



## COVID-19 SPECIFIC RESEARCH ACTIVITY

### ABOUT

Research groups at the Mirro Center for Research and Innovation have been able to respond to the needs of both the health system and the community during the COVID-19 pandemic. Clinical research has been working to provide investigational treatments to our community through Expanded Access Programs and Clinical Trials. Health Services and Informatics Research (HSIR) has provided support in the following areas: surge modeling and data visualizations, community surveys, and community outreach.

# CLINICAL RESEARCH

## ***March 2020 – Remdesivir Individual Emergency Expanded Access***

Applied for Individual Emergency Expanded Access to Remdesivir for 2 critically ill patients. At the time this was the only avenue open to residents of Northeast Indiana to receive Remdesivir, both patients recovered.

## ***April 2020 – Convalescent Plasma Intermediate Expanded Access Program***

The Mayo Clinic sponsored this Expanded Access Program for 2,780 hospitals nationwide, enrolling a total of 101,000 patients over 5 months. The Parkview Clinical Research Department enrolled over 100 patients in those 5 months, including patients from the Burmese, Hispanic, and Amish communities.

## ***April 2020 – COVID Data Registry Studies***

- **Virus Study** – Sponsored by the Mayo Clinic and the Society of Critical Care Medicine (SCCM) this international registry is compiling a database of hundreds of datapoints from over 42,000 patients.
- **Epic COVID Registry** – The Clinical Research Department provided guidance and input on our own internal COVID patient list within our Epic Electronic Medical Record (EMR).
- **COVID-19 & Cancer Consortium Registry** – Sponsored by the Cancer Consortium this international registry is enrolling patients from 120 sites in the United States, the European Union, Argentina, Canada and the United Kingdom with a current or historical invasive solid or hematologic malignancy and have been diagnosed with COVID-19.

## ***June 2020 – COVID-19 Treatment Studies***

- **Lilly UDAA Study** - A randomized, double-blind, placebo-controlled, clinical trial of LY3127804 in patients who are hospitalized with pneumonia and presumed or confirmed COVID-19.
  - LY3127804 is an anti-Ang2 monoclonal antibody (mAb) that has shown to improve survival and pulmonary function in experimental models of ARDS.
  - 3 patients enrolled; study closed to enrollment 10/8, drug did not prove effective.
- **Aevi Genomic Medicine CERC-002 Study** – a randomized, double-blind, placebo-controlled, multicenter, Phase 2 clinical trial to evaluate the efficacy and safety of CERC-002 in adults with COVID-19 pneumonia and acute lung injury.
  - CERC-002 is an anti-LIGHT monoclonal antibody previously under development for Crohn's Disease and Ulcerative Colitis.
  - 19 patients enrolled; study closed to enrollment 11/17.
- **Lilly KHAA Study** – A randomized, double-blind, placebo-controlled, parallel-group Phase 3 study of Baricitinib in patients with COVID-19 infection.
  - Baricitinib is a JAK inhibitor targeting the cytokines that drive the body's immune response and has previously been studied in numerous inflammatory diseases.
  - Opened to enrollment 11/24, EUA approved 11/19.

# COVID-19 SURGE MODELING AND DATA VISUALIZATIONS

The HSIR team has stood up a variety of models to help leaders and decision makers throughout the COVID-19 pandemic. The team provides weekly updates with community data visualizations and modeling outputs to Parkview COVID-19 Incident Command; these updates are also shared with our state and regional public health officials. Since April we have also shared these activities with a wide range of community, industry, and government entities including:

Indiana Pandemic Information Collaborative  
Lilly Pharmaceutical COVID-19 Team  
Indiana Hospital Association  
Ascension Health  
Cleveland Clinic  
Columbia University

Purdue University, West Lafayette  
Purdue University, Fort Wayne  
Fort Wayne Medical Society  
Fort Wayne Mayor's Office  
Allen County Department of Health Board

## Surge Modeling

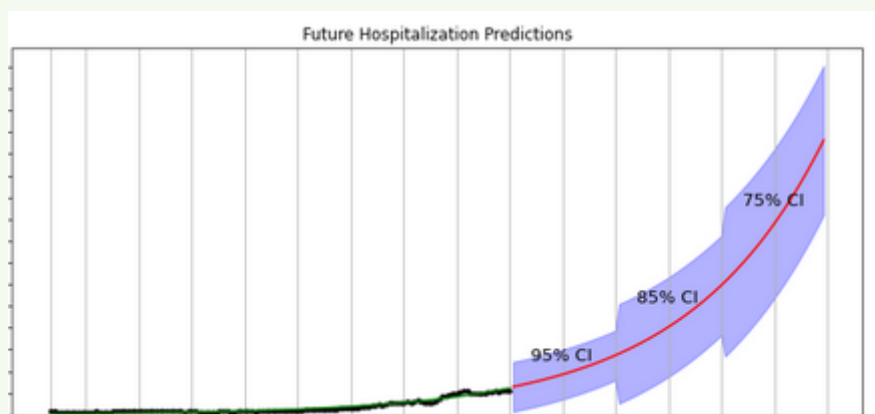
Initial models included tailored SIR/SEIR models to simulate what the various surges in daily hospitalizations would look like. These models were developed in coordination with hospital Incident Command, Executive Leadership, and Infectious Disease experts.



After the decline of the first wave, we evolved the simulation model to include a “Resurgence” or a second wave. The outputs of our models are shared at the weekly hospital system-wide COVID-19 Incident Command.



In October, we released our hyper-local predictive model (Gaussian Mixture Model) which is a dynamic model that is updated every week based on the most recent Parkview hospitalization numbers. Like the previous simulation models, we use our own data for the model assumptions. Predictions are more sensitive to the previous 2- to 3-week actual hospitalization values. In late November, the predictive model achieved a 97% accuracy rate and predicted numbers were hit each week for 7 weeks.



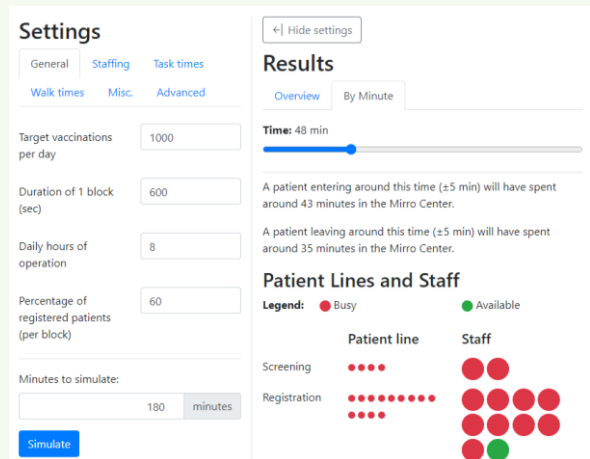
# COVID-19 SURGE MODELING AND DATA VISUALIZATIONS

(continued)

## Vaccination Simulation Tool

In December, we deployed a Clinic Flow Simulation to assist with the planning and daily operations of Parkview's COVID-19 vaccination clinic. To the right is a screenshot of the tool which has now been published to the Parkview community. Some of the key features include:

- Simulation of one day of interactions between patients and staff, including screening, patient registration, and vaccination.
- Multiple user-configurable parameters ranging from staffing to task times.
- All-day and minute-by-minute visualizations of staff utilization, average wait times, and patient lines to identify potential bottlenecks.



## COMMUNITY SURVEYS

HSIR has worked collaboratively with our community leaders to develop and deploy surveys, and swiftly analyze responses. The insights derived from these surveys that are then used by community organizations and local government officials to make data-driven decisions about resource allocation and policy related to COVID-19.

### Community Needs Assessment:

#### 3/4/2020: Pandemic Preparedness Survey (ACDH)

- [Allen County Dept. of Health hosting meeting to reduce potential impact of Coronavirus outbreak](#)

#### 3/12/2020: Community Needs Survey – Pre-Sheltering

- Pater, J. and Toscos, T. (2020, April 3). [CORONAVIRUS: A Live Community Forum. Community Survey Results. PBS Fort Wayne.](#) Public television report.

#### 4/24/2020: Community Needs Survey – Post Sheltering

- Pater, J. and Toscos, T. (2020, April 24). [CORONAVIRUS: A Live Community Forum. New Community Survey. PBS Fort Wayne.](#) Public television report.

#### 12/5/2020: Community Needs Survey – Second Wave

- [Allen County Department of Health promoting the re-release of the community needs survey.](#)

## COMMUNITY SURVEYS *(continued)*

### *Parents and Children*

#### **3/15/2020: Parent and Child Social Media & Tech Use in Pandemic**

- Drouin, M., McDaniel, B. T., Pater, J., & Toscos, T. (2020). How parents and their children used social media and technology at the beginning of the COVID-19 pandemic and associations with anxiety. *Cyberpsychology, Behavior, and Social Networking*. <https://doi.org/10.1089/cyber.2020.0284>

#### **7/24/2020: Parent Survey – Needs for Reopening Schools**

- Flanagan, M., McDaniel, B. T., Drouin, M., Pater, J., Toscos, T. (2020). Parents' feelings about school reopening during COVID-19: Survey results from Northeast Indiana. *Parkview Mirro Center for Research and Innovation*. <http://dx.doi.org/10.13140/RG.2.2.35049.93283>

### *Local Healthcare Officials*

#### **4/15/2020: Northeast Indiana Dental Survey – PPE Needs Assessment for Dental Office Reopening**

- Findings shared with leadership of the Indiana Dental Association

## COMMUNITY OUTREACH

HSIR has reached out to communities about COVID-19 through media appearances and contributions, as well as projects benefitting underserved communities.

### *Project Echo*

Project Extension for Community Healthcare Outcomes (ECHO) has been tele-educating health care workers all over the world for the past 17 years by moving knowledge, not people, and by sharing information of medical best practices to underserved communities via video conferencing technology.

In 2020, Parkview Hospital joined over 250 other organizations and became an ECHO training facility specifically for the National Nursing Home COVID Action Network.

- Recruited 65 long-term care facilities
- Ongoing hosting of 16 weekly, 90-minute ECHO sessions for participating facilities. These are interactive and adaptable
- Providing time support for participating facilities to ask questions directly to subject matter experts, provide feedback and lessons learned with their community, and help bring to light their best practices.

### *Podcasts*

- Pater, J. and Guha, S. (October 5, 2020) [“COVID Corner” Podcast Discussing COVID-19 Long Haulers](#)

# COMMUNITY OUTREACH *(continued)*

## Talks

- Pater, J. (2020, June). Principles of Digital Citizenship During COVID. Summer Learning Institute, Invited speaker. Atlanta Public Schools.
- McDaniel, B. T. (2020, June). Screen use during COVID-19: How to create healthy digital habits in families and children. Workshop presented 3 times to a total of approximately 200 professionals and parents for Great Kids Make Great Communities. Allen County, IN.
- Pater, J. (May 20, 2020). Internet Safety and COVID: What parents need to know. Atlanta Public Schools.
- McDaniel, B. T. (April 29, 2020). [Young Children and Screens during COVID-19](#), Children and Screens Institute (over 500 parents and professionals from 8 countries)
- McDaniel, B. T. (April 23, 2020). [How to manage screen time with children during the pandemic](#), WANE TV.

## Blog Post

- McDaniel, B. T. (June 9, 2020). [Helping children with social anxiety emerge from social distancing](#), Parkview Blog.
- McDaniel, B. T. (May 21, 2020). [Maintaining strong relationships with your children while working from home](#), Parkview Blog.
- McDaniel, B. T. (May 19, 2020). [The unique needs of remote workers with children](#), Parkview Blog.
- McDaniel, B. T. (May 5, 2020). [A note to parents on intentional phone use during COVID-19](#), Parkview Blog.
- Drouin, M. (May 1, 2020) [How to ask for help from a distance](#), Parkview Blog.
- McDaniel, B. T. (April 27, 2020). [Dealing with parenting stress during COVID-19](#), Parkview Blog.
- Drouin, M (April 29, 2020) [How to Ask for Help from a Distance: Princess Leia taught me 4 strategies that work](#), Psychology Today.
- Drouin, M. (March 31, 2020) [Food, Netflix, and News: Why We're Bingeing and How to Stop](#), Psychology Today.
- McDaniel, B. T. (March 27, 2020). [Keeping kids connected to friends during social distancing](#), Parkview Blog.
- Drouin, M. (March 26, 2020) [Coping With Death During a Pandemic](#), Psychology Today.
- Drouin, M. (March 22, 2020) [How to Talk to Teens & Young Adults About Social Distancing](#), Psychology Today.
- McDaniel, B. T. (March 18, 2020). [COVID-19 just flipped your family upside down. Now what?](#), Parkview Blog.

## Press

- Drouin, M (May 21, 2020) [Social distancing also stresses teens, young adults](#), The Sentinel Record.
- Toscos, T. (May 20, 2020) State sees improved numbers: [IUPUI study shows slowing in rate of COVID-19 deaths](#), The Journal Gazette.
- McDaniel, B. T. (May 14, 2020) [Forum asks how much time is too much time for preschoolers and screens](#), Catholic Sentinel.
- Pater, J. and Toscos T. (May 6, 2020) [SPECIAL Report: Northeast Indiana Researchers reveal urgent needs during the pandemic](#), Input Fort Wayne.
- Pater, J. and Toscos T. (April 29, 2020). [Local philanthropic groups used the community needs survey findings to coordinate the use of resources in support of the community](#), Input Fort Wayne.
- McDaniel, B. T. (April 17, 2020) [Ask NYT Parenting: I Use My Phone for Everything. Is That Harming My Kids?](#), The New York Times
- Drouin, M. (April 8, 2020) Interview for Claudia (Brazilian magazine) on COVID-19 and relationships.
- Toscos, T., Pater, J. (April, 3, 2020) [Verbatim: PBS Fort Wayne sets coronavirus community forum tonight](#), The Journal Gazette.
- Pater, J. and Toscos, T. (March 31, 2020) [Local government and utility and banking sectors today provided an update on the community's response to COVID-19 and resources that are available to the public](#). City of Fort Wayne Announcement.
- Drouin, M. (March 24, 2020) [Coping in a crisis: Help teens manage their COVID-related losses](#), The Journal Gazette.

# TEAM MEMBERS

## **Clinical Research Group** (Contact: Andrea Maisonneuve, [andrea.maisonneuve@parkview.com](mailto:andrea.maisonneuve@parkview.com))

**Andrea Maisonneuve RPh, MBA, ACRP-CP**  
Director of Clinical Research

**Sue Budzon RN, CCRC**  
Clinical Research Nurse

**Tracy Miller BSN, CCRC**  
Clinical Research Nurse

**Kary Ault MBA, CCRC**  
Clinical Operations Manager

**Janelle Souder BSN**  
Clinical Research Nurse

**Teresa Morrison RN, CCRC**  
Clinical Research Nurse

**Brooke Hoverman**  
Research Billing Compliance Specialist

**Sally Harshbarger RN**  
Clinical Research Nurse

**Kala Smith CCRC**  
Clinical Research Regulatory Coordinator

**Bianca Snively**  
Research Billing Compliance Specialist

**Jessica Heffernan RN, CCRC**  
Clinical Research Nurse

**Judy Richmond MSN, CCRC**  
Research Education and Training Coordinator

**Tressa Brunner BSN, CCRC**  
Clinical Research Nurse

**Stephanie Hubert**  
Clinical Research Assistant

## **HSIR Modeling Group** (Contact: Tammy Toscos, [tammy.toscos@parkview.com](mailto:tammy.toscos@parkview.com))

**Tammy Toscos, PhD**  
Research Scientist/HSIR Director

**Shion Guha, PhD**  
Research Scientist

**Scott Stienecker, MD**  
Medical Director for Infection Prevention

**Jessica Pater, PhD**  
Research Scientist

**Victor Cornet**  
UX Research Specialist

## **HSIR Community Surveys Group** (Contact: Jessica Pater, [jessica.pater@parkview.com](mailto:jessica.pater@parkview.com))

**Tammy Toscos, PhD**  
Research Scientist/HSIR Director

**Brandon McDaniel, PhD**  
Research Scientist

**Mindy Flanagan, PhD**  
Research Scientist

**Jessica Pater, PhD**  
Research Scientist