



Research.  
Educate.  
Engage.



Welcome to the MultiCare Institute for Research & Innovation, where our clinical research excels.

MultiCare is committed to providing exceptional care, and our active involvement in research is important to building and sustaining our culture of innovation and patient-centered care. It is vital to our mission of Partnering for Healing and a Healthy Future.

—Bill Robertson, MultiCare President and CEO



## A Letter from our Leaders

Clinical research is behind nearly every advancement in modern medicine, from new vaccines to promising new surgical treatments. Research improves health care to create a healthier future for patients.

Building on more than three decades of research experience in our community, the MultiCare Institute for Research & Innovation remains the largest community-based research center in the South Sound. We support a full spectrum of therapeutic areas serving patients from cradle through adulthood. With equal humility and excitement, we would like to share some of our greatest achievements of 2016.

### Our major milestone and accomplishments include:

- **Expanded research portfolio** to include migraine and rheumatology clinical studies as well as Phase I studies in cancer.
- **Experienced significant growth in the number and types of cardiac research studies** in partnership with the newly formed Pulse Heart Institute.
- **Offered research studies spanning the entire life span** all the way from preterm infancy (24 to 29 weeks gestation) to childhood, adolescence, young adulthood and geriatrics.
- **Extended an efficacious investigational treatment** for pediatric epilepsy beyond the initial study period through an expanded access protocol.
- **Through extramural research funding, formed a patient stakeholder council** to advise and educate the Research Institute on research topics important to our youth and young adults diagnosed with cancer.
- **Opened new clinical space for Phase I outpatient research** in Tacoma.



Paul Amoroso, MD, MPH, CPI



Anne Reedy, MBA, CRA

- **Furthered diversification of our sponsors**, adding new intramural, private and National Institutes of Health (NIH) funding awards.
- **Continued growth of Northwest National Cancer Institute Community Oncology Research Program (NW NCORP)** to include two additional sites, new research staff and a 66 percent increase in program accruals.
- **Provided education and increased community awareness** of research through successful events including Research Day, Puget Sound Heart & Stroke Walk, Sound to Narrows, Military Retiree Day and several others.

As 2017 approaches, we will remain nimble to directly address the health needs of our community, while contributing to the worldwide advancement of medical sciences. The Research Institute is positioned for great growth in the years to come and we look forward to sharing those successes with you as they are completed. We hope you find this report educational and engaging. We appreciate your interest in research!

Paul Amoroso, MD, MPH, CPI  
Physician Executive

Anne Reedy, MBA, CRA  
Executive Director

## Neurology: Research into the Chronic and the Common

### Multiple Sclerosis

The cause of Multiple Sclerosis (MS) is still unknown. Scientists believe the disease is triggered by as-yet unidentified environmental factors in individuals who are genetically predisposed.

The progress, severity and specific symptoms of MS vary and often cannot be predicted.<sup>1</sup> There's no known cure and no proven explanation for the higher incidence of MS in Washington. More than 400,000 people in the United States and 2.5 million worldwide are affected by MS. Most people with MS are diagnosed between the ages of 20 and 50. Two-thirds of them are women.<sup>2</sup>

Regardless of whether a person with MS experiences a fast, severe progression or a more slowly developing condition, issues can range from vision problems and muscle stiffness to depression and fatigue. Currently, there are about 14 medications approved by the United States Food and Drug Administration (FDA) aimed at modifying the disease course, treating relapses and managing symptoms. Researchers are continuing to press forward with clinical trials and using science to offer hope for prevention, control or a cure.

The adult neurology research program at the Research Institute built its foundation supporting MS patients in our community. Our institution has contributed to the clinical research used to garner FDA approvals for medications such as Tecfidera<sup>®</sup> and Zinbryta<sup>®</sup>. In just this last year, nine active trials evaluated the latest drug intervention therapies to treat MS. Patients ranged from newly diagnosed to long-term patients pursuing relief from relapses and symptoms. We will continue our pursuit to evaluate the effectiveness of new treatments to halt the progression of MS and lead to a cure.



*Pictured from left to right: Yu Zhu, MD; John Huddlestone, MD; Stacy Donlon, MD; and clinical research team Tonya Stigger, Courtney Sholar and Jarrod Monroe*

### Migraines

In 2016, our neurology portfolio expanded to include an emphasis on migraine headaches.

Three times more common among women, migraines affect 12 percent of the population. It's estimated that more than four million adults experience chronic daily migraines, making this neurological disease the third most prevalent illness in the world.<sup>3</sup> Migraine is more prevalent than diabetes, epilepsy and asthma combined.<sup>4</sup> Recognizing this, MultiCare offers studies that seek to reduce the negative impact of migraines and improve quality of life for patients.

Over the last year, we surpassed goals and met the needs of our patients by providing three active migraine trials to 21 patient participants, with steady growth predicted for the future.

I became interested in the study with hopes that the research collected would be able to help others.

-Anna (right) and John Huddlestone, MD



### Behind Every Smile

Anna enjoys a seemingly normal, happy life. She is a full-time working mother, wife and daughter who enjoys activities with her family like hiking, camping and dinner gatherings.

Anna has battled migraines for over 30 years — migraines that can cause her to be stuck in bed for a week or longer until the pain subsides. Decades of dealing with this condition meant repeated attempts to find a cure and countless experiences lost with her family. However, in the community where Anna lives and works, a new source of relief emerged through research.

Anna learned about the Research Institute's neurology research program and opted to join a migraine study looking for an alternate treatment and hoping to contribute to research that might help other migraine sufferers. She is now able to take a promising new drug to treat her migraines. Thus far, her migraines are fewer and significantly shorter, which translates into more time to enjoy her family, her work and all the special moments in life. There may not be a cure for migraines, but behind Anna's smile — and her story — is hope.

## Cardiology: A Steady Pulse of Growth

### Heart Health

Every three years, MultiCare performs a Community Health Needs Assessment for the communities it serves, crafting an implementation strategy to meet the needs the data uncovers.

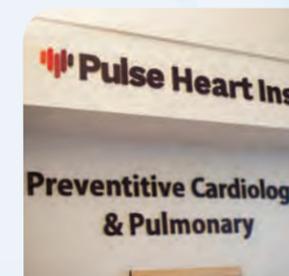
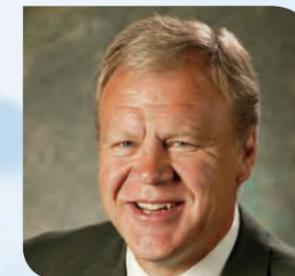
In 2016, heart disease was among the top three leading causes of death for all the populations served by MultiCare Allenmore Hospital, MultiCare Auburn Medical Center, MultiCare Good Samaritan Hospital and MultiCare Tacoma General Hospital.

MultiCare has been addressing the heart health needs of our community through research for many years, with a mission to bring the most cutting-edge treatment options to local patients. Over the past five years, the Research Institute has worked closely with the Cardiac Study Center to bring over 80 cardiac-related trials to our community, treating common heart conditions such as heart attacks, congestive heart failure and atrial fibrillation.

While the Research Institute was growing to meet local heart health needs, another organization was undergoing a similar transformation. In 2016, the Cardiac Study Center partnered with MultiCare to form Pulse Heart Institute. The Research Institute became exclusive partners with Pulse to increase cardiac research, allowing diverse clinical trials to be included in their comprehensive range of cardiac, thoracic and vascular services. Our research investigators and staff are now seamlessly integrated into hospital and clinic locations across MultiCare Health System and Pulse Heart Institute, reaching patients far and wide.

Our growing cardiac research program also opened doors to new opportunities with nationally recognized organizations such as the American Heart Association. At the 2016 Puget Sound Heart & Stroke Walk, Pulse Cardiologists and Research Institute Investigators Vinay Malhotra, MD, and Uma Krishnan, MD, were recognized for their efforts and contributions towards advancing knowledge in heart health and research.

Our community continues to be the greatest benefactor of the partnership between the Research Institute and Pulse, as evidenced by the 80 percent increase in cardiac research trials last year. The increased number of trials directly translates into a greater diversity of studies offered, such as treatments for hyperlipidemia, exploring novel anticoagulants and coronary artery bypass grafting. In 2017, we expect steady growth in the number and breadth of trials and the participation rate of patients and investigators.



*Pictured from top row and down, left to right: Uma Krishnan, MD; Allen Graeve, MD; Vinay Malhotra, MD; Tariq Salam, MD; and Dennis Nichols, MD*

# Research: Infancy through Young Adulthood

## Growing Up

Pediatric research, in partnership with Mary Bridge Children's Hospital & Health Network (Mary Bridge), is providing children in our community with access to the latest treatment options available for chronic, rare and life-threatening conditions.

Since offering our first pediatric cancer research study over two decades ago, we have grown to serve neonates, adolescents and young adults. Clinical needs, benefits and risks are carefully weighed when choosing research studies for all populations, including children. Mary Bridge researchers work together with the Research Institute to balance standard care treatments with research interventions.

Our research spanned the life cycle from our smallest patients in the Neonatal Intensive Care Unit to Mary Bridge's teen and young adult population treated at Mary Bridge and Tacoma General cancer centers. Today we remain focused on our roots in pediatric cancer research and have added several new studies in pediatric gastroenterology, endocrinology and epilepsy.

### Pediatric Gastroenterology

Children with digestive system, liver or nutritional problems are often referred to a pediatric gastroenterologist.<sup>5</sup> Gastrointestinal (GI) disorders can interfere with daily life and cause pain, nausea, vomiting and constipation. These common conditions are estimated to account for at least 40 to 50 percent of all visits to a GI specialist.<sup>6</sup> For example, irritable bowel syndrome (IBS) in children occurs at roughly the same 5 to 20 percent rate as adults.<sup>7</sup> Studies also show that early effective interventions in children have the potential to prevent or reduce the incidence and/or severity of later functional GI disorders in adulthood.<sup>8</sup>

### Pediatric Endocrinology

For nearly two years, the Research Institute has offered pediatric GI studies to treat IBS, inflammatory bowel disease and functional constipation. In 2016, 20 patients participated on four active research studies.

The Research Institute partnered with Gad Kletter, MD, and pediatric endocrinologists at Mary Bridge and Pediatrics Northwest to bring Type 1 and 2 diabetes and other endocrinology clinical trials to Mary Bridge. A major national effort has been underway since 2001 to describe the prevalence of diabetes in youth less than 20 years of age. Numerous publications from this work conclude that diabetes in youth is on the rise.<sup>9</sup>

Our endocrine research portfolio also offers treatment trials for patients with growth hormone deficiencies and precocious puberty. While not common conditions, they can be treated with very expensive drugs – which research can provide. Our pediatric endocrinology trials give patients care they would not have otherwise received. Last year, the Research Institute was awarded eight endocrinology trials with the goal of expanding efforts to combat and treat youth diabetes and other endocrine conditions in youth.



Aidan and Gad Kletter, MD

### Bright Eyes

Little Susie is now 3 years old with big bright eyes and the personality to match. At first glance, it would be hard to believe she suffers from Dravet Syndrome. This rare, severe form of epilepsy is very resistant to treatment and causes intense seizures that require frequent medical intervention.

Susie experienced her first seizure at 6 months old. Her family would have to adapt to many ambulance rides, emergency room visits, overnight hospital stays and numerous medications to save Susie's life. In spite of all her treatments, her parents saw the light in Susie's eyes slowly deteriorate into a droopy, blurry-eyed stare.

A trip to the Mary Bridge Children's Hospital Emergency Department changed everything. During one of Susie's 45-minute seizures, her parents met Steven Phillips, MD, the Mary Bridge Pediatric Epileptologist who was on call for emergencies the evening of Susie's visit. He would soon recognize that Susie was a perfect fit for an epilepsy research study at MultiCare, for which he was the Principal Investigator. Results were quickly noticed.

Susie has now gone up to five weeks seizure-free, developed speech and her progress only continues. We hope the research we can contribute on behalf of Susie and the other participants will bring bright-eyed children around the world back to their parents.



Susie and Steven Phillips, MD

## Pediatric Epilepsy

We are lucky to have great minds serving our youngest pediatric epilepsy patients, working tirelessly to grow our pediatric neurology research program at Mary Bridge.

Steven Phillips, MD, Pediatric Epileptologist and Researcher, is an industry thought leader pioneering the use of cannabidiol (CBD) as a treatment for epilepsy in our region. After seeing the success of our first completed CBD study in 2015, our research team became invested – wanting to become subject matter experts.

In 2016, the Research Institute was awarded nine pediatric neurology trials to accommodate varying degrees of epilepsy, such as Dravet Syndrome and Lennox-Gastaut Syndrome. We also received approval to provide expanded access to the CBD investigational product at the closing of our study, allowing patients to continue with the treatment that seemed to be reducing seizures. Our patients received uninterrupted care even though the drug has not yet received FDA approval.

As work progressed on CBD, we identified additional research needs. Over half of the families who were seeing our Pediatric Epileptologist were also considering the use of community-acquired medical cannabis to treat their kids. The problem is parents might not know what they are getting or what it is costing over time. In order to take the research a step further, our team initiated a cost analysis study on community-acquired cannabis securing national recognition at the American Epilepsy Society national meeting. With over 450,000 children in the United States suffering from epilepsy, our continued work to advance treatment is essential.<sup>10</sup>

### Adolescent & Young Adult Cancer

Cancer continues to be the leading cause of death in adolescents and young adults (AYAs) aged 15-39, with over 70,000 cancer diagnoses a year.

AYAs with cancer face distinctive medical and psychosocial challenges, including high rates of post-traumatic stress symptoms following therapy, treatment-related infertility, financial hardship, chronic health problems and workplace discrimination as well as disruption of peer relationships, developmental milestones and life goals.<sup>11</sup>

The vast majority of AYAs are treated for cancer in their own home communities. To help build more consistent care and improve outcomes, MultiCare is creating specialized clinical programs that include research. In 2016, MultiCare was awarded a grant from the Patient-Centered Outcome Research Institute (PCORI) to



### Neonatology

Tim Murphy, MD, and Michael Kuluz, MD

This project will inform patient-centered care practices and research initiatives targeting adolescents and young adults at community cancer centers, both locally as well as throughout the United States.

—Rebecca Johnson, MD



### Adolescent & Young Adult Oncology

Rebecca Johnson, MD



### Pediatric Endocrinology

Melwati Yuwono, MD

develop an AYA oncology council (AYAOC). The AYAOC is composed of stakeholders including Investigator Rebecca Johnson, MD, Medical Director of the AYA Oncology program at Mary Bridge; two lead patient representatives, Rebecca Jacobsen and Bernadette Ray, who are also survivors of AYA cancer; six other AYA cancer patients and survivors; and a spouse, a sibling and two parents of AYA cancer patients from greater Tacoma.

"It is an honor and a pleasure to work with such a diverse, smart and enthusiastic group of people," says Dr. Johnson. "They want to change the world. At every turn since the project began, they've shared unique insights about the cancer treatment experience — from the patient's perspective. We are collecting rich data from these conversations. This project will inform patient-centered care practices and research initiatives targeting AYAs at community cancer centers, both locally as well as throughout the United States."

MultiCare is honored to partner on the PCORI grant with consultants from "CanTeen," a highly successful AYA cancer engagement program in Australia, and Stupid Cancer, a well-established young adult cancer support organization.

MultiCare's experienced grants office was also able to support Dr. Johnson in securing both a Hyundai Impact Award to establish an AYA oncology peer support group at MultiCare as well as to study religious/spiritual coping among AYAs with cancer, funding from the South Sound CARE foundation.

## Research: Investigator-Initiated



Through ongoing generous community donations, MultiCare's Research Institute is able to provide competitive research funds for investigator-initiated research studies. A complete list of these 19 internally designed studies funded since the program began in 2013 are featured here.

### 2016

Effects of vitamin D supplementation of pregnant women on early childhood respiratory disease and maternal morbidity; **Mary Fairchok, MD, and Esther Park-Hwang, MD**

### 2015

Improving gait and balance in children with hemiplegic cerebral palsy; **Brenna Brandsma, DPT**

Pregnancy outcomes related to marijuana use during pregnancy before and after legalization; **Kathryn Drennan, MD, and Heather Straub, MD**

Understanding cancer predisposition in children, adolescents and young adults; **Rebecca Johnson, MD**

Impact of exercise training on quality of life and exercise capacity in heart failure patients; **Tony Kim, MD; Glenn Bean, MS; and Lindsay Olsen, BS**

Mood and distress monitoring in adolescents with cancer; **Ronald Louie, MD; and Rebecca Johnson, MD**

Latina mothers supporting the community: education intervention for asthma friendly childcares; **Stephen Reville, MD; David Ricker, MD; Lani Su, MN, RN; and Robin Evans-Agnew, PhD, RN**

Using functional profiles to predict transition issues for those with cerebral palsy; **Brett Nirider, PT**

Patient satisfaction with virtual obstetric care; **Bethann M. Pflugeisen, MS, MEd**

### 2014

Comparing the play and language for autistic youth program to a traditional floor time model; **Dawn Heino, OTR**

Evaluating the relationship between Type 1 diabetes and celiac disease in children; **Elizabeth Babler, PhD, ARNP**

Assessment of interventions to help patients adhere to Choosing Wisely clinical oncology recommendations; **John Rieke, MD**

Asthma management in Latino/Hispanic day cares; **Steven Reville, MD, and David Ricker, MD**

### 2013

Improving walking in children with cerebral palsy using the Gait MyoElectric Stimulator II; **David Embrey, PT, PhD**

Development of a systematic protocol to identify victims of child abuse; **Elizabeth Pohlson, MD, and Tony Escobar, MD**

Hispanic families' perceptions of asthma management; **Jared Capouya, MD**

Impact of pharmacist interventions during transitions of care for heart failure patients; **Jenny He, PharmD**

Correlation between vitamin D and respiratory infection symptoms; **Mary Fairchok, MD**

The use of text messaging to improve care for pediatric asthma patients; **Shareka Fortier, Health Educator**

If you are interested in contributing to research that directly supports the health needs of our community,

 **please consider making a donation** to MultiCare's Research Institute using the attached envelope.

## President's Award Winner



On Dec. 6, 2016, David Embrey, PT, PhD, and Angela Silva accepted the MultiCare President's Award for Excellence in Innovation and Adaptation from MultiCare President and CEO Bill Robertson.

Each year, MultiCare Health System's President's Award recognizes outstanding employees in a short list of categories, including Excellence in Innovation & Adaptation. Competition is stiff and winners are selected after completing a rigorous process of applications, interviews and expert panel reviews. A nominee's efforts must meet the following criteria to be considered:

- Transform health care delivery in support of patient-directed health goals
- Improve care that is connected and efficient across the continuum
- Stimulate rapid innovation and experimentation
- Illustrate willing spirits in the interest of change
- Promote creativity and demonstrate marked vision

We are proud to announce MultiCare Research Institute Principal Investigator, David Embrey, PT, PhD, and Angela Silva, Senior Grants Administrator, received the President's Award for Excellence in Innovation & Adaptation for their design and research on the Gait MyoElectric Stimulator (GMES) system, which is designed to improve walking for individuals with limited mobility. Dr. Embrey's research is showing GMES can improve mobility – and quality of life – specifically for those impacted by cerebral palsy, stroke and Peripheral Artery Disease. The Research Institute had the distinct honor of funding his pilot study back in 2013. It is exciting to see his work continue to advance over time.

The Research Institute was essential in funding our early pilot study and then our first National Institutes of Health (NIH) grant. These efforts may eventually lead to commercialization of the Gait MyoElectric Stimulator so that we can help countless, perhaps millions, of individuals improve their walking.

–David Embrey, PT, PhD

## The Gift of Research

Research is necessary to provide MultiCare patients with the most advanced treatment options available. Our health system recognized this benefit over three decades ago, when we initiated our first research program in cancer. However, it was only seven years ago that one leader had the strategic vision to bring all of MultiCare's research efforts into one, systematic approach to grow and expand the benefits of research to our community.

Diane Cecchettini, RN, served as our highly respected President and CEO of MultiCare from July 1999 until May 2014. In that time, she notably grew our health system to include five hospitals, over 10,000 employees, a vibrant physician organization and an expansive outpatient treatment network throughout the Puget Sound.

Diane's legacy at MultiCare is unquestioned, but to those in the Research Institute, her legacy has a special meaning. Diane is an ardent supporter of research and was the driving force behind the creation of the Research Institute as a community-based research center. She was also a personal contributor to our research program development, becoming one of the first charter members of the MultiCare Society. This philanthropic commitment was a significant spark that helped ignite our donor-funded, investigator-initiated research program. After attending Research Day 2016, she was inspired to donate, yet again, to our intramural program, which directly funds our investigator-initiated research. Diane remains one of our top supporters – continuing to give the gift of her time, money and heart to research.

Research is how we translate science into improving care for our patients. An organization that is researching is continuing to learn and improve. . . GO FASTER.



–Diane Cecchettini, RN

*Thank you, Diane!*

# Oncology: The Science of Hope

## A Closer Look

Cancer is one of the world's most pressing health care challenges. In 2016, an estimated 1.6 million new cases of cancer were diagnosed in the United States and 595,690 people lost their lives to the disease.<sup>12</sup> However, there is hope.

Every year brings new knowledge and research aimed at improving the outlook for cancer patients.<sup>13</sup> In just one year, the FDA approved 20 therapies for more than a dozen types of cancer. The number of people living beyond a cancer diagnosis reached nearly 14.5 million in 2014 and is expected to rise to almost 19 million by 2024.<sup>14</sup> Research plays an integral role in survivorship. New, more advanced standards of care are discovered through ongoing research.

The Research Institute continues to build on 34 years of community-based research experience that began with a grant from the National Cancer Institute (NCI) in 1983. We are one of the very few community-based research organizations that has held continuous funding through NCI for over three decades, uniquely positioning the Research Institute to collaborate with other community-based cancer programs in the Pacific Northwest. From Alaska to Utah to Washington, we bring cutting-edge cancer clinical trials to children of all ages, adolescents, young adults and adults, close to our patients' home communities. This year marked the greatest variety and highest number of trials offered, ranging from investigator-initiated, federally-funded and industry-sponsored studies. There is no one clear formula for the science of hope, only to offer the right trial, for the right patient when they need it most.



## A Space for More

As our cancer research program has expanded, so has the need for space. In 2016, our Tacoma cancer research team became fully integrated within MultiCare Regional Cancer Center (MRCC) by moving into the Canyon Suite at Tacoma General Hospital – a space now dedicated entirely to cancer research. This allows us to treat patients in a private suite with all the necessary partners nearby. The MRCC provides an onsite pharmacy and laboratory as well as surgeons and medical oncologists within walking distance. This space is a glowing example of our continued dedication to simplify processes and optimize the experience for our patients. As with many Phase I trials, visits can take long hours, even full days. This private space allows a patient to converse and interact with their research coordinating staff, building friendships through treatments.



Oncology research team pictured from left to right: Danielle Wahinekapu; Lisa Strasbaugh; Roslyn Pierce; Rosemary Hadcox, RN; Amy Chant; Karyn Hart; Katie Rutter; Jessica Ebert; Michelle Maxin-Wells; Justin Platts. Not pictured: Colleen Hiebert, RN; Tristin Baxter; and Holly Covert



Clinical Trials Unit at Tacoma General Hospital



Pictured from left to right: Jack Keech, DO; Blair Irwin, MD; Nehal Masood, MD

## A Team of Visionaries

It takes many talented individuals working together to bring our cancer research program to our community. From research assistants and administrative staff to clinical research coordinators nurses and physicians. We would like to recognize a few visionary leaders who are dedicating their efforts to growing cancer research for a brighter future.

Medical Oncologist, Researcher and Medical Director of MultiCare Regional Cancer Center Blair Irwin, MD, is a staunch supporter of research and an unwavering advocate for seamlessly integrating research into the care options available to patients. Dr. Irwin believes that research is a critical component of a comprehensive cancer program. She works diligently with the Research Institute leadership to identify and open pathways for more collaborations and sponsorship of all types of cancer research.

Our robust Northwest Community Oncology Research Program is led by Medical Oncologist and Researcher Jack Keech, DO. His efforts were formally recognized during Research Day 2016 where he received the Outstanding Researcher of the Year award.

Medical Oncologist and Researcher Nehal Masood, MD, received a range of cancer research awards during his tenure with the Seattle Cancer Care Alliance before coming to MultiCare. He is currently working with the Research Institute to build a strong Phase I oncology research program, while also exploring the possibility of bringing bone marrow transplantation back to our health system.

In the past, only 20 percent of patients would survive Gabe's type of leukemia. Now, the success rate is 85 percent. Gabe's on a clinical trial with an exciting new medicine that we hope will continue to improve the success of our treatments. **—Robert Irwin, MD**

## Dapper Like My Doctor

Not only does 6-year-old Gabriel receive leading research and cancer care at Mary Bridge Children's Hematology & Oncology Clinic for his acute leukemia, he gets top-notch fashion advice, too. Gabe prefers to dress up for his chemotherapy treatments, because he wants to be just like his doctor. On this particular day, Gabe came to his clinic appointment with a suitcase and several outfits to try and match what Mary Bridge Children's Pediatric Oncologist and Researcher, Robert Irwin, MD, was wearing. They had a candid conversation about Gabe's coveted "man tie" options for this day of treatment.

*You look like a million bucks, Gabe!*



Robert Irwin, MD, and Gabe

## A Toast to Life and Love

When Charles was diagnosed with Stage IV lung cancer, doctors gave him six months to live. Cancer had spread to his adrenal glands, liver, brain and beyond. Treatment options were exhausted, but research offered hope – and Charles' medical condition matched the specific criteria needed to participate on a cancer research trial at MultiCare's Research Institute.

"I had nothing to lose by getting on the trial and I simply wanted to live long enough to see my daughter's wedding," said Charles.

It's been nearly two years ago since Charles' medical oncologist enrolled Charles into that cancer research trial and in December 2016, Charles got his wish.

At 79 years old and still a very proud father, he attended his daughter's wedding in Sacramento, California, where he was surrounded by family and friends to toast to life and love.

*Cheers, Charles!*



Charles and Christina, his daughter

## Community Impact

### Research Day

On Nov. 18, 2016, the Research Institute held its second annual Research Day on the Tacoma General Hospital campus. This event showcased the investigator-initiated research efforts conducted across MultiCare Health System and the surrounding Pacific Northwest communities.

With over 100 health care professionals, community members and donors joining us throughout the day in person and online, investigators shared short research presentations covering a wide variety of pediatric and adult studies. The full day of presentations concluded with an awards ceremony dedicated to recognizing research efforts that best advanced medical science.

The selection process is competitive and involves an elite panel of judges reading through many thoughtful, heartfelt nominations from peers and patients.

### And the winners are...

This year, the Outstanding Research Investigator of the Year Award was added giving us the opportunity to recognize a research investigator for their body of work, impact on patient care and research leadership. Winners are considered based off the following categories: level of engagement and investment in research, passion and appreciation for research staff.



Research team pictured from left to right: Cassidy Canarro; Steven Phillips, MD; Erin Anthony-Fink

### 2016 Diane Cecchetti Excellence in Research

"MultiCare Institute for Research & Innovation cannabidiol (CBD) initiative"—Steven Phillips, MD

### Outstanding Research Investigator of the Year

Hematologist and Medical Oncologist, Jack Keech, DO

### Meritorious Presentation Awards

Best Presentation for Completed Project  
"Electrical stimulation reduces symptoms of intermittent claudication"—David Embrey, MD

Best Work in Progress  
"Forearm fracture reduction by pediatric emergency physicians"—Thomas Hurt, MD

### Partnerships

MultiCare's hospitals, medical centers, clinics and urgent care centers, as well as home-based services, provide a continuum of patient-and family-centered care and serve over 560,000 patients annually in the South Puget Sound. Our patient population spans five counties within Washington, representing a diverse set of health needs across the entire patient lifespan.

The Research Institute supports research across the entire health system by partnering with patients and their families, providers and health care leaders. The Research Institute's access to diverse patient populations in a real-world community setting has allowed us to build strong partnerships with academia, other research institutes and sponsors in support of community-based research. Research sponsors are increasingly seeking out community-based research organizations, such as ours, to engage patients where care is most often delivered.

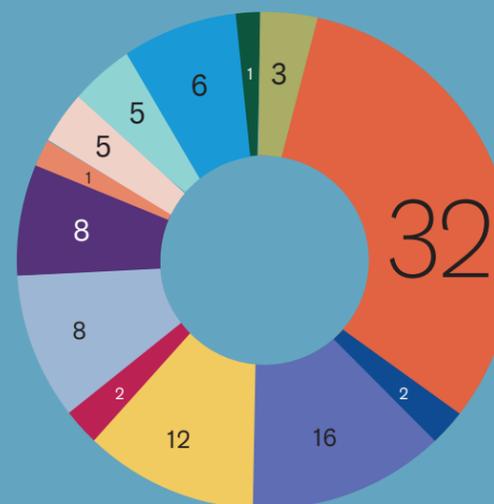
In partnership with the University of Washington (UW), we conducted an observational lifestyle study examining food and shopping habits of residents of Pierce County. Participants will report food choices and fitness habits over the course of two years to track trends in our region.

UW also trained three Research Institute staff on research methods and strategies for engaging key stakeholders in patient-centered outcomes research. This training resulted in three Patient-Centered Outcome Research scholars, Mou Jin, MD, PhD; Annie Reedy; and Angela Silva. This unique training that will further advance MultiCare's ability to conduct research relevant to community members.

Also new in 2016, researchers at Seattle Children's Hospital sought out Mary Bridge as a key partner in conducting a randomized, controlled research study aimed at improving communication between parents and their children's primary care providers about asthma. The researchers are testing the efficacy of using text messages as a tool for low income parents for communicating effectively with their children's primary care provider about their child's asthma. Now, even our smallest asthma patients can benefit from this nationally recognized trial.

Partnerships are essential to research. As we continue to grow, so will our depth and breadth of partnerships.

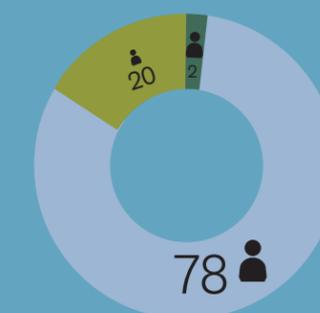
## MultiCare Institute for Research & Innovation 2016 at a Glance



### Therapeutic Areas %

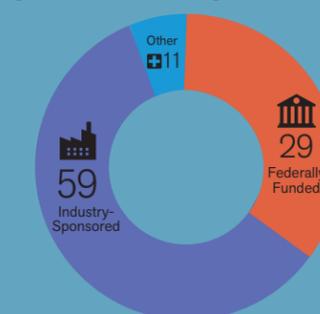
- Adolescent & Young Adult Oncology
- Adult Oncology
- Cardiovascular
- Dermatology
- Endocrinology
- Internal Medicine
- Neurology
- Pediatric Oncology
- Pediatrics
- Pulmonology
- Vascular
- Women's Health
- Other

### Populations Enrolled %



- Adolescent & Young Adult
- Adult
- Pediatric

### Program Funding Sources %



### Our team

53 Research staff      1001 Active patients

80 Research investigators

### Types of studies

141 Industry-sponsored      32 Investigator-initiated studies

70 Federally funded cooperative group      14 Intramural

### 2016 Patient Satisfaction Survey Score Highlights %

95 Overall patient satisfaction score

97 Highest scoring category: Study Staff score

### Respondents %

94 Gave the highest possible rating to the friendliness of staff

99 Rated as good or very good for overall care

At the Research Institute, patients are our partners and we greatly appreciate their feedback. In 2016, we distributed an optional survey to evaluate our patients' experience with scheduling, facility, study staff, logistics, personal issues and their overall assessment. The 246 completed surveys led to important improvements. We are grateful to all the patients who responded and look forward to continued improvement in 2017.

## A Heartfelt Thank You

Each year, we reserve a special space in our annual report to recognize the many employees, leaders, investigators, committee members and community donors who commit their time and resources to ensure the growth and success of the Research Institute. Please join us in extending a heartfelt thank you to the individuals below.

### Research Institute Assigned Staff

Beth Abuan; Paul Amoroso, MD; Gigi Bakken; Juanita Baker; Janey Barnhart; Tristin Baxter; Holly Billiu; Karyna Boykin; Amy Chant; Cassidy Canorro; Holly Covert; Jessica Ebert; Candace Edwards; Tiffany Edwards; Samantha Elliott; Erin Anthony-Fick; Laura Frank; Katy Garrison; Rosemary Hadcox; Camisha Hammons; Shannon Harris; Karyn Hart; Colleen Hiebert; Emily Hoyle; Alyssa Hutchinson; Max Jiganti; Rebecca Johnson, MD; Gad Kletter, MD; Courtney Lumsden; Vinay Malhotra, MD; Michelle Maxin-Wells; Heather McKenzie; Riana McNeely; Jarrod Monroe; Jin Mou; Kelly Mulligan; Bethann Pflugeisen; Steve Phillips, MD; Roslyn Pierce; Justin Platts; Denise Quinn; Julie Reardon; Stacie Rebar; Anne Reedy; Jessica Rowden; Laurel Rutledge; Katie Rutter; Dalia Sherif; Courtney Sholar; Angela Silva; Katie Singsank; Gabbie Smith, Jami Smith; Karen Stahl; Tonya Stigger; Lisa Strasbaugh; Vanessa Tuggle-Hake; Danielle Wahinekapu; Shirley Warner; and Gerard Warren. We would also like to recognize the outstanding support of our grants accountants Tammy George and Howard Luke who directly support the work of the federal grants office through our Finance Partnership.

### Research Oversight Committee

The Research Oversight Committee supports the functioning of the Research Institute by approving goals and objectives, reviewing performance and outcomes as well as providing general guidance and strategies. Members include:

Paul Amoroso, MD (Chair); Will Barnes, RPh; Kristin Barsness; Chris Bredeson; Diana Brovold, RN; Stephanie Cline; David Embrey, PhD; Ronald Graf, MD; Maria Granzotti, MD; Blair Irwin, MD; Rebecca Johnson, MD; John Lenihan, MD; Vinay Malhotra, MD; Andee Petersen; Michael Raff, MD; Anne Reedy; John Rieke, MD; Claire Spain-Remy, MD; Debra Seguin, RN

### Research Funding Committee

The Research Funding Committee provides expert scientific oversight of all our donor-supported, investigator-initiated research proposals. Members include:

Michael Raff, MD (Chair); Catherine Brown, PharmD; Ronald Graf, MD; Michelle Maxin-Wells; Jesse Mierzwiak, MD; John Rieke, MD; Anne Reedy; Doug Sutherland, MD

### Grants Steering Committee

The Grants Steering Committee provides system-wide reviews for all federal grants that impact multiple departments or obligate MultiCare Health System to create new programs or services. This is accomplished through the approval, direction, management and monitoring of system selection and project activities, in collaboration with business unit leaders. Members include:

Paul Amoroso, MD (Co-chair); Lois Bernstein; Theresa Boyle; Linda Dean, RN; Maria Granzotti, MD (Executive Sponsor); Jennifer Hamilton; Tim Holmes; Veronica Hooper, MD; Pali Lipoma; Jason Mitchell; Harold Moscho; Andee Peterson; Laird Pisto; Anne Reedy (Co-chair); Claire Spain-Remy, MD; Dori Young

### Community Support

Our intramural research funding program, which directly supports our investigator-initiated research, is funded entirely by the philanthropic support of our community members throughout the year. With great gratitude, this year marks our fifth full year of funding. In addition to our treasured direct donations, we also have monetary support from foundations such as Union Bank's Marco Heidner Trust, South Sound CARE Foundation and the Hyundai Hope on Wheels Impact Grant.

### Research Day Judges

COL Rick Burney, MD, Chief of Department of Clinical Investigation Madigan Army Medical Center; David Hirshberg, PhD, Affiliate Professor and Senior Research Scientist University of Washington, Tacoma; Debra Seguin, RN, Quality Management Consultant MultiCare Health System

### Institute Interns and Volunteers

Noah Cassidy (Intern), Jennifer Homan (Volunteer), Marly Porter (Volunteer), Margaret Boardman (Volunteer)

### MultiCare Leadership

The ongoing support and stewardship of our MultiCare executive and senior leadership plays an instrumental role in our ability to partner with our community for healing and a healthy future through research. We thank them for their unwavering commitment to bring the latest treatment options to patients.

*Thank you, team!*

*Thank you, participants and families!*

A great deal of gratitude is owed to our many research study participants who have committed their time and energy toward advancing medical science. Thank you for trusting us with your care and partnering for a healthier future for all.



### Report Citations

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[multicare.org/research](https://multicare.org/research)

⋮ A not-for-profit  
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For more information on how to participate in a research study and support programs that are advancing medical science in our community and beyond, please refer to our website.

