

# University Hospital Foundation Medical Research Competition

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## 10 YEARS OF IMPACT

2007 - 2016

University  
Hospital  
Foundation



*Supporting innovation  
and excellence at the*

University of Alberta Hospital  
Mazankowski Alberta Heart Institute  
Kaye Edmonton Clinic

# UHFMRRC 2007 - 2016

The University Hospital Foundation has supported the Medical Research Competition in the Faculty of Medicine & Dentistry at the University of Alberta since 1997.

Each year the UHFMRRC provides one-year research grants up to \$35,000 to fund innovative, translational research for clinician scientists in the faculty. This report demonstrates how these projects have had an impact on health care, patient outcomes, and research at the University of Alberta Hospital, Mazankowski Alberta Heart Institute, and the Kaye Edmonton Clinic over the past ten years.

The University Hospital Foundation's investments in research reflect a commitment to building an environment of excellence. Patients with the most complex conditions from across Alberta, western and northern Canada benefit from new knowledge developed right here in Edmonton. The Foundation's investment in research accelerates innovations that change and save lives, and attracts leading minds in research and innovation to benefit the health of all Albertans now and into the future.

# WHAT HAS BEEN FUNDED

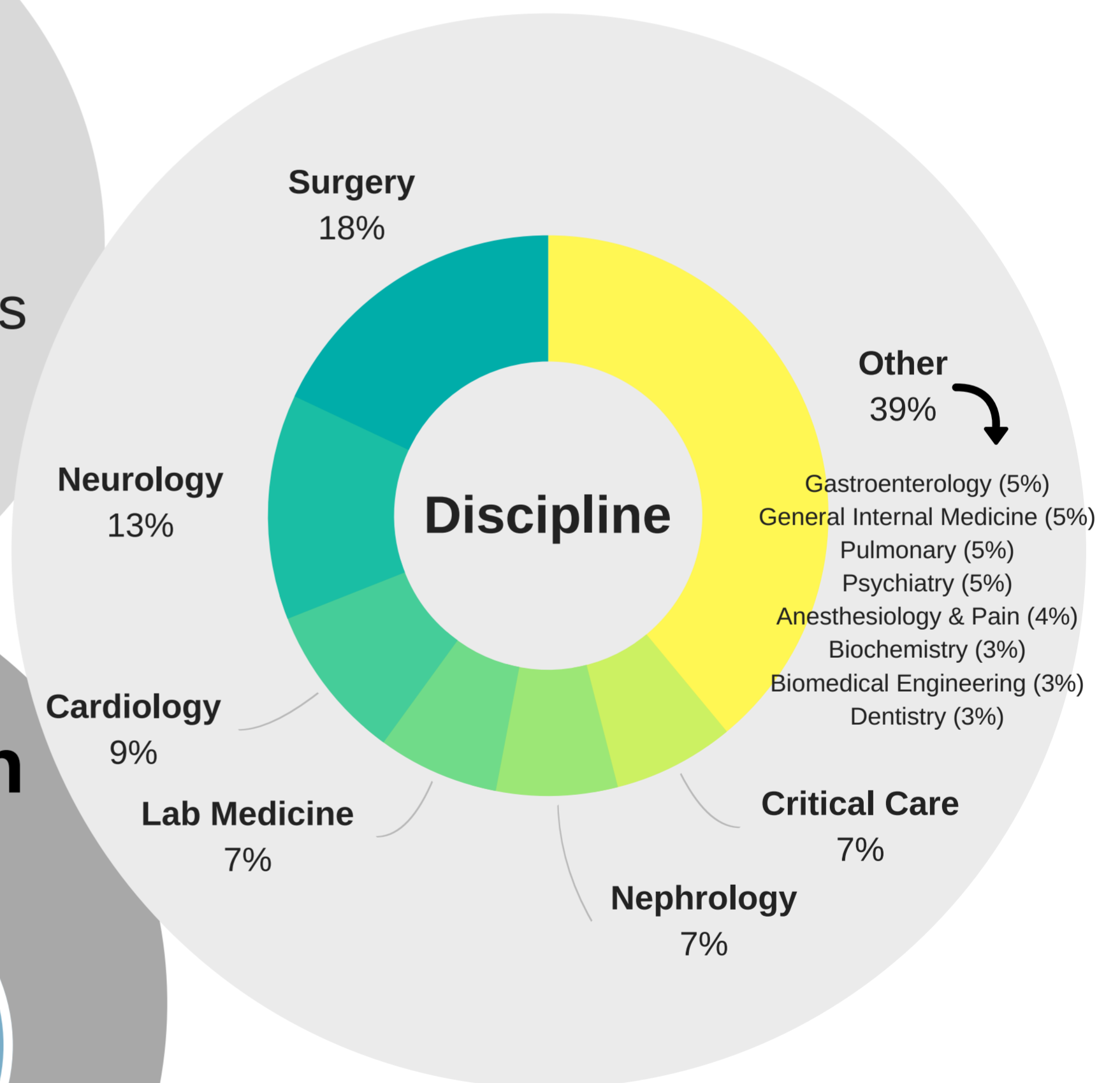
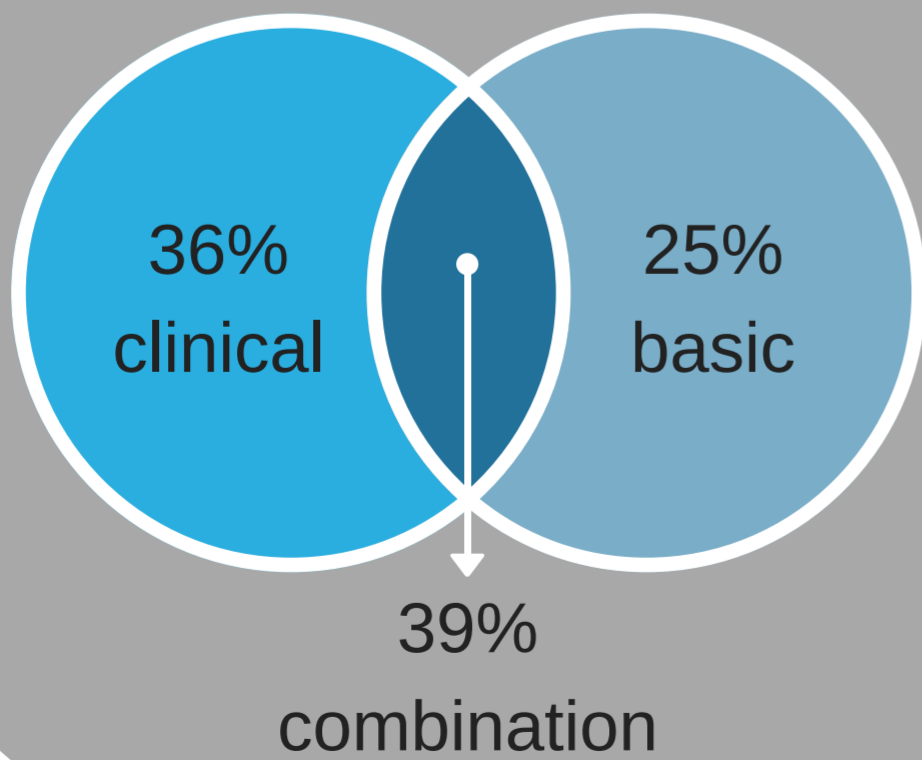
# \$5.0 MILLION

## UHF INVESTMENT FROM 2007 - 2016

# 169

funded research projects

## type of research

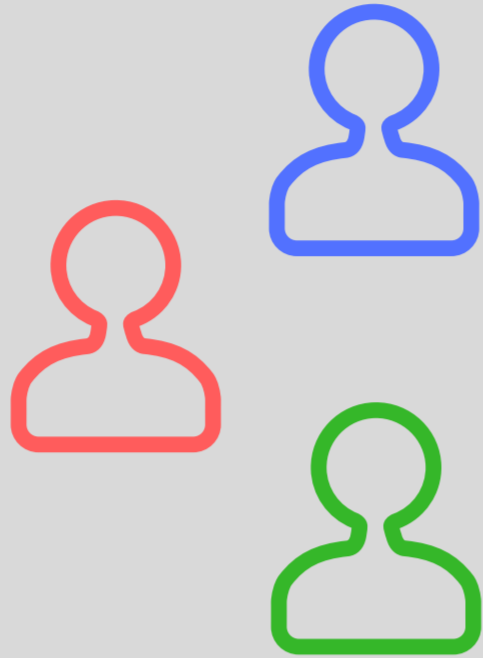


# WHO HAS BEEN FUNDED

# 437

**RESEARCHERS**

169 Lead Investigators  
268 Team Members



47%



**junior  
investigators**



**Dr. Ian Winship | Associate Professor, Department of Psychiatry**  
**Dr. Christopher Power | Professor, Department of Medicine**

UHFMRRC 2016 Recipients  
Project: Imaging Abnormal Brain Activity in Schizophrenia



"If you want to move closer to a cure for a complex disease like schizophrenia, you need new ideas. This is some of the research that I'm most excited about, but it's very hard to get funding to start a new area like this one. The grant from the UHF allowed me to take the research in my lab in a whole new direction." - Dr. Ian Winship

**Dr. Puneeta Tandon | Associate Professor, Department of Medicine**  
**Dr. Bonnie Dobbs | Professor, Department of Family Medicine**

UHFMRRC 2014 Recipients  
Project: Assessing Driving Safety in Patients with Cirrhosis



"This project is very exciting and a first in the area of cirrhosis. We are hopeful that our results will inform consensus on how to approach patients clinically with regards to driving. Thanks to the University Hospital Foundation, this research will help many patients with cirrhosis in the area of driving and cognitive impairment." - Dr. Puneeta Tandon



**Dr. Raj Padwal | Professor, Department of Medicine**  
**Dr. Dion Brocks | Professor, Pharmaceutical Sciences**

UHFMRRC 2009 Recipients  
Project: The Effect of Gastric Bypass on Antibiotic Absorption



"The results from this research have immediate implications for treatment of the patient population. This funding has allowed us to perform a novel study and support clinical investigation and graduate students at the University of Alberta." - Dr. Raj Padwal

# WHAT HAVE BEEN THE *OUTPUTS*



## publications

2007 - 2015



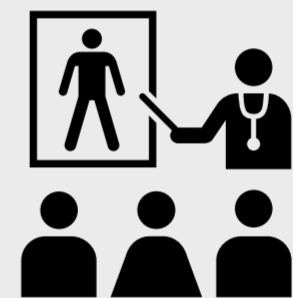
- 69%\* of award recipients published findings
- 149 publications related to 107 funded projects

\*An underestimate given that most recently funded studies have yet to be published.

## presentations

2007 - 2015

- 45% of award recipients reported presenting findings at international, national, and local conferences
- 190 presentations reported by 69 awardees



**Dr. Michael Stickland** (UHFMRRC 2011) published findings from his study entitled, "Physical Activity, Fitness, and Vascular Health in Patients with Asthma" in the well-respected *Journal of Allergy and Clinical Immunology*. In contrast to previous findings, his study demonstrated that mild, controlled asthma alone does not contribute to patient's inflammation or impaired vascular function.

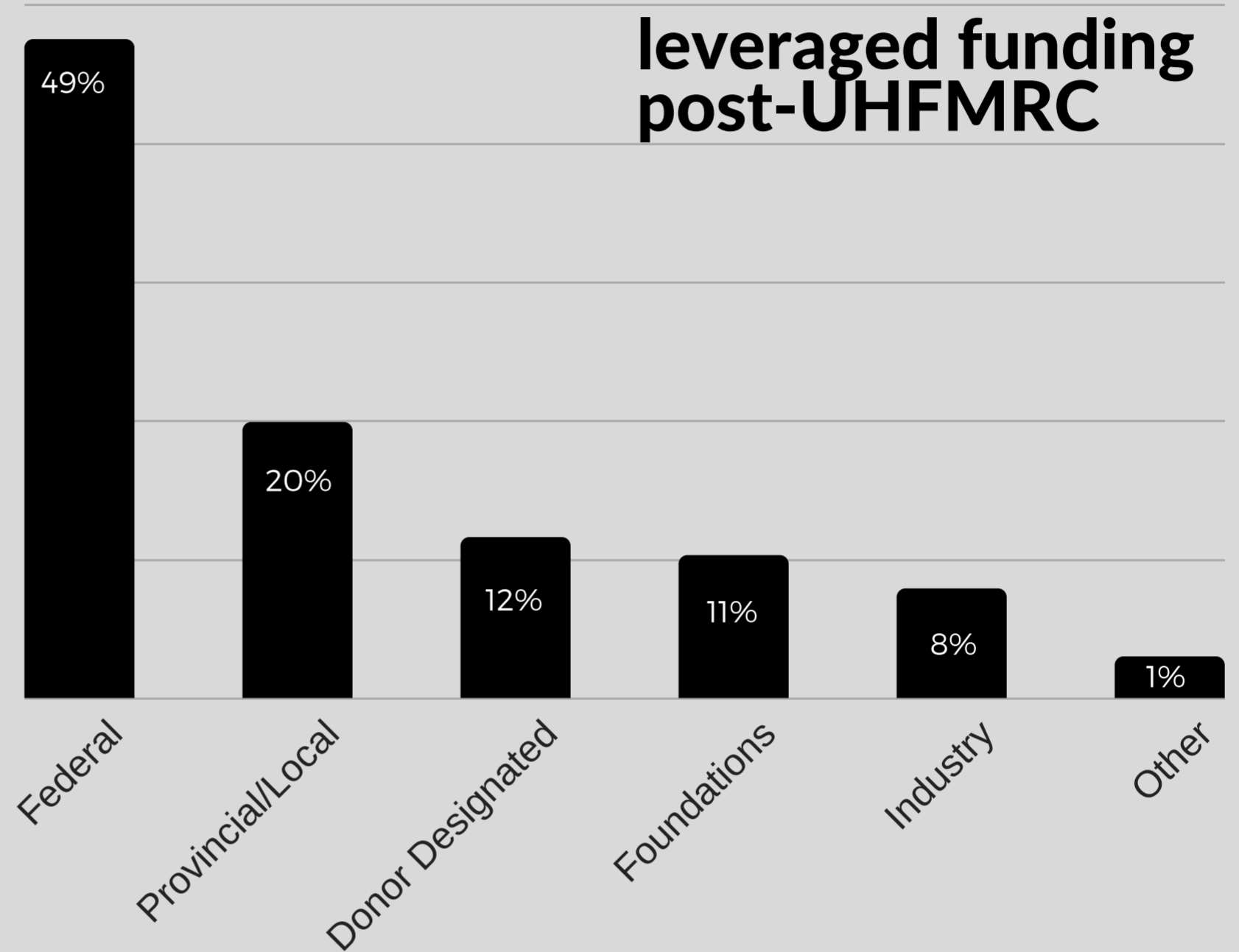
**Dr. Wendy Sligl** (UHFMRRC 2008) published her project entitled, "Predictors of Long-Term Mortality After Intensive Care Unit Admission for Community Acquired Pneumonia" in a high-impact journal - *Chest*. Her findings showed that 25% of critically-ill patients with pneumonia will die within one year, and therefore premorbid functional status should be assessed at presentation to improve prognosis.

# WHAT HAS BEEN THE *IMPACT*



# 58%

of UHFMRRC award recipients obtained additional funding



\$5.0 million  
UHFMRRC  
investment

# \$24.5 million

additional funding secured

# WHAT HAS BEEN THE *IMPACT*



## CASE STUDIES

### screening

There are a number of different strains of *E. coli*, yet frontline laboratories do not test for all strains. In 2008, there was an *E. coli* outbreak (STEC strain) in Oklahoma that impacted 341 patients with 70 hospitalizations and 1 death. **Dr. Linda Chui** and co-applicants, **Drs. Gregory Tyrrell** and **Robert Verity** (UHFMR 2008) conducted a study with more than 1300 patients to detect the STEC strain, which was not routinely tested for in the lab at the time. Based on this study, Alberta Health and Wellness added this specific strain of *E. coli* as a notifiable disease.



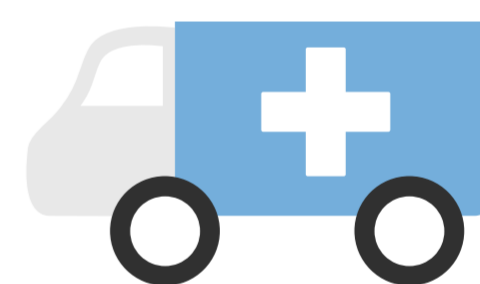
### diagnosis

Proteins can be used as markers of disease progression in a variety of cancers. **Dr. Todd McMullen** and co-applicant, **Dr. Robert Burrell** (UHFMR 2012) developed, tested, and patented a point-of-care device to detect markers of disease in thyroid cancer in a time- and resource-efficient manner. Today, this device is being used by physicians and scientists in oncology research across Canada.



### treatment

Stroke is one of the leading causes of death in Canada. There is an effective treatment for stroke, but it must be delivered within 4 hours from the time of stroke onset. **Dr. Ashfaq Shuaib** (UHFMR 2012) is testing an ambulance outfitted to deliver this specialized treatment to patients in rural settings. Dr. Shuaib hopes the findings from this study can positively impact stroke patients in remote communities.



### prognosis

Long-term failure of transplanted kidneys is a common problem. Unfortunately up to 60% of patients with failing kidney transplants demonstrate specific gene expressions, most of which are missed by tests. **Dr. Sis Banu** and co-applicants, **Drs. Luis Hidalgo** and **Michael Mengel** (UHFMR 2014) conducted a study to develop a multi-gene diagnostic and prognostic test. Today, this test can be integrated into standard clinical care, and will reduce the burden of rejection in kidney transplant populations in the long-term.



### quality of life

Geriatric patients who undergo acute surgery are at risk for poor surgical outcomes. **Dr. Rachel Khadaroo** and co-applicants, **Drs. Adrian Wagg** and **Sandy Widder** (UHFMR 2011) studied the impact of acute surgery on geriatric patients' quality of life post-surgery. Their findings demonstrated that most patients perceived a significant health decline with greater time post-surgery. This study is important for providers to help understand and predict elderly patients' unique post-operative needs.



# THANK YOU

On behalf of the Faculty of Medicine & Dentistry, I would like to express my sincere gratitude for the University Hospital Foundation's continued support of the Medical Research Competition in the Faculty of Medicine & Dentistry, University of Alberta for more than 20 years.

I hope this preliminary 10 year impact report demonstrates the profound impact this competition has had on patients, health care, and the local research community. I look forward to continuing this research funding partnership with the University Hospital Foundation for years to come.

Sincerely,

David Evans, PhD FCAHS

Professor and Vice-Dean, Research