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Winter 2019

## Using Science and Social Awareness to Mitigate Health Disparities

by [Stuart S. Winter, MD](#)

Demographic transitions signify important milestones in the social and scientific evolution of the United States. Over the course of the next few decades, the U.S. will witness a transition from a predominantly ethnically and racially homogenous society to a more heterogeneous one. By the year 2044 non-Hispanic Whites will no longer be our ethnic majority, and by the year 2060 Hispanics/Latinos, who are the third fastest growing ethnicity nationally, will account for more than one-quarter of the total U.S. population. Census reporting of two or more races per individual are expected to increase, with steep declines in non-Hispanic Whites alone. Concurrent to these ethnic and racial changes, age demographics will also be rapidly evolving. By 2030 the last of the baby boomer generation will turn 65, while overall fertility rates will continue to decline. Despite continuing efforts to include representation of different populations in clinical trials, current participation rates do not accurately represent the diverse constituencies of the U.S. For these reasons, recruitment of special populations, including children, is needed to assess and continue to advance health related research. Increased participation helps to ensure that sufficient sample size for ethnicity-specific analyses can be



## 2018 Internal Research Grant Awards

Children's Minnesota Research Institute and Children's Research Committee are proud to have awarded grants to many promising clinical research projects in 2018. Below are our awards for 2018:

### Large Grant Program

One large grant of up to \$150,000 was awarded to a project designed to stimulate novel, high-impact research projects with the potential of developing into national external funding.

Congratulations to [KrisAnn Schultz, MD](#) on her proposal,

"Early detection of DICER1-Related cancers."

### Small Grant Program

Awards for up to \$25,000 were made to support pilot research and data analysis projects.

conducted and applicable to the diverse populations that researchers seek to serve.

At Children's Minnesota, we're embracing the scientific method to better understand how human behaviors interact with race, ethnicity and healthcare access. Because children are a special population, they require additional protections until they reach the age of majority. But, the lives they lead, growing up in their parents' homes, often experience hardships for which there are no protections at all. Social science informs us that zip code, neighborhoods and communities can be deeply influential on children's destinies. As a healthcare community, we are learning that *equity* and *equality* are not the same, and that "inclusion" is a necessary but not alone sufficient step towards improved healthcare outcomes. Children's Minnesota is to be commended for its focus on inclusion and equity, celebrated both annually and continuously through many of its PRIDE sponsored events. We welcome James C. Burroughs, II, Esq, who joined Children's as our first-ever Chief Equity and Inclusion and Officer, who will provide our keynote presentation at our upcoming Spring Research Conference, scheduled for April 26, 2019. In this issue, we present the results of the joint UMN-Pediatrics/CTSCI - Children's Minnesota venture, the 2018 Children's Community Collaborative Grant. This community-focused grant will provide \$200,000 to study the effects of racism and discrimination in child health and development, and is being led by Drs. Michael Troy (Children's) and Alicia Kunin-Batson (UMN). Please also read an article provided by Ms. Lynn Tanner and her team, showing that a heightened awareness and willingness to treat neurological deficits in cancer patients can improve outcomes in all children, regardless of their racial and ethnic backgrounds.

## 2018 Child Health Collaborative Grant Award

### Partnership in Action

#### **The Effects of Racism and Discrimination on Children's Health & Development: Implications for Screening and Intervention**

[Michael Troy, Ph.D.](#) (Children's MN, BHS) & Alicia Kunin-Batson, Ph.D. (UMN, Pediatrics)

That health disparities exist is indisputable. Our responsibility to eliminate such disparities is compelling. But effective strategies to accomplish this must be informed by innovative research on the specific mechanisms and pathways leading to health disparities.

Congratulations to the following applicants:

"Point of care ultrasonography for intussusception: a randomized noninferiority trial," [Kelly Bergmann MD](#)

"Risk Factors for prolonged recovery among children and adolescents with concussion: A retrospective cohort study," [Amy Linabery, PhD, MS](#)

"Don't Ask, Don't Know: Assessing Health Disparities for LGBTQ Youth in a Pediatric Emergency Department," [Brianna McMichael](#)

"Does implicit racial bias impact pediatric cardiopulmonary resuscitation performance in a hybrid simulation?" [Samreen Vora MD](#)

"Nutritional status as a predictor of cleft palate repair outcomes," [Siva Chinnadurai MD MPH](#)

"Outcomes of speech surgery in patients with velopharyngeal insufficiency: A pilot study," [Brianna Roby MD](#)

#### **Neonatal Internal Grants**

Grants for projects addressing neonatal research issues were awarded to:

"Assessing the impact of simulation-based mastery learning on Neonatal nurse practitioner self-efficacy and performance," [Brittany Dahlen](#)

"Structural racism and income inequality: associations with adverse birth outcomes," [Amanda Nickel, Alicen Spaulding PhD](#)

#### **Pediatric Medicine:**

Research is elucidating the specific biological causes, near term neurodevelopmental effects, and long term health outcomes of adversity, whether physical or experiential, early in life. There is also increasing evidence that racism is one such cause of health disparities and poor health outcomes among people of color living in the United States. Yet, not all children exposed to such stressors will experience negative physical and mental health consequences or, when present, express these outcomes in the same way. We know very little about the specific biopsychosocial pathways through which health risks emerge from racism-related stressors, and even less about potentially modifiable factors that may buffer the negative impact of racism-related stressors on children's health. Our study will address this knowledge gap and build on the strengths of a racially-ethnically diverse cohort of 600 children (ages 5-9 at recruitment) and their parents currently participating in a longitudinal study of obesity disparities. In addition to data already collected on parent stress, coping, acculturation, and discrimination, our study will add measures of children's physical health, emotional well-being, neurocognitive development, and stress physiology. We will also create metrics of neighborhood-level exposure to structural racism from geocoded addresses. In this way, we will explore the pathways through which structural inequality and exposure to discrimination affect children's health and development.

Additionally, we hope to identify protective factors that may mitigate this relationship and improve children's health, well-being, and developmental outcomes. Finally, we believe this study will contribute to the development of more appropriate and effective screening and intervention approaches for children and families facing racial discrimination in our community.

## The Stoplight Project:

### Research in Action



By [Lynn Tanner](#), Rehab Clinical Specialist, Hem/Onc

Completing research at Children's Minnesota should encompass our values. It is obvious that our research highlights the value of "owning outcomes"; however, how do we carry

## 2019 Research

### Conference

April 26, 2019

Children's Minnesota Research Institute will again host the Pediatric Medicine Research Conference:

**April, 26, 2019**  
**9:00 am - 2:40 pm**  
**Children's Minneapolis**  
**Education Center**

Registration RSVP:

<http://www.cvent.com/d/x6qz82>

Conference Objectives:

- Highlight innovative research performed by local pediatric medical providers
- Discuss current issues in conducting research within a clinical care setting
- Encourage providers to participate in research and examine the benefits to both patients and providers
- Promote collaboration between community partners

Conference Registration is FREE and coming soon! Continuing education hours will be available.

To add your email to our mailing list, please contact [Heidi Finstad](#).

## Children's researchers break record

Children's Research Publications



out research and aim to put “kids first”, “listen, really listen” and “join together”? The journey of The Stoplight Program (SLP), a proactive physical therapy program for

children with acute lymphoblastic leukemia, is an example of how we can do this.(1)

The SLP began by a physical therapist (PT) listening to a parent’s questions regarding walking abnormalities and motor function for her child and others like him. This led to the PT scanning the literature and finding information about weakness, decreased flexibility, decreased motor abilities, and continued limitations into adult survivorship in the childhood cancer population. A meeting occurred to “join together” the PT, a nursing researcher, and a medical provider, and the SLP was born. We were able to “own outcomes” by collecting data, and designing a prospective follow-up study funded by the Pine Tree Apple Tennis Classic Foundation. We also began new research on the measurement and impact of chemotherapy-induced peripheral neuropathy with another research scientist. (2-4)

We continued to “listen, really listen” to colleagues both at Children’s MN, nationally, and internationally as we began to present the initial findings at conferences. Due to generous donations from patient families, we were able to “join together” and offer training to other hospitals, not only during an on-site training visit, but through quarterly conference calls. Concurrently, we “joined together” and put “kids first” by applying this research patient to patient in discussions between rehabilitation therapists, medical providers, patients, families, and researchers to translate what we were learning. Again, listening to families revealed difficulty in accessing the physical therapy services provided by the SLP. This led to immersing PTs and eventually occupational therapists (OTs) into the cancer and blood disorders clinic as well as a new gym space demonstrating the importance both the medical community and families placed on rehabilitation services. This collaborative environment created a culture of recovery and wellness in a chronically ill population. The journey has now produced our newly published findings revealing that children who are able to complete the SLP are significantly more active with better motor skills 1.5 years after completing cancer therapy compared to historical controls. (5)

While only published in January 2019, presenters from other institutions shared the SLP as their first resource for pediatric cancer rehab at the national physical therapy conference in



## Welcome New Staff

**Children’s Research welcomes the following new staff:**

Heidi Finstad, Administrative Assistant-Senior to Stuart Winter

Paige Mallinger, Clinical Research Coordinator, Hem-Onc Research

Rajesh Satpathy, Clinical Research Coordinator, Hem-Onc Research

Victoria Nguyen, Research Assistant, Neuroscience Research

Daniel Lee, Biostatistician, Children’s Research Institute

## Contact Us:

**Questions or feedback?**

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February 2019. The Stoplight Program and the pediatric-modified total neuropathy score are being used at multiple children's hospitals both nationally and internationally. By living out our values at Children's Minnesota, we were able to beat the 17 year knowledge translation time gap (6) to provide improved rehabilitation services to the children with cancer of not only our region, but to children outside our reach.

**1. Tanner LR, Sencer S., Hooke MC.** The Stoplight Program: A proactive physical therapy intervention for children with acute lymphoblastic leukemia. *Jour Pediatr Oncol Nurs*, 2017;34(5),347-357.

**2. Gilchrist LS, Tanner LR.** Short-term recovery of balance control: association with chemotherapy-induced peripheral neuropathy in pediatric oncology. *Pediatr Phys Ther.* 2018;30(2),119-124.

**3. Gilchrist LS, Tanner LR, Ness KK.** Short-term recovery of chemotherapy-induced peripheral neuropathy after treatment for pediatric non-CNS cancer. *Pediatr Blood Cancer.* 2017 Jan;64(1):180-7.

**4. Gilchrist LS, & Tanner LR.** Gait patterns in children with cancer and vincristine neuropathy. *Pediatr Phys Ther.* 2016;28(1),16-22.

**5. Tanner LR, Hooke MC** Improving Body Function and Minimizing Activity Limitations in Pediatric Leukemia Survivors: The Lasting Impact of the Stoplight Program. *Pediatr Blood Cancer.* 2019 Jan 4:e27596. doi: 10.1002/pbc.27596. [Epub ahead of print]

6. Morris, Z.S., S. Wooding, and J. Grant, The answer is 17 years, what is the question: understanding time lags in translational research. *J R Soc Med*, 2011;104(12), 510-20.

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