Johns Hopkins Clinical Research Network

Annual Report FY2020

Johns Hopkins Clinical Research Network

Directors

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Our Vision

The Johns Hopkins Clinical Research Network (JHCRN) is a premier network of affiliated medical institutions, which engages in innovative, collaborative clinical research to improve the health of individuals and populations.

Executive Summary

This year started with growth but quickly brought the challenges of COVID-19. The JHCRN team and our sites were able to take this challenge head-on by supporting investigators doing important COVID-19 focused studies. The JHCRN now has 5 active COVID-19 studies, and JHCRN sites will soon start enrolling for a seminal COVID-19 vaccine trial.

JHCRN RAMP Grant Supports Impactful Suicide Prevention Study

Holly C Wilcox, PhD
Associate Professor
Johns Hopkins Bloomberg School of Public Health

Holly Wilcox, PhD, is an Associate Professor in the Department of Mental Health of the Johns Hopkins Bloomberg School of Public Health, with joint appointments in the departments of Health Policy and Management as well as the Johns Hopkins Schools of Medicine and Education. A psychiatric epidemiologist, Dr. Wilcox is primarily focused on the prevention of suicide in community settings; her work focuses on population-based research on suicidal behaviors, the evaluation of the impact of community-based universal suicide prevention programs, and data linkage strategies to inform suicide prevention. Dr. Wilcox is involved in suicide prevention research in schools, emergency departments, and other settings. She leads a multidisciplinary, interdepartmental suicide prevention workgroup at Johns Hopkins, and is co-chair of Governor Hogan's Maryland Commission on Suicide Prevention and Maryland's Suicide Prevention and Early Intervention Network (MD-SPIN).

Dr. Wilcox has a RAMP project to establish enhanced partnerships and collaborations with Anne Arundel Medical Center (AAMC) and Peninsula Regional Medical Center (PRMC) to link data from multiple sources including hospital discharges, insurance claims, death investigations, the health information exchange, and administrative data (e.g., civil status, employment status, legal system involvement, neighborhood characteristics, unemployment, gun ownership, arrests and incarceration). Aggregating these data systems will allow for novel secondary data analyses, which will enhance our understanding of risk and protective processes on suicide death across Johns Hopkins Hospital and these other Johns Hopkins Clinical Research Network medical centers. This RAMP team has IRB approval to merge 15 existing data sources. When the datasets are merged, the team will conduct analyses assessing data quality and develop predictive models using machine learning and natural language processing algorithms. These models will be enhanced using spatial algorithms to detect the geo-clustering of suicide. It is expected that this project will establish long-term sustainable partnerships with AAMC and PRMC.

Impactful Work of a JHCRN Investigator during the COVID-19 Pandemic

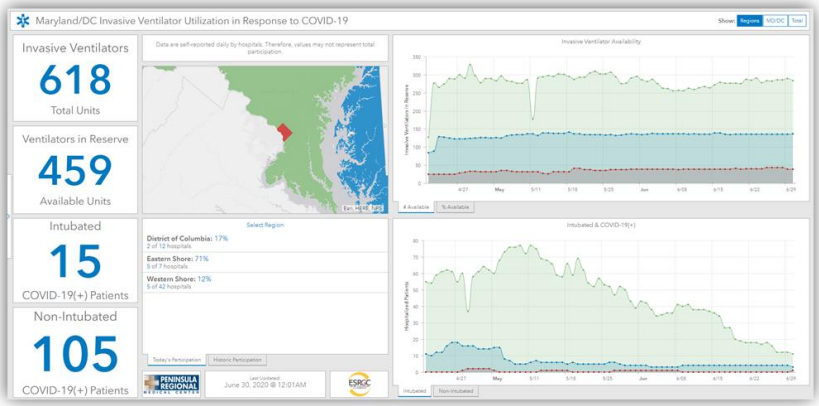
Robert Joyner, PhD - Maryland Mechanical Ventilator Utilization during COVID-19 Pandemic

Robert Joyner, PhD
Director, Richard A. Henson Research Institute
Peninsula Regional Medical Center

Beginning early in 2020, a palpable fear arose within COVID-19 hard-hit regions of the United States that choices of life or death would need to be made based on the availability of medical devices and healthcare staffing. Of the devices, mechanical ventilators were identified in particular because of their necessity in caring for patients experiencing respiratory failure because of coronavirus disease.[1] Uncertain access to these life-saving devices positions us squarely in an unprecedented time in the history of American health care. Estimates for the need for mechanical ventilators stated in the media by political officials are so enormous they sound fictional, but it would be a fool's errand to ignore warnings in these unparalleled times. A recent article in the New England Journal of Medicine describing the limited availability of mechanical ventilators is a call to arms to local, regional and statewide authorities to develop strategies around equipment availability that will mitigate what is seen as a coming disaster.[2]

Utilization of medical resources (in particular to this research, mechanical ventilators) during a pandemic requires accurate data to support decision-making and policy development. Research efforts requiring many separate sites to contribute data is a complex effort requiring unique knowledge and skill-sets. The Johns Hopkins Clinical Research Network (JHCRN) has made significant contributions to the success of this research effort through its members' extensive knowledge and experience with multi-site research, and data access and management.

Figure 1. Maryland/DC Invasive Ventilator Utilization in Response to COVID-19



Dr. Robert Joyner (JHCRN member PRMC), Jennifer McGrain, and the Eastern Shore Regional Graphical Information Systems Collaborative (ESRGC) developed a public-facing web-based dashboard displaying mechanical ventilator utilization and reserve estimates among Maryland Emergency Management identified regions. Approximately 20% of hospitals in the state of Maryland and 17% of hospitals in the District of Columbia provided data on a daily basis for this study (see figure 1). From March 2020 through June 2020 it was determined that the need for mechanical ventilation in Maryland and D.C. did not rise to the same critical levels as seen in New York City or some European countries.

Challenges for this study originated from data collection and data applicability.

- Data Collection
    - Many hospitals and managers were reluctant to participate because of perceived workload and concern for liability for the data.

- Data Applicability
    - Mechanical ventilator capability varies widely among models ranging from simple controls that lead to less or more support, to sophisticated 21st century controls that allow intra-breath delivery management. While high sophistication would be a common choice when applying a mechanical ventilator to a patient with COVID-19 related acute respiratory failure neither this study nor any other study known to the authors provide an understanding of the capabilities of the mechanical ventilators being reported as available for use by hospitals in Maryland or around the country.

A strategy being developed will utilize the resources of the Chesapeake Regional Information System for our Patients (CRISP) as the data source for hospital utilization of mechanical ventilators. Establishing this source of data will assure a reliable data source that is less onerous on daily individual effort. Included in this effort is a discussion on how to best collect data on mechanical ventilator sophistication. This information is already available within each hospital and potentially already being reported to a data repository. For example, the University of Michigan is tracking this type of information with EPIC (internal communication).

COVID-19 has not been eliminated and the threat still exists. Natural and man-made disasters happen periodically. Countries with the most technological advancements and widely available resources can be severely impacted. Having this type of information available for decision makers could make a substantial impact on resource alignment. Developing data sharing processes during disasters is difficult and should be prioritized in times of relative calm.

Thank you to the JHCRN and its members for its support of this important research effort.

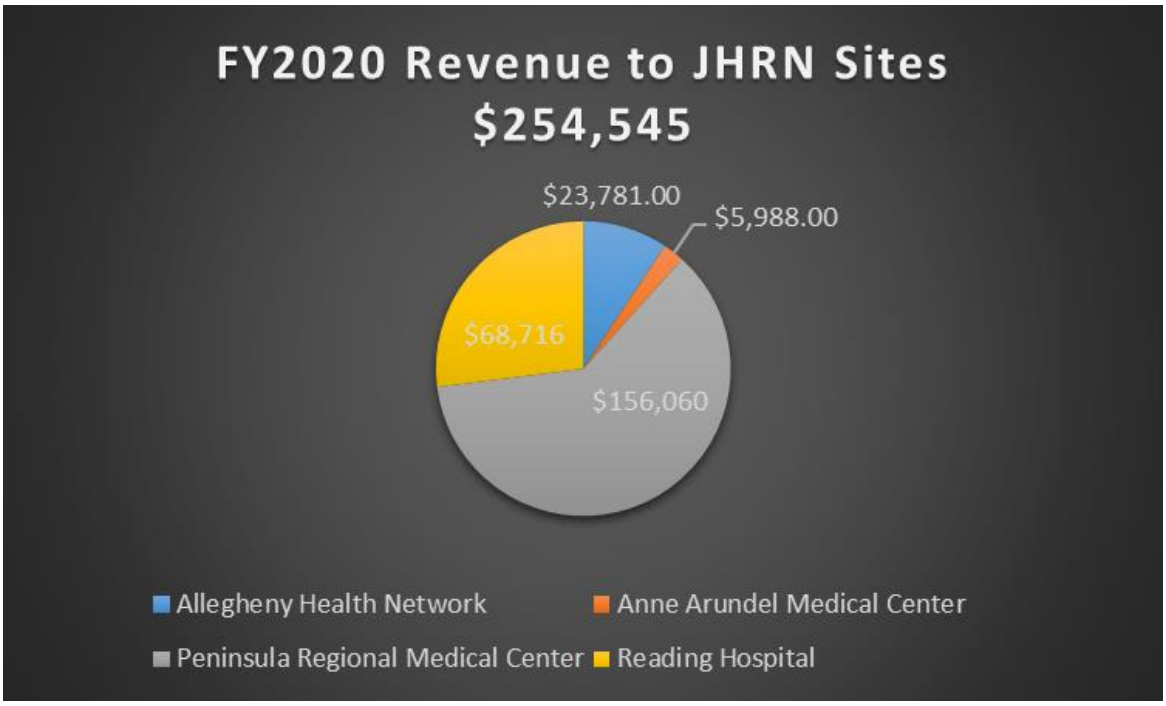
Table 1. JHCRN since inception in 2009	
Studies Opened	55
Participants Enrolled	4,282
Investigator-Initiated Studies	38
Industry Sponsored Studies	17

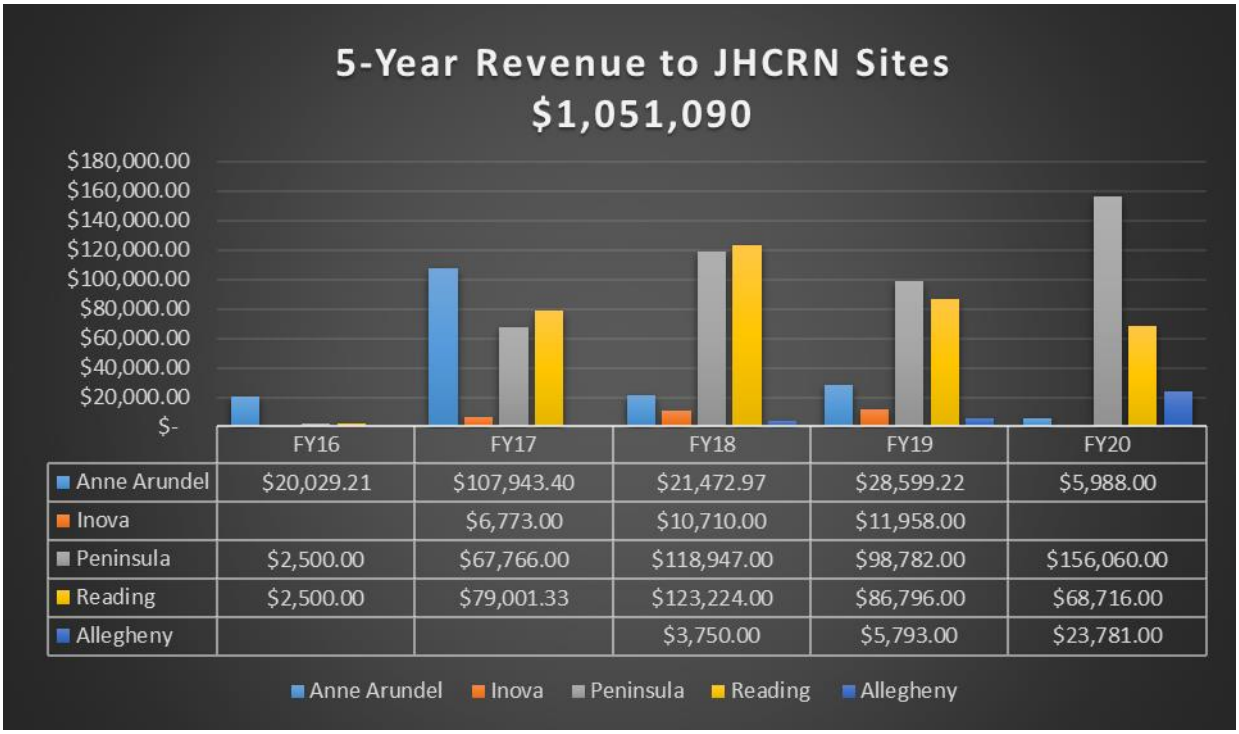
Performance in the past year

- 48 studies/initiative presented to the JHCRN in FY2020
- 17 ongoing investigator-initiated studies
- 7 new studies added in FY2020
- 14 studies were submitted for funding
- 500 patients enrolled in JHCRN studies
- 25 studies reviewed in FY2020
- 5 active COVID-19 studies
- The JHCRN supported research projects that totaled in $12,611,115 of grant revenue to Johns Hopkins investigators

FY 2020 Financial Overview

Sites have received $1,051,090 in research revenue from JHCRN studies in the past 5-years. The FY2020 research revenue for JHCRN sites totaled $254,545. The figures below reflect the payments to each site for their participation in the JHCRN since the networks inception and in FY2020 studies.





	FY16	FY17	FY18	FY19	FY20
Anne Arundel	$20,029.21	$107,943.40	$21,472.97	$28,599.22	$5,988.00
Inova		$6,773.00	$10,710.00	$11,958.00	
Peninsula	$2,500.00	$67,766.00	$118,947.00	$98,782.00	$156,060.00
Reading	$2,500.00	$79,001.33	$123,224.00	$86,796.00	$68,716.00
Allegheny			$3,750.00	$5,793.00	$23,781.00

JHCRN Funded Studies

The below studies collaborated with JHCRN sites in FY2020.

PI For Grants	Title	Sponsor	Project Start/End Date	Award	FY20 Value
Dobs, Adrian	Improving Cancer Care for the Underserved in Academic and Community Practice Setting	MERCK FOUNDATION	**1/3/2017-12/31/2021**	**$2,000,000**	**$400,000**
Sears, Cynthia	Biofilm Epidemiology And Mechanisms in Colon Cancer	NCI	**7/1/2016-6/30/2021**	**$4,288,610**	**$805,483**
Sieber, Frederick	REGAIN Hip Fracture Outcomes Study	PCORI Award via Univ. of Penn via Reading	**10/1/2015-9/30/2020**	**$ 203,280**	**$203,280**
Smith , Katherine	Simplifying Survivorship Care Planning	PCORI Award 5yrs	**10/1/2015 - 9/15/2021**	**$3,999,796**	**$3,999,796**
Dy, Sydney	Achieving Excellence in Biopsychosocial Cancer Pain Management through a Comprehensive Quality Education Program.	R25 NCI (resubmission)	**9/1/2018 - 8/31/2023**	**$1,335,176**	**$268,318**
Park, Benjamin	TBCRC40 The Breast Cancer Clinical Trials Consortium	BREAST CANCER RESEARCH FD	**10/1/2005 – 9/30/2019**	**$17,025,000**	**$1,250,000**
Aucott, John	Cohen Lyme Project (the Initiative)	STEVEN AND ALEXANDRA COHEN FOUNDATION	**1/1/2016 – 12/31/2020**	**$6,043,547**	**1,460,214**
Paller, Channing	A Randomized Phase 2 Trial of Intravenous Ascorbate (Vitamin C) in Combination	BILL MARCUS FOUNDATION INC	**12/1/2014- 12/31/2022 NCE**	**$3,299,808**	**$1,211,965**
Stearns, Vared	Full Phase II Trial of Palbociclib with Fulvestrant in Women with Hormone (Palbo)	PFIZER INC	**4/24/2016 – 4/23/2021**	**$2,264,307**	**$2,264,307**
Meltzer, Stephen	Academic-Industrial Partnership for Non-invasive Barrett's Esophagus Detection	NIDDK	**8/1/2019 - 7/31/2023**	**$3,622,447**	**$747,752**

Conclusion

The Johns Hopkins Clinical Research Network continues to strengthen its position as both a reputable and relevant multi-institutional collaboration. Our focused efforts continue to engage a growing number of investigators conducting research relevant to local, regional, and national initiative and priorities. With new initiatives and partnerships, the JHCRN will continue to foster research collaborations across the research continuum, and pursue important funding opportunities.