



# ALLINA HEALTH RESEARCH

2019 Annual Report

Advancing health outcomes through research

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For a complete list of Allina Health Research 2019 manuscripts, abstracts, presentations and posters, visit [allinahealth.org](http://allinahealth.org).

Allina Health Research annual report  
project manager: Lara Freyder  
writer: Jennifer Syltie Johnson



## Welcome to the 2019 Allina Health Research annual report.

**Unprecedented times. Challenging situation. Financial duress. Disparities. Stay Home. Stay Safe.**

How many times have we heard these words uttered in the last few months? Indeed, it has been an unprecedented and challenging time. We are all experiencing the COVID-19 pandemic and civil unrest while facing our own personal and professional challenges. Allina Health, like many health care organizations worldwide, is facing the duality of preparing for and addressing the local COVID-19 surge while ensuring the safety of our patients, staff, visitors, and community. We are championing our

efforts as we also confront a record slow-down on scheduled surgeries and other services.

Through this difficult period, our research teams have been tremendously resilient and have worked rigorously to ensure that essential clinical trials continue with tele-consenting, tele-monitoring and other innovative methods. We have been diligent to ensure that our research work is prioritized for the most critical studies so that our patients can continue to receive the best care.

You may ask why this is the right time to present information on our work from last year. Allina Health Research leadership determined that it is important to continue to showcase our outstanding research outcomes. Why? Because cancer does not stop for COVID. A brain tumor or cardiac event does not stop; a much needed hip or knee replacement, or a mental health consultation cannot stop. And the research continues.

This much-abbreviated version of our research outcomes from 2019 serves to highlight this fact. It gives us hope that although we will be in a forever COVID-changed world, the excellent work of our dedicated teams does not go unnoticed and will continue through adversity.

We invite you to peruse our 2019 outcomes and ask you to look forward to a special 2020 COVID-19 specific research report in the upcoming months.

**Timothy Sielaff, MD, PhD, FACS**  
Chief Medical Officer and Senior Vice President

**Vani Nilakantan, PhD**  
Vice President of Research

# Research houses

Allina Health considers research an essential component of supporting its patients, families and communities. The institutional investment in research provides the necessary infrastructure for advancing research across the organization and fosters a supportive environment for the research community. Research at Allina Health is organized into clinically focused research houses. This structure aligns with and supports the strategic mission of the Allina Health Clinical Service Lines.

**Allina Health considers research an essential component of supporting its patients, families and communities.**



# Research portfolio 2019

 **229**  academic presentations & abstracts



3.6% increase from 2017



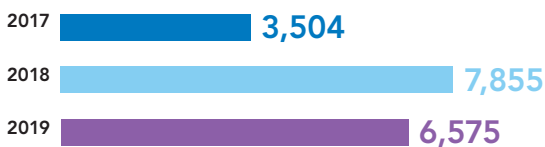
 **744**  active studies

24% increase from 2017



 **6,575**  patients enrolled

87.6% increase from 2017



 **285**  publications

10.0% increase from 2017



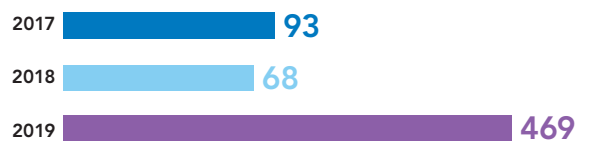
 **396** Allina  investigators

10.6% increase from 2017



 **469**  media presentations

404% increase from 2017



# Research portfolio 2019

**↑ 92 grants**  
96% increase from 2017\*

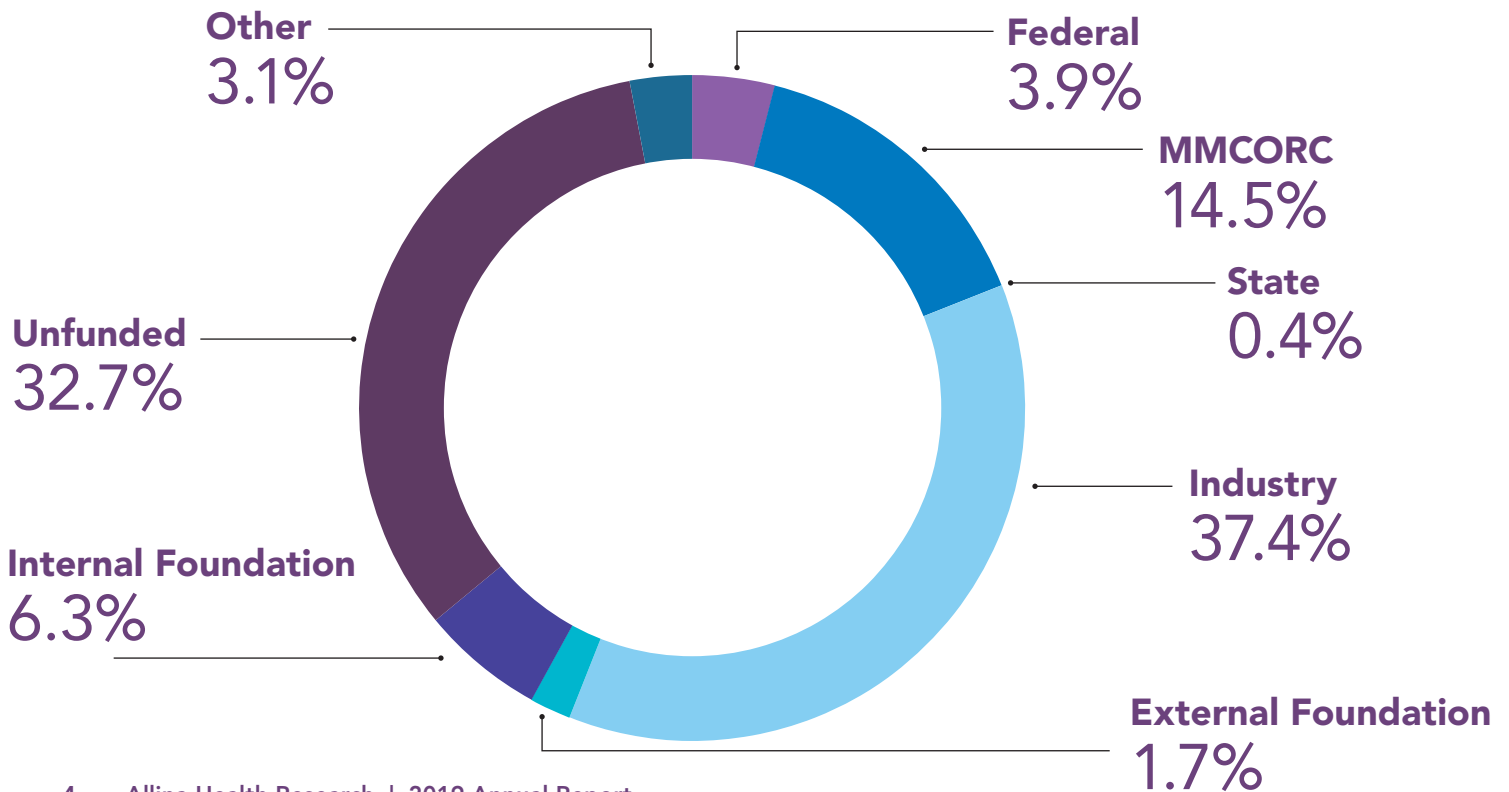


\* 2019 data includes grants awarded to additional groups not included in previous years.

**↓ revenue**  
**\$10,931,316**  
9% decrease from 2017



**↓ expenses**  
**\$15,763,878**  
12.2% decrease from 2017



# Key 2019 accomplishments

## Clinical Research Informatics & Analytics

**113**   
data supports  
with more than  
400 data extracts

**32**   
Greater Plains  
Collaborative (GPC/  
PCORnet) queries

**4** submitted  
manuscripts  
3 accepted and  
1 pending

## Research Operations

 **19%**  
Decrease for  
average total weeks  
to fully executed  
contracts

 **Effort  
certification**  
procedure  
implemented for  
Federal grants

**Financial  
analyst**   
joined the team




**\$938k**  
spend on Allina  
Health hospital  
services for clinical  
research services



**246**  
agreements  
reviewed

Met all timeline  
requirements for  
Workday system  
impementation



 Initial contract review  
timeline decreased by  
**38%**



# Abbot Northwestern Hospital Foundation Medicine Ball

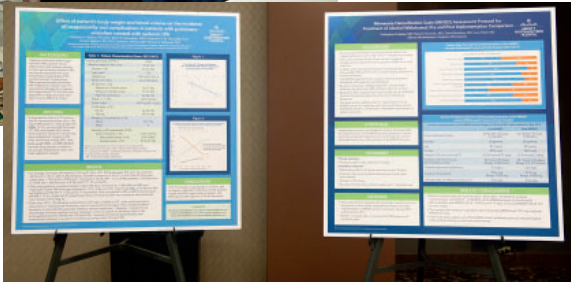
## \$1,260,000

This year's Abbott Northwestern Hospital Foundation Medicine Ball gala, Ray of Hope, raised more than \$1.2 million for Abbott Northwestern and Allina Health Research programs. A crowd of 800 guests filled the Hilton Minneapolis ballroom, with the gala chaired by Sharon Hawkins and Dr. Dan Buss of Sports & Orthopaedic Specialists, while the late Earl Bakken, health care visionary and Medtronic co-founder, was the evening's Honoree.



## Research Day

Allina Health Research held its first-ever Research Day, an inaugural event that included a research patient story; a keynote address by William Schuyler Jones, MD from Duke University on behalf of the William E. Peterson Physician Leadership Lecture fund; an Awards Ceremony recognizing researchers from across Allina Health; and a poster viewing/networking session featuring 40 posters detailing the excellent research conducted across the system.





# Research by the numbers

## CANCER

### Virginia Piper Cancer Institute

Active studies	74
Active enrollment	235
Publications	11
Media presentations	2
Academic presentations and abstracts	12
All grants	9
Active Allina investigators	28

### Metro-Minnesota Community Oncology Research Consortium

Active studies	124
All grants	1

## CARDIOVASCULAR

### Minneapolis Heart Institute Foundation®

Active studies	253
Active enrollment	610
Publications	207
Academic presentations and abstracts	225
Active Allina investigators	97

### Metropolitan Heart & Vascular Institute

Active studies	7
Active enrollment	212
Publications	3
Academic presentations and abstracts	4
Active Allina investigators	18

### United Heart & Vascular Clinic

Active studies	30
Active enrollment	198
Publications	1
Academic presentations and abstracts	4
All grants	3
Active Allina investigators	13

## CARE DELIVERY

### Critical Care and Hospitalists

Active studies	23
Active enrollment	100
Publications	2
Media and other presentations	2
Academic presentations and abstracts	4
All grants	13
Active Allina investigators	69

### Emergency Medical Services

Active studies	10
Publications	3
Media presentations	12
Academic presentations and abstracts	1
Active Allina investigators	5

## Mother Baby

Active studies	17
Active enrollment	1,900
Publications	4
Media presentations	1
Academic presentations and abstracts	4
All grants	6
Active Allina investigators	29

### Heart of New Ulm/ Cardiovascular Diseases

Active studies	8
Active enrollment	114
Publications	2
Media presentations	11
Academic presentations and abstracts	5
Active Allina investigators	7

### Other care delivery research studies

Active studies	3
Active enrollment	18
Active Allina investigators	11

### Other (Fellow projects, PEI, MN Epilepsy Group, Pharmacy)

Active studies	66
All grants	9

## INFECTIOUS DISEASES

Active studies	7
Active enrollment	88
Media presentations	44
Academic presentations and abstracts	3
Active Allina investigators	4

## NEUROSCIENCE

Active studies	45
Active enrollment	51
Publications	28
Media presentations	4
Academic presentations and abstracts	41
All grants	15
Active Allina investigators	28

## NURSING

Active studies	5
Active enrollment	210
Publications	6
Media presentations	27
Academic presentations and abstracts	10
All grants	1
Active Allina investigators	10

## ORTHOPEDIC

### Sports & Orthopaedic Specialists

Active studies	10
Active enrollment	99
Publications	2
Media presentations	50
Academic presentations and abstracts	18
Active Allina investigators	7

## REHABILITATION

### Courage Kenny Rehabilitation Institute

Active studies	20
Active enrollment	519
Publications	8
Academic presentations and abstracts	14
Active Allina investigators	50

## SPINE

### Twin Cities Spine Center

Active studies	21
Active enrollment	31
Publications	5
Media presentations	77
Academic presentations and abstracts	15
All grants	1
Active Allina investigators	20



## Allina Health Research by the numbers

**744**  
active studies

**229**  
academic presentations & abstracts

**285**  
publications

**92**  
grants

**6,575**  
patients enrolled

**396**  
investigators

# ONCOLOGY Virginia Piper Cancer Institute

The mission of our Allina Health Cancer Institute Oncology Research Program is to offer patients the opportunity to participate in promising new treatments for cancer within their own hospital or clinic. Our goal is to become a clinical research referral center in our region by offering high quality clinical trials for patients with cancer, or those who are at risk for developing a cancer diagnosis. In addition, we conduct internal research to develop and test methods to enhance care, manage side effects of cancer, and improve the effectiveness of cancer diagnostics and treatments. We also contribute to advancing oncology care through public forums, presentations at scientific and lay conferences, and publishing our study results in professional journals.

**12** academic presentations & abstracts 



**198\*** active studies 



**235** patients enrolled 




**11** publications 



**28** investigators 



**2** media presentations 



# CARDIOVASCULAR Minneapolis Heart Institute Foundation®

Research improves and saves lives. Research is the reason why Hope is Discovered Here. MHIF research teams, including Minneapolis Heart Institute® physicians, conduct leading research and education across all cardiovascular subspecialties. This research offers hope in the form of new treatment options, which in some cases may offer the only option for a life-threatening heart condition. In other cases, hope is discovered in a study that confirms the real benefit of a new therapy, or one that confirms the value of important preventive steps. At any given point in time, MHIF research teams are conducting more than 200 studies involving more than 2,200 patients.



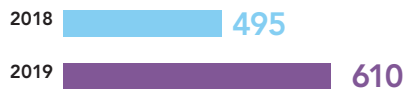
**225** academic presentations & abstracts




**253** active studies




**610** patients enrolled




**207** publications



**97** investigators



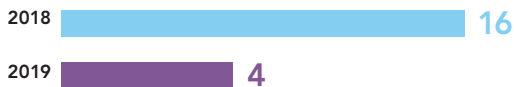
# CARDIOVASCULAR

## Metropolitan Heart & Vascular Institute

The Metropolitan Heart and Vascular Institute (MHVI) has spent over a decade participating in research studies to answer crucial questions about the advancement of cardiovascular treatment. Originally founded for delivering cutting-edge cardiology care for patients around the area, MHVI has deep roots within the Minneapolis metropolitan community.

MHVI's primary focus is on an impassioned search for revolutionary cardiovascular treatment and prevention options for patients. With experts and leaders in the field by their side, MHVI has participated in well over 70 clinical research studies.

  
**4** academic presentations & abstracts



  
**28** active studies



**212**   
patients enrolled



**3**   
publications



**18**   
investigators





# CARDIOVASCULAR United Heart & Vascular Clinic

At the United Heart & Vascular Clinic, we provide resources for the prevention, detection and treatment of heart disease. Our patients matter to us, and we encourage them to take an active role in decision making when it comes to their plan of care. We offer options that may only be available through clinical research studies.



**4** academic presentations & abstracts



**30** active studies



**198** patients enrolled



**1** publication



**13** investigators



**3** grants awarded



# CARE DELIVERY

## Critical Care, Medical Education & Hospitalists

The critical care, medical education, and hospitalist clinical research programs at Allina Health are in partnership with Abbott Northwestern Hospital and Care Delivery Research. Investigators strive to continually advance outcomes for hospitalized patients. Results of our research studies provide important evidence that is used to develop optimized patient care practices and reduce complications and length of stay during hospital admissions. Focus areas of discovery include pulmonary embolism, bedside ultrasound, outcomes of hospitalized patients with penicillin allergy, treatment of alcohol withdrawal, and prediction of clinical decompensation in hospitalized patients, among other studies. Ultimately, the impact of this research benefits our community by decreasing the cost of care for patients and enhancing their overall experience.

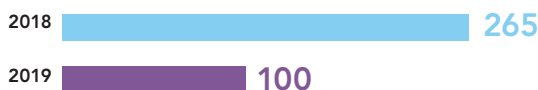
  
**4** academic presentations & abstracts



  
**23** active studies



**100**   
patients enrolled



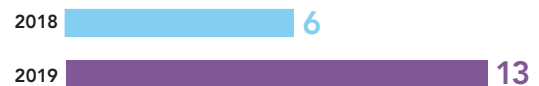
**2**   
publications



**69**   
investigators



**13**   
grants



# CARE DELIVERY Emergency Medical Services

The Emergency Medical Services (EMS) research agenda at Allina Health aims to improve the delivery and outcomes of the prehospital care provided by our ambulance service. Since 2011, a small but active group of core investigators has been conducting research in support of Allina paramedics, EMTs and dispatchers who deliver life-saving and compassionate care in the pre-hospital setting to patients and families facing acute and often life-threatening events in the out-of-hospital setting. With over 600 care providers and approximately 130,000 responses for service annually across 100+ communities, Allina Health EMS is one of the largest ambulance services in the upper Midwest. The research we conduct in this large applied setting is aimed at advancing new treatments and approaches in the field of pre-hospital care delivery and studying their impact on patient outcomes. Research focus areas include management of cardiac arrest, provider well-being, response vehicle design and safety, sepsis recognition, and administration of opioids and naloxone.

**1** academic presentation & abstract



**10** active studies



**5** investigators



**3** publications



**12** media presentations



# CARE DELIVERY Mother Baby

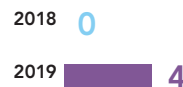
The Mother Baby research agenda at Allina Health seeks to improve models of care and outcomes during prenatal care, labor and delivery for both low- and high-risk pregnancies. Our research is also focused on identifying disparities and inequalities to create opportunities to improve health equity among patients. Ultimately, we aim to partner with providers to generate practice-based evidence within the Mother Baby service line.

Allina Health's Mother Baby clinical service line brings together obstetrics (OB), perinatology, midwifery, newborn care/ neonatology and women's health to provide world-class care. Allina Health is the largest OB delivery system in the state with over 15,500 annual deliveries. Research conducted by the Mother Baby team is guided by the Mother Baby Research Council, which provides scientific, strategic and practical guidance to the development and implementation of research.

**4** academic presentations & abstracts



**4** publications



**1,900** patients enrolled



**17** active studies



**29** investigators



**6** grants

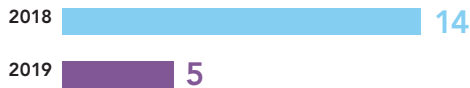


# CARE DELIVERY

## Heart of New Ulm/Cardiovascular Diseases

Hearts Beat Back®: The Heart of New Ulm (HONU) project is a 10-year partnership that began in 2009 between Minneapolis Heart Institute Foundation (MHIF), Allina Health, the New Ulm Medical Center and the community of New Ulm to identify and deliver the best interventions to reduce cardiovascular disease at a population level (for an entire community). This groundbreaking initiative was inspired by the bold question from MHI® cardiologist, Dr. Kevin Graham, “Can we improve the cardiovascular health of an entire community?” Aimed at reducing heart disease – and heart attacks – throughout the city of New Ulm, Minnesota, the initiative focused on preventing cardiovascular disease versus treating it after it occurs. This was done through community education, healthcare and worksite interventions, and environmental changes to help residents reduce their health risks through physical activity, nutrition, smoking cessation and maintaining a healthy weight. Preliminary results, including data published out to six years, show improvements in cardiovascular risks such as cholesterol and blood pressure.

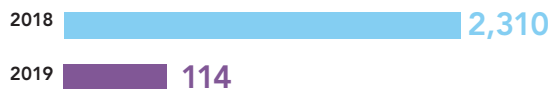
**5** academic presentations & abstracts



**8** active studies



**114** patients enrolled



**11** media presentations



**7** investigators



**2** publications





# INFECTIOUS DISEASES

The Infectious Diseases research team is a small group that functions equally well independently and through interdisciplinary collaboration with various departments and organizations. The team explores new possibilities for the treatment and prevention of infectious diseases, and their work with diseases such as COVID-19, influenza, septicemia, Respiratory Syncytial Virus (RSV), Human Immunodeficiency Virus (HIV) and Hepatitis B/C has made great strides toward better infectious disease management.

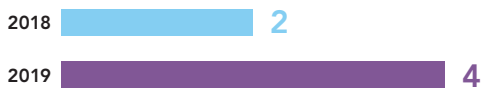
**3** academic presentations & abstracts



**7** active studies



**4** investigators



**88** patients enrolled



**44** media presentations



# NEUROSCIENCE

The Neuroscience Research Department was established in 2012 to provide operational support to Neuroscience Research across Allina. Currently, we support investigators specializing in neuro-oncology, neuro-pathology, neuro-radiology, stroke care, and neurophysiology research. We continually strive to apply the discoveries made from our research projects toward improvements in patient care. We also bring what we learn from patients back to the research team to enhance our understanding of neuroscience. This bench-to-bedside approach allows us to move discoveries expeditiously into the patient-care setting, while helping researchers refine therapies and techniques based on clinical observations.

**41** academic presentations & abstracts 



**45** active studies 



**51** patients enrolled 



**4** media presentations 



**28** investigators 




**28** publications 



# NURSING

Nursing research at Abbott Northwestern Hospital supports the process of clinical inquiry throughout all the phases including problem identification, scoping the problem, enlisting study investigators, literature review and synthesis, study design, analytic plan, budget planning, funding sources and dissemination plans. Patient safety is a main focus of nursing research at Abbott Northwestern Hospital. We use a variety of clinical inquiry methods including: quality improvement, evidence based practice, and collaborative and independent research.

  
**10** academic presentations & abstracts



  
**5** active studies



**210**  patients enrolled



**27**  media presentations



**10**  investigators



**6**  publications

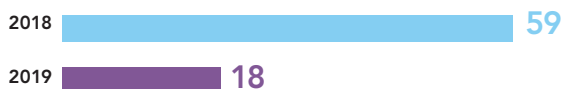


# ORTHOPEDIC Sports & Orthopaedic Specialists

Orthopedic and sports medicine research at Allina Health is primarily lead by the efforts of Sports & Orthopaedic Specialists (SAOS), part of Allina Health. Through remarkable research and passionate involvement in the orthopedic community, SAOS has made great strides improving the treatment of our patients.

Over the years, much of the research has been comprised of investigator-initiated studies focusing on specific patient populations, surgical techniques, treatment options and risk factors. As of late, their increased emphasis on Investigational Device Exemption (IDE) and long-term arthroplasty outcome studies has opened new doors in the orthopedic and sports medicine marketplace.

**18** academic presentations & abstracts 



**10** active studies 



**99** patients enrolled 



**50** media presentations 



**7** investigators 



**2** publications 



# REHABILITATION

## Courage Kenny Rehabilitation Institute

The overarching goal of CK Research is to develop knowledge that optimizes rehabilitation outcomes and full societal participation for people with acute or chronic disability. With funding from foundations, industry, and the federal government, our studies generally pertain to advancing functioning and quality of life for people with concussion, stroke, spinal cord injury, and cancer. We partner with clinicians from Courage Kenny Rehabilitation Institute so that rehabilitation research stays tethered to organizational concerns and so that research serves as a vehicle for clinicians' professional development.

**14** academic presentations & abstracts 



**20** active studies 



**50** investigators 



**519** patients enrolled 



**8** publications 





# SPINE Twin Cities Spine Center

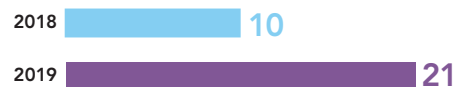
Allina Health Research's spine research is conducted in partnership with Twin Cities Spine Center surgeons and includes retrospective and prospective clinical studies and quality improvement projects.

Twin Cities Spine Center has been conducting pivotal research, advancing spine care and training surgeons from all around the world for over 70 years. Twin Cities Spine Center's Research Department is an outgrowth of the pioneering work of John H. Moe, MD. Dr. Moe is regarded as the founder of modern scoliosis research and treatment. His work led to the creation of the Scoliosis Research Society and the publication of the first comprehensive textbook on spinal deformities. Our physicians and research staff carry on the legacy of Dr. Moe.

## 15 academic presentations & abstracts



## 21 active studies



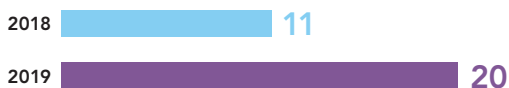
## 31 patients enrolled



## 77 media presentations



## 20 investigators



## 5 publications





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