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Purpose: The goal of this study is to identify and describe infant characteristics that are significantly associated with receiving instrumental swallowing assessment (ISA).

Hypothesis: Infant and maternal medical history and demographics, and feeding and swallowing outcomes will have significant associations with receiving ISA.

Methods: This retrospective, cross-sectional study included infants that were in the Baylor University Medical System's NICU from 2019 to 2021. Characteristics on infant and maternal demographics and medical history as well as infant dysphagia symptoms were collected and analyzed using descriptive statistics and logistic regression models.

Results: Infants (n=205) diagnosed with BPD/chronic lung disease (OR=2.64; 95% CI: 1.26, 5.55) and had a tongue tie (OR=2.93; 95% CI: 1.52, 5.64) as well as experienced respiratory complications (OR=9.34; 95% CI: 2.18, 40.02), apnea/bradycardia (OR=7.49; 95% CI: 2.75, 20.35), cough/choke (OR=3.36; 95% CI: 1.59, 7.13), oral pooling (OR=6.53; 95% CI: 1.72, 24.87), oral phase incoordination (OR=4.27; 95% CI: 1.16, 15.73), and nasal/pharyngeal congestion (OR=3.03; 95% CI: 1.43, 6.42) during the feeding evaluations were significantly associated with receiving ISA. Infants of multiple gestations (OR=0.40; 95% CI: 0.19, 0.86) and higher APGAR 1-minute scores (OR=0.83; 95% CI: 0.72, 0.96) were significantly less likely to receive ISA.

Conclusion: This study suggested that variables within infant demographics, medical history, and dysphagia symptoms have significant associations to receiving ISA. However, variables within maternal demographics and medical history have no significant associations.

RETROSPECTIVE DATA ANALYSIS ON THE CHARACTERISTICS IN NEONATAL
INTENSIVE CARE UNIT (NICU) INFANTS' FEEDING PATTERNS

INTERNSHIP PRACTICUM REPORT

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LIST OF ABBREVIATIONS

ISA	Instrumental Swallowing Assessment
VFSS	Video Fluoroscopic Swallow Study
FEES	Fiberoptic Endoscopic Evaluation of Swallow
PROM	Premature Rupture of Membrane
PPROM	Prolonged Premature Rupture of Membrane
IUGR	Intra Uterine Growth Restriction
NEC	Necrotizing Enterocolitis
PDA	Patent Ductus Arteriosus
RDS	Respiratory Distress Syndrome
BPD	Bronchopulmonary Dysplasia
CPAP	Continuous Positive Airway Pressure
HFNC	High Flow Nasal Cannula
NC	Nasal Cannula
IVH	Intra Ventricular Hemorrhage
PVL	Periventricular Leukomalacia
HIE	Hypoxic Ischemic Encephalopathy
GERD	Gastro Esophageal Reflux Disease

CHAPTER I

INTRODUCTION

Infant prematurity, defined as preterm deliveries that occur prior to 37 gestational weeks, have been steadily growing in prevalence since the 1980's due to advancing medical interventions and increasing public health awareness for prenatal care.¹ One of the problems that resulted from this is the rising number of infants that are diagnosed with dysphagia. Dysphagia, or having oral feeding and swallowing problems, can have detrimental consequences such as long-term dependency on gastrostomy-tube and delays in speech and language.² Interventions, monitoring, and screening techniques are all necessary steps to diagnosing dysphagia; all of which are conducted through feeding assessments done by NICU feeding therapists.³ When dysphagia signs and symptoms are observed, clinicians utilize instrumental swallowing assessments (ISA), Videofluoroscopic Swallow Study (VFSS) and Fiberoptic Endoscopic Evaluation of Swallowing (FEES), to help them with formally diagnosing dysphagia.⁴

However, there is no standardization of protocol and procedure for pediatric ISA.⁵ This practicum project characterized the demographics, medical history, and feeding patterns in NICU infants to establish logistic regression models to determine which are associated with conducting an ISA. Data was collected retrospectively from the Baylor University Medical Center's medical records, Epic, which is based in Dallas, Texas. Variables such as infant demographic history (gestational age, admission weight, etc.), maternal demographic and medical history (maternal age, PROM, hypertension, etc.), infant medical history (IUGR, IVH, HIE, etc.), and dysphagia symptoms (physiologic instability including apnea/bradycardia/desaturation, fremitus, stridor, cough/choke, etc.) were collected and compared between the sample of 205 infants that did and did not receive ISA.

CHAPTER II

PRACTICUM REPORT

BACKGROUND AND LITERATURE

There are many causes of prematurity. High risk pregnancies that included maternal obesity, high levels of stress, depression, abnormal levels of amniotic fluids, and drug use such as cocaine, heroin, and tobacco are found to be linked to preterm delivery.¹ Jiang et al. found that factors such as advanced maternal age, lack of prenatal care, and maternal pregnancy complications such as premature rupture of membrane (PROM), intrauterine growth restriction (IUGR), and hypertension significantly associated with infant prematurity. They concluded that premature infants are at a greater risk of having medical and developmental complications when compared to full term infants.⁶

One of the many developmental complications is dysphagia. Dysphagia is defined as difficulty in swallowing during any of the three phases: oral, pharyngeal, and esophageal.² Both oral and pharyngeal phases are fully voluntary, while esophageal phase is fully involuntary. In infants, all three phases are involuntary until they mature to gain more refined, voluntary control to the oral phase, usually prior to four months of age.⁷ Premature infants often have difficulty with the oral phase due to having an underdeveloped soft palate and oropharynx leading to incoordination with their oropharyngeal musculature, which causes feeding and swallowing problems.⁸ In addition, prematurity can also present as neurological impairment, which can affect functional swallowing. Due to the preterm infant's underdeveloped brain, it can have detrimental effects on muscle coordination and motor function due to complications like intraventricular hemorrhage (IVH), hypoxic ischemic encephalopathy (HIE), and cerebral palsy.⁹

Delays in speech and language can also result from feeding problems due to using the same incompetent muscles to perform the above tasks.²

Another cause of dysphagia is the underdeveloped respiratory system. Approximately 80% of premature infants developed problems with breathing¹⁰, such as apnea, respiratory distress syndrome (RDS) and chronic lung disease. Respiratory problems are due to premature infant's deficiency of secreted surfactant and abnormal breathing adaptation when transitioning from intrauterine to extrauterine. Surfactants facilitate lung alveoli inflation, which is called compliance. Without surfactant, the alveoli have more difficulty in expansion, thus resulting in less gas exchange.¹¹ These infants are often intubated, treated with CPAP (continuous positive airway pressure), or treated with nasal cannula, a device for lower oxygen level supply. Having an underdeveloped respiratory system makes it challenging for the infant to coordinate their suck-swallow-breathe sequence, which is necessary for the infant's transition from tube feeding to oral feeding. An uncoordinated sequence can result in negative consequences for the infant such as aspiration of fluids, which is when fluids get into the airway, and dysphagia.^{12,13}

Other congenital diseases, airway abnormalities and infant complications, also can be a cause of dysphagia. Laryngomalacia is the most common cause of stridor, or noisy breathing, because of the floppy, misshaped tissues of the larynx. Simons et al.¹⁴ found that laryngomalacia contributes to dysphagia because of the obstructed airways. This abnormal anatomy leads to difficulty in coordinating sucking, swallowing, and breathing, which is essential for same feeding. Congenital conditions such as cleft lip and palate significantly impact feeding as these craniofacial abnormalities causes failure to properly utilize oral and pharyngeal anatomy to feed, thus possibly causing aversion and dysphagia.¹⁵ Dysphagia is also common with infants with gastroesophageal reflux disease (GERD). Fishbein et al. found that major signs and symptoms of

dysphagia are also statistically significant in their GERD-like symptom population. They concluded that a multidisciplinary approach to early diagnosis is necessary to help prevent GERD-like symptoms and further sequelae, especially respiratory complications.¹⁶

To diagnose dysphagia, a clinical bedside examination of feeding and swallowing function should be completed initially.¹⁷ A comprehensive feeding and swallowing assessment should include: obtaining medical history of child, oral mechanism exam, neuromotor exam, and trials of food and liquids. During oral feeding assessments, if the infant displays signs and symptoms of dysphagia such as coughing, choking, oral pooling, aversive behaviors, congestion, wet breathing, etc., an instrumental swallowing assessment may be warranted to further assess swallow function.¹⁸ The primary instrumental swallowing assessment to diagnose dysphagia is Videofluoroscopic Swallow Study (VFSS). VFSS is the process of utilizing fluoroscopy to visualize a bolus during deglutition. It is considered the gold standard of instrumental swallowing assessments due to its prevalence and simplicity.^{19,20} It can visualize all three phases of swallowing concurrently and can also be used to confirm the sufficiency of airway protection during swallowing, which is what prevents aspiration, which defines as fluids going into airway below the vocal folds.²¹

Fiberoptic Endoscopic Evaluation of Swallowing (FEES) is another instrumental swallowing assessment that can diagnose dysphagia. It utilizes an endoscope that is inserted nasally and can visualize the anatomy of the pharyngeal and laryngeal phases directly. The advantage of using FEES over VFSS include no exposure to radiation, use of actual diet instead of barium, a lengthier assessment, and more frequent follow up assessments can be done. It is less expensive than VFSS and can be used to assess secretion management. Willette et al.²² and later Armstrong et al.²³ also found that FEES can be used to assess during breastfeeding, which is

not possible with VFSS. However, the limitation to using FEES is that it cannot visualize the oral phase. Also, there is a brief “white- out” period during the swallow when using FEES that cannot be visualized due to the endoscope being blocked by surrounding tissue contracting around it. One adverse effects of FEES is the possibility of epistaxis (nose bleed) and irritation or discomfort during the insertion of the endoscope.²⁴ To determine which instrumental swallowing assessment is needed, a patient centered approach is utilized to identify which is suitable for the infant’s individualized needs to diagnose dysphagia.²⁵

SPECIFIC AIMS

The goal of this study is to identify characteristics that would lead to conducting an instrumental swallowing assessment (ISA). The first aim of this study is to describe characteristics of NICU infants with feeding difficulty and stratify by those who did and did not receive ISA. The second aim of this study is to determine characteristics that are associated with conducting ISA in NICU infants with feeding difficulty. ISAs are necessary to aid clinicians in understanding the nature of the swallowing problem, by examining the functional and structural aspects of swallowing and determining swallowing safety, therapy effectiveness, and the degree of deglutition dysfunction.¹⁷ Conducting ISA is dependent on clinical judgement based on infant’s dysphagia signs and symptoms; the protocol and procedure to conduct pediatric ISA is not standardized.^{5,26} Therefore, this study will use logistic regression models to associate characteristics of infants that would need ISA: either VFSS or FEES. This study will test the hypothesis that demographics, infant and maternal medical history, and feeding and swallowing outcomes will have significant associations with conducting ISA.

SIGNIFICANCE

Premature babies have a dramatically increased chance of survival over the past few decades due to improved medical practices and procedures. However, feeding problems have become more prevalent, therefore, feeding assessments must be done when the infants are offered oral feeding around 32- and 34- weeks.² Instrumental assessments can directly determine the problems with swallowing by directly viewing the oropharynx structures, which is not possible when using other methods such as clinical swallowing assessment using food/liquid trials and oral mechanism exam.¹⁷ This project will contribute to the growing knowledge of ISAs by characterizing infants that did and did not need an ISA, and therefore offer insight into optimal feeding practices for premature infants and reveal information that may improve quality of care for future patients.

MATERIALS AND METHODS

The study design for this project was a retrospective cross-sectional study. The inclusion criteria for this study were all infants that were admitted into the Baylor University Medical Center's (BUMC) NICU from August 2019 to May 2021. There were no exclusion criteria for this study.

Data collection

Subject list was used from the BUMC NICU registry. A 98-variable case report form was used to collect data of subjects (n=205) from Epic, the Baylor University Medical Center's medical record system. Data was then entered into REDCap (Research Electronic Data Capture). Infant demographics collected include gestational age, sex, race, and birth weight. Maternal demographics collected include age, race, and insurance type. Maternal history collected include PROM, hypertension, diabetes, amniotic fluid level, obesity, reproductive assistance, history of

substance use, and psychiatric history, all of which are commonly thought to cause infant prematurity.^{1,6} Infant medical history collected include IUGR, hyperbilirubinemia, chromosomal disorder, respiratory status, IVH, and more are common conditions that infants may develop from being born premature.⁹⁻¹⁶ Coughing/choking, stridor, fremitus, apnea/bradycardia, and more are all symptoms observed by the NICU feeding therapists from their routine feeding assessments to watch for the possibility of dysphagia.

Data analysis

Sample characteristics are described using descriptive statistics. Frequencies and percentages are used to describe categorical variables. Means and standard deviations (mean + sd) (or medians and interquartile ranges (median (25th%, 75th%) if skewed) are used to describe continuous variables. Both infant and mother demographics, medical histories, and feeding characteristics were compared between groups using chi-square tests (or Fisher's exact tests when low cell counts are present) for categorical variables and two-sample t-tests (or Wilcoxon rank-sum tests when skewed) for continuous variables. An exploratory analysis for multivariate variables of instrumental examination was performed using a logistic regression. Backwards selection techniques were used to reach the final model. All statistical analyses were performed in SAS 9.4 with a significance level of 0.05. Forest plots are used to visualize variables' odds ratios.

RESULTS

Out of the sample of 205 infants, 83 (40.5%) received ISA and 122 (59.5%) did not. Table 1 describes the demographics of the infants in this study (n=205). The infants were 55.2% male, 66.7% White or Caucasian, 76.2% non-Hispanic, 68.3% had private insurance, and the

mean gestational age at birth was 31 weeks, and mean discharge gestational age was 39 weeks.

Infants that received ISA were significantly younger gestational age at birth, with a difference of 3 weeks, and significantly older gestational age at discharge than those who did not, with a difference of 2 weeks. Infants that received ISA were mainly between 26-29.6 weeks (38.6%) and 30-33.6 weeks (21.7%), and of those who didn't receive ISA, the majority were between 30-33.6 weeks (35.2%) and 34 weeks and older (33.6%), which makes the infants that did not receive ISA significantly older in comparison with infants that had received ISA.

The infants that received ISA also had a significantly longer length of stay in the hospital of 69.5 days vs. 39 days for those not receiving ISA. The overall mean birth weight was 1540 grams, with 47.7% of the infants having below the birth weight of 1500 grams. The infants that underwent ISA had a significantly lower birth weight than those who did not, with a difference of 480 grams. The majority of those who received ISA were below 1500 grams (61.4%) while 61.5% of those who didn't receive ISA weighed below 1500 grams. There was no significant difference between the two groups regarding sex, race, ethnicity, type of insurance, transfer from outside hospital, or CPS involvement.

Table 1: Infant Demographics

	All (n=205)	No ISA (n=122)	Received ISA (n=83)	p-value
Gestational age at birth	31 (27, 34)	32 (28, 34)	29 (26, 33)	0.0035
Gestational age at birth categories				0.0017
22-25.6 weeks	32 (13.1%)	16 (13.1%)	16 (19.3%)	
26-29.6 weeks	54 (26.3%)	22 (18.0%)	32 (38.6%)	
30-33.6 weeks	61 (29.8%)	43 (35.2%)	18 (21.7%)	
34+ weeks	58 (28.3%)	41 (33.6%)	17 (20.5%)	
Gestational age at discharge	39 (37, 41)	38 (37, 40)	40 (39, 43)	<0.0001
Sex (N=203)				0.1317
Male	112 (55.2%)	72 (59.5%)	40 (48.8%)	
Female	91 (44.8%)	49 (40.5%)	42 (52%)	
Race (N=201)				0.0986

American Indian/Alaska Native	1 (0.5%)	1 (0.8%)	0 (0%)	
Asian	7 (3.5%)	5 (4.2%)	2 (2.5%)	
Native Hawaiian/Pacific Islander	1 (0.5%)	1 (0.8%)	0 (0%)	
Black or African American	57 (28.4%)	27 (22.5%)	30 (37%)	
White or Caucasian	134 (66.7%)	86 (77%)	48 (59.3%)	
More than one race	1 (0.5%)	0 (0%)	1 (2%)	
Ethnicity (N=202)				0.8703
Hispanic	48 (23.8%)	29 (24.2%)	19 (23.2%)	
Non-Hispanic	154 (76.2%)	91 (75.8%)	63 (76.8%)	
Insurance				0.1015
Private	140 (68.3%)	78 (63.9%)	62 (74.7%)	
Medicaid/Public	52 (25.4%)	33 (27%)	19 (22.9%)	
None	13 (6.3%)	11 (9%)	2 (2.4%)	
Infant LOS (days) (N=204)	54 (25, 85)	39 (22, 67)	69.5 (41, 107)	<0.0001
Transfer from outside hospital (N=204)	46 (22.5%)	29 (23.8%)	17 (20.7%)	0.6106
	1540 (990, 2240)	1770 (1095, 2345)	1290 (890, 2040)	
Birth weight in grams				0.0038
Birth weight categories				0.0042
<750 g	30 (14.6%)	11 (9.0%)	19 (22.9%)	
750-1000 g	22 (10.7%)	13 (10.7%)	9 (10.8%)	
1000-1500 g	46 (22.4%)	23 (18.9%)	23 (27.7%)	
1500+ g	107 (52.2%)	75 (61.5%)	32 (38.6%)	
CPS	13 (6.3%)	7 (5.7%)	6 (7.2%)	0.6672

Table 2 describes the demographics and medical history of the infants' mothers. On average, the mothers were 31 years old, 64.2% White or Caucasian, 76.5% non-Hispanic, and 75.4% had private insurance. Just over two-thirds (67.3%) delivered via Cesarean section, 73% deliveries used suction, and only 2 deliveries used forceps. Maternal history variables represented among our study sample included premature rupture of membrane (PROM) among 22.7% of mothers, 24.8% had prolonged PROM (or PPRM), 46.1% had antepartum bedrest, 8% were obese, 32.8% had hypertension/pre-eclampsia, 14% had diabetes, 4.4% had autoimmune disorder, and 4.9% of mothers had reproductive assistance. Additionally, 8.6% of mothers received limited or no prenatal care.

On average, the mothers had a gravida (# of times pregnant) of 2, para (# of live births after 20 weeks' gestation) of 1, and 1 abortion (spontaneous or therapeutic). Regarding mental health factors, a minority of the mothers in this sample had a psychiatric history (14%). Out of those, the most frequent diagnosis was depression (73.9%). Only 8.4% of mothers took unprescribed drugs. Out of the variables related to maternal demographics and medical history, only maternal length of stay in the hospital was significantly different between the two groups; the difference was on average 2 days longer for infants that received ISA.

Table 2: Maternal Demographics and Medical History

	All (n=205)	No ISA (n=122)	Received ISA (n=83)	p-value
Maternal age	30.9 ± 6.9	30.9 ± 7.4	30.9 ± 6.1	0.9891
Maternal race (N=204)				0.1699
American Indian/Alaska Native	1 (0.5%)	1 (0.8%)	0 (0.0%)	
Asian	8 (3.9%)	6 (4.9%)	2 (2.4%)	
Black or African American	64 (34%)	32 (26.2%)	32 (39.0%)	
White or Caucasian	131 (64.2%)	83 (68.0%)	48 (58.5%)	
Maternal ethnicity (N=204)				0.9211
Hispanic	48 (23.5%)	29 (23.8%)	19 (23.2%)	
Non-Hispanic	156 (76.5%)	93 (76.2%)	63 (76.8%)	
Maternal insurance (N=183)				0.9820
Private	138 (75.4%)	85 (75.9%)	53 (74.6%)	
Medicaid/Public	35 (19.1%)	21 (18.8%)	14 (19.7%)	
None	10 (5.5%)	6 (5.4%)	4 (5.6%)	
Maternal LOS (days) (N=182)	5 (3, 9)	4 (3, 8)	6 (4, 11.5)	0.0009
Delivery type				0.1199
Vaginal	67 (32.7%)	45 (36.9%)	22 (26.5%)	
Cesarean Section	138 (67.3%)	77 (63.1%)	61 (73.5%)	
Forceps used (N=204)	2 (0%)	1 (0.8%)	1 (2%)	1.0000
Suction used (N=196)	143 (73%)	82 (69.5%)	61 (78.2%)	0.1788
Infant presentation (N=193)				0.8008
Cephalic	130 (67.4%)	78 (66.7%)	52 (68.4%)	
Breech	55 (28.5%)	33 (28.2%)	22 (28.9%)	
Transverse	8 (4.1%)	6 (5.1%)	2 (2.6%)	
PROM (N=203)	46 (22.7%)	27 (22.5%)	19 (22.9%)	0.9478
PPROM (N=202)	50 (24.8%)	29 (24.2%)	21 (25.6%)	0.8155
Antepartum bedrest (N=180)	83 (46.1%)	46 (42.2%)	37 (52.1%)	0.1923
Obesity (N=201)	16 (8.0%)	11 (9.2%)	5 (6.1%)	0.4180

Amniotic fluid levels				0.6668
Less	13 (6.3%)	6 (4.9%)	7 (8.4%)	
Normal	189 (92.2%)	114 (93.4%)	75 (90.4%)	
More	3 (1.5%)	2 (1.6%)	1 (1.2%)	
Hypertension/Pre-eclampsia (N=201)	66 (32.8%)	39 (32.8%)	27 (32.9%)	0.9818
Gestational and /or pre-gestational diabetes (N=201)	23 (14%)	16 (13.4%)	7 (8.5%)	0.2826
Autoimmune disorder (N=203)	9 (4.4%)	6 (5.0%)	3 (3.6%)	0.7401
Prenatal care (N=198)				0.4878
Yes	181 (94%)	108 (93.1%)	73 (89.0%)	
No	10 (5.1%)	4 (3.4%)	6 (7.3%)	
Limited	7 (3.5%)	4 (3.4%)	3 (3.7%)	
Steroids prior to delivery (N=201)	157 (78.1%)	89 (74.8%)	68 (82.9%)	0.1704
Reproductive assistance (N=203)	14 (6.9%)	9 (7.5%)	5 (6.0%)	0.6833
Psych history/diagnosis (N=201)	23 (14%)	12 (10.2%)	11 (13.3%)	0.4989
Bipolar	2 (8.7%)	1 (8.3%)	1 (9.1%)	1.0000
Depression	17 (73.9%)	9 (75%)	8 (72.7%)	1.0000
Anxiety	14 (60.9%)	8 (66.7%)	6 (54.5%)	0.6802
Drug history: unprescribed	17 (8.4%)	8 (6.7%)	9 (10.8%)	0.2993
Drug history: prescribed	193 (96.0%)	114 (96.6%)	79 (95.2%)	0.7199
Gravida	2 (1, 3)	2 (1, 3)	2 (1, 3)	0.6616
Para	1 (0, 2)	1 (0, 2)	1 (0, 2)	0.8622
Abortion	1 (0, 1)	1 (0, 1)	1 (0, 1)	0.7406

Table 3 describes the infants' medical history. The majority (75.1%) of the infants were singleton gestation. Most had hyperbilirubinemia (79.5%) and an abnormal neuromotor exam at some point during their stay in the NICU (82.5%). Infants that received ISA were significantly higher proportion in comparison to infants that did not receive ISA for having a lower APGAR score at 1-minute and 5-minutes.

A minority of the infants had medical conditions including IUGR (18.2%), chromosomal disorder (2.9%), hypoglycemia (30.2%), gastrointestinal perforation (2.9%), NEC (necrotizing enterocolitis) (2.4%), surgically induced NEC (5%), small bowel obstruction (2.4%), short gut (0.5%), and PDA (patent ductus arteriosus) (28.3%). Brain abnormalities such as hydrocephalus (5%), neuro shunt (2.9%), PVL (periventricular leukomalacia) (2%), HIE (hypoxic ischemic

encephalopathy) (2.4%), and brain malformations such as tumors (18%) were all insignificantly different between infants that did not receive ISA and those who did. Only left and right IVH (intraventricular hemorrhage) were significantly more in proportion with infants that received ISA, with p-values of 0.004 and 0.039 respectively.

A significantly higher proportion of infants that had a tethered oral tissue (lingual frenulum) also called a tongue-tie had received an ISA (p-value 0.0157), and infants that did not have any tethered oral tissue were significantly less likely to receive an ISA. A significantly higher proportion of infants that received ISA had RDS (84.1% vs. 70.5%, p-value 0.0252) and BPD (bronchopulmonary dysplasia)/chronic lung disease (40% vs. 16.4%, p-value <0.0001). Respiratory medication (72.3% vs. 49.2%) and spending a longer time intubated (1 vs. 0 day), on CPAP (15.5 vs. 3 days), or with nasal cannula (25 vs. 2 days), as well as the number of times intubated (1 vs. 0 times) were also significantly different (all p-values < 0.05) between infants that received ISA and those who didn't.

Table 3: Infant Medical History

	All (n=205)	No ISA (n=122)	Received ISA (n=83)	p-value
Singleton/Multiple Gestation				0.0460
Singleton	154 (75.1%)	85 (69.7%)	69 (83.1%)	
Twin	49 (23.9%)	35 (28.7%)	14 (16.9%)	
Triplet	2 (0%)	2 (6%)	0 (0.0%)	
IUGR	37 (18.2%)	18 (14.9%)	19 (23.2%)	0.1331
APGAR 1 Minute (N=199)	7 (4, 8)	7 (5, 8)	6 (3, 7)	0.0003
APGAR 5 Minute (N=199)	8 (7, 9)	8 (8, 9)	8 (7, 9)	0.0048
APGAR 10 Minute (N=42)	7 (6, 8)	7 (6, 8)	7 (6.5, 8)	0.3637
Chromosomal Disorder	6 (2.9%)	2 (6%)	4 (4.8%)	0.2248
Trisomy 21	2 (0%)	1 (0.8%)	1 (2%)	1.0000
Hypoglycemia	62 (30.2%)	35 (28.7%)	27 (32.5%)	0.5567
Hyperbilirubinemia	163 (79.5%)	94 (77%)	69 (83.1%)	0.2895
Perforation	6 (2.9%)	2 (6%)	4 (4.8%)	0.2248
Medical NEC	5 (2.4%)	2 (6%)	3 (3.6%)	0.3964
Surgical NEC	3 (5%)	0 (0%)	3 (3.6%)	0.0649

Small Bowel Obstruction	5 (2.4%)	2 (6%)	3 (3.6%)	0.3964
Short Gut (N=204)	1 (0.5%)	1 (0.8%)	0 (0.0%)	1.0000
Reflux Medication	11 (5.4%)	4 (3.3%)	7 (8.4%)	0.1243
PDA	58 (28.3%)	31 (25.4%)	27 (32.5%)	0.2666
Respiratory Status at Delivery (N=203)				0.0016
Intubation	70 (34.5%)	29 (24.2%)	41 (49.4%)	
Bubble CPAP	85 (49%)	56 (46.7%)	29 (34.9%)	
HFNC	1 (0.5%)	1 (0.8%)	0 (0.0%)	
NC	1 (0.5%)	1 (0.8%)	0 (0.0%)	
None	46 (22.7%)	33 (27.5%)	13 (15.7%)	
Known # of intubations (N=197)	0 (0, 1)	0 (0, 1)	1 (0, 2)	0.0013
Meconium Aspiration Syndrome	3 (5%)	2 (6%)	1 (2%)	1.0000
BPD/Chronic Lung Disease	54 (26.3%)	20 (16.4%)	34 (40%)	<0.0001
RDS (N=204)	155 (76.0%)	86 (70.5%)	69 (84.1%)	0.0252
Days intubated (N=198)	0 (0, 6)	0 (0, 2)	1 (0, 22)	0.0040
Days on Bubble CPAP (N=200)	5.5 (0, 27.5)	3 (0, 22.5)	15.5 (2, 31)	0.0028
Days on Nasal Cannula (N=200)	5.5 (0, 29.5)	2 (0, 16)	25 (0, 41)	<0.0001
Nitric	11 (5.4%)	3 (2.5%)	8 (9.6%)	0.0531
Respiratory Medication	120 (58.5%)	60 (49.2%)	60 (72.3%)	0.0010
IVH Left (N=204)				0.0040
None	170 (83.3%)	107 (87.7%)	63 (76.8%)	
Grade 1	18 (8.8%)	7 (5.7%)	11 (13.4%)	
Grade 2	11 (5.4%)	7 (5.7%)	4 (4.9%)	
Grade 3	4 (2.0%)	1 (0.8%)	3 (3.7%)	
Grade 4	1 (0.5%)	0 (0.0%)	1 (2%)	
IVH Right				0.0390
None	174 (84.9%)	109 (89.3%)	65 (78.3%)	
Grade 1	14 (6.8%)	5 (4.1%)	9 (10.8%)	
Grade 2	12 (5.9%)	5 (4.1%)	7 (8.4%)	
Grade 3	2 (0%)	0 (0.0%)	2 (2.4%)	
Grade 4	3 (5%)	3 (2.5%)	0 (0.0%)	
Hydrocephalus	3 (5%)	1 (0.8%)	2 (2.4%)	0.5670
Neuro Shunt	6 (2.9%)	4 (3.3%)	2 (2.4%)	1.0000
PVL	4 (2.0%)	1 (0.8%)	3 (3.6%)	0.3055
Brain Malformations	37 (18.0%)	17 (13.9%)	20 (24.1%)	0.0633
HIE	5 (2.4%)	4 (3.3%)	1 (2%)	0.6502
Oral Structural Abnormality	8 (3.9%)	6 (4.9%)	2 (2.4%)	0.4777
Tethered Oral Tissue: Lip Tie	3 (5%)	2 (6%)	1 (2%)	1.0000
Tethered Oral Tissue: Tongue Tie	105 (52%)	54 (44.3%)	51 (64%)	0.0157
Tethered Oral Tissue: Not Applicable	100 (48.8%)	68 (55.7%)	32 (38.6%)	0.0157
Results of Neuromotor Exam				0.5646
Normal	35 (17.5%)	22 (18.8%)	13 (15.7%)	
Abnormal	165 (82.5%)	95 (82%)	70 (84.3%)	

In the sample, 75.9% of the infants that received ISA had poor weight gain while in the NICU, which is significantly higher than the 59% that didn't. Respiratory complications, apnea/bradycardia, airway abnormality, fremitus (chest vibrations), stertor (noise from obstructed upper airway), cough/choke, refusal/aversion to the bottle, oral pooling of the milk, incoordination of the suck-swallow-breathe sequence, and nasal/pharyngeal congestion were all significantly more prevalent in infants that received ISA. Infants that expressed motor stress cues during feeding (grimacing, neck tension, eyebrow raising, lower/upper extremity extension), state stress cues (crying, drowsy), and autonomic stress cues during feeding such as unstable heart rate, respiratory rate, and oxygen saturation levels were significantly associated with receiving ISA.

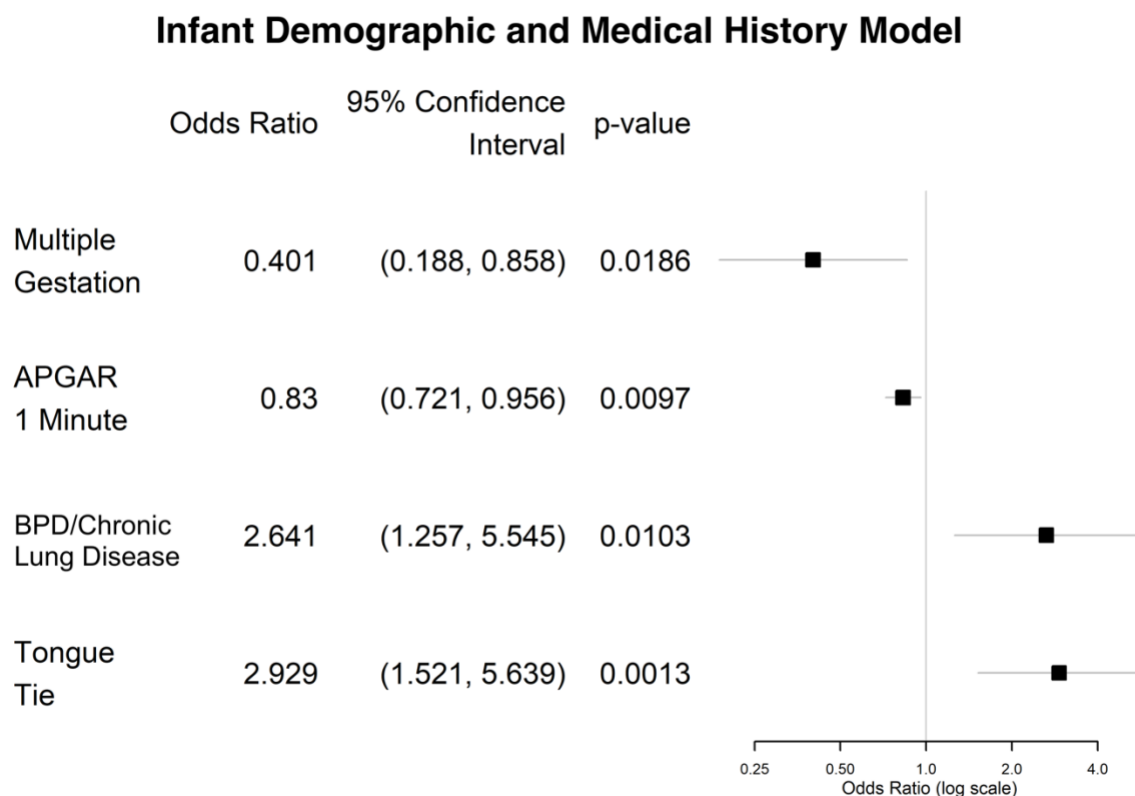
Table 4: Dysphagia Symptoms

	All (n=205)	No ISA (n=122)	Received ISA (n=83)	p-value
Poor Weight Gain	135 (65.9%)	72 (59.0%)	63 (75.9%)	0.0123
Hoarse/Silent Cry	5 (2.4%)	4 (3.3%)	1 (2%)	0.6502
Respiratory Complications	170 (82.9%)	90 (73.8%)	80 (96.4%)	<0.0001
Apnea/Bradycardia	145 (70.7%)	69 (56.6%)	76 (96%)	<0.0001
Airway Abnormality	14 (6.8%)	4 (3.3%)	10 (12.1%)	0.0146
Fremitus	67 (32.7%)	27 (22.1%)	40 (48.2%)	<0.0001
Stertor	106 (57%)	53 (43.4%)	53 (63.9%)	0.0041
Stridor	80 (39.0%)	46 (37.7%)	34 (40%)	0.6387
Cough/Choke	119 (58.3%)	55 (45.1%)	64 (78.1%)	<0.0001
Refusal/Aversion	161 (78.5%)	86 (70.5%)	75 (90.4%)	0.0007
Audible Swallows	128 (62.4%)	71 (58.2%)	57 (68.7%)	0.1284
Multiple Swallows	31 (15.2%)	14 (15%)	17 (20.7%)	0.0710
Oral Pooling	23 (12%)	5 (4.1%)	18 (27%)	<0.0001
Oral Phase Incoordination	174 (85.3%)	96 (79.3%)	78 (94.0%)	0.0037
Abnormal Oral Reflexes	37 (18.1%)	21 (17.2%)	16 (19.5%)	0.6761
Nasal/Pharyngeal Congestion	85 (45%)	32 (26.2%)	53 (63.9%)	<0.0001
Motor Stress Cues	188 (97%)	108 (88.5%)	80 (96.4%)	0.0451
State Stress Cues	176 (86.3%)	99 (88%)	77 (92.8%)	0.0255
Autonomic Stress Cues	178 (86.8%)	99 (82%)	79 (95.2%)	0.0035
Autonomic Stress Cues: HR Unstable	65 (36.5%)	29 (29.3%)	36 (45.6%)	0.0250
Autonomic Stress Cues: RR Unstable	143 (80.3%)	74 (74.8%)	69 (87.3%)	0.0357

Autonomic Stress Cues: O2 Stats				
Unstable	138 (77.5%)	70 (70.7%)	68 (86.1%)	0.0147

A logistic regression was used to explore multivariate relationships with receiving ISA and infant demographics/medical history. Variables were considered for final model inclusion if they were statistically significant in bivariate analyses. All potential variables were placed in a logistic regression; backward selection techniques were applied, removing all non-significant variables one at a time until only statistically significant variables remained. The final model, shown in Figure 1, consists of the following variables: multiple gestation, AGPAR 1-minute, bronchopulmonary dysplasia (BPD)/chronic lung disease, and tongue tie.

Figure 1: Forest Plot of the Infant Demographic and Medical History Model



Black squares on the forest plot mark the odds ratio and the horizontal lines mark the confidence intervals. The vertical line is the reference line. The reference line is an odds ratio of 1, which means equal odds of an event happening (not statistically significant). If a confidence interval line touches the reference line, that variable's p-value will be greater than 0.05 (the significance level).

Figure 1 demonstrates that infants with BPD/chronic lung disease and tongue tie have 2.6 times the odds (95% CI: 1.257, 5.545) and 2.9 times the odds respectively of receiving ISA (95% CI: 1.521, 5.639), while multiple gestation and APGAR 1-minute are associated with 0.40 and 0.83 lower odds respectively of receiving ISA (95% CI: [0.188, 0.858]; [0.72, 0.96]). The model shows that each one-point increase in APGAR 1-minute score results in a 17% decrease in the odds of instrumental assessment. In other words, higher APGAR 1-minute scores resulted in decreased odds of receiving ISA. Twins and triplets had a 59.9% decrease in odds of receiving ISA (95% CI: 0.188, 0.858).

Another logistic regression was used to explore multivariate relationships with receiving instrumental assessment and dysphagia symptom variables. Variables were considered for final model inclusion if they were statistically significant in bivariate analyses. All potential variables were placed in a logistic regression; backward selection techniques were applied, removing all non-significant variables one at a time until only statistically significant variables remained. The final model, shown in Figure 2, consists of the following variables: presence of respiratory complications, apnea/bradycardia, cough/choke, oral pooling, oral phase incoordination, and nasal or pharyngeal congestion.

The odds of receiving ISA for infants with respiratory complications are 9.3 (95% CI: 2.2, 40.0) times the odds of receiving ISA for infants without respiratory complications,

adjusting for apnea/bradycardia, cough/choke, oral pooling, oral phase incoordination, and nasal/pharyngeal congestion. Infants with apnea and/or bradycardia have a 648.7% increase in odds of receiving ISA compared to infants without apnea and/or bradycardia, holding all other covariates constant. Keeping all other variables constant, the odds of the infant with cough/choke to receive an ISA is 3.362 times the odds of infants without cough/choke to receive ISA. Again, adjusting for all other covariates, infants with oral pooling have a 5.534% increase in odds of receiving ISA compared to infant without oral pooling. Holding all other covariates in the model constant, the odds of receiving ISA for infants with oral phase incoordination is 4.274 times the odds of infants without oral phase incoordination. The odds of receiving ISA are 2.029 times higher in infants with nasal/pharyngeal congestion compared to those without congestion, when comparing two patients with the same status for apnea/bradycardia, cough/choke, oral pooling, oral phase incoordination, and nasal/pharyngeal congestion. These results can be visualized in Figure 2.

Figure 2: Forest Plot of the Dysphagia Symptoms Model

Dysphagia Symptoms Model

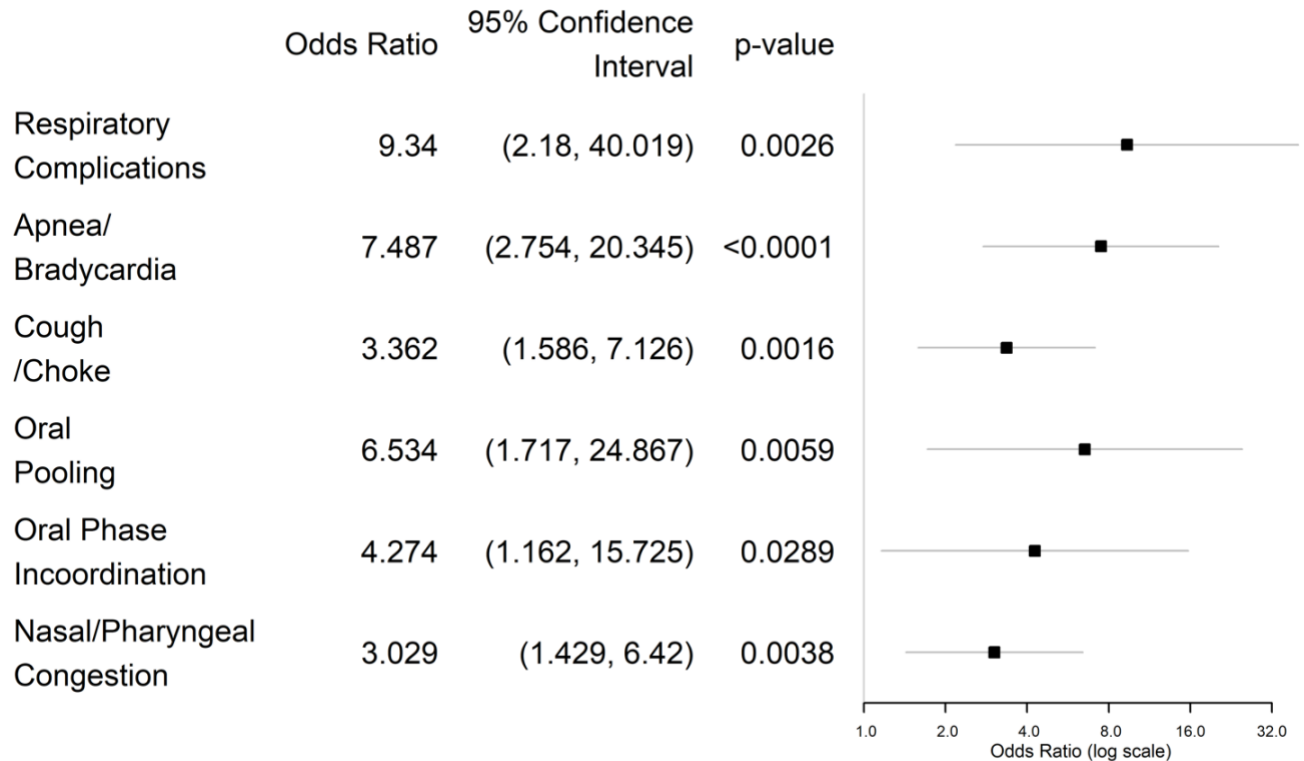


Figure 2 demonstrates that conducting an ISA is most strongly associated with respiratory complications, followed by apnea/bradycardia, oral pooling, oral phase incoordination, cough/choke, and lastly nasal/pharyngeal congestion (all p-values < 0.05).

There are no significant variables in the maternal logistic regression model, since almost all the maternal demographic and medical history variables were not significant.

DISCUSSION

Results showed that infants diagnosed with BPD/chronic lung disease and had a tongue tie as well as experienced respiratory complications, apnea/bradycardia, cough/choke, oral pooling, oral phase incoordination, and nasal/pharyngeal congestion during clinical feeding

evaluations were significantly associated with receiving ISA. Infants of multiple gestations and higher APGAR 1-minute were significantly less likely to receive ISA.

APGAR score is a standardized assessment out of 10 to evaluate the health of the infant right after delivery. It stands for appearance, pulse, grimace, activity of the muscles, and respiration. Simbron et al. found direct significant correlation between APGAR 5-minute score and number of sucking cycles. An infant that has a weak suck or lower sucking cycles would be at risk for possible dysphagia. They determined that a higher APGAR score is correlated with more sucking cycles.²⁷ Therefore, this supports the fact that a lower APGAR score would be associated with the infant having dysphagia symptoms and possibly needing ISA.

Respiratory complications during feedings as well as BPD/ chronic lung disease emerged as significant results and odd ratios on the logistic regression models. Premature infants are more likely to have BPD/chronic lung disease and respiratory distress syndrome.¹⁵ As mentioned in the background and literature review sections, premature infants often have underdeveloped respiratory systems, leading to disruptions in the feeding sequence of suck-swallow-breathe, thus affecting their swallowing and feeding.^{12,13} Apnea, or cessation of breathing, is also the mechanism to protect respiratory system if aspiration does occur.²⁸ By disrupting the suck-swallow-breathe sequence (or incoordination), the infant can prevent food/fluid from going into the airway by keeping the epiglottis closed over the larynx. This thus contributed to the lowering of the respiratory rate and oxygen saturation as well as accompanied by secondary bradycardia.²⁹ Rare symptoms such as coughing and choking occurring immediately after feeding is a direct indication that the infant most likely had dysphagia.^{15,28} Therefore, the high likelihood of conducting ISA based on these variables are reasonable as they all indicate the possibility of an infant having dysphagia.

Tongue-tie, also called ankyloglossia, is when the lingual frenulum is excessively attached anteriorly or posteriorly. This presentation can cause feeding difficulties because of decreased tongue mobility which can impact the infant's ability to latch and extract milk out of a bottle or breast.³⁰ The tongue itself pushes against the pharyngeal wall, and this generated pressure forces the bolus through the upper esophageal sphincter. Weakened swallowing forces due to a tongue-tie can result in imperfectly moving all the bolus into the pharynx, with some ending up in the airway.³¹ This bolus misdirection can result in aspiration, with the infant demonstrating symptoms such as coughing, choking, and congestion.³² This could explain a tongue-tie's strong association with conducting ISA.

Oral pooling is a result from reduced strength in the swallowing musculature. Pooling of liquid in the oral cavity can place the infant at risk for aspiration as fluid can inadvertently spill into the airway.³³ Thus, when an infant presents with oral pooling and oral loss during feedings, it can be an indicator for an ISA to further assess the coordination of the suck/swallow/breathe sequence. Another symptom that could indicate dysphagia is congestion during and after feedings. Congestion, or a turbulent sound heard during exhalation, was the symptom associated with most severe dysphagia and present in infants that were most likely to demonstrate aspiration in Kwa et al.'s study.²² Therefore, this provides an argument that congestion has a strong association with conducting ISA.

Unexpected results in this study were that none of the maternal variables were significantly different between infants that received ISA and those who didn't. This is contrary to Pike et al.'s study, as they indicate that prenatal risk factor such as PROM had a statistically significant correlation with dysphagia. However, they addressed that this is an indirect risk as they stated that PROM accounts for a third of the preterm births and is associated with RDS, and

both have been associated with dysphagia.³⁴ Therefore, it is not directly correlated with dysphagia itself, but with its presented co-morbidities. Substantial maternal factors are linked to preterm births and infant complications,^{1,6} but dysphagia is only one of many complications that a premature infant could have, so therefore, the unexpected result of insignificant maternal variables could be explained.

SUMMARY AND CONCLUSIONS

In conclusion, the data indicated that the infants born as a singleton, with a lower APGAR score, diagnosed with BPD/chronic lung disease, had a tongue tie, experienced respiratory complications are strongly associated with receiving ISA, as shown in Figure 1. Infants that demonstrated apnea/bradycardia, cough/choke, oral pooling, incoordination of the oral phase, and nasal/pharyngeal congestion during feeding are also strongly associated with receiving ISA, as shown in Figures 2. However, maternal demographics and medical history has no variables that are significantly associated with conducting ISA. This could be due to having correlation with prematurity overall, but not directly to infant dysphagia itself, which is one of the many complications a premature infant could have.

The data in this practicum added to the growing knowledge of pediatric dysphagia and ISA by describing the characteristics of an infant that would have likely received an ISA. These results will contribute to formally establish protocols and procedures to conduct ISA with NICU infants. However, future research will need to explore more specificity in how to predict which infant will benefit from an ISA. More specifically, specific criteria for utilization of FEES and VFSS is needed. The hope is to identify the specific characteristics to establish specialized protocols and procedures so that feeding practices are optimized and individualized for future patients to improve quality of their care.

LIMITATIONS

One limitation is the possibility of selection bias. The data in this study is only collected at the NICU at BUMC in Dallas during 2019-2021 and may not be representative of the general infant population. Also, since there is no established protocol and procedures to select which infants to receive ISA, the clinicians could have selection bias when choosing the infants using their clinical judgement. For instance, the result of no association between oral structural abnormality and ISA is due to selection bias. Although cleft lip and palate could be one of the contributions to possible dysphagia,^{3,4,15} the clinicians choose not to conduct ISA due to already knowing the cause of their such dysphagia: their oral anomaly. Therefore, ISA would not provide any new information and would be unnecessary to conduct. The result is expected to have no association between oral structural abnormalities and ISA. Another limitation is the sample size. Due to the time constraints of this project, only a sample size of 205 infants were included. Future studies should include a larger sample so that the logistic regression model would be less susceptible to bias.

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CHAPTER III

INTERNSHIP EXPERIENCE

For my internship, I worked under the mentorship of Dr. Chad Swank, the principal investigator, and Libby Callender, the research project manager at the Baylor Scott and White Institute for Rehabilitation (BIR) in Dallas, Texas.

I was involved with many studies throughout my internship. The first project I was involved in was Group Lifestyle Behavior (GLB) for patients with chronic spinal cord injury (SCI) and cerebrovascular accident (CVA) or stroke. The goal of the study was to establish evidence-based weight loss strategies as people with SCI or CVA have additional environmental and functional barriers to a healthy lifestyle. As both were ongoing studies, I witness 6-month follow-up assessments as I conducted phone interviews, scheduled participants, and assisted the main coordinator with in-person assessments. Because of the involvement with the assessments early on, I was heavily trained on how to document everything correctly and how to audit CRFs by auditing other interns' CRFs. After the assessments were done, I was trained on inputting data from CRFs into REDCap. This made me familiarize myself with the documentation process and the database itself, which was crucial going forward into my practicum project as well as other studies at BIR. Later, I created two fact sheets which will be available for the public to learn about the studies on the BIR website.

My focus was the NICU FEES project, which is also my practicum project. I learned my way around Epic and was taught how to abstract data from Epic and onto the CRF with the help from Lacy McDonald and Jacqueline Nguyen. As this project was still in its early developing stage, I was heavily involved with the organization of the project itself, which consisted of

leading the bi-weekly meetings with Jenny Reynolds and coordinators, auditing old data on CRF, editing, and adding new variables onto CRF and later reflected on REDCap, and streamlining the data collection process. My main time commitment during my internship was dedicated to data collection, entry, and audit.

While I was working on my practicum project, I was simultaneously working on other projects that needed to be done. I was introduced to the longitudinal study, Traumatic Brain Injury Model Systems (TBIMS) project, and the need to keep up with participant information as follow-ups were years in the making. Throughout my internship, I continuously kept up with sending birthday cards and updating their information when they send back on return cards, as well as administrative task of filing away participant files. Besides with TBIMS project, I also worked on many projects that needed data entry into REDCap. This included the COVID Rehab Registry project, the Ekso Exoskeleton gait robot project for their outpatient and inpatient registries, and the Texas Immuno-Oncology Biorepository (TIOB) project.

After I finished data collection for my practicum project, I involved myself with the Vagus Nerve Stimulation (VNS) project. A joint effort with UT Dallas, this project involves implanting a wireless device into the neck to stimulate the vagus nerve to enhance recovery with patients with stroke or SCI. I learned to conduct packed-scheduled assessments by taking vitals of participants, learned how to report and keep up with Adverse Events, and logging and informing with reimbursement logs. I enjoyed the patient/participant interaction opportunity that this study gave.

Appendix A

Case Report Form (CRF)

Infant Demographic Information		
1. Medical Record Number <i>mrn</i> Enter 9999999 if Unknown/Missing	Top Left	_____
2. Date of Birth <i>dob</i> Enter 09/09/9999 if Unknown/Missing	Top Left	____/____/____
3. Gestational Age at Birth in weeks <i>gestagebirth</i> Enter 9999 if Unknown/Missing	Chart Review, Notes, Discharge Summary	_____
4. Gestational Age at Discharge in weeks <i>gestagedc</i> Enter 9999 if Unknown/Missing	Chart Review, Notes, Discharge Summary	_____
5. Sex <i>sex</i> 1 – Male; 2 – Female; 9 – Unknown/Missing	Top Left	_____
6. Race <i>race</i> 1 – American Indian/Alaska Native; 2 – Asian; 3 – Native Hawaiian/Pacific Islander; 4 – Black or African American; 5 – White or Caucasian; 6 – More than one race; 9 – Unknown/Missing	Demographics, Clinical Information	_____
7. Ethnicity <i>ethnicity</i> 1 – Hispanic; 2 – Non-Hispanic; 9 – Unknown/Missing	Demographics, Clinical Information	_____
8. Insurance <i>ins</i> 1 – Private; 2 – Medicaid/Public; 3 – None; 9 – Unknown/Missing	Middle Left	_____
9. Date of admission <i>admdate</i> Enter 09/09/9999 if Unknown/Missing	Top Left	____/____/____
10. Date of discharge <i>dcdate</i> Enter 09/09/9999 if Unknown/Missing	Top Left	____/____/____
11. Transfer from outside hospital <i>transferhospital</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, H&P, Birth Hospital	_____
12. Admission Weight (BW) in grams <i>adwtgm</i> Enter 9999 if Unknown/Missing	Chart Review, Notes, Discharge Summary	_____
13. CPS <i>cps</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Discharge Summary, Multi-Disciplinary Planning or Parental Contact (call CPS instead)	_____

Maternal Demographic and History Information		
1. Maternal Medical Record Number <i>matmrn</i> Enter 9999999 if Unknown/Missing	(Demographics, Additional Information, Mother, Chart Review) Top Left	_____
2. Maternal Age <i>matage</i> Enter 9999 if Unknown/Missing	(Demographics, Additional Information, Mother, Chart Review) Top Left	_____
3. Maternal Race <i>matrace</i> 1 – American Indian/Alaska Native; 2 – Asian; 3 – Native Hawaiian/Pacific Islander; 4 – Black or African American; 5 – White or Caucasian; 6 – More than one race; 9 – Unknown/Missing	(Demographics, Additional Information, Mother, Chart Review) Demographics, Clinical Information	_____
4. Maternal Ethnicity <i>matethnicity</i> 1 – Hispanic; 2 – Non-Hispanic; 9 – Unknown/Missing	(Demographics, Additional Information, Mother, Chart Review) Demographics, Clinical Information	_____
5. Maternal Insurance <i>matins</i> 1 – Private; 2 – Medicaid/Public; 3 – None; 9 – Unknown/Missing	(Demographics, Additional Information, Mother, Chart Review) Middle Left	_____
6. Maternal Date of admission <i>matadmdate</i> Enter 09/09/9999 if Unknown/Missing	(Demographics, Additional Information, Mother, Chart Review) Chart Review, Notes, Discharge Summary	____/____/____
7. Maternal Date of discharge <i>matdcdate</i> Enter 09/09/9999 if Unknown/Missing	(Demographics, Additional Information, Mother, Chart Review) Chart Review, Notes, Discharge Summary	____/____/____
8. Delivery type <i>deltype</i> 1 – Vaginal; 2 – Cesarean Section; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary	_____
9. Forceps use <i>forceps</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, H&P or Discharge Summary (pertaining to vaginal delivery)	_____
10. Suction use <i>suction</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, H&P or Discharge Summary, Labor and Delivery Comment or Procedures/Medications at Delivery “NP/OP suctioning”	_____
11. Infant presentation <i>infpres</i> 1 – Cephalic; 2 – Breech; 3 – Transverse; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Delivery (vertex = cephalic)	_____
12. PROM <i>prom</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Discharge Summary, Maternal History, Complications	_____

13. PPROM <i>pprom</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Discharge Summary, Maternal History, Complications (prolonged rupture of membranes)	_____
14. Antepartum bedrest <i>bedrest</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Maternal Chart Review, search antepartum, “admit to inpatient-antepartum” under orders (admitted into the hospital weeks before giving birth)	_____
15. Obesity <i>obesity</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Maternal Chart, Left Middle (weight will be in red) Or Search bar	_____
16. Amniotic Fluid Levels <i>amniotic</i> 1 – Less; 2 – Normal; 3 – More; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Complications (oligohydramnios= 1, polyhydramnios= 3, neither= 9 usually not in Discharge Summary)	_____
17. Hypertension/Pre-Eclampsia <i>htn</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Maternal History, Complications during Pregnancy Labor or Delivery	_____
18. Gestational and/or Pregestational Diabetes <i>gestdiabetes</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Maternal History, Complications during Pregnancy Labor or Delivery	_____
19. Autoimmune Disorder <i>autoimmune</i> 1 – Yes; 2 – No; 9 – Unknown/Missing If yes to Autoimmune Disorder, enter type <i>autotype</i> Enter type; 8888 – Not applicable; 9999 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Maternal History, Complications during Pregnancy Labor or Delivery Chart Review, Notes, Discharge Summary, Maternal History, Complications during Pregnancy Labor or Delivery	_____
20. Prenatal Care <i>prenatalcare</i> 1 – Yes; 2 – No; 3 – Limited; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Maternal History	_____
21. Steroids prior to delivery <i>steroids</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Maternal History	_____
22. Reproductive Assistance <i>repasst</i> 1 – Yes; 2 – No; 9 – Unknown/Missing If yes to Reproductive Assistance, enter type <i>repassttype</i> Enter type; 8888 – Not applicable; 9999 – Unknown/Missing	Chart Review, Notes, H&P, Maternal History, Complications Chart Review, Notes, H&P, Maternal History, Complications	_____

23. Psych History <i>psychhx</i> 1 – Yes; 2 – No; 9 – Unknown/Missing If yes to Psych History, check Psych diagnosis (Check all that apply) <i>psychdx</i>	Chart Review, Notes, Mother H&P, Prior medical history Chart Review, Notes, Mother H&P, Prior medical history	 <input type="checkbox"/> Bipolar <input type="checkbox"/> Depression <input type="checkbox"/> Anxiety <input type="checkbox"/> Other: _____ <input type="checkbox"/> Not applicable <input type="checkbox"/> Unknown/Missing
24. Drug history (unprescribed) <i>drugunpres</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Mother H&P, Prior medical history	
25. Drug history (prescribed) <i>drugpres</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Maternal History	
26. Gravida (# of times pregnant) <i>gravida</i> Enter 9999 if Unknown/Missing	Chart Review, Notes, Discharge Summary, Maternal History	
27. Para (# of live births after 20 wks gestation) <i>para</i> Enter 9999 if Unknown/Missing	Chart Review, Notes, Discharge Summary, Maternal History	
28. Abortion (# of losses spontaneous or therapeutic) <i>abortion</i> Enter 9999 if Unknown/Missing	Chart Review, Notes, Discharge Summary, Maternal History (Missing on a lot of discharge summaries)	

Infant Medical History		
1. Singleton/Multiple Gestation <i>gestation</i> 1 – Singleton; 2 – Twin; 3 – Triplet; 4 – Quadruplet; 5 – Quintuplet; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Delivery	
2. IUGR <i>iugr</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Nutritional Support or open as its own problem or maternal complications in pregnancy	
3. Apgar 1 Minute <i>apgar1</i> 0-10; Enter 9999 if Unknown/Missing	Chart Review, Notes, Discharge Summary, Delivery	
4. Apgar 5 Minutes <i>apgar5</i> 0-10; Enter 9999 if Unknown/Missing	Chart Review, Notes, Discharge Summary, Delivery	
5. Apgar 10 Minute <i>apgar10</i> 0-10; Enter 9999 if Unknown/Missing	Chart Review, Notes, Discharge Summary, Delivery	
6. Chromosomal disorder <i>chromodo</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary or H&P	
7. Trisomy 21 <i>trisomy21</i>	Chart Review, Notes, Discharge Summary or H&P	

1 – Yes; 2 – No; 9 – Unknown/Missing		
8. Hypoglycemia <i>hypoglycemia</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Nutritional Support	_____
9. Hyperbilirubinemia <i>hyperbili</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, “hyperbilirubinemia prematurity”	_____
10. Sepsis <i>sepsis</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary	_____
11. Perforation <i>perforation</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary	_____
12. Medical NEC <i>medicalnec</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary	_____
13. Surgical NEC <i>surgicalnec</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary	_____
14. Small bowel obstruction <i>smallbowelob</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary (under NEC)	_____
15. Short gut <i>shortgut</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary (under NEC)	_____
16. Reflux Medication <i>refluxmed</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, medications (Ex: omeprazole, paradisaic, famotidine)	_____
17. PDA <i>pda</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Opened as its own problem	_____
18. Respiratory Status at Delivery <i>respstatus</i> 1 – Intubation; 2 – Bubble CPAP; 3 – HFNC; 4 – NC; 5 – None; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Delivery	_____
19. Known # of Intubations <i>intubenum</i> Enter number; 8888 – Not applicable; 9999 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Pulmonary insufficiency/Immaturity (# of intubations/# of times been on ventilator during stay Ex: ventilator, room air, ventilator = twice intubated)	_____
20. Meconium Aspiration Syndrome (MAS) <i>mas</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Labor and Delivery Comment or Pulmonary insufficiency/Immaturity	_____

21. RDS <i>rd</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary	_____
22. BPD <i>bpd</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary (Or chronic lung disease)	_____
23. Days intubated <i>daysintubated</i> Enter number; 8888 – Not applicable; 9999 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Respiratory Support	_____
24. Days on Bubble CPAP <i>daysbubblecpap</i> Enter number; 8888 – Not applicable; 9999 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Respiratory Support (Bubble CPAP is the same as Nasal CPAP)	_____
25. Days on Nasal Cannula (HFNC or NC) <i>daysnc</i> Enter number; 8888 – Not applicable; 9999 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Respiratory Support	_____
26. Nitric (during any part of hospitalization) <i>nitric</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Medications ("inhaled nitric oxide" under medications)	_____
27. Respiratory Medication <i>respmed</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Respiratory Complication	_____
28. IVH Left <i>ivhleft</i> 0 – None; 1 – Grade 1; 2 – Grade 2; 3 – Grade 3; 4 – Grade 4; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Neuroimaging, Neurosonogram or head imaging (Grade-L, Grade-R) (No bleed= none/0)	_____
29. IVH Right <i>ivhright</i> 0 – None; 1 – Grade 1; 2 – Grade 2; 3 – Grade 3; 4 – Grade 4; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Neuroimaging, Neurosonogram or head imaging/Cranial ultrasound (Grade-L, Grade-R) (No bleed= none/0)	_____
30. Hydrocephalus <i>hydrocephalus</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Neuroimaging	_____
31. Shunt <i>shunt</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Under neuroimaging (Neuro shunt, not cardiac shunt)	_____
32. PVL <i>pvl</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Under neuroimaging	_____
33. Brain malformations <i>brainmal</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Under neuroimaging	_____

34. HIE <i>hie</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary, Opened as its own problem	_____
35. Cooling <i>cooling</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Chart Review, Notes, Discharge Summary (applicable to HIE only: will be written as TBC/total body cooling)	_____
36. Oral Structural Abnormality <i>oralabnl</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	SLP notes, Oral motor Chart Review, Notes, Discharge Summary, Complications found in utero (For cleft lip and cleft palate only, not deviation)	_____
37. Tethered Oral Tissue (Check all that apply) <i>tetheroral</i>	Chart Review, Notes, SLP Note, (tongue tie= lingual frenulum) Search “tethered”	<input type="checkbox"/> Lip Tie <input type="checkbox"/> Tongue Tie <input type="checkbox"/> Not applicable <input type="checkbox"/> Unknown/Missing
38. Results of Neuromotor Exam <i>neuromotor</i> 1 – Normal; 2 – Abnormal; 9 – Unknown/Missing	Early on in Therapy (SLP or OT) Notes, “Neonatal Reflexes” or “Muscle tone”	_____
If Results of Neuromotor Exam are Abnormal, enter diagnosis <i>neuromotordx</i> Enter physician; 8888 – Not applicable; 9999 – Unknown/Missing	Look for “Hypertonia”, “Hypotonia”, “Global hypotonia”, “Mixed hypo/hypertonia” “Jittery/not smooth movements”, “clonus”	_____

Dysphagia Symptoms from Feeding Evaluations/Treatment		
1. Poor Weight Gain <i>poorwtgain</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Physician progress notes under “nutritional support” or discharge notes Last dietician notes “does not meet goal”	_____
2. Hoarse/Silent Cry <i>hoarse</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Therapy Notes or physician progress notes; Early on, after extubated Use search bar	_____
3. Respiratory Complications <i>respcomp</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Therapy Notes: (read a few) “Increased work on breathing” “tachypnea” “fremitus”	_____
4. Apnea/Bradycardia <i>apneabradly</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	pediatric flowsheet, IDFS- quality score of 5 (will be in the comments) Check several feeding evals Look for comments for HR, or SLP/OT note, feeding comment or signs and symptoms of aspiration	_____

	Neurobehavioral, autonomic, <u>HR drop/RR increase/O sat decrease</u> (Anytime during hospital stay or before instrumental eval)	
5. Airway Abnormality <i>airwayabnl</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Therapy Notes and Progress Notes (physician), open as a problem or ENT/otolaryngology notes	_____
6. Fremitus <i>fremitus</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Therapy Notes, signs and symptoms of aspiration	_____
7. Stertor <i>stertor</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Therapy Notes, signs and symptoms of aspiration Use search bar	_____
8. Stridor <i>stridor</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Therapy Notes or physician in progress or discharge note, signs and symptoms of aspiration	_____
9. Cough/Choke <i>coughchoke</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	“symptoms of aspiration” in therapy notes	_____
10. Refusal/Aversion <i>aversion</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Therapy Notes, under signs and symptoms of aspiration or feeding comments, showing aversive to the bottle/feeding, or Physician progress note, under nutrition	_____
11. Audible Swallows <i>audibleswallows</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	“symptoms of aspiration” in therapy notes or “audible gulping”	_____
12. Multiple Swallows <i>multiplewallows</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	“symptoms of aspiration” in therapy notes; search bar	_____
13. Oral Pooling <i>oralpooling</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Any therapy (SLP/OT) note, feeding comments, signs and symptoms of aspiration, or sometimes on pediatric flowsheets, quality scores via comments	_____
14. Oral Phase Incoordination <i>oralincoord</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Aka uncoordinated suck or SSB	_____
15. Abnormal Oral Reflexes <i>abnloralref</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	No suck reflex	_____
16. Nasal Congestion/Pharyngeal Congestion <i>congestion</i> 1 – Yes; 2 – No; 9 – Unknown/Missing	Therapy Notes Or Physician progress notes, under nutrition or pulmonary insufficiency/immaturity section	_____

<p>17. Motor Stress Cues <i>motorstress</i> 1 – Yes; 2 – No; 8 – Not applicable; 9 – Unknown/Missing</p> <p>If yes to “Motor Stress Cues” - Description</p>	<p>Therapy Notes, search “motor stress signs” Ex: eyebrow raise, arching, lower extremality exertion, gagging, hand splay, “neurobehavioral” section in therapy note, neuro stress cues (entire duration of stay)</p>	<p>_____</p> <p>_____</p> <p>_____</p>
<p>18. State Stress Cues <i>statestress</i> 1 – Yes; 2 – No; 8 – Not applicable; 9 – Unknown/Missing</p> <p>If yes to “State Stress Cues” - Description</p>	<p>Therapy Notes, signs and symptoms of aspiration, state dysregulation or Feeding comments</p> <p>Ex: transition to drowsy or light sleep; ideally want the baby to be in quiet alert (entire duration of stay)</p>	<p>_____</p> <p>_____</p> <p>_____</p>
<p>19. Autonomic Stress Cues <i>autostress</i> 1 – Yes; 2 – No; 8 – Not applicable; 9 – Unknown/Missing</p> <p>If yes to “Autonomic Stress Cues” – Description A. HR unstable, B. RR unstable, C. O2 Sats Unstable; 8 – Not applicable</p>	<p>Therapy Notes under feeding comment or neurobehavioral section Ex: apnea, bradycardia, desaturation, increased work of breathing, tachypnea (entire duration of stay)</p>	<p>_____</p> <p>_____</p>

Appendix B

IRB Approval Letter



IRB Approval – Expedited Review of Continuing Review

To: Mustafa Suterwala, MD

Copy to: Jenny Reynolds, Lacy McDonald, Sujata Desai, PhD

Date: February 09, 2022

Re: 019-058
Baylor University Medical Center NICU/Newborn Nursery Feeding
Registry Umbrella Protocol
Reference Number: 370314

Your request for continuing review was reviewed by a designated member of Baylor Scott & White Research IRB Red via expedited review.

This study was determined to be eligible for expedited review as it involves no greater than minimal risk to the subjects and fits into the following category(ies) from the 1998 approved list: Category 5: Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis)

This review included the following components:

Submission Components			
Form Name	Version		Outcome
Continuing Review Submission Form	Version 3.0		Approved
Review Response Submission Form	Version 1.0		Approved
Study Application - Review by BSWRI IRB	Version 1.2		Approved
Study Document			
Title	Version #	Version Date	Outcome
NICU Registry CRFs v3 6.22.21	Version 3.3	08/03/2021	Approved

NICU Feeding registry protocol v5	Version 1.3	01/24/2019	Approved
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Your submission has been approved. The approval period begins on 02/09/2022 and expires on 02/08/2023. Your next continuing review is scheduled for 01/08/2023.

This study is approved to be conducted at the following locations:

Baylor University Medical Center, Hob, BUMC-Hob 7S/ICN Nursery

The following individuals are approved as key study personnel or are acknowledged as study contacts/administrative support/department approvers:

Armstrong, Erika; Callender, Libby; Desai, Sujata, PhD; McDonald, Lacy; Nama, ViJay, MD; Nguyen, Jacqueline; Ochoa, Christa; Reynolds, Jenny; Suterwala, Mustafa, MD; Tolia, Veeral, MD; Wu, Ko-Lin

The IRB has waived the requirement for informed consent based on 45 CFR 46.116 (f).

The IRB has 1) waived the requirement for authorization based on 45 CFR 164.512 (i) (2) (ii) and 2) determined the use of existing protected health information is necessary to do the research.

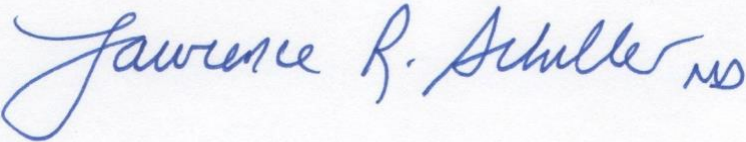
All events that occur on this study including protocol deviations, serious adverse events, unanticipated problems involving risks to subjects/others, subject complaints or other similar events must be reported to the IRB in accordance with the respective policies.

Remember that this study is approved to be conducted as presented. Any revisions to this proposal and/or any of the referenced documents must be approved by the IRB prior to being implemented. Additionally, if you wish to begin using any new documents, these must receive IRB approval prior to implementation of them in the study.

IRB approval may not be the final approval needed to begin the study. All contractual, financial or other administrative issues must be resolved through Baylor Scott & White Research Institute prior to beginning your study.

If you need additional assistance, please contact the IRB Specialist at 254-771-4807.

Sincerely,



Signature applied by Lawrence R. Schiller on 02/09/2022 09:26:50 AM CST

Appendix C

Journal Entries

06-01-2021

8:30-9: Introductions

9-10: PMR resident lecture- listened in on PMR lecture: review over all the lectures in the 18 months series

10-11: GLB TBI/CVA assessment meeting- introduced to the GLB TBI/CVA project

11-12: data management meeting and tour- took a tour around the hospital and nearby Baylor University Medical Center campus

12-12:30: CBD in SCI meeting- introduced to the CBD project

12:30-2: debrief- was given a training binder and Libby explained everything that was in it.

2-4:30: shadow Alex on patient assessment/data collection- Alex explained how in-person assessments for the GLB study are done. She also briefly explained the indirect data input procedure (CRF into REDCap)

06-02-2021

8:30-9:30: FIRST project meeting- introduced to the Ekso skeleton gait project

10-10:30: SleepSMART project meeting- introduced to the SleepSMART study

10:30-1: receive parking pass and badge- walked to the badging center and took an on-campus bus back

1-2: GLB SCI meeting- introduced to the GLB SCI project

2-5: self-training- read through the operations manual and set up BSW email account

06-03-2021

8-8:30: shadowed/asked Lacy on NICU project- Lacy introduced the NICU project to me and I asked Lacy how to do the CRF on the NICU project

8:30-9: VNS project meeting- introduced to the VNS project

9-10: therapy project- introduced to the therapy project

10-1: read through guidelines for good clinical practice

1-3:30: research office orientation- Libby went through all of the projects and explained how to write a manuscript

3:30-4: watched Sherry Yellin Wellness Webinar "Writing Effective Emails"

06-04-2021

8:30-11: training on GLB- Evan explained how to conduct phone assessments for the GLB project

11-12- the first week debrief meeting- met with Libby and Christa to go over what to expect for the year. We talked briefly about my thesis practicum. Libby gave me any manuscripts of Jenny to read over for the weekend

12-1: self-training- read through policies and procedures and looked at BUMC SOPs

1-4:30: GLB Birthday cards- Aimee showed me how to write the birthday cards

for GLB participants. We were many months behind on birthdays, but we finished April and May birthdays today.

Site Supervisor Signature



Site Supervisor Signature Date 06-16-2021

06-07-2021

8-8:30: Thesis practicum Aims meeting with Jenny- Jenny, the co-investigator, explained the entire NICU project and the protocol for the upcoming project, which will be my thesis practicum. Aims of my project are identified.

8:45-9: Team huddle: weekly team meeting over expectations for this week

9-10: Thesis Practicum ppt- started working on my aims ppt presentation which is on 6/11. I added basic outline and background information

10-12:30: PeoplePlace learning modules- completed learning modules that were assigned by Jillian

12:30-1: Thesis Practicum ppt- briefly edited my presentation to include pictures of the different feeding assessments

1-2: Ekso shadowing- observed how Ekso robot worked and saw 2 different types of patients using Ekso: one in an full assist mode, the other in a partial assist mode. PTs explained the patient's medical history and how it reflected on the Ekso robot

2-3: Mock GLB CVA interview phone call- met with Stephanie to do a mock phone call over CVA survey. She pointed out things such as that CBD counted as illicit drugs. I scheduled another mock interview for TBI survey because we ran out of time

3-4: Brain injury research meeting- listened to the project meeting over brain injury

4-4:30: mailed off birthday cards

06-08-2021

7-8: PMR Grand Rounds meeting- listened remotely to the grand rounds lecture

8:30-10: REDCap data entry training- finished REDCap training tasks that were assigned by Christa

10-11: GLB CVA/TBI weekly meeting- Evan explained the process of scheduling in person GLB visits. She also explained how to read and edit the participant list

11-2: Birthday Cards- worked on birthday cards with Elizabeth to catch up. I completed early June birthdays; mailed them

2-3: NICU data extraction training with Lacy- Lacy showed me how to locate each item in the CRF on Epic. I talked with Lacy on how long the data extraction will approximately take

3-3:30: Thesis Practicum PPT- added a few slides on my Aims ppt; utilizing the protocol given to me by Lacy

3:30-4:30: GLB TBI mock phone interview- conducted a mock phone assessment with Stephanie. She pointed out things I need to notice such as telling participants that it will be a fasting blood test

06-09-2021

8:30-9: weekly FIRST project meeting- listened to FIRST Ekso meeting

9:30-10:30: BIR research rounding meeting- met with the entire research team; final time doing self-introduction

10:30-11:30: GLB phone assessments- went through participant list to start scheduling. 3 participants did not pick up; left them voicemails.

11:30-4:30: GLB phone assessments- conducted phone assessments on 2 participants: each averaging around 1-1.5 hour

2-3: rounding meeting with Libby and Christa- met with Libby and Christa to go over my presentation for 1st committee meeting in between phone assessments. We refined slides and added analysis methods.

06-10-2021

8:30-9:30: worked on Thesis Practicum presentation- insert data overview that will be collected and conducted more lit review to back up proposed hypothesis.

9:30-10: Ekso data- went through REDCap to enter names for the Excel audit sheet with Ekso data

10-11: Quality weekly meeting- listened in on how quality assessments are conducted

11-12: FIRST/Ekso data audit- Christa and I looked over Ekso data and needed help from Alex. Alex briefly explained how to look at Ekso data.

12-1: GLB phone assessments- had a scheduled phone assessment with a participant

2-3: BUMC trauma grand rounds lecture series- listened to lecture on geriatric trauma

1-3: Birthday cards- worked on birthday cards while listening to the grand rounds lecture. I finished late June birthdays; all caught up

4-4:30: informed consent training- Jacqueline went over how to give participants informed consent. I was given documents on the order of signatures of informed consent

06-11-2021

9-10: GLB phone assessments- called 3 participants, left voicemails

10-11: prep for the presentation- go over last-minute speaking notes

11-11:45: 1st Advisory Committee- introduce my project to the committee and go over project aims. Dr. G brought up interesting discussion points and applications for future projects

11:45-1: recalled GLB participants- left voicemails on the same 3 participants I called this morning

1-2:30: Ekso data audit- go over how to read Ekso clinical data with Christa and Alex. I audit/check previous Ekso data from the Excel sheet Christa gave. Tutorial given by Alex on how to locate data from Epic.

2:30-3:30: taken a walk with the team- Libby took the entire research team to take a walk around BSWIR

3:30-4:30: Daily journal entries

Site Supervisor Signature



Site Supervisor Signature Date 06-16-2021

06-14-2021

Out of the office today: Advisory meeting with Dr. Hodge.

06-15-2021

8:45-9:45: shadow Dr. Sikka on patient rounding- Dr. Sikka explained each inpatient's condition and visited them in their rooms and during their therapy sessions.

9:45-10: PMR resident Jeopardy- briefly listened in as PMR residents' answer questions regarding research and statistics

10-11: updated research display- Christa gave us materials to put new things into the downstairs research display board

11-12: work on Research Proposal- wrote Summary and Research design and methodology

12-1: PMR resident journal club- Dr. Lai and Dr. Hanke went over muscle fatigue in response to the electrical stimulation pattern

1-1:30: called GLB participants- called 3 participants and left voicemails

1:30-2:30: NTX staff meeting- listen in on the June department staff meeting

2:30-3:30: REDCap Data Entry- Entered 3 participants from GLB CVA's CRF into REDCap. Double checked on each CRF to make sure no mistakes

3:30-4:45: errands- scheduled Ekso data auditing training with Alex. I helped Christa packaged and moved boxes to her car

06-16-2021

8:30-9:30: FIRST study meeting- listened in, Christa explained old data auditing. Alex will train me later today to properly

9:30-9:50: SleepSmart study meeting

9:50-10:15: filing- Aimee asked me to file cards from participants into the filing cabinets

10:15-12: GLB REDCap- Christa asked me to enter CRFs from Elizabeth and Faith into REDCap

12-1: monthly Focus on Research presentation- listened to Dr. Asrani gave a presentation on cirrhosis and kidney dysfunction

1-2: MedTrials 2021 GCP update- listen to Bridget's presentation over GCP updates

2-3:15: edit Christa's report draft- Christa asked me to edit her report draft and see if it follows the journal guidelines

3:15-4:30: Ekso auditing with Alex -Alex is supervising my Ekso data audit. I will do Ekso session data auditing on my own; on Friday I will audit demographic data with her as I don't have access to Select Epic yet.

06-17-2021

8:30-10: Epic records with Lacy- Lacy and I were trying to figure out if I can get access to Epic to start doing CRFs for the NICU project. The wifi and the computer were giving us problems. I still don't have full access to Epic

10-12: Ekso data audit- finished auditing participants that only need ekso clinical data, will audit with Alex tomorrow because I don't have access to Epic yet

12-1:20: GLB SCI meeting- listened in on the GLB SCI study. Will possibly help with data entry in the future.

1:20-2: data entry with Alex- Alex explained how to calculate walk score, diabetes score, and metabolic syndrome score for the GLB study

2-2:40: NICU CRF edit meeting- meeting with Jenny to discuss Lacy's suggest edits to the CRFs

2:40-3:10: Data entry with Alex- helped Alex with GLB data entry for participants that completed their in-person visits

3:10-3:30: editing for Christa- completed editing for Christa's manuscript to follow the target journal guidelines

3:30-4:30: check tables for Christa- Christa asked me to audit her tables for her manuscript

06-18-2021

8:30-9: weekly rounding meeting- asked Christa about concerns about my research proposal

9-9:30: work on Christa's tables- Christa asked me to edit her Excel tables

9:30-10:15: data management webinar- watched and screenshotted webinar

10:15-11: finished Christa's tables

11-11:30: mocked informed consent with Michelle- completed my mocked informed consent sign off with Michelle

11:30-1: finished webinar on data management

1-2:45: finished Ekso data auditing with Alex. I audited with Alex using her Epic and finished the Excel audit sheet. There were 3 participants that were not on Excel

2:45-4: webinar #2- listened in about more data management

4-4:30: filed Ekso data- done with auditing Ekso data, so I put clinical data back into the drawer in the Ekso room

Site Supervisor Signature



Site Supervisor Signature Date 06-22-2021

06-21-2021

8:30-8:45: answer emails- Dr. Mathew requested IRB documents, I let Libby know

8:45-9: team huddle- goals for the week: write my research proposal, work on outpatient Ekso data

9-10:30: summary for Christa- wrote a summary of the results from the Ekso data auditing I did last week.

11:30-1:45: shadow Alex- Alex conducted in-person assessments, I helped her with doing the fitness watches. I mostly observed her.

1:45-2: meeting with Lacy about Epic access- I told Lacy the problems I'm having with Epic and she will relay it to Libby

2-3:30: shadow Alex- Alex explained to me her process of screening for participants for the FIRST Ekso study

3:30-4:30: print binder stuff for Erina- I started assembling PDFs for sessions 5-8 for the GLB SCI curriculum

06-22-2021

8:30-9:15: helped moved stuff around for mock joint commission survey

9:15-1: help Alex with in-person assessments- did an 18-month assessment with a participant who didn't want to do a phone assessment- helped Alex with setting up watches for 3 participants

1-1:30: observed Jacqueline with informed consent- observed Jacqueline giving informed consent to a future participant of the BRITE study

1:30-4: assembly GLB SCI binder- done with the task assigned by Erina

4-4:30: filing and scanning- file GLBCVA CRFs and scanned communication log to Cindy

06-23-2021

8:30-9:30: FIRST meeting- I will start to enter FIRST inpatient data once I am done auditing. 5% more auditing needs to be done

9:30-10: BIR rounding meeting- We had a mini exercise routine at the end of the meeting

10-11:45: shadowed Alex- Alex showed me things that the FIRST study needed. I went with Alex to Dr. Sikka's weekly team meeting that all PT, OT, speech therapist, and nurses all attend.

11:45-1:30: Ekso stuff with Alex- Alex gave me a list of tasks that are needed to be done for the Ekso and FIRST study

1:30-2: pulled audit data and TBIMS file pull- I went to the Ekso room to pull patient clinical CRFs that needed to be audited. Cindy asked that I check on a Comm Log for a TBIMS participant; the Comm Log was not in his file

2-2:30: SEEA study meeting- listened in on SEEA manuscript discussion

2:30-3:30: audit- Complete auditing 5% of the Ekso inpatient data

3:30-4: RCOI training and Ekso data- completed eDisclosure for research compliance for HSC. Ekso data from the audit are filed back into the cabinet; pulled FIRST data out of the cabinet

4-4:30: Ekso OP data- Met with Christi to discuss outpatient data

06-24-2021

8-9: rounded with Dr. Sikka

9-10: COVID data entry- Molly asked me to enter COVID intensity data's activity section

10-10:30: Quality Assurance meeting

10:30-10:50: Ekso FIRST data- enter data for the FIRST patients

10:50-4:30: COVID intensity rehab data entry- continue to enter therapeutic activities section as one CRF has 210+ entries

06-25-2021

8:30-10:00: discussed research proposal with Taylor- Taylor gave me some good advice on my proposal. Libby told me to include PICO in my hypothesis. Lacy helped me figure out how to work Epic.

10-12:30: webinar: watched data management webinars

12:30-4:30: enter data for COVID intensity- I finished 2 CRFs, Elizabeth agreed to help on Monday

Site Supervisor Signature



Site Supervisor Signature Date 07-06-2021

06-28-2021

8:30-9: team huddle- goals for the week: I will continue to work on COVID data entry, start on CRFs for NICU study, and write the majority of my proposal this week.

9-11:45: enter COVID Intensity Rehab data -got done with 3 CRFs today

11:45-1:10: finish COVID Intensity Rehab data

1:10-2:00: made birthday cards for July TBI models participants

2-4:30: NICU CRF- starting the NICU CRF data extraction and will shadow Lacy sometime to go over specifically where everything is

06-29-2021

8:30-11:30: COVID data entry -ask Christa to update REDCap to move the subject ID to another one. I added missing fields in REDCap and fixed prior entered data

11:30-1:30: GLB weekly meeting- I brought up concerns I had during phone assessments

1:30-2: birthday cards for July TBI study participants- waiting on getting stamps

2-4:30: continue COVID data- finished fixing prior entered data that were missing fields in REDCap and inputted 2 new CRFs

06-30-2021

8:30-9:30: FIRST meeting- discussed progress on data entry for FIRST

9:30-12:30: data entry for COVID Rehab- got done with 3 CRFs

12:30-12:45: weekly rounding meeting- I updated Libby and Christa on my progress. I will try to send Dr. Swank my first proposal draft by Friday for him to edit

12:45-1:45: COVID data entry

1:45-2: meet with Lacy to discuss NICU CRF- I asked Lacy to show me where hard-to-find items on the CRF and which ones are unknown vs. no

2-4:30: COVID data entry: I finished 2 CRFs

07-01-2021

8-9:30: shadow Dr. Sikka

9:30-10:00: COVID data entry- finish up one CRF

10-10:30: GLB TBI kick-off meeting- Evan went over the CRF for the TBI phone assessment. We will practice phone assessment tomorrow

10:30-11:30: continue working on COVID Rehab data

11:30-4:30: COVID Rehab data- Now 34 out of the 49 CRFs are complete. I will update Julie on the status and input the ones she took and I will update Elizabeth on the status when she comes in tomorrow

07-02-2021

8:30-11:30: continue COVID data entry- I talked with Julie about how her progress was on the data entry. I helped resolve the issues she came across. I also talked with Elizabeth about the issues she encountered during her data entry.

11:30-1: COVID data entry- I finished my pile of data, waiting on Elizabeth who has 5 CRFs, and Julie who has 1 CRF. Julie was not at her desk when I went to check on her.

1-2: SEEA autograph meeting- met with Dr. Grobe and Christa, I will be helping out with autograph data. Dr. Grobe wants me to download them into CSV data tables. Christa told me to wait on Libby to figure out the time

2-3:30: finish the last COVID CRF from Julie- Julie is really busy so I went ahead and entered the data that she was going to enter.

3-4: practice phone assessment and filling out CRF with Faith for the GLB TBI study- I will begin participant phone assessments next week.

4-4:30: work on research proposal- I will complete my proposal over the weekend.

Site Supervisor Signature



Site Supervisor Signature Date 07-06-2021

07-06-2021

8:30-10:00: GLB phone assessments- called 7 participants, left a voicemail for all except 1. I will call one participant at 11 am

10-10:30: GLB meeting

10:30-11: call GLB TBI participant- participant wants to do it in-person

11-12:30: conduct phone assessment

12:30-4:30: NICU data extraction- continued on NICU FEES study data extraction. I asked Lacy where to find certain items and will need to lead agenda starting few meetings from now. I finished 4.5 pages of 1 CRF

07-07-2021

8:30-9:30: FIRST meeting

9:30-10: BSWIR rounding meeting

10-11:40: phone assessments- completed 2 assessments and scheduled 2 for tomorrow

11:40-4:30: NICU FEES study- finished first CRF and completed half of 2nd CRF

07-08-2021

8:30-10: phone assessments

10-11:00: scheduled phone assessments- will complete phone assessments that are scheduled from yesterday

11-1:30: NICU FEES CRF- completed 2nd CRF

1:30-2:30: scheduled phone assessments- completed 2 phone assessments

2:30-4:30: NICU FEES CRF- progress: in the middle of 3rd CRF

07-09-2021

8-10: phone assessments- called 3 participants, completed 1 CRF

10-10:30: talked with Jenny Reynolds- I talked with Jenny about my research proposal since she edited it. She gave me great feedback and direction on especially the hypothesis and background sections of my proposal. I will send back my edited proposal to her next Monday.

10:30-12: NICU CRF

12-1: phone assessment

1-4: continue on NICU registry study- filled in unknowns for CRFs with no instrumental assessment done and input CRFs onto NICU REDCap

Site Supervisor Signature



Site Supervisor Signature Date 08-03-2021

07-12-2021

8:15-8:30: email Jenny and Libby about IRB for the school from Dr. Mathew

8:45-9: weekly team rounding

9-10: phone assessments- previously scheduled phone assessment for a participant and go through the remaining participants

10-11:30: NICU CRF- completed first CRF with instrumental feeding assessment

11:30-1:30: NICU CRF- had to go back to extract discharge information for the previous completed CRFs

1:30-3:30: TBI Model Systems birthday cards- drew some late July birthday cards and emailed Jennifer asking for more stamps

3:30-4:15: continue NICU data extraction

07-13-2021

7-8: PMR grand rounds

8:15-8:30: emailed back Dr. Mathew about the IRB question

8:30-9: NICU registry study rounding- Jenny agreed to run over the CRF with us to fully train us on data extraction. Lacy and I will meet this week to go over instructions on CRFs to better match Epic

9-10: in-person assessment- participant wanted to do the GLB assessments in person

10-1:30: finished TBI Model Systems birthday cards- I learned how to use the stamp machine so there is no need to ask for sticker stamps. End of July birthday cards are all mailed out

1:30-2: phone assessment- a participant got hold of Stephanie, so an impromptu phone assessment was done.

2-2:30: help Cindy- Cindy asked me to print 50 comm logs and mail them to her; they have been mailed.

2:30-4: NICU registry- I am working on CRFs of premature participants, which takes longer than full-term participants

07-14-2021

8:10-8:30: organize and write journal log

8:30-12: NICU registry- made sticky notes on questions I had for Jenny

12-12:30: Cindy asked me for a comm log- I pull out a comm log and scanned it to her

12:30-3:30: NICU registry- made sticky notes on all questions I had for Jenny

3:30-4: webinar on coding

07-15-2021

8-9: look through NICU registry stuff

9-9:30: help move around the office- today is the moving day for the research office, so I'm helping to organize and move boxes

9:30-10: phone assessment- conducted a previously scheduled assessment

10-1: continue NICU registry CRF

1-2: meet with Lacy to go over the NICU agenda- starting next time, I will oversee updating the NICU registry study agenda and sending it to Claudia.

2-4: NICU registry CRF- I made a lot of sticky notes on the CRF that I want to address with Jenny.

07-16-2021

8-8:30: looked at the article Jenny sent- Jenny sent me an article to add to my proposal, I will add it into the background section

8:30-9: rounding meeting- met with Libby to go over several agendas regarding the NICU study. I will spend Mon, Wed, and Fri over at the NICU to work closely with Jenny and to observe assessments that are done live. I emailed Jenny regarding these plans.

9-12:30: work on NICU registry study- continue to extract info and put it into CRF

12:30-4: continue to work on NICU CRF- I am holding off entering into REDCap because I am afraid of inaccuracies.

Site Supervisor Signature



Site Supervisor Signature Date 08-03-2021

07-19-2021

8-8:45: NICU CRF- looked through the CRF and make note of what I want to discuss with Lacy today on the edits.

8:45-9: round-up meeting- my goal for this week: become adequate enough to take control over the NICU registry study. I will be at the NICU Monday, Wednesday, and Friday to work closely with Jenny and get a good grasp on the data extraction for NICU.

9-10: NICU data extraction for CRF- continue to try to extract data from Epic. I will address all sticky note questions to Jenny.

10-11:30: CRF edits with Lacy- Lacy and I went over the plans for editing the CRF. I will put comments on the left side from the sticky notes I wrote. I will also edit the middle column from the EPIC notes Jacqueline wrote and also consult Jenny about them.

11:30-4: went over to NICU- Lacy led me to the NICU and I began to work on the CRF edits. Jenny joined me at around 3 to answer any questions on where the sections are found.

07-20-2021

8-9:30: worked on PowerPoint slide- I worked on the personality PowerPoint slide for our team-building activity for tomorrow.

9:30-10: walked to the NICU and set up space- I looked through the CRF and began to add in comments.

10-11: GLB CVA/TBI meeting- I along with other interns will need to start inputting data into REDCap. I will do this on Thursday.

11-4: NICU registry CRF with Jenny- I addressed the comments/sticky note questions to Jenny and we resolved them. I am going through a completed CRF with Jenny to audit whether or not I coded them correctly. Jenny also is showing me where to find information easier as I have been taking long loops around EPIC for one item on the CRF. I will continue to edit and finish editing the CRF on Friday. I plan to go through and audit all the CRFs I completed before and I will enter them into REDCap at home to save time.

07-21-2021

BSWIR Team Building Event at the ST&R

07-22-2021

8-12: GLB assessments- I am helping Alex with her in-person assessments while entering the CRFs into REDCap. We ran into the issue of either inputting 888 or 999 for physician activity that was not done. Alex sent an email and it was resolved. I finished inputting the majority of the CRFs. 12-2: continue in-person assessments. Participants did not show up for noon appointments. Stephanie told me that Erina wanted me to do a facts sheet for the GLB SCI study. I scheduled a meeting with Erina.

2-4: Ekso outpatient data- I started inputting Ekso OP data that Christa gave me a while ago. I emailed Christa about meeting up for clarification on the clinical data to ensure no incorrect inputting.

2:30-4: SEEA actigraph- I joined the meeting and Christa explained to me what I needed to do for the SEEA study. I will work on this task on Tuesday.

07-23-2021

8-9:30: Research proposal- I asked Jenny to meet with me over at the NICU to discuss a question she brought up when overlooking my research proposal. I will discuss an analysis question with Libby that Dr. Gouloupoulou brought up. I asked for Baylor VPN access so that I can work on my project at home.

9:30-10:30: talk to Jenny about my research proposal- Jenny made a correction on one of my sub-hypothesis and addressed the comment that Dr. Gouloupoulou brought up. I sent the file to Dr. Hodge for filing.

10:30-3:30: talk to Jenny about the CRF- Jenny pointed out items on the CRF and where to find them in EPIC. There are things on the CRF that needed to be addressed. We will discuss this at Tuesday's meeting. I emailed Jenny the current version of the CRF that contained the most updated directions on where to find CRF items.

Site Supervisor Signature



Site Supervisor Signature Date 08-03-2021

07-26-2021

8-8:45: I organized FEES documents to prepare for the move.

8:45-9: weekly BSWIR rounding meeting- this week's goals: complete early August birthday cards, get started on actigraph data, and audit NICU registry study CRFs.

9-10: move FEES documents from BIR to NICU- I moved boxes from Jacqueline across the street to the NICU as Jenny asked for them.

10-12:30: audit old CRF of NICU study- since clarifying items on the CRF, I found some mistakes due to not understanding where to find certain information.

12:30-1:30: continue auditing

1:30-2:30: writing club presentation by Libby- Libby did a wrap-up of how to write a manuscript and tips/tricks on journal submission.

2:30-4: continue audit CRF- I let Jenny and Lacy know that the meeting is tomorrow and items on the CRF that I want to re-address to Jenny. For now, I am skipping p. 12-15 of the CRF as they require pediatric flowsheet access to completely and accurately fill out the CRF.

07-27-2021

8:15-8:30: prep for the meeting -look over CRF to see what question I have for Jenny and Lacy.

8:30-9: NICU registry rounding meeting- Jenny went over issues that came up when going over the CRF. Main issue is getting the right format of the flowsheet so that data extraction is much faster and easier

9-1: birthdays cards and helping to set up for GLB TBI in-person assessments- I finished all 37 birthday cards for GLB TBIMS participants with early August birthdays. I helped Alex set up for her in-person assessments and worked on the birthday cards alongside her in case she needed backup.

1-4: actigraph data- I followed the SOP that Christa gave me on how to convert files into CSV. I finished all the CSV data and got started on sleep epoch data.

2-2:30: tasks from Erina- Erina showed me how to create a fact sheet. I will need to make a fact sheet for GLB SCI curriculum. -Erina also assigned me to work on assembling binders for her participants. I will complete this on Thursday.

07-28-2021

8:15-8:30: catch up on journal entry

8:30-9:30: FIRST meeting- Alex explained the different reviewing committees that are involved with the FIRST study. I made plans with Christi to go over the Ekso outpatient data next week when she gets back.

9:30-12: I continue to audit NICU registry CRFs. Lacy figured out how she could access the pediatric flowsheet, and she will show it to me later today.

12-12:30: I went to Lacy's office for her to show me her EPIC- My EPIC view does not match hers. She put in a request to get me access to her version of EPIC.

12:30-4: I started editing the NICU updates document that is due tomorrow to Claudia.

07-29-2021

8-12:30: I assembled GLB SCI participant folders- I assembled a total of 21 participant's documents over lessons 9-13, hole-punching all of them and putting them onto Erina's desk when I was done.

12:30-3: I continue with the actigraph data for SEEA study- Each sleep epoch requires re-integration into 60-sec files in order for extraction to take place. So far the majority of the files have no sleep epoch data show up.

3-3:30: I started working on the GLB SCI fact sheet

3:30-4: weekly rounding meeting with Libby and Christa- I asked Libby to get me access to the VPN so that I can take the laptop home to work on the NICU study; she put in a request. I updated them on the status of the NICU study.

07-30-2021

8-9: catch up on journal entries

9-11:15: work on getting access to EPIC- I completed the training modules on Learning on PeoplePlace; I will check on Monday if my EPIC has been updated accordingly.

11:15-1: continue auditing NICU CRF and extracting info that doesn't need peds flowsheet- Jenny updated me that Dr. Suterwala edited the CRF and we will discuss Monday on the changes.

1-4: left early to go to a comprehensive eye appointment.

Site Supervisor Signature



Site Supervisor Signature Date 08-03-2021

08-02-2021

8:30-9: weekly rounding meeting- goals for this week: complete NICU CRF edits, send it to IRB for approval, and actually fully get started on data extraction. I will also complete actigraph data extraction.

9-12:30: continue NICU CRF mini audit- Currently, I have 7 CRFs that are "completed" that needed the peds flowsheet data. I called IT about my Epic access and they opened up a new order.

12:30-1: preparing the meet with Jenny and Lacy- I went over the CRF again to see if there is anything to address.

1-4: meeting with Jenny to make the newest version of NICU CRF- Jenny added and deleted many items on the CRF, and also explained where everything is at. She will also make a chart on one of the items so we know if the condition is normal or abnormal. I will update to the newest version in the next few days

08-03-2021

8-10:30: reformatted and added/deleted onto NICU CRF to make version 4. I added all items that Jenny mentioned yesterday and condensed the CRF into 18 pages instead of the original 21 pages and I emailed it to Lacy for IRB approval. I added updates to the NICU Updates document.

10:30-12:30: work on the GLB SCI facts sheet- I continue to add to the facts sheet using the protocol provided to me by Erina.

12:30-4: worked on actigraph extraction while simultaneously working on the facts sheet- since actigraph re-integration takes time, I spent that waiting to work on the facts sheet; multi-tasking.

08-04-2021

8:30-9:30: FIRST meeting

9:30-10: BIR rounding meeting: Libby did a presentation on FY2021.

10-12:30: did one NICU CRF using the newest version. Thankfully, it did not take me very long because we streamlined the extraction process.

12:30-2: talked with Christa and Libby about the auditing process for NICU project- I brought up concerns about using the new CRF already even though it technically hasn't been approved yet by the IRB. Libby ensured me that since it is not human research, it should be fine. IT replied to me saying that I cannot get access to the peds flowsheet because it is out of my job title access to Epic. I talked with Libby and Lacy about this issue. For now, I will leave items on the CRF that need the flowsheet blank and hand them to Lacy for her to complete.

1-4: I went over the CRF again- I made a sticky note and list items on the CRF that needed Lacy's help to complete. I also made a note on the item that needed Jenny to make a chart for us non-clinicians to code. Meanwhile, I emailed Christi to meet on Friday to talk over the Ekso outpatient data as on RedCap, the clinical data is missing in some sections.

08-05-2021

8-11: finish up actigraph data- I finished extracting actigraph data into CSV files. I told Christa that majority of the data did not have sleep epoch data.

11-1:30: NICU audit meeting- I met with Lacy and Jacqueline to talk about the current progress of the NICU study and explained how more streamline the CRF is. Lacy will plan an auditing project. Jacqueline offered to audit new CRFs as Lacy and I complete them. We are thinking of auditing them by putting them into the new CRF as the old CRFs are not extracted correctly. For example, many items are extracted as "missing/unknown" when they should be "no" for medical conditions.

1:30-1: Talked with Christa about updating RedCap to reflect the new CRF version. Christa asks me the wording of an item in the instrumental section. I will check tomorrow if the coding of items on the CRF is correct.

1-4: work on the GLB SCI facts sheet- I asked Christa to help me sort out preliminary data for me to put in the "what did we find" section of the fact sheet. The excel sheet data she gave me contained very little information (no

BMI, average weight, or pounds lost from doing the GLB SCI curriculum). I address this to Christa and she will take a look. I added images to make the fact sheet more aesthetically pleasing.

08-06-2021

8-8:15: Talked with Dr. Swank about the progress of Ekso data- Dr. Swank reminded me to input data for Ekso inpatient/FIRST and outpatient as he intends to conduct analysis in September/October. I will queue up Ekso data, prioritizing to do them on Tuesdays and Thursdays.

8:15-9:30: journal log entries

9:30-10: Meet with Christi to talk about Ekso data- I brought up items on RedCap that were not in the clinical data

10-12:30: input Ekso OP data- now Christi clarified the data, I can finally input them onto RedCap. I talked to Christa about updating RedCap about putting a "N/A or 8" option since some of the clinicians used it on one item.

12:30-1: write SOP for NICU registry data extraction -As per suggestion by Christa and agreement with Lacy, I will write up a brief SOP on NICU data extraction so that the "unknown/missing" option stays on the CRF.

1-4: Ekso OP data entry- I continue to input data onto REDCap for Ekso OP, occasionally asking Christa questions about formatting on REDCap. I made sticky notes on questions to ask Christi regarding clinical data. I will ask them at the end of data entry all at once.

Site Supervisor Signature



Site Supervisor Signature Date 08-06-2021

08-09-2021

8-9: weekly rounding meeting- goals for this week: start officially auditing NICU CRFs that are assigned by Lacy, and finish inputting Ekso outpatient data into REDCap.

9-12: start transferring cases from the old CRF onto the new CRF- I'm working on NICU398-406, leaving the items that need peds flowsheet for Lacy. She also assigned me to work on NICU449-452, so I will be doing that this week in addition to the Ekso OP data.

12-2:30: continue with NICU data audit- I asked Libby what to do with old CRFs, she said she should probably still keep them. They are stored in the binder but tucked away.

2:30: left early to go to 2 dental appointments.

08-10-2021

8:30-9: NICU rounding meeting- Jenny brought up that data from 2016-early 2019 has original paper source documents that would be easier to extract data from. She also said that there will be SLP students added to the project. The plan is for them to start in 2015 and us currently starting in 2021 and meet in the middle. I will help train them on data extraction.

9-12:30: Ekso OP data input

12:30-1:30: continue inputting Ekso OP data- REDCap had a lot of missing fields/options, so I talked with Christa about adding an option for "free" under affected swing assist for L/R affected mode. Also added another time point before discharge as one participant had another entry than what is available on REDCap.

1:30-3: COVID Rehab Data query resolution report- checked COVID Rehab source documents against REDCap entries. Christa had an Excel sheet of all data outliers that I had to check to see if they are actual outliers or mistakes done during data entry.

3-4:30: continue Ekso outpatient data entry- one participant had more than 4 time-point assessments. I asked Christa to make each section be a repeated measure to compensate for data that this participant has.

08-11-2021

8:30-9:15: FIRST meeting- keep working on Ekso's outpatient data. Dr. Swank needs it by September.

9:15-12:30: EKSO OP data- I emailed Christi after talking to Dr. Swank about having difficulty finding demographic data. Christi emailed back saying they're all on an Excel sheet that Libby will need to get me access to. Dr. Swank gave me a deadline of September 13th for the completion of the EKSO OP data input, including the ones Christi is still working on. I asked Christa to update some fields on REDCap to better match the source document (ex: add tertiary assist mode).

12:30-2:30: birthday cards- I made and mailed 21 birthday cards for the TBIMS project for late August birthdays. I still need to do the remaining 21 cards. I asked Lacy to order some more envelope stickers because the office ran out.

2:30-4:30: NICU registry audit- Lacy gave me the deadline of August 26th for completing the assigned CRFs for the audit. -I asked Jenny questions about the feeding plan at discharge. I discussed with Lacy and she said she can do them because they are clearly stated in the peds flowsheet which I don't have the access to.

08-12-2021

8:15-10: NICU registry audit- continue with auditing. I plan to go through REDCap after going over the CRFs.

10-11: Quality assurance meeting- I was assigned 5 CRFs to audit from the GLB-CVA study. This is due in a week.

11-1:30: NICU audit- send out NICU updates document and check CRFs against REDCap

1:30-2:30: rounding meeting and assembled room divider- I will plan out my daily schedule when I get here in the morning to be more efficient and make sure I finish a little before deadlines.

2:30-4:15: NICU audit- finished auditing 4 out of 7 CRFs.

Site Supervisor Signature



Site Supervisor Signature Date 08-20-2021

08-13-2021

out of office

08-16-2021

8:45-9: weekly team rounding meeting- goals for this week: finish NICU audit, continue working on Ekso outpatient data input, and finish GLB CVA audit.

9-12: continue working on NICU audit- I emailed Jenny on the definition of the neuromotor exam again just to clarify things more.

12:45-2: print and cut return stickers for TBIMS

2-4:45: finished up my second to last NICU audit assignment- I put the completed CRFs on Lacy's desk.

08-17-2021

Sick leave: went to the office early in the morning to pick up files to work on at home if I recover/have the energy to do so.

08-18-2021

Sick

7-10pm: finally had energy, finished GLB CVA files audit that is due tomorrow- files assigned to me all did not have original source document (survey CRF) for 6M. I took notes and sent an email to Christa.

10-11pm: started on my last NICU CRF audit.

08-19-2021

8-12:30: work on NICU audit- I am half done with my last NICU audit assigned CRF.

12:30-3: Ekso outpatient data input- I almost finished inputting all Ekso data. I will go back to input demographic data after I asked Christa how to get access into Select medical drive with patient info tomorrow.

3-3:30: weekly rounding meeting- Libby told me that I could do 2 days of work from home starting now because of the COVID surge.

3:30-4: finished up Ekso outpatient Ekso data input- I Teams messaged Christa about a particular patient that had 2 rounds of treatment and how to capture that on REDCap.

08-20-2021

8-9:30: TBIMS birthday cards- drew and mailed out the rest of August birthday cards

9:30-12: NICU audit- I finished all of my NICU audit assignments. I emailed Lacy to let her know and I will continue onto data extraction.

12-12:30: Patient survey for the FIRST study- Alex trained Faith and me on how to conduct the survey. The patient had visitors so we will come back later today to conduct the survey.

12:30-2: finished inputting demographic data for Ekso OP- Christa helped me locate demographic info and I finished inputting them onto REDCap. I emailed Christi asking some minor questions and will see if she has additional patient files ready since the last time when talked.

2-4: finished 2 NICU CRFs- The patient that I was going to survey did not have time. Someone else has to do this survey after I leave. I also inputted the CRFs into REDCap.

Site Supervisor Signature



Site Supervisor Signature Date 08-20-2021

08-23-2021

8:45-9: weekly team meeting- weekly goals: continue with NICU data extraction, complete GLBSCI facts sheet, and finished with the initial Ekso OP data entry.

9-12: NICU data extraction- finished extraction and inputted NICU401-403 into REDCap.

12-5: NICU data extraction- finished extracting and inputting NICU 404-406 into REDCap. I made notes on where on REDCap that needs minor changes regarding the organization. I will talk to Christa tomorrow to make the changes.

08-24-2021

8:30-12: worked on the GLBSCI facts sheet- I finished the "what did we find" part of the facts sheet. Christa gave me additional raw data points on Excel. I talked to Christa about making the minor changes on NICU REDCap to better follow the CRF, making inputting more streamlined.

12-2:30: finished the GLBSCI facts sheet -Since downloading from the website requires money, I screenshotted and stitched the screenshots together. I emailed it to Erina and she said she will show it to Dr. Grobe, the PI.

2:30-4: TBIMS birthday cards- I wrote and mailed out half (about 23) birthday cards for the early September birthdays.

5-5:30: meeting with new interns from NICU therapy- After commuting home, I met via Teams the new grad interns that I will need to train on NICU data extraction.

08-25-2021

8:30-9:30: FIRST meeting- I told Dr. Swank about the progress of Ekso's outpatient data: Christi has yet to respond to me about a few questions on her data and one missing patient's demographic info. I told the team that I could start inputting the inpatient/FIRST data because I am finished with outpatient for now.

9:30-12:30: NICU data extraction- I worked on NICU407 and 408.

12:30-3:30: NICU data extraction- I am working on NICU409, making notes to Lacy on where certain info is inaccessible to me.

3:30-4:30: met with Christi to go over Ekso OP data- Christi replied and met with me to talk over OP data and filled the missing info. I went back to REDCap and made changes accordingly. I'm only waiting on Christi to finish up her last 10 outpatients, which will be around end of September.

08-26-2021

8:30-9: journal entries

9-11:30: NICU data extraction- finished NICU 409-410. Got started on NICU411

10-10:30: Quality meeting- Jacqueline told me that I don't need to do case resolution for the files that I was assigned to audit.

10:30-1: finished NICU411.

1-1:20: NICU rounding- I met with Lacy and Jacqueline on the current workflow of the NICU study. Since both coordinators are extremely busy with other studies, I suggested that the workflow be that I extract data as much as I can and leave the items that I can't get to (around 10-12 items) to them to finish up the CRF. They both agreed this is a good solution. Lacy will work out a system on where to put the phase 1 half-completed CRF next week when they are done with their auditing assignments. We spoke with Jenny about the progress of the study. She let us know that she sent us spreadsheet with a few data points she pulled for each participant that we can cross-check the CRF with. I ask her to audit the "neuromotor exam" item on the CRF as it is still unclear to me even after I emailed her about it. She agreed that she can. 1:20-

2:15: input NICU407-411 into REDCap- I inputted the phase 1 completed cases into REDCap, marking sections red where the coordinators will need to input after phase 2 completion.

2:15-2:24: completed and emailed out bi-monthly NICU updates document to Claudia, the research manager.

2:45-4:30: TBIMS birthday cards- I wrote and mailed out the reminding early September birthday cards for TBIMS participants. I printed extra round stickers.

3-3:15: weekly rounding meeting- I let Christa know about my GLBSCI facts sheet and Ekso OP data input completion. I also updated her on the status of the NICU study.

Site Supervisor Signature



Site Supervisor Signature Date 08-26-2021

08-27-2021

Out of office

08-30-2021

Out of office

08-31-2021

8-4: NICU data extraction- set goal of completing 13-15 CRFs each week. This would equal having at least 208 CRFs by the end of December, enough for analysis and creating a prediction model. I worked on NICU412-413, inputted into REDCap, and updated in the NICU Updates document

10-10:30: GLB meeting

09-01-2021

8:30-9:30: create Doodle poll and do a task for Cindy- I created a Doodle poll and sent it out to therapy grad interns to find a time where everyone is available to meet to train them on data extraction. Cindy asked me to mail her some copies of a document for her study. I printed them off, weighed them for the stamp, and put them in the outgoing mail.

9:30-10:30: BSWIR rounding meeting

10-4:30: NICU data extraction- I completed NICU414-416, inputted it into REDCap, and updated the NICU updates document.

09-02-2021

8:15-4:15: NICU data extraction- I spoke with Jacqueline about the new data extraction workflow. She suggested that we use a file cabinet in the office to store NICU CRFs so that Lacy, Jacqueline, and I all have access to them since currently they are all with Lacy. I gave Jacqueline the CRFs that I completed (phase 1) for her to complete for phase 2. I also asked her to update the NICU Updates document when she is done. I worked on NICU420-422, input them into REDCap, and updated the Updates document.

3-3:30: weekly rounding meeting- I updated Christa on my current progress on the NICU study. Dr. Grobe emailed me about things that need to be edited on the facts sheet that I completed last week. I will work on this next week.

09-03-2021

8:15-4:15: NICU data extraction- I finished NICU420-422, inputted them into REDCap, and updated the NICU updates document. I sent a reminder email to the new interns to fill out the Doodle poll to set up training time. I will take NICU422-424 home to finish over the weekend to meet the 13 CRFs/week goal.

Site Supervisor Signature



Site Supervisor Signature Date 09-03-2021

09-06-2021

OOO: Labor Day

09-07-2021

8:15-1: fixed GLBSCI fact sheet- Dr. Grobe emailed edits to the fact sheet. I edited it (added additional measures, fixed bar graphs), and emailed it back to her. She said it's ready to go on the website.

1-4:15: NICU study

-I finished data extraction and REDCap inputting for NICU425-427. I also updated the NICU Updates document to track my progress.

09-08-2021

8:15-9:30: set up new office desk set up- I set up monitors and keyboards for the interns. We now have actual desk offices to work at.

9:30-10:00: pull comm log for Cindy- After emailing back and forth with Cindy, I pulled a comm log from the downstairs storage cabinet and scan it to her.

10-4: NICU study- I finished and inputted NICU428-430 and updated the Updates document accordingly. I emailed Jenny about new interns' availability based on the Doodle poll I sent out. She suggested I host 2 sessions explaining data extraction to accommodate those who couldn't make it to the first one. I also sent her some participant MRNs for her to look at for their neuromotor exam results as I was unsure of how to code them.

09-09-2021

8:15-2: NICU study- I finished data collection and inputted them into REDCap for NICU431-434. I scheduled 2 sessions, Monday and Saturday, on training new grad interns on data collection, taking place over on Teams. I updated the NICU Updates document and sent it to all key personnel, letting everyone know where my progress is on collecting data.

2-3:30: TBIMS birthday cards- I finished and mailed out 53 birthday cards for the end of September birthdays.

3-3:15: weekly rounding meeting- I updated Christa on what I'm working on. I asked her for other BSWIR tasks that needed to be done. My next task is the create a fact sheet for the GLBSCI entirety study.

3:30-4:20: TBIMS filing- I helped Aimee and Jacqueline with filing participant documents into the TBIMS cabinets downstairs.

09-10-2021

8-4: NICU data extraction- I worked on NICU435-439 and inputted them into REDCap. I will increase CRF workload from 13/week to 15/week, but still flexible with a minimum of 13/week. To prepare for new intern training, I will write an email on Sunday giving them access to the CRF and cheat sheets Jacqueline and I made for the different medical terms on the CRF.

Site Supervisor Signature



Site Supervisor Signature Date 09-10-2021

09-13-2021

8-9:30: BSWIR rounding meeting- My goal for this week: complete 15 CRFs to keep pace with my thesis practicum project.

8:45-9:30: NICU study data extraction- I started working on NICU440.

9:30-10: DOOR meeting- It was the first Ekso DOOR meeting, excited to see what tasks I will be given to do in the future.

10-11: Hosted training session for new grad interns- I managed to squeeze in going over the entire CRF in an hour, going over the Sharepoint folders and each question on the CRF in Epic. I will host another session this Saturday for those who can't attend. I will send a follow-up email to the interns about REDCap and indirect entry as I didn't have time to. I updated Jenny on the training session.

11-4: NICU data extraction- I completed NICU440-442 and inputted them into REDCap, and updated the NICU Updates document. Christa emailed me about doing Excel tables, I will find time to do them this week as they are due soon.

09-14-2021

8-12: went to Student Health to get immunizations to clear hold on my student account -I sent the updated GLB SCI fact sheet into the Team chat while they were in the meeting.

12-4: NICU study data extraction- I completed NICU443-444, and inputted them into REDCap, and updated the NICU Updates document.

09-15-2021

8-9:30: Excel sheet- Christa emailed T-tables that they would like them onto Excel sheets. I completed them and emailed them back to her.

9:30-10:30: BSWIR rounding meeting

10:30-1: NICU data extraction- I completed NICU396-397, and inputted them into REDCap, and updated the NICU Updates document.

1-4: Select Medical training modules

09-16-2021

8-4: NICU data extraction- I completed NICU392-395, and inputted them into REDCap, and updated the NICU Updates document.

3-3:15: weekly rounding meeting- I told Christa of my progress. She let me know that I should bring up the progress of phase 2 data extraction at the next NICU meeting. I was also assigned to doing summary tables that are due in the next few weeks, and possibly getting Ekso inpatient data to input on top of outpatient data.

09-17-2021

8-12: I went to Student Health in the morning to get my immunization hold cleared

12-4: NICU data extraction- I completed NICU445-448, and inputted them into REDCap, and updated the NICU Updates document. I met my weekly goal of 15 CRFs completed. Christi emailed saying that the Ekso outpatient data is ready to be inputted again; I will work on them this Tuesday when I am back in the office to get the files from her. Aimee Teams messaged me saying that the TBIMS documents are ready to be filed; I will also do this on Tuesday.

Site Supervisor Signature



Site Supervisor Signature Date 09-17-2021

09-20-2021

8-4: NICU study- I completed and inputted NICU389-391 and updated the NICU updates document. I oversee the NICU rounding meeting now. I scheduled the bi-monthly meeting on Wednesdays at 10AM. I also created a meeting agenda.

8:45-9: weekly rounding meeting- goals for this week: continue NICU study pace, finish filing for Aimee, and start on Ekso OP data entry.

9-10: DOOR and FIRST meeting

12:30-1: research display case meeting- Stephanie suggested that I create labels with calligraphy-style writing. I need to come up with a one-sentence summary for each study to put on the display case.

09-21-2021

8-11:30: NICU study -I completed and inputted NICU388 and 389, and updated the NICU updates document.

11:30-12: grabbed Ekso outpatient data -Christi emailed me saying that her recent OP data are ready. I went to the agreed dropoff location and found that there are 2 files: blue and green; I'm not sure which one is the one she wants to be entered. I emailed her to check, waiting on her reply.

12-2: checking Ekso inpatient data -Christa wanted me to audit the Ekso inpatient data entry done by the other interns. I pulled the files and checked its REDCap entry against Select Epic. I emailed the results to Christa. I could not find one participant as it was not in the filing cabinet so I Teams messaged Faith to see where she put it. I will ask her in person tomorrow.

2-4: TBIMS filing for Aimee and Jacqueline -Aimee has set aside a folder for all the files she wants to be filed away downstairs in the storage closet. I gave back all of the files that did not have a file folder present and pulled one file

09-22-2021

8-2: NICU study- I completed and inputted NICU384-386, and I updated the NICU updates document.

10-10:30: NICU rounding meeting- meeting agenda: discuss what else the therapy interns need to get started, update everyone on the progress of the study, asked Lacy and Jacqueline to set the goal of completing 5 phase 2 CRFs, asked Jenny about neuromotor exam results interpretation, and I asked Jenny if I could observe her doing feeding/instrumental evaluations.

11-11:30: got files from Baylor Sammons building -Christa asked me to go with her to get data files from the oncology research department.

11:30-4: Ekso outpatient data entry- Christi replied to my email and I found where she put the file with OP data. I finished inputting half of the data.

09-23-2021

8-12: Ekso OP -I finished the remaining Ekso outpatient data from Christi. I am waiting on one final patient that Christi has to finish up; she said she should update me by tomorrow. I updated Dr. Swank on the progress.

10-10:15: Quality meeting

12-4: NICU study- I completed and inputted NICU382-383, and I updated the NICU updates document. I sent out the NICU updates document to key personnel in the study.

3-3:15: weekly rounding meeting- Updated Christa and Libby on my current progress in the NICU study and Ekso OP.

09-24-2021

8-4: NICU study -I completed and inputted NICU379-381, and updated the NICU updates document.

9:30-10:30: Dr. Hodge meeting- I met with my major professor to talk about project progress, and discuss the thesis practicum. She suggested that I start writing my introduction and background and send paragraphs and drafts to her anytime. We set up to meet in January to discuss the study progress and writing the practicum, as well as about the defense. I need to finish writing the introduction and background by 1/13/22.

Site Supervisor Signature



Site Supervisor Signature Date 09-24-2021

09-27-2021

8-3: NICU data collection- I completed and entered NICU364-366, and I updated the NICU updates document accordingly. I received an email from Jenny requesting that I train the therapy interns one on one. I will set up office hours for them to reach me when they have questions. I later get an email that they will start doing NICU data collection in November, so I will put it off by then.

3-4: GLBSCI fact sheet- I worked on the background of the fact sheet, waiting on Christa to give me results for the study to add on.

09-28-2021

8-4: NICU data collection- I worked on NICU382-384, entered them into REDCap, and updated the NICU updates document. Libby asked me to add a CRF count to the document; she also suggest that I set up a time with Jenny for her to audit any last unsure variables with her. I emailed Jenny and we set up a time to meet next Wednesday in person to go over unsure variables.

09-29-2021

8-2: NICU data collection- I worked on NICU373-375, entered them into REDCap, and updated the NICU updates document.

11-11:30: met with Stephanie and Aimee -Stephanie and Aimee asked me if I could help with their Excel sheet for the peer mentoring project. I agreed to do it when I have time to do so.

2-3: TBIMS birthday cards- I finished and mailed off 30 early October birthday cards.

3-4: Peer mentor Excel sheet- Stephanie asked me to figure out how to do conditioning in the Excel sheet. I figured it out and uploaded the Excel sheet onto Sharepoint, and let Stephanie know.

09-30-2021

8-4: NICU data collection- I worked on NICU367-369, entered them into REDCap, and updated the NICU updates document. I started a document on variables that I wanted to ask Jenny about, and plan to share with Jacqueline and Lacy to help with data collection.

2-2:30: weekly rounding meeting- Libby confirmed that I will be acting as coordinator minus the technical things I cannot do as a student. I let Christa know about the progress of the NICU study. I asked Libby if we should do an audit of the CRFs at the end of the year, she said that it is best to do a selective audit and audit the variables that we have questions on. I talked with Jacqueline about updating the subject list since it has not been updated since 1/1/21. Jacqueline requested permission from Jenny to let me have the list of babies to add.

10-01-2021

8-3: NICU data collection- I worked on NICU364-366, entered them into REDCap, and updated the NICU updates document.

3-4: GLBSCI fact sheet- I finished the background for this fact sheet, waiting for Christa to give me data to add to the results section. Aimee emailed me saying that she put a special folder for TBIMS filing.

Site Supervisor Signature



Site Supervisor Signature Date 10-01-2021

10-04-2021

8-4: NICU data extraction- I finished and inputted NICU363-361, and updated the NICU updates document. I added screenshots of Epic on confusing variables for future SOP building. I currently put this on the document I intend to use for the select audit in December.

8:45-9: BSWIR rounding meeting- my goals for this week is to continue with the NICU study and to finish Ekso OP data.

9-10: FIRST and DOOR study meeting

10-05-2021

8-10: Ekso OP data- Christi finished up her last patient, so I was able to input it. The patient's demographic data was not on the S drive, so I emailed her about it. -There were very few inpatient data intermix with OP data; I gave them to Faith for her to enter them.

10-4: NICU data extraction- I finished NICU358-360, inputted and updated the REDCap and tracking document.

10-06-2021

8-1: observe in the NICU- Jenny let me observe her doing scheduled bottle feedings as well as a VFSS down in radiology. Observing her made me realize that a select audit is necessary in December as some of the variables were very clinician-based and not extracted correctly. Watching the VFSS study was very eye-opening as I could clearly see the bolus going up to the nasal cavity of the baby, which is highly unusual at an upright position when swallowing.

1:30-4: NICU data extraction/collection- I worked on NICU357, inputted and updated REDCap and tracking document.

10-07-2021

8-2:30: NICU study- I worked on NICU355-356 and inputted it into REDCap as well as updated the NICU document. I updated the NICU updates document to include a planned select audit of the 200-patient data in December, planned one-on-one training sessions with NICU therapy interns, and scheduling a review over some variables in the CRF with Jenny. I sent it to all personals in the study.

2:30-4: observed FEES study- Jenny called me over to observe her and the other therapists do a FEES study on a baby with frequent oxygen desaturation. Observing them made my research more clear and also gave me more insight to write for my thesis practicum.

10-08-2021

8-11: work on NICU patient list- NICU patient Excel list on Sharepoint has not been updated since the beginning of 2021. I can't get to the list on Epic so Jacqueline will upload screenshots onto Sharepoint and I will update bi-weekly.

11-11:30: rounding meeting with Christa- I updated Christa on the status of NICU study 11:30-4: NICU data extraction. I worked on NICU353-354 and inputted them into REDCap as well as documented the updates. -Christi emailed back about the Ekso patient demographic so I will work on it on Tuesday when I'm back in the office.

Site Supervisor Signature



Site Supervisor Signature Date 10-11-2021

10-11-2021

8-4: NICU study- I continue working on the patient list. I will keep up by checking back every month until my internship is done. I worked on NICU350-352, inputted and updated the tracking document.

8:45-9: BSWIR rounding meeting- goals for this week: keep up and keep pace with the NICU study, be completely done with Ekso OP data, and help with the display case.

9-9:30: FIRST and DOOR meeting

10-12-2021

8-9: Ekso OP- I finished the last little bit of Ekso OP data that was left, which was demographic info on the last patient in OP.

9-4: NICU study -I completed and inputted NICU347-349, and I updated the updates document to reflect this.

1-2: TBIMS birthday cards and filing- I completed the rest of the October TBIMS birthday cards and mailed them out. Now October is completely done. I also filed away TBIMS files that Aimee and Jacqueline collected for me into the filing cabinets in the breezeway. Aimee wants me to take over the entire birthday cards tracking task, so I expect to be trained on this later this week or next week.

10-13-2021

8-11: NICU study- I completed and inputted NICU346 and NICU342, and updated the tracking document.

9:30-10:30: BSWRI rounding meeting- I updated the research department on my progress in the NICU study.

11-12:30: display case lamination- I helped Stephanie laminate and cut her papers to put in the research display case downstairs.

12:30-2:30: met with Jenny- I met with Jenny to go over confusing variables. I was taught how to interpret neuromotor exams. I updated/edited 3 variables on the CRF to clarify their meaning. I met with Christa afterward to reflect on these changes in REDCap. These variables are included in the select audit in December.

2:30-4: display case decorating- I helped Stephanie decorate the display case downstairs. We are halfway done. We will continue next week when more projects and pictures/bitmojis are made.

10-14-2021

8-3: NICU study- I completed and inputted NICU341, NICU461-462. I also updated the document. I have done with 2020 cases, moving on to 2021 cases.

10-10:30: TBIMS with Aimee -I am taking over the entirety of the TBIMS birthday/ participant tracking list. Aimee showed me the L drive and how to update Access and keep up with participants via birthday cards.

10:30-11: Access tracking list -Aimee had a pile of birthday cards to be processed; I finished the pile and gave the processed ones to Aimee for filing/shredding.

3-3:15: weekly rounding meeting -I updated Christa on the progress of the NICU study, as well as my progress in other studies of BSWIR.

3:15-4: laminate and cut decorations for the research display case -I made my bitmoji to put on the display case. I also helped out by laminating and cutting things to get ready for the next time we go downstairs to decorate.

10-15-2021

8-4: NICU data collection -I finished and inputted NICU463-465, and updated the updates document. I emailed Jenny to forward the email of my compiled list of respiratory medications to Dr. Suterwala to see if it's accurate or missing any. He said the list is complete so I will forward that to the therapy interns when I start training them in November.

Site Supervisor Signature



Site Supervisor Signature Date 10-18-2021

10-18-2021

8-4: NICU data collection- I completed and inputted NICU466-468, and update the document. I plan on updating the CRF this week as the current version is not user-friendly and the variables jump around creating fatigue fast.

10-19-2021

8-1: NICU data collection- I completed and inputted NICU369-372, and updated the document.

1-3: TBIMS- Aimee handed me return cards to update; Access is currently up to date. I went ahead and went down to the breezeway to file the collected files. I made mailing labels for all November birthdays.

3-4:30: Ekso Advisory Meeting- I attended the advisory meeting as an experience; it was for starting the DOOR study.

10-21-2021

8-4: NICU study- I made a new version of the CRF to include more details regarding aspiration and penetration during instrumental assessments as well as reordering the variables by similarity. I emailed version 5 CRF to Christa to edit the REDCap to reflect the changes. I send an email with the NICU updates document to all key personnel and managers. I completed NICU475 but waiting to enter into REDCap until Christa reflects changes on REDCap.

3-3:30: rounding meeting with Christa- I updated Christa on the NICU study. She suggested starting an audit to see how long it will take. I will make an audit document and log. She completed the GLBSCI results so I will need to start putting them on the fact sheet. I also will help Erina tomorrow with her APHA presentation. Christa also said I will be joining TIOB study to help with data entry.

10-20-2021

8-4: NICU study- I completed and entered NICU 472-474, and updated the NICU update document to reflect progress.

12-1: Dr. Driver focuses on a research presentation- I listened to Dr. Driver give a presentation during the monthly focus on research meeting.

10-22-2021

8-1: NICU study- I finished NICU476-478. Held off entering until REDCap has been updated.

1-2: TBIMS birthday- I mailed out 6 birthday cards for November. I also updated Access when one return card came back.

2-4: REDCap updated and data inputted- I talked with Christa to work through updates for the REDCap, then I finished inputting data for NICU476-478.

3:30-4: seat cushion study meeting

Site Supervisor Signature



Site Supervisor Signature Date 10-22-2021

10-25-2021

8-4: NICU data extraction- I finish and inputted NICU480-482, and updated the tracking document.

8:45-9: BSWIR weekly rounding- My goals for the week: continue NICU, redo GLBSCI fact sheet, do a quick lit review for Dr. Swank, and keep up the TBIMS registry/birthdays.

9-9:30: DOOR/FIRST meeting

3-4: lit review for Dr. Swank- Dr. Swank asked me to do a quick lit review for the economic analysis for having a robotic rehabilitation device. I found one article and emailed it to him.

10-26-2021

8-2: NICU data extraction- I finished NICU482-484, entered them on REDCap, and updated the tracking document.

2-4: TBIMS birthday- I finished and mailed out all first half of November birthday cards, a total of 28. I updated Access on the return birthday mail; it is currently up to date. I made more round return card stickers.

10-27-2021

8-2: NICU data extraction- I finished and inputted NICU485-487, and updated the tracking document. I updated minor things on the CRF: added residue for Enfamil AR for instrumental assessments, and added more answer options for some variables for the discharge information. I asked Christa to edit and they've been reflected on the REDCap.

9-9:30: BSWRI rounding

2-4: GLBSCI fact sheet- I started redoing the GLBSCI fact sheet to make the design cleaner.

10-28-2021

8-1: NICU data extraction- I finished and inputted NICU488-490, and updated the tracking document.

1-2:30: Access and TBIMS- I updated Access with return cards that were mailed back. I mailed out November birthday cards and made labels for December birthdays. I realize that I need to mail out cards a month in advance to get to participant's places on time for their birthdays.

2:30-4: GLBSCI fact sheet- I continue to work on the GLBSCI fact sheet.

10-29-2021

8-4: NICU data extraction- I finished and inputted NICU491-493 and updated the tracking document.

3-4: TIOB data extraction -I looked over Christa's instructions and did a sample one to practice. It seems straightforward and much faster than NICU. I will start on this on Monday and finish within the week.

Site Supervisor Signature



Site Supervisor Signature Date 11-01-2021

11-01-2021

8-3: NICU data extraction- I completed NICU494-495 and updated them in the tracking document.

8:45-9: BSWIR rounding- My goals for this week: continue NICU data extraction, TIOB registry demographic data, and GLBSCI fact sheet.

3-4: TIOB cancer registry- I completed 1/4th of the registry's demographic data.

11-02-2021

8-2:30: NICU data extraction- I finished and inputted NICU496-499, and updated the tracking document.

11-12: Alvin's defense- I watched my classmate Alvin's defense.

9-9:30: TBIMS birthday cards- I mailed out 15 of the December birthday cards.

2:30-4: TIOB registry- I completed half of the registry's demographic data.

11-03-2021

8-10: TIOB demographic data- I completed the rest of the demographic data for TIOB and notified Christa.

10-2: Sharepoint Grant Tracking list- I worked with James from the STAR to work on a Grant Tracking list that the STAR has. I finished and let Libby know.

2-4: NICU data extraction- I finished and inputted NICU500, and updated the tracking and updates document.

11-04-2021

8-3:30: NICU study- I completed NICU501-504 and updated the tracking document. I updated the registry list to add more babies as they are added on EPIC. I emailed out the NICU Updates document to all key personnel.

3-3:15: rounding meeting- I updated Christa on my current progress on all the tasks I'm working on.

3:30-4: TBIMS Access- I updated Access upon receiving TBIMS return cards.

11-05-2021

8-4: NICU study -I completed NICU505, 339-340, and updated the tracking document. I talked with Christa about possible exclusion criteria for my thesis practicum: excluding babies that did not complete bottle trials as feeding evaluations as they are unable to. I emailed Jenny and she said to still include in the registry study, and mark N/A when necessary in the dysphagia symptoms section. I asked Christa to add 8- N/A option for every variable in that section. I will start to go back into 2019 as I am approaching 2021 babies that are still admitted in the hospital (no discharge information yet).

2:30-3:30: TBIMS birthday cards- I mailed out 24 cards, so I am currently done with early December birthdays.

Site Supervisor Signature



Site Supervisor Signature Date 11-05-2021

11-08-2021

8-3: NICU study- I completed and inputted NICU338-336 and updated the tracking document.

8:45-9: BSWIR rounding meeting- My goals for this week are: Continue with the NICU study, complete filing documents from Cindy, and continue to work on the GLBSCI fact sheet.

9-10: Ekso meetings

3-4: GLBSCI Fact sheet- I continue to work on the results section of the fact sheet.

11-09-2021

8-12: NICU study- I completed and inputted NICU333-335 and updated the tracking document.

12-4: GLBCVA weight audit- Christa let me know that Evan wants me to audit the weight of all participants across all assessments. I finished auditing half (33 participants) today.

11-10-2021

8-1:30: NICU study- I completed and inputted NICU330-332 and updated the tracking document.

9:30-10: BIR rounding meeting

1:30-4: GLBCVA weight audit- I continue to audit the weights of all participants. I am now 75% complete.

11-11-2021

8-3: NICU study- I completed and inputted NICU329-328, and updated the tracking document. I updated Libby on the current progress of all the tasks/projects that I'm working on.

3-4: GLBSCI Fact sheet- I continue to work on the Fact Sheet.

11-12-2021

8-12:30: NICU study- I completed and inputted NICU325-327 and updated the tracking document.

12:30-1: GLBCVA weight audit- I finished auditing all participant measured weights and told Evan that it was done.

1-1:30: TBIMS Access- I kept up with return cards and updated Access.

1:30-3:15: TBIMS filing- With the help of Elizabeth, we finished filing a trunk full of documents from Cindy. We also filed recent stuff from Aimee and Jacqueline and pulled out charts of deceased participants.

3:15-4: GLBSCI Fact sheet- I continue to work on the fact sheet; projected to finish before Thanksgiving.

Site Supervisor Signature



Site Supervisor Signature Date 11-15-2021

11-15-2021

8-12: NICU study -I completed and entered NICU323-324 and updated the tracking document.

12-4: GLBSCI Fact sheet- I finished up the results section of the fact sheet and edited it to make it look as visually appealing as possible.

11-16-2021

8-2: NICU study- I completed and entered NICU320-322 and updated the tracking document.

2-3: GLBSCI Fact sheet- I worked on finishing up the fact sheet and let Faith look over it for comments on visual legibility. I will send it to Christa in the morning for her comments.

3-4: TBIMS birthday cards- I made and prep birthday cards for late December birthdays. I updated the Access tracking log by going through the return cards that were mailed back.

11-17-2021

8-1: NICU study- I canceled the meeting since Jenny is at a conference and couldn't make it. So instead, I sent out an updates email to everyone. I completed and entered NICU317-319 and updated the tracking document.

1-2: TBIMS birthday cards- I finished up assembling the late December birthday cards and mailed them out.

2-2:30: GLBSCI Fact sheet- Christa gave me some feedback on the fact sheet and I edited it and sent it back to her.

2:30-4: GLBCVA audit- I finished looking over and attaching the end of study document in the highlighted participant files. I moved on to checking dates in the enrollment logs to make sure they match the CRF dates for each participant. I finished half of the Group 2 GLBCVA.

11-18-2021

8-1:30: NICU study- I completed and entered NICU314-316 and updated the tracking document. I sent out the updates document to all key personnel.

10:30: Call with Stephanie- I had a call with Stephanie to discuss some of the wording on the GLBSCI fact sheet. I am waiting to see if more logos need to be on it.

1:30-4: auditing- I am finished with auditing GLBCVA dates. I will start on GLBTBI files next week. I added End of Study and Note to File documents to the GLBCVA files.

Site Supervisor Signature



Site Supervisor Signature Date 11-18-2021

11-19-2021

Out of Office

11-22-2021

8: updated GLBSCI Fact sheet- An email from Dr. Grobe listed all the minor edits that need to be made for the fact sheet. I quickly made all the changes and emailed the most up-to-date version back to all personnel.

8-2: NICU study- I completed and entered NICU311-313 and updated the tracking document.

2-4: GLBTBI audit- I finished auditing 17 group 2 participant files to ensure that the enrollment log is consistent with the dates of each CRF/check-in.

11-23-2021

8-1: NICU study- I completed and entered NICU308-310 and updated the tracking document.

1-2: TBIMS filing and updates. I updated Access to keep with the return cards that were mailed back to us. I filed the documents that were accumulated and made more signs in the closet to let others know to not put things in front of the filing cabinets.

2-3:30: GLBTBI auditing- I completed the rest of the GLBTBI group 2 files that needed to be audited against the enrollment log. I updated Christa and emailed Evan to let both know of my completed tasks.

3:30-4: TBIMS birthday cards- I premade birthday cards for January birthdays.

11-24-2021

out of office- Thanksgiving

11-25-2021

out of office- Thanksgiving

11-26-2021

out of office- Thanksgiving

11-29-2021

8-4: NICU study -I completed and entered NICU307 and updated the tracking document. I noticed that NICU306 and prior have no records on Epic; they are probably on Allscripts. I will stop and continue onto 2021 to avoid having to use Allscripts for data collection.

8:45-9: BSWIR rounding meeting- goal for the week: finish NICU data collection and make progress in data auditing to get ready for analysis.

9-10: FIRST and DOOR studies meeting

10: updated Aimee on the TBIMS mailing- Aimee emailed me the newest version of the return

labels since Cindy is retiring. I will print them out tomorrow.

11-30-2021

8-2: NICU study- I completed and entered NICU506-507 and updated the tracking document. I asked Christa to update one section of the NICU RedCap to be captured as a repeated measure since I ran across a patient with more than one instrumental study.

2-4: TBIMS birthday cards, Access, filing- I made and mailed out all early January birthdays. I updated Access with the mailed back return cards. I filed the accumulated documents into the TBIMS filing cabinets.

12-01-2021

8-2: NICU study- I completed NICU508 and entered it into REDCap, updated the tracking document. I met with Jenny, Lacy, and Christa via rounding meeting. Jenny told me that therapy interns are ready to be trained. I sent emails out asking interns when they have time and other things regarding the research onboarding process. Since Jacqueline couldn't attend, I sent her an update email as well as asked her and Lacy to continue to work on Phase 2 data collection. I plan on finishing data collection tomorrow and starting select auditing. I will talk to Christa in my rounding meeting with her tomorrow to plan it out.

2-4: Miscellaneous tasks- I asked Christa for some tasks and she asked me to do summary tables for GLBSCI continuing review. I learned how to make pivot tables on Excel and sent her back the file. I made some TBIMS birthday cards. Christa asked me to update my BSWIR task list. Christa gave me another task of updating Select MRN for patient tracking. This is due sometime this month.

12-02-2021

8-4: NICU study- I completed and entered NICU509 and updated the tracking document. I sent out the NICU Updates document to all key personnel. I updated the Registry List with screenshots from Jacqueline.

10-11: BIR QA meeting- I was assigned to audit 3 files for FIRST with Erina. I will work on it starting tomorrow.

12-03-2021

8-4: NICU study- I reorganized the drawer of CRF because the file folders were falling apart from the weight of 200 CRFs. I filled out IRB forms to add therapy interns into NICU IRB with help from Christa. After approval, I will schedule training times with them, tentative the week of 12/13. During my rounding meeting with Christa, she showed me how to pull data into Excel. I will start to audit that Excel file and import it back into REDCap. I am working on updating the Allscripts version of the CRF so that it is ready to go in Sharepoint.

1-2: FIRST audit- I audited data for FIRST 022 and 024 and filled out entries on the QA REDCap for them. I am going to wait on Erina to check on my entries.

Site Supervisor Signature



Site Supervisor Signature Date 12-03-2021

12-06-2021

Out of office

12-07-2021

Out of office

12-08-2021

8-4: NICU data auditing- I scheduled training sessions with therapy interns: Monday, Tuesday, and Wednesday of next week. I continue to audit selected variables for NICU data.

9:30-10:30: BRI rounding meeting- I updated everyone on the NICU project progress.

2-3: Ekso OP QC- I met with Christa and Alex to go over Ekso OP data to resolve some comments from Dr. Bennett. I explained how I entered the data to match everything on the CRF and suggested that REDCap be built more similar to the format of the CRF. I redirected Christa to Christi on comments regarding the clinical measures on the CRF.

12-09-2021

8-4: NICU audit- I am continuing to audit NICU data, keeping track by updating progress and changes in the audit log that I put on Sharepoint.

1-1:30: TBIMS Access update- I updated Access with return cards. I talked with Aimee about the protocol when updating Access regarding the death of a participant.

1:30: FIRST audit- I checked with Erina regarding the progress of the FIRST auditing files that were assigned to us. She said she is very busy but will finish off the files and check over mine.

3-3:30: rounding meeting with Christa- I updated Christa regarding all of my assignments. I set the timeline that I will finish audits at the end of this month. She reminded me of the Select MRN patient tracking list assignment is not urgent. She asked me to make award certificates for the upcoming Holiday party.

12-10-2021

8-12: made certificates for the Christmas party -Christa asked me to make cute award certificatesfor the upcoming Holiday. I finished all 25.

12-1:30: TBIMS filing -I went ahead and filed the accumulated docs that were in the cabinets.

1:30-3: Updated Allscripts CRF version 4- I moved all notes from Allscripts v3 to Epic v5 to make Allscrips v4.

3-4: birthday cards -I made birthday cards for TBIMS.

Site Supervisor Signature



Site Supervisor Signature Date 12-13-2021

12-13-2021

8-12: Intern training for NICU project- I trained Megan on the entire data collection process. I sent out an email with all links and additional info to all interns, so they are fully informed.

8:45-9: BIR rounding meeting- goals for this week: finally train interns from NICU therapy and get them started on the project. Also will continue to work on data auditing.

12-2: TBIMS birthday cards -I mailed out 34 late January birthday cards.

2-4: NICU data audit -I continue to audit, updating progress on my audit log.

12-14-2021

8-11:30: Intern training- I trained Connie on the data collection process. I added 2 more links for interns in a follow-up email, as well as letting them know to log their progress in a separate log.

11:30-4: Auditing- I continue to audit NICU data and track progress in the audit log.

12-15-2021

8-10: Intern training: will be rescheduled- I met with Clare to do her training, but she could not get onto Epic. We called IT and found out that she hasn't finished her training modules yet. Rescheduling her training session to next Monday.

10-4: NICU data audit- I emailed Jenny suggesting that the interns work on phase 2 of data abstraction of existing cases first and then do a full CRF on their own. I assigned interns cases to work on for the next few weeks. I continue with auditing and tracking progress with the log. I talked with Jacqueline regarding FIRST audits and referred her to Erina since I handed her the files we were assigned with.

12-16-2021

8-9: scheduling defense- Dr. Hodge emailed me her available times for my defense. I sent a Doodle poll out but Dr. Mathew reminded me that defense has to be done before 4/8. Waiting on Dr. Hodge to give me her earlier dates.

9-4: NICU study- I sent out study updates to all personals, including therapy interns on the emails. I continue to work on auditing NICU data.

3-3:15: rounding with Christa- I updated Christa on the progress of NICU data and my auditing and intern training. She told me that Select MRN no longer needs to be worked on. I told her that I will work on the 2 OP Ekso patients that need to be entered on Monday. She will send me the list of names and corresponding awards so that I can update the Holiday party awards on Tuesday.

3:30-4: updated Doodle poll for thesis practicum defense date- Dr. Hodge sent me her earlier available dates. I sent out a new Doodle poll to all advisory committee members.

12-17-2021

8-4: NICU audit data- I continue to work on auditing NICU data and keeping track of the auditing log. I will keep working on it over the weekend, and start writing background, intro, and methods for my thesis practicum.

Site Supervisor Signature



Site Supervisor Signature Date 12-17-2021

12-20-2021

8-10: intern training -Clare came in again to do training but still has problems accessing her Epic. She said that the data collection process seems pretty self-explanatory and will ask me or other interns if questions to come up. I reminded her of the assignments that I assigned to the interns to help with phase 2 data collection.

10-12: Ekso OP data- I found and completed the last 2 Ekso OP patients that were missing Ekso sessions. I resolved all comments I had while doing data with Christa and Dr. Swank.

12-1: Holiday party awards- Christa send me a list of names and their corresponding awards. I added the names and printed them all out so they will be ready for tomorrow's Holiday party.

1-2: TBIMS birthday cards mailing labels- I made address labels for birthdays from Feb-April so that they would be ready to go.

2-3:30: NICU audit- I continue to audit NICU data, marking progress in the tracking logs.

3:30-4: TBIMS filing- I filed participant documents and notified Aimee of participants that could not be found. We resolved all questions.

12-21-2021

8-12: NICU data audit- I continue with auditing, logging my progress in the tracking log. I asked Christa to add some more options to certain variables in the instrumental study section in REDCap so that it would show up on the excel sheet rather than as field comments when pulling the data out.

12-3: Holiday party

3-4: TBIMS folders- Stephanie dropped off a stack of participant documents from Cindy that need to be filed. I made folders for the ones that Cindy noted.

12-22-2021

8-4: NICU data audit- I continue to audit data and keeping track in the auditing log.

12-1:45: TBIMS filing- I went ahead to file the stack of documents from Cindy; it's caught up.

Site Supervisor Signature



Site Supervisor Signature Date 12-22-2021

12-23-2021

out of office

12-24-2021

out of office

12-27-2021

OOO: sick with COVID

12-28-2021

OOO: sick with COVID

12-29-2021

OOO: sick with COVID

12-30-2021

OOO: sick with COVID

12-31-2021

OOO: sick with COVID

01-03-2022

8:45-9: BIR rounding meeting- My goals for this week is to finish NICU data audit and work on my thesis. I scheduled my defense date to be 3/29 10:30AM.

9-5: NICU data audit- I set a daily goal for myself to audit around 30 cases per day this week. I finish auditing to NICU416 and documented on the audit log.

01-04-2022

9-5: NICU data audit- I audited until NICU447 and documented on the audit log. I added one more variable, similac spit up formula, in the instrumental study section to better capture data of one case. I updated the CRF to reflect changes. I will ask Christa tomorrow to help me reflect it on REDCap.

01-05-2022

9-5: NICU data audit- I audited until 477, and documented in the audit log. Christa reflected changes in NICU REDCap for me. I scheduled meeting for next Friday with Christa and Libby to talk about NICU data analysis.

9:30-10: BRI rounding meeting- I updated the entire department on my progress and plans for the upcoming weeks.

2-2:30: NICU rounding meeting- I updated key personnels on my progress in auditing, as well as setting goals for others to complete phase 2 data collection. I will also work on phase 2 next week when I can get someone's Epic to access the peds flowsheet. My goal is to finish all data collection by the 3rd week of January. I answered all questions that the therapy interns brought up.

01-06-2022

9-5: NICU data audit- I finally finished NICU data audit! I emailed Christa the audit sheet for her help in putting it back into REDCap. Afterwards I will manually go through each entry to ensure that there are no missing data points. I updated the NICU subject log to add on babies that admitted during December.

01-07-2022

9-5: NICU data cleaning- I created a second sheet on the audit log to track data that needs to be cleaned. I begin to go through each entry to check for missing data. -I sent out email to everyone doing phase 2 collection to update my progress and encourage completion. I wrote an outline for beginning sections of my thesis practicum. I will work on writing over the weekend.

3:30-4: rounding with Christa- I updated Christa on my progress

Site Supervisor Signature



Site Supervisor Signature Date 01-07-2022

01-10-2022

8:45-9: BSWIR rounding- goals for this week: final data cleaning for NICU, work on thesis practicum, and write meeting agenda for NICU data analysis planning meeting.

9-3: NICU data cleaning- I went through every entry up until NICU375 to check for any missing info.

3-5: literature review- I did literature review for dysphagia and instrumental study to get ready for analysis planning.

01-11-2022

9-3: NICU data cleaning- I continued with data cleaning up until NICU443. I replied to Jenny asking about information for the IRB continuing review.

3-5: literature review- I continued with literature review, focusing on causes/etiology of dysphagia.

01-12-2022

9-2: NICU data cleaning- I completed data cleaning.

2-5: analysis meeting agenda- I write the agenda for analysis planning meeting. I gave reference/lit review for each of my sub-hypothesis as well as outlining the steps and timelines of analysis.

01-13-2022

9-10: NICU document- I sent out the NICU updates document, letting all key personnel know that 200+ cases are officially completed and ready to go in REDCap. Next week's meeting I will start discussion on next steps for this overall NICU project.

10-11: BSWIR quality meeting- I listened in as Erina went over the IRB regulatory binder.

11-12: covid test, prep for meeting- I went to take a covid test, came back and went over the references and hypothesis before the meeting.

12-12:30: meeting with Christa- The analysis meeting has been rescheduled to next week due to Libby's busy schedule. I met with Christa instead to go over preliminary thoughts and timelines. I ended up doing rounding with her since it was convenient. I asked for more tasks to work on and she will search for me.

12:30-5: thesis practicum- I continued to work on my thesis practicum.

01-14-2022

9-5: thesis practicum -I continue to work on my thesis practicum.

Site Supervisor Signature



Site Supervisor Signature Date 01-17-2022

01-17-2022

8-11:30: TBIMS birthday cards- I made and mailed out early Feb birthday cards. I updated Access by going through the return cards. I filed half of the TBIMS documents that were piled up.

11:30-4: Thesis practicum writing -I continue to work on writing my thesis practicum.

01-18-2022

8-4: Thesis practicum writing- I finished writing intro and background and literature. I send copies to Dr. Hodge and Jenny for early editing and content checking.

01-19-2022

8-9:30: TBIMS filing- I finished filing the accumulated pile of comm logs from Aimee.

9:30-10:30: BSWRI rounding meeting- I listened to updates from BRI.

10:30-12: NICU analysis planning meeting and other updates. Libby informed me that Dr. Bennett will take care of analysis since this study is in conjunction with NICU. I emailed Libby methods and aims of my thesis practicum to be forwarded to Dr. Bennett. Analysis is planned to be completed in 2-3 weeks. Libby told me that I can help Neil with the VNS study. Christa gave me assignments to input GLBSCI complete dates into REDCap.

12-1: Focus on Research seminar- I listened to Dr. Kitzman gave presentation on her department of research.

1-2: Meet with Neil- I shadowed Neil on the VNS study. I will be helping him from now on.

2-4: GLBSCI data input and updates- I moved the bi-weekly NICU rounding meeting to Friday at 9 because Jenny cannot make it. I finished inputting the missing GLBSCI study completion dates and emailed the excel tracking sheet back to Christa.

01-20-2022

8-2: GLBSCI data fill in- I filled in missing completion dates for GLBSCI cohort 3 and 4.

2-3: meet with Dr. Hodge- I met with Dr. Hodge to set approaching defense deadlines and tips on defense speaking and thesis writing.

3-4: work on thesis practicum

01-21-2022

8-3: GLBSCI file- I printed off ICF, informed consent document, and completion status to fill in for all GLBSCI files. I finished 75% of the files.

9-9:30: NICU rounding meeting- I scheduled another meeting with Jenny and Lacy to talk about handing planning back to Lacy. We briefly discussed next steps, but more will be discussed next week. Jenny will meet with the NICU therapy interns to discuss their schedules and assignments. I sent an email to therapy interns notes from the meeting.

9:45-11: VNS study- I shadowed Neil taking participant vitals. He showed me participant binders and how to scan in CRFs.

3-4: TBIMS filing and birthday cards- I filed some TBIMS participant files back into filing cabinets. I mailed out 10 late February birthday cards.

Site Supervisor Signature



Site Supervisor Signature Date 01-21-2022

01-24-2022

8-10: TBIMS birthday cards and filing- I mailed out late Feb birthday cards. I filed TBIMS files and documents.

8:45-9: BSWIR rounding- Goals for this week is to finish GLBSCI task, continue to help Neil with VNS, finish writing methods for thesis practicum, and start working on defense presentation.

10-11: VNS scanning and other errands- I helped Neil scan 4 participant visits for VNS study. I went down to Materials to ask them to unlock Erina's office so I can get to more GLBSCI files stored in there.

11-3: GLBSCI files- I finished looking through all GLBSCI files and adding ICF, documentation of informed consent, and completion sheet. I send the spreadsheet back to Christa.

3-4: Birthday cards- I worked on more TBIMS birthday cards.

01-25-2022

8-4: creating CRF- Christa asked me to create a CRF from the resident research project proposal/research plan.

8:45-9: Spanish Club- I listened in to Spanish club to learn about clinically relevant Spanish.

9-9:30: NICU FEES project handoff meeting- I met with Jenny and Lacy about next steps for the NICU FEES registry project. Lacy and I will first audit paper CRFs to match REDCap. Then we will meet with interns from NICU therapy to discuss assignments. I handed back responsibilities of hosting NICU rounding meetings and sending out the update document to Lacy.

01-26-2022

8-9: finished creating CRF for resident research- I emailed the CRF to Christa

9-10:30: TBIMS filing and mailing- I filed TBIMS documents. I stamped the birthday cards because Materials is short staffed.

10:30-2:30: VNS study- I helped Neil with scanning VNS CRFs and updating binders with new CRFs.

2:30-4: Thesis practicum

01-27-2022

8-4: work on thesis practicum

01-28-2022

8-10: thesis practicum

10-2: SOP for Aimee- I typed more of the Aimee's handwritten SOP.

2-2-30: rounding with Christa- Christa gave me 2 more tasks: abstract for CBD study and GLB 2 way communication script.

2:30-4: work on CBD abstract

Site Supervisor Signature



Site Supervisor Signature Date 01-31-2022

01-31-2022

8-10: finished up CBD abstract- I updated statistics and cut it down to 250 words and send it to Christa.

8:45-9: BIR rounding- goals for this week: finish CBD abstract, finish 2way comm script, continue assisting with VNS, and get started with SleepSmart assessments.

10-10:15: VNS scanning- I scanned CRFs.

10:15-2:30: GLB comm script- I sat down with Stephanie to go over common conversations that she had with GLB participants/ I took notes. Working on transforming notes into an organized script.

1:45-2: talked with Lacy- I talked with Lacy about getting started on the SleepSmart assignments. She said she is in the process of adding me onto DOA and will be sending me trainings soon. We discussed next steps for NICU project. She will ask Libby if we can scan old CRF and replace them with the newest CRF so that we have clean, up to date CRFs on file. She will email me assignments and log info soon.

2:30-4: TBIMS filing and bday cards- I mailed out half of early March birthday cards. I filed the accumulated documents into the TBIMS filing cabinet. I printed out May addresses and more round envelope stickers.

02-01-2022

8-12: CITI training- I completed additional CITI training for SleepSmart.

12-12:30: Dr. Hodge meeting- I met with Dr. Hodge to discuss some questions she had for me regarding my thesis practicum.

12:30-4: SleepSmart trainings

02-02-2022

8-9:30: TBIMS- I mailed out the rest of early March birthday cards. I filed the accumulated documents, as well as found the file that Aimee was asking for.

9:30-10:30: BRI rounding meeting

10:30-11:30: office clean up- I help cleaned up the office because the fire marshal came for inspection.

11:30-12: meet with Ms. Hammonds- Ms. Hammonds will be doing analysis for my project. I met with her, Jenny, and Christa to discuss my aims and methods.

12-4: SleepSmart trainings

3-3:10: VNS scanning

02-03-2022

8-4: SleepSmart trainings- I completed NIH stroke scale, modified rankin scale, and started protocol training.

3-3:15: rounding with Christa- I updated Christa on my progress. She assigned me to work on a phone log for resident project due Monday.

02-04-2022

8-4: SleepSmart trainings- I completed ABDC2 certification, ICF training, and protocol training.

Site Supervisor Signature



Site Supervisor Signature Date 02-07-2022

02-07-2022

8-9:30: resident project phone script- I edited and send Christa the phone script for the resident's project.

8:45-9: BSW

9-11: SleepSmart trainings- I finished all the trainings and emailed the PDFs to Lacy.

9:45-10: SleepSmart meeting- I will meet with Lacy to go over my role and tasks after I finish my trainings.

11-12: TBIMS- I filed accumulated documents and updated Access with the participant return cards that were sent back.

12-3: TBIMS birthday cards and SleepSmart protocol reading

3-4: VNS scanning- I helped Neil sort out a random pile of collected CRFs and scanned the completed ones.

02-08-2022

8-2: updated student interview document- Christa asked me to update current projects and student tasks.

2-4: edited phone script- Christa asked me to edit the phone script to make it into 8th grade level.

02-09-2022

8-1: VNS study- Neil trained me on taking vitals. I met with Erina and Neil to smooth out mistakes and the transition back process. Also, my role in this study is clarified. I will help Erina with vitals and possibly data collection from now going forward.

1-2:30: TBIMS filing and updating Access- I filed and updated Access from mailed back return cards. I made a few folders for some UTSW participants. Libby asked me to look over the intern desk floor plan.

2:30-2:40: VNS study- I went down to lab with Erina to finish up some participant vitals.

2:40-3: TBIMS birthday cards

3-4: rounding with Dr. Swank- Erina and Lacy defined my roles and tasks in both VNS and SleepSmart.

02-10-2022

8-12: NICU data- I replied to Ms. Hammonds's message and corrected REDCap. I emailed Dr. Hodge to update her on the progress of analysis.

12-4: Ekso cost effectiveness CRF creation- I created the CRF and emailed it to Christa.

3-3:30: rounding with Christa- I updated Christa on my progress on all projects.

02-11-2022

8-4: VNS study visits- I scanned and filed back all the past CRFs. I shadowed Madison during her assessments. I completed my first assessment by myself.

1:30-2: TBIMS filing and birthday cards- I filed and made birthday cards for future mailing.

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02-14-2022

8-9:45: TBIMS birthday cards- I mailed out late March birthday cards. I resolved an issue with a participant's address with Aimee.

8:45-9: BSWIR rounding- goal for this week: get comfortable with taking VNS assessments without Erina monitoring.

9:45-1:30: VNS visits- I learned about baseline symptoms, reimbursement log, and AE reporting from Erina. I took vitals from participants that were booked today. I audited vital log for stroke participants.

1:30-4: TBIMS birthday cards- I stamped return cards and made more birthday cards.

02-15-2022

8-4: Worked on my thesis practicum- I worked on edits from Jenny and Dr. Hodge. I wrote acknowledgements and internship experience section.

02-16-2022

8-9:30: prepping for visits- I wrote down VNS visit schedule and prep for CRFs. I grab Monday's CRFs and organize/scan them.

9:30-9:40: BRI rounding meeting

9:40-2: VNS study- I attended 4 participant visits. I reported one possible AE to Erina. I hunted down reimbursement logs as well as keeping a list of pending visits that needed to go on the log. I scanned and filed away CRFs from Monday. Erina let me know about following up open AEs and keeping track of reimbursement logs.

12-12:45: Focus on Research monthly seminar- I listened to Dr. Allam's seminar on his research in heart transplant.

2-4: TBIMS filing- I met with Aimee about making folders for Parkland participants. I filed away accumulated documents with Aimee

02-17-2022

Worked on my thesis practicum

8:30-9:30: VNS SCI and stroke meeting

2-2:40: meeting with Kendall Hammonds and Jenny -I met with the biostatistician to talk about the report that she gave back yesterday. We talked about separating some of the variables out and remaking the logistic regression model into 3 separate ones: one for infant variables, one for maternal variables, and one for clinical variables. I also asked her to do figures for each model.

3-3:30: rounding with Christa- Christa gave me advice on how to write results for logistic regression model. Christa suggested that I can work on streamlining the intern onboarding process: making agendas instead of the giant checklist we were given. I will work on this after my defense.

02-18-2022

8-9:45: GLBSCI fact sheets- I edited both arm 3 and arm 4 fact sheets that I created a few months back and send them back to Erina for approval from the physicians. I prepared daily schedule and CRFs for VNS.

9:45-1:30: VNS visits- I completed visits for 5 participants that came in today. I updated UTD staff and logged reimbursements. I kept up with ongoing AEs and updated AE logs. I updated AE logs of resolved but not closed AEs.

1:30-4: TBIMS address labels- Since registry is moving from Access to REDCap, new SOP is needed for printing birthday card addresses. I worked with Aimee and Christa on extracting data from REDCap to label making on Word. I figured out the process and Aimee wrote a new SOP for future interns to follow.

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02-21-2022

8-9: schedule NICU analysis meeting- I also asked Christa to join for confirmation of validity.

8:45-9: BIR rounding meeting- This week's goals: keep up with VNS assessment schedule, shadow SleepSmart assessment, finish results and write discussion section in practicum.

9-2: VNS- I scanned completed CRFs from Friday. I attended to 3 participant's visits today. I completed reimbursement logs and AE log. I scanned today's completed CRFs.

2-4: TBIMS- I updated REDCap of participant's return card and envelope. I filed documents.

02-22-2022

Worked on my thesis practicum

2:30: met with Kendall and Jenny- I asked Kendall for additional forest plot on the infant demographics. I asked Jenny about the validity of no significant maternal factors, and she said it most likely could be because of selection bias and sample size. I will include that in my limitations section.

02-23-2022

8-4: VNS study- completed 3 participants visits. I kept up with reimbursement logs and AE logs as usual. One participant changed medications, so his medication log I updated and scanned them.

02-24-2022

8:30-9:30: VNS meeting

10-10:30: BIR QA meeting

8-4: thesis practicum writing- emailed Ms. Desai to obtain newest continuing review IRB letter. I asked Christa about some variables being irrelevant to my report.

02-25-2022

8-4: VNS study- I completed 5 participant's visits. I scanned previous documents along with reimbursement and AE logs. I reported one pain complaint from P12 to Erina and she opened it as an AE. I consulted Erina on abnormal blood pressure readings.

2-3:30: SleepSmart assessment- I shadowed Alex on doing a baseline assessment. We conducted surveys and NIH stroke scale, as well as abstracted data from the patient's Epic.

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02-28-2022

8-4: VNS study- completed 6 participant therapy visits. Updated and scanned AE forms, AE logs, reimbursement logs, baseline and symptoms log, and medications log.

1-2: TBIMS registry- updated REDCap with return card info.

3-3:30: TBIMS birthday cards- I mailed out early April cards.

03-01-2022

Worked on thesis practicum: gave results to Christa to edit, revised methods

03-02-2022

8-4: VNS study- completed 6 participant therapy visits. Updated and scanned AE forms, AE logs, reimbursement logs, baseline and symptoms log, and medications log. Met with Erina to talk about which logs need to be continuously scanned and which needs to write "no change" to not have scans.

4-4:30: met with Libby and Christa to talk about results- Libby printed off slides about interpreting odds ratios.

03-03-2022

Work on thesis practicum: revised results, finished half of discussion, rewrote abstract.

8:30-9:30: VNS SCI and stroke meeting

3-3:15: rounding with Christa- I asked about statistic questions and guidance on writing discussion.

03-04-2022

8-4: VNS study- completed 6 participant therapy visits. Updated and scanned AE forms, AE logs, reimbursement logs, baseline and symptoms log, and medications log

1-1:30: TBIMS registry and filing- updated REDCap with return card info and filed away participant documents.

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Site Supervisor Signature Date 03-04-2022