and family members/guardians at this point. Only parents of patients who meet above inclusion criteria will be consented.

All nursing staff will be included.

Exclusion Criteria:

Non-Native English speakers

**Tracked metrics:**

* + Illness severity/Prism score
  + Number of specialists involved in the care of the patient
  + Palliative Care Involvement
  + Gender
  + Age
  + Race
  + Surveyor
  + Familial presence at bedside
  + Hospital Length of Stay
  + Transfer
  + Discharge
  + Death
  + Length of ICU stay
  + Presence of acute deterioration

## 5.2 Study Design

## 5.3 Study Duration

2 years. Patients will remain in the study until transfer, discharge, death, or withdrawal from study.

## 5.4 Outcome Variables

Outcome variables will be the modified Family Satisfaction with the ICU survey (FS-ICU 24R) surveyfilled out by the family members/guardians.

## 5.5 Study Procedures

Following enrollment into the study, the section of the communication board pertaining to familial communication will be unveiled. An initial survey will be administered at that time regarding efficacy of communication prior to introduction of board. Then, once weekly a follow up survey will be administered that is identical to the first survey. This will be repeated weekly for length of ICU stay until discharge, transfer, death, or withdrawal from study.

Patient data will be de-identified to maintain anonymity.

Nursing surveys will be administered at the start of the study and at the end of the study.

## 5.6 Withdrawal Procedures

Families will be able to remove patients from study at any time. Will allow the use of communication board to continue if families wish, even without participating in the study. Data collected up to that point will be used, unless families express desire to have data excluded form study.

## 5.7 Locations/Facilities

Children's Hospital of Georgia Pediatric Intensive Care Unit.

## 5.8 Data Collection

Survey Data: Surveys will be administered at beginning of enrollment. And then every 7 days afterwards or at time of discharge/transfer from PICU. Survey data will be de-identified to ensure that physician behaviors will not be altered during study process.

Demographic data: Will be collected using research access electronic medical records. Demographic data will be paired to the same ID number as the patient's survey data and the rest of their PHI will be de-identified.

## 5.9 Data Collection Sources

Survey Data: Family members/Guardians will fill out 10 question modified Family Satisfaction with the ICU survey (FS-ICU 24R) with free response section at the end. These will be administered after the initial consenting process and then once weekly or unitl discharge, transfer, or death.

Demographic data: CERNER electronic medical records will be accessed for demographic data.

## 5.10 Standard Tools

N/a

# 6. Statistical Analysis

## 6.1 Sample Size

100 patients300 Family members/guardians

75 nurses

## 6.2 Planned Analyses

Plan to use a paired t-test to measure communication effectiveness before and after the intervention.

## 6.3 Data Relevance

Data collected from our surveys will be analyzed to show if a significant difference is seen for communication between physicians and families from our pre board survey and post board survey.

## 6.4 Data Coding

Our survey is on a Likert scale from strongly disagree to strongly agree -- this will be converted to numerical values of 1-5 in order to have quantifiable data for our pre and post survey data points.

## 6.5 Data Analysis Tools

Data will be transcribed into an excel document. A paired t-test will be used, but no other statistical software is planned to be used at this time.

## 6.6 Data Monitoring

IRB approved Box folder for electronic data. Physical data will be kept in a lockbox in locked PICU offices. Data monitoring will be done by John-David Bruce

# 7. Data Handling and Record Keeping

## 7.1 Subject Data Confidentiality

Demographic data will be collected at bedside and via chart review. Each subject t will be assigned an identification (ID) number upon enrollment and then will be de-identified for the remainder of the study Survey data and demographic data will be paired with the associated ID number.

## 7.2 Data Quality Assurance

N/a

## 7.3 Data Storage/Security

Data will be de-identified and kept in IRB approved Box folder. This folder will be specifically created by Augusta University Information Technology Department for the purposed of research and data collection. Only Members of the research team who are participating in data collection will have access to this folder. Survey data will be collected with paper surveys which will be translated into a Likert scale into electronic form in de-identified form Paper surveys will be store in a locked storage file in our PICU offices.

## 7.4 Study Records

Study records will be kept on a specially made research Box folder online. This will be able to be accessed by members of the team. Our physical records will be kept in a locked storage box in our PICU offices. This will be able to be accessed by the two lead members of the team, John-David Bruce and Smitha Mathew, who will have access to the PICU offices as well.

## 7.5 Retention of Records

Box folder will keep online data. Locked file box will hold survey data. Will keep records through completion of both study period and publication of results.

# 8. Study Considerations

## 8.1 Research Personnel Training

Five members of the team (Smitha Mathew, John-David Bruce, Julia Cook, Mary Kate Standard, and Haylee Sprangers) will be involved in the consenting and assenting process. Researchers involved in the consenting process will review the IRB Consent policy found on the IRB website. Prior to enrollment members will review informed consent process and clarify documentation processes. Otherwise, will go over access to research folder and how to access patient data with special electronic medical record accounts with the team members helping with data collection.

Though they are not specifically members of the research team -- we will be conducting teaching sessions for our nursing staff who will be orienting our families to the boards. This is to ensure everyone is one the same page and they can effectively orient our patients and their families to the communication board.

## 8.2 Unanticipated Problems and Protocol Deviations

In the case of any unanticipated problems -- these issues will be discussed with the Co-PI and PI John-David Bruce and Smitha Mathew, respectively. When indicated these will be appropriately reported to IRB. Protocol deviations will be reported to IRB using appropriate template documents from IRBnet.org.

## 8.3 Study Modification and Discontinuation

Study modifications and discontinuation will be submitted to the IRB using appropriate documentation.

## 8.4 Study Completion

Study completion will be June 2025.

## 8.5 Funding Source

Communication boards will be a one-time cost that will be funded through the department funding under the umbrella of faculty development funds.

## 8.6 Publication Plan

Goal is to publish in a peer- reviewed journal as a pilot study.

# REFERENCES

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2. Tiwary A, Rimal A, Paudyal B, Sigdel KR, Basnyat B.. Poor communication by health care professionals may lead to life-threatening complications: examples from two case reports. . Wellcome Open Res 1/22/19; doi: 10.12688. PMID: 31448336

3. McSherry ML, Rissman L, Mitchell R, Ali-Thompson S, Madrigal VN, Lobner K, Kudchadkar SR. Prognostic and Goals-of-Care Communication in the PICU: A Systematic Review. 9/7/22; doi: 0.1097/PCC.0000000000003062. PMID: 36066595

# APPENDICES

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| --- | --- | --- | --- |
| **#** | **Title** | **Section** | **Topic** |
| 1 | FS-ICU 24R (WIll use questions 15-24 for our survey) | 5 Study Design | 5.1 Study Design |
| 2 | IRB Informed Consent Policy | 8 Study Considerations | 8.1 Research Personnel Training |
| 3 | Communication board |  |  |

[View Appendices Attachments](https://app.protocolbuilderpro.com/sites/default/files/images/appendices/appendices_improving_physician-family_communication_in_the_picu_using_a_centralized_communication_board__a_pilot_study_05-09-23.pdf?download=1&token=645ae001066dd)