

Health Policy and Clinical Effectiveness

Division Photo



K. Fahlgren, C. Froehle, H. Kaplan, S. Iyer, K. Phelan, L. Simpson, C. Lannon, G. Fairbrother, M. Seid, E. Donovan, S. Muething, P. Margolis, M. Siska, U. Kotagal, M. Goodfriend, K. Mandel, G. Kaminski, R. Brueggeman

Division Data Summary

Research and Training Details

Number of Faculty	9
Number of Joint Appointment Faculty	6
Number of Support Personnel	93
Direct Annual Grant Support	\$1,581,533
Peer Reviewed Publications	28

Faculty Members

Uma Kotagal, MBBS, MSc, Professor Clinical ; *Director, Health Policy and Clinical Effectiveness; Senior Vice President, Quality and Transformation*

Research Interests: Using research methods and analysis to understand, diagnose and implement sustainable changes in care practices so as to meet all Dimensions of the patients and families. Understanding the role of le

Patrick Conway, MD, MSc, Assistant Professor

Research Interests: Quality Improvement, Patient Safety, Interventions enabled by health information technology, the intersection of health services research and health policy

Edward F. Donovan, MD, Professor ; *Medical Director, Evidence Based Decision Making; Co-implementation leader, CCHMC Community Strategy*

Research Interests: Perinatal epidemiology, Viable processes for improving population health

Gerry Fairbrother, PhD, Professor ; *Member, Review Panel for Outcome Research Awards*

Research Interests: Determining the effectiveness of and assessing ways to improve quality of Medicaid and the State Children's Health Insurance Program. Gaps and patterns of enrollment in child health insurance, barrier

Carole Lannon, MD, MPH, Professor ; *Co-Director, Center for Health Care Quality*

Research Interests: To learn what and how improvement science methods achieve best results in improving healthcare and outcomes. To understand what improvement science methods can help target specific practice segments t

Keith E. Mandel, MD, Assistant Professor Clinical ; *Vice President of Medical Affairs, Tri State Child Health Services Inc.; Leader, Physician-Hospital Organization (PHO); Leader, PHO Asthma Initiative; Co-leader, PHO Children with Special Healthcare Needs Initiative; Co-leader, CCHMC External Quality Consulting; Co-leader, Ratings and Rankings Committee; Co-Leader, Business Case for Quality Committee*

Research Interests: Aligning pay-for-performance programs/financial incentives with large-scale quality

improvement initiatives, assessing the financial impact of quality improvement initiatives, spreading large-scale qu

Peter Margolis, MD, PhD, Professor ; *Co-Director, Center for Health Care Quality; Co-Director, Health Services Research Matrix; Acting Director, Quality Scholars Fellowship in Transforming Health Care*

Research Interests: Integrating public health and quality improvement methods to design, develop and test interventions to improve the outcomes of care for populations of children and adults. Use of advanced experimental

Kieran J. Phelan, MD, MSc, Associate Professor Clinical ; *Evidence-Based Clinical Practice Guidelines*

Research Interests: Effects of home visitation and housing on pediatric injury epidemiology and control, chronic disease management, and the psychology of parental supervision and health care decision making. Evidence-ba

Lisa Simpson, MB, BCH, MPH, FAAP, Professor ; *Director, Child Policy Research Center; Member, Scientific Advisory Committee, Every Child Succeeds; Member, CCHMC Faculty Evaluation Workgroup; Member, Review Panel for CCHMC Outcome Research Awards; Co-Director, Health Services Research Matrix*

Research Interests: Childhood obesity, pediatric patient safety and the factors in contributing or hindering improvements, role of health information technology policy in supporting quality improvement.

Joint Appointment Faculty Members

Maria Britto, MD, MPH, Professor

Adolescent Medicine
Health care quality, especially for adolescents with chronic illness

Craig Froehle, PhD, Associate Professor

UC College of Business
Operational technologies, services management, healthcare (or health care) operations, process improvement

Srikant Iyer, MD, MPH, Assistant Professor

Emergency Medicine
Organizing systems and processes in emergency medicine to deliver ideal care and improve patient outcomes.

Heather Kaplan, MD, MSCE, Assistant Professor

Neonatology
Identifying and examining strategies for improving the implementation of evidence into practice and studying quality improvement as a mechanism of promoting the uptake of research findings and improving patient outcomes.

Stephen Muething, MD, Professor

General and Community Pediatrics
Patient Safety, Reliability, Adverse Events

Michael Seid, PhD, Professor

Pulmonary Medicine
Measuring and improving pediatric health care quality and health-related quality of life for chronically ill children and understanding the interactions between vulnerable chronically ill children and the health care system, the barriers to care faced by these populations, and policies and programs to overcome these barriers to care.

Significant Accomplishments in FY08

Centers for Education and Research in Therapeutics

Cincinnati Children's Hospital Medical Center (PI: Carole Lannon) was awarded one of 14 Centers for Education and Research on Therapeutics (CERTs) grants by the US Agency for Health Care Quality and Research (AHRQ). The CERTs is a national program administered by AHRQ in collaboration with the FDA. The CCHMC CERT, the only pediatrics-focused research center, aims to improve outcomes for children by optimizing the use of therapeutics. Additional sub-themes, with expected impact beyond pediatrics, are quality and patient safety, as well as pharmacogenomics and personalized medicine. Areas of special emphasis in the CCHMC CERT include the following two projects: a) the *Pediatric Inflammatory Bowel Disease Network for Research and Improvement (PIBDNet)* focused on improving outcomes for children with IBD (see #2 below for more information on improvement and research networks) and b) *reducing adverse medication events* in care through the use of automatic triggers from the electronic record to improve real time detection and analysis of events, analysis, and application of high reliability improvement strategies (see below 1st Division highlight).

Developing improvement and research networks to transform pediatric health care, improve outcomes, and generate new knowledge

Collaborative research networks such as the Children's Oncology Group have been essential to advancing knowledge in pediatric health care because no single center has enough patients to conduct definitive studies. Collaborative

improvement and research networks being developed by the Division in collaboration with the American Board of Pediatrics, the American Academy of Pediatrics and the National Association of Children's Hospitals and Related Institutions extend this concept to provide a new model that can simultaneously improve care and outcomes, accelerate the development of innovative new approaches to health care required to advance knowledge from basic research into practice. For example, research about how to prevent rare events such as blood stream infections can only be conducted by combining data from multiple settings. Such network-based innovation and research provides a means to replicate specific interventions developed at CCHMC and elsewhere to build evidence on effectiveness and generalizability, accelerate the acquisition of new scientific knowledge through the use of advanced experimental designs (e.g., factorial studies), and develop innovations in the clinical care delivery system in anticipation of future translational research and clinical trials.

Faculty from the Division are currently working with networks of pediatric critical care units working to reduce catheter associated blood stream infections, gastroenterology centers to improve the care of children with inflammatory bowel disease, and cardiology centers to reduce interstage mortality for children with single ventricles. Additional networks in pediatric emergency medicine and pediatric rheumatology will be formed in 2009.

Make CCHMC the safest children's hospital through the application of reliability science

Patient safety is one of the six pillars of a transformed health care system according to the IOM Quality Chasm report. Patient safety has been an improvement priority for Cincinnati Children's since 2004. Early successes included near elimination of catheter-associated blood stream infections, surgical site infections, ventilator-associated infections and adverse drug events. In the past 18 months the focus has shifted to reduction of Serious Safety Events (SSE's).

Partnering with experts from Healthcare Performance Improvement, a diagnostic study led to a portfolio of interventions aimed at reducing SSE's by 50% by June 30th, 2008. Strategies have been identified and tested in five key areas: 1) An error prevention program 2) redesign of patient safety governance, 3) a "lessons learned" program with a focus on transparency, 4) a robust system of cause analysis, and 5) a tactical initiative focused on reduction of SSE's in the peri-operative area. Interventions included training more than 5000 health care providers at CCHMC on standard patient safety behaviors, rapid and expanded application of the simulation training to include *in-situ* simulation, development of a unit based Safety Coach program, and redesign of the analysis and response to each SSE. Since the initiation of the program, the rate of SSE's has been reduced from 1.0 to 0.35/10,000 adjusted patient days. A secondary goal is to improve safety behaviors as measured by the AHRQ safety culture survey. CCHMC has established an organization goal to further reduce SSE's to 0.2/10,000 adjusted patient days by June 30, 2009.

Significant Publications in FY08

Dougherty D and Conway P (2008). "The "3T's" road map to transform US health care: the "how" of high-quality care." JAMA299(19): 2319-2321.

We outlined a framework with three translational steps (T1, T2, and T3) to transform health care. The translation of basic science into clinical research is T1. T2 translates efficacy knowledge into effectiveness knowledge through comparative effectiveness research and health services research that identifies poor performance and gaps in care. T3 is the critical "how" of health care delivery that enables us to improve health care quality and value and population health. T3 activities include quality improvement interventions, health care system redesign, measurement and accountability of health care quality and cost, scaling and spread of effective interventions, and the associated research that identifies "how" to improve performance. Finally, we outlined the key transformation facilitators and challenges.

Fairbrother G L, Emerson H P, et al. (2007). "How stable is medicaid coverage for children?" Health Aff (Millwood)26(2): 520-8.

In this study, we examined Medicaid coverage patterns in five states for children who were covered as of December 2003. Looking back three years, we found that Medicaid was a source of continuous coverage for a sizeable proportion of children (43% to 66% were covered for two to more years) but a revolving door for others (16% to 14% had gaps). In all states, gaps were short, from two to four months, suggesting that these children continued to be eligible. The sizeable percentage of children covered by Medicaid for reasonably long periods suggest that states can demand more of the health system to improve the quality of care for children. The short gaps imply that policies and procedures should be revisited to reduce gaps for eligible children.

Mandel K E, Kotagal UR (2007). "Pay for performance alone cannot drive quality." Arch Pediatr Adolesc Med 161(7): 650-5.

The key significance of this article was that by aligning design characteristics of the pay for performance program

with a collaborative focused on improving processes and outcomes of care for a condition-specific population, building improvement capability, and driving system changes at the provider level, a framework was established for achieving more substantive and sustainable improvement. The unique, innovative design principles described in this article can inform the national dialog on pay for performance among providers, payers, and employers. The overall conclusion of this article is that overdependence on pay for performance to drive improved quality is likely a suboptimal approach with questionable long-term viability; rather, pay for performance, when coupled with robust approaches to quality improvement, can be a catalyst to accelerate sustainable transformation among providers.

Phelan K, Khoury J, et al. (2007). "Maternal depression, child behavior, and injury." *Inj Prev*13(6): 403-8. The Home Environment and Child Health

Residential injuries in US Children result in more than 4 million emergency department visits, more than 70,000 hospitalizations, and more than 2,800 preventable deaths each year. Mothers with depressive symptoms consistent with clinical depression have been shown to be less likely to have functioning smoke detectors in their homes, to report use of child occupant restraint and electrical socket covers, and the back-to-sleep position for their infants compared to non-depressed mothers. Researchers at Cincinnati Children's examined the relationship between medically-attended injury in children, depressive symptoms in their mothers, and child behavior. Using the National Longitudinal Study of Youth, Dr. Phelan and co-investigators examined a cohort of young children less than 6 years and their mothers followed over a 2-year period. These researchers found that increasing depressive symptoms in the mothers were significantly associated with medically-attended injuries in their children controlling for socio-economic factors and family size. This study found that for every 1-point increase in maternal depressive symptom score, there was a 6% increase risk of externalizing behavior in their children, mainly in boys. Furthermore, each 1-point increase in maternal depressive symptom scores in this cohort was associated with a 4% increase in a medically attended injury in their children. Children of mothers with high and persistent depressive symptoms had more than a 2-fold increase in their risk of a medically attended injury over the 2-year follow-up compared to children of mothers who had low symptom scores. The investigators concluded that greater recognition and treatment of maternal depression may reduce the risk of childhood behavior problems and medically-attended injury.

In a related trial being conducted in Cincinnati, Dr. Kieran Phelan, an Associate Professor of Clinical Pediatrics, in collaboration with Bruce Lanphear, MD, MPH, at Simon Fraser University and the University of British Columbia, and the staff of the Cincinnati Center for Children's Environmental Health have been following a birth cohort of children in the 5 county area surrounding Cincinnati to examine the effects of prevalent neurotoxicants on child behavior and development. Nested within this cohort is a prospective, randomized controlled trial of injury and lead hazard abatement with the aims of reducing emergency visits for injury and adverse developmental outcomes for the enrolled children. Early results indicate that the number of injury-related hazards per area of the home is associated with known risk factors for childhood injury including socio-economic factors (maternal education and household income) and maternal depressive symptoms.

Smith R B, Cheung R, Owens P, Wilson RM, Simpson L. (2007). "Medicaid markets and pediatric patient safety in hospitals." *Health Serv Res*42(5): 1981-98

In this study we hypothesized that market competition within Medicaid would be related to the occurrence of potentially preventable adverse medical events for hospitalized children, after controlling for patient- and hospital-level factors.

Using hospital discharge data from three states with different Medicaid characteristics (New York, Florida and Wisconsin) we examined the rates of three events with the highest preventability ratios using the AHRQ pediatric indicators (decubitus ulcers, accidental puncture or laceration, and infections due to medical care). We found that patients in markets in which Medicaid health plans face relatively little competition, hospitalized children are more likely to experience a patient safety event (odds ratio (OR)=1.602), while hospitalized children in markets in which hospitals face relatively little competition are less likely to experience an adverse event (OR=0.686). This analysis offers additional insights to previous work and suggests that the decisions that a state makes in structuring the number of health plans who contract for Medicaid business may affect the safety of care for hospitalized children.

Division Highlights

Developing an automated event detection and intervention system as a tool to reduce adverse drug events in a Pediatric Inpatient setting

Harm from medical errors is a significant public health problem. In its 1999 report, "To Err Is Human: Building a Safer

Health System,” the Institute of Medicine (IOM) in the United States concluded that medical errors are a leading cause of death and injury. Children are at a particularly high risk for harm when a medication error occurs.

Most health care organizations attempt to detect and measure ADE's using voluntary incident reporting systems. However, often less than 5% of events are captured using this approach. Traditional retrospective medical record review identifies more events, but it is expensive, labor intensive and often distant from the time of the event.

Using a pediatric-specific trigger tool for focused manual chart review in 12 pediatric hospitals, Takata et al recently reported a mean ADE rate of 15.7 per 1,000 patient-days. Automating the use of trigger tools with an electronic medical record to identify ADE's has been shown to be even more efficient than the manual trigger chart review method and allows for near real-time monitoring of all patients. Using a computerized surveillance system, Ferranti et al reported a rate of 1.6 ADE's per 1,000 patient-days for pediatric patients at Duke Children's Hospital.

Successful use of improvement methods to reduce ADE's also requires understanding of the causes and patterns of ADE's. Rapid identification and analysis of events may reveal patterns likely to generate future ADE's. Therefore, cause analysis can help prioritize and direct efforts to redesign systems to prevent future occurrences.

Our studies focus on the implementation of an automated trigger system to identify ADE's at a large children's hospital and just in time in-depth analysis of the characteristics and causes of ADE's. We hypothesized that the automated trigger system would identify more ADE's than the hospital's voluntary safety reporting system and the in-depth analysis of each event would provide information needed for identification of causal trends or processes that then may be acted upon using improvement methods or other approaches.

Identification of a large library of possible triggers was conducted using literature review and survey of previously tested triggers. Using a modified Delphi method and an expert clinical panel, triggers were chosen for testing. Triggers were identified through the hospital's computerized clinical order entry system. Based on information gathered from the medical record and interviews, a subject expert determined if an adverse drug event had occurred. Expert groups, consisting of frontline staff and appropriate specialist physicians, examined the characteristics of each event and made a determination of each trigger specific apparent cause questionnaire, then conducted a common cause analysis and testing and implementation of interventions to reduce adverse drug events followed.

Our early work suggests that identification through an automated trigger system and near real time and standardized analysis of adverse drug events can help to pinpoint targets for intervention and improvement. Two triggers have been successfully evaluated and related adverse drug events reduced. Additional triggers are being evaluated for their relationship to preventability, the sensitivity and specificity and potential impact of interventions.

It is anticipated that through these efforts, led by HPCE faculty, a standardized library of potential triggers and accompanying interventions can be developed with the aim of reducing adverse drug events.

Center for Health Care Quality Research

The Center for Health Care Quality has continued its emphasis on the use of quality improvement methods to: 1) advance knowledge about the use of quality improvement methods in medicine, 2) create networks capable of integrating research and improvement, and 3) develop innovations in care delivery.

One example of a network-based improvement and research project is the NACHRI Catheter Associated Blood Stream Infection Initiative. Catheter associated blood stream infections (CA-BSI) are among the most common cause of nosocomial infections in hospitalized children. Working with the National Association of Children's Hospital, HPCE faculty collaborated in the design and implementation of a project aimed at reducing CA-BSI's through the implementation of an intervention focused on achieving highly reliable catheter care. Elements of the intervention included: CHG scrub for insertion & line care, full sterile barrier use for insertion, standardization of catheter dressing, tubing, & hub care practices. A common database was used to record compliance with bundle elements. Reliable implementation of this intervention resulted in sustained & significant reduction in CA-BSI rates. Among all units, post-intervention BSI rates decreased 41% compared to pre-bundle rates accounting for more than \$7 million in cost savings from infections avoided.

Under the leadership of Dr. Carole Lannon, the CCHMC Center for Research and Therapeutics, based in CHCQ and is supporting the development of additional networks in cardiology, gastroenterology, rheumatology and emergency medicine. In cardiology, the emphasis is on developing and testing novel approaches to reducing mortality in the inter-stage between operative procedures, in gastroenterology the network is focused on creating more consistent and

reliable care for children with inflammatory bowel disease and testing the impact of pharmacogenetic testing on the outcomes of care. In rheumatology, the emphasis is on improving the care of children with juvenile inflammatory arthritis. The CERT is also assessing how to bring the use of pharmacogenomics into clinical care.

CHCQ's emphasis on advancing knowledge about how to apply quality improvement methods in medicine includes a study under the leadership of Heather Kaplan, MD, MSc, focused on developing and testing a conceptual framework for assessing the role of contextual factors such as leadership, QI training and teamwork in determining the effectiveness of QI teams.

The focus on innovation includes studies on the use of new technologies to promote adherence. For example, Drs. Maria Britto and Michael Seid are leading a study of the use of cell phones and other modalities to promote adherence, and Dr. Srikant Iyer is leading a study that will design and test interventions to improve pain management in the emergency department.

The Center is currently collaborating with the Divisions of Pulmonary Medicine, Cardiology, Gastroenterology, Neonatology, Emergency Medicine, Psychiatry, Rheumatology, Adolescent Medicine, General Pediatrics. External collaborations involve professional boards and societies such as the American Board of Medical Specialties, the American Board of Pediatrics, and the American Academy of Pediatrics. Collaborations also involve colleagues at numerous universities around the US.

Quality and Transformation

Transformation of the delivery system at Cincinnati Children's began in 2002 and has continued actively in 2008. The transformation is actively facilitated by faculty from the Division of Health Policy and Clinical Effectiveness who oversee core infrastructural elements for transformation. The strategic initiatives focus on achieving the best medical and Quality of life outcomes, patient and family experience of care and value through horizontal integration of research and delivery system redesign thereby accelerating the application of new knowledge to the bedside.

The strategic areas of focus include: 1) access to care; 2) System wide flow; 3) Patient Safety; 4) Clinical Excellence; 5) Reduced Hassles for Providers; and 6) Team well being. Patient and Family members participate at all levels of the organization including direct participation in redesign efforts. Twenty six cross functional teams focus on system level changes working to achieve near perfect performance in clinical and operational areas. Sixteen teams focus on improving outcomes for children with chronic disease. A business unit reporting structure fosters accountability for performance in each of 15 areas focused on particular populations of patients and services.

Improvement teams are co-led by faculty from the Departments of Pediatrics, Surgery, Anesthesia and Radiology with nursing leaders from each of the areas. Cincinnati Children's efforts on Quality and Transformation have resulted in significant improvement in Quality and Outcomes of care especially in Patient Safety. Key factors contributing to ongoing transformation include senior leadership and board drive for improvement; focus on perfection or near perfection goals, vertical alignment in measures, accountability, improvement capability, commitment to internal and external transparency, focus on measurement and constancy of purpose.

Internal Training in Scientific Improvement Methods of Improvement is provided and over 100 people have graduated from the training with the expectation of coaching and leading teams in their Microsystems. Training in Advanced Improvement Methods including complex study designs to evaluate specific causal impact of interventions are provided to faculty and fellows as well as national faculty from other universities. A Quality Scholars program seeks to build a new track of scientific inquiry. Joint appointment for fellows and faculty seeking careers in this area are afforded.

Improvement efforts are also underway in collaboration with other national Children's Hospitals (CHCA, NAACHRI, Ohio Children's Hospital Association). In many of these efforts, change packages tested and validated at Cincinnati have been applied to these multiple settings. Currently, use of improvement science is being extended to Community Based Improvements (reduction of Infant mortality and Cincinnati Intervention to Reduce Violence). In addition, single State and Multi-State efforts are ongoing both in hospitals as well as primary and secondary practice and research networks.

Using Research to Inform Child Health Policy: The Child Policy Research Center (CPRC)

During the last year, CPRC has continued to publish policy relevant research to inform decisions at the local, state and national levels. Highlights of this work are presented here. Locally, Center efforts, led by Dr. Donovan, have focused on perinatal health and infant mortality. Hamilton County has a mortality rate significantly higher than the national average, and disparities between white and African American births are even more pronounced. To respond to this persistent pattern, the CPRC published a report on infant mortality in October, 2007 released it at an invitational summit that included a leadership roundtable and ultimately resulted in the establishment of a new office, the Office of

Maternal and Infant Health and Infant Mortality Reduction, as part of the city of Cincinnati and Hamilton County. Second, Dr. Donovan and colleagues published an important study in Pediatrics evaluating the impact of the Every Child Succeeds on mortality among high risk infants.

At the state level, a body of policy research in the CPRC focuses on examining patterns of coverage and developing policies to improve coverage. Before the current budget crisis, many states, including Ohio, were moving towards raising income eligibility thresholds and extending public coverage to more children. The current fiscal environment has meant that many states are putting expansion on hold. However, enrolling currently eligible children is still an important goal. Dr. Fairbrother's research and that of others has shown that, in fact, many eligible children are not enrolled. Nationally and in Ohio, two out of every three uninsured children are eligible for public coverage right now. Understanding how to reduce the number of eligible uninsured requires knowing why these children are uninsured. In the past, it was assumed that these were children who had never been enrolled and that the solution was outreach to find and enroll them. CPRC's more recent research shows that many of these children have been enrolled in public insurance in the past, and that there is considerable movement in and out of public coverage, often at renewal periods. For example, 42% of low-income uninsured children had been enrolled in public insurance in the past year. Building on this work, and using national databases, we have shown that instability is a far larger problem than chronic lack of coverage, especially for low-income children who are eligible for public coverage. Dr. Fairbrother's research has also shown that over a two year period, a full 40% of low-income children are uninsured for some period of time in the two years, with 8% uninsured the entire two years and four times as many – 32% -- moving in and out of coverage during that period. This research has pointed to lack of retention as a major problem and has highlighted the importance of developing policies to retain eligible children, as well as policies to improve outreach. This policy-oriented work has informed the public debate on solutions to the problems. For example, our work resulted in testimony before the state legislature in California twice in this last year alone. Our work also resulted in a seat on the Governor of Ohio's Transition Team two years ago, shaping the policies put before the legislature and in informing the subsequent debate in the Ohio legislature.

Finally, our national activities have focused in two areas: enhancing quality of care through the reauthorization of the State Child Health Insurance Program (SCHIP) and the role of health information technology (HIT) in improving child health care. We, together with co-authors at Harvard Medical School published a report on the SCHIP program that reviewed the state of quality strategies for children and provided recommendations on features to be included in the SCHIP reauthorization. This work, and others, together with close collaborations with the American Academy of Pediatrics and the National Association of Children's Hospitals, contributed to the inclusion in the legislation of the most significant quality initiative in pediatrics to date and proposed funding of \$225 million. In the area of HIT, we have led the development of a supplement proposal to Pediatrics that includes articles from four CCHMC faculty and will be published in January, 2009.

Division Collaboration

Collaboration with Community and General Pediatrics

Collaborating Faculty: Thomas Dewitt; Mona Mansour; Jeffrey Simmons; Rob Kahn

Academic Improvement Collaborative focused on reducing ED/Urgent Care visits and admissions among the Medicaid asthma population in Hamilton County

Collaboration with Hematology/Oncology

Collaborating Faculty: John Perentesis

Affiliate on reduction of medical errors with chemotherapeutic agents

Collaboration with Rheumatology

Collaborating Faculty: Hermine Brunner; Daniel Lovell

NIH/NIAMS-funded RO1 entitled "Determinants of health-related quality of life in Juvenile Idiopathic Arthritis"

Collaboration with Endocrinology

Collaborating Faculty: Larry Dolan

Co-Investigator on CDC-funded "SEARCH for Diabetes in Youth"

Collaboration with Adolescent Medicine; Clinical Psychology/Behavioral Medicine

Collaborating Faculty: Maria Britto; Dennis Drotar

NIH/NHLBI-funded R21 entitled "Developing an in vivo adherence intervention for adolescents with asthma."

Collaboration with Gastroenterology

Collaborating Faculty: John Bucuvalas
Disease Specific Innovations and Outcomes Program

Collaboration with General and Community Pediatrics

Collaborating Faculty: Stephen Muething
Reducing Adverse Drug Events at CCHMC

Collaboration with Emergency Medicine; Pediatric and Thoracic Surgery

Collaborating Faculty: Michael Gittelman; Richard Falcone
Development of an injury center proposal

Collaboration with Neonatology

Collaborating Faculty: James Greenberg; Jeffrey Whitsett
Advisory Committee for Prevention of Prematurity Initiative

Collaboration with Pediatric and Thoracic Surgery

Collaborating Faculty: Victor Garcia
Cincinnati Initiative to Reduce Violence

Collaboration with Biostatistics & Epidemiology; Infectious Diseases

Collaborating Faculty: Ardythe Morrow; Mary Staat
National Vaccine Surveillance Network

Collaboration with Behavioral Medicine and Clinical Psychology

Collaborating Faculty: Monica Mitchell
Vision 2015: A Comprehensive Assessment of Child Health in Northern Kentucky

Collaboration with Behavioral Medicine and Clinical Psychology

Collaborating Faculty: Lori Stark; Jeffrey Epstein
Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: ADHD Care - Community

Collaboration with Behavioral Medicine and Clinical Psychology

Collaborating Faculty: Lori Stark; Beverly Smolyansky
Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: ADHD Care (Behavioral Medicine Academic Collaborative)

Collaboration with Behavioral Medicine and Clinical Psychology

Collaborating Faculty: Lori Stark; Beverly Smolyansky; Rebecca Kniskern
Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: OCD (Behavioral Medicine Academic Collaborative)

Collaboration with Behavioral Medicine and Clinical Psychology

Collaborating Faculty: Lori Stark; Beverly Smolyansky; Anne Lynch-Jordan
Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Pain Management (Behavioral Medicine Academic Collaborative)

Collaboration with General and Community Pediatrics

Collaborating Faculty: Thomas Dewitt
Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Asthma Care in Medicaid Populations - General Pediatrics Academic Collaborative

Collaboration with Adolescent Medicine

Collaborating Faculty: Maria Britto
Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Adolescents with Asthma - Chronic Care Innovation Lab

Collaboration with General and Community Pediatrics

Collaborating Faculty: Mona Mansour
Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of

Quality and Transformation. Improvement Team: Asthma Care in School Based Health Centers (SBHC)

Collaboration with Developmental & Behavioral Pediatrics

Collaborating Faculty: Patty Manning; Donna Murray

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Autism

Collaboration with Gastroenterology, Hepatology, & Nutrition ; Pediatric and Thoracic Surgery

Collaborating Faculty: Stavra Xanthakos; Thomas Inge

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Bariatric Surgery (DSIOP)

Collaboration with Gastroenterology, Hepatology, & Nutrition

Collaborating Faculty: John Bucuvalas; Kathleen Campbell

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Biliary Atresia/Liver Transplant (DSIOP)

Collaboration with Pulmonary Medicine - Clinical

Collaborating Faculty: Raouf Amin; James Acton

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Cystic Fibrosis (Pulmonary Academic Collaborative, DSIOP)

Collaboration with Endocrinology

Collaborating Faculty: David Repaske

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Diabetes

Collaboration with Gastroenterology, Hepatology, & Nutrition

Collaborating Faculty: Gitit Tomer

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Inflammatory Bowel Disease (IBD)

Collaboration with Rheumatology

Collaborating Faculty: Tracy V. Ting

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Juvenile Idiopathic Arthritis (JIA)

Collaboration with Neonatology & Pulmonary Biology

Collaborating Faculty: Kurt Schibler; Laura Ward

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Necrotizing Enterocolitis (NEC)

Collaboration with Pulmonary Medicine

Collaborating Faculty: Raouf Amin; Narong Simakajornboon

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Obstructive Sleep Apnea (OSA)

Collaboration with Cardiology Clinic

Collaborating Faculty: Timothy Knilans

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Safe Practices

Collaboration with Pediatric and Thoracic Surgery; Gastroenterology, Hepatology and Nutrition

Collaborating Faculty: Frederick Ryckman; Michael Farrell

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Improvement Team: Improve Patient Flow Across the System

Collaboration with Pediatric and Thoracic Surgery; Pediatric Neurosurgery; Anesthesia

Collaborating Faculty: Frederick Ryckman; Kerry Crone; Elena Adler; James Spaeth

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Clinical System Improvement Team: Perioperative Flow

Collaboration with Pediatric and Thoracic Surgery

Collaborating Faculty: Frederick Ryckman

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Clinical System Improvement Team: Perioperative Safety

Collaboration with Critical Care Medicine

Collaborating Faculty: Derek Wheeler

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Inpatient Clinical System Improvement Team: CVC Infections

Collaboration with Critical Care Medicine

Collaborating Faculty: Derek Wheeler

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Inpatient Clinical System Improvement Team: Ventilator Acquired Pneumonia (VAP)

Collaboration with Critical Care Medicine

Collaborating Faculty: Derek Wheeler

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Inpatient Clinical System Improvement Team: Codes Outside the ICU

Collaboration with Gastroenterology, Hepatology and Nutrition; General and Community Pediatrics

Collaborating Faculty: Michael Farrell; Stephen Muething

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Inpatient Clinical System Improvement Team: Reduce Serious Safety Events

Collaboration with Cardiology Clinic ; Infectious Diseases

Collaborating Faculty: Timothy Knilans; Beverly Connelly

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Inpatient Clinical System Improvement Team: Safe Practices

Collaboration with General and Community Pediatrics

Collaborating Faculty: Michael Vossmeier

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Inpatient Clinical System Improvement Team: High Reliability Unit

Collaboration with Behavioral Medicine and Clinical Psychology

Collaborating Faculty: Lori Stark

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Outpatient Clinical System Improvement Team: Timely Consult/Feedback Letter Process to Community Physicians

Collaboration with Behavioral Medicine and Clinical Psychology

Collaborating Faculty: Lori Stark

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Outpatient Clinical System Improvement Team: Improving Patient/Family Parking and Wayfinding Experiences

Collaboration with Infectious Diseases

Collaborating Faculty: Beverly Connelly

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Outpatient Clinical System Improvement Team: Flu Vaccine for All Eligible Populations

Collaboration with Adolescent Medicine

Collaborating Faculty: Maria Britto

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Outpatient Clinical System Improvement Team: Self-Management Support

Collaboration with Emergency Medicine

Collaborating Faculty: Joseph Luria

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of

Collaboration with Emergency Medicine

Collaborating Faculty: Scott Reeves

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. ED Clinical System Improvement Team: ED Pain Management and Evidence-Based Care

Collaboration with Emergency Medicine

Collaborating Faculty: Rima Rusnak

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. ED Clinical System Improvement Team: Patient Safety

Collaboration with Ophthalmology; Pediatric Primary Care and Hopple Street; Pediatric Rehabilitation; Urology; Gastroenterology, Hepatology and Nutrition; Rheumatology; Allergy and Immunology; Pulmonary Medicine; Pediatric Cardiology; Teen Health Center; Endocrinology; Neurology; Neurosurgery; Orthopedics; Plastic Surgery

Collaborating Faculty: Constance West; Thomas Dewitt; Linda Michaud; Curt Sheldon; Michell Cohen; Daniel Lovell; Amal Assa'Ad; Raouf Amin; Robert Beekman; Frank Biro; Stuart Handwerker; Ton Degrauw; Kerry Crone; Eric Wall; David Billmire

Improvement and Transformation Efforts Collaboration with Division and Faculty occur through the auspices of Quality and Transformation. Outpatient Clinical System Improvement Team: Access

Collaboration with General and Community Pediatrics; Neurology; Pulmonary Medicine; Psychiatry

Collaborating Faculty: Robert Kahn; Stephen Muething; Tracy Glauser; Michael Seid; Shannon Saldana

Center for Education and Research in Therapeutics

Collaboration with General and Community Pediatrics

Collaborating Faculty: Christopher Bolling

MEDTAPP obesity project

Collaboration with Cardiology

Collaborating Faculty: Robert Beekman

Joint Council on Congenital Heart Disease National Collaborative for Improvement in Pediatric Heart Disease

Division Publications

1. Britto MT. **"Preventive health care."** *Adolescent medicine: requisites in pediatrics*. Philadelphia: Mosby/Elsevier; 2008: 9-13.
2. Britto MT. **"Chronic health conditions."** *Adolescent medicine: requisites in pediatrics*. Philadelphia: Mosby/Elsevier; 2008: 34-8.
3. Britto MT, Schoettker PJ, Pandzik GM, Weiland J, Mandel KE. [Improving influenza immunisation for high-risk children and adolescents](#). *Qual Saf Health Care*. 2007; 16: 363-8.
4. Szilagyi PG, Rand CM, McLaurin J, Tan L, Britto M, Francis A, Dunne E, Rickert D. [Delivering adolescent vaccinations in the medical home: a new era?](#). *Pediatrics*. 2008; 121 Suppl 1: S15-24.
5. Tercyak KP, Britto MT, Hanna KM, Hollen PJ, Hudson MM. [Prevention of tobacco use among medically at-risk children and adolescents: clinical and research opportunities in the interest of public health](#). *J Pediatr Psychol*. 2008; 33: 119-32.
6. Conway PH, Cnaan A, Zaoutis T, Henry BV, Grundmeier RW, Keren R. [Recurrent urinary tract infections in children: risk factors and association with prophylactic antimicrobials](#). *JAMA*. 2007; 298: 179-86.
7. Conway PH, Tamara Konetzka R, Zhu J, Volpp KG, Sochalski J. [Nurse staffing ratios: trends and policy implications for hospitalists and the safety net](#). *J Hosp Med*. 2008; 3: 193-9.
8. Dougherty D, Conway PH. [The "3T's" road map to transform US health care: the "how" of high-quality care](#). *JAMA*. 2008; 299: 2319-21.
9. DeVoe JE, Graham A, Krois L, Smith J, Fairbrother GL. ["Mind the Gap" in children's health insurance coverage: does the length of a child's coverage gap matter?](#). *Ambul Pediatr*. 2008; 8: 129-34.
10. Fairbrother G, Broder K, Staat MA, Schwartz B, Heubi C, Hiratzka S, Walker FJ, Morrow AL. [Pediatricians' adherence to pneumococcal conjugate vaccine shortage recommendations in 2 national shortages](#). *Pediatrics*.

2007; 120: e401-9.

11. Miller EK, Griffin MR, Edwards KM, Weinberg GA, Szilagyi PG, Staat MA, Iwane MK, Zhu Y, Hall CB, Fairbrother G, Seither R, Erdman D, Lu P, Poehling KA. [Influenza burden for children with asthma](#). *Pediatrics*. 2008; 121: 1-8.
12. Timm N, Iyer S. [Embedded earrings in children](#). *Pediatr Emerg Care*. 2008; 24: 31-3.
13. Simmons JM, Kotagal UR. [Reliable implementation of clinical pathways: what will it take-that is the question](#). *J Pediatr*. 2008; 152: 303-4.
14. Sparling KW, Ryckman FC, Schoettker PJ, Byczkowski TL, Helpling A, Mandel K, Panchanathan A, Kotagal UR. [Financial impact of failing to prevent surgical site infections](#). *Qual Manag Health Care*. 2007; 16: 219-25.
15. Boratgis G, Broderick S, Callahan M, Combes J, Lannon C, Mebane-Sims I, Namie M, Pina IL, Rabbu R, Robinson J, Snow R, Watt A. [Disseminating QI interventions](#). *Jt Comm J Qual Patient Saf*. 2007; 33: 48-65.
16. Lannon C, Dolins J, Lazorick S, Crowe VL, Butts-Dion S, Schoettker PJ. [Partnerships for Quality project: closing the gap in care of children with ADHD](#). *Jt Comm J Qual Patient Saf*. 2007; 33: 66-74.
17. Lehmann C, Britto MT. "Transition to adult health care." *Adolescent medicine: the requisites in pediatrics*. Philadelphia: Mosby/Elsevier; 2008: 39-43.
18. Mandel KE, Kotagal UR. [Pay for performance alone cannot drive quality](#). *Arch Pediatr Adolesc Med*. 2007; 161: 650-5.
19. Epstein JN, Rabiner D, Johnson DE, Fitzgerald DP, Chrisman A, Erkanli A, Sullivan KK, March JS, Margolis P, Norton EC, Connors CK. [Improving attention-deficit/hyperactivity disorder treatment outcomes through use of a collaborative consultation treatment service by community-based pediatricians: a cluster randomized trial](#). *Arch Pediatr Adolesc Med*. 2007; 161: 835-40.
20. Slade GD, Rozier RG, Zeldin LP, Margolis PA. [Training pediatric health care providers in prevention of dental decay: results from a randomized controlled trial](#). *BMC Health Serv Res*. 2007; 7: 176.
21. Phelan K, Donovan E, Kotagal UR, Doyne M, Reeves S. "Clinical practice guidelines." *Comprehensive pediatric hospital medicine*. Philadelphia: Mosby/Elsevier; 2007: 36-43.
22. Phelan K, Khoury J, Atherton H, Kahn RS. [Maternal depression, child behavior, and injury](#). *Inj Prev*. 2007; 13: 403-8.
23. Krugman SD, Racine A, Dabrow S, Sanguino S, Meyer W, Seid M, Serwint JR. [Measuring primary care of children in pediatric resident continuity practices: a Continuity Research Network study](#). *Pediatrics*. 2007; 120: e262-71.
24. Mattke S, Seid M, Ma S. [Evidence for the effect of disease management: is \\$1 billion a year a good investment?](#). *Am J Manag Care*. 2007; 13: 670-6.
25. Hodgson ES, Simpson L, Lannon CM. [Principles for the development and use of quality measures](#). *Pediatrics*. 2008; 121: 411-8.
26. Pracht EE, Tepas JJ, 3rd, Langland-Orban B, Simpson L, Pieper P, Flint LM. [Do pediatric patients with trauma in Florida have reduced mortality rates when treated in designated trauma centers?](#). *J Pediatr Surg*. 2008; 43: 212-21.
27. Simpson LA, Marshall R. [Getting the evidence needed: a recent report from the Institute of Medicine](#). *Ambul Pediatr*. 2008; 8: 147-9.
28. Smith RB, Cheung R, Owens P, Wilson RM, Simpson L. [Medicaid markets and pediatric patient safety in hospitals](#). *Health Serv Res*. 2007; 42: 1981-98.

Grants, Contracts, and Industry Agreements

Grant and Contract Awards

Annual Direct / Project Period Direct

Fuller, S

Healthy Steps

University of North Carolina

05/01/06 - 06/30/08

\$5,737 / \$57,161

Phelan, K

Childhood Residential Injury and Caregiver Supervision

National Institutes of Health

K23 HD 045770

04/01/05 - 03/31/10

\$137,216 / \$652,433

Lannon, C

Child Health Care Quality Improvement Partnership

Ohio Department of Health

09/07/07 - 12/31/08

\$23,077 / \$46,154

Pursuing Perfection in Pediatric Therapeutics

Agency for Healthcare Research and Quality

U18 HS 016957

09/01/07 - 08/31/11

\$670,134 / \$2,717,142

AAP Autism and Developmental Screening Project

American Academy of Pediatrics

01/01/08 - 06/30/09

\$69,808 / \$104,545

Margolis, P

DUAP QIT

Duke University Affiliated Physicians, Inc

07/01/07 - 01/31/08

\$57,562 / \$57,562

PIBDNet Trailblazer Collaborative

The Pediatric IBD Network for Research and Improvement

10/01/06 - 06/30/08

\$4,768 / \$165,462

Early Development Services Intervention Initiative

First 5 of LA (University of California Los Angeles)

01/30/06 - 11/30/08

\$309,515 / \$883,621

IPIP Phase 2

The American Board of Medical Specialties Research and Education Foundation

02/01/06 - 01/31/09

\$228,160 / \$364,261

PICU - BSI Collaborative Phase III

NACHRI

10/01/07 - 09/30/09

\$40,000 / \$80,000

Powell, C

PACE Project

University of North Carolina

10/01/06 - 06/30/08

\$35,556 / \$62,223

Current Year Direct

1,581,533

Total 1,581,533
