3/13/2026

Project Lead/Key Contact

Christy Y. Rowe, RT- Pediatric Intensive Care Clinical Specialist
Email: Christy.rowe@unchealth.unc.edu
Phone: 229-886-8649

Ruth Medlin, Pediatric Asthma Program Manager/Children Clinical Support Services
Email: ruth.medlin@unchealth.unc.edu
Phone: 919-966-1055

Why are you interested in the Improvement Scholars Program?

The Improvement Scholars Program will provide the structure, mentorship, and training to support this patient-centered pediatric asthma quality improvement initiative. Through the program, respiratory therapists will strengthen their skills in data-driven measurement, workflow optimization, and sustainable implementation strategies. By building these capabilities, pediatric respiratory therapists will be better equipped to lead and deliver high-quality, standardized asthma education at the bedside, ensuring that patients and caregivers leave the hospital with the knowledge and confidence needed to successfully manage asthma at home.

This program will support the development of a consistent, evidence-based asthma education process led by pediatric respiratory therapists and strengthened through interdisciplinary collaboration. Participation in this program will help respiratory therapists deepen their ability to teach caregivers essential asthma management concepts, gain confidence in proper inhaler and spacer technique, and promote adherence to individualized Asthma Action Plans.

As Co-Scholars, we believe that implementing standardized, evidence-based asthma education at bedside delivered reliably by respiratory therapists, has the potential to significantly improve patient outcomes, enhance documentation quality, and improve the overall experience for patients and families. By equipping caregivers with tools to manage asthma effectively at home, respiratory therapists play a vital role in ensuring safe, successful transitions from hospital to home. These efforts strongly align with our hospital's commitment to high-quality, patient-centered care and reinforce key performance measures, including patient experience and quality outcomes evaluated by the Joint Commission.

Problem Statement: What is the problem you are looking to solve?

At UNC Children's Hospital, children admitted with asthma or reactive airway disease are cared for by a multidisciplinary team that includes physicians, nurses, and respiratory therapists (RTs). RTs play a key role in preparing patients and families for discharge by providing asthma education at the bedside.

Currently, there is no standardized inpatient asthma education process to support consistent delivery and documentation of RT-led education. As a result, important elements such as inhaler technique verification using the teach-back method, completion of the Asthma Action Plan, and documentation of caregiver education may vary across providers and units.

These inconsistencies make it challenging to ensure that standardized asthma education is reliably delivered and documented prior to discharge. Without a defined education process or consistent documentation pathway within the electronic health record, the care team cannot reliably measure performance or identify opportunities to improve inpatient asthma education practices.

3/13/2026

The goal of this quality improvement project is to provide RTs with the tools and support needed to deliver consistent bedside asthma education. Within 12 months, we aim to reliably deliver standardized asthma education to at least 90% of children hospitalized with asthma.

In 2025, UNC Children's Hospital cared for 107 children hospitalized with asthma exacerbations, highlighting the importance of ensuring reliable inpatient asthma education for this population.

Importance Statement: Why is this project important?

Reliable bedside asthma education is key to helping children and their families transition safely from the hospital to home. When education and documentation vary across units and providers, patients and their caregivers receive inconsistent guidance on recognizing asthma symptoms, using medications correctly, mastering inhaler and spacer techniques, and following their child's Asthma Action Plan. Without clear instruction, families feel less prepared to manage asthma at home, which can make it difficult to follow treatment plans. By standardizing RT-led asthma education, this project aims to ensure every child and family leaves the hospital with the knowledge, confidence, and support they need to manage their asthma.

Project Scope:

- **In Scope:**
- **What is the specific patient population your project will impact**?

  Pediatric patients ages 2–18 admitted with a primary diagnosis of asthma exacerbation or reactive airway disease.

- **How many patients are there in the population?**

  In 2025, there were 107 eligible pediatric inpatient admissions for asthma exacerbation or reactive airway disease across the identified inpatient units. This project will impact approximately 100–120 pediatric admissions annually, based on recent volume trends.

- **In what setting(s) would this problem be addressed?**
  - Pediatric Intensive Care Unit (PICU)
  - 5 Children's
  - 6 Children's
  - 7 Children's

Out of Scope:

- Emergency Department-only visits
- Outpatient clinic encounters
- Patients younger than 2 years or older than 18 years
- System-wide expansion beyond the identified inpatient pediatric units during Phase 1

Measures: (Process, Balancing, Structure)

Please describe the anticipated outcome measure(s), 2-3 process measures, and one balancing measure. Please do not include more than 5 measures total.

Measure Name	Measure Type	Measure Calculation	Measure Exclusion	Data Source	Baseline	Goal	Collection Frequency

Reliability of Standardized Asthma Education Delivery and Documentation	Outcome	Numerator: Number of eligible pediatric asthma admissions with complete standardized asthma education documented in the EHR prior to discharge, including inhaler technique verification, Asthma Action Plan review, and caregiver education. Denominator: Total number of eligible pediatric asthma admissions during the measurement period	Admissions ending in transfer to another acute care facility, discharge against medical advice, or inpatient death	Prospective chart review using a standardized audit tool	To be determined through retrospective review of 2025 admissions (107 eligible admissions)	≥90% compliance by July 2027	Monthly aggregation and reporting using Epic-generated documentation data and chart audit results
Asthma Action Plan (AAP) Documentation	Process	Numerator: Number of eligible pediatric asthma admissions with a documented Asthma Action Plan in the EHR prior to discharge. Denominator: Total number of eligible pediatric asthma admissions during the measurement period	Admissions ending in transfer to another acute care facility, discharge against medical advice, or inpatient death	Prospective chart review using a standardized audit tool	To be determined through retrospective chart review	≥90% compliance by July 2027	Monthly aggregation and reporting

Inhaler Technique Verification Documentation	Process	Numerator: Number of eligible pediatric asthma admissions with documented inhaler technique verification in the EHR prior to discharge Denominator: Total number of eligible pediatric asthma admissions during the measurement	Admissions ending in transfer to another acute care facility, discharge against medical advice, or inpatient death	Prospective chart review using a standardized audit tool	To be determined through retrospective chart review	≥90% compliance by July 2027	Monthly aggregation and reporting
Asthma Education Training and Competency Completion	Structure	Numerator: Number of inpatient Respiratory Therapy (RT) staff who have completed all required asthma education training and competency validation components. Denominator: Total number of inpatient Respiratory Therapy staff required to complete the training during the measurement period Required components include: Learning Management System (LMS) asthma education module	Respiratory Therapy staff on extended leave or within their designated onboarding/training completion window who have not yet reached the required training deadline	Learning Management System (LMS) completion reports and documented competency validation records, maintained by Respiratory Therapy leadership	Baseline workflow perception to be established through an initial staff survey at project launch	100% completion of required asthma education training and competency validation within the defined timeframe	Tracked at onboarding and reviewed annually

		Spacer and inhaler skills check-off Program-specific workflow competency validation					
Staff-Reported Workflow Impact of Standardized Asthma Education	Balancing	Numerator: Number of staff respondents reporting that the standardized asthma education process does not increase workload or interfere with other patient care responsibilities. Denominator: Total number of staff survey respondents	Incomplete survey responses	Brief electronic survey administered to inpatient Respiratory Therapy	Baseline staff perception of workflow impact will be assessed through an initial staff survey at project launch.	≥80% of respondents report that the standardized asthma education process does not significantly increase workload or interfere with other patient care responsibilities	At project launch, and at 6 months and 12 months post-implementation

Root Cause Analysis:

- **What do you think are the underlying causes of the problem?**

RTs play an essential role in supporting children with asthma and educating their caregivers during hospitalization. Currently, the inpatient asthma education process depends on individual practice patterns rather than a standardized, RT–driven workflow within the electronic health record (EHR). There is not an established EHR order that directs RTs to provide asthma education, nor is there a structured documentation pathway. Without clearly assigned RT responsibility, there is variation in how asthma education is delivered and documented across providers and inpatient units. In addition, there is a lack of a consistent process for educating RTs on how to deliver standardized asthma teaching and a lack of readily available age-appropriate educational materials which can make it challenging to ensure that every family receives the same comprehensive education experience.

- **Why do you think the problem is happening*?***

Inpatient asthma education does not have a standardized, RT–supported workflow built into the electronic health record (no order for RT delivered asthma education). RTs will frequently provide bedside asthma education for patients and their caregivers. However, there is not a clearly defined education bundle of what to teach patients, there is not a simple documentation process, and the method of education delivered varies based on individual practice rather than a consistent, reliable process.

Ideas for Improvement:

- **What ideas do you have for changes that will result in improvement?**

To address the identified variability in inpatient asthma education delivery and documentation, the following improvement strategies will be implemented:

- **Establish a Standardized Asthma Education Bundle**
  Develop a clearly defined, RT–led inpatient asthma education bundle to be completed with patients and caregivers prior to discharge. This bundle will focus on supporting families in safely managing asthma at home and will include inhaler and spacer technique verification, review of the patient's Asthma Action Plan, and standardizing documentation within the EHR to ensure education is consistently delivered and recorded.

- **Integrate a respiratory therapist–led asthma education component into the existing inpatient Asthma**
  Create an asthma education order that integrates with the existing inpatient asthma pathway and will trigger the RT to provide timely education to pediatric patients and their caregivers. This standardized documentation tool will help reduce reliance on free-text notes while making it easier for respiratory therapists to document key education components, such as inhaler technique review and Asthma Action Plan discussion

  This workflow will build upon the existing asthma care pathways already integrated into Epic through the AgileMD asthma pathway, allowing the project to standardize documentation and education processes without requiring major EHR development

- **Clarify Role Ownership and Accountability**
  Outline the roles of the care team, with RTs taking a lead in delivering asthma education, documenting key teaching points, and confirming completion before discharge. This approach ensures that patients and caregivers consistently receive the support and guidance they need while promoting a coordinated, high-quality education process across the multidisciplinary team.

- **Provide Training and Competency Validation**
  Provide hands-on training and skill checks for inpatient respiratory therapists to help them confidently use the standardized asthma education workflow.

- **Utilize Health-Literacy–Based Educational Materials**

Provide family-centered asthma education using developmentally appropriate, multilingual, and health-literacy–friendly materials, along with individualized Asthma Action Plans.

- **Monitor Performance and Refine Through PDSA Cycles**
  Use RT–led chart audits and Epic-generated reports to monitor how consistently the asthma education bundle is being completed and documented. Findings from these audits will help identify opportunities for improvement and guide updates to the workflow through ongoing Plan-Do-Study-Act (PDSA) cycles.

Risks and Opportunities:

- **What factors do you anticipate will foster improvement?**

Several factors are expected to support successful implementation of this project:

Strong executive sponsorship from the divisions of Pediatric Pulmonology and Pediatric Critical Care Medicine, as well as, support from the Children's Asthma Quality Improvement Committee will provide oversight and support for implementation and sustainability. The project's scope is intentionally limited to inpatient pediatric units, allowing focused testing and refinement prior to broader expansion.

The manageable annual volume of eligible admissions (107 in 2025) allows for detailed monitoring of education delivery and a chart review of all asthma admissions. RT engagement and their established role in asthma education delivery will further support consistent implementation of the standardized workflow.

Additionally, ongoing staff education and competency validation for respiratory therapists will reinforce consistent delivery of asthma education. Prospective chart audits will verify completion of the asthma education bundle, while patient and family feedback may help evaluate the effectiveness of the education provided. Collaboration and communication among physicians, nurses, respiratory therapists, and specialty teams caring for patients with reactive airway disease will further support successful adoption of the standardized process.

- **What are the major challenges you anticipate?**

Potential challenges include resistance to workflow changes among multidisciplinary team members and variability in discharge practices across inpatient units. Competing clinical priorities and time constraints during inpatient care may also affect consistent completion of education prior to discharge.

Operational challenges may include limited respiratory therapy availability during periods of high patient acuity, staff turnover affecting consistency of education delivery, and potential delays or limitations related to EHR build and documentation workflows.

Patient- and family-level factors such as language barriers, varying health literacy levels, and differences in caregiver engagement may also influence the effectiveness of asthma education delivery. Sustaining staff engagement and maintaining documentation compliance across multiple units following initial implementation may require ongoing monitoring and reinforcement.

Stakeholders and Project Team Members:

Who are the key stakeholders in your system and processes?
Key stakeholders for this quality improvement project include respiratory therapy leadership, clinical leadership, and pediatric respiratory therapists. The success of this initiative will rely on the leadership and active engagement of bedside respiratory therapists, who play a central role in delivering, reinforcing, and documenting asthma

education as part of routine patient care. Their involvement is essential to ensuring consistent, high-quality education for patients and caregivers throughout the hospital stay.

Dr. Katherine Clement, Pediatric Respiratory Medical Director

Dr. Ceila Loughlin, Associate Vice Chair UNC Children's Outpatient Clinical Care

Lindsay Lawson & Nora Norwood, Pediatric Respiratory Therapy Managers

Melissa Bisher & Consuela Cornish, Respiratory Therapy Educators

These stakeholders provide clinical oversight, operational support, and guidance to ensure successful implementation of a standardized inpatient asthma education workflow.

Name	Role
Dr. Katherine Clement & Dr. Ceila Loughlin	Sponsors
Christy Rowe RT, Clinical Specialist	IHQI CO-Scholar/Subject Matter Expert
Ruth Medlin BSN, RN, AE-C, Pediatric Asthma Program Manager	IHQI CO-Scholar/Subject Matter Expert
Dr. Daniel Lercher & Dr. William Stoudemire	Faculty Co-Leads
Jenny Muddiman, Riiva Bradley, Heath Hayes, Kianna Lyles & Maggie Martin	Respiratory Therapy Asthma Improvement Team

Impact on the Quintuple Aim:

- **Improved health**

  Standardizing respiratory therapist–led inpatient asthma education will help ensure caregivers are fully prepared before their child goes home. By teaching proper medication use, how to recognize symptoms, and how to follow the Asthma Action Plan, respiratory therapists can give families the confidence they need to manage asthma safely. Improving the consistency of this education will support smoother hospital-to-home transitions and better asthma care at home.

- **Enhanced patient experience**

  A respiratory therapist–led, standardized asthma education workflow ensures every family receives clear and consistent guidance before discharge. Using developmentally appropriate, health-literacy–friendly materials help caregivers better understand asthma and feel confident managing it at home.

When families feel informed and supported, they are more engaged in care and prepared to follow their child's treatment plan safely.

- **Enhanced clinician and staff experience**

  Developing a respiratory therapist–led asthma education bundle and clear documentation steps into the current electronic health record system helps the care team know exactly what needs to be done. This standardized process makes it easier for staff to work together, reduces confusion, and helps respiratory therapists and other clinicians feel confident that every family receives consistent, thorough asthma education.

- **Health equity**

  Implementing a respiratory therapist–led, standardized asthma education process helps make education consistent across units and providers. By using culturally sensitive, language-accessible, and age-appropriate materials, respiratory therapists can ensure every patient and family understands their asthma care. This approach supports equitable access to the knowledge and tools families need to manage asthma safely and confidently at home.

- **Reduced costs**

  Improving the consistency of respiratory therapist–led inpatient asthma education can help families feel more confident and prepared, supporting safer transitions from hospital to home and better adherence to asthma management plans. While reducing costs isn't the focus of this project, standardizing education may help prevent avoidable hospital visits over time by ensuring caregivers receive clear, consistent guidance before discharge.

Sustainment Plan:

- **What ideas do you have for sustaining the improvement***?*

Sustainment will be achieved by embedding the standardized asthma education workflow within routine inpatient processes and the electronic health record. By establishing a defined asthma education bundle, a dedicated respiratory therapy education trigger, and a designated documentation pathway, completion of asthma education will become part of the standard discharge workflow rather than a variable process.

Key sustainability strategies include:

- Incorporating asthma education bundle completion into discharge readiness processes
- Maintaining the designated EHR documentation pathway to support reliable tracking of education completion
- Providing ongoing staff education and competency validation for respiratory therapists, including onboarding and annual training requirements
- Monitoring outcomes and process measures through regular chart audits and performance reporting
- Providing feedback to inpatient units and respiratory therapy teams to reinforce adherence
- Continued collaboration with respiratory therapy leadership, educators, PICU Intensivist, Pediatric hospitalist, and pediatric pulmonary specialists to support consistent implementation

These strategies help ensure that standardized asthma education remains integrated into daily clinical workflow and supported by leadership and operational teams.

- **How do you see the work you start with IHQI's support continuing***?*

IHQI support will provide structure for the initial design, pilot testing, and measurement refinement of the standardized asthma education workflow. Following implementation, ongoing data monitoring and unit-level feedback will support continued reliability and identify opportunities for refinement.

As compliance stabilizes, monitoring may transition from monthly chart review to periodic auditing to ensure sustained adherence. Continued staff education, competency validation, and use of health literacy informed educational materials will reinforce best practices over time.

Successful implementation within inpatient pediatric units may also inform future expansion of standardized asthma education processes to additional care settings, such as the Emergency Department or outpatient clinics, based on organizational priorities.

If successful, the standardized inpatient asthma education model may inform broader adoption of reliable asthma education workflows across other care settings within the health system.

Carolina Quality Tools:

How will Carolina Quality tools (Just Culture, SAFE reporting, Team STEPPS, huddles, and visual management boards) be used to support the work? Although use of these tools is not required, applications including them will be strengthened.

Carolina Quality tools will help respiratory therapists implement and maintain the standardized inpatient asthma education workflow, supporting consistent and reliable education for patients and their caregivers.

Just Culture principles will guide this work by fostering a supportive environment where respiratory therapists and frontline staff can openly share workflow challenges and documentation barriers without fear of blame. Staff feedback will help identify gaps and support ongoing improvements to strengthen asthma education delivery.

SAFE reporting system will give respiratory therapists and frontline staff a clear way to share concerns related to asthma education delivery or documentation. This process helps the team quickly identify and address safety issues or workflow barriers, supporting continuous improvement in how asthma education is provided to patients and families.

Team STEPPS principles will support clear communication and collaboration among respiratory therapists, physicians, and nursing staff. Establishing shared expectations for asthma education delivery and documentation will strengthen coordination during discharge planning.

Unit-based huddles led by respiratory therapists will reinforce expectations, review patient education needs, and address workflow challenges in real time. These huddles offer a practical way for the team to communicate, solve problems together, and stay actively engaged in delivering high-quality asthma education.

Visual management strategies, Respiratory therapist–led visual tools, such as dashboards or unit reports, can help the team see how consistently asthma education is being delivered and track progress toward the ≥90% reliability goal. These tools make it easier for everyone to stay on track, celebrate improvements, and continue making the process better for patients and families.

Together, these Carolina Quality tools enable respiratory therapists to drive standardized asthma education, strengthen team communication, and embed continuous improvement, making reliable education a consistent part of everyday inpatient care.

References:
• Sponsor letters – acknowledgement of support for this project

UNC SCHOOL OF MEDICINE

UNC HEALTH Children's

DEPARTMENT OF PEDIATRICS

DIVISION OF CRITICAL CARE MEDICINE

FACULTY

Matthew Pizzuto, MD
Interim Division Chief

Jenny Boyd, MD
Katherine Clement, MD
Matthew Foglia, MD PhD
Andrew Hopwood, MD
Margaret Kihlstrom, MD
Kieran Leong, DO
Daniel Lercher, MD
David McSwain, MD
Afsaneh Pirzadeh, MD
Erin Reade, MD
Stephanie Schwartz, MD
Paul Shea, MD
Melissa Smith, MD
Ann Sweeney, MD
Tracie Walker, MD

FELLOWS

Hanna Carroll, MD
Andrew Hayes, DO
Sarah Fleischer, MD
Evan Meiman, MD
Allison Steinauer, MD
Alison Woods, MD

February 25, 2026

IHQI Improvement Scholars Project

Re: Application of Christy Rowe, RRT and Ruth Medlin, BSN, RN, AE-C

Dear Proposal Reviewers,

I am writing this letter in support of the application of Christy Rowe and Ruth Medlin for the IHQI Improvement Scholars Project. I am a Pediatric Intensive Care physician and the Medical Director of Pediatric Respiratory Therapy and Extracorporeal Life Support.

The Pediatric ICU has a strong background in quality improvement work. In the last 3 years we have had representation in Improvement Scholars Projects including Bivalirudin and ECMO with Dr. Lauren Brown and Dr. Ursula Adams, the Pediatric Stroke Protocol with Dr. Afsaneh Pirzadeh and Dr. Sarah Fleischer, and this year CLABSI reduction with Dr. Erin Reade and Unplanned Extubation with Dr. Andrew Hopwood. We hope to continue this tradition of quality excellence from the Pediatric ICU.

It is imperative that I support individuals and teams undertaking improvement projects. In that spirit, I confirm that if this proposal is accepted, I will in my role as Pediatric Respiratory Medical Director strongly advocate that Ms. Rowe and Ms. Medlin be provided sufficient time to attend the necessary meetings and training sessions to see this important work through to fruition.

Please feel free to contact me with any questions.

Respectfully,

Katherine C. Clement, MD
Professor, Pediatric Critical Care Medicine
Departments of Pediatrics & Anesthesiology
Medical Director, Pediatric Respiratory Therapy
Medical Director, Pedatric Extracorporeal Life Support

417 MACNIDER HALL | CAMPUS BOX #7221| CHAPEL HILL, NC 27599
Telephone: (919) 966-7495| Facsimile: (919) 843-1076

UNC | SCHOOL OF MEDICINE

UNC HEALTH Children's

UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
DEPARTMENT OF PEDIATRICS
DIVISION OF PULMONOLOGY

O (919) 966-1055 | **F** (919) 966-6179

450 MacNider Building | Campus Box# 7217
333 S. Columbia Street | Chapel Hill, NC, 27599

Faculty
Gang Chen PhD
Stephanie D Davis MD
Elisabeth P Dellon MD MPH
Alex Despotes MD
Camille Ehre PhD
Andre Espaillat MD
Charles R Esther, MD PhD
Thomas Ferkol, MD
Martina Gentzsch, PhD
Jennifer L Goralski MD
W Adam Gower, MD, MS
Jane Gross, MD
James S Hagood MD
Marianna M Henry MD MPH
Nadia E Hoekstra MD
Margaret Leigh, MD – *Professor Emeritus*
Ceila E Loughlin MD
Marianne S Muhlebach MD
Terry L Noah MD
Lawrence Ostrowski PhD
George Z Retsch-Bogart MD– *Professor Emeritus*
Nicole Stephenson MD
William Stoudemire MD
Timothy Vece MD

Fellows
Sydney Hendricks MD
Paige Noreen MD
Maheen Rehman DO
Kaitlin Tillman, MD
Daniel Vo, MD

Nurse practitioners
Cindy A Reilly MS CPNP
Samantha Jemiolo MSN CPNP

Nurse clinicians
Ashley Austin RN
Chelsea Kirk RN
Ruth Medlin RN
Emily Shill RN
Tonya Stafford RN

Research staff
Lauraine Rivier, PhD
Sundass Khan
Taro Ishimori, PhD
Koji Tamai, PhD
Tara Guhr Lee

March 6, 2026

Dear IHQI Scholars program,

It is my pleasure to write a letter to support the IHQI project to improve education for children admitted with asthma. I am a pediatric pulmonologist and Professor at the University of North Carolina School of Medicine. I am also the Director of the NC Children's Allergy and Asthma Center and have been since its inception in 2009.

I have had the pleasure of working closely with Christy Rowe and Ruth Medlin since they each started working at UNC Children's. Christy is respiratory therapist and specialist in the PICU. She has put together a fantastic team to support this project. Ruth is a certified asthma educator, as well as, the Children's Asthma Program manager who has been working to improve asthma education in outpatient, inpatient and emergency dept since she started 7 years ago. Throughout the time I have known Christy and Ruth, they have remained steadfast in their commitment to improving the care of children with asthma. Currently asthma impacts about 8% of children in North Carolina. It is the most common childhood disease. NHLBI Asthma guidelines recommend education and asthma action plan at every acute care visit and/or when the plan changes. Asthma education empowers families to better manage their child's symptoms at home. With this in mind our goal is for every inpatient with asthma to receive asthma education and an asthma action plan before discharge. Originally inpatient asthma education was led by nursing, specifically Ruth. In 2020, respiratory therapy (RT) took over this role which made sense since they are at the bedside giving the asthma treatments. This time allows them to start teaching at admission. These admissions tend to be quick with a median length of stay of 2 days. With this short admission time, it is critical that RT have a standardized process for what education needs to be done and how to get it completed to avoid delays in discharge. In current state, education is often completed but not documented but also we see patients that never get teaching on how to use the inhaler and spacer or receive a new asthma action plan. To reach our goal we need to improve this process. I am excited to see what this team can do to standardize this process and making sure every patient with asthma gets the education they need.

In summary, I have no doubt that Christy Rowe and the team she has pulled together will be dedicated to improving the asthma education for inpatients empowering these families to better manage their asthma symptoms at home and avoid future admission. I am happy to be a sponsor of this project with Dr. Katie Clement. Please feel free to contact me with any questions or concerns.

Sincerely,

Ceila E. Loughlin, MD
Professor of Pediatrics
Associate Division Head, Division of Pediatric Pulmonology
University of North Carolina, School of Medicine
Associate Vice-Chair, UNC Pediatric Outpatient Services
Director, NC Children's Allergy and Asthma Center
Medical Director, UNC Children's Outpatient Services