Cincinnati Children's
change the outcome

Health Policy and Clinical Effectiveness

Division Photo

Front Row: M. Britto, S. Iyer, L. Dynan, L. Simpson, H. Kaplan, K. Mandel, U. Kotagal, A. Carle

Back Row: G. Fairbrother, C. Froehle, M. Seid, KJ Phelan, A. Goudie, P. Conway, P. Margolis, C. Lannon, E. Alessandrini, J. Anderson, S. Muething

Division Data Summary

Research and Training Details	
Number of Faculty	13
Number of Joint Appointment Faculty	8
Number of Research Fellows	5
Number of Support Personnel	109
Direct Annual Grant Support	$4,620,215
Peer Reviewed Publications	47

Significant Publications

Ryckman FC, Yelton PA, Anneken AM, Kiessling PE, Schoettker PJ, Kotagal, UR. Redesigning intensive care unit flow using variability management to improve access and sfety. Jt Comm J Qual Patient Saf. 2009 Nov; 35(11): 535-543.

This article highlights the success of the capacity management work. It shows that a system for smoothing flow, based on an advanced predictive model for need, occupancy, and length of stay, coupled with an active daily strategy for demand/capacity matching of resources and needs, allowed for much better early planning, predictions, and capacity management.

Mandel KE. Aligning rewards with large-scale improvement. JAMA. 2010 Feb 17;303(7):663-4.

This article is highlighted because it discusses innovations with significant potential to accelerate the spread of evidence-based innovations and how this could affect cost and quality on a national level.

Simpson L, Fairbrother G, Touschner J, Guyer J. How federal implementation choices can maximize the impact of CHIPRA on health care of children with developmental and behavioral needs. J Dev Behav Pediatr. 2010 Apr;31(3):238-43.

This article provides a set of recommendations for the federal government officials charged with implementing Children's Health Insurance Program Reauthorization Act and explores the importance and potential impact of this legislation.

Conway PH, Clancy C. Comparative-effectiveness research -- implications of the Federal Coordinating Council's Report. N Engl J Med. 2009 Jul 23;36(4):328-330.

This article lays a foundation for the development of infrastructure to support clinical effectiveness research by developing a definition, establishing prioritization criteria, and a creating a strategic framework.

Carle AC, Simpson LA. Identifying child health priorities for comparative effectiveness research from the IOM's Report. Acad Pediatr. 2010 May-Jun;10(3):155-8.

This article describes the key aspects of IOM's report that put forth recommendations regarding national priorities for clinicial effectiveness research and discusses their implications for pediatric research, teaching, and practice.

Division Highlights

Overall

The mission of the Division of Health Policy and Clinical Effectiveness (HPCE) is to improve the health and quality of life of children and their families and to transform care delivery through innovation, generation of new knowledge, and application of research into practice and policy. Transformation requires action at the clinical, community, and policy levels of the health care system.

The Division of Health Policy and Clinical Effectiveness (HPCE) maintained its focus on quality of care delivery to ensure that systems of care improve outcomes for children here at CCHMC, across the community of Greater Cincinnati and influenced quality of pediatric care through efforts at the state and national level. A primary premise of HPCE remained the integration of health systems and policy research with reliable application of new knowledge in the delivery system. In addition, development of strategic partnerships here and abroad advanced a global focus on improving outcomes for children through spread of successful quality improvement efforts.

The highlight of the year was the establishment of the James M Anderson Center for Health Systems Excellence. Named in honor of Jim Anderson, CEO who presided over CCHMC from 1996-2009, The Anderson Center was structured to integrate research, improvement and policy to have a national and international impact on children's health. Preliminary areas of focus include safety, chronic disease outcomes, capacity management, population / community health, and spread of each through multi-site networks and policy research. The Center will be launched in September 2010.

The main focus in 2010 was integration across the centers within HPCE and finalizing the budget, timeline, and plan for implementation of the recommendations of the Scientific Advisory Council (review completed in 2009). This implementation strategy has been incorporated into the Anderson Center creation and the new CCHMC 5-year strategic plan. The division will continue to play a key role in the execution of this plan and faculty from HPCE serve as core methodologists for all aspects of the transformational efforts related to delivery system excellence

Research activities in HPCE expanded significantly with a 50 % increase in external funding, from 3.7 million in FY09 to 5.2 million in FY10. Four areas of focus are highlighted, below: 1) Creating an exemplar at CCHMC for delivery system excellence, 2) Research to inform child health policy, 3) Externally funded efforts on advancing knowledge and use of quality improvement methods in health care through multisite research and improvement networks, and 4) Building the next generation of improvement experts.

Quality and Transformation

Delivery System Excellence

Cincinnati Children's focus on Quality and Transformation, which began in 2002, drove remarkable improvement in Quality and Outcomes of care in 2010. The transformation efforts were co-led by faculty with primary and secondary appointments within HPCE working collaboratively with leaders in other disciplines. These faculty with extensive training including Quality Improvement and Quality Improvement Research oversee system-wide transformation design and execution including demand capacity management, safety, and chronic system redesign. In each area of focus, horizontal integration of research and improvement is actively pursued to accelerate the bedside application of new knowledge.

The success of the transformation journey rests in senior leadership, board engagement and support from the organizational strategic plan; focus on perfection or near perfection goals, focus on clear measures and vertical alignment of those measures, accountability, building capacity for improvement, a commitment to transparency, constancy of purpose. The success of the quality and transformation strategy is evidenced by the fact that, in FY10, US News and World report ranked CCHMC as a top 10 program in all 10 pediatric sub-specialties, and a top 5 program in 8 of the 10 programs examined, and was recognized as one of only 8 Honor Roll Children's Hospitals. In addition, the Leapfrog group listed CCHMC as a Top Hospital in 2009.

Focus areas for Transformation:

• *Patient Safety*. Patient safety remained a top priority for the organization this year. Notable successes in this area include reduction of serious IV infiltrates by 30%, conversion to EPIC with no Serious Safety Events related to implementation, and sustaining reduction in serious safety events overall. In addition, through a statewide collaborative, the team achieved a 50% reduction in Surgical Site Infections and a 33% reduction in Adverse Drug Events across Ohio. CCHMC won major funding based on successful improvement efforts in this area, and will expand Patient Safety

projects aimed at the elimination of serious harm across all 8 Children's Hospitals in Ohio.

• *Disease-Based Improvement*. Chronic care systems, under Dr. Maria Britto, embedded individual disease-based outcome measures, as well as evidence-based process measures, into the EPIC design for over 60 conditions, most of which are complex or chronic.

17 active chronic disease teams focused on disease-specific outcomes improvement, and achieved 75% of targeted goals set for this year. Two examples highlight this effort: In cystic fibrosis, average lung function (aged 6-17) improved to 104% of expected and over 60% of patients met the national goal of having an age-adjusted weight greater than the 50th percentile. In Behavioral Medicine and Clinical Psychology, teams focused on children with attention deficit disorder, obsessive-compulsive disorder, and chronic pain met or exceeded their goals for improved outcomes.

Lastly, an internal quality improvement collaborative directed fifteen condition-based teams that implemented best practices in self management to improve outcomes in chronic care.

• *Demand Capacity Management*. The system-wide flow team led several projects that matched capacity with demand, used prediction algorithms, and focused on handoffs to achieve a 25% reduction in flow delays and near elimination of patient placement failures. As attention to cost reduction increases with health care reform, this effort will remain an important area of focus for the organization. The team also implemented several capacity and need models that evaluated size plans and scheduling scenarios to determine optimal resource and space utilization and forecast future growth.

• *Spread and Reach.* Faculty in HPCE worked with clinical leaders at the state and national level to spread these successes. These faculty serve as improvement advisors in several state and national collaboratives in partnership with other national Children's Hospitals and agencies. Change packages tested and validated at Cincinnati have been applied successfully to these multiple settings. Improvement science is currently being used to transform Community Health including the reduction of both infant mortality and childhood obesity. (See highlights from CPRC and CHCQ.)

Child Policy Research Center

Research to Inform Child Health Policy

This year CPRC was again successful in securing the extramural funding that allowed for expansion of the work in health services research and policy translation, and the publication of policy-relevant research to inform decisions at the local, state and national levels. Highlights include:

• *Population Health*: *The Hamilton County Infant Mortality (HCIM) Initiative.* The goal of HCIM is to collaborate across medical and non-medical organizations and individuals that target improved perinatal and infant outcomes to reduce the HCIM to below the national average. FY 2010 was the first full year of operations for the Hamilton County Office of Maternal and Infant Health and Infant Mortality Reduction (OMIHIMR). The project uses the IHI Triple Aim model to impact mortality. Using a 2-year rolling average of HCIM rate, a slight decrease was detected over the last 9 months of FY2010.

• *Population Health: Ohio Perinatal Quality Collaborative (OPQC).* OPQC is a statewide improvement initiative to rapidly reduce the proportion of pregnancies with poor outcomes related to prematurity. Since the initiation of the OPQC obstetric project in 2008, more than 8,000 premature births have been prevented, resulting in >250 NICU admissions avoided. A second OPQC project, focused on reducing hospital-associated infections among pre-term infants, achieved reduction in infections among the 24 participating Ohio NICUs.

• *Online resource development for policy makers.*CPRC completed a comprehensive update to the Florida Chartbook, an online data resource for policymakers with special emphasis on obesity. It provides a comprehensive source of user-friendly and accessible data to inform policy decisions at both a state and local level.

• *Statewide and national policy research and application*.Locally**,** CPRC was named as part of a leadership team that was established to implement the $6.7 million Hamilton County obesity grant from the CDC (joint CPRC-CHCQ initiative). On the state level, CPRC produced a policy brief on children with special health care needs (CSHCN) in Ohio and held a successful release in Columbus.

National policy activities continued to focus in three areas: enhancing quality of care through the reauthorization of the State Child Health Insurance Program (SCHIP), the role of health information technology (HIT) in improving child health care, and addressing the childhood obesity epidemic. This year CPRC examined patterns of coverage with particular focus on the enrollment and retention of eligible children in publicly-funded insurance programs and published an in-depth report on disparities in quality of care by race and ethnicity, insurance type, and income (American Pediatrics). In addition, CPRC published a comprehensive analysis of state level variation in obesity and disparities in the Health Affairs special issue on childhood obesity (March 2010).

Center for Health Care Quality

Advancing Knowledge About Use of Quality Improvement Methods in Health Care

The Center for Health Care Quality (CHCQ) maintained its focus on advancing knowledge about the use of quality improvement methods in healthcare. Over the last 12 months, CHCQ executed several statewide improvement efforts in perinatal and primary care, continued to develop networks to integrate research and improvement, and expanded its program to develop future quality improvement leaders within healthcare. CHCQ initiated or continued a number of projects over the last year aimed at integrating quality improvement and research, including:

• *Clinical collaborative care network (C3N)*. CHCQ was awarded a 5 year NIH grant to design, prototype, optimize, and evaluate a patient-provider network to improve clinical practice, patient self-management, and disease outcomes of pediatric inflammatory bowel disease (PIBD). Activities this year focused on designing a collaborative network involving patients, clinicians, and care sites that improve the outcomes of IBD.

• *Improving Performance in Practice (IPIP).* Initially supported by the Member Boards of the American Boards of Medical Specialties, IPIP was launched in 2004 to transform how physicians meet new Maintenance of Certification requirements. The program has succeeded in improving the outcomes of patients seen by primary care providers in seven states, working with over 350 practices and 1400 physicians. IPIP has created a robust learning network that serves as a model for national and state initiatives to drive systems improvement.

• *ImproveCareNow (ICN)*. ICN is a program in which pediatric gastroenterologists at 16 practice sites in the US work together to develop, test, and implement quality improvement tools to improve the care and health of over 2,000 children and adolescents with Crohn's disease and ulcerative colitis. Since early 2008, the proportion of Crohn's disease patients in remission has increased from 49% to 64%.

• *Center for Education and Research in Therapeutics (CERT)*. CERT continued to support the development of additional research and improvement networks in cardiology, gastroenterology, rheumatology and emergency medicine.

• *Developmental Screening (Concerned About Development).* This initiative designed, tested, and utilized an intervention to support primary care practices throughout Ohio in implementing office systems for screening young children for delayed development, autism, and social-emotional concerns. After an initial pilot project involving 23 practices, an evidence-based change package was deployed to 80 additional practices. Across >100 practices, the rate of screening increased from a baseline of 15% to greater than 80% at the targeted well child visits. Preliminary analysis of data for the pilot practices confirms a doubling of statewide screening claims in the age cohort.

Improvement Training and Quality Scholars Program

Building Capability

• *Internal Training in Scientific Improvement Methods.* Intermediate Improvement Science Series (I2S2) has graduated over 230 internal leaders trained in executing quality improvement in their area. Training in Advanced Improvement Methods (AIM) educated faculty and fellows, as well as national faculty from other universities, in the theory and application of advanced quality improvement methodology including complex study designs to evaluate specific causal impact of interventions.

• *Quality Scholars Program*. Dr. Evaline Alessandrini leads The Quality Scholars program, started 3 years ago, which provides a new track of scientific inquiry and offers joint appointments for fellows and faculty seeking careers in the area of quality improvement science. Currently, physician scholars represent six different divisions in the Department of Pediatrics. The program continued active collaboration with and recruitment of scholars from all departments, both here at CCHMC and elsewhere.

Division Collaboration

Collaboration with Community and General Pediatrics

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

Academic Improvement Collaborative focused on reducing ED/Urgent Care visits and admissions among the Medicaid 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 Adolescent Medicine; Behavioral Medicine and Clinical Psychology

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 Bucavalas

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
Collaboration with Neonatology

Collaborating Faculty: James Greenberg; Jeffrey Whitsett
Advisory Committee for Prevention of Prematurity Initiative
Collaboration with Biostatistics and Epidemiology; Infectious Diseases

Collaborating Faculty: Ardythe Morrow; Mary Staat
National Vaccine Survellance 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: Jeffrey Epstein; Lori Stark
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: Beverly Smolyansky; Lori Stark
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: Rebecca Kniskern; Beverly Smolyansky; Lori Stark
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 and 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, and 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, and 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: James Acton; Raouf Amin
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 Gastroenterology, Hepatology, & Nutrition

Collaborating Faculty: Gitit Tomer; Ted Denson
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 Endocrinology

Collaborating Faculty: Lawrence Dolan; David Repaske
Improvement and Transformation Efforts

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

Collaboration with Rheumatology

Collaborating Faculty: Tracy 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: Kurth 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 Gastroenterology, Hepatology and Nutrition; Pediatric and Thoracic Surgery

Collaborating Faculty: Michael Farrell; Frederick Ryckman

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 Anesthesia; Pediatric and Thoracic Surgery; Pediatric Neurosurgery

Collaborating Faculty: Elena Adler; Kerry Crone; Frederick Ryckman; 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 Vossmeyer

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
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 Quality and Transformation. ED Clinical System Improvement Team: ED Flow
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 Allergy and Immunology; Endocrinology; Gastroenterology; Hepatology and Nutrition; Neurology; Neurosurgery; Ophthalmology; Orthopedics; Pediatric Cardiology; Pediatric Primary Care and Hopple Street; Pediatric Rehabilitation; Plastic Surgery; Pulmonary Medicine; Rheumatology; Teen Health Center; Urology

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

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

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

Evaline Alessandrini, MD, MSCE, Professor ; *Director, Quality Scholars Program in Health Care Transformation*
Research Interests: Outcomes and risk-adjustment in pediatric emergency care. Quality of ambulatory services for vulnerable children. Health system interventions for improvement.

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

Anthony Goudie, PhD, Assistant Professor ; *Member, Child Policy Research Center*
Research Interests: Identifying barriers (systems and policy) to effectively treating vulnerable pediatric populations. Studying mediating factors associated with treating chronic conditions when obesity is a comorbid co

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.

Monica Mitchell, PhD, Associate Professor
Behaviorial Med & Clin Psychology
Community based participatory research, health disparity research, nutrition and health research, translational research, sickle cell disease research

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

Innovation to Change Chronic Illness Outcome

Chronic illness kills too many and costs too much. This year, Peter Margolis, MD, PhD, and Michael Seid, PhD, began developing a system for transforming chronic care by designing, prototyping, optimizing, and evaluating a clinical collaborative care network (C3N) to harness the inherent motivation and collective intelligence of patients and clinicians. This network will allow patients and physicians to share information freely, collaborate to solve important problems, and use their collective creativity and expertise to improve health.

The project begins with enhancing a network specifically focused on improving clinical practice, patient self-management, and disease outcomes of pediatric inflammatory bowel disease (IBD). This network is being developed and evaluated as a potential demonstration project for similar networks focusing on other forms of chronic illness.

Widespread adoption of clinical collaborative care networks could improve outcomes of care for many patients and could result in substantial reductions in health care expenditures.

The C3N concept is modeled after collaborative innovation networks and cyberteams of self motivated individuals with a collective vision, enabled by the Web to achieve a common goal by sharing ideas, information, and work. Existing health-related social networks separate patients from providers despite the fact that patient-provider interaction is key to chronic illness care. The collaborative network approach challenges the paradigm by engaging patients as co-equals; by making interaction continuous through one-to-one and one-to-many communication; and by leveling the knowledge gradient.

Reducing home injuries

Residential injury among U.S. children results in more than 1.7 million emergency visits a year and more than $3 billion in medical care costs.

The HOME Injury Study, developed by K.J. Phelan, MD, MSc, in collaboration with the Division of General and Community Pediatrics and the Cincinnati Center for Children's Environmental Health, conducted a controlled, community-based trial to evaluate an intervention program to reduce childhood injuries by reducing exposure to injury hazards in the home.

Home safety interventions included installing cabinet locks, stair gates, smoke detectors and other passive safety aides. The HOME Injury Study showed a 68 percent reduction of in child injuries in households receiving intervention compared with control group households.

Encouraged by these results, the Cincinnati Home Injury Prevention (CHIP) Trial team will begin scaling-up this pilot intervention in November 2010 with support from the Eunice Kennedy Schriver National Institute for Child Health and Human Development. Interventions will be conducted through the Every Child Succeeds home visitation program. The primary outcome goal for the CHIP Trial is a 50 percent reduction in medically-attended injury attributable to the preventive measures.

Identifying Children with Special Health Care Needs

Children with special health care needs account for 12.8 percent of U.S. children, yet their medical expenses account for roughly half of pediatric medical expenses. These children often fail to get needed services, experience delayed care, and have more unscheduled intensive care admissions. Moreover, parents spend large amounts of time coordinating care for their children and experience more financial difficulties and unemployment relative to parents of healthier children.

Improving health outcomes for this population depends upon an empirically sound method of identifying children with special health care needs. A study led by Adam Carle, MA, PhD, has helped validate a key identification tool: the Children with Special Health Care Needs (CSHCN) Screener.

This study used classical and modern test theory to establish the CSHCN Screener's internal psychometric properties, using data from the 2005-2006 National Survey of Children with Special Health Care Needs. The results showed that Cronbach's alpha, a measure of internal reliability, equaled 0.76. Confirmatory factor analysis for ordered-categorical measures indicated that a single underlying trait, health-condition-complexity, underlies Screener responses. Item response theory showed that responses provide particularly precise measurement among children experiencing elevated health-condition-complexity trait levels.

The findings demonstrate that responses to the CSHCN Screener have good internal psychometric properties and include minimal random measurement error. Importantly, they show that epidemiologists, clinicians and others can rely on CSHCN Screener responses to reliably identify children experiencing one or more of the five consequences included on the CSHCN Screener.
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Division Publications

1. :

Grants, Contracts, and Industry Agreements

Grant and Contract Awards		Annual Direct / Project Period Direct
Alessandrini, E		
Defining Quality Performance Measures for Pediatric Care		
Health Resources & Services Administration		
H34 MC 16597	07/01/09 - 08/31/10	$221,629 / $221,629
Carle, A		
Assessing Measurement Bias Impact		
University of North Florida (National Institutes of Health)		
R15 NR 010631	08/01/09 - 03/31/12	$36,378 / $124,239

Donovan, E

CMS Neonatal Outcomes Improvement Project: Improvement Initiative to Reduce Mortality/Morbidity Rates in Premature Births
University of Cincinnati (Ohio Department of Jobs and Family Services)
U0CMS030227 07/18/08 - 06/30/11 $621,651 / $1,420,876

Fairbrother, G

Research to Evaluate the Ohio Medicaid Expansion and Inform Future Policy Choices
University of Cincinnati (Ctr for Medicare/Medicaid Services)
A89070357 08/16/08 - 06/30/11 $176,759 / $584,436

California Healthy Families Evaluation
The California Endowment
12/01/09 - 11/30/10 $45,026 / $45,026

Kotagal, U

Solutions for Patient Safety
Ohio Hospital Association (Cardinal Health)
01/01/09 - 12/31/10 $210,000 / $210,000

Solutions for Patient Safety
Cardinal Health
01/01/09 - 06/30/11 $58,400 / $58,400

Lannon, C

Pursuing Perfection in Pediatric Therapeutics
Agency for Healthcare Research and Quality
U18 HS 016957 09/01/07 - 08/31/11 $682,378 / $2,034,414

Center of Excellence for Improving Child Health Outcomes (Obesity)
University of Cincinnati (Ctr for Medicare/Medicaid Services)
A89070357 01/12/09 - 06/30/11 $251,928 / $251,928

Center of Excellence for Improving Child Health Outcomes (Developmental Screening)
University of Cincinnati (Ctr for Medicare/Medicaid Services)
A89070357 03/28/08 - 06/30/11 $348,061 / $348,061

Autism Diagnosis Education Pilot
American Academy of Pediatrics
07/01/09 - 06/30/11 $22,727 / $22,727

Margolis, P

Early Development Services Intervention Initiative - First 5 LA
The Regents of the Univ of California
12/01/05 - 11/30/10 $288,225 / $1,515,477

Chapter Quality Network Asthma Project
American Academy of Pediatrics
08/01/08 - 06/30/10 $128,806 / $233,704

Open Source Science: Transforming Chronic Illness Care
National Institutes of Health
R01 DK 085719 09/30/09 - 08/31/10 $1,011,992 / $1,011,992

Center for Healthier Children, Families & Communities
UCLA School of Public Health (W. K. Kellogg Foundation)
04/01/09 - 03/30/12 $124,221 / $124,221

PIBDNet Trailblazer Collaborative
The Pedi IBD Network for Res & Improvement
10/01/06 - 06/30/10 $191,763 / $481,967

Simpson, L

Best Pharmaceuticals for Children Act 2007
The Lewin Group, Inc. (Department of Health and Human Services)
HHSP2332004501XI 01/06/09 - 09/29/10 $105,466 / $205,462

Mobilizing Healthcare Against Obesity
National Initiative for Child Healthcare Quality
10/25/09 - 5/15/11 $94,805 / $94,805

Current Year Direct $4,620,215

Total	**$4,620,215**