UBC MEDICINE

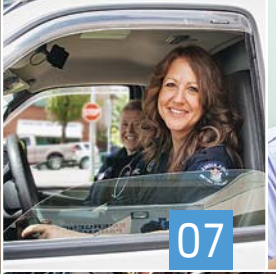
VOL 9 | NO 2 FALL 2013 THE MAGAZINE OF THE UBC FACULTY OF MEDICINE

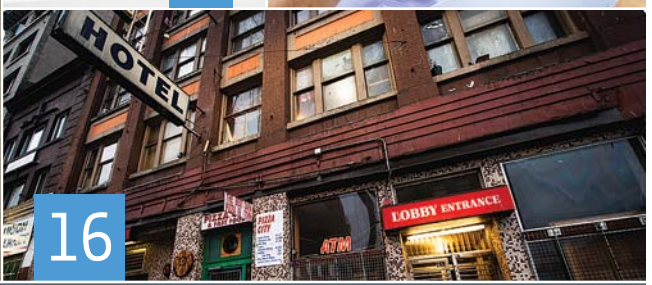
CORPUS POROUS

How our physical and social environment gets under our skin

a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA





UBC MEDICINE

FACULTY OF MEDICINE

UBC MEDICINE
VOL. 9 | NO. 2 FALL 2013

A publication of the University of British Columbia's Faculty of Medicine, providing news and information for and about faculty members, students, staff, alumni and friends.

Letters and suggestions are welcome. Contact Brian Kladko at brian.kladko@ubc.ca

Address corrections:
melissa.haller@ubc.ca

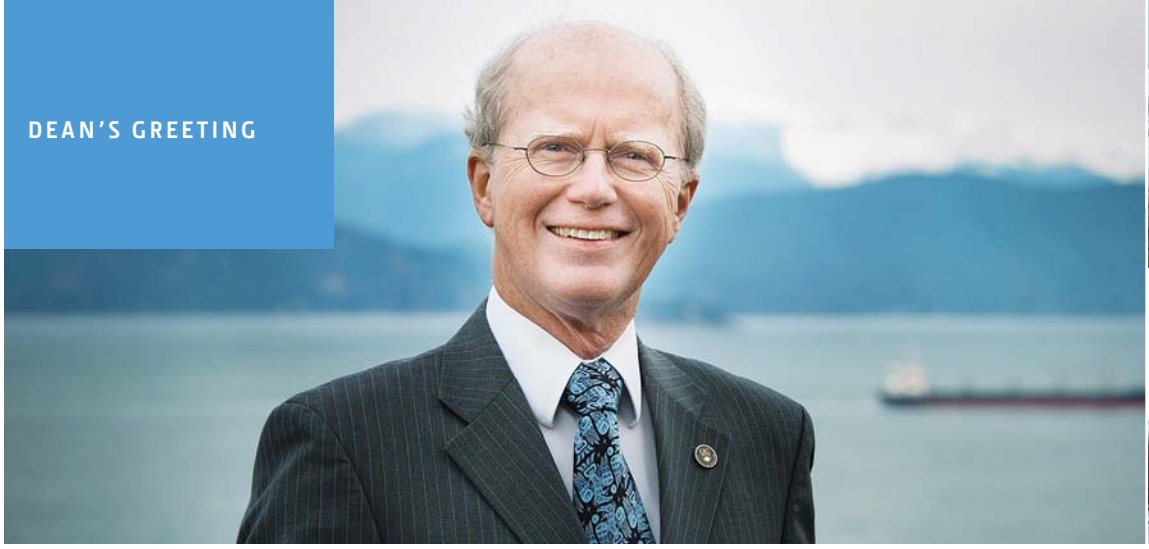
Communications Director
Brian Geary

Editor/Writer
Brian Kladko

Contributing writers
Anne McCulloch
Daniel Presnell

Design
Signals Design Group Inc.
www.signals.ca

Online at
http://med.ubc.ca/news/ubc-medicine-magazine



MESSAGE FROM THE VICE PROVOST HEALTH AND DEAN

It may seem unexpected, but as an academic oncologist who cares for women with gynaecological cancer, I've become an expert in denial – not of the reality of disease, with which I'm all too familiar, but of its origins.

Perhaps I'm so focused on the present reality of therapeutic options that the fundamental "why" gets lost. Or, perhaps, I would rather not go there. Although there are no "sure outcomes" in caring for those persons affected by cancer, the causes of the disease are far murkier. It's easier to attribute the clinical state of the woman sitting in front of me to the roulette wheel of misfortune – some arbitrary genetic mutations – than to ponder what they might have done or what they might have been exposed to that ultimately brought them to seek care from the BC Cancer Agency. There must be a reason that these cells followed an aberrant pathway.

We all suspect that actual environmental factors – whether it's lifestyle, pollutants, or our domestic and social circumstances – likely overwhelm sheer randomness as a cause of disease. The challenge is finding the operative factors amid hundreds of different environmental variables.

Overcoming that challenge is essential if we are to become a healthier society. It's a task ideally suited to academic health scientists, like the brilliant ones described in this issue of *UBC Medicine*, because they have the training, the acumen, the discipline and hopefully the resources to discern the signals from the noise.

It is slow, with some projects, like the BC Generations Project, unlikely to yield meaningful insights for decades. But knowing that these efforts are underway, and the skills and dedication of those behind such efforts, I have no excuse to be in denial. Answers are on the way.

Gavin C.E. Stuart, MD, FRCSC
Vice Provost Health, UBC
Dean, Faculty of Medicine

LETTER TO THE EDITOR:

As a general surgeon involved in teaching surgical and family practice residents, I read the sentence "patient safety requires limited work hours" with disbelief. There is no doubt that this message has been driven home to the residents. As an example, our current family practice residents spend a grand total of six weeks doing the surgical part of their rotation but are severely restricted in the number of hours they can work. Working past midnight is a thing of the past, and when "academic" and "clinic" days are subtracted, their exposure to clinical medicine is clearly woefully inadequate.

On this basis, it is impossible that the three "pre-eminent principles" quoted in the article could ever be met. Clinical skills are acquired by exposure to patients, but when residents are not "allowed" (their words, not mine) to work outside their allotted hours, how can this be compatible with our primary aim, which is providing the best patient care of which we are capable? Ironically, far from evolving from the "sink or swim" approach of Dr. Stuart's grandfather, we are in danger of completing the circle and returning to these very days.

The conversion of medical training from a patient-centred approach to an almost unionised shift system where the lifestyle of the practitioner takes centre stage has been depressing to observe. The day will come when we have to rely on these graduates for our own health care – not an encouraging prospect.

Gordon McLauchlan
Clinical Instructor, Department of Surgery
General Surgeon
Nanaimo

FOCUS ON:
ENVIRONMENTAL HEALTH

Denise Daley and Andrew Sandford are investigating whether exposure to smoking leaves marks on children's genes. PHOTO CREDIT: MARTIN DEE

BUILDING AN AIRTIGHT CASE

DO ENVIRONMENTAL FACTORS CAUSE OR EXACERBATE ASTHMA? UBC SCIENTISTS SEARCH FOR EVIDENCE

Chris Carlsten's lab is relegated to the basement of a research annex at Vancouver General Hospital, and that's probably just as well.

First of all, there is the dull rumble of a diesel generator that reverberates throughout the room whenever an experiment is running. Then there is the smell – unnoticed by some, but distinctly detectable by others – of exhaust.

But most of all, there is the polycarbonate-enclosed chamber, about the size of a standard bathroom. In Dr. Carlsten's experiments, research subjects sit and exercise in the chamber for two hours, inhaling the diluted and aged exhaust that simulates the air quality along highways in such places as Beijing or at busy ports of British Columbia.

This somewhat unnerving set-up, one of only five such pollution labs in the world, is key to Dr. Carlsten's mission: to establish a definitive link between diesel exhaust and asthma, the intermittent constriction of the lungs that causes chest tightness, shortness of breath, and coughing.

Although there is ample epidemiological evidence that diesel exhaust exacerbates the disease among people who already have it, Dr. Carlsten is using his lab to understand exactly how that happens. One theory he is testing is that diesel exhaust triggers oxidative stress – a chain reaction of harmful chemical reactions that disrupt the normal functioning of cells, particularly their membranes and DNA.

Demonstrating such a physiological proof of damage, he believes, is the only way to get tougher policies enacted. He refers to it as "biological plausibility."

"To get regulations passed and tighten standards, we need multiple layers of scientific evidence," says Dr. Carlsten, an Associate Professor of Medicine and the Astra-Zeneca Chair of Occupational and Environmental Lung Disease in the Division of Respiratory Medicine. "While epidemiological patterns and correlations can be very convincing, opponents can dismiss them, claiming there is 'unmeasured confounding.' But if you can show it experimentally, and it matches the epidemiology, you're creating a stronger case that is harder to deny."

Building a stronger case for environmental modifications – that is the ultimate goal of researchers exploring the molecular and physiological forces underpinning asthma, which affects eight per cent of Canada's population, including 486,000 children. Some, like Dr. Carlsten, aspire to influence public policy.

Denise Daley, on the other hand, envisions changes in individual behaviour.

An Assistant Professor in the Department of Medicine, Dr. Daley is leading a five-year study exploring whether early life exposure to cigarette smoke alters the expression of certain genes, and whether that increases susceptibility to asthma. And her research tools, like Dr. Carlsten's, are relegated to the basement.

Stored in industrial-sized freezers at St. Paul's Hospital are thousands of frost-covered vials, containing blood and blood components donated by parents and children in British Columbia and Manitoba over a 15-year period. The donors also provided information about their health, and in the case of the parents, their smoking habits.

Dr. Daley and her collaborators will use those samples to look for a type of genetic alteration known as methylation, in which a compound of carbon and hydrogen latches onto a part of the DNA. That bonding can dampen the expression of individual

Chris Carlsten in the chamber that simulates levels of diesel exhaust in places like Beijing. PHOTO CREDIT: DON ERHARDT

Continued on next page

Ryon Anas participates in an experiment in Chris Carlsten's Air Pollution Exposure Laboratory. PHOTO CREDIT: DON ERHARDT

Continued from p. 5

genes, leading to significant changes in how cells develop and function.

The connection between parents' smoking and children's asthma is already well established, but much like diesel exhaust, it's a circumstantial case, based on statistics about patterns of behaviour and illness. So even though smoking is a "risk factor" for asthma, it hasn't proven to be a cause.

Dr. Daley's team is pursuing the hypothesis that exposure to smoke causes changes in methylation patterns that, in turn, trigger a cascade of reactions leading to childhood asthma, and possibly allergies as well.

In trying to prove that theory, they will try to identify where in the genome methylation takes place. Using powerful computers, they will then search for patterns and correlations based on data about the donors – whether the parents smoked, whether the children were exposed to smoke in the womb or in early childhood, and whether the children suffer from asthma or allergies.

Once Dr. Daley has identified areas of methylation and correlations with smoking, asthma and allergies, her collaborator, Professor of Medicine ***Andrew Sandford***, will seek to identify what those areas of DNA instruct their host cells to do.

"What is that mechanism?" Dr. Daley says. "If we know it, we might be able to intervene, depending on the child's genetic profile."

Maybe that intervention would be a drug. More likely, it would be a variety of recommendations for the parent that would counteract or mute the effects of the turned-off gene – such as bringing a dog into the home, or removing a dog from the home, depending on the child's genotype. Other recommendations could touch on diet or physical activity.

"We may have very targeted environmental solutions that may be different, based on what your genes are," says Dr. Daley, a Canada Research Chair in Genetic Epidemiology of Common Complex Diseases and a Career Scholar of the Michael Smith Foundation for Health Research.

Of course, recommendations are only as good as the person who is supposed to follow them. Although warnings about smoking – and especially smoking while pregnant – have been enormously effective, some expectant mothers still do it. But if doctors can point to a child's genetic profile while conveying the need to take certain steps, Dr. Daley believes the message might carry more weight.

"We're not far from determining a child's susceptibility," she says. "If we can identify what types of gene-environment interactions they are susceptible to, then, working with the parents, we might be able to modify their environment."

Dr. Carlsten, while believing tobacco use has "no redeeming value" and therefore should be choked off as quickly as possible through bans and taxes, has focused on what might seem a more intractable problem. After all, diesel exhaust isn't the product of a bad habit, but the product of transportation – the lifeblood of industrialized and developing economies.

All the more reason, he believes, to find the proof of harm. Thus, he maintains a steady stream of volunteers willing to spend a couple of hours – usually several times – in his Air Pollution Exposure Laboratory.

Frozen vials of DNA being used to determine whether early life exposure to smoking affects gene expression. PHOTO CREDIT: BRIAN KLADKO

"At the end of the day, any effort to change regulations about diesel exhaust will very likely be challenged in court," he says. "When you have experimental studies, that changes the whole story very powerfully. If the community believes you've demonstrated a mechanism by which harm is inflicted, the effort gains credibility."

Dr. Carlsten has uncovered solid evidence of his oxidative stress theory, by giving his subjects anti-oxidants before exposing them to exhaust. The result: their lungs don't constrict as much as they do when not given antioxidants. He also has found that exhaust exposure causes a rise in a type of micro-RNA that plays a role in immunity (and thus inflammation), and has determined that anti-oxidants prevent that increase.

While it's reasonable to think that anti-oxidants might thus have potential as a preventive therapy for asthma, Dr. Carlsten would rather see the findings used to justify a requirement for diesel engines to produce fewer oxidizing particles.

"I'm not a big supporter of anything that seems like a treatment, because that's avoiding the fundamental problem," he says. "It's much more important to me to validate the plausibility of what we're seeing epidemiologically, so we can decrease air pollution and protect the entire population."

Paramedic Renee MacCarron, one of the participants in a study that aims to reduce the risk of breast cancer in shift workers.
PHOTO CREDIT: ANNE MCCULLOCH

THE GRAVEYARD SHIFT

Renee MacCarron, a paramedic with BC Ambulance Service in South Surrey, finishes a night shift at 7 a.m., heads home to get her three children off to school, and crawls into bed. She falls asleep immediately.

Three or four hours later, however, her brain – and her body – are going again. For a person on a normal schedule, it would be like waking up at midnight to go grocery shopping and then helping the kids with homework before leaving for work, again.

"I find shift work really takes its toll," says MacCarron, 47, whose schedule consists of two 12-hour day shifts, two 12-hour night shifts and four days off. "My short-term memory is particularly bad after night shifts. My children will ask me for permission to go to a friend's house and then a couple of days later, they're getting ready to leave and I won't remember the conversation. It happens all the time."

Working night shifts for the past 25 years has not only left MacCarron exhausted, it also has increased her risk of breast cancer. The International Agency for Research on Cancer has identified shift work that disrupts sleeping patterns as a probable cause of cancer.

With the support of the Canadian Cancer Society, UBC researchers are examining whether improved sleep habits can reduce the risk of breast cancer in women who work night shifts, such as nurses, emergency dispatchers and casino workers.

"I love my job, but knowing it can potentially have a risk like that is disconcerting," MacCarron says. "I was gung-ho to participate in a study that I hope can help future shift workers."

Led by ***Carolyn Gotay***, a Professor in the School of Population and Public Health, the study is exploring the impact of a sleep program on risk factors for breast cancer – not only diet and exercise, but the condition of their breast tissue (both density and changes to density over time), production of the hormones cortisol and melatonin, and levels of insulin, vitamin D, glucose and certain proteins.

Carolyn Gotay.
PHOTO CREDIT: BRIAN KLADKO

"We know women are very concerned about their increased risk, but there are very few programs currently available to help them," says Dr. Gotay, who is the Canadian Cancer Society Chair in Cancer Primary Prevention. "If our sleep intervention is beneficial, we're hoping workplaces and unions may make this support available to their workers."

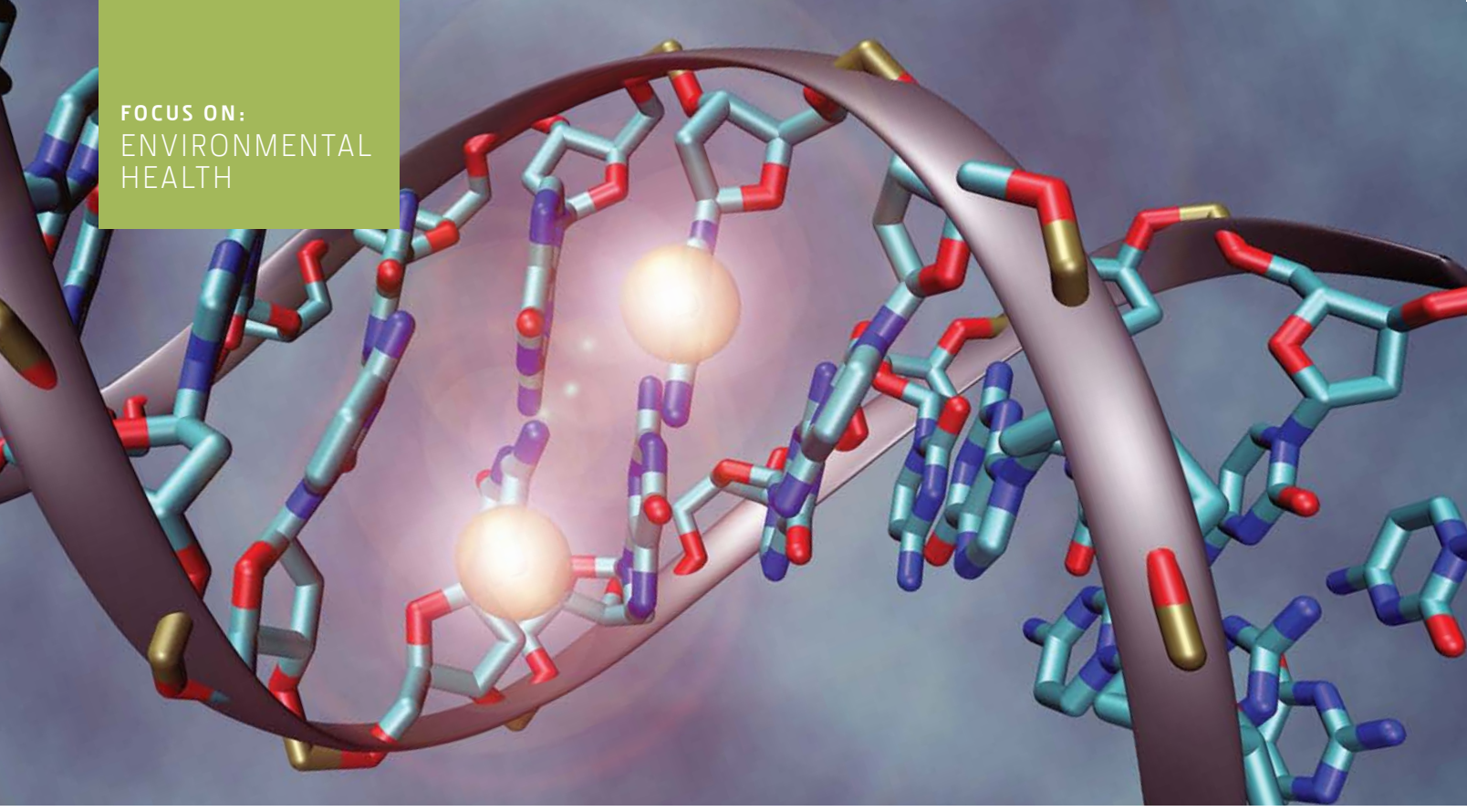
During the study, participants complete a sleep program (in which a "coach" provides advice for sleeping better), keep a diary to chronicle the quality of their sleep, and wear a wristwatch-like device that monitors their sleep efficiency and physical activity by measuring movement and sensing light.

"Sleep is a skill that takes practice," MacCarron says. "I can't believe how much my sleep has improved just by using the techniques I've learned. I'm more refreshed."

This is one of two studies funded by the Canadian Cancer Society currently underway at the Cancer Prevention Centre, a partnership between the Canadian Cancer Society and UBC. The other study is evaluating the effectiveness of three workplace wellness strategies to decrease employees' cancer risk.

"We're hoping the study of shift workers will give us further insight into the cancer risk, as well as how to help workplaces put preventative measures in place to reduce that risk and save lives," says ***Barbara Kaminsky***, Chief Executive Officer of the Canadian Cancer Society, BC & Yukon. "If we can do this, it would be another significant step forward in cancer prevention."

Anyone interested in participating in the study should contact project manager Carola Muñoz at 604-822-1315, or email shiftworkers.cancerprevent@ubc.ca. More information on the study can be found at http://cancerprevent.ca/shiftwork



A DNA molecule that has been "tagged" through methylation. ILLUSTRATION: CHRISTOPH BOCK/MAX PLANCK INSTITUTE FOR INFORMATICS

AT THE NEXUS OF NATURE AND NURTURE

By now, the experiment is a familiar reference point – perhaps *the* reference point – for the study of epigenetics, the science of gene expression.

Like many experiments, it involved rats. But this one seemed to resonate with humans in a way that few others do.

In brief: it compared the pups of nurturing mothers – those who made their milk readily available, and spent a lot of time licking their progeny – with the pups of those who were less attentive to their young. The pups of the less attentive mothers were more vulnerable to stress, and this difference corresponded to chemical tags on certain genes.

The findings electrified a whole segment of developmental scientists by demonstrating how environmental conditions can affect gene expression, and thus alter the trajectory of cells and whole organisms. In other words, it showed how life circumstances can get "under the skin," affecting behaviour through biological mechanisms.

But the implications for human development remain almost as murky as ever, impeded by the hard requirements for scientific validation: large sample sizes, to establish correlations with statistical confidence, and long timeframes, to allow environmental conditions to make their mark.

Michael Kobor, however, is not the least bit intimidated.

"Whenever there is a challenge, I look at it as an opportunity," says Dr. Kobor, an Associate Professor of Medical Genetics and a Senior Scientist of the Centre for Molecular Medicine and Therapeutics (CMMT). "We're off to the races."

Dr. Kobor, a native of the Black Forest region of Germany, concedes he is predisposed to optimism – whether it's a genetic inheritance, or something he developed through experience, is hard to say. But he has good reason to be confident.

For one, he has teamed up with McGill University Professor ***Michael Meaney***, the scientist who designed those rat experiments. Secondly, they have gained access to data about hundreds of children from around the world, including information about their upbringing and DNA-rich blood samples. And they have secured a $1.5 million grant from the Brain Canada Foundation to make sense of it all.

Their project will be the first genome-wide examination of how childhood experience affects the human brain.

Their focus is methylation, the bonding of a molecule made up of carbon and hydrogen to parts of the DNA. These compounds act as "dimmer switches" on genes, and thus play an enormous role

A girl, in a specially equipped van, has her brain's electrical activity monitored as part of the Gene Expression Collaborative for Kids Only (GECKO) Project, a UBC study co-led by Michael Kobor.
PHOTO CREDIT: HUMAN EARLY LEARNING PARTNERSHIP

in determining how cells behave. Whether methylation occurs, and where on the DNA it takes place, is now believed to be heavily influenced by environmental conditions.

In essence, Dr. Kobor and his collaborators are seeking the biological nexus, or nexuses, between nature (genes) and nurture (upbringing): whether certain adverse experiences, such as abuse, poverty or loneliness, leave lasting marks on the biology of the brain that lead to such maladies as depression, aggression or addiction.

"There is a huge amount of very diverse but very high quality data about these children's lives, and how they behave," Dr. Kobor says. "We can use cutting-edge technology to measure the methylation state of almost all of the 20,000 to 25,000 human genes. With that, we should be able to establish that what is true in rats might be transferable to humans."

Dr. Kobor, however, is no expert in early childhood development. Until recently, he was studying the epigenetics of yeast.

But upon hearing Dr. Kobor describe his work at a Grand Rounds presentation at the Child & Family Research Institute, ***Ron Barr***, a Professor of Pediatrics, saw the potential for applying it to children. Dr. Barr, who had studied the correlation between care-giving and infant development, proposed that they go back to his research subjects to get DNA samples.

That is just one of about 45 cohorts that Dr. Kobor and his collaborators will use over the next three years. Other cohorts include: Quebecois children raised by mothers who experienced depression and even physical abuse; a similar collection of Singaporean mothers and children; U.S. children whose mothers were tutored by nurses in proper parenting techniques; a group of Wisconsin adolescents who have been followed, along with their parents, from birth; and a group of children whose cognitive, emotional and physical traits (including their brains' electrical activity) were assessed by UBC's Human Early Learning Partnership, often in the back of a specially-equipped van.

In all of these cases, the participants' DNA will be analyzed by Dr. Kobor's CMMT lab. The methylation of each donor's DNA will be matched with data about the donor's life, and the search for commonalities will begin.

"When I was a graduate student, we were measuring two or three of these methylation marks in a few samples in a year," says Dr. Kobor, the Director of Social Epigenetics at the Human Early Learning Partnership (HELP). "Now we're measuring half a million marks in 192 people in five days. There has been a huge explosion in our ability to do this. And because we do this better than many people in the world, we've become a hub for social epigenetics."

Michael Kobor.
PHOTO CREDIT: ANGELIQUE CROWTHER

"Whatever we do around our children might leave an imprint on their genome, or more accurately, their epigenome."

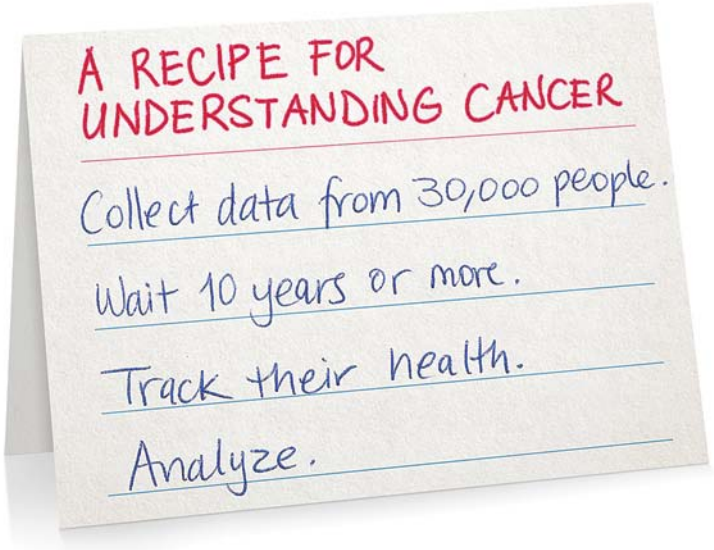
That UBC has become such a hub, and that Dr. Kobor finds himself at the centre of it, is due largely to the late Clyde Hertzman, a Professor in the School of Population and Public Health and Director of HELP who died suddenly in February 2013. Dr. Hertzman, who dedicated his career to demonstrating how early life experiences affect a child's brain and social development, was quick to grasp the implications of Dr. Meaney's rat experiments, and along with Dr. Barr, saw how Dr. Kobor's expertise could take it further.

"Clyde was a master of getting people together and getting them excited about projects," Dr. Kobor says. "All of this started with a $100,000 grant that HELP gave us six years ago."

If Dr. Kobor and his collaborators find that childhood experience does leave biochemical marks on the DNA of brain cells, and perhaps other organs, it might help identify which children are most at-risk, and thus which children should be the highest priority for prevention or intervention programs. But it also carries implications for individual behaviour.

"We should perhaps be aware that whatever we do around our children might leave an imprint on their genome, or more accurately, their epigenome," Dr. Kobor says. "It reminds us to be the best parents we can."

John Spinelli.
PHOTO CREDIT: BRIAN KLADKO



Most good science takes time. *John Spinelli*, a cancer epidemiologist, is on intimate terms with that hard truth.

His hard-won patience gives him the perfect disposition to serve as leader of the BC Generations Project, an endeavour whose scientific payoff will likely come long after he retires.

BC Generations is the province's contribution to a national data-gathering effort aimed at determining which genes, physiological traits, behaviours and environmental exposures lead to cancer and other chronic diseases. But unlike most epidemiological studies, which look back in time at people who have developed cancer or another disease, BC Generations is tracking people as they age.

The national effort, called the Canadian Partnership for Tomorrow, encompasses five regional data-gathering efforts. The goal is to amass a database of 300,000 Canadians between the ages of 35 and 69.

The B.C. component was initially spearheaded by Clinical Professor ***Richard Gallagher***; when he retired in 2011, he handed the baton to Dr. Spinelli, who, at 58, was also motivated by scholarly altruism – putting the pieces in place for other researchers.

June Song of the BC Generations Project takes measurements of LaDonna Fehr at a temporary assessment centre in Prince George.
PHOTO CREDIT: BC GENERATIONS PROJECT

"This is really a labour of love," says Dr. Spinelli, a Professor in the School of Population and Public Health and Distinguished Scientist at the BC Cancer Agency. "Why am I doing this? It's not for my career. This study is for the future, the next generation of health researchers."

BC Generations began recruiting volunteers in 2009. In its quest to cast as wide a net as possible, Gallagher came up with the idea of temporary assessment centres – setting up shop for a month at a time in various communities (Kelowna, Prince George, Victoria, Nanaimo, Kamloops, North Vancouver, Coquitlam and Abbotsford), buttressed by an intense publicity blitz exhorting people to stop by, fill out a questionnaire, be measured for height, weight, blood pressure, body fat and grip strength, and provide a sample of their blood and urine.

The idea, unique to BC Generations, was "wildly successful," Dr. Spinelli says, and was later emulated by its sister project in Alberta.

"BC Generations certainly developed an innovative approach to recruiting at the community level," says ***Jacques Magnan***, the Senior Scientific Lead for the Canadian Partnership for Tomorrow. "It makes so much sense. You're asking people to volunteer their time, information about their lives, provide blood or urine, and you can't expect someone in Prince George to come to Vancouver to do that."

Supplemented by people who signed up online or responded to mass mailings, BC Generations recruited 30,000 volunteers by 2012, with more than half of them – 16,000 – already having been measured and given their blood and urine at one of the assessment centres.

Dr. Spinelli and his team are now working on getting measurements and samples from the other 14,000 volunteers, who registered online or by responding to mass mailings. The BC Generations team is urging them to visit their nearest LifeLabs to be assessed.

"Eighty per cent of the people we've contacted have given us samples, which is unheard-of in cohort studies," Dr. Spinelli says. "I think it's something about B.C. We have quite a motivated group of participants. We have people coming to us asking, 'Why haven't you contacted me? I thought you were going to do more! I'm ready to do whatever it takes!'"

Crucially, participants consent to provide access to their medical records, not just prior to joining but going forward. That is the key to this project, because scientists will be able to look for clues in the information or samples they provided – their occupations, where they lived, how much they exercised, and of course, their genetic makeup – to see which ones are predictors of their later health.

"You have to give people time to develop chronic diseases," Dr. Spinelli says. "But in five to 10 years, these data and samples will be an invaluable resource to researchers in British Columbia, across Canada and around the world."

L – R: Emergency medicine residents Margaret Zhang and Jess Paul at Royal Columbian Hospital in New Westminster; internal medicine resident Andrew Kwasnica at Royal Jubilee Hospital in Victoria. PHOTO CREDITS: DANIEL PRESNELL, LYLE STAFFFORD/VICTORIA TIMES COLONIST

RESIDENCIES PROLIFERATE BEYOND VANCOUVER

An Abbotsford native finds herself training in a hospital closer to home; a long-time Vancouver Islander gets to stay in his hometown.

As a child, *Jess Paul* spent many hours at BC Children's Hospital, watching intently from the bedside as doctors and nurses cared for her brother. Amid the busy hospital wards and the unfortunate circumstances of family illness, the Abbotsford native began to imagine her future.

That future was realized in July, when she set out through the labyrinthine halls of Royal Columbian Hospital in New Westminster, on her way to see her first patient.

She was embarking on the next stage of her training as a resident in emergency medicine. But Dr. Paul was also helping to usher in a new stage of UBC's distributed education program.

Several new community-based residency programs opened their doors this year. Besides the two emergency medicine residents in Fraser Health (with two more added each year, for a total of 10 by 2018), residents in emergency medicine and internal medicine began their training in Victoria, which will lead to a total of 18 by 2018. The expansion will continue next year, with two emergency medicine residencies beginning in Kelowna.

Though residents in emergency medicine and internal medicine have been doing rotations in hospitals across the province, the launch of these new programs mark the first time their entire training will be spent in a community outside of Vancouver.

Such postgraduate programs are central to the Faculty of Medicine's drive to increase the number of doctors in training, and to place those trainees in communities where doctors are needed most.

"We feel it is important for our postgraduate residents to be exposed to the unique aspects of various communities across B.C.," says ***Roger Wong***, Associate Dean of Postgraduate Medical Education. "We also feel that when doctors are trained in those communities there is an increased likelihood that they will choose to remain in those communities thereafter."

"There's a great need for more emergency physicians, but we don't have enough room at Vancouver General Hospital to give them all of the learning experiences they need," says ***Caroline Tyson***, the director of Fraser Health's Emergency Medicine residency program. "Distributing that learning across sites is a way of dealing with the physical space constraints. Using the template that has been developed and proven effective at the core sites ensures that we will maintain those high standards in other locations. And, at the same time, patients in Fraser Health have access to more doctors."

The residency programs also allow newly-minted M.D.'s to pursue their post-graduate training closer to their roots. ***Andrew Kwasnica***, who grew up in Victoria and graduated from the Island Medical Program in June, is remaining in the capital for the next stage of his training, as an internal medicine resident at Royal Jubilee Hospital.

Dr. Kwasnica was drawn to working in a smaller hospital, thinking it will be easier to foster meaningful connections with mentors or fellow trainees. But he also can't imagine leaving Victoria.

"I have family here, and my wife's family is from here," he says. "We have a child on the way, so it's important for us to put down our roots here. That's why I wanted to stay here so badly. I'd be happy to never have to leave again."

Back at Royal Columbian in New Westminster, Dr. Paul is similarly gratified to be working so close to her hometown.

"When I go back to Abbotsford, and family and friends are talking about different things... they can picture where I am and where I'm working," she says. "That's kind of special, to have that connection."

L – R: Shafique Pirani at a planning meeting with Bangladeshi health officials; children in a Dhaka slum. PHOTO CREDIT: LYNN STAHELI

DOUBLING DOWN ON A PROVEN TREATMENT

Upon hearing how *Shafique Pirani* aims to eradicate clubfoot in Bangladesh, it's tempting to assume he is a bit deluded by the myth of the all-powerful doctor.

And then you listen to him – speaking softly and melodically, in gentle cadences punctuated by a nurturing, warm smile – and skepticism quickly morphs into hope.

And then you look at what he has already done, and hope becomes belief.

A Clinical Professor in the Department of Orthopaedics who practices at Royal Columbian Hospital in New Westminster, Dr. Pirani has spent the past decade spreading the word about a non-surgical method of curing clubfoot, a condition in which a child is born with one or both feet turned inward and downward. Left untreated, clubfoot is a lifelong disability.

The method, invented by the late Ignacio Ponseti of the University of Iowa, involves gently manipulating a baby's foot, placing a cast on it, and then repeating the process over several weeks, so that the mainly cartilaginous bones are molded into the correct position. Night braces help maintain that position until the bones harden into place.

With funding from the Canadian International Development Agency (CIDA), he and ***Richard Mathias***, a Professor in the School of Population and Public Health, worked with Uganda's Makerere University and Ministry of Health to create a network of 40 clinics throughout the country, staffed by "orthopaedic officers" who can provide the Ponseti treatment. Over the course of the grant, 3,227 children were treated, and the clinics remain open to treat thousands more.

Having laid the foundation in Uganda, Dr. Pirani and Dr. Mathias have set their sights on Bangladesh, one of a handful of countries where high-level leaders are eager to incorporate the Ponseti method into their health care system. As is the case in Uganda and other developing countries, clubfoot in Bangladesh is far more of a burden – for individuals, family members and society – than it is in a country like Canada, because the main mode of transportation is walking, and farming and manual labour are the main occupations.

"The link between clubfoot and poverty is unmistakable, made visible by the fact that many of the beggars in Bangladesh have the condition," Dr. Pirani says.

Shafique Pirani examines a child with clubfoot during a "train the trainer" session in Bangladesh. PHOTO CREDIT: LYNN STAHELI

So Canada's Department of Foreign Affairs, Trade and Development (the successor to CIDA), doubled down on Dr. Pirani, awarding him $4.3 million to establish Sustainable Clubfoot Care in Bangladesh (SCCB).

L – R: Children with foot deformities wait with their mothers to be assessed at a training session; Dr. Pirani demonstrates the Ponseti technique to Bangladeshi orthopaedic physicians. PHOTO CREDIT: LYNN STAHELI

Clubfoot in Bangladesh is far more of a burden – for individuals, family members and society – than it is in a country like Canada.

The Bangladesh project is markedly different from the one in Uganda, where specially-trained paramedical workers were trained to perform most parts of the Ponseti procedure. In Bangladesh, only orthopaedic physicians are allowed to do it.

But the country's Ministry of Health is also committed to training thousands of health care workers – other physicians, nurses, and village- or neighborhood-based health outreach workers – to recognize the condition, explain to parents how it can be treated, refer them to the appropriate clinic, and then follow up to ensure the child wears a nighttime brace for four years after the casting to prevent relapse.

Dr. Pirani and his team are using a train-the-trainer model, starting with the instruction of 50 orthopaedic "master trainers," who will take their new knowledge and skills to train fellow orthopaedic surgeons, orthopaedic residents, paramedical institute instructors and nursing school instructors. While the orthopedic physicians will provide treatment, the instructors will orientate paramedical students and nursing students so they can identify and refer patients. The same orientation will also take place with medical students, and for non-orthopaedic physicians through professional societies.

The master trainers also will work with BRAC, a humanitarian organization based in Bangladesh (and the largest non-governmental organization in the world), to orientate 50,000 outreach workers – known as "Shasthya Shebikas" and "Shasthya Kormis" – to identify children with clubfoot, refer them for treatment and follow up.

Dr. Pirani got a glimpse of the power of BRAC's network of SSs and SKs during a trip to Dhaka, the Bangladeshi capital, in June. To conduct a training session for the future master trainers, Dr. Pirani needed to quickly find some young patients to treat.

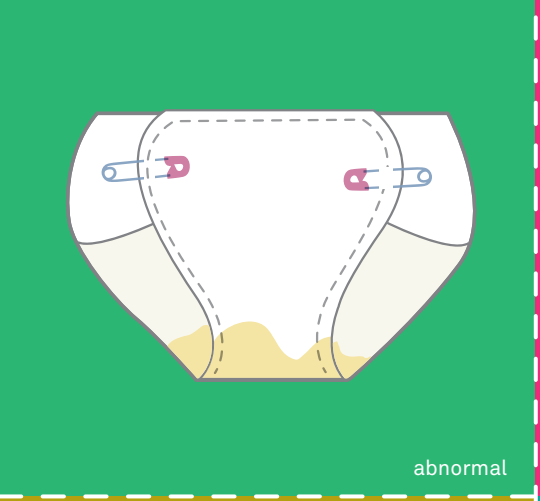
"Our main point of contact in BRAC made a call, and from there it went down the pyramid," Dr. Pirani recalls. "Forty-eight hours later, we had 100 children come to the clinic, and 29 of them had clubfoot. They knew who in a slum of 1.3 million people had a foot problem, and got them on a bus."

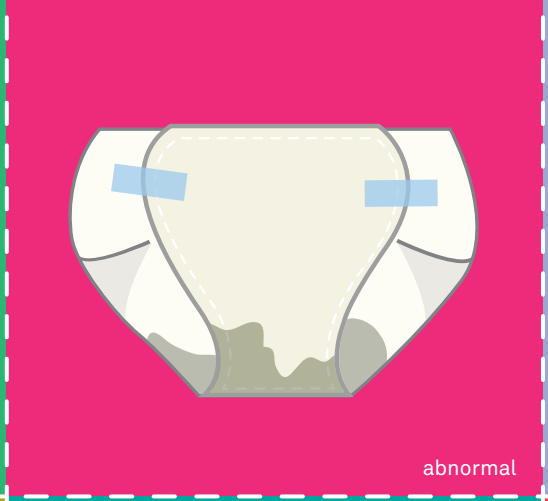
At the training session, Dr. Pirani shared some of his own hard-won insights into the Ponseti treatment, including the effectiveness of keeping the child on the mother's lap – and even letting the child breastfeed – during the manipulation and casting.

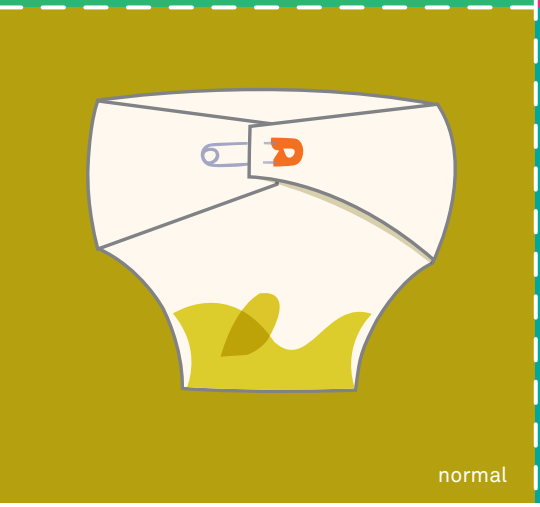
"This is an alien concept to orthopaedics, where the vast majority of procedures are done in the operating room," Dr. Pirani says. "And it's even more so in a Muslim society, where public breastfeeding is not as common. But you have to make sure the child is relaxed."

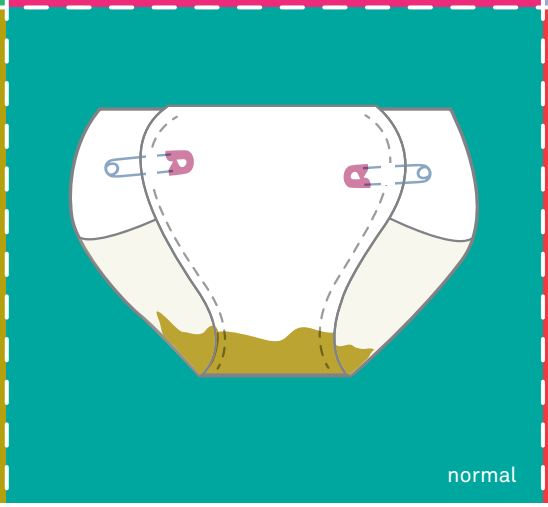
More lessons are bound to follow – Dr. Pirani and Dr. Mathias are not only looking to effect change, but to conduct research that can be applied elsewhere. Some of the questions he wants to answer: What are the risk factors for not continuing the bracing? How can diagnosis and referral be better integrated into primary care? What is the minimum duration of treatment for a successful outcome? And how can outcomes be better quantified?

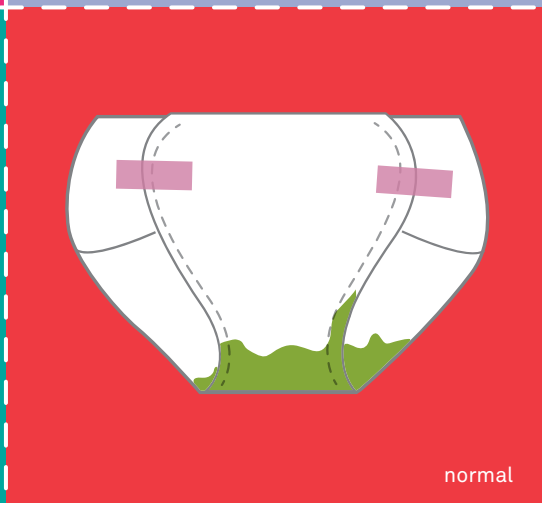
"Once we show how feasible this approach is, and how much of an impact such a coordinated response can have, I expect more countries will want to adopt it as well," Dr. Pirani says. "And then, we will be well on our way to hastening the demise of clubfoot, and the poverty and social isolation that comes with it."











BLANKET? CHECK. CAR SEAT? CHECK. POOP COLOUR CHART? **HUH?**

The list of must-have items for parents of newborns has remained pretty much the same for decades: sleepwear, blanket, car seat, and of course, diapers and wipes.

B.C. parents are now starting to have one more item included in that list: an easy-reference card for examining the colour of their newborn's stool.

While parents may not welcome the reminder of how many diaper-changings await them, the card – spearheaded by Clinical Professor of Pediatrics ***Rick Schreiber*** – may very well alert them to a rare, life-threatening condition that can only be corrected with surgery.

The condition, biliary atresia, is a blockage of the bile duct, the main draining pipe for eliminating bile and other toxic substances from the liver. Left untreated, it leads to liver failure within the first two years of life.

Most children with biliary atresia now survive. A liver transplant is the last-ditch option, but carries all of the complications and risks that any transplant procedure entails, compounded by the age of the patient. A safer and less costly procedure is a surgical bypass that re-establishes flow from the liver to the bowel.

Known as a Kasai portoenterostomy (named for the Japanese surgeon who invented it), the procedure became widely available in the 1980s. But its effectiveness depends on when it's done. If performed in the first two months of life, it has a 60 per cent to 80 per cent chance of success; after three months, that success rate drops to 20 per cent.

So detecting the condition quickly is the key to avoiding a transplant. And that is a challenge.

There is no blood test for biliary atresia. Jaundice (a yellow tinge to the skin and eyes) is a symptom, but it's often dismissed by parents – and doctors – because most cases of jaundice are temporary and clear up on their own. Moreover, most Canadian babies don't have their first check-up until they are two months old.

"We – not just in Canada, but everywhere – were having too many late referrals," Dr. Schreiber says. "It's a rare disease, so most doctors don't see a single case in their whole careers. It's like looking for a yellow needle in a yellow haystack."

That is where poop comes in.

Rick Schreiber. PHOTO CREDIT: BRIAN KLADKO

Biliary atresia causes a baby's stool to be pale-coloured or chalk-white rather than the normal golden yellow or dark green. And a baby's parents are the ones most likely to notice the abnormal colour.

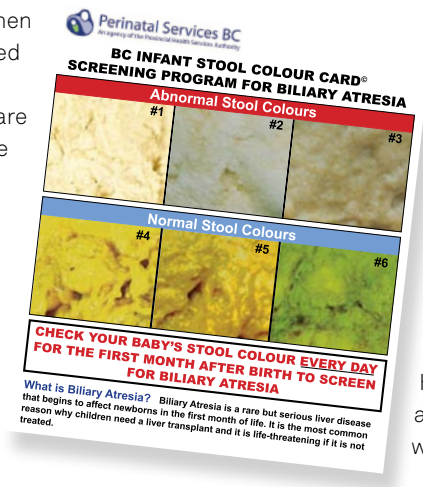
Dr. Schreiber, the Director of the B.C. Pediatric Liver Transplant Program, borrowed the idea of a colour card from Taiwan, which pioneered it a decade ago; as a result, the country managed to detect nearly all cases of biliary atresia before 90 days. The card contains photos of abnormal and normal infant feces and directions to check the colour of their baby's stool every day.

Dr. Schreiber teamed up with fellow pediatric specialists, family medicine researchers and health economists at academic medical centres across Canada, and obtained funding from the Canadian Institutes of Health Research to conduct a pilot of the colour card in B.C. (in Vancouver and Prince George) and Quebec. They tested various tactics in tandem with the cards – reminder cards mailed to parents, phone call reminders, letters to newborns' family doctors, phone calls to those doctors.

The most cost-effective strategy, they found, was simply providing the card to parents when the baby was discharged from hospital. Based on their calculations, a B.C.-wide program would save $5 million over a decade, and spare about 15 to 20 children and their families the risk, pain and anxiety of a liver transplant during that period.

After reviewing the results of the pilot study, Perinatal Services BC (an agency of the Provincial Health Services Authority) and its Oversight Council decided to make the cards a part of every newborn discharge procedure.

"This initiative is a great example of how we're leading health care innovation in British Columbia," says ***Kim Williams***, Provincial Executive Director of Perinatal Services BC. "Even something as simple and low-tech as the stool colour cards can make a significant difference in the outcomes of newborns. This at-home screening program will reduce the need for liver transplantation and improve the overall survival of these tiny patients."



A portion of the stool colour card that is now being distributed to parents of newborns across B.C.

> "We… were having too many late referrals. It's a rare disease, so most doctors don't see a single case in their whole careers. It's like looking for a yellow needle in a yellow haystack."
>
> *—Rick Schreiber*

The card includes directions to contact Perinatal Services BC for follow-up if their newborn's stool colour looks abnormal. (More information is available at http://bit.ly/biliary_atresia.)

Distribution of the cards to maternity hospitals began this summer, with the entire province expected to be covered in the next year – the first province in Canada, and one of the only jurisdictions in the world, to do so. The cards also will be distributed to midwives, who will give the cards to their clients after delivery at clinics or the parents' homes.

"Once we get things going here, we'll look at rolling it out in Quebec, and then, we hope, the rest of the country," Dr. Schreiber says.

He and his colleagues have also established a biliary atresia national registry to track every Canadian child who has the condition; the disease is so rare that provincial statistics are inadequate.

"So we'll be able to measure the effectiveness of a colour card in one province, compared to a province that doesn't have one," he says. "We might also be able to detect if some provinces have better outcomes for the Kasai procedure than others, and then try to pinpoint the reasons."

INVESTIGATIONS & BREAKTHROUGHS

PHOTO CREDIT: ROB SHAER

01 | A disturbing health portrait of single-room occupancy tenants

Living in a single-room occupancy hotel (SRO) is clearly better than being homeless. But it's still a life plagued by disease, drugs and death.

In one of the first studies to comprehensively document the health of people living in SROs in Vancouver's Downtown Eastside, UBC researchers found they suffered from an average of three illnesses at the same time, and had a death rate nearly five times greater than the general population's.

Led by ***William Honer***, Head of the Department of Psychiatry, the study conducted psychiatric assessments, neurological evaluations, brain scans and blood tests with 293 single-room occupancy hotel tenants who participated in the study over an average of two years. Other findings:

- 95 per cent were addicted to drugs, with almost two-thirds of them users of injected drugs.
- Nearly half suffered from psychosis, and nearly half had a neurological disorder.
- 18 per cent were HIV-positive and 70 per cent had been exposed to Hepatitis C.

SROs, due to their low rents, are a common alternative to homelessness for low-income individuals; in Vancouver, they provide shelter for about 3,000 people. Many but not all SROs are sub-standard in terms of health and safety, design, and, when income is taken into account, even affordability.

"Housing is not health," Dr. Honer told the *Vancouver Sun*. "We need to go beyond just putting a roof over people's heads."

William Honer.
PHOTO CREDIT: BRIAN KLADKO

02 | Could cancer cells be starved into submission?

Cancer cells, because they grow and divide much more rapidly than normal cells, have tremendous appetites. And that might be a key to their undoing.

Poul Sorensen, a Professor in the Department of Pathology and Laboratory Medicine, used cell cultures, worm and mouse models, and studies of human brain tumours to show that the activation of a protein called eEF2K allows cancer cells to survive severe nutrient starvation.

His investigation, in collaboration with researchers at the University of Toronto, McGill University and in the U.K., U.S. and Germany, was based on a simple question: How do tumour cells and healthy cells respond to the challenge of caloric scarcity?

"We were surprised that only certain rare tumour cells could survive such deprivation," says Dr. Sorensen, a Senior Scientist at the BC Cancer Agency. "We then set out to find the reason. It's because they had somehow learned to activate eEF2K."

When he and postdoctoral fellow Gabriel Leprivier put mice expressing low levels of eEF2K on a low-calorie diet, large portions of their tumours began to rapidly wither. In contrast, the tumours in mice with high levels of eEF2K were "virtually bullet-proof" in the face of caloric starvation, Dr. Sorensen says.

The study – published in the journal *Cell* – suggests that aggressive cancer cells might be especially dependent on this enzyme to sustain their relentless proliferation. On the other hand, normal cells, with their moderate caloric needs, can survive without it.

That points to the possibility of targeting eEF2K. Most cancer treatments, including radiation and chemotherapy, are indiscriminate, killing both cancerous and healthy cells. But a drug that inhibits production of eEF2K might kill aggressive cancer cells and leave normal cells unharmed.

Dr. Sorensen and his colleagues, using technology at UBC and BCCA, are now searching libraries of compounds in search of a drug – either existing, or perhaps yet-to-be-developed – that does just that.

03 | Two doses of HPV vaccine can be as protective as three

UBC researchers have found that girls who received two doses of the human papillomavirus (HPV) vaccine had as good an immune response to HPV-16 and HPV-18 infection as young women who received three doses.

HPV infections cause nearly all cases of cervical cancer, which is the second-most commonly diagnosed cancer in women worldwide. The study, published in *JAMA*, lends more plausibility to adopting reduced-dose schedules for the vaccine, which would lower barriers to global implementation.

The study included 830 Canadian females from 2007 to 2011. The resulting data are the first to show the durability of the immune response of young adolescent girls over a three-year period.

Nevertheless, more data on the duration of protection are needed before reduced-dose schedules can be recommended, says lead co-investigator ***Simon Dobson***, a Clinical Associate Professor in the Department of Pediatrics and Clinical Investigator at the Child & Family Research Institute.

"Reducing the number of doses affects vaccine and administration costs as well as potentially improving uptake rates," the authors wrote. "There is a balance to be found between the incremental value of an additional dose on population effectiveness and the opportunity costs of using the resources required for the extra dose in other public health programs. This is especially the case for HPV vaccines at their present cost."

03

04 | "Eye soccer" reveals possible cause for schizophrenia symptoms

The eye movements of schizophrenia patients playing a simple video game provide an intriguing explanation for some of their symptoms, including difficulty with everyday tasks.

In an experiment conducted by ***Miriam Spering***, an Assistant Professor of Ophthalmology and Visual Sciences, schizophrenia patients were asked to predict the trajectory of a small dot that appeared briefly on a monitor as it moved toward a vertical line. As an infrared-equipped video camera tracked their eye movements, participants would call out whether it would hit or miss the line.

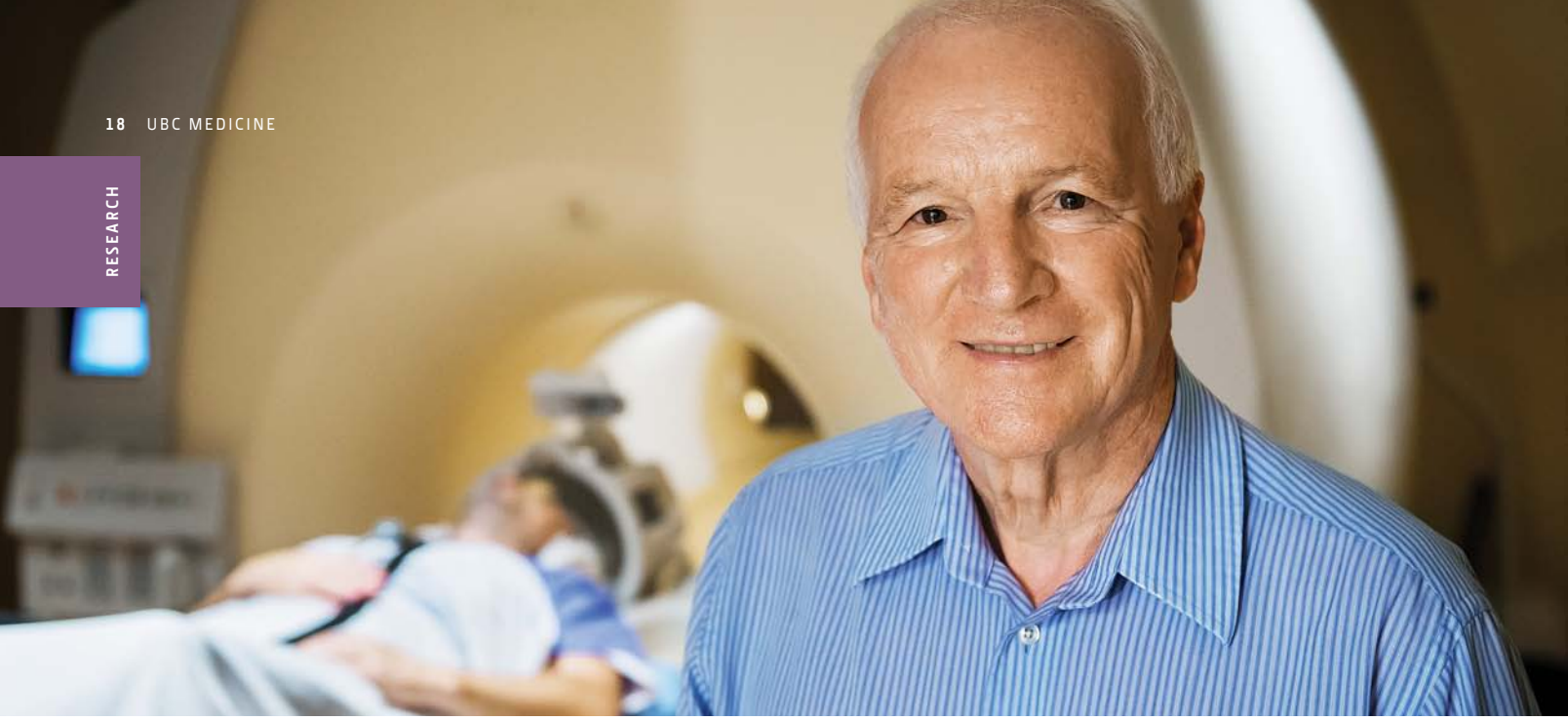
The schizophrenia patients performed significantly worse than a control group in predicting hits and misses, and they were also not as good at tracking the dot with their eyes. But the impairment of their eye movements alone was not severe enough to explain the difference in their predictive performance, according to the results published in the *Journal of Neuroscience*. So there was some kind of breakdown in their ability to interpret what they saw.

The patients were having trouble generating or using an "efference copy" – a signal sent from the eye movement system in the brain indicating how much, and in what direction, their eyes have moved. The efference copy helps validate visual information from the eyes.

"An impaired ability to generate or interpret efference copies means the brain cannot correct an incomplete perception," says Dr. Spering, who conducted the dot-tracking experiments as a postdoctoral fellow at New York University, and is now conducting similar studies at UBC. That would explain why schizophrenia patients often have poor motion perception and eye movements, leading them to bump into people while walking or making it a challenge to cross a street.

"But just as a person might, through practice, improve their ability to predict the trajectory of a moving dot, a person might be able to improve their ability to generate or use that efference copy," Dr. Spering says. "My vision would be a mobile device that patients could use to practice that skill, so they could more easily do common tasks that involve motion perception, such as walking along a crowded sidewalk."

04 *Neuroscience student Katie Lalonde demonstrates the video game used to measure the eye movements of schizophrenia patients.* PHOTO CREDIT: BRIAN KLADKO



Alex MacKay, Founding Director of the UBC MRI Research Centre (and frequent occupant of the machine). PHOTO CREDIT: DON ERHARDT

THOUSANDS OF SHADES OF GREY

The Canadian Olympic swim team has been inside it. Compulsive gamblers have been inside it. Mostly, however, patients have been inside it – people with a range of afflictions, including Parkinson's disease, schizophrenia, and multiple sclerosis.

The "it" is a hulking, humming, clanking machine in the basement of UBC Hospital – a 3-Tesla magnetic resonance imaging scanner, or MRI, that is the centrepiece of the UBC MRI Research Centre.

This year, the centre marks its 10th year, and it's busier than ever, with the scanner booked for a wide range of research projects – especially those focused on the brain, because it captures images of that organ's soft tissue in far finer detail than X-rays or computed tomography, and does so with greater ease and safety than positron emitted tomography (PET).

The machine is so sought-after because it's not your ordinary MRI. A 3-Tesla scanner is twice as strong as clinical MRIs, producing a magnetic field 60,000 times stronger than Earth's magnetic field. When used with contrast agents, the images can contain over 100,000 shades of grey. It is one of only two in B.C.; the other was installed last year at BC Children's Hospital.

PLAYING WITH PHYSICS AND MATHEMATICS

But even as researchers exploit the machine for their own projects, the MRI Research Centre also has found ways to tease even more revealing data from the technology.

"MRI scanners are relatively open hardware platforms, similar to smartphones," says ***Alex Rauscher***, a physicist at the centre and an Assistant Professor in the Department of Radiology. "Just as a smartphone comes alive due to its apps, so does the MRI scanner. We are able to play with the physics and mathematics behind these things and understand what tissue changes do to the MRI signal."

If such a technique is proven to be successful, it becomes part of the portfolio of scans included by the manufacturer in their newer machines.

Dr. Rauscher, for example, has developed a sensitive method of improving image resolution by increasing the ratio of "signal" (useful information) to "noise" (background or irrelevant information). The signal-to-noise ratio is so high that it yields more than just stunningly clear images; it also provides precise numbers that delineate the structure of tissue, such as lesions too small to be visually discerned, and the concentrations of various biochemicals.

"You can be a chemist, measuring the outcomes of reactions," says ***Alex MacKay***, the founding Director of the MRI Research Centre, and a Professor in the Department of Radiology and the Department of Physics and Astronomy. "But to do that, you have to understand the physical properties of the molecules you're measuring. And you have to understand the signal when the hydrogen atoms in your body are 'flipped' by the scanner's magnetic field. So you also have to be a physicist – or at least have one at your side." (Three of the centre's faculty members are physicists, including Dr. MacKay and Dr. Rauscher.)

L – R and below: Some of the brain images captured by the UBC MRI Research Centre's 3-Tesla machine.

MEASURING MYELIN

One of the most fruitful targets for the MRI Research Centre has been myelin, the electrical insulation layer surrounding neurons. Multiple sclerosis (MS) results from a breakdown of myelin – when it wears away, the brain's electrical signaling slows down.

Dr. MacKay has developed a way of capturing images of myelin in living humans, by homing in on the water inside it. That technique has helped make MRI a valuable tool for understanding MS's progression. Refinements of the technique are enabling MS researchers, such as ***Tony Traboulsee***, an Associate Professor of Neurology and Medical Director of the UBC Hospital MS Clinic, to determine if potential therapies can slow down de-myelination, or stimulate re-myelination.

The centre was created with a grant from the Canada Foundation for Innovation, which funded the 2003 purchase of the 3T scanner – at the time, an almost experimental machine, made by Philips, the Dutch multinational electronics and engineering company. The centre later acquired another, even stronger MRI, a 7T, but it is much smaller, used mostly for scanning animal models of various diseases.

The centre's 3T machine has become one of the busiest research magnets in the country, and has been used for 226 projects and counting. The technology has been particularly useful for researchers studying brain activity.

"When we think, we use oxygen, and that causes a change in the magnetic resonance signal in the area of the brain that we're using," Dr. MacKay says. "So you can use the MRI scanner to make a map of the brain and see what areas of the brain are used for certain tasks."

Martin McKeown, a Professor in the Division of Neurology, has used that capability to examine the brains of people with Parkinson's disease, which results from the loss of a crucial biochemical neurotransmitter, dopamine. Dr. McKeown has used the MRI machine to learn how the brain copes with that loss, such as recruiting more brain regions or altering the neural pathways to complete tasks. He is also using MRI to assess novel treatments for Parkinson's disease, such as electrical stimulation of the brain.

A SAFER SCAN

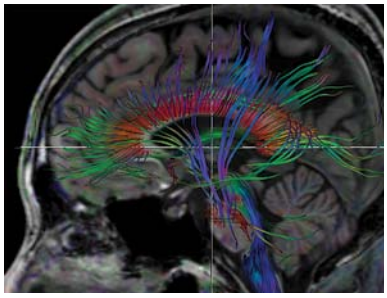
Since MRI became widely available in the 1990s, PET has emerged as an even more sensitive imaging technique, and one that is particularly useful in measuring physiological activity through the use of tracers. But PET, like X-rays, produces ionizing radiation (it knocks electrons from atoms), which damages DNA. MRI, on the other hand, doesn't displace electrons, so the same person can be scanned repeatedly – even daily.

Dr. MacKay, for instance.

"I've logged hundreds of hours in the scanner, and there are no issues," he says. "I used to be scanned once a week, often testing the machine for things I've developed. I always wanted to be the first one to be tested."

For that reason, Dr. MacKay is one of MRI's most vocal boosters. But like any technology, obsolescence is always an issue.

The centre's scanner lacks some of the innovations developed over the past 10 years, such as more homogenous radiofrequency fields and higher signal-to-noise ratios for even more precise images, and more open designs that are more comfortable for patients. And in three years, Philips will no longer be able to guarantee repairs.



So the centre is hoping to secure a newer 3T machine, with an estimated cost of between $4 million to $5 million. If the centre secures that funding, perhaps through private philanthropy, it would be housed in the soon-to-be-completed Djavad Mowfaghian Centre for Brain Health. The machine would be located in a neuroimaging suite that also includes a PET scanner and other machines particularly suited for brain scans.

"Having a state-of-the-art scanner within a few metres of complementary technologies would allow us to extract even greater value from magnetic resonance technology," Dr. MacKay says. "We have gone so far in the past 10 years. That combination of hardware, software and expertise would open up so many more avenues for discovery."

Norberto Bunagan assists a patient at the St. John Hospice, now open on UBC's campus. PHOTO CREDITS: MARTIN DEE, BRIAN KLADKO

UBC HOSTS A CENTRE FOR COMPASSIONATE CARE

St. John Hospice opened in September on UBC's Vancouver campus, providing 14 bedrooms for individuals nearing the end of their lives – as well as a place to educate students about palliative care, and to find ways to improve care for others.

The facility, which provides communal living and dining space, a family room, a garden courtyard and a quiet room for residents and their families, is the only free-standing academic hospice in Canada. The Faculty of Medicine has research and educational space in the lower floor of the two-storey building, located across from the UBC Botanical Garden.

Hospice staff, in conjunction with the Faculty of Medicine, will use the most up-to-date evidence from current research to implement best practices at St. John. In turn, new insights from research conducted at the hospice will be disseminated to health care providers around the province, helping to improve the quality of many British Columbians' final days.

The hospice also will help teach future health professionals about the special needs of those in palliative care.

"Palliative care is still in its infancy in Canada. It's still regarded with trepidation by many medical students and experienced physicians, and there is so much we have yet to learn," said ***Grady Meneilly***, Professor and Head of the Department of Medicine, who spoke at the hospice's opening ceremony. "We hope St. John Hospice will show future health care professionals that end-of-life care can be some of the most poignant, meaningful work they will ever have a chance to do."

The Order of St. John Palliative Care Foundation raised approximately $5.4 million for the project, supplemented by $1 million from the B.C. government. Vancouver Coastal Health is providing $1.6 million in annual operational funding to support on-site care delivered by Providence Health Care.

UBC donated the land and supported the planning process, with two people – ***Stephen Owen***, the former Vice President for External, Legal and Community Relations, and ***David Hardwick***, the Special Advisor to the Dean for Space Planning and Utilization – playing key roles in moving the project forward.

Within two weeks of its opening, all of the hospice's patient rooms were filled.

END-OF-LIFE CARE IN CANADA:

- In 2009, Canada had about 1.3 million people over 80 years old. In 2036, it is projected to have 3.3 million.
- In a study published in the *New England Journal of Medicine*, patients with terminal lung cancer who began receiving palliative care upon diagnosis were happier, more mobile and in less pain as they neared death, and also lived three months longer.
- The number of palliative care physicians in Canada (full- or part-time): over 200.
- Of Canadians who die, 16 per cent to 30 per cent have access to or receive hospice palliative and end-of-life care.
- *The Economist* ranked Canada ninth in a "Quality of Death" index in 2010.

Source: Canadian Hospice Palliative Care Association

Scenes from "Faces of Palliative Care": Clinical Professor Romayne Gallagher counsels a palliative care patient at Vancouver's Marion Hospice; Hal Siden, Medical Director at Canuck Place Children's Hospice and Clinical Associate Professor of Pediatrics, examines an infant with a life-threatening brain tumour.

AN INSTRUCTIONAL VIDEO BREAKS OUT OF THE CLASSROOM

Palliative care brings to mind hopelessness and helplessness, and is often viewed with suspicion and fear by the general public – and even by some health care practitioners.

Patricia Boston, determined to dispel that image, wound up reaching a far larger audience than she ever imagined.

A Clinical Professor in the Department of Family Practice and the former Director of the Division of Palliative Care, Dr. Boston decided that video would best convey how thoroughly end-of-life care has been transformed by new drugs and a collaborative, inter-professional approach.

"Most palliative care teaching does not speak to the heart, and doesn't fully convey the interaction between providers and patients," Dr. Boston says.

With a $123,526 grant from UBC's Teaching and Learning Enhancement Fund, she began collaborating with ***Doug Nicolle***, the Senior Media Producer for Providence Health Care, who became her co-producer and director. Together, they began looking for stories that would convey how much palliative care has evolved.

They found willing patients and families, including a woman diagnosed with pancreatic cancer, and an 8-month-old with a brain tumour. They captured the activities of palliative care teams at Vancouver General Hospital, Richmond Hospital, the Richmond Hospice and the Canuck Place Children's Hospice.

"We wanted actual portrayals of people's experience to convey human truths that complement and perhaps even go beyond what we might read in a book," Dr. Boston says. "We wanted to show the range of care, from hospitals to hospices to patients' homes. And we wanted to emphasize the importance of symptom management."

When "Faces of Palliative Care" was shown two years later to students, health providers and some members of the public, initial reviews were glowing, with many evaluations recommending that the film get wider exposure. Encouraged by that reception, Dr. Boston and Nicolle took the film to the CBC.

The broadcaster's reaction: Thumbs-up.

But transforming "Faces of Palliative Care" from an instructional video into a mainstream television documentary – complete with commercial breaks – required months of editing by Nicolle and the CBC.

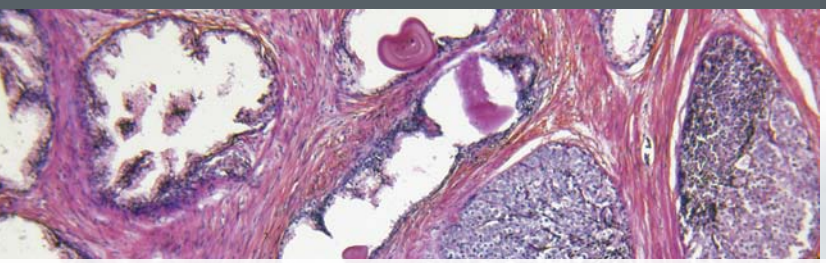
> "We wanted to show the range of care, from hospitals to hospices to patients' homes."
>
> *— Patricia Boston*

The finished product had its television premiere in June, as part of the "Absolutely Vancouver" summer series of documentaries in British Columbia. It was re-broadcast twice in early September, also in B.C. The network plans to air the documentary nationally in the coming months.

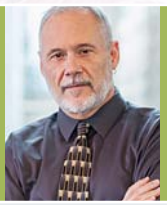
"This will expose so many more people to the principles of palliative care," Dr. Boston says. "Medical education, rightly, is usually small-scale. At its largest, the audience is limited by the size of a lecture hall. I never imagined being able to reach so many people, and doing so in such a meaningful way."

ENHANCING EXCELLENCE

NEW ARRIVALS TO THE FACULTY OF MEDICINE



GOAL Developing new, more robust treatments for advanced (metastatic) prostate cancer that far surpass the efficacies of contemporary hormonal therapies.



RALPH BUTTYAN

AGE: 61 **POSITION:** Professor, Department of Urologic Sciences; Senior Research Scientist, Vancouver Prostate Centre

EDUCATION: Bachelor of Science, University of Pittsburgh; Ph.D, Committee on Virology, University of Chicago; post-doctoral fellow (Urology and Biochemistry), Roche Institute of Molecular Biology, New Jersey, and Columbia University.

PREVIOUS POSITION: Professor, Pathology and Urology, Columbia University; Senior Scientist, Ordway Research Institute, Albany, N.Y. and Adjunct Professor, Division of Urology, Albany Medical College.

DISTINCTIONS: Member of editorial boards of *Frontiers of Medicine, Journal of Urology, Prostate, Journal of Cellular Biochemistry* and *Urological Research*; CapCure Foundation Award; Edwin R. Beer Award for Distinguished Research, New York Academy of Medicine; past President, Society of Basic Urological Research; member of Education Committee, American Urological Association.

DID YOU KNOW? A sci-fi fanatic, I imagine myself as Riddick in a hostile future world.

"Metastatic prostate cancer patients are typically treated with hormones that deplete testosterone or inactivate the cancer cell's testosterone-response protein. While these approaches acutely reduce symptomatic complications and increase survival, they remain palliative, as patients almost inevitably develop a more aggressive tumour that continues to advance. Moreover, hormone-treated prostate cancer patients suffer a considerable reduction in quality of life, since testosterone supports male physical vitality and a sense of well-being. More than 30 years of research has now led me to understand that hormone therapies can also change the developmental state of prostate cancer cells, allowing their regression to a more "stem-like" cancer cell. This reverse-developmental process confers a plasticity that allows them to re-differentiate, becoming less dependent on testosterone and thus more resistant to hormonal treatments. My intent is to target stemness-driven plasticity as a means of keeping the prostate cancer patient in a therapy-responsive state, and to even overcome the need for hormone therapies for this often-lethal disease."

GOAL To engage UBC's Okanagan campus and the Kelowna community in efforts to decrease health disparities and improve the well-being of marginalized and diverse populations in B.C.'s Interior.

CHARLOTTE JONES

AGE: 63 **POSITION:** Associate Professor, Division of Endocrinology, Department of Medicine and Director of Student Research, Southern Medical Program

EDUCATION: Bachelor's degree, master's degree and Ph.D (Biochemistry and Experimental Surgery), McGill University; post-doctoral fellowship (oncology research), Mayo Clinic, Minnesota; MD and residency (endocrinology and metabolism), University of Calgary.

PREVIOUS POSITION: Associate Professor, Departments of Medicine and Community Health Sciences, University of Calgary; Medical Director, Vascular Risk Reduction Clinic and Hypertension Cholesterol Centre, Alberta Health Services.

DISTINCTIONS: Associate Dean's Letter of Excellence for Small Group Teaching, University of Calgary; multiple Gold Star Letters for teaching from University of Calgary Medical School Students Association; George Fodor Award for Prevention and Control of Hypertension in Canada; Stroke Services Distinction Award from Accreditation Canada; Co-Chair, Calgary Cardiovascular Network; Chair, Alberta Hypertension Initiative and Calgary Rotary Flames Centre of Excellence in Hypertension; implemented nationwide community-based project to reduce cardiovascular disease risk in Canadian South Asians.

DID YOU KNOW? My health obsession has become a running joke among friends, colleagues and patients, because I end up attending most meetings in my biking or running clothes, and usually carry a bucket of veggies for sustenance.

"I've seen the excitement and energy in the eyes of seniors who were trained to take blood pressure on other seniors. I've seen Australian Aboriginal communities devastated after researchers wrapped up their randomized controlled trials and went home, leaving inhabitants suddenly bereft of resources and support. I've seen students' fear and aversion to the elderly dissipate through the experience of working and learning with them. These experiences inspired me to learn from, and work with, community members to improve their well-being. As Director of SMP student research, I can combine my passion for working alongside communities while engaging students and faculty in learning and research. We are mobilizing inter-professional Wellness Action Teams for Community Health (WATCH-BC teams), made up of students and faculty members, to link curricular needs with community-identified public health needs."

GOAL To help create a happy, healthy, and fulfilled Division of Emergency Medicine that provides the best emergency care of children anywhere in Canada.

GARTH MECKLER

AGE: 43 **POSITION:** Associate Professor, Department of Pediatrics; Head, Division of Emergency Medicine, Department of Pediatrics, BC Children's Hospital

EDUCATION: Bachelor's degree, Princeton University; M.D., Harvard Medical School; pediatrics residency, University of Washington, Seattle; pediatric emergency medicine fellowship, Children's Hospital Los Angeles, University of Southern California; master's in health services research, University of California Los Angeles, School of Public Health.

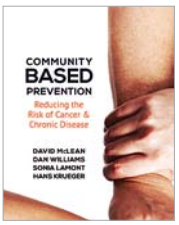
PREVIOUS POSITION: Associate Professor, Fellowship Director and Assistant Section Chief, Pediatric Emergency Medicine, Oregon Health & Science University.

DISTINCTIONS: Developed and received accreditation for first and only pediatric emergency medicine fellowship in Oregon; Chair, Pre-Hospital Education Committee for Oregon Emergency Medical Services for Children; helped establish Pacific Northwest Pediatric Emergency Medicine Consortium; member, Scientific Review Committee, Pediatric Academic Societies; section editor, pediatric section, *Tintinalli's Emergency Medicine: A Comprehensive Study Guide*; New England Pediatric Society Prize; Joseph B. Bilderback Teaching Award.

DID YOU KNOW? My retirement plan is to return to school for a Master of Fine Arts to indulge my love of poetry and photography.

"I moved from the U.S. to Canada to practise within a more just and equitable health care system, and because of the amazing faculty members I had come to know through professional meetings. I am excited by the unique opportunity to provide outstanding local care to children, as well as help to elevate the care of children province-wide. I look forward to learning from those around me – colleagues, mentors, nurses, staff and trainees – and helping to create an environment of camaraderie, enthusiasm, inquiry and sharing of knowledge."

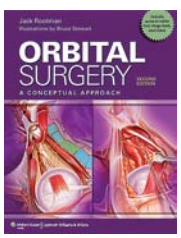
NEWLY PUBLISHED



Community-Based Prevention: Reducing the Risk of Cancer and Chronic Disease

Authors: David McLean, Professor, Department of Dermatology and Skin Science; Hans Krueger, Adjunct Professor, School of Population and Public Health; Sonia Lamont, Provincial Director, BC Cancer Prevention Programs.
Publisher: University of Toronto Press

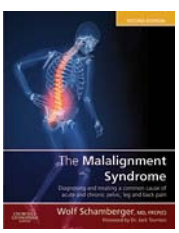
As communities, governments, and health organizations worldwide struggle to avoid being swamped by health care costs, not to mention the impact of suffering and poor quality of life, the only long-term, sustainable hope must be prevention. The authors review representative experiences with community-based prevention educators, focusing on the coordination that can be accomplished in local communities or broader regions. They find that skilled staff, high-quality evaluation, and sustained investment are the fundamental elements of successful community-based prevention programs.



Orbital Surgery: A Conceptual Approach

Authors: Jack Rootman, Professor, Department of Ophthalmology and Visual Sciences
Publisher: Lippincott Williams & Wilkins

This new edition provides the reader with a clear description of the factors to consider when deciding on the proper approach to lesions anywhere in and surrounding the orbit, the bony socket that houses the eye. It offers a philosophy of approach to the surgical management of diseases of the orbit, and it takes a decision-making approach to approaching orbital lesions.



The Malalignment Syndrome: Diagnosing and treating a common cause of acute and chronic pelvic, leg and back pain, 2nd Edition

Authors: Wolf Schamberger, Clinical Associate Professor, Division of Physical Medicine and Rehabilitation, Department of Medicine
Publisher: Elsevier

Now in its second edition, this book provides a detailed description of the Malalignment Syndrome and how it can be identified and treated. It concentrates on the trunk, pelvis, spine, sacroiliac joint and legs, incorporating anatomy, biomechanics, stability issues, possible causes, examination and diagnostic techniques as well as a comprehensive treatment approach. Emphasis is also placed on the participation of the patient/athlete in the day-to day treatment process to achieve long-term results.

L – R: Railroad entrepreneur Willard Kitchen, surrounded by colleagues; Judith Jardine, his granddaughter.

AN UNRESTRICTED GIFT, FROM AN UNEXPECTED SOURCE

Fewer UBC medical students will struggle financially and more UBC medical researchers will be able to pursue cutting-edge ideas, thanks to a $7.4 million bequest – the largest estate gift to the Faculty of Medicine in its 63-year history, and the largest unrestricted donation to the Faculty for students or research.

Judith Jardine, who died in 2006 at the age of 81, was the sole heir to the wealth of the Kitchen/Jardine families of Vancouver. Through her will, she left part of her estate to the Faculty of Medicine.

"We are extremely grateful to Ms. Jardine for supporting medical education and research at UBC," says Gavin Stuart, Dean of the Faculty of Medicine and UBC's Vice Provost, Health. "Her generosity will make an indelible difference in the lives of British Columbians through the training of future doctors and advancement of life-saving research."

The funds received by the Faculty will establish the Willard Kitchen Memorial Fund, named for Jardine's maternal grandfather, who amassed his fortune building railways in New Brunswick. After moving with his family to Vancouver, Kitchen became a director of the Pacific Great Eastern Railway, which later became BC Rail.

Although Ms. Jardine had no obvious connection to UBC's medical school, she was a triple alumnus of the university, earning a B.A. and M.A. in French, and a Bachelor of Library Science.

The discretionary nature of the gift is particularly useful for the Faculty's research agenda, because it can support the kind of cutting-edge investigations that are often deemed too risky for funding agencies.

A portion of the bequest will be used to support research in the Faculty of Medicine's three priority areas – neuroscience and mental health, heart and lung, and cancer.

A PIONEER DETERMINED TO SUPPORT OTHERS' RESEARCH

Jean Templeton Hugill.

Jean Templeton Hugill always cut a distinctive figure, not only for her bright lipstick, colourful wardrobe and love of cocker spaniels, but for her occupation – an anesthesiologist in 1950s Vancouver, a time and place when the field was overwhelmingly male.

As one of the first female anesthesiologists in western Canada, Dr. Hugill earned a reputation for taking on difficult cases, becoming a key figure in developing obstetrical anesthesiology in British Columbia.

"To be a leader in anesthesia as a woman in those times was very tough," says ***Bernard MacLeod***, Associate Professor in the Department of Anesthesiology, Pharmacology and Therapeutics, who trained under Dr. Hugill. "She wanted to do basic research, but never had the opportunity."

After a career devoted to improving anesthesiology from the bedside, Dr. Hugill was determined to support the research of others. Upon her death in 2012, Dr. Hugill left a $562,500 bequest to the Faculty of Medicine, adding to the $500,000 gift she made in 1991 that was matched by the province to establish an endowed chair.

Dr. MacLeod, the current Dr. Jean Templeton Hugill Chair in Anaesthesia, and his predecessor, ***Ernest Puil***, contributed to several research findings that have had a direct impact on patients undergoing anesthesia. Dr. Puil collaborated with engineers to develop a method of monitoring the depth of anesthesia, which is now in clinical use in France. Dr. MacLeod is helping to develop the pain-relieving properties of a novel amino acid found in meteorites from Mars.

A donor himself, Dr. MacLeod lowered his stipend and makes annual donations so the Hugill endowments can support more graduate students.

"Dr. Hugill put forth a mission to the Department to draw together anesthesiologists, pharmacologists and engineers to do translational research, which they did and still do," says ***Roanne Preston***, the Head of the Department. "Through her philanthropy, Dr. Hugill is ensuring that her vision for progress in the field continues."

In more ways than one: Today, nearly half of UBC's anesthesiology residents are women.

To support anesthesiology research, please contact Laura Ralph at 604.827.4728.

L – R: The Faculty of Medicine's first faculty member, Sydney Friedman; mining executives Randy Smallwood and Chuck Jeannes.
PHOTO CREDIT: MARTIN DEE

YOUNG SCHOLARS TAKE UBC TO THE WORLD

The Faculty of Medicine has earned an international reputation over the past decade by extending its medical education program to all corners of British Columbia. Now its first faculty member, *Sydney Friedman*, has created a scholarship to broaden the school's reach beyond provincial lines.

"As connected as UBC has become, there is always room to learn more from other parts of Canada and the world," Dr. Friedman says. "I, along with my late wife and fellow medical educator, Constance, always thought graduates should get some outside influence – it's a big world out there. And maybe they don't come back. It doesn't matter, because they are bringing UBC's name outward. So she would have been pleased to know we are helping to make UBC better connected, and more recognized in the world of academic medicine."

The Constance Livingstone-Friedman and Sydney Friedman Foundation has pledged $100,000 per year for five years for two to four health sciences graduate students and medical residents to travel outside western Canada to work with international leaders in their field. As trainees learn new approaches and theories, they will simultaneously extend UBC's influence and reputation around the world.

"I subscribe to *Science* and *Nature* and I see references to UBC, so we're recognized," says Dr. Friedman, who helped build the Faculty as Head of the Department of Anatomy from 1950 to 1981. "I'd like to see UBC become an even greater international school, and the Friedman Scholars will help lead the way."

"This is the most exciting program for graduate and post-graduate learners I've seen yet," says ***Peter Leung***, Associate Dean, Graduate and Postdoctoral Education, who is overseeing the adjudication process. "We're seeing incredible levels of interest from students and residents, with a remarkable breadth of projects."

The first Friedman Scholars will begin their placements in 2014.

"Dr. Friedman continues to show tremendous vision for the future of our medical school," says ***Gavin Stuart***, Dean of the Faculty of Medicine and UBC's Vice Provost, Health. "The Friedman Scholars program will support our most outstanding scholars as they pursue well-rounded training in an increasingly globalized medical landscape."

To support students, please contact the Development Office at 604.822.5664.

FROM THE EXECUTIVE SUITE, FOCUSING ON STREET-LEVEL CHALLENGES

Glancing out their office windows near Burrard and Dunsmuir streets in downtown Vancouver, mining executives *Chuck Jeannes* and *Randy Smallwood* are keenly aware of the problems a few blocks away in the Downtown Eastside – homelessness, hepatitis and HIV, mental illness and drug addiction.

To help address these problems, their companies – Goldcorp Inc. and Silver Wheaton Corp. – are investing in research to test new treatment options for chronic heroin addiction.

The companies are lead donors to the InnerChange Foundation, which partnered with the Faculty of Medicine and provided $998,077 for the Study to Assess Longer Term Opioid Medication Effectiveness (SALOME) led by ***Michael Krausz***, the UBC-Providence Health Care BC Leadership Chair in Addiction Research, and ***Eugenia Oviedo-Joekes***, Assistant Professor in the School of Population and Public Health.

"Our company's investments in addiction and mental illness reflect our vision to create a legacy of positive, lasting contributions in the communities where we do business," says Jeannes, President and Chief Executive Officer of Goldcorp and board member of the InnerChange Foundation, a community organization helping people suffering from mental health challenges and addiction.

The only clinical trial of its kind in North America, SALOME is testing whether the licensed pain medication hydromorphone (known by its commercial name, Dilaudid) can be used to wean long-term street heroin users from their dependency on illicit drugs, and increase the chances that they will enroll in treatment programs. Methadone, the most widely used drug to treat heroin addiction, does not work for some severely addicted people.

"We are committed to supporting our community's most vulnerable citizens," says Smallwood, President and Chief Executive Officer of Silver Wheaton. "The SALOME trial provides hope for a better future to those struggling with addiction, and we are extremely pleased to have the capacity to help, and honoured to have the opportunity."

To support mental health and addictions research, please contact Fatima Hassam at 604.822.8079.

L – R: Andrew Krahn, Head of the Division of Cardiology; Yu Tian Wang, Professor of Neurology.

A $35 MILLION BOOST FOR LONG-TERM THINKING IN HEART AND STROKE RESEARCH

When the Djavad Mowafaghian Centre for Brain Health opens at the end of this year, one of its many features will be a Stroke Clinical Trials Unit, where researchers from the Faculty of Medicine will be able to rapidly translate scientific discoveries into better care for people who have suffered a stroke, or who are at risk for one.

The unit – long sought after by UBC stroke scientists – became a reality thanks to the Heart and Stroke Foundation of Canada, which donated $500,000 to the project.

That gift continued a 60-year tradition of support from the Heart and Stroke Foundation – a tradition the Foundation extended when it committed to providing $35 million to UBC over the next decade.

The Foundation's funding commitment – the largest single gift ever made to the Faculty of Medicine – is part of a $300 million national commitment to 19 institutions and hospitals across Canada that were selected for the Foundation's newly-formed Research Leadership Circle.

"This new long-term research funding program gives UBC the stability to plan their research programs like never before, the ability to attract more of the world's best researchers to Canada, and will foster greater collaboration among researchers," says ***Diego Marchese***, Chief Executive Officer, BC & Yukon for the Heart and Stroke Foundation. "It will accelerate progress to our goal of reducing Canadians' rate of death from heart disease and stroke by 25 per cent by 2020."

UBC was chosen for the Research Leadership Circle based on its long history of ground-breaking achievements made with the Foundation's support. Since 1957, the Foundation and its donors have given more than $100 million to UBC for research.

The Foundation's support was instrumental in the recruitment of two world-renowned researchers to the Faculty of Medicine – ***Yu Tian Wang***, a Professor in the Division of Neurology who has advanced the understanding of brain injuries following stroke, and ***Andrew Krahn***, the Head of the Division of Cardiology and an expert in cardiac arrhythmias.

"A lot of times researchers have to take a short-sighted approach because we need to deliver outcomes quickly," says Dr. Krahn, the Sauder Family and Heart and Stroke Foundation Chair in Cardiology. "To think long-term and tackle high-risk projects, researchers need to know their viability does not depend on short-term results."

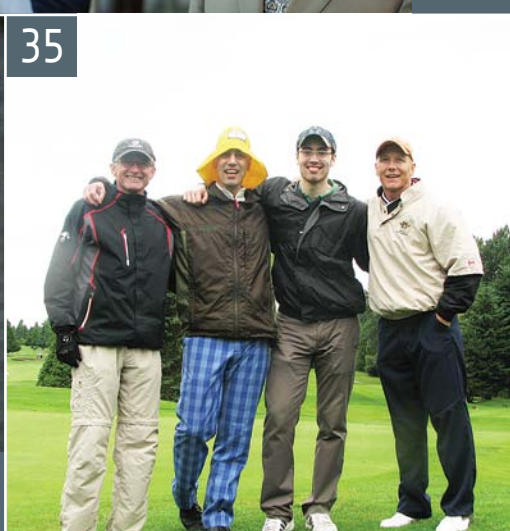
Other Faculty researchers, including ***Lara Boyd***, ***Tim Murphy***, ***William Jia***, ***Brian MacVicar***, ***Philip Teal*** and ***Karen Humphries***, have also benefitted from Foundation support over the years.

"My goal is to develop a continuous stream of innovative strategies for stroke prevention and rehabilitation that can quickly be integrated into clinical care, with particularly emphasis on the cognitive impairment that results as a consequence of stroke," says ***Oscar Benavente***, Professor of Neurology and Research Director of the Cerebrovascular Health Program of Vancouver Coastal Health. "The Foundation's long-term investment will make it much easier to ramp up a comprehensive research program focused on stroke prevention and recovery."

To support heart and stroke research, please contact Stephanie Huehn at 604.218.0275.

Oscar Benavente.

FALL 2013: MEDICAL ALUMNI NEWS



"The MAA Golf Tournament for Alumni and Friends at the UBC Golf Course in June was another resounding success with 112 participating golfers enjoying an afternoon and evening of relaxation, camaraderie and fun."

OBJECTIVES

To support the Faculty of Medicine and its programs directly and through advocacy with the public and government;

To ensure open communication among alumni and between the alumni and the Faculty of Medicine;

To encourage and support medical students and residents and their activities;

To organize and foster academic and social activities for the alumni.

The Medical Alumni News is published semi-annually and this edition was produced by the UBC Faculty of Medicine. We welcome your suggestions, ideas and opinions. Please send comments, articles and letters to:

Beverley Tamboline, MD '60
Alumni Affairs Faculty of Medicine
2750 Heather Street
Vancouver, BC V5Z 3M2
Ph: 604 875 4111 ext. 67741
Fax: 604 875 5778
med.alumni@ubc.ca

A TIME TO REFLECT, CELEBRATE AND EXPRESS GRATITUDE

PRESIDENT'S REPORT

The UBC Medical Alumni Association (MAA) can celebrate many successes in the past year, thanks to the tireless efforts and commitment of the Board members, staff and many volunteers to ensure that we maintain and continue to build a dynamic and connected UBC Medicine community.

Our AGM and Awards presentations occurred in May. The MAA honoured Dr. Victor McPherson from the first UBC Medicine graduating class of 1954 with the Wallace Wilson Leadership Award. Dr. McPherson, a general surgeon, served in the Canadian Armed Forces (CAF) and rose to the prestigious position of Major General, Surgeon General, CAF in 1980.

The MAA also welcomed two distinguished members of the UBC Faculty of Medicine community as Honorary Medical Alumni. Dr. Shafique Pirani was recognized for his work as a pediatric orthopedic surgeon and for his humanitarian work in developing nonsurgical treatments for clubfoot deformities. Dr. Aubrey Tingle, a pediatrician and immunologist, was honoured for his numerous health research activities in BC and for his leadership in building the Research Institute for Children's and Women's Health in BC.

The MAA Golf Tournament for Alumni and Friends at the UBC Golf Course in June was another resounding success with 112 participating golfers enjoying an afternoon and evening of relaxation, camaraderie and fun. Medical alumni and guests re-established friendships and acquaintances with colleagues, and most importantly, helped the MAA with its major fund-raising event of the year. The proceeds from this event are targeted to supporting the activities of our current medical students, not only in Vancouver at the William A. Webber Medical Student and Alumni Centre, but as importantly through the creation of similar centers at our three other distributed medical program sites in BC.

The MAA is both celebrating and expressing gratitude for the efforts of Dean Gavin Stuart, Dr. Oscar Casiro, Dr. David Hardwick, our past President Dr. Marshall Dahl, and our Victoria Board representative, Dr. Ian Courtice, in assisting with securing dedicated medical student and alumni space in

the Coronation Annex at Royal Jubilee Hospital in Victoria. The MAA also acknowledges the support of the Vancouver Island Health Authority in assisting us with providing video-conferencing capabilities and additional furniture for this MAA priority project. The MAA is in its early planning stages of creating similar medical student and alumni spaces at the Prince George and Kelowna medical school hospital campuses. The MAA recognizes with gratitude the financial contributions of many of our alumni to ensure that we give back to UBC's Faculty of Medicine and inspire our future doctors by demonstrating our commitment to support them in the early stages of their life-long medical journeys.

In keeping with the same theme, the MAA continues the UBC tradition of recognizing, celebrating and honouring our UBC medical student graduates at each spring's Hooding Ceremony by presenting each graduate with a cedar shingle. This tradition began in 1954. We welcome each new graduate into the MAA as a full and respected member of our wonderful profession.

Finally, as you read my report, the MAA will have presented its inaugural CME event in early October, in Vancouver. This learning opportunity focused on cutting edge research, featuring and spot-lighting many of our UBC medical graduates involved in ground-breaking research and clinical activities in their fields. "Tuum Est: Leading Edge Medicine" was presented to stimulate an educational and intellectual discussion in the areas of Dementia and Stroke, and featured some of our world class alumni from the classes of '63, '78, '85 and '96 in addition to several other experts affiliated with UBC. The MAA's goal is to hold an annual half-day high-quality CME event to bring together alumni and students in an interactive learning environment with its program recognized for CME study credits by the College of Family Physicians of Canada and the Royal College of Physicians and Surgeons of Canada.

As I reflect back on the many activities of the MAA during the past year, the words "celebrate" and "gratitude" spring to my mind. We celebrate our many outstanding alumni and friends and acknowledge the key role a vibrant UBC MAA plays in supporting the UBC's medical school. The MAA encourages and inspires our medical students to continue the Faculty of Medicine's traditions of excellence as physician leaders of medical care for our patients and as compassionate and committed health care professionals for our diverse communities throughout BC. Our medical students regularly express their gratitude to their senior colleagues as educators, mentors and friends. As physicians, we are so proud to be part of these great traditions which foster the spirit of our medical community. Daily, we give back to our communities and patients. We show gratitude for the privilege we hold as respected health care professionals, coordinating and delivering the highest quality health care services to them.

Let's continue to acknowledge and celebrate the important work we do as physicians, by joining and supporting the UBC MAA. Collectively we can show that we care about not only our patients and our communities where we practice, but also our students and practicing colleagues. The MAA exists for our entire medical community.

Best wishes,
Jack Burak, MD '76
President
UBC Medical Alumni Association

"As physicians, we are so proud to be part of these great traditions which foster the spirit of our medical community. Daily, we give back to our communities and patients."

L – R: J. Burak, MD'76; V. McPherson, MD'54; and A. Boggie, MD'54.
PHOTO CREDIT: VARUN SARAN PHOTOGRAPHY

WALLACE WILSON LEADERSHIP AWARD

VICTOR MCPHERSON, MD'54

The Wallace Wilson Leadership Award is given in recognition of leadership in the field of medicine. Today, we are here to recognize Victor McPherson, a classmate and good friend. Victor spent his professional career in the special area of military medicine.

His leadership achievements started in medical school, where in first year he was our class president and won the Schinbein Scholarship in anatomy. In second year he won an award in Pharmacology and on graduation he won the Dean's Medal of Proficiency.

Victor joined the Royal Canadian Army Medical Corps as a member of their training program while in medical school. After graduation he served in a variety of posts in his early years, overseas and in Canada. His abilities were soon recognized by the Medical Corps, and he accepted their offer to specialize in his choice of Surgery at centres in Edmonton and Toronto. He got his FRCS in 1963.

After receiving his Fellowship, he served in a variety of military surgical units such as Zweibruchen, West Germany as Chief of Surgery for three years, followed by similar appointments in Ottawa and Kingston.

All of these appointments were accompanied by promotions and noted by his superiors, who indicated to Victor that they would like him to become part of the Medical Corps Administration. In 1976 he became Deputy Surgeon General and in 1980 he was appointed Surgeon General.

Following retirement, Victor worked as a Surgical Consultant for the Ontario Ministry of Health for ten years.

Victor's lifetime in medical school and the Army was not alone. He and his wife, June were married before entering medical school. She and Victor raised four children and she provided a comfortable family environment wherever they were posted. Their children have all had successful lives in their chosen professions. June passed away a few years ago, but would certainly be proud of this event today.

Victor is a thoroughly decent, unassuming, kind man, who "rose through the ranks" to the top leadership position in the Canadian Medical Corps.

He has represented the medical school and the University of British Columbia in an outstanding way and the Class of 1954 is very proud of him.

Well done Vic!

The speech presented by Al Boggie, MD'54 at the MAA Annual General Meeting on May 9, 2013.

V. McPherson, MD'54 shows off his award as he takes his seat at the MAA AGM.
PHOTO CREDIT: VARUN SARAN PHOTOGRAPHY

V. McPherson, MD'54 with his daughter in MSAC's courtyard. PHOTO CREDIT: VARUN SARAN PHOTOGRAPHY

L – R: M. Dahl, MD'85; Dr. A. Tingle (Hon.); and J. Burak, MD'76. PHOTO CREDIT: VARUN SARAN PHOTOGRAPHY

HONORARY MEDICAL ALUMNUS AWARD

DR. AUBREY TINGLE

It is my pleasure to introduce our newest member of the UBC Medical Alumni: Professor Emeritus Aubrey Tingle.

The Honorary Medical Alumni Award recognizes a member of the UBC Faculty of Medicine community who has made a significant contribution as a committed clinician, teacher, mentor or administrator, thereby advancing the health and well-being of patients and society. Dr. Tingle has remarkable achievements in all of these fields.

Dr. Tingle did his pre-medical studies in Zoology at the University of Alberta. (I think that this is a field that made him particularly skilled for managing university administrations.)

He obtained his MD at the U of A and a PhD in Immunology from McGill University. He completed his Pediatric Fellowship in Montreal and is a Fellow of the Royal College of Physicians of Canada, the American Academy of Pediatrics and of the Canadian Academy of Health Sciences.

He came to UBC in 1974 and has been a Professor in the departments of Pediatrics and Pathology as well as Assistant Dean of Research. He was President and Chief Executive Officer of the Michael Smith Foundation for Health Research and Associate Director of the Maternal, Infant, Child and Youth Research Network.

His active research career has been in the fields of immunology of viral infection, autoimmune disease, immune deficiency disorders, research administration, and strategic planning.

He has held numerous visiting professorships world-wide and is the recipient of many awards for service and achievement, including the Honorary Doctor of Science Degree from the University of Alberta in 2010.

Dr. Tingle was founding chair of the Coalition for Health Research in BC, an ad hoc group of research stakeholders that was responsible for planning and obtaining the provincial funding to establish the Michael Smith Foundation for Health Research and a founding member of the National Alliance of Provincial Health Research Organizations (NAPHRO).

He also played a leadership role in building the Research Institute for Children's & Women's Health at the Children's & Women's Health Centre of British Columbia and was its inaugural Executive Director.

He is currently on the Board of the Canadian Human Immunology Network and on the Board of Alberta Innovates – Health Solutions. He also is currently serving on the Scientific Advisory Committees of the CH.I.L.D Foundation and the Snyder Institute of Infection and Immunity (in Calgary).

Aubrey Tingle has a distinguished ongoing career of clinical excellence and basic science research that evolved into a country-wide role in creating, organizing, managing and inspiring medical scientists to work together for academic and societal excellence in pediatric health.

We are actually the ones who are honoured here today in being joined by such a distinguished person as a new member of our Medical Alumni!

The speech presented by Marshall Dahl, MD'86 at the MAA Annual General Meeting on May 9, 2013.

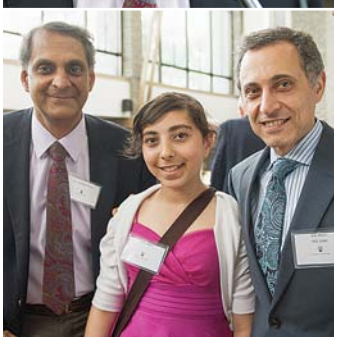
Dr. A. Tingle (Hon.) giving his acceptance speech at the MAA AGM. PHOTO CREDIT: VARUN SARAN PHOTOGRAPHY

L – R: B. Masri, MD'88; Dr. S. Pirani (Hon.); and J. Burak, MD'76. PHOTO CREDIT: VARUN SARAN PHOTOGRAPHY

HONORARY MEDICAL ALUMNUS AWARD

DR. SHAFIQUE PIRANI

I first met Dr. Shafique Pirani when I had just started my residency at UBC. I always thought he was a UBC graduate as he was so in tune with the UBC program. But, when I looked into it, I learned he was a graduate from Charing Cross Hospital Medical School in London, England. After being kicked out of his native Uganda, he completed his medical training in the U.K. and moved to Vancouver to complete his orthopedic residency. He then went on to become a pediatric orthopedic surgeon and enjoys working with children.



Top: Dr. S. Pirani (Hon.) as he shared his acceptance speech. Bottom: Dr. S. Pirani (Hon.); S. Masri; and B. Masri, MD'88 PHOTO CREDITS: VARUN SARAN PHOTOGRAPHY

I would like to introduce my daughter Sarah (age 13), who is in the audience today to come up and continue with a very brief speech about Dr. Pirani before we present him with this award:

"Picture this. You are a new mother in Uganda, Africa. You are holding your newborn baby. What is the first thing you notice? Not if your baby is a boy or a girl, but you see his feet. His feet are crooked. You wonder what is wrong with him. You worry; will he ever be able to walk?

This baby has something called clubfeet, which is a deformity that boys have twice as often as girls. Clubfeet affects bones, muscles, tendons and blood vessels. The baby is born with its feet facing inward and so deformed that the baby can't walk on the soles of his feet.

This a life threatening disease in poor countries where you have to walk long distances to get food, water and work. Imagine having to walk over three miles with clubfeet just to get clean water. Your feet are throbbing with pain. You are alone, thirsty and hopeless.

Do you remember that baby with clubfeet? Fast forward 20 years. He is now homeless, starving and begging on the street... worse still he could be dead. What would you do? Dr. Shafique Pirani decided to help.

If you think that Dr. Pirani went to Uganda and performed surgery, you're absolutely wrong. He gave Ugandans the gift that keeps on giving: an education. It is like the saying, give a man a fish, feed him for a day, teach a man how to fish, feed him for life. So Dr. Pirani taught the doctors and all the health officers in remote villages to fix clubfeet safely and without surgery.

From Uganda, Dr. Pirani expanded the program to neighbouring African countries and further to Bangladesh. He provided an affordable tool to treat clubfeet so that those countries can sustain this treatment long after he is gone.

For this work, Dr. Pirani received two Humanitarian of the Year Awards in 2012 from the Pediatric Orthopedic Society of North America and the American Academy of Orthopedic Surgeons.

It is amazing what one person can do to change the world. Dr. Pirani did that with just an idea and a lot of personal sacrifice. That seed of an idea has been embraced by countries all over the world.

Dr. Pirani has inspired me to do something to change the world. Every second that you live is never going to happen ever again. You can choose what you want to do with those seconds.

Dr. Pirani decided to take those seconds of his life and give it to somebody else so they can live."

Presented by Bas Masri, MD'88 and Sarah Masri at the MAA Annual General Meeting on May 9, 2013

SILVER ANNIVERSARY AWARD

DR. CHRIS REILLY | CLASS OF 1988

Dr. Reilly has been a member of the Department of Orthopaedics at UBC since he started practice in 1995. He progressed through the ranks to become an Associate Professor with tenure. He has also distinguished himself as a world renowned pediatric spine surgeon, and he is recognized as being a member of the Scoliosis Research Society and the Pediatric Orthopaedic Society of North America.

He has also led the Division of Pediatric Orthopaedics in the Department of Orthopaedics for the past six years, having taken over after Dr. Steve Tredwell retired. He has also led the Department of Orthopaedics at BC Children's Hospital as Department Head for the past seven years.

Nomination submitted by Bas Masri, MD'88

C. Reilly, MD'88.

A LOOK AT THE MAA'S ANNUAL GENERAL MEETING

MAY 9, 2013

B. Bentz, MD'61. PHOTO CREDIT: KAREN TREGILLAS PHOTOGRAPHY

L – R: Dr. M. Lawrence; E. Galloway, MD'10; C. Bachop. PHOTO CREDIT: KAREN TREGILLAS PHOTOGRAPHY

AWARDS, ACHIEVEMENTS, AND ACTIVITIES

The College of Physicians and Surgeons of British Columbia 2013 Award of Excellence in Medical Practice was presented to **Patrick Kinahan, MD'55** and **Dr. Michael Myers (Hon.)** at the president's Annual dinner in Vancouver, May 29, 2013.

A number of Alumni were honoured at the BCMA Annual Awards Ceremony, June 1, 2013. **Emma Galloway, MD'10,** received the Dr. David M. Bachop Silver Medal in General Medical practice and **Bill Cavers, MD'77** the Dr. David M. Bachop Gold Medal for Distinguished Medical Service. **Mark Schonfeld, MD'72,** was the recipient of the Dr. Don Rix Award for Physician Leadership. **Brian Winsby, MD'69,** was one of three recipients of the BCMA Silver Medal of Service. This award, established in 1986, confers the Association's highest honour.

CMA Honorary Membership was accorded to **Barrie Bentz, MD'61** and **Dr. Clive Duncan (Hon).** BCMA elected officers installed for 2013/2014 were **Bill Cavers, MD'77,** President Elect, **Trina Larsen Soles, MD'86**, Chair, General Assembly and **Lloyd Oppel, MD'88,** Honorary Secretary Treasurer.

Charles Scudamore, MD'75, was a recipient of the Order of British Columbia. The Order of British Columbia recognizes accomplishments by British Columbians who have made a difference in their communities and to the province.

Several Alumni received awards at the Faculty of Medicine Awards Reception held this fall.

Victor Huckell, MD'69, was a recipient of a Clinical Faculty Award for Career Excellence in Clinical Teaching, **Richard Crawford , MD'87,** a recipient of a Clinical Faculty Award for Excellence in Clinical Teaching and **Maggie Watt, MD'97 (IMP)** a recipient of a Clinical Faculty Award for Excellence in Community Practice Teaching.

Afshin Khazei, MD'95, received the Innovation in CME/CPD Award, and **Michael Nimmo, MD'95,** was a recipient of a UBC Killam Teaching Prize.

On December 5, 2012, **Robert Krell, MD'65,** was awarded the Queen Elizabeth II Diamond Jubilee Medal in recognition of his efforts as an outstanding human rights educator.

Robert Krell, MD'65

He also received an award in November 2012 from Lessons and Legacies and the Holocaust Education Foundation in Evanston, Illinois, in recognition of his distinguished contributions to Holocaust education. In October 2011, he was also awarded the Hillel Lifetime Achievement Award from Boston University for bringing solace and understanding to generations of Holocaust Survivors. He is very dedicated.

Dr. C. Duncan (Hon.) (centre) PHOTO CREDIT: KAREN TREGILLAS PHOTOGRAPHY

M. Schonfeld, MD'72 (centre) PHOTO CREDIT: KAREN TREGILLAS PHOTOGRAPHY

L – R: L. Oppel, MD'88; T. Larsen-Soles, MD'86; W. Cavers, MD'77 with CMA President. PHOTO CREDIT: KAREN TREGILLAS PHOTOGRAPHY

Chuck Slonecker Prize winners: Dale Harris, Kevin Hunter, Jim Skip, Kelly Golby.

Thank you to the UBC Medical Alumni & Friends Golf Tournament Sponsors

Presenting Partner

- **Scotiabank**

Diamond Sponsors

- Clinical Sleep Solutions
- KNV Chartered Accountants

Gold Sponsors

- BCMA
- MD Management
- UBC Alumni Association

Silver Sponsors

- MedRay
- Harper Grey LLP
- Sport Med/Paris Orthotics
- LifeLabs BC
- David Mitchell Co. Ltd.

Bronze Sponsors

- Guidelines and Protocols Advisory Committee (GPAC)
- Don Docksteader
- DOCUdavit
- Bulmer Investment Group
- RSRS Canada
- King Lasik
- Pollock Clinics
- Mardon Insurance
- Madaisky & Co.
- London Drugs
- Schmunk Gatt Smith
- Morrey Auto Group
- False Creek Healthcare Centre

EVENT HIGHLIGHTS

UBC Medical Alumni & Friends Golf Tournament

June 20, 2013

The UBC Medical Alumni & Friends Golf Tournament was the most successful tournament to date, and in no small measure was due to the generosity of the sponsors and number of golfers that attended.

The tournament was held at the University Golf Course on June 20, 2013. The scattered rain showers didn't keep golfers away; instead they embraced the rain and took to the course with smiles on their faces. With many returning participants and some new alumni and friend golfers, the tournament featured a shot-gun start which allowed all of the teams to start and finish their round of golf together. To top it off, over $18,000 was raised for the Medical Alumni Association which will go to support student programs.

The afternoon was spent connecting with friends, colleagues, former classmates, and teachers. Between holes golfers had the opportunity to catch up with one another and engage in some friendly competition banter. The day went by quickly and was followed by a delicious dinner in the clubhouse and prizes for the winners.

We had 118 players registered this year and hope that a full field of 144 alumni and friends will register for next year's tournament on June 19, 2014. Registration will open in early spring, so invite your colleagues early as the tournament will fill up quickly!

Special thanks **to Ron Warneboldt, MD'75, Bob Cheyne, MD'77, David Jones, MD'70, Jim Lane, MD'73, Patty Scrase** from Scotiabank, **Anne Campbell-Stone,** and **Kira Peterson** for organizing this year's tournament.

The success of this tournament is due to the continued support of our sponsors. Thank you for your generous sponsorship and contributions of prizes for the golfers. The commitment you show to this tournament is greatly appreciated and directly supports the current and future medical community.

Recent & Upcoming Class Reunions

Class of 1956
September 6-7, 2013
Location: Trail, BC
Organizers: Dr. Louie & Jean Simonetta

Rehab Class of '73 Reunion
September 7, 2013
Vancouver, BC
Organizer: Sally Steeves

Class of 2003
September 21-22, 2013
Vancouver, BC
Organizer: Dr. Jason Kason

Class of 1983
September 27-29, 2013
Victoria, BC
Organizers: Drs. Stan & Chris Vuksic, Dr. Pat McAllister, Dr. Kelly Battershill, Dr. Mike Miles, Dr. Beth Watt

Class of 1978
October 4-6, 2013
Vancouver, BC
Organizers: Dr. Liz Fendley, Dr. Margaret Cottle, Dr. Bruce Fleming, Dr. Jim Boyle, & Dr. Tony Wilson

Class of 1988
October 4-6, 2013
Vancouver, BC
Organizers: Dr. Steve Southerland and Dr. Chris Symonds

Class of 1954
May 2014
Whistler, BC
Organizers: Dr. Morton Dodek, Dr. Al Boggie and Dr. Don Warner

Class of 2004
Summer 2014
Vancouver, BC
Organizer: Dr. Aisha Manji

Class of 1984
September 2014
Victoria, BC
Organizers: Dr. Ian Coutice

Class of 1959
September 12-14, 2014
Painters Lodge, Campbell River, BC
Organizers: Dr. Bob Gordon & Dr. Stu Madill

For more information on class reunions, please contact the UBC Faculty of Medicine Alumni Affairs Office at marisa.moody@ubc.ca or 604-875-4111 x62031.

Upcoming Alumni Events

Victoria Medical Society Dinner
February 1, 2014
Victoria, BC

Vernon Hockey Tournament
March 1-2, 2014

Spring Gala & Alumni Reception
Date TBD

UBC Medical Alumni Association AGM
Date TBD

UBC Medical Alumni & Friends Golf Tournament
June 19, 2014
University Golf Course

Please go to http://alumni.med.ubc.ca/events/ for updated event information.

EVENT HIGHLIGHTS

2013 Hooding & Graduation May 21, 2014

The tradition of giving a 'doctor's shingle' to UBC Medicine graduates started in 1954 with the first graduating class. This was started by the students and still exists today. In 1954, the 3rd year students organized the shingles and gave them to the 4th year students at the Medical Ball in the spring. That practice went on for many years but over time the shape and design changed.

Now the Medical Alumni Association produces the shingles for each graduating class as a gift to each student, welcoming each one as an alumnus and a member of the association.

This year **Jack Burak, MD'76, Bob Cheyne, MD'77** and **Mark Schonfeld, MD'72** attended the Hooding Ceremony on May 21, 2014 as representatives from the Medical Alumni Association. After some inspiring words from Dr. Burak, the three alumni presented the shingles to each graduating student as each walked across the stage. The hooding ceremony was followed by the graduation ceremony on May 22.

Residents in a New Residence July 15, 2013 – Ottawa, ON July 17, 2013 – Toronto, ON

Becoming a resident is often exciting, but can bring along some stress. Add in a move across the country and the whole process can become a little daunting.

To ease the minds of the newest alumni, the Faculty of Medicine Alumni Affairs Office planned "Residents in a New Residence," a welcome event in Ottawa (July 15) and Toronto (July 17). Ottawa's event was hosted by **Judy Chow, MD'80** and **David Burt, MD'80,** while Toronto's event was hosted by **Ivor Fleming, MD'85** and Lenora Fleming.

This event brought together new graduates and alumni currently living in these areas. It was an evening filled with great conversation, delicious food, and refreshing beverages (on some great patios too!). It was a pleasure to have many of Medicine's established alumni there to meet and greet the newest alumni, and let them in on the hidden gems of the city.

If you are interested in hosting a "Residents in a New Residence" event in your city next summer to welcome the MD 2014's who will be starting their residencies there, contact med.alumni@ubc.ca or 604-875-4111 x67741.

Student Orientation 2013 August 26, 2013

The class of 2017 was welcomed by three alumni speakers, **Gurdev Gill, MD'57, Larry Burr, MD'64** and **Brianne Budlovsky, MD'12** at the Student Orientation in late August.

This remarkable panel of doctors gave insight into the role of a physician in their community, the importance of maintaining balance in your life and what to expect in the future.

MSAC REPORT

A Place for Medical Students to Call Home

With classes on UBC's Vancouver campus, at VGH, and in hospitals across the Lower Mainland, Vancouver-based medical students need a place to call home.

We need somewhere to congregate, to consolidate, to celebrate our interests. We need a place to run into friends who, in the maelstrom of medical school, we've neglected more than we should have. That place, for many of us, is the William A. Webber Medical Student and Alumni Centre.

Sport is one highlight of the MSAC. Students take advantage of the 24 hour access to the MSAC gym after a long shift on-call, or participate in the "Spartacus" group workouts. The MSAC downstairs is now home to both expert and aspiring hip hop, Bhangra, and break dancers, not to mention an impressive array of martial artists.

And speaking of artists, the MSAC brings out the Renaissance man or woman in many medical students!

The creative writing club has been known to frequent the darker corners of the Alumni Room, while guitarists, violinists, pianists and poets prepare their acts for the ever-popular Arts in Medicine Coffeehouse that takes place twice a year in Hardwick Hall.

The videoconferencing capabilities of the MSAC mean that it's not only Vancouver students who benefit. Speakers' series from specialty interest groups such as Surgery and Family Medicine are well-attended across all sites, along with sessions on specific skills such as advocacy and global health work.

When I speak with friends from other medical schools across Canada, many are lacking this social nucleus that makes UBC Medicine as complete a program as it is today. We, as students, would like to thank the Medical Alumni Association for your ongoing support of this living space.

Submitted by
Connor Forbes, UBC Medicine Class of 2015 (VFMP)

MUS REPORT

The beginning of the academic year is always an exciting and busy time for the Medical Undergraduate Society (MUS) as we annually welcome a new class of keen students to the MD Undergraduate Program.

This year, we opened our doors to 288 new aspiring physicians in the Class of 2017 who will each be studying at one of four distributed academic sites across British Columbia (Kelowna, Prince George, Vancouver, and Victoria).

This year also marks the first time in over three decades that UBC Medicine is the host for the Canadian Federation of Medical Students (CFMS) Annual General Meeting (AGM). The AGM took place in Vancouver from Sept. 20-22, 2013 and brought together medical student colleagues from all over Canada to discuss issues relevant to medical students. The MUS was proud to represent UBC at the AGM, and also to show off our beautiful city to our colleagues from across the country.

The MUS, in conjunction with the BC Medical Association (BCMA), also co-hosted the inaugural BCMA/MUS Meet and Greet on September 9, 2013 at the Medical Student and Alumni Centre (MSAC).

The event was created in order to help strengthen the relationship between the BCMA and the MUS by allowing the executives from each group to become acquainted early in the academic year. We hope to continue collaborating with the BCMA on the Meet and Greet event annually, and look forward to working closely together in the future.

The MUS is committed to ensuring that UBC medical students receive an unparalleled educational experience. This, of course, is only made possible by the continual support of our alumni, UBC faculty and staff, and our community members. On behalf of over 1,000 medical students at UBC, the MUS would like to express our utmost gratitude to all of the individuals who contribute to enhancing our medical school experience.

Gurinder Grewal
President
Medical Undergraduate Society
MD Candidate, Class of 2016
gsgrewal@alumni.ubc.ca

Part of the MD Graduating Class of 2013.

CONGRATULATIONS TO THE CLASS OF 2013

Please join us in welcoming our newest graduates as they pursue their residency programs.
On behalf of the UBC Medical Alumni Association, we are proud to welcome you as alumni and colleagues.

Anatomical Pathology & General Pathology

Leslie Anderson
University of Manitoba

Tyler Hickey
University of British Columbia

Amy Thommasen
University of Calgary

Anesthesiology

Navraj Singh Chima
University of British Columbia

Kaitlin Duncan
University of Ottawa

Christopher Nixon-Giles
University of British Columbia

Marcio Penner
University of British Columbia

Kali Romano
University of British Columbia / Anesthesiology / Vancouver / CMG Stream

Ryan Truant
University of British Columbia

Kitt Turney
Dalhousie University

Freda Wong
University of Ottawa

Hardy Zietsman
University of British Columbia

Dermatology

Bahman Sotoodian
University of Alberta

Bez Toosi
University of British Columbia

Diagnostic Radiology

Nicolas Bilbey
University of British Columbia

William Guest
University of British Columbia

Trenton Kellock
University of British Columbia

Teresa Liang
University of British Columbia

Pedro Lourenco
University of British Columbia

Andrew Van der Westhuizen
University of British Columbia

Emergency Medicine

Kelsey Innes
University of British Columbia

Andrei Karpov
University of British Columbia

Jessica Paul
University of British Columbia

Margaret Zhang
University of British Columbia

Family Medicine

Blake Abawi
McMaster University

Travis Allen
University of British Columbia

Ian Anderson
Université Laval

Maria Anderson
University of British Columbia

Azadeh Arjmandi
University of Calgary

Rafal Banas
University of British Columbia

Alma Bencivenga
University of Alberta

Tim Bowen-Roberts
University of British Columbia

Stephen Breen
University of British Columbia

Megan Burns
Dalhousie University

Stacy Cabage-Sterling
University of British Columbia

Ringo Chan
University of Alberta

Andy Chen
University of British Columbia

Jonathan Chi
University of Alberta

Franklin Clarke
McMaster University

Corinne Coulter
McMaster University

Deborah Curry
Queen's University

Yue Dai
University of British Columbia

Bogdan Dascalu
University of Toronto

Andrew Delany
University of British Columbia

Rodolfo Dominguez
University of Toronto

Emily Dong
University of Calgary

Amrita Dosanjh
University of British Columbia

Robert Drapala
University of British Columbia

Dustin Falk
University of Alberta

Tyler Falk
University of British Columbia

Carolyn Fletcher
University of Calgary

Jessica Fong
University of Ottawa

Beth Gallagher
University of British Columbia

Pavel Glaze
University of British Columbia

Elyse Goldberg
University of Toronto

William Gooderham
University of Calgary

Shannon Grant
University of Calgary

Stuart Gray
University of British Columbia

Samantha Hage-Moussa
University of Calgary

Judith Hammond
University of British Columbia

Bridget Henderson
University of British Columbia

Thomas Hong
University of Calgary

Robert Horan
University of Saskatchewan

Theodore Jankowski
University of British Columbia

Andrew Jervis
University of Calgary

Namrata Jhamb
University of British Columbia

Lorelei Johnson
University of British Columbia

Kurt Jordan
Dalhousie University

Glenn Keyes
University of British Columbia

Kristen Kokotilo
University of Alberta

Elizabeth Kruithof
University of British Columbia

Nancy Lambert
University of British Columbia

William Lau
University of British Columbia

Chung-Lin Johnny Lee
University of British Columbia

Leanna Lee
University of British Columbia

Nicholas Leinweber
University of British Columbia

Ryan Leo
University of Calgary

Sheng Ping Lin
University of British Columbia

Kate MacDonald
University of British Columbia

Jessica Macleod
Dalhousie University

Heidi Mader
University of British Columbia

Luvdeep Malhi
University of British Columbia

Glen Manders
University of Calgary

Quinn Mason
Dalhousie University

Geoffrey McKee
University of British Columbia

Erika Mehl
Dalhousie University

Jerusha Millar
University of British Columbia

Adrienne Montgomery
University of British Columbia

Ariane Mundhenk (nee Williams)
University of British Columbia

Renee Nason
University of Calgary

Kathleen Newmarch
University of Toronto

Erin Park
University of Ottawa

Andrew Provan
University of Calgary

Erin Rawstron
University of British Columbia

Laura Riley
University of British Columbia

Rena Romain
University of British Columbia

Bryden Russell
University of Alberta

Christine Sorial
University of British Columbia

Christopher Stephenson
University of British Columbia

Taylor Swanson
University of British Columbia

Aileen Tan
University of Saskatchewan

Baldeep Toor
University of British Columbia

Everett Versteeg
Memorial University of Newfoundland

Anthony Villaruel
University of British Columbia

Dean Vrecko
University of Calgary

Jane Wacker
University of British Columbia

Kara Warder (nee Bloomfield)
University of Alberta

Esther Warkentin
University of British Columbia

Ben Wasserman
University of Calgary

Samuel Wasswa-Kintu
University of Toronto

Katherine Wight
University of Calgary

Kathryn Wills
Memorial University of Newfoundland

Andrew Wong
University of British Columbia

Diane Wu
University of Toronto

Sarah Yager
University of British Columbia

Huei-Hsin Clarice Yang
University of British Columbia

Yao Nancy Yao
Dalhousie University

Ying Yao
University of Alberta

Donald Yung
University of Calgary

Bogardus Zavaglia
University of Ottawa

General Surgery

Kristin DeGirolamo
University of British Columbia

Amandeep (Anu) Ghuman
University of British Columbia

Nina He
Queen's University

Nazgol Seyednejad
University of British Columbia

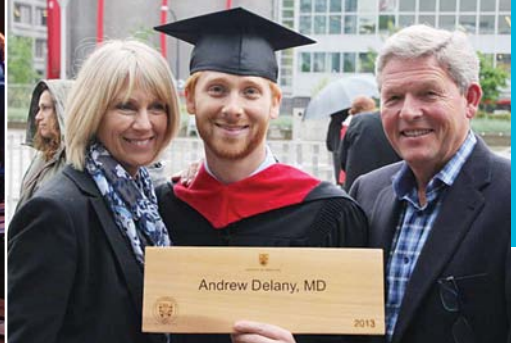
Hematological Pathology

Krista Marcon
University of British Columbia

Ida Molavi
University of Saskatchewan

Sita Ollek
University of Saskatchewan

Personalized 'doctor shingles' – gifts from the Medical Alumni Association.



Andrew Delany, MD'13 celebrating with his parents outside Queen Elizabeth Theatre.

Internal Medicine

Angela Babuk
University of British Columbia

Peter Birks
University of British Columbia

Jesse Bittman
University of British Columbia

Brian Buchan
University of Toronto

Goldis Chami
University of British Columbia

Rui Chen
University of British Columbia

Alvin Cheung
University of British Columbia

Christopher Cheung
University of British Columbia

Kiley Cindrich
University of British Columbia

Nikolas Desilet
University of Alberta

Caylib Durand
University of Calgary

Margaret Eddy
Memorial University of Newfoundland

Blair Fulton
University of British Columbia

Tristen Gilchrist
University of British Columbia

Jeff Gong
University of Alberta

Loren Gulbranson
University of Alberta

Lea Harper
University of British Columbia

Anna Hayden
University of British Columbia

Amanda Israel
University of Ottawa

Renee Janssen
University of British Columbia

Omid Kiamanesh
University of British Columbia

Hyein Kim
Western University

Joseph Kim
University of Saskatchewan

Gordon Kirkpatrick
University of British Columbia

Andrew Kwasnica
University of British Columbia

Chanel Kwok
Queen's University

Sally Lau
University of British Columbia

Dan Le
University of British Columbia

Joseph Leung
University of British Columbia

Marion MacKay-Dunn
University of British Columbia

Shawna Mann
University of British Columbia

Kathryn Milne
University of British Columbia

Kyle Murphy
Memorial University of Newfoundland

Krishna Poinen
University of Calgary

Karanvir Sall
University of British Columbia

Neal Shahidi
University of British Columbia

Nicole Smith
University of British Columbia

Elliott (Thomas) Sprague
University of Alberta

Amir Tashakkor
University of British Columbia

Alastair Teale
University of British Columbia

Fergus To
University of British Columbia

Kateryna Vostretsova
University of British Columbia

Geoffrey Walton
University of British Columbia

Alyson Wong
University of British Columbia

Nicholas Woolnough
Queen's University

Gannon Yu
University of Calgary

Marko Yurkovich
University of British Columbia

Dimas Yusuf
University of British Columbia

Neurology

Clark Funnell
University of British Columbia

Anne Nguyen
University of British Columbia

Sachiko Takahashi
Western University

Bing Wei Wang
University of British Columbia

Neurosurgery

Serge Makarenko
University of British Columbia

Obstetrics & Gynecology

Merry Gong
University of British Columbia

Eda Karacabeyli
University of British Columbia

Joni Kooy
University of Calgary

Shifana Lalani
University of Ottawa

Christa Lepik
University of British Columbia

Scott McCoach
University of British Columbia

Emily Sandwith
University of Calgary

Natalie Taha
University of Alberta

Samantha Wong
University of British Columbia

Jennifer Yam
University of British Columbia

Fiona Young
Memorial University of Newfoundland

Ophthalmology

Chai Lin Jack Chou
University of Ottawa

Ruozhou Liu
University of British Columbia

Michael Ross
McGill University

Orthopedic Surgery

Lance Crook
University of Manitoba

Benjamin Jong
University of British Columbia

Darcy Marr
University of British Columbia

Scott Westberg
University of Alberta

Ian Wilson
University of British Columbia

Otolaryngology

Oleksandr (Alex) Butskiy
University of British Columbia

Pediatrics

Arash Adjudani
University of British Columbia

Breanna Clive
Dalhousie University

Michael Fazio
University of British Columbia

Sarah Foster
University of Alberta

Sara Jassemi
University of Calgary

Gurpreet Khaira
University of Calgary

Annika Klopp
University of Manitoba

Alison Lee
University of British Columbia

Rachel Li
University of British Columbia

Lindsay McRae
University of Ottawa

Trisha Patel
University of British Columbia

Kathryn Potter
University of Calgary

Steven Rathgeber
University of British Columbia

Anamaria Richardson
University of British Columbia

Henry Stringer
University of British Columbia

Carmen Tait
University of British Columbia

Tracy Tan
Memorial University of Newfoundland

Charmaine Wong
University of British Columbia

Physical Medicine & Rehabilitation

Tara Chan
University of Alberta

Kaila Holtz
University of British Columbia

Plastic Surgery

Leslie Leung
University of British Columbia

Karen Slater
University of British Columbia

Psychiatry

Ashley Jewett
University of British Columbia

Kristine Kennedy
University of British Columbia

Jayson Krawchuk
University of British Columbia

Kiran Massey
University of Toronto

Jody Morita
University of Toronto

Gunpreet Singh
University of British Columbia

Anush Zakaryan
University of British Columbia

Katie Zhu
University of Toronto

Public Health & Preventative Medicine (incl. Family Medicine)

Daniel Heffner
University of British Columbia

Radiation Oncology

Maryam Dosani
University of British Columbia

Kim Paulson
University of Alberta

Srinivas Raman
University of Toronto

Urology

Benjamin Bay
University of British Columbia

Trevor Haines
University of Alberta

Stephen Taylor
University of British Columbia

Nathan Wong
McMaster University

Vascular Surgery

Dennis Jiang
University of Toronto

A PROVINCE-WIDE ENTERPRISE

UBC FACULTY OF MEDICINE

FACULTY OF MEDICINE

University Academic Campuses

University of British Columbia (UBC) Vancouver campus
University of British Columbia (UBC) Okanagan campus
University of Northern British Columbia (UNBC) in Prince George
University of Victoria (UVic) in Victoria

Affiliated Regional Centres

Abbotsford Regional/Chilliwack General Hospitals
Ft. St. John General/Dawson Creek Hospitals
Lions Gate Hospital
Mills Memorial Hospital
Nanaimo Regional General Hospital
Richmond Hospital
Royal Inland Hospital
St. Joseph's General/Campbell River General
/Cowichan District Hospitals
Vernon Jubilee/Penticton Regional Hospitals

Clinical Academic Campuses

BC Cancer Agency
BC Children's Hospital
BC Women's Hospital and Health Centre
Kelowna General Hospital
Royal Columbian Hospital
Royal Jubilee Hospital
St. Paul's Hospital
Surrey Memorial Hospital
Vancouver General Hospital
Victoria General Hospital
University Hospital of Northern BC

Community Education Facilities, Rural and Remote Distributed Sites

Serving medical students and residents, student audiologists, speech language pathologists, occupational therapists, physical therapists and/or midwives in the community

PUBLICATIONS MAIL AGREEMENT NO. 41020503
RETURN UNDELIVERABLE CANADIAN ADDRESSES TO:

Faculty of Medicine
The University of British Columbia
317 – 2194 Health Sciences Mall
Vancouver, BC
Canada V6T 1Z3
T: 604 822 2421
F: 604 822 6061
www.med.ubc.ca

FACULTY OF MEDICINE