Division of Neonatology
Academic Year 2017
Annual Report

Department of Pediatrics
University of Washington
and
Seattle Children’s Hospital
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Mission Statement: We will improve neonatal outcomes by

- Providing outstanding evidence-based neonatal clinical care
- Educating the next generation of neonatal caregivers
- Advancing neonatal scholarship

History of Division Faculty:
The Division of Neonatal Biology and Respiratory Diseases of the Department of Pediatrics at the University of Washington was officially created in 1963 with the recruitment of Dr. Tim Oliver. He then recruited Dr. W. Alan Hodson from Johns Hopkins in 1966 as a second faculty member. A third faculty member, Dr. Dick Wennberg, was added in 1969 and a fourth, Dr. David Woodrum, in 1971. Dr. Oliver left Seattle in 1971 to become Chair of Pediatrics at Pittsburgh and Dr. Hodson became head of the Division, a position he held until 1997 when he stepped down and Dr. Christine Gleason was recruited from Johns Hopkins as Division Head of Neonatology. At that time, Pulmonary Medicine officially became its own division under the direction of Dr. Greg Redding. Since 1997, the Division has substantially expanded its clinical activities, research programs, and its outstanding neonatal fellowship training program. Dr. Gleason stepped down as Division Head in 2014 when Dr. Sandra Juul was successfully recruited January 2015.

History of Division Research:
Between 1966 and 1970, research funding for the Division was obtained from the NICHD with a Neonatal Biology Training Grant, an individual research award, and a satellite clinical research center. In 1972, Division members worked together with members of the Department of Medicine to obtain a 5-year Specialized Center of Research (SCOR) Grant in respiratory disease from the NHLBI. This SCOR became an independent pediatric pulmonary SCOR when it was renewed in 1976, with a second 5-year renewal in 1982. In 1987, a Program Project grant entitled “Pathophysiology of Respiratory Disorders of the Newborn” was funded through the NHLBI for a 5-year period ending in 1992. From 1992 to the present, the Division’s scholarship has diversified; new directions in developmental neuroscience were included beginning in 1998 after Dr. Christine Gleason became Division Head. In 2000, Dr. Sandra Juul was recruited. NIH-funded bench research programs focused on neurodevelopment and neonatal neuroprotection, with translation to multicenter clinical trials of erythropoietin (Epo) neuroprotection. The addition of senior scientist Dr. Colin Studholme to the Division in 2011 brought state of the art neuroimaging techniques for fetal and neonatal brain imaging. The overarching basic science research goal of the Division is to improve the neurodevelopmental outcomes of at-risk infants. Clinical research is focused on neuroscience, medical education, ethics and global neonatal-perinatal health. In 2013, Dr. Juul was awarded a $10.1 million U01 grant supporting a 5-year multi-center clinical trial investigating Epo as a neuroprotective agent in extremely preterm infants, and in 2016 a second U01 grant was awarded to study the neuroprotective effects of Epo for term infants with hypoxic ischemic encephalopathy. Dr. Dennis Mayock is the Associate Division Head for Clinical Research.
Division Clinical Services:

University of Washington Medical Center Neonatal Intensive Care Unit (Level IV):
Thomas P. Strandjord, MD, Medical Director; David Loren, MD, Assoc. Medical Director
The UWMC NICU admits critically-ill newborns from one of the highest risk obstetric services in the nation. The multi-professional perinatal and NICU teams have special expertise in management of the most fragile growth-restricted and premature fetuses and newborns. The high-risk perinatal program receives obstetrics referrals from throughout the WWAMI region for fetal abnormalities, severe maternal illness, and extreme prematurity and is the site of delivery for the most complex birth defects, including infants requiring EXIT procedures for airway anomalies. Additional advanced services include therapeutic hypothermia and the full range of ventilation strategies including high – frequency oscillatory and jet ventilation. The NICU medical team includes neonatal faculty, neonatal fellows, neonatal nurse practitioners, neonatal hospitalists, pediatric residents, interns and medical students. The inter-professional team includes dedicated respiratory therapists, neonatal pharmacists, dieticians, physical therapists, speech language pathologists and social work support. The nursing team includes three tiers of RN expertise and leadership. A state-of-the-art 50-bed NICU opened October 2012. The new unit includes 42 single-bed rooms with space for a family member to stay with their infant plus several additional rooms for multiples as well as an integrated OR for surgical procedures. Patients are cared for by one of two multi-disciplinary teams, a resident-based team, and an NNP/hospitalist team. The UWMC NICU’s care model includes 24/7 coverage by in-house residents and, mid-level intensivists (fellow or NNP/hospitalist), under the direction of attending neonatologists. In AY 2017, the UWMC had 1,924 deliveries with 468 NICU admissions. The average daily census was 31.3 with 134 preterm infants weighing less than 1500 grams at birth and an average daily census of 3.4 on ventilators.

Seattle Children’s Hospital Neonatal Intensive Care Unit (Level IV):
Robert DiGeronimo, Medical Director; Zeenia Billimoria, MD, Assoc. Medical Director
The Neonatal Intensive Care Unit at Seattle Children’s Hospital has been newly expanded to 26 licensed Level IV NICU beds. Patients are cared for by one of two NICU medical teams, in collaboration with our pediatric surgery service when appropriate. The “Green team” includes a faculty neonatologist, a neonatology fellow or neonatal nurse practitioner (NNP), and three pediatric residents. The “Blue team” includes a faculty neonatologist and an NNP. Daily multidisciplinary rounds with the medical team incorporate the patient’s family, nurse, dietician, and pharmacist, and as needed, a NICU respiratory therapist, social worker, and appropriate general surgeons, sub-specialty surgeons, and pediatric subspecialists. The NICU team accepts admissions of critically ill neonates up to 44 weeks’ post menstrual age (i.e., up to 4 weeks after due date) from a 5-state area; almost all are transferred from Level III NICUs because of highly complex and challenging problems. Newborns with complex cardiac disease are admitted to the cardiac ICU, with involvement as needed by the NICU team. There is no obstetrical delivery service at SCH, but there is a close working relationship with the perinatal and neonatal services at the University of Washington Medical Center 2 miles away, and with the associated Prenatal Diagnosis Programs. The Seattle Children’s Hospital NICU’s care model includes an in house fellow or NNP and attending neonatologist 24/7. In AY 2017, the SCH NICU had 446 NICU discharges with an average length of stay at 18.7 days and average daily census of 23.2. Sixty three babies were less than
1500 grams at birth and our average daily census of 7.18 on ventilators. Numbers include pre-op neonatal CICU patients cared for by the NICU team.

**Overlake Hospital Medical Center Neonatal Intensive Care Unit (Level III):**  
*Shilpi Chabra, MD, Medical Director; Thomas Strandjord, MD, Assoc. Medical Director*

In 2012, Overlake Hospital opened a new NICU with a total capacity of 18 beds, 13 of which are single-bed rooms with space for a family member to stay near their infant. This model fits in well with the patient/family-centered care provided by the Neonatology team. This facility boasts Nutrition follow up, EEG capabilities, and same day cardiac consults. The Overlake Hospital NICU’s care model is 24/7 in-house NNPs under the direction of attending neonatologists. In AY 2017, Overlake had 3,797 deliveries with 346 NICU admissions. The average daily census was 8.0 with 13 preemies weighing less than 1500 grams at birth, and an average daily census of 0.05 on ventilators.

**Providence Regional Medical Center Everett Neonatal Intensive Care Unit (Level III):**  
*Michael D. Neufeld, MD, MPH, Medical Director; Anna Hedstrom MD, Assoc. Medical Director*

Providence Regional Medical Center Everett’s 29-bed capacity NICU opened on Mother’s Day in 2002. The unit was developed through the efforts of an alliance between PRMCE and Seattle Children’s Hospital. Individual rooms provide privacy for patients and their families. The multidisciplinary team meets daily with parents and concentrates on family-centered care, teaching parents how to take care of their infants, especially those with special needs. In preparation for discharge, parents are provided in-depth instruction on how to manage emergencies that may arise in the home, including the need for CPR. The care model at PRMCE is 24/7 in-house NNPs under the direction of attending neonatologists. In AY 2016, PRMCE had 4,815 deliveries with 641 NICU admissions. The average daily census was 21.9 with 48 preemies less than 1500 grams at birth with an average daily census of 1.3 on ventilators.

**Franciscan Health Care System; St Joseph Medical Center (Level III); St Francis (Level II)**  
*Stephen Welty, MD, Medical Director; Christopher Traudt, MD, Associate Medical Director*

Franciscan Health Care System includes a network of hospitals with approximately 5,000 deliveries annually at its 3 obstetrical facilities: St Joseph Medical Center in Tacoma, St Francis Hospital in Federal Way, and St Elizabeth Hospital in Enumclaw. St Joseph Medical Center has a licensed capacity of 23 neonatal beds (18 Level II and 5 Level III, NICU) and has 24/7 in-house NNPs supported by faculty neonatologists. St. Francis Hospital has a licensed capacity of 10 Level II beds, with medical care from local pediatricians, with consultation and attendance at high-risk deliveries as needed from SCH NNPs and/or neonatologists. St. Elizabeth is a critical access hospital with 250-300 deliveries a year. Franciscan has recently added two hospitals to their system including Harrison in Silverdale and Highline in Burien. Both have Level II Nurseries. Seattle Children’s Hospital partnered with the Franciscan Health Care System to begin providing Neonatology services and medical direction on April 1, 2013, and St. Joseph Medical Center opened its new Level III NICU in June 2013. This partnership has made it possible for the vast majority of patients to stay within their community while receiving excellent care for their fragile newborns. In AY 2017, St. Joseph’s had 4,121 deliveries with 433 NICU admissions. Our average daily census was 16.22 with 40 preemies weighing less than 1500 grams at birth, and an average daily census of 0.3 on ventilator.
Sandra E. Juul, MD, PhD
W. Alan Hodson Endowed Chair in Pediatrics
Professor of Pediatrics
Head, Division of Neonatology, Department of Pediatrics

Maneesh Batra, MD, MPH
Associate Professor of Pediatrics
Associate Director, Pediatric Residency Program

Zeenia Billimoria, MD
Assistant Professor of Pediatrics
Associate Medical Director, NICU, Seattle Children’s Hospital

Shilpi Chabra, MD
Associate Professor of Pediatrics
Medical Director, NICU, Overlake Hospital Medical Center

Robert DiGeronimo, MD
Professor of Pediatrics
Medical Director, NICU, Seattle Children’s Hospital

Cyril Engmann, MD
Professor of Pediatrics and Global Health
Global Program Leader/Director, Maternal, Newborn, Child Health & Nutrition, PATH

Christine A. Gleason, MD
Professor of Pediatrics

Megan Gray, MD
Assistant Professor of Pediatrics
Associate Director, Neonatal-Perinatal Medicine Fellowship Training Program

Sarah J. Handley, MD
Clinical Assistant Professor of Pediatrics
Physician Liaison, Neonatal Nurse Practitioner Program, Seattle Children’s Hospital

Anna Hedstrom, MD
Assistant Professor of Pediatrics
Associate Medical Director NICU, Providence Regional Medical Center Everett

Melinda Hendrickson, MD
Clinical Associate Professor of Pediatrics
W. Alan Hodson, MD, MMSc
Professor Emeritus of Pediatrics

J. Craig Jackson, MD, MHA
Professor of Pediatrics
Associate Division Head, Regional Neonatal Program Development

Elizabeth N. Jacobson, MD
Clinical Assistant Professor of Pediatrics
Site Physician Sponsor, Children’s Hospital Neonatal Consortium, Seattle Children’s Hospital
Director of Continuous Quality Improvement

Christina Long, DO
Associate Professor of Pediatrics
Medical Director, NICU, Valley Medical Center

David Loren, MD
Associate Professor of Pediatrics
Associate Medical Director, NICU, University of Washington Medical Center
Course Director PEDS669, Medical Student Elective in NICU, University of Washington Medical Center

Dennis E. Mayock, MD
Professor of Pediatrics
Associate Division Head, Scholarship and Clinical Research

Michael D. Neufeld, MD, MPH
Clinical Associate Professor of Pediatrics
Medical Director, NICU, Providence Regional Medical Center Everett

Pratik Parikh, MD
Assistant Professor of Pediatrics

Krystle Perez, MD, MPH
Assistant Professor of Pediatrics

Taylor Sawyer, DO, MEd
Associate Professor of Pediatrics
Director, Neonatal-Perinatal Medicine Fellowship Training Program
Director, Neonatal Education & Simulation Based Training (NEST) Program
Associate Division Head, Evidence-Based Education

Kendra Smith, MD
Clinical Professor of Pediatrics
Medical Director, Infant Transport Program, Seattle Children’s Hospital
Thomas P. Strandjord, MD  
Clinical Associate Professor of Pediatrics  
Medical Director, NICU, University of Washington Medical Center  
Associate Medical Director, NICU, Overlake Hospital Medical Center

Colin Studholme, PhD  
Professor of Pediatrics and Professor of Bioengineering  
Adjunct Professor of Radiology

Christopher Traudt, MD  
Assistant Professor of Pediatrics  
Associate Medical Director, NICU, St. Joseph’s Medical Center

Rachel Umoren, MD, MS  
Assistant Professor of Pediatrics

Linda Wallen, MD  
Clinical Professor of Pediatrics  
Associate Division Head, Clinical Operations

Elliott Weiss, MD, MSME  
Assistant Professor of Pediatrics  
Assistant Professor, Division of Bioethics

Stephen Welty, MD  
Professor of Pediatrics  
Medical Director, NICU, St. Joseph’s Medical Center

David E. Woodrum, MD  
Professor Emeritus of Pediatrics

Fellows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Name</th>
<th>Pediatric Residency Program</th>
</tr>
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<tbody>
<tr>
<td>3rd</td>
<td>Gillian Pet, MD</td>
<td>University of Washington</td>
</tr>
<tr>
<td></td>
<td>Anita Shah, MD, MPH</td>
<td>Children’s Hospital Boston</td>
</tr>
<tr>
<td>2nd</td>
<td>Meenakshi Dutta, MD</td>
<td>Tulane University</td>
</tr>
<tr>
<td></td>
<td>Kendall German, MD</td>
<td>University of California San Francisco</td>
</tr>
<tr>
<td></td>
<td>Jeanne Krick, MD</td>
<td>Madigan Army Medical Center</td>
</tr>
<tr>
<td>1st</td>
<td>Teresa Lam, MD</td>
<td>Loma Linda University Medical Center</td>
</tr>
<tr>
<td></td>
<td>Patrick Motz, DO, MPH</td>
<td>Wright State University</td>
</tr>
<tr>
<td>2017-2018</td>
<td>Incoming Fellows</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brianna Brei, MD, MPH</td>
<td>Rush University Medical Center</td>
</tr>
<tr>
<td></td>
<td>Shubha Setty, MD</td>
<td>Emory University</td>
</tr>
</tbody>
</table>
Seattle Children’s Hospital Neonatal Nurse Practitioner/Physician Assistant Program: (4)
April Morris, ARNP, Supervisor, Overlake Hospital Medical Center
Meg Keith, MSN, ARNP, Supervisor, Seattle Children’s Hospital
Kim Gustafson, MSN, ARNP, Supervisor, Franciscan Health System
This program provides NP/PA services at four regional medical centers in collaboration with Seattle Children’s Hospital and the Division of Neonatology.

University of Washington Medical Center Neonatal Nurse Practitioner Program: (6)
Shwu-Shin Hou, MN, ARNP, NNP-BC, Program Manager
Jennie Collins, MD
Amy Dunn Caldwell, ARNP
Jennifer Fesinmeyer, ARNP
Tiffany Stanley, ARNP

Research Staff:
Daniel Moralejo, PhD, DVM, Research Scientist
Kylie Corry, MS, Research Scientist
Tommy Wood, MD, PhD, Post Doc

HEAL Grant Project Team:
Sandra Juul, MD, PhD, Principal Investigator; Clinical Coordinating Center
Dennis Mayock, MD, Site Principal Investigator
Stephanie Hauge, MS, Lead Clinical Coordinator (HEAL)
Samantha Walker, MPH, Research Coordinator
Elizabeth Jacobson, MD
Craig Jackson, MD, MHA
Pratik Parikh, MD
Krystle Perez, MD, MPH
Thomas Strandjord, MD
Christopher Traudt, MD
Linda Wallen, MD
Elliott Weiss, MD, MSME

PENUT Grant Project Team:
Sandra Juul, MD, PhD, Principal Investigator; Clinical Coordinating Center
Dennis Mayock, MD, Site Investigator
Stephanie Hauge, MS, Lead Central Clinical Coordinator (HEAL)
Amy Silvia, ScM, CCRP, Lead Central Clinical Coordinator (PENUT)
Colin Studholme, PhD, Biomedical Imaging Computing Group
Christopher Traudt, MD, Imaging Data Analysis
Samantha Walker, MPH, Research Coordinator
Biomedical Image Computing Group:
Colin Studholme, PhD, Principal Investigator
David Hunt, PhD, Senior Fellow
Mary Kociuba, PhD, Senior Fellow
Mengyuan Liu, Graduate Student
Ipek Ozdemir, PhD, Visiting Scientist
Thilo Strauss, PhD, Senior Fellow
Viktoria Taroudaki, PhD, Senior Fellow
Gwendolyn Van Steenkiste, PhD, Senior Fellow
Hirofumi Watari, PhD, Senior Fellow

Administrative Staff:
Paula Sword, MHA, Division Administrator
Jake Hawksworth, MHA, Director of Medical Specialties Neonatology, SCH
Marissa Atienza, Fellowship Program Administrator
Lisa Wormke, BA, MPA, Grants Manager
Dan Kim, Administrative Assistant, UW
Neil Kline, Office Assistant, UW
Kathy Peltz, Senior Administrative Assistant, SCH
Stacy Bishop, Senior Administrative Assistant, SCH

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**CLINICAL ACTIVITIES**

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**MEDICAL CONSULTATION PROGRAM/CHILDREN’S COMMUNICATION CENTER**

The Division provides 24/7 neonatal consultation services and medical control for neonatal ground and air transport for the 5-state WWAMI region for about 400 patients per year.

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**INFANT GROUND TRANSPORT PROGRAM**

Kendra Smith, MD, Medical Director

Transport services are provided by the Seattle Children’s Transport and Airlift Northwest Teams. Seattle Children’s Transport Team is comprised of specially trained transport nurses and respiratory therapists. Airlift Northwest Team members are specially trained pediatric and adult critical care nurses along with Seattle Children’s respiratory therapists for neonates with complicated respiratory disorders. Infants from referral centers throughout the WWAMI (Washington, Alaska, Montana, Idaho) region are transported to facilities best suited to their needs. Both services provide en route cardiopulmonary monitoring, conventional ventilator support, high frequency oscillation, administration of nitric oxide, and blood gas analysis. Team members are trained in the interpretation of x-rays, newborn resuscitation, endotracheal tube intubation, insertion of umbilical catheters, treatment of pneumothoraces, cardiopulmonary resuscitation, blood pressure management, care of the infant
requiring general or cardiac surgical procedures and other newborn emergencies. Members of the Division of Neonatology serve as Medical Control Providers for both teams.

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**HIGH RISK INFANT FOLLOW-UP CLINIC**

Beth Ellen Davis, MD, MPH

The University of Washington High Risk Infant Follow-up Clinic began in 1975, linked to the UWMC NICU for outcomes research purposes. Since then, it has expanded and taken on additional clinical service and interdisciplinary training functions. Its present staff includes health care professionals from developmental pediatrics, neonatology, psychology, audiology, nutrition, physical and occupational therapy, and social work. The majority of infants seen were either born prematurely or experienced prenatal drug exposure. Very low birth weight infants weighing less than 1500 grams at birth are prioritized for follow-up. Other infants with specific neonatal concerns, e.g., chronic lung disease, intracranial hemorrhage, or infection, are also followed. Scheduled evaluation times include 4, 12, 24, 36, and 54 months and 6 and 8 years corrected age. Approximately 600 high-risk infants and children are seen annually in the clinic. About 40 percent of these visits are infants in the first year of life. A recent expansion of this follow up clinic now accommodates neurodevelopmental screening for additional high-risk infants, including those with cyanotic congenital heart disease, hypoxic-ischemic encephalopathy, as well as selected surgical patients, and other high risk infants.

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**NEONATAL-PERINATAL DATABASE**

*Michael D. Neufeld, MD, MPH and Thomas P. Strandjord, MD, Database Coordinators*

The University of Washington Medical Center Neonatal Intensive Care Unit maintains a quality improvement and research NICU database that includes all infants admitted to the NICU, as well as all infants delivered at UWMC over 22 weeks gestation. The database is maintained by Division staff and faculty. In addition, since 2000, the University of Washington NICU has participated in the Vermont-Oxford Network (VON) database for 401-1500 gram infants. Data is selected for inclusion in the NICU database by consensus of the neonatology faculty and fellows. The NICU database contains a superset of the data required by the VON database and as such includes extensive admission, diagnostic, outcome and local QA/QI data. The outcome (morbidity and mortality) data is generated annually and reviewed with the faculty and fellows. In addition, ad hoc queries are performed at the request of fellows and faculty and reviewed as a group.

*Elizabeth Jacobson, MD, Site Physician Sponsor*

Seattle Children’s Hospital belongs to the Children’s Hospitals Neonatal Consortium of more than 30 children's hospital Level IV NICUs. This allows for involvement in benchmarking and quality evaluation and improvement initiatives for the SCH NICU as part of the Children’s Hospitals Neonatal Database.
The Neonatal-Perinatal Medicine Fellowship Training Program at the University of Washington began in the mid-1960s. Our mission is to educate and inspire the next generation of neonatologists who will provide state-of-the-art, evidence-based clinical care and to assist and mentor them in finding and pursuing their scholarly passion so they are poised to be the future academic leaders of our field. During their 3 years of training, fellows spend a total of 56 weeks each on clinical service: 46 weeks on rotations in the two teaching hospital NICUs (Seattle Children’s Hospital & University of Washington Medical Center); 8 weeks on clinical services including perinatology, cardiac ICU, and pediatric surgery; and 2 weeks in one of the Division's community hospital NICUs. Fellows also attend NICU follow-up clinic 8 half-days each year. Additionally, fellows achieve a high degree of scholarly/academic competence in order to excel in a career in academic neonatology. We have designed our program to provide ample protected time for scholarly activities. Our research areas of focus include neuroscience, global health, education/simulation, quality improvement and biomedical ethics. We have strong research mentors both within and outside the Neonatology Division. As of 2017, 59 neonatologists have successfully completed their clinical and research training in our program, and more than 50% have pursued an academic career. Our graduates have a 1st time board pass rate of 100% over the past 5 years.

DIVISION FELLOWSHIP GRADUATES:

Note: The program was inactive 7/95 – 6/99.

<table>
<thead>
<tr>
<th>Name</th>
<th>Years of Training</th>
<th>Current Position/Institution:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Wennberg</td>
<td>1966-1968</td>
<td>Clinical Professor of Pediatrics, University of Washington (Retired from the University of California, Davis), Seattle, WA</td>
</tr>
<tr>
<td>Thomas Helmrath</td>
<td>1967-1969</td>
<td>Medical Director, Riverside Hospital, Columbus, OH</td>
</tr>
<tr>
<td>Robert Hall</td>
<td>1968-1970</td>
<td>Professor of Pediatrics, University of Missouri, Mercy Children’s Hospital</td>
</tr>
<tr>
<td>David Woodrum</td>
<td>1969-1971</td>
<td>Professor Emeritus of Pediatrics, University of Washington, Seattle, WA</td>
</tr>
<tr>
<td>Colby Parks</td>
<td>1969-1971</td>
<td>Private Practice, Anchorage, AK</td>
</tr>
<tr>
<td>Ron Bloom</td>
<td>1969-1971</td>
<td>Professor of Pediatrics, University of Utah, Salt Lake City, UT</td>
</tr>
<tr>
<td>Errol Alden</td>
<td>1970-1972</td>
<td>Executive Director, American Academy of Pediatrics</td>
</tr>
<tr>
<td>Name</td>
<td>Years</td>
<td>Position and Affiliation</td>
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</tr>
<tr>
<td>Thomas Nelson</td>
<td>1971-1973</td>
<td>Professor of Pediatrics, Georgetown University, Washington, DC</td>
</tr>
<tr>
<td>Rosemary Orr</td>
<td>1971-1973</td>
<td>Professor of Anesthesiology, University of Washington, Seattle, WA</td>
</tr>
<tr>
<td>Jacquelyn Bamman</td>
<td>1972-1974</td>
<td>Director, Neonatal &amp; Pulmonary Medicine, Ventura County Hospital, Ventura, CA</td>
</tr>
<tr>
<td>Janet Murphy</td>
<td>1972-1974</td>
<td>Associate Professor Emeritus of Pediatrics, University of Washington(Retired), Seattle, WA</td>
</tr>
<tr>
<td>David Belenky</td>
<td>1973-1975</td>
<td>Private Practice, Seattle, WA</td>
</tr>
<tr>
<td>John Prueitt</td>
<td>1973-1975</td>
<td>Private Practice, Seattle, WA</td>
</tr>
<tr>
<td>Paul Hinkes</td>
<td>1973-1975</td>
<td>Private Practice, Glendale, CA</td>
</tr>
<tr>
<td>John Yount</td>
<td>1973-1975</td>
<td>Private Practice, Salem, OR</td>
</tr>
<tr>
<td>Robert Guthrie</td>
<td>1974-1976</td>
<td>Professor of Pediatrics, Drexel University, Philadelphia, PA</td>
</tr>
<tr>
<td>Jonelle Rowe</td>
<td>1974-1976</td>
<td>Professor Emeritus of Pediatrics, University of Connecticut Health Center, Farmington, CT</td>
</tr>
<tr>
<td>Charles Haberkern</td>
<td>1975-1977</td>
<td>Clinical Professor of Anesthesiology, University of Washington, Seattle, WA</td>
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<tr>
<td>Robert Perelman</td>
<td>1975-1977</td>
<td>Director, Department of Education, American Academy of Pediatrics</td>
</tr>
<tr>
<td>William E. Truog</td>
<td>1976-1978</td>
<td>Professor of Pediatrics, University of Missouri, Kansas City, MO</td>
</tr>
<tr>
<td>Dale Kessler</td>
<td>1976-1978</td>
<td>Director, Neonatal Medicine, Maine Medical Center, Portland, ME</td>
</tr>
<tr>
<td>Dennis Mayock</td>
<td>1979-1981</td>
<td>Professor of Pediatrics, University of Washington, Seattle, WA</td>
</tr>
<tr>
<td>Kelly Wright</td>
<td>1979-1981</td>
<td>Private Practice, Memphis, TN</td>
</tr>
<tr>
<td>Greg Sorensen</td>
<td>1982-1984</td>
<td>Vice President, Medical Affairs, Bon Secours Health System, Richmond, VA</td>
</tr>
<tr>
<td>J. Craig Jackson</td>
<td>1982-1985</td>
<td>Professor of Pediatrics, University of Washington, Seattle, WA</td>
</tr>
<tr>
<td>Richard Badura</td>
<td>1982-1985</td>
<td>Private Practice, Seattle, WA</td>
</tr>
<tr>
<td>Jon Watchko</td>
<td>1983-1986</td>
<td>Professor of Pediatrics, University of Pittsburgh, Pittsburgh, PA</td>
</tr>
<tr>
<td>Gary Twiggs</td>
<td>1985-1987</td>
<td>Private Practice, Newport Beach, CA</td>
</tr>
<tr>
<td>A.C. Hoffmeister</td>
<td>1985-1987</td>
<td>Private Practice, Eugene, OR</td>
</tr>
<tr>
<td>Sandra Juul</td>
<td>1986-1989</td>
<td>Professor of Pediatrics, University of Washington, Seattle, WA</td>
</tr>
<tr>
<td>Charles Davis</td>
<td>1987-1989</td>
<td>United States Navy</td>
</tr>
<tr>
<td>Thomas Strandjord</td>
<td>1987-1990</td>
<td>Clinical Associate Professor of Pediatrics, University of Washington, Seattle, WA</td>
</tr>
<tr>
<td>Name</td>
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<td>Position/Institution</td>
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<tr>
<td>Matt Lee</td>
<td>1989-1992</td>
<td>Research Assistant Professor, University of Southern California, Los Angeles, CA</td>
</tr>
<tr>
<td>James Berger</td>
<td>1990-1993</td>
<td>Private Practice, Ogden, UT</td>
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<tr>
<td>Valerie Newman</td>
<td>1993-1994</td>
<td>Private Practice, Portland, OR</td>
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<tr>
<td>Peter Tarczy-Hornoch</td>
<td>1992-1995</td>
<td>Professor of Pediatrics, University of Washington, Seattle, WA</td>
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<tr>
<td>Michael Neufeld</td>
<td>1999-2003</td>
<td>Clinical Associate Professor of Pediatrics, University of Washington, Seattle, WA</td>
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<tr>
<td>Eric Leung</td>
<td>1999-2003</td>
<td>Private Practice, Renton, WA</td>
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<tr>
<td>David Anderson</td>
<td>2000-2003</td>
<td>Private Practice, Walnut Creek, CA</td>
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<tr>
<td>Susan Miller</td>
<td>2002-2005</td>
<td>Private Practice, Naples, Florida</td>
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<tr>
<td>Robert Mertz</td>
<td>2002-2005</td>
<td>Private Practice, Seattle, WA</td>
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<tr>
<td>Eric Demers</td>
<td>2002-2005</td>
<td>Private Practice, Seattle, WA</td>
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<tr>
<td>Katherine Salinas/Simon</td>
<td>2004-2006</td>
<td>Private Practice, Austin, TX</td>
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<tr>
<td>Maneesh Batra</td>
<td>2004-2007</td>
<td>Associate Professor of Pediatrics, University of Washington, Seattle, WA</td>
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<tr>
<td>Marcella Mascher-Denen</td>
<td>2005-2008</td>
<td>Private Practice, Corpus Christi, TX</td>
</tr>
<tr>
<td>Jessica Slusarski</td>
<td>2006-2009</td>
<td>Associate Professor, Brown University, Providence, RI</td>
</tr>
<tr>
<td>Annie Nguyen-Vermillion</td>
<td>2007-2010</td>
<td>Private Practice, Seattle, WA</td>
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<tr>
<td>Janna Patterson</td>
<td>2007-2010</td>
<td>Program Officer, Bill &amp; Melinda Gates Foundation, Seattle, WA</td>
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<tr>
<td>Andrew Beckstrom</td>
<td>2008-2011</td>
<td>Private Practice, Seattle, WA</td>
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<tr>
<td>Elizabeth Jacobson</td>
<td>2008-2011</td>
<td>Clinical Assistant Professor of Pediatrics, University of Washington, Seattle, WA</td>
</tr>
<tr>
<td>Pattaraporn Tanya Chun</td>
<td>2010-2013</td>
<td>Assistant Professor of Pediatrics, University of Washington, Seattle, WA</td>
</tr>
<tr>
<td>Rachel Fleishman</td>
<td>2010-2013</td>
<td>Assistant Professor, Drexel University College of Medicine; St. Christopher’s Hospital for Children, Philadelphia, PA</td>
</tr>
<tr>
<td>Anna Hedstrom</td>
<td>2011-2014</td>
<td>Assistant Professor of Pediatrics, University of Washington, Seattle, WA</td>
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<tr>
<td>Stacey Soileau</td>
<td>2011-2014</td>
<td>Ochsner Health System, New Orleans, LA</td>
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<tr>
<td>Shaun Odell</td>
<td>2012-2015</td>
<td>Utah Valley Regional Medical Center, Provo, UT</td>
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<tr>
<td>Vijayeta (Vij) Rangarajan</td>
<td>2012-2015</td>
<td>Private Practice, Seattle, WA</td>
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<tr>
<td>Eric Peeples</td>
<td>2013-2016</td>
<td>Assistant Professor, University of Nebraska</td>
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</table>
RESIDENT EDUCATION

Maneesh Batra, MD, MPH, Associate Director, Pediatric Residency Program

Our faculty, fellows, and neonatal nurse practitioners are involved in several aspects of the core training program for pediatric residents. Currently the University of Washington Pediatric Residency Program admits 43 residents per year. All residents complete one 4-week rotation in the UWMC NICU during their intern year and at least one rotation in the UWMC NICU and SCH NICU over the course of their subsequent 2 years of residency. Additionally, University of Washington family practice residents rotate through the UWMC NICU for 2-4 weeks. For all of these trainees our faculty, fellows and nurse practitioners provide bedside teaching during the rotation. Additionally, our Division has been responsible for training all pediatric interns in the Newborn Resuscitation Program (NRP). Finally, several of our faculty are invited to participate each year in the WWAMI (Washington, Wyoming, Alaska, Montana, Idaho) visiting professor program.

MEDICAL STUDENT EDUCATION

David Loren, MD, Course Director

An elective rotation in the UWMC NICU is offered to 4th year medical students. Division faculty also lecture in various medical school courses (for example, Ethics) and offer research experience for students in their laboratories. In addition, selected faculty have participated in the University of Washington’s medical school “College Faculty” program.

NEONATAL EDUCATION AND SIMULATION-BASED TRAINING (NEST) PROGRAM

Taylor Sawyer, DO, MEd, Nest Program Director; Thomas Strandjord, MD, Director of Clinical Integration; Rachel Umoren, MD, MS, Director of Immersive Learning; Megan Gray, MD, Director of Kinesthetic Learning

In 2014, the Division of Neonatology joined an elite group of neonatal divisions who own and operate a dedicated neonatal simulation program. The Neonatal Education and Simulation-based Training (NEST) Program sets the UW and Seattle Children’s Division of Neonatology apart and highlights the Division’s dedication to high-quality, evidence-based education. The mission of the NEST Program is to improve neonatal outcomes through advanced technology-enhanced training and simulation research. The
program’s vision is to provide international leadership in neonatal education, simulation-based training and scholarship. The specific aims of the NEST Program are: 1. Improve neonatal outcomes through individual and interprofessional education, 2. leverage emerging technologies for simulation-based training and research, 3. define optimal processes for neonatal resuscitation, 4. investigate methods to enhance the acquisition and retention of technical and behavioral skills, and 5. promote educational scholarship in the next generation of neonatal care providers. Current projects include: ‘boot camps’ for residents and fellows, neonatal resuscitation training, neonatal procedural skills training, development of a computer-based perinatal counseling simulator, and virtual reality neonatal disaster training. The NEST program works to improve the care of neonates in the Seattle region by conducting educational outreach with community providers and neonatal transport teams.

RESEARCH FUNDING

ACTIVE RESEARCH FUNDING

Maneesh Batra, MD, MPH

2016-2018 AID-OAA-F-16-00026 USAID, Saving Lives at Birth (SLAB) Grand Challenges Validation Grant
“Mobile WACch NEO: Communication Empowering Mothers and Newborns”
PI: Jennifer Unger
Collaborator/Co-Investigator, Effort 1%: M. Batra
SLAB, Total award: $250,000

2015-2017 Seattle Children’s Research Institute, Center for Clinical and Translational Research
Academic Enrichment Fund
“Does an Elevated Respiratory Severity Score Correlated to Hypercapnia in Neonates?”
PI: Anna Hedstrom
Mentor, Co-Investigator: M. Batra
SCH, Total Award: $24,312

2015-present Ambassador J. Christopher Stevens Endowment for International Child Health Research and Education), Seattle Children’s Foundation,
Role: Manager and Steward
Feb 2015 Principal: $500,000, Annual Disbursement: $25,000

2014-2017 U01HL111478 NIH-NHLBI
“Multi-center trial of limiting PGY2&3 resident work hours on patient safety (ROSTERS study)”
PI: Czeisler CA (Brigham and Women’s Hospital)
Seattle Site Co-Investigator, Effort 5%: M. Batra
NIH, Annual Direct Costs (Seattle Site): $238,000
**Cyril Engmann, MD**

2010-present  The Ghana-Michigan Post-doctoral And Research Trainee NEtwoRk Fogarty International Center  
Role: University of Michigan External Advisory Committee Member (PARTNER) Program. PI: Tom Robins, MD, MPH  

2014-2018  Making Every Baby Count Initiative (MEBCI)  
Children’s Investment Fund Foundation  
Role: Principal Investigator  
Award amount: $12,421,572  

2013-2017  Window of Opportunity in South Africa  
BHP Billiton Foundation  
Role: Program Lead  
Award amount: $25,000,000  

2015-2017  Optimizing the Health Extension Program (OHEP) in Ethiopia  
Bill & Melinda Gates Foundation  
Role: Co-PI  
Award amount: $5,000,000  

2014-2018  Maternal Child Survival Program  
United States Agency for International Development  
Role: Program Lead  
Award amount: $10,000,000  

2015-2017  Scaling up Human Milk Banking in Vietnam and India  
Cargill Foundation  
Role: Co-investigator  
Award amount: $2,000,000  

2016-2020  Technical Assistance for Nutrition  
Department for International Development, United Kingdom  
Role: Chair of Consortium  
Award amount: $20,000,000  

2016-2018  Milk Banking, Compendium for Capacity Building & Best Practice Assessment  
Family Larsson Rosenquist Foundation  
Role: Program Lead  
Award amount: $1,277,300  

2016-2020  Advancing Maternal Immunization  
Bill & Melinda Gates Foundation  
Role: MNCHN Program Lead  
Award amount: $9,000,000
Megan Gray, MD

2016-2018  Multimodal Simulation for Emergency and Disaster Preparedness  
Seattle Children’s Academic Enrichment Fund Program  
Role: Principal Investigator  
Total Direct Costs: $50,000 over 24 months

Anna Hedstrom, MD

2015-2017  “Does an Elevated Respiratory Severity Score Correlated to Hypercapnia in Neonates?”  
Seattle Children’s Research Institute, Center for Clinical and Translational Research Academic Enrichment Fund  
Role: Principal Investigator  
Mentor: M. Batra  
Total Award: $24,312

2015-2017  Seattle Children’s Research Institute, Center for Clinical and Translational Research Academic Enrichment Fund  
“Does an Elevated Respiratory Severity Score Correlated to Hypercapnia in Neonates?”  
PI: Anna Hedstrom  
Mentor, Co-Investigator: M. Batra  
SCH, Total Award: $24,312

Sandra Juul, MD, PhD

2016-2021  High-dose Erythropoietin for Asphyxia and Encephalopathy (HEAL) CCC.  
NIH, NINDS  
Role: Multi PIs  
Direct Costs: $10,000,000

2015-Present  A Novel ferret model of preterm encephalopathy  
NICHD, 5R21NS093154-02  
Role: Investigator  
Direct costs: $275,000

2013-2018  Preterm Epo Neuroprotection (PENUT) Trial U01 Cooperative Multi-Site Cooperative Agreement Clinical Trial – Phase III  
NIH NINDS and NIDDK  
Role: Principal Investigator  
Direct Costs: $10,145,471

2013-2018  Biomarkers of Neonatal Encephalopathy in a Nonhuman Primate Model (R01)  
NIH NICHD  
Role: Principal Investigator  
Direct Costs: $3,233,245
2013-2019  Juul Research Program Development  
University of Washington Pediatrics & Neonatology  
Direct Costs: $400,000

Dennis Mayock, MD

2016-2021  High-dose Erythropoietin for Asphyxia and Encephalopathy (HEAL) CCC.  
NIH, NINDS  
Role: Site Co-Investigator  
Direct Costs: $10,000,000

2013-2018  Preterm Epo Neuroprotection (PENUT) Trial U01 Cooperative Multi-Site Cooperative Agreement Clinical Trial – Phase III  
NIH NINDS and NIDDK  
Role: Co-Investigator  
Direct Costs: $10,145,471

2016-2017  HIP Trial (subcontract to Blakeley, Vanderbilt)  
NICHD  
Role: Site PI  

2016-2023  Developmental Impact of NICU Exposures (DINE) ECHO  
Montefiore Medical Center at the Albert Einstein College of Medicine,  
Role: Site PI  
Direct Costs: $280,000

Pratik Parikh

2016-2017  A Novel ferret model of preterm encephalopathy  
NICHD, 5R21NS093154-02  
Role: Co-Investigator  
Direct costs: $275,000

2016-2017  Neonatal Biological Research Award  
University of Washington  
Role: Principal Investigator  
Direct costs: $6,000

Taylor L. Sawyer, DO, MEd

2016-2017  “A Novel Airway Device for Neonates: The iLMA”  
UW CoMotion Innovation Fund  
Role: Principal Investigator  
Direct costs: $50,000
Colin Studholme, PhD
2012-2017 Characterizing the FASD Cerebral Cortex in Utero with DTI, Oregon Health Sciences University subcontract
Co-Investigator
Pl: C. Kroenke
Total Award: $407,465

2013-2017 Motion Robust Mapping of Human Brain Functional Connectivity Changes In-Utero (FUN) (R01)
NIH NIBIB
Principal Investigator
Total Award: $2,523,184

2013-2018 Motion Robust Mapping of Human Brain Microstructure and Macrostructure In-Utero (MIC) (R01 renewal),
NIH NINDS
Principal Investigator
Total Award: $2,703,739

2013-2018 Preterm Epo Neuroprotection (PENUT) Trial (U01 Cooperative Multi-Site Cooperative Agreement Clinical Trial – Phase III
NIH NINDS and NIDDK
Co-investigator, Y3-5
Pl: S. Juul
Direct Costs: $10,145,471,

2013-2018 Biomarkers of Neonatal Encephalopathy in a Nonhuman Primate Model (R01),
NIH NICHD
Role: Co-investigator, Y3-5
Pl: S. Juul
Direct Costs: $3,233,245

2014-2017 Gestational malnutrition – a preventable cause of cognitive impairment in children
Bill & Melinda Gates Foundation (Grove)
Co-Investigator
Year 1: $90,000

Christopher Traudt, MD
2013-2018 Preterm Epo Neuroprotection (PENUT) Trial U01 Cooperative Multi-Site Cooperative Agreement Clinical Trial – Phase III
NIH NINDS and NIDDK
Direct Costs: $10,145,471

2013-2018 Biomarkers of neonatal encephalopathy in a nonhuman primate model
Collaborator
NIH NICHD
Rachel Umoren MD, MS

2017-2020  
*WeCare Plus: An Innovative, Community-Based Collaboration to Decrease Infant Mortality*
Indiana State Department of Health: Safety PIN
Role: Consultant (no salary support)
PI: Litzelman
Period of Support: 1/1/2017-12/31/2020
Total Direct Costs: $2,100,000 over 36 months

2016-2018  
Multimodal Simulation for Emergency and Disaster Preparedness
Seattle Children’s Academic Enrichment Fund Program
Role: Co-Investigator (no salary support)
PI: Gray
Period of Support: 10/1/2016-9/30/2018
Total Direct Costs: $50,000 over 24 months

2016-2017  
*Title: Creating Evidence-Based and Culturally Sensitive Targeted Communication Recommendations to Reduce Infant Mortality among Hispanic/Latino(a) Populations in Indiana*
Indiana Minority Health Coalition State Master Research Plan
Role: Consultant (no salary support)
PI: Place
Period of Support: 9/1/2016-8/31/2017
Total Direct Costs: $19,617 over 12 months

2016-2017  
*WeCare Indiana: Improving Maternal and Infant Health to Reduce Infant Mortality*
Indiana University Health Values Grand Challenge for Population Health
Role: Co-Investigator (UW PI) (5% effort)
PI: Litzelman
Period of Support: 1/1/2016-12/31/2017
Total Direct Costs: $499,575 over 24 months

2015-2017  
*Title: East Central Indiana FIMR: Enhanced data collection and community collaboration to address local causes of infant mortality*
Indiana State Department of Health Title V: Infant Mortality
Role: Principal Investigator (no salary support)
Period of Support: 10/1/2015-9/30/2017
Total Direct Costs: $50,000 over 24 months

2015-2017  
Creating the Complete Virtual Standardized Patient: Integrating Natural Language Ability into Clinical Reasoning Cases to Assess Information Gathering and Clinical Reasoning
Med-U Research Grants
Role: Co-investigator (no salary support)
PI: Danforth
Period of Support: 6/1/2015-5/30/2017
Total Direct Costs: $25,000 over 24 months

PENDING RESEARCH FUNDING (APPLICATIONS)

Maneesh Batra, MD
- Grant submitted- Saving Lives at Birth Validation proposal (collaboration with PATH and Adara Development). Subcontract to UW/SCH and Adara for $100,000 to perform feasibility trial in Uganda for bubble CPAP and oxygen blender

Cyril Engmann, MD
- USAID/Uganda Regional Health Integration to Enhance Services in East Central Uganda (RHITES EC) NFO No. RFA-617-16-000001, Co-Principal Investigator (2016-2018)
  United States Agency for International Development/Uganda, Total Amount: $40,000,000
- Every Baby Needs Human Milk: Driving the Uptake of Life-giving Human Milk through a Global Integrated Human Milk Promotion Secretariat, Co-Principal Investigator (2016-2018)
  FLRF, Total Amount: $26,000,000

Anna Hedstrom, MD
- Grant submitted- Saving Lives at Birth Validation proposal (collaboration with PATH and Adara Development). Subcontract to UW/SCH and Adara for $100,000 to perform feasibility trial in Uganda for bubble CPAP and oxygen blender

David Loren, MD
- Better Care Through Communication and Learning After Perinatal Adverse Events (RO1 Co-Investigator) NICHD, RFP Patient Safety Research During Neonatal Care

Pratik Parikh, MD
- Does Nanocurcumin protect the preterm brain from injury? Academic Enrichment Fund. Total Funding requested: $25,000

Colin Studholme, PhD
- Motion robust analysis of a longitudinal BOLD imaging database of the human placenta
  Role: Co PI (With Manjiri Dighe in Radiology)
  NIH/NICHD, Total Award Application: $760,285.00
• "Non-human primate model of Zika Induced Fetal Brain Injury". Role: Co-Investigator.

Rachel Umoren, MD, MS

• Evaluating Clinical Reasoning with Virtual Standardized Patients, CLIME
  Role: Principal Investigator

• TeamBITS Online - Expanding Access to Teamwork Training for Medical Students
  Role: Co-Investigator

• Identifying Differences in Structure and Content of Medical Conversations with and without Interpreters, CLIME
  Role: Co-Investigator

• Virtual Antenatal Encounter Standardized Simulation and Assessment (VANESSA): A customizable virtual patient for prenatal counseling, CoMotion Innovation Fund
  Role: Principal Investigator

• Enhancing Parent-Provider Communication and Newborn Safety in the UW Medicine System Patient Safety Innovations Program
  Role: Principal Investigator

• Identifying Differences in Structure and Content of Medical Conversations with and without Interpreters, International Association of Medical Science Educators Educational Scholarship Grant
  Role: Co-Investigator

• eHBB: Virtual Reality Technology to Improve Newborn Healthcare Delivery in Low and Middle Income Countries, Bill and Melinda Gates Foundation
  Role: Principal Investigator

• Title: iCARE 4 Safety: An innovative tool for communities working to prevent sudden unexpected infant death. Seeking opportunity for resubmission, Not funded - Indiana State Department of Health Safety PIN Grant.
  Role: Co-investigator

• An interactive recommendation system for population health: Identifying community safe sleep options and preferences to decrease infant mortality. Resubmitted as Safety PIN grant, NSF: Smart and Connected Health
  Role: Co-Principal Investigator (10% effort)

• Development of a simulation based training curriculum in neonatal resuscitation for Pediatric residents. Plan to resubmit with focus on enhancing medical student curriculum, Center for Learning in Medical Education
  Role: Co-Investigator (no salary support)
Maneesh Batra, MD, MPH

**Clinical Interests:** Newborn health, survival and long-term outcomes in developed and developing country settings.

**Scholarly Focus:** Epidemiology and newborn outcomes in developed and developing country settings. Dr. Batra has been involved with a series of studies involving the Washington State Birth Events Records Database (BERD) including: environmental risk factors for ventricular septal defects, pregnancy outcomes among Somali women, risk factors for recurrent shoulder dystocia, and effects of mode of delivery on pregnancy and newborn outcomes. His primary interests revolve around improving newborn care in resource-poor settings. He has been involved with developing guidelines of care in a special care nursery in central Uganda since 2002. He is also a core investigator for the Global Alliance to Prevent Prematurity and Stillbirth (GAPPS), and is involved with the Child Health Epidemiology Reference Group (WHO/UNICEF).

**Administration/Education Roles:** Associate Director of the pediatric residency program and co-director of the residency pathways in global health and community pediatrics/advocacy. He is involved with the clinical training of students, residents, and fellows at the University of Washington and with the training of health workers of all levels in Kenya, Uganda, and Ethiopia.

Zeenia Billimoria, MD

**Clinical Interests:** Providing care to critically ill, high risk newborns as part of a multi-disciplinary team. Providing support to families of these infants, in an unfamiliar environment, through family-centered rounds and open dialogue.

**Scholarly Focus:** Dr. Billimoria is a neonatal outcomes researcher investigating resource utilization and temporal trends in outcomes using national databases. Her current areas of interest include IVH, BPD, ECMO and nitric oxide utilization.

**Administration/Education Roles:** Providing quality education and mentoring of fellows, residents and medical students, with emphasis on bedside learning and critical thinking.

Shilpi Chabra, MD

**Clinical Interests:** Postnatal outcomes of fetal gastroschisis including assessment of growth restriction and use of prenatal ultrasonographic indicators to determine timing of delivery. She is also involved in QI projects such as impact of Room air challenge on Bronchopulmonary Dysplasia (BPD) rates in the NICU; effects of empiric antibiotic treatment on exclusive breastfeeding rates; effects of 39 week initiative on late preterm and early term births. As a member of the Seattle Children’s Hospital Clinical Effectiveness Program, she is involved with the review and update process of the gastroschisis management guidelines.

**Scholarly Focus:** Effects of non-invasive ventilation on incidence of BPD in Extremely low birth weight infants; Lung ultrasound utility and feasibility in infants with respiratory disease for clinical decision-making in choice of appropriate respiratory support; postnatal growth assessment after optimizing nutrition in the post-discharge clinic and effects on developmental outcomes of preterm
infants; histopathological evaluation of intrauterine demise of fetal gastroschisis; role of maternal chorioamnionitis in neurological outcomes; trends in gastroschisis and diaphragmatic hernia outcomes using national database.

**Administration/Education Roles:** As Medical Director of the NICU at Overlake Hospital, she is involved in several quality improvement projects at Overlake Hospital and as chair of the late-preterm (LPT) Task Force, formulated LPT guidelines published on Washington state DOH website. She has participated in the designing of couplet-care room concept for future NICU project. Regionally, she is an invited participant for Nutrition services needs-assessment for children with special needs by Washington State DOH. She serves as an advisor to the Washington State Hospital Association in developing best-practice recommendations to advance safety for mothers and babies. She is an active member of Overlake Pediatric Section, Peer support, Pediatric Advisory Committee and Perinatal Joint Practice. She has also participated in development of donor breast milk fact sheet for Washington State DOH. The infant nutrition clinic established by her at Overlake Hospital served as Washington State DOH model for preterm infants’ safe transition from hospital to home. Nationally, she helped establish separate ICD-9 codes for gastroschisis and omphalocele which historically had been coded with a single code worldwide. She is extremely passionate about trainee wellbeing and educating Pediatric residents/fellows who are the future generation of Neonatology providers.

**Robert DiGeronimo, MD**

**Clinical Interests:** Neonatal respiratory failure management, ECLS, BPD, surgical diseases of the newborn, transport medicine.

**Scholarly Focus:** Outcomes based research in tertiary care Children’s Hospital level IV NICUs using large multicenter databases to include the Children’s Hospital Neonatal Database Collaborative (CHND) and the Extracorporeal Life Support Organization (ELSO). Dr. DiGeronimo is currently the co-site sponsor for Seattle Children’s Hospital for the CHND and is involved in numerous study focus groups in the areas of congenital diaphragmatic hernia, necrotizing enterocolitis, bronchopulmonary dysplasia, ECMO and hypoxic ischemic encephalopathy. He is also involved in numerous NICU quality improvement initiatives involving NICU care at Seattle Children’s Hospital as well as nationally.

**Administration/Education Roles:** NICU Medical Director for Seattle Children’s including oversight responsibility for neonatal ECMO and transport. He is involved with the clinical training of residents, fellows, nurse practitioners and PA students at Seattle Children’s as well as at other Seattle Children’s and University of Washington affiliated teaching sites.

**Cyril Engmann, MD**

**Clinical Interest:** Maternal, newborn and child survival, nutrition and early childhood development in low and high-income settings; assuring holistic, family-centered, high quality care to infants and their families in community and facility settings.

**Scholarly Focus:** Dr Engmann is widely regarded as a global leader in the field of maternal, newborn child health and nutrition (MNCHN). He is regularly invited to partner with a broad cross-section of stakeholders including United Nations agencies such as the World Health Organization and UNICEF,
private foundations, academic centers and non-governmental organizations. He frequently leads MNCHN policy, implementation and educational dialogues with national governments including the Governments of India, South Africa, Mozambique, Ethiopia and Ghana. He chairs a consortium that advises Britain on how best to spend and invest its overseas development money on nutrition through conducting in-depth country and international-level research and analysis and regularly conducts educational briefings at the US Senate. He is passionate about the generation, integration, and implementation of evidence-based policy, research and program aspects of reproductive, maternal, newborn, child health and nutrition, globally and in building local country capacity.

Administration/Education Roles: Cyril Engmann is the Global Program Leader for Maternal, Newborn, Child health and Nutrition at PATH, an international non-governmental health organization driving transformative innovation to save lives in 70 countries. In this role, he leads a department of over 140 personnel working in Africa, Asia, the Far East and Latin America on a diverse and complex portfolio of grants totaling over $200 M. The work of the department spans the value chain from discovery agenda’s funded by the NIH; development and delivery, with particular focus on implementation science and priming for scale efforts. Prior to this appointment, he led the Bill and Melinda Gates Foundation Newborn Strategy and was Attending Neonatologist and Associate Professor of Pediatrics and Public Health at the University of North Carolina Schools of Medicine and Public Health. Domestically and abroad, he is passionate about mentoring, and is privileged to mentor Masters and PhD students, young faculty in global/public health, and within the NICU, residents and fellows, and colleagues in the US and abroad. He sits on the External Advisory Council for the NIH Fogarty PARTNER Program at the University of Michigan, the strategic advisory group of the $25M Window of Opportunity Project in South Africa, and the Bill and Melinda Gates funded Global Maternal Immunization Consortium. He chairs the strategic advisory council for the USAID –Funded PREMAND (PREventing Maternal And Neonatal Death) study in Ghana, an Early Childhood Development study in Kenya, and the DFID-funded Technical Advice in Nutrition Consortium of Partners.

Christine A. Gleason, MD

Clinical interests:

- Prevention of prematurity
- Ethical issues at the “limits of viability”
- Neonatal pain management
- Neonatal abstinence syndrome

Scholarly focus:

- Health policy—maternal and newborn care issues
- Scholarship of integration—book chapters (writing and editing)

Administrative/Education roles:

- Education:
  o Co-editor of *Avery’s Diseases of the Newborn*—major neonatal textbook
  o Deputy Medical Editor of the Neonatal SubBoard of the American Board of Pediatrics
- Administration:
  o Secretary/Treasurer—American Pediatric Society
Megan Gray, MD

**Clinical Interests:** The application of evidence based medicine to optimize growth and healing for all infants who require intensive care. She has a focus on maximizing the breastmilk and/or breastfeeding experience for mother baby dyads and preserving early family bonding.

**Scholarly Focus:** Improving medical education and emergency preparedness for all team members in the Neonatal Intensive Care Unit (NICU). She is investigating how interdisciplinary simulation can lead to improvements in clinically relevant outcomes and measures of teamwork. She is the Director of Kinestatic Learning in the Neonatal Education and Simulation-Based Training Program (NEST) where she is investigating how to use motion based technology to deepen our understanding of how providers perform chest compressions.

**Administration/Education Roles:** Resident, fellow and interdisciplinary education through simulation and other technology based platforms. She works with Drs. Sawyer, Umoren and Strandjord as part of the NEST Program to provide education for neonatal care teams within the WWAMI region.

Sarah Handley, MD

**Clinical Interests:** ECMO in the neonate and management of the chronically ill/surgical neonate.

**Administration/Education Roles:** She is committed to fellow and resident education and assists in overseeing the Fellows' Curriculum Conference (Comprehensive review of Neonatal Board Topics over 3 years). She is also active in quality improvement in our community neonatal intensive care nurseries and serves as liaison between the Seattle Children’s Hospital Neonatal Nurse Practitioner program and neonatology attending teams.

Anna Hedstrom, MD

**Clinical Interests:** Interdisciplinary, family-focused neonatal intensive care and investigation of targeting respiratory support to a newborn’s specific needs

**Scholarly Focus:** Dr. Hedstrom’s research has focused on the implementation of neonatal health in resource limited areas globally. In particular she researches ways to provide safe, ethically sound and scientifically supported continuous positive airway pressure (CPAP) for newborns. She has also designed and implemented a novel data collection process in a rural Ugandan NICU with which she is able to assess clinical course and outcomes real-time as the unit evolves. Her current research focuses on the use of a respiratory severity score as a tool to predict increased respiratory support a newborn will require after birth.

**Administration/Education Roles:** Dr. Hedstrom is the Associate Medical Director of the neonatal unit at Providence Regional Medical Center Everett. Her teaching includes medical students, residents, neonatology fellows, nurse practitioners and physician assistants at the University of Washington and Seattle Children’s Hospital as well as instructing providers in the community and abroad in Neonatal Resuscitation.
Melinda Hendrickson, MD

**Clinical Interests:** Focus on reduced ventilator induced lung injury with application of non-invasive ventilation methods in the preterm infant and better growth and neurodevelopmental outcomes of NICU babies with improved nutritional practices.

**Scholarly Focus:** Implementation of potentially better practices to reduce chronic lung disease. Extremely low birth weight infants have high incidence of chronic lung disease following treatment of acute Respiratory Distress Syndrome. Chronic lung disease in preterm infants is a marker for long term neurodevelopmental outcomes and contributes to hospital length of stay. With less invasive respiratory support, chronic lung disease rates may decrease and severity may decrease with other members of the neonatology division, she will monitor the impact of new practice management guidelines in the delivery room on the development of chronic lung disease.

**Administration/Education Roles:** Resident and fellow education in the NICU as well as mentoring the NNP staff in university affiliated community nurseries.

J. Craig Jackson, MD, MHA

**Clinical Interests:** Complex, critically ill infants with surgical and/or pediatric subspecialty problems needing the multidisciplinary NICU team at Seattle Children’s Hospital. Extracorporeal life support. Complex antenatal counseling that requires a partnership between parents and providers to make difficult decisions.

**Scholarly Focus:** Development of methods to evaluate and teach complex antenatal counseling.

**Administration/Education Roles:** Finished 25 years as Medical Director of the Seattle Children’s NICU in September 2016 and began new role as lead neonatology consultant in the Seattle Children’s Prenatal Diagnosis Clinic and the University of Washington Maternal-Infant Care Clinic. Continuing roles: Associate Division Head for Regional Neonatal Program Development; member of Children’s University Medical Group Board of Directors; chair of the CUMG contracting committee; member of the Clinical Integrated Network Finance Committee; and informal consultant to hospitals regarding neonatal medical direction, quality improvement, peer review, and pediatric strategic planning and business development.

Elizabeth N. Jacobson, MD

**Clinical Interests:** Quality of care of newborns, including those with congenital, surgical and/or multi-complex disorders. Dr. Jacobson pursues multi-disciplinary, evidence-based, guideline-directed, and individualized management for these patients.

**Scholarly Focus:** Evidence-based guideline development for neonates, particularly those undergoing surgical operations.

**Administration/Education Roles:** Director of Quality, Division of Neonatology; Site Physician Sponsor for SCH NICU in the Children’s Hospitals Neonatal Consortium and Database. Clinical training of medical students, residents, and fellows, as well as neonatal PAs.
Sandra Juul, MD, PhD

**Clinical Interests:** Optimizing care for the critically ill newborn, implementing neuroprotective approaches to care.

**Scholarly interests:** Dr. Juul’s research mission is to improve the neurodevelopmental outcomes of at-risk neonates. As such, she has focused on developing neonatal models of brain injury, neuroprotective interventions, biomarkers of neonatal disease, and discerning and maintaining iron sufficiency in the preterm infant. Animal models used or developed in her lab include the Vannucci model of hypoxia ischemia, middle carotid artery occlusion as a model of stroke, and novel models of neonatal stress in rodents, a ferret model of preterm encephalopathy, and a nonhuman primate model of perinatal asphyxia. Dr. Juul has been fortunate to translate her bench research on erythropoietin (Epo) neuroprotection to the bedside, and is now principal investigator of the ongoing NIH funded clinical trial of Preterm Epo Neuroprotection (PENUT), and co-principal investigator of a multicenter phase III of Epo neuroprotection in term infants with HIE (HEAL).

**Administration/Education Roles:** Dr. Juul became Division Head in Jan 2015, and has been actively recruiting and hiring new research and clinical faculty. Nationally, she participates in the neonatal sub-board of the American Board of Pediatrics (yes, writing exam questions!), and is Chair of the Developmental Brain Disorders NIH study section, and co-editor of Avery’s Diseases of the Newborn, 10th edition. She is a sought after speaker at National and International meetings. Locally, Dr. Juul participates in the research education of undergraduate students, residents and fellows in her lab, as well as the clinical education of pediatric residents and neonatology fellows. She is also a member of the promotions committee.

David Loren, MD

**Clinical Interests:** Innovating family centered strategies for developing comprehensive multi-disciplinary care plans in the neonatal ICU. Dr. Loren is passionate about engaging families in partnerships with the clinical care team. He describes his motivation as “In this I believe...a society is defined by how it provides care for its most vulnerable members.”

**Scholarly Focus:** Dr. Loren studies inter-professional and parent-provider communication centered on issues of transparency and accountability. He is a principle investigator and co-investigator on several projects studying communication of unanticipated outcomes and disclosure of medical errors throughout the continuum of perinatal and newborn care. He is interested in how clinical care teams maintain – and lose – situational awareness and how teams debrief crisis situations. He is also collaborating with leaders in patient advocacy to produce documentaries exploring how parents and clinical team members integrate their experiences of the newborn ICU.

**Administration/Education Roles:** He mentors and supports residents and fellows at the University of Washington and Seattle Children’s Hospital NICUs. His administrative responsibilities include serving as the Associate Medical Director of the UWMC NICU and course director for medical students rotating in the NICU at the University of Washington. Dr. Loren also leads Neonatal Resuscitation Program courses for residents, clinical faculty and community providers.
Christina Long, DO

**Clinical Interest:** Providing family-centered care for all NICU patients.

**Scholarly Focus:** Administration and quality improvement to improve neonatal outcomes. Dr. Long has an interest in continuing to develop evidence-based guidelines for management of neonatal problems and assessing their effectiveness in improving neonatal care and outcomes.

**Administration/Education Roles:** Serves as the NICU Medical Director at Valley Medical Center. Dr. Long is an Associate Professor who is involved in teaching medical students, residents, fellows, and nurse practitioner students during their NICU rotations.

Dennis E. Mayock, MD

**Clinical Interests:** Evaluation of therapies that may potentially improve the neurodevelopmental outcomes of preterm and term infants. Foster interest in neonatal trainees in clinical research project design, management and completion.

**Scholarly Focus:** Clinical research activities that have the potential to improve the quality of life for NICU patients, not only while inpatients but also the long term improvement in their health. This focus includes the multiple clinical activities:

- Participation in studies that minimize the development of bronchopulmonary dysplasia such as inhaled nitric oxide and late surfactant treatments.
- Evaluation of the effects of fetal and neonatal drug exposure on fetal, neonatal and adult cerebrovascular function.
- Evaluation of different transfusion medicine practices effects on CMV transmission rates
- Evaluation of whether high dose erythropoietin treatment has neuroprotective effects in pre-term and term infants.

**Administration/Education Roles:** Associate Division Head for Scholarship and Research in the Clinical arena. Design programs to educate future clinical researchers. Education responsibilities include training future pediatricians, neonatologists, neonatal nurse practitioners, and NICU nursing staff.

Michael D. Neufeld, MD, MPH

**Clinical Interests:** Long-term neurodevelopmental outcomes of premature infants. He is also interested in quality improvement, patient safety, eliminating nosocomial infections, and medical education.

**Scholarly Focus:** His research has focused on maternal infection and the risk of cerebral palsy in term and preterm infants and markers of inflammation and the risk of severe retinopathy of prematurity. He mentors MPH students studying perinatal epidemiology as well as Neonatology fellows and Developmental and Behavioral Medicine fellows interested in neonatal outcomes.

**Administration/Education Roles:** Medical Director of the NICU at Providence Regional Medical Center in Everett (PRMCE), where he has developed a 3rd-year rotation for neonatal fellows. He is also Medical Director of the Neonatal Transport Team at PRMCE. Along with Tom Strandjord, he manages the Division’s clinical database, participation in the Vermont Oxford Network, and developed a database of patients seen in the High-Risk Infant Follow-up clinic. He mentors neonatology fellows in data management and in research projects using the databases.
Pratik Parikh, MD

**Clinical Interests:** Better understanding neonatal pain and implementing qualitative initiative to improve management of neonatal pain in NICU. He is also interested in PPHN and its management.

**Scholarly Focus:** Understanding mechanism of neuronal injury in term and preterm infants. Simultaneously testing novel molecules for neuroprotection in animal model of neonatal brain injury. He is developing a pilot study, to look at curcumin as a potential neuroprotective agent in neonatal hypoxic injury model. Pratik is also interested in preterm brain injury and is working with Dr. Juul in developing a Ferret model of preterm brain injury.

**Administration/Education Roles:** Resident and fellow education in the NICU

Krystle Perez, MD, MPH

**Clinical Interest:** Providing evidence-based care for critically ill newborns, improving neonatal care and outcomes in developed and developing countries, and medical education. OK

**Scholarly Focus:** Dr. Perez’s scholarly focus is on global health specifically revolving around the mechanisms to improve neonatal care and outcomes in low resource environments. Her area of expertise falls primarily in low resource settings in Latin America and the Caribbean.

**Administration/Education Roles:** Resident and fellow education in the NICU

Taylor Sawyer, DO, MEd

**Clinical Interests:** Neonatal resuscitation and care of extremely premature infants.

**Scholarly Focus:** Medical education and the use of medical simulation to improve clinical skills and patient outcomes.

**Administration/Education Roles:** Dr. Sawyer is the Director of Medical Simulation at Seattle Children's Hospital, Director of the UW Neonatal Education and Simulation-based Training (NEST) Program, Director of the UW/Seattle Children's Neonatal-Perinatal Fellowship Training Program, Chair of the American Academy of Pediatrics Section on Simulation and Innovative Learning Methods, a member of International Liaison Committee on Resuscitation (ILCOR) Neonatal Delegation, and a member of the Neonatal Resuscitation Program (NRP) Steering Committee. He is an active educator and is involved in multiple graduate and continuing medical education courses and workshops locally, regionally, and nationally.

Kendra Smith, MD

**Clinical interests:** Dr. Smith's clinical focus is on lung injury prevention in preterm and term neonates. She has studied ventilator techniques and different ventilation support modalities and works clinically on strategies to minimize lung trauma in infants requiring ventilation due to respiratory failure in the neonatal period. Because of these interests, she serves as the Manager of Divisional Respiratory Care Programs with the goal of promoting improved ventilation strategies for neonates requiring ventilatory support in our region.

**Scholarly Focus:** Along with her clinical interests Dr. Smith is the site Primary Investigator at Seattle Children’s Hospital for two industry-sponsored trials (United Therapeutics trial entitled “Intravenous Remodulin (Treprostinil) as Add-on Therapy for the Treatment of Persistent Pulmonary Hypertension of the Newborn: A Randomized, Placebo-Controlled, Safety and Efficacy Study and for the Pfizer study
entitled “A multi-centre, randomized, placebo-controlled, double-blind, two-armed, parallel group study to evaluate the efficacy and safety of IV Sildenafil in the treatment of neonates with persistent pulmonary hypertension of the newborn or hypoxic respiratory failure and at risk for PPHN, with a long term follow-up investigation of developmental progress 12 and 24 months after completion of study treatment.” She is also working on a hospital-based study entitled “Liquid Assisted Ventilation for Lung Recruitment and Protection in Patients with Congenital Diaphragmatic Hernia Requiring Extracorporeal Life Support” which is funded by private monies from the Ladybug Foundation. To promote improved care for infants while on transport she works with others in the Division on telemedicine for our transport services.

**Administration/Education Roles:** Dr. Smith is involved in the Extracorporeal Life Support Program at Seattle Children’s Hospital and serves on the Steering Committee, which focuses on improving techniques to maximally support newborn infants not responsive to conventional therapies. As well, she serves as the Educator for the Seattle Children’s Ground Transport Team and Airlift Northwest's Neonatal Transport services.

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**Thomas P. Strandjord, MD**

**Clinical Interests:** Improving outcomes of premature infants, with particular interest in delivery room resuscitation.

**Scholarly Focus:** Quality Improvement and medical education in newborn care and resuscitation. His current projects include the use of video recording of newborn resuscitations in the education of newborn caregivers. He also studies the use of simulation in the training of medical personnel in the Newborn Resuscitation Program and advanced life support.

**Administration/Education Roles:** He serves as the Medical Director for the neonatal intensive care unit of the University of Washington Medical Center and Associate Medical Director for the neonatal intensive care unit of Overlake Hospital Medical Center. He is also the Associate Division Head for Education. He also assists in the management of a clinical database of all infants admitted to the University of Washington Medical Center NICU. This database serves as a resource for quality improvement projects and clinical research projects.

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**Colin Studholme, PhD**

**Scholarly Focus:** Fetal and neonatal brain imaging. Dr Studholme has brought expertise in computational imaging, imaging physics and image analysis to pre-natal and post-natal imaging. His group has been developing tools to more accurately and robustly map early brain functional and structural connectivity before and shortly after birth, to provide markers for abnormal development and brain injury. His work at UW has expanded to recruiting and scanning a large cohort of normal pregnancies to construct a reference database for how the normal human brain develops over time and how brain anatomy varies at different gestational ages during pregnancy. In addition to studying normal brain growth he is involved in projects on neurodevelopmental abnormalities such as ventriculomegaly, fetal alcohol exposure, fetal cardiac abnormalities and intra-uterine growth restriction. In addition to his ongoing research in this area, he is a co-investigator on the randomized controlled trial of Epo neuroprotection in extremely preterm infants (PENUT Trial), with the specific aim of evaluating brain growth of Epo treated infants as compared to controls.
Christopher Traudt, MD

**Clinical Interest**: The application of family-centered care in the Neonatal Intensive Care Unit (NICU). The NICU can be very intimidating to parents and he believes that care of the infant is incomplete without parental guidance throughout the NICU stay.

**Scholarly Focus**: Improving neurodevelopment outcomes of infants in the NICU. He is investigating the effects of neonatal brain injury on cerebellar development. Ex-preterm infants are known to have several long-term difficulties including autism-like features, learning impairments and motor impairments which are associated with cerebellar injury. How brain injury affects cerebellar development is unknown; however, several studies have shown that the cerebellar development is impaired by preterm birth. He along with Dr. Juul will be studying how brain injury affects cerebellar growth to be able to design trails of neuroprotection.

**Administration/Education Roles**: Associate Medical Director for the Franciscan Health System. Resident and fellow education in the NICU as well as mentoring students and fellows in the laboratory.

Rachel Umoren, MD

**Clinical Interest**: Education and family support for parents with infants in the NICU

**Scholarly Focus**: Simulation for health professional education with the goals of providing safe patient care and better clinical outcomes. Her research interests include the use of emerging technologies, including simulated environments and virtual standardized patients for training and as an investigative methodology in the areas of teamwork, conflict resolution, and ethics in local and global health settings.

**Administration/Education Roles**: She is the Director of Immersive Learning, Neonatal Education and Simulation Training (NEST) Program

Linda Wallen, MD

**Clinical Interests**: She has significant clinical responsibilities and a passion for teaching and continuing to learn through teaching. She believes that evidence-based practice should be the cornerstone of clinical practice and is working to establish guidelines for management of common neonatal problems.

**Scholarly Focus**: Coordination of evidence-based guidelines for management of neonatal problems at all Division sites of practice, with the goal of measuring the effect of guidelines on the quality of care.

**Administrative/Education Roles**: She coordinates the clinical schedule and the delivery of care at all of the NICUs staffed by the Division of Neonatology. She works directly with the medical directors at the community sites to develop strong medical management and excellent care. Additionally, she is working with medical directors at Level II NICUs in the community to implement guidelines of care. She works with Dr. Kendra Smith in medical direction of the Seattle Children’s Hospital transport team.

Elliott M Weiss, MD, MSME

**Clinical Interests**: Newborn health, ECMO, neonatal bioethics

**Scholarly Focus**: Dr. Weiss’s primary research interest is in the area of medical decision-making, with a special focus on parents as decision makers for their sick infants in the neonatal intensive care unit (NICU). This work encompasses several different facets of decision making. For example, how do we decide which NICU interventions require parental awareness, concurrence, verbal agreement, or signed consent? This decision is currently largely influenced by historical factors, local custom, and perceived
liability concerns with less consideration of parental preferences. How do we present medical decisions? Insights from behavioral economics suggest that choice architecture and bias are crucially important—and have been largely ignored within medicine. When is a decision made? We structure communication and consent as though decisions are made the moment choices are presented by the physician, but it is likely the decision was made far earlier. In sum, Dr. Weiss aims to understand how parents approach decision-making to better tailor consent practices to their values and preferences.

**Administration/Education Roles:** Dr. Weiss co-leads twice month resident ethics teaching rounds at the UWMC and SCH NICUs. He is also the track director of neonatal bioethics, which promotes bioethics research among neonatology trainees. He created the Neonatology and Decision-Making interest group that meet twice a month to discuss topics pertinent to clinical and research neonatal ethics. He also serves on the SCH ethics committee.

**Stephen Welty, MD**

**Clinical Interest:** General Neonatology, comprehensive care in patients with severe BPD.

**Scholarly Focus:** QA: Guideline development for nasal CPAP and measuring the effect. Guideline and Critical Pathway Development for lowering gestational age at SJMC, measuring outcomes. Mentoring remains a focus for junior faculty and fellows. I am one of the founding members of the national BPD collaborative and remain involved here in an advisory capacity.

**Administration/Education Roles:** Dr. Welty is the Medical Director of the Franciscan Health System in the South Sound area.

**David E. Woodrum, MD**

**Clinical Interests:** Dr. Woodrum serves as a neonatal consultant for the Seattle Children’s/University of Washington Prenatal Diagnosis and Treatment Center, provides palliative care for medically complex and/or premature infants and participates as a consultant in both Seattle Children’s and University of Washington Medical Center’s ethics consultant service.

**Scholarly Focus:** Current scholarly effort is focused on the study/analysis of the content/framing of prenatal consultations; and how such consultations impact families’ preparation for and adjustment to problems associated with the birth and subsequent treatment of the high-risk infant.

**Administrative/Education Roles:** Educational activities, primarily directed to trainees and junior faculty, reflect clinical and scholarly interests. Administrative assignment is to work to continue the development of the Prenatal Diagnosis and Treatment Program.

**PUBLICATIONS: JULY 2016 – JUNE 2017**

**(Faculty, Fellow)**

**PEER-REVIEWED ARTICLES**

2016


3. Ramaswamy R, Kernodle A, Donohue K, **Engmann CM**, Kallam B, Ivester TS. Application of continuous quality improvement approaches to improve perinatal outcomes in low and middle-income countries: a narrative systematic review; Submitted November 2016, BMC *Public Health*

4. Kavle J, Mehanna S, Hassan M, Gulsen S, **Engmann CM**. Integration of nutrition and family planning in Egypt: Perceptions and beliefs around maternal diet and breast feeding within the context of the nutrition transition; Submitted December 2016 *Maternal and Child Nutrition* PMID 28597475


2017


6. Chabra S. Resident burnout: Urgent need for peer-appointed 'Wellbeing Officers' to strengthen resilience, accepted Acad Psychiatry


2016


2017


OTHER PUBLICATIONS

2016

1. **Chabra, S** ‘Feeding guidelines for late preterm infant-education booklet’ -served as a consultant for the Education booklet, Overlake Hospital, Bellevue.
2. **Chabra, S** Curriculum for UWSOM Peds 619 medical students course May 2016, 'Introduction to newborn care'


2017


**PRESENTATIONS BY INVITATION (JULY 2016 – JUNE 2017)**

2016


5. **Chabra S.** ‘Resident and nurse practitioner team outcomes of ELBW infants’, Neonatology nurse practitioner teaching seminar, UWMC, Nov 2016
6. **Chabra S.** ‘New AAP hip guidelines’ Pediatrics Section meeting, Overlake Hospital and Medical Center, Dec 2016


**2017**

1. **Chabra S.** “Improving patient safety in the NICU-Overlake hospital”, NICU Leadership, Overlake Hospital and Medical Center, March 2017.

2. **Chabra S.** Outcomes of late and moderate preterm babies (LAMBs): NICU education day, April 2017.

3. **Chabra S.** Moderate and late preterm infant challenges: UW Neonatology nursing conference, May 2017

4. **Chabra S.** “Rising incidence of gastroschisis: a global phenomenon?“, Visiting Professor, KK Women’s and Children’s Hospital, Singapore. June 14, 2017

5. **Chabra S.** “Quality Care for gastrochisis: development of prenatal guidelines“, Visiting Professor, KK Women’s and Children’s Hospital, Singapore. June 15, 2017


7. **German, K** “NICU Grads”, Center on Human Development and Disability. Seattle, WA 2017


14. Jackson, C “Case review of neonatology transfers from Community Medical Center to Seattle Children’s from Oct 2016 through June 2017” and multiple prepared clinical topics. Missoula, MT. 2017

15. Weiss EM. “Decision-Making in the NICU: Determinants of Parental Preferences.” Special Seminar, Division of Medical Ethics & Health Policy, University of Pennsylvania School of Medicine, Philadelphia, PA. April 2017.


University of Washington Division of Neonatology

Faculty Organizational Chart

Mission Statement: We will improve the neonatal outcomes of pregnancy by:

- Providing outstanding evidence based neonatal clinical care
- Educating the next generation of neonatal caregivers
- Advancing neonatal scholarship