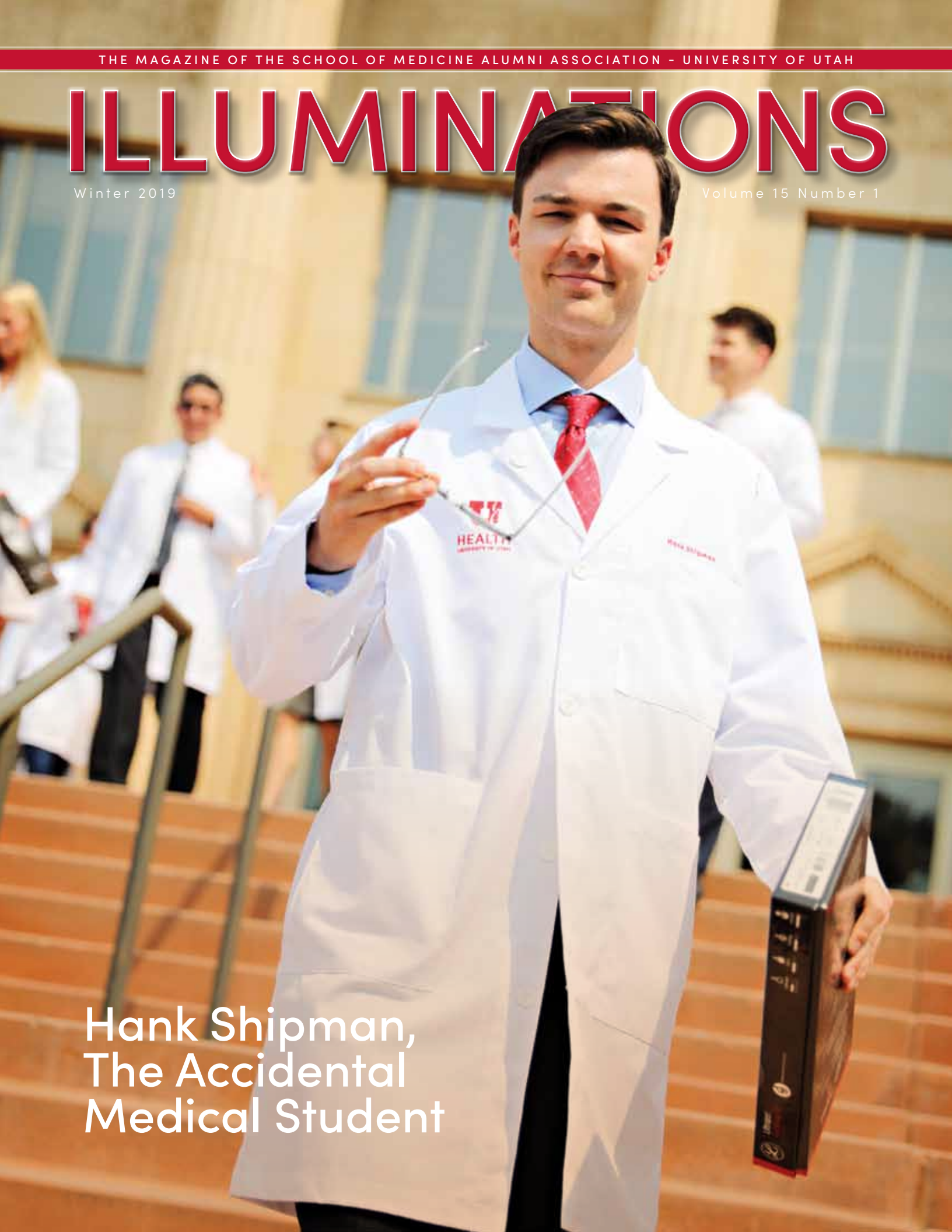


ILLUMINATIONS

Winter 2019

Volume 15 Number 1



Hank Shipman,
The Accidental
Medical Student

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The Magazine for the University of Utah School of Medicine Alumni and Friends

ILLUMINATIONS

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LETTERS TO THE EDITOR:

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FOR ADDRESS CHANGES OR TO OPT OUT OF ILLUMINATIONS CONTACT:

Kristin.anderson@hsc.utah.edu
Office of Alumni Relations
515 East 100 South, Suite 300
Salt Lake City, Utah 84102
801-585-3818

Dean's Message



Dear medical alumni and friends,

There's no doubt about it: University of Utah Health is an incredible place and 2018 was an incredible year. Behind each and every success are the talented, devoted people of U of U Health—constantly improving life through groundbreaking research, impeccable patient care, transformative learning, and service to the community.

Groundbreaking Research

By its very nature, research is a collaborative process. And that is why research continues to be a critical part of our mission as an academic medical center and the driving force behind all we do. The university kicked off 2019 by celebrating our impressive legacy of research and discovery. Last year, the university achieved its most successful research funding year ever—with \$515 million. Our own U of U Health researchers were responsible for nearly 70 percent of that total—awarded \$356 million in extramural grant funding.

As you'll see in this edition of *Illuminations*, our campus and research community stand ready and able to serve the people of Utah, the region, the nation, and the world in new and profound ways. For example, you'll read about Jason Shepherd, PhD, a young researcher who received \$2.5 million from the Chan-Zuckerberg Initiative to explore new molecular mechanisms that may play a role in Alzheimer's disease.

Impeccable Patient Care

U of U Health continues to embrace an authentic commitment to our patients and dedication to ongoing improvements. As a result, in 2018, Vizient, Inc. ranked us among the nation's top 10 academic medical centers for quality and safety for the ninth consecutive year. And for the fifth consecutive year, U.S. News & World Report ranked University of Utah Hospital the No. 1 hospital in Utah.

We credit these achievements to our dedicated faculty and health care professionals who work long and hard to create exceptional patient experiences every day. While they continue to keep their focus on the patient, as a health system, we are keeping an eye on the health and vitality of our workforce. Keeping up with demands of modern health care is challenging work. In this issue of *Illuminations*, two of our doctors talk about how we're actively addressing physician burnout and wellness.

Transformative Learning

Just as our health system seeks to put the patient first in every way, our education system needs to put the student first.

Inspired by the successful outcomes U of U Health has achieved through its dedication to the Exceptional Patient Experience, President Ruth Watkins has challenged the entire

campus to pursue Exceptional Educational Experiences. Through culture change and curriculum reform, the School of Medicine has shifted from the one-size-fits-all approach to teaching and learning methods that empower students and faculty to create a valuable and transformative educational experience.

As leaders and educators, we want to do a better job of seeing things from the student perspective. We want to provide a learning environment where students feel safe to try new things and fail. The inspiring student and resident stories in this issue of *Illuminations*, help us see things through their eyes and remind us of our primary purpose as an education system—the students.

Community Service & Partnerships

I believe that a public university exists to improve the lives of the community it serves.

Last year, University of Utah Health contributed \$171.5 million in uncompensated care to the state of Utah. We also received more than \$150 million in philanthropic support from generous community members and alumni like you. We recognize it is the people within our organization, our partners in the community, and our alumni who make University of Utah Health all that it is.

In these dynamic times, to serve our state, we can't achieve all we must do, alone. As we look to the future, it is critical that our collaborative campus culture expands to include our community partners to address all aspects of health.

With your ongoing support and participation, I can't wait to see what comes next as we continue unlocking our collective potential as a university and integrated health system! Thank you for your continued engagement with the University of Utah, our community and our world.

Michael Good, MD
CEO, University of Utah Health
Dean, University of Utah School of Medicine
SVP, University of Utah Health Sciences

President's Message



Although I live and practice medicine in Salt Lake City, I had been uninvolved with the University of Utah School of Medicine since graduating from medical school. Like many of you, I was busy with my medical practice and family and my only connection with the School of Medicine had been reading *Illuminations* a few times a year. However, my reading of *Illuminations* did continue my interest in what was happening at the School of Medicine. When I was asked to become a member of the University of Utah School of Medicine Alumni Association board, I readily accepted, as I wanted to be involved with the School of Medicine after many years away.

After a few years of serving on the board, I am now pleased to serve as the president. I have reconnected with the University of Utah School of Medicine and learned of the substantial changes to facilities and to the curriculum since my graduation. Most notably, I have met many School of Medicine alumni, faculty, staff and current students. This is the experience I had hoped for when I joined the Board.

My medical school years hold many fond memories for me, which also made me interested in serving on the alumni board. My medical school class recently held a class reunion. I reconnected with people I had not seen in many years, but the friendships we made in medical school were so strong, I felt like we barely missed those years apart and were as friendly and bonded as ever.

The Alumni Association represents all alumni who have graduated from the School of Medicine. Our board consists of members who are graduates of the medical school and residency house staff, and graduates of the University of Utah physician assistant program and other masters and PhD programs. Our mission is to represent all School of Medicine alumni in making their connection to the U and to assist and engage current medical school students and residents throughout their educational years.

Whether you are a recent or distant alum, the Alumni Association offers many ways for you to make a connection. We have an Alumni Programs Committee, which oversees the Alumni and Medical Community Weekend and the Half Century Society. Our Student Programs Committee connects current students and residents with alumni for social events such as the All Class Picnic, the Winter Social and Dinner with a Doc.

They also oversee the Fourth Year Alumni Award, Help Our Students Travel program (H.O.S.T.), the Stethoscope Gift outreach, and offer students financial support through

the Student Emergency Fund. The Education Committee plans the CME Symposium during Alumni Weekend, the UteMed speakers' series, the Student Poster Walk Competition, and hosts Transitioning into Practice for residents and 4th year medical students. The Communications Committee organizes content for this magazine and advises on our website and other mail and electronic communication.

This issue of *Illuminations* has articles that will be of interest to everyone who is an alumnus/ae or friend of the University of Utah School of Medicine. Medical practitioner burnout and techniques to promote wellness is a subject that is getting a lot of well-deserved attention. This issue is explored in a thorough and timely discussion. There is a remarkable story of a medical student who has overcome a unique adversity and recovery to enroll at the University of Utah School of Medicine. You will find a summary of a chapter covering 2010-2015 from the *How the West Won Medicine* book, and there are contributions from multi-talented medical students excerpted from *Rubor*, the creative magazine of the School of Medicine.

This is an exciting time to be involved at the University of Utah School of Medicine and with the Alumni Association. The Alumni Association continues to improve our programming to make connection easier and more comprehensive. The University of Utah is developing plans to replace the old medical school building (Building 521) with a new MED Complex, an exciting endeavor which will transform the health sciences campus.

I hope you enjoy the magazine and that the Alumni Association can assist you in making your own connection with the University of Utah School of Medicine.

Warmest wishes,

A handwritten signature in blue ink that reads "Teresa Ota".

Teresa Ota, MD '88
President
School of Medicine Alumni Association



Rediscovering Meaning in Medicine

University of Utah Health physicians share their strategies for reducing or reversing burnout

It's no secret: Professional burnout among physicians in the United States is reaching epidemic proportions. A 2016 study published by the Mayo Clinic showed that physician burnout rates are high, and still climbing. Of the nearly 7,000 physicians surveyed, 54.4 percent reported at least one symptom of burnout in 2014 compared with 45.5 percent in 2011—a nearly 10 percent increase in only three years.

Burnout may be contributing to another startling statistic. Research presented at the American Psychiatric Association's 2018 annual meeting suggests U.S. doctors have the highest suicide rate of any profession—including the military.

Signs of burnout

You may be at risk of burnout if you regularly experience:

- Anxiety or a sense of dread about going to work.
- Feelings of indifference or hopelessness.
- Feelings of isolation or detachment.
- Forgetfulness or trouble focusing.
- Headaches, abdominal pain, rapid heart rate, or heartburn.
- Increased absenteeism or reduced job performance.
- Increased irritability or anger.
- Increased susceptibility to illness.
- Insomnia.
- Low energy or fatigue.

Today, having come full circle, both physicians feel a renewed sense of purpose in their work.

Struggling to Keep Up

Dr. Thomason thinks of himself as an old-school doctor. The 68-year-old physician recalls when time spent with patients was determined by their needs, not by a software-generated template.

When Dr. Thomason returned to U of U Health six years ago after practicing at another health care institution, the system had just rolled out its electronic health record (EHR). While EHRs offer benefits including shared clinical data, decision support tools, and e-prescribing functionality, they dramatically increase administrative burdens for physicians and staff.

"I would go home each night and share a late, reheated dinner with my wife, and then stay up until 2:00 a.m. finishing my notes in Epic," he says. "It felt like this new computer-driven system was taking away my flexibility and autonomy, adding an unsustainable amount of work, and creating a pace and pressure I found intolerable."

Fortunately, Dr. Thomason discovered a set of tools and processes called "value engineering." Based on Six Sigma

Physician burnout is rising because the health care industry is changing. And for the most part, these changes are here to stay. So, how can doctors avoid burnout and reignite their passion for providing care?

According to I. Raymond Thomason, MD, transplant hepatologist and program director for transplant outreach at University of Utah Health, if you want to change things in medicine you have to start with yourself.

Although he and pediatric emergency medicine physician, David Sandweiss, MD, were both on the brink of burnout, each found his own way of adapting to change.

and Lean principals used by Toyota and other auto manufacturers, value engineering helps create efficiency.

Dr. Thomason says these learned skills leveled the playing field of excessive and wasteful work generated by the EHR, and transformed his ability to practice medicine in today's demanding environment.

Burning the Candle at Both Ends

For most of his career, Dr. Sandweiss considered his long hours and demanding schedule a normal part of the job. He is medical director of the rapid treatment unit at Primary Children's Hospital and an associate professor of pediatrics at University of Utah School of Medicine. Along with his clinical, administrative, and teaching duties, he's also a devoted husband and father who volunteers at a free clinic in Salt Lake City.

But in 2015, Dr. Sandweiss gradually sensed that something was wrong. Although he couldn't quite put his finger on it—"burnout" was still an unfamiliar term to him—he felt like his work lacked meaning and purpose.

"I'd finish a shift at the hospital and feel like my clinical work and patient interactions were not bringing me joy," he says. "I was more concerned about efficiency, volume, and output, and I wasn't sure how long I could continue in that role."

Before Dr. Sandweiss was forced to make tough career decisions, he stumbled across a simple solution: Mindfulness.

Not only has this centuries-old, contemplative practice transformed his approach to work and life, it's led him down a fulfilling new path. He's teamed up with Marc Potter, a licensed clinical social worker who specializes in mindfulness-based practices, to help colleagues facing burnout.

Understanding Burnout

The word burnout is often used to describe the physical and mental consequences of chronic, work-related stress. It entered the broader lexicon in 1981 following publication of the Maslach Burnout Inventory, a psychological instrument that measures three core dimensions of professional burnout:

- **Emotional exhaustion**—feeling emotionally overextended and exhausted by your work.
- **Depersonalization**—an unfeeling and impersonal response toward recipients of your service, care treatment, or instruction.
- **Personal accomplishment**—reduced feelings of competence or successful achievement in your work.

Certain professions, including physicians, are prone to burnout because of the high-stress, high-stakes nature of their work.

A 2018 American Medical Association survey that polled 15,000 physicians across 29 specialties found that more than 40 percent of respondents were burned out. And certain specialties including critical care, emergency medicine, neurology, obstetrics and gynecology, family medicine, and internal medicine, are approaching burnout rates of 50 percent.

What's Causing Burnout?

Seismic shifts in health care delivery, payments, and technology are impacting physicians in unprecedented ways, adding excessive work that creates new types of stress.

"Our work load has become unmanageable because health care has become industrialized," says Dr. Thomason. "Scheduling is out of our control, everything has to be documented, we're overwhelmed with clerical tasks, and we're responding to email 24 hours a day."

Research suggests several key changes in the health care field are driving physician burnout:

- **Declining reimbursements** have led health systems to implement strict productivity expectations and cut costs, meaning physicians often need to see more patients in the same amount of time with fewer resources.
- **EHRs** require significant and time-consuming data entry.
- **Mandatory quality reporting** takes considerable time and effort due to the massive amounts of data that must be collected, measured, and tracked.
- **National shortages of health care workers** make it hard to maintain sufficient staffing.

Another cultural factor well-known to physicians may not be changing quickly enough. Many doctors say they still feel obligated to perform at superhuman levels, remaining unaffected by long hours, disruptive on-call schedules, or the grief that often comes with caring for our most vulnerable.

Combined with these intense pressures is a reluctance to ask for help. Physicians may be hesitant to seek counseling within their place of work or they may fear career repercussions, like being passed up for a leadership position.

The Fallout of Burnout

As a counselor in the employee assistance program at Intermountain Healthcare in Murray, Utah, Marc Potter frequently helps clinicians who are struggling with work-related stress and anxiety.



"Our work load has become unmanageable because health care has become industrialized, scheduling is out of our control, everything has to be documented, we're overwhelmed with clerical tasks, and we're responding to email 24 hours a day."

"Most physicians go into medicine because it's a calling, because they want to serve," he says. "But when industry mandates and organizational pressures get in the way of healing and disrupt that connection with patients, it's easy to become cynical. And cynicism and negativity are infectious. They spread throughout the work environment."

Dr. Sandweiss agrees, citing his own symptoms of burnout and his experience working alongside harried colleagues.

"Over time you start to feel 'put upon,' like you can't keep your head above water, and despite how exhausted you are, it feels like you didn't actually accomplish anything of value during your day," he says. "You may even lose empathy for your patients—the same people you previously wanted to help."

A toxic attitude is just one of many potential consequences of burnout. Physicians who reach burnout are also more likely to:

- Leave the field of medicine.
- Be involved in a patient safety incident.
- Have clinical depression.
- Have broken marriages or other relationships.
- Develop alcohol or substance use disorders.

- Develop insomnia, high blood pressure, or other medical problems.
- Die by suicide.

Embracing Efficiency and Change Through Value Engineering

A chance encounter led Dr. Thomason to connect with U of U Health's Department of Value Engineering. There, staff offers the equivalent of a semester-long course with weekly classes. The subject? Becoming more efficient, and delivering value to patients, by eliminating waste.

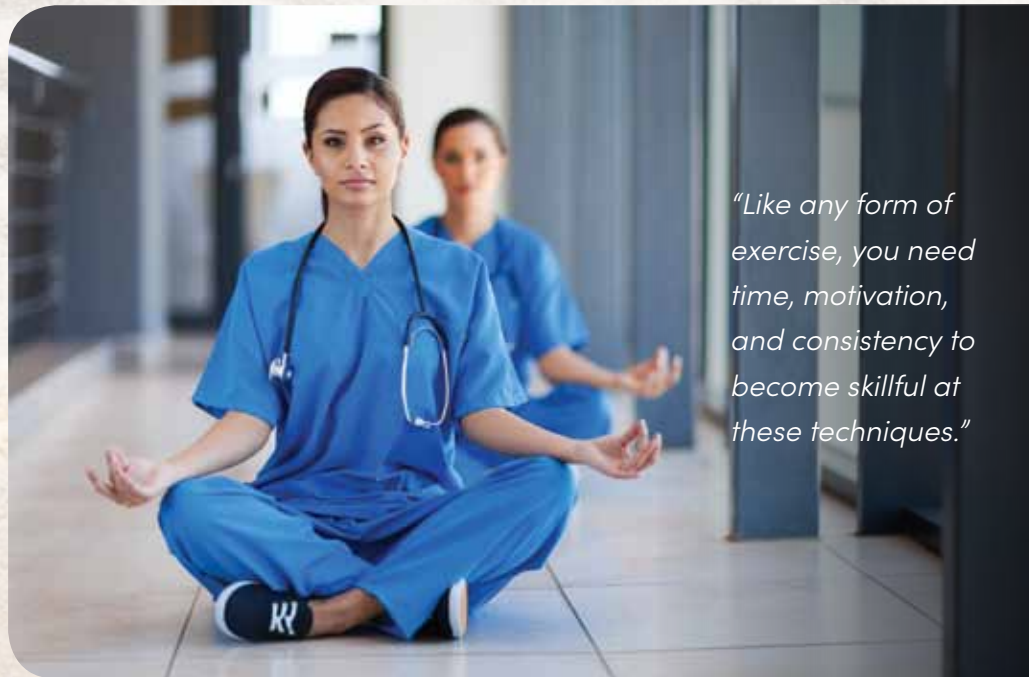
The value engineering team taught Dr. Thomason how to work more effectively, using various process improvement principles. He learned how to:

- **Standardize work.** Following protocols and eliminating variability saves time and money, improves quality, and reduces the risk of errors.
- **Perform single-process flow.** Because multitasking involves lots of stops and starts, it's important to stay focused when you start something. Finish your task before you move on to the next one. Dr. Thomason says that for him, this became the single most important tool.
- **Find more efficient ways to perform tasks.** By eliminating unnecessary steps or delegating certain activities that utilize colleagues' talents, you'll free up time for personal activities and relationships.

As part of his value engineering course, Dr. Thomason was required to complete a mentored assignment. He decided to become the project. In other words, he had university staff members shadow him throughout the day, observing opportunities to get rid of waste, redundancy, and inefficiency.

The results, says Dr. Thomason, were a game-changer. "I learned that 85 percent of my activities were wasteful, adding no value to my patients," he says. "I learned how to eliminate those four or five hours a night I was spending on Epic, along with practical ways to manage my email inbox. And the benefits have carried over to my personal life. I've become much more efficient and effective in everything I do."

Dr. Thomason is now a member of the U of U Health value leadership change group. This team of clinical and nonclinical professionals is trying to understand how to implement methods, processes, and standardized work protocols that enhance the health care experience for patients as well as providers and their teams.



"Like any form of exercise, you need time, motivation, and consistency to become skillful at these techniques."

"I believe preventing burnout requires a two-pronged approach," he says. "First, you must identify what's causing your burnout and develop skills to address or adapt to these factors. Secondly, you need to find ways to stay healthy and balanced. Otherwise you're just running as hard and fast as you can to keep up, and you lose the joy of practicing this beautiful profession."

To learn more about improving value and eliminating waste, visit www.accelerate.com. This tool is free and available to anyone.

Building Mindfulness Practice into Medical Practice

Dr. Sandweiss knew he couldn't change certain workplace burdens that contributed to his feelings of exhaustion and disenchantment. But in 2016, after attending one of Potter's presentations on physician burnout, he learned he could change his mindset.

The practice of mindfulness has roots in Buddhist meditation dating back to the 6th century BCE. But in 1979, Jon Kabat-Zinn, PhD, introduced America to a secular, mainstream version of mindfulness when he founded the renowned Mindfulness-Based Stress Reduction (MBSR) program and Stress Reduction Clinic at the University of Massachusetts Medical School.

Mindfulness is a kind of exercise for the mind. It trains your brain to focus your attention on the present moment without judgement, and without becoming overly reactive or overwhelmed by what's going on around you. It allows you to face the stresses of life, work, and interpersonal conflict more calmly.

While there are different ways to practice mindfulness, most techniques are a form of meditation that help you refocus your mind when it begins to worry or wander. Some people use their

Resources for Clinicians and Students

Although this article focused on two physicians with demanding roles, professional burnout affects all types of clinicians and caregivers, as well as medical and graduate students.

If you're experiencing symptoms of burnout, don't ignore them. As more health care organizations and medical schools prioritize clinician well-being, today there are more resources for addressing burnout than ever before.

Contact your employer's employee assistance program (EAP). Most EAP programs offer free counseling and support services to employed physicians and staff. Clinicians and students within U School of Medicine have access to the University of Utah EAP program (visit <https://www.hr.utah.edu/benefits/eap.php>) as

well as the U of U Health Resiliency Center (<https://healthcare.utah.edu/wellness/resiliency-center/>).

Take advantage of behavioral health benefits. Your health plan may cover visits to behavioral health specialists who can help you cope with the symptoms or consequences of burnout.

Enroll in an online CME course. The American Medical Association's STEPS Forward™ program offers free educational modules for physicians. Topics include preventing burnout, improving resiliency, improving practice efficiency, and creating organizational changes that improve physician satisfaction. Visit <https://edhub.ama-assn.org/steps-forward> to learn more.

Restoring Balance Self-Care Retreat • March 27, 8:30 a.m.–4:30 p.m. • <https://medicine.utah.edu/psychiatry/upcoming-events/restoring-balance-retreat/>
For more information on this or future retreats contact Julie Howell, Julie.howell@hci.utah.edu

breath as an anchor, while others repeat a word or phrase (mantra) or focus on the physical sensations around them.

"Like any form of exercise, you need time, motivation, and consistency to become skillful at these techniques," says Potter. "But you get better over time, especially when you stick to a specific 'dose' on a specific schedule. Even 10 minutes of formal practice can impact your entire day. Your focus improves; you're less reactive, and you're able to be more compassionate toward yourself and others."

Decades of research by Dr. Kabat-Zinn and others have shown that regular mindfulness practice has numerous physical, psychological, and social benefits. Mindfulness can:

- Boost your immune system.
- Improve memory, attention, and decision-making.
- Improve sleep.
- Improve symptoms of depression.
- Increase positive emotions while decreasing negative emotions.
- Lower blood pressure.
- Reduce chronic pain.
- Relieve stress.

In 2019, Potter and Dr. Sandweiss plan to launch an eight-week CME course for physicians and advanced practice clinicians called Mindful Practice: Healing Burnout, Enhancing Quality of Care, Caring, and Resilience.

This program follows the research-driven Mindful Practice® curricula developed by University of Rochester Medical School. It aims to help health care professionals:

- Foster skills of attentive observation and critical curiosity.
- Improve recognition of error-prone situations and reduce medical errors.

- Foster caring attitudes toward patients.
- Promote self-awareness, resilience, and health.

"A consistent practice of mindfulness has allowed me to better understand my habitual modes of responding to stimuli," says Dr. Sandweiss. "This has allowed me to slow down and become a better listener. I'm more grateful for the gifts this life has given me. And I'm more patient with myself and others. It's not that I'm happy all of the time and don't struggle, it's just that I'm much more able to approach life with equanimity."

For more information about upcoming Mindful Practice courses at U of U Health, email Dr. Sandweiss at David.Sandweiss@hsc.utah.edu.

RECOMMENDATIONS FOR FURTHER READING:

A Factory of One: Applying Lean Principles to Banish Waste and Improve Your Personal Performance by Daniel Markovitz

Altered Traits: Science Reveals How Meditation Changes Your Mind, Brain, and Body by Daniel Goleman and Richard J. Davidson

I Felt Alone but I Wasn't: Depression is Rampant Among Doctors in Training by Elisabeth Poorman and Sandeep P. Kishore. Reprinted by the National Academy of Medicine, Oct. 2016 (digital copy available at <https://nam.edu/i-felt-alone-but-i-wasnt-depression-is-rampant-among-doctors-in-training/>).

The Miracle of Mindfulness: An Introduction to the Practice of Meditation by Thich Nhat Hanh

Why We Revolt: A Patient Revolution for Careful and Kind Care by Victor Montori

2010– 2015

Transparency and Transformation

Excerpted from *How the West Won Medicine: from small medical school to global academic force*

The Next Generation Takes Charge

The School of Medicine's 2010 graduating class reflected the state of Utah with more accuracy than ever before. While the University of Utah and Brigham Young University had always been feeder schools for School of Medicine students, the 2010 class included Utah State University students from rural communities including Price and Blanding as well as older Utah students who had earned their undergraduate degrees primarily online. By 2010, access to information, people, places and commerce could be found in the palms of our hands thanks to mobile technology, but keeping pace with the change had become one of the bigger challenges. At the University of Utah, Vivian S. Lee, M.D., Ph.D., M.B.A., brought innovative leadership to campus when she was named Senior Vice President for Health Sciences, Dean of the School of Medicine, and CEO of University of Utah Health Care. Together with students and faculty, the university wasn't just keeping up with the pace of all this change—it was creating and inventing the future.

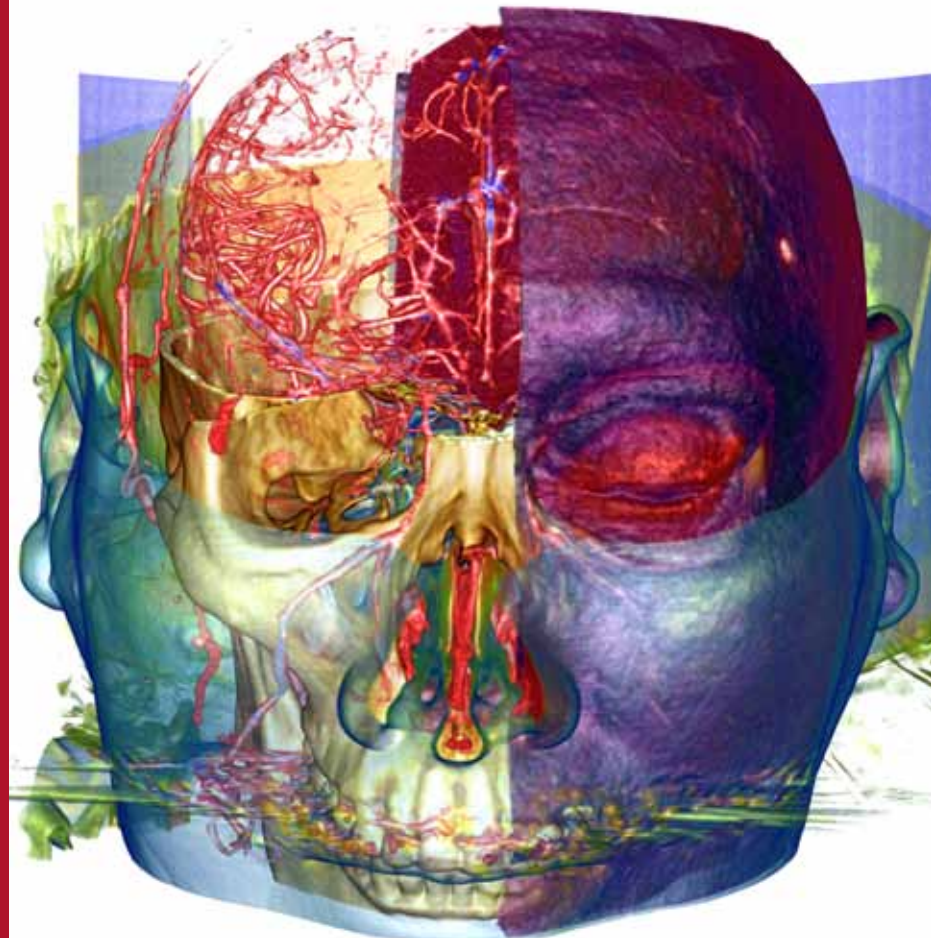
IN 2010...

In 2010... In-state tuition was \$13,754/semester. The iPhone 4 was introduced. Congress passed the Healthcare Reform Bill and Affordable Care Act.



TELEMEDICINE AT THE UNIVERSITY OF UTAH

With telemedicine, diagnosis and treatment can be provided digitally, in consultation with local providers across the Mountain West.



SCIENTIFIC COMPUTING AND IMAGING INSTITUTE

Volume rendering at SCI provides a non-invasive look into the inner structures of the body, offering context to original CT scans

TURNING COMMUNITIES INTO CLASSROOMS

Starting in 2009, and gaining traction by 2010, the School of Medicine curriculum made a tectonic shift toward the future—and the educational innovation shook every corner of Building 521. It was reflected in the delivery of education itself, with traditional classroom settings being supplemented with online learning. It was also in the decision to make team training a clinical rotation, so students could work together in real settings with real patients. And it could be seen in the school's vision for extending education far beyond the walls of Building 521, providing new opportunities for students to learn in the community—and around the globe.

Vice Dean for Education Wayne Samuelson, M.D., class of '80, and Associate Dean of Inclusion and Outreach Evelyn Gopez, M.D., set their sights on curriculum transformation by creating programs to educate students across disciplines while building healthier communities across the Salt Lake Valley. The cornerstone of this vision, created in partnership with deans from the College of Nursing and the College of Health, was interprofessional education in an actual pro-bono clinic where students could quickly learn how their fields of expertise complemented each other while also serving low-income patients who might otherwise go untreated. Opening in 2013 as a partnership between the School of Medicine, the Utah Department of Health and the city of Midvale, Utah, the student-run Midvale CBC Community Clinic set out to provide free access to health care and unique opportunities for students from different disciplines to learn from one another.

Also in 2013, University of Utah became one of four medical schools to participate in a new AAMC pilot program to test the feasibility of competency-based medical education. Instead of following the traditional four year medical school model, students in the Education in Pediatrics Across the Continuum (EPAC) program, advanced through medical school as they mastered skill sets. Students would then enter the university's categorical pediatrics residency when they demonstrated competence.

While the School of Medicine explored ways for motivated students to fast-track medical school, pediatrics department Chairman Edward Clark, M.D., led the development of a clinical research certificate program in undergraduate education, enabling students to gain intensive experiences and a minor in pediatric clinical research, so well-trained graduates could quickly move into jobs. To further support the change and growth, Dr. Lee worked with the state of Utah and the governor in 2013, securing commitment for state funding to expand the medical school class from 82 to 122 students.



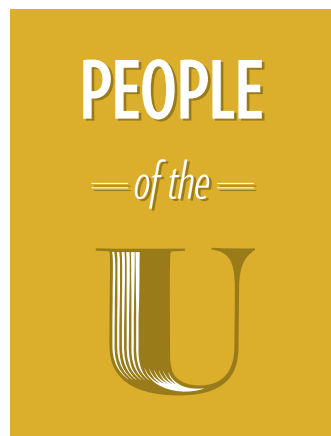
MIDVALE CBC COMMUNITY CLINIC

At the student-run Midvale CBC Community Clinic, students from different disciplines work hand-in-hand to provide needed medical services to underserved communities.



Edward Clark, M.D.

Wilma T. Gibson Presidential Professor and chair, Department of Pediatrics, University of Utah School of Medicine; Recipient of the 2015 Marty Palmer Service to Children Award, presented by the Utah Chapter of the American Academy of Pediatrics

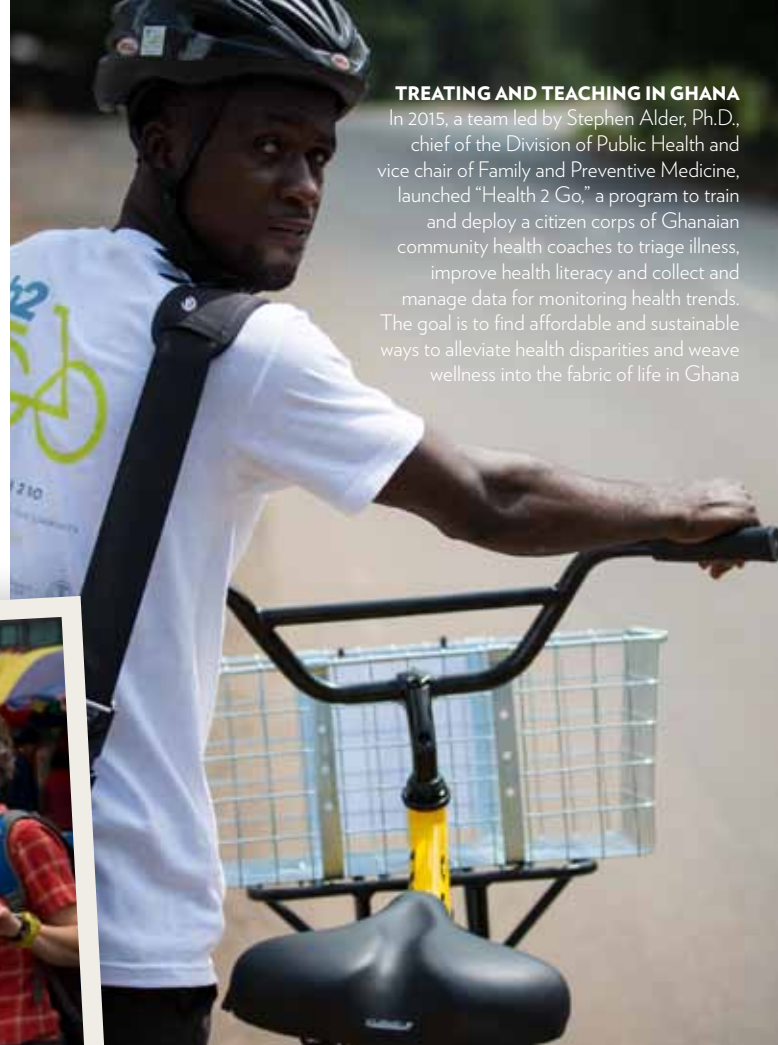


"About once every 100 years, you have the opportunity to rethink how medicine will be practiced. We are at one of those juncture points and we're doing it in pediatrics by disrupting the 1900s version of medical education. Six months into medical school, students get a year of deep experience, then another six months to explore. We're matching students two years ahead of graduation. This results in a broader, deeper, more intense pediatric education. This can happen here because the U is a wonderful entrepreneurial environment. There's this willingness to take risks and an environment of collaboration."

CULTIVATING A GLOBAL PERSPECTIVE

Beyond the state of Utah and the nation, opportunities for medical education and service continued to present themselves around the globe. In 2010, the University of Utah launched the Global Health Initiative, which provided an umbrella organization for the U's globally oriented health and medical efforts. This led to even more extensive cross-disciplinary collaborations—giving students new opportunities to work side by side with local and international global health experts.

Further embracing the theme of global health, the University of Utah opened its first international campus in South Korea in 2014. The Asia Campus offered a Master in Public Health degree with internships across Asia and worldwide. Later that year, Ensign College of Public Health opened its doors in Kpong, Ghana. This was the culmination of a vision long held by Elder Robert C. Gay and Sister Lynette Gay to transform public health scholarship and practice in West Africa.



TREATING AND TEACHING IN GHANA
In 2015, a team led by Stephen Alder, Ph.D., chief of the Division of Public Health and vice chair of Family and Preventive Medicine, launched “Health 2 Go,” a program to train and deploy a citizen corps of Ghanaian community health coaches to triage illness, improve health literacy and collect and manage data for monitoring health trends. The goal is to find affordable and sustainable ways to alleviate health disparities and weave wellness into the fabric of life in Ghana



MASTER OF PUBLIC HEALTH STUDENTS AND FACULTY ENJOY THEIR TIME AT THE UNIVERSITY OF UTAH ASIA CAMPUS IN INCHEON, SOUTH KOREA. OPEN SINCE 2014, THE CAMPUS IS PART OF THE SHARED INCHEON GLOBAL CAMPUS, SPONSORED BY THE KOREAN GOVERNMENT.



IN MARCH 2015, A UNIVERSITY OF UTAH HEALTH SCIENCES DELEGATION ATTENDED THE OFFICIAL OPENING OF THE ENSIGN COLLEGE OF PUBLIC HEALTH, IN KPONG, GHANA. THE ENSIGN CAMPUS WAS BUILT BY ELDER ROBERT C. AND SISTER LYNETTE GAY. THE U SERVED AN ADVISORY ROLE IN HELPING ENSIGN COLLEGE DEVELOP ITS ACADEMIC AND OPERATIONAL PROGRAMMING.

BRIDGING KNOWLEDGE

In 2012, the James L. Sorenson Molecular Biotechnology Building, or USTAR (Utah Science Technology and Research), opened its doors. As part of a statewide initiative to promote and foster innovation in Utah, the building solidified the University of Utah's commitment to cross-disciplinary scientific and technology research. Created by the Utah Legislature in 2006, USTAR set out to bolster Utah's research strengths and significantly increase technology commercialization to create more high-caliber jobs throughout the state. At the University of Utah, the USTAR initiative “helped attract faculty who create inventions, file patents and get licenses issued four to eight times more often than the average faculty member,” said Vice President for Research Thomas Parks, Ph.D.



CROSS-DISCIPLINARY RESEARCH
The USTAR building is a nexus of research among scientific disciplines at the University of Utah.



A UNIVERSITY SPIN OFF CATCHES FIRE

BioFire Diagnostics is one of the most successful spinoff companies ever created from technologies developed at the university. Co-founded in 1990 by Randy Rasmussen, Ph.D., class of '98, Kirk Ririe, B.S., class of '90, and Ririe's mentor, University of Utah professor of pathology Carl Wittwer, M.D., Ph.D., the company grew steadily in its first decade. In 2011, Ririe's FilmArray System and Respiratory Panel invention enabled rapid testing for dozens of different organisms simultaneously and catapulted the company to new levels of growth and commercial success. In 2014, the company announced plans to double its workforce and introduced a rapid test for Ebola for hospital use. BioFire has ambitions to eventually develop tests for other commonly fatal diseases. "This is the most crazy, audacious thing, and yet this is the pioneering spirit of Utah," Ririe told KUER, a radio station in Salt Lake City. "This is why we're here."

THE NUCLEUS OF INNOVATION

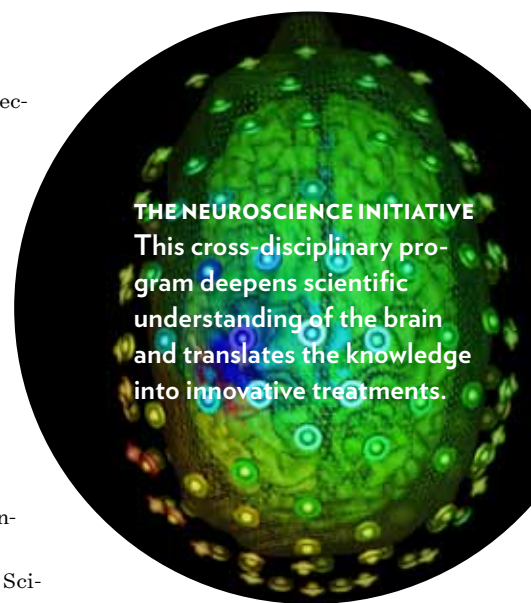
A place of promise and passion, where creative innovation practically flows out of the air vents, the Center for Medical Innovation (CMI) opened in 2012. CMI brings together students, medical professionals, engineers and business to tap into a wellspring of innovation and perhaps develop the next big thing.

TURNING STUDENTS INTO ENTREPRENEURS

Nurturing the inventor inside curious young minds, John Langell, M.D., Ph.D., M.P.H., M.B.A., F.A.C.S., director of CMI, worked with bioengineering professor Robert Hitchcock, Ph.D., and Lassonde Institute Executive Director Troy D'Ambrosio to help a group of intrepid students create the Bench-to-Bedside competition, which held its first event in 2011. The competition encouraged medical, engineering and business students to work together on medical device innovation projects. With just a \$500 prototyping budget and six months of development time, the student teams let their imaginations run wild and built on their ideas together. Receiving guidance from student mentors, multidisciplinary faculty and industry leaders, the students learned to shape their ideas into commercially viable products.

In 2013, interdisciplinary education, clinical care and research at the University of Utah got yet another boost with the launch of the Neuroscience Initiative, thanks to innovative neuroscience research projects conducted by the U's Brain Institute. The initiative was developed to deepen understanding of the brain in disease and in health, and to translate that knowledge into solutions for patient care. Today, the Neuroscience Initiative, supported by the strength of neural engineering research, continues this work with a diverse community of professionals—from neurologists to imaging specialists to molecular biologists—spanning six colleges and schools, 15 centers and institutes and 18 academic departments.

Yet another bold collaborative shift came with the opening of the Department of Population Health Sciences in 2015. Designed to complement, strengthen and extend the capacity for population health scholarship across the University of Utah campus, the department opened with a mission to monitor health threats in all kinds of environmental conditions. Designed as a hub for education and investigation, the department was organized with a team-based approach to advancing knowledge on health care services, cost, quality, outcomes and delivery systems.



THE NEUROSCIENCE INITIATIVE
This cross-disciplinary program deepens scientific understanding of the brain and translates the knowledge into innovative treatments.

NEXT-GEN GENETICS

With the power of the Utah Population Database, more than 35 years of genetic discoveries and some of the world's leading software for genomic analysis, the Utah Genome Project (UGP) launched in 2012. The inspiration for this project began with Heather and Logan Madsen. The siblings were born with both the rare disease Miller syndrome, which involves birth defects, as well as primary ciliary dyskinesia, a rare disorder afflicting the lungs.

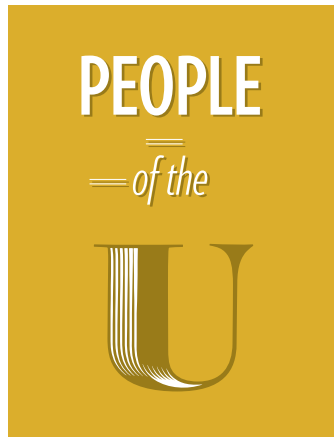
After Heather and Logan's mother married University of Utah geneticist Lynn Jorde, Ph.D., they began to unlock the mystery. In a historic first, the Madsen children and their parents were the first family in the world to have their whole genomes sequenced. The process revealed the genetic cause of the disorders and how they were inherited. The family finally had their answers, and this project demonstrated the value of family sequence analysis in pinpointing causes of Mendelian disorders.

While this discovery found the rarest of the rare, the UGP and its team of investigators are using genome sequencing to help identify the causes of common conditions such as cancers and heart disease.

LYNN JORDE FAMILY

"I think it's very possible that within the next decade, many people, maybe even most, will have their genomes sequenced," Jorde said. Equipped with this information, physicians could predict diseases in patients years before symptoms occur.





UNCOVERING OUR COSTS

A 2011 Harvard Business Review article, “The Big Idea: How to Solve the Cost Crisis in Health Care,” rocked the health care world when it outed providers’ “complete lack of understanding” about the costs of health care delivery. On the heels of the article, Dr. Lee met with School of Medicine department chairs in the spring of 2012 and challenged them to find a way to lower costs. The conversation turned out to be a pivotal moment that brought to light a huge missing piece of the costing mystery: There was no way for the chairs—or anyone—to tackle costs because the data didn’t exist.

Six months later, a revolutionary costing tool was unveiled called Value Driven Outcomes, or VDO. The development team’s mission was to harness the masses of data and figure out how to allocate costs at the patient-visit level—from the cost of gauze tape to individual chemotherapy treatments to minutes of nursing labor. The next version of VDO enabled users to see direct correlations between the cost of every choice made and how it affects the quality of care.

“If you create a medical device today, you have to work in transdisciplinary teams to ensure it has a protectable space, can clear the regulatory hurdles and will have a valid market demand. That’s why we teach medical innovation in partnership with our bioengineers, who help ensure that our innovation teams create technologies under the current regulatory guidelines. We also bring in our law school and business school experts to cover intellectual property and business plan development. And we collaborate with industry to make sure inventions are viable in the marketplace. It’s not about what we can do as individuals, it’s about what we can do as a team.”

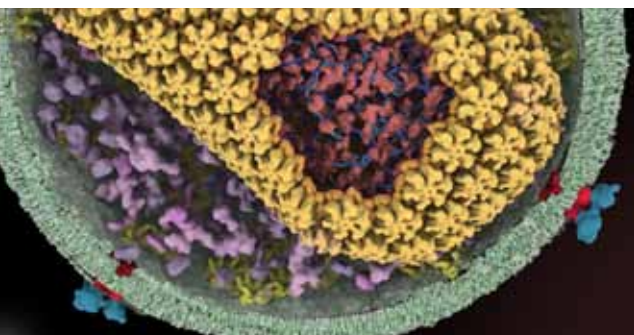
John Langell, M.D., Ph.D., M.P.H., M.B.A., F.A.C.S.

Completed advanced training in Space and Aerospace Medicine with NASA at the Johnson Space Center; Director, Center for Medical Innovation; Developer of new laparoscopic instruments for use in remote and extreme environments



BENCH TO BEDSIDE

In just five years, the Bench-to-Bedside program has trained over 500 students, created 115 new medical technologies, filed 86 patents, and formed 27 companies.



ACADEMIC ANIMATOR

When Janet Iwasa, Ph.D., wanted to illustrate the complex molecular world of the AIDS virus, she went to the most obvious but least academic source: Hollywood. Learning techniques like storyboarding and rendering from the animation pros, Dr. Iwasa was able to condense volumes of data into a single, short movie that tells an engaging, highly visual molecular story—and enables all of us to think differently about biology.

DISSECTING DATA

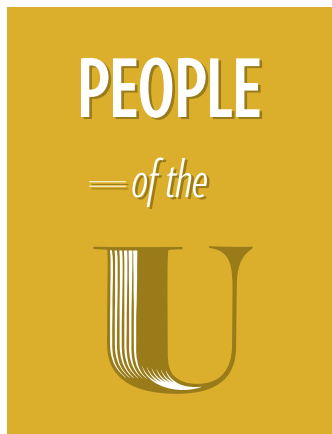
The medical informatics legacy that began with Homer Warner in 1964 has continued to thrive under the direction of Wendy W. Chapman, Ph. D., who was named chair of biomedical informatics in 2013. As big data is becoming both an information goldmine and a growing challenge, Dr. Chapman and her community of collaborators have set out to find creative solutions for data extraction and management to transform the health care system into a continuously learning organization.

One of the pillars for the current-day bioinformatics work was laid 20 years prior by Jim Livingston, M.B.A., who understood the importance of developing a centralized data warehouse with integrated clinical and financial data. Long before it was the industry standard, Livingston stockpiled data he was already collecting while working as a software developer building the U’s electronic health record. The result put University of Utah Health Care years ahead of other medical institutions in terms of accessible data, served as the foundation for the VDO tool and proved that the power of personal information could not only improve health, but also propel medicine forward.

TIME TO GET LEAN

In 2012, with health care costs and inefficiencies compromising patient care, the University of Utah Health Care decided it was time to get serious about lean health care. The Lean methodology for eliminating waste started in Toyota manufacturing plants in the '90s and later made its way to the health care industry.

The idea behind going lean at University of Utah Health Care was to empower all employees to identify inefficiencies in processes, especially those that frustrated them and didn't add value. The goal is to create an environment that enables the University of Utah to train the doctors of the future and equip them for a changing world of value-driven, patient-centered medicine.



THE VDO TEAM

To develop the tool, developers took some of the brightest minds from four key areas—decision support, biomedical informatics, IT, and the medical group—put them in a room together for three days a week for six months, and shut the door.

INTEGRATING DISCIPLINES ACROSS CAMPUS

Whether it's science, service or education, partnerships among the health, nursing, pharmacy and dental school are making the university's health system and medical training stronger than ever. Ranked No. 1 in quality and accountability among all university hospitals in 2010, the University of Utah has remained in the top 10 ever since.

“Personalized health or now, the more popular term ‘precision medicine,’ will be a journey that we—patient, health care provider, scientist—take together. Ultimately, our goal should be to focus on patient needs and desires, then tailor our intervention, whether it’s a medication treatment or preventive intervention, to maximize benefits and minimize risk. In the near future, the greatest advances will likely occur in treating cancer, but we certainly hope and expect that discovery of disease-causing genes can lead to more effective interventions, from chronic diseases such as Alzheimer’s and diabetes, to less common ones like cystic fibrosis.”

OPENING UP ONLINE

In a world where consumers could find an online review for everything from plumbers to the kitchen sink, the process of shopping for a doctor was still cloaked in mystery. In 2012, University of Utah became the first health system in the nation to disclose patient reviews of physicians and publish them online. “People are willing participants in providing thoughts about products and services,” said Thomas Miller, M.D., chief medical officer at University of Utah Health Care. “Health care is no different.” Three years since launching online reviews, other institutions have followed in the footsteps of University of Utah Health Care, with Wake Forest, Cleveland Clinic, University of Pittsburgh Medical Center, Duke and Stanford beginning to publish their physician ratings online.



JIM LIVINGSTON, M.B.A.,
ASSOCIATE CHIEF
INFORMATION OFFICER,
HOSPITALS & CLINICS

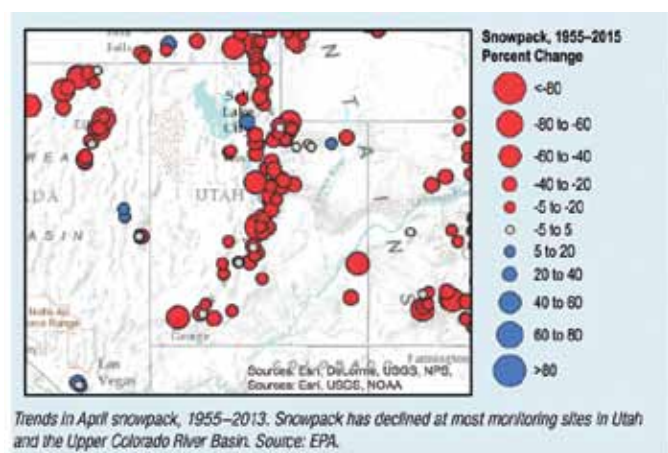
David N. Sundwall Lectureship: significant



In 2017 the University of Utah Department of Family and Preventive Medicine and the Division of Public Health began hosting the annual David N. Sundwall Lectureship in Public Health Policy to celebrate Dr. Sundwall's contribution and legacy in the public health field. The second annual lecture was held at the University Alumni House on October 24, 2018. Alfredo Morabia, MD, PhD, professor of epidemiology at The Barry Commoner Center, Queens College and Editor-in-Chief of the *American Journal of Public Health*, spoke on the most significant public health issues covered by the journal in 2018.

Following the cover stories of the journal from January 2018 thru October 2018, here is a highlight of some of the major health issues facing our country, our state, and the world:

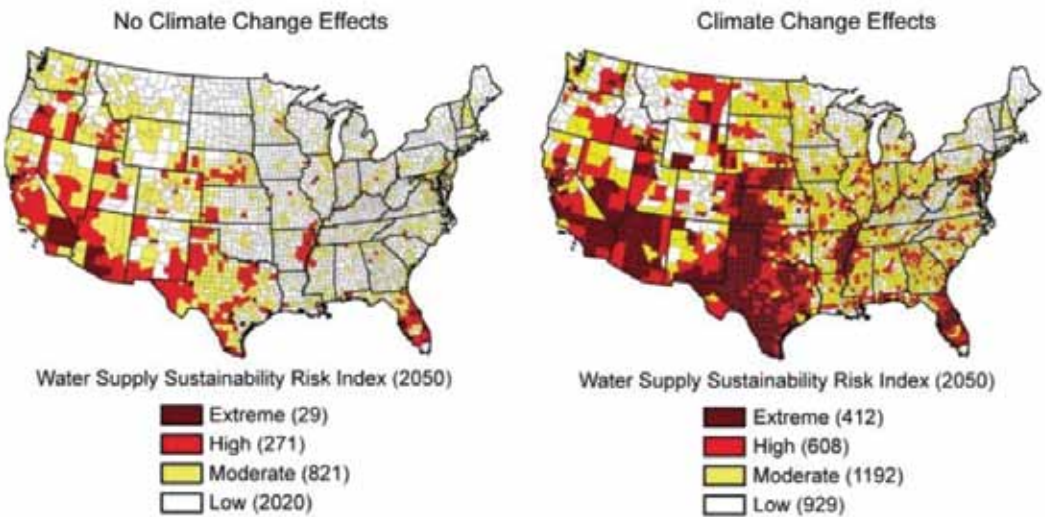
- Hydration and adequate water access is a serious and growing issue, especially among racial and ethnic minorities and those of lower economic status. Between 25 and 40 percent of these individuals have inadequate hydration based upon their urine osmolality. The other issue is the changing access to water. Utah is impacted as the climate continues to warm and water supplies in the West decline. This could become a very serious issue in the not too distant future.
- The issue of despair, depression and suicide. There has been a significant increase in premature death by suicide, particularly among Caucasian populations, across urban,



suburban and rural populations. Utah is #6 in suicide related deaths in the country, so is not immune to this disturbing trend.

- The increase in natural disasters, whether from fire, flooding, hurricanes, tornadoes, or other severe weather and the displacement of people that occurs due to these disasters. This is now becoming the norm in some areas of the country. Dr. Morabia highlighted Hurricane Katrina and how many individuals relocated to Utah following that natural disaster and remained in Utah post displacement.
- The link between acute hepatitis C infection and the growing opioid epidemic and associated injected drug use

issues facing public health today



in Utah, Wyoming and Colorado, all of which feed the Colorado and Green Rivers, both major sources for potable water and irrigation for western states.

Although 100 years has passed since the great flu pandemic of 1918-1919, which infected one-third of the world's population, and killed upwards of 50-100 million individuals, there is a very real likelihood of a worldwide

in the United States over the past ten years. There has been a significant correlated uptick in reported cases of HCV and the admission to substance abuse treatment centers based upon the injection of an opioid, any prescription opioid analgesics, heroin and all other drugs.

- Climate change is beginning to have an impact on public health issues and will be more detrimental in the future. The past decade is the warmest on record in the West. Over the last century Utah has warmed by about 2 degrees Fahrenheit. Heat waves are becoming more common and mountain snowpack is melting earlier in the spring. Since the 1950's snowpack has been decreasing

pandemic in the future. With increased global travel and an interconnected world, the likelihood of such an epidemic becomes magnified, making the importance of vaccines against viral infections even more significant.

You can watch the slides associated with these health issues here:



The Sundwall Lecture of Public Health Policy is sponsored every October by the Division of Public Health.

To support the Lectureship Endowment, please visit <http://tinyurl.com/y9agvdlb>

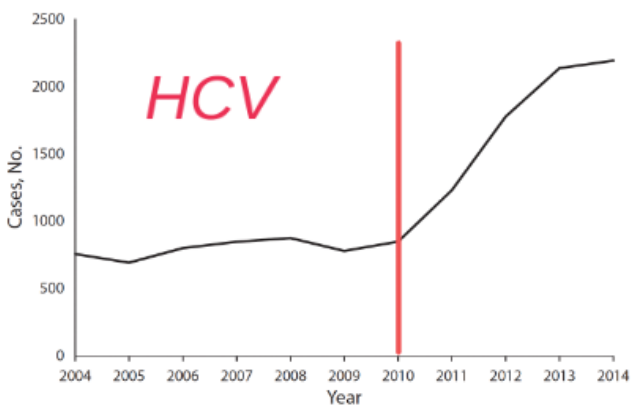


Figure 1—Reported cases of acute HCV infection by year: National Notifiable disease surveillance system, United States, 2004-2014

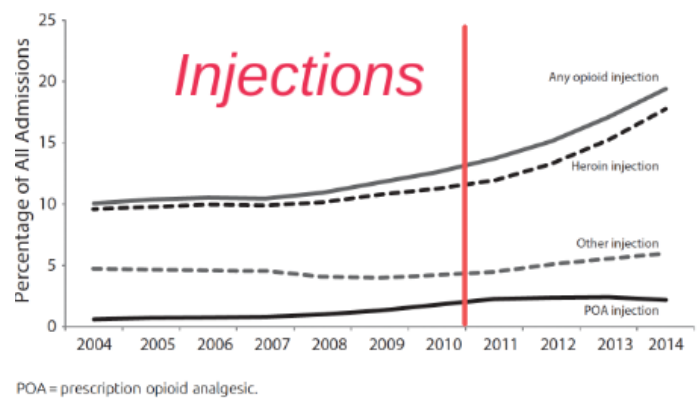


Figure 2—Percentage of all admissions to substance use disorder treatment facilities attributed to the injection of any opioid , prescription opioid analgesic, heroin, and all other drugs, by year: Treatment episode data set-admission, United States, 2004-2014

ALUMNI WEEKEND: GATHERING TO CELEBRATE THE SCHOOL AND THE CAREERS FORMED HERE

With the advent of Facebook, Instagram, Twitter and other social media platforms that connect people, I sometimes wonder if alumni weekends and class reunions are a thing of the past. But each year, at the School of Medicine Alumni Weekend, as I see graduates across all the ages reconnect with one another and reminisce about their time at the school, I once again confirm the importance of these reunions. But, of course, I'm a school reunion fan as I reconnected with my future husband at a college reunion years ago....

Friday morning Dr. Good kicked off the weekend with a breakfast meeting, where he focused on highlights of the School and shared impressive facts and figures about our progress over the past ten years. Then a group of alumni participated in the Evolution in Teaching program featuring Associate Deans discussing the admissions process, current student life, the changes in medical school curriculum, and inter-professional education training. Alumni also toured the simulation center, testing their own skills and seeing how students can practice various techniques and procedures with the use of simulators and patient actors.

The class of 1968 held a Dean's Roundtable with Dr. Good and current medical students, sharing their career experience and advice from 50 years of being physicians. Other alumni toured the library exhibits including Women in Medicine and the Animation of Biology and then ate an informal lunch as they strolled through the 21 posters and talked to the student researchers at the Student Poster Walk.

That evening the School of Medicine Alumni Association once again put on the Ritz, showing off the school and its graduates. The annual Awards Banquet highlighted the 2018 distinguished awardees while also recognizing 21 graduates of the Class of 1968 as they were inducted into the Half Century Society. The gavel of the Alumni Association Presidency was passed from Bryan Stone, MD '86 to Teresa Ota, MD '88. Faculty, older alumni, former residents and fellows mingled with students, current residents and fellows, and younger alums. Michael Good, the new Sr. VP for

Health Sciences, Dean of the Medical School and CEO of UHealth MC'ed the evening with Bryan Stone, President of the School of Medicine Alumni Association Board. Closing remarks were shared by newly inaugurated University of Utah President, Ruth Watkins.



Saturday a four credit CME was jointly hosted by the School of Medicine Alumni Association and the Internal Medicine Department. Then the second annual CompHealth Community Faculty Awards highlighted three extraordinary clinical community faculty members while also thanking all current community teaching faculty for their service with a luncheon.

The weekend wrapped up with eight reunion class dinners. If staying late was any indication, it seemed a good time was had by all. There's just something that can't beat meeting someone you spent four intense years with and sharing your lives face-to-face after many years. Who knows, maybe someone reconnected with a future spouse last October? It happens!

-Kristin Wann Anderson



Student Poster Walk



Members of the Class of 1968 with Dr. Michael Good and medical students at the Dean's Roundtable



CompHealth President Lisa Grabl with Community Teaching Faculty Awardees Eddie Stenehjem, Tim Duffy and Jackie Rohrer

CLASS REUNIONS





CLASS OF 1968

Back Row L to R: Bruce Irvine, Robert Lewis, Jon Lloyd, Russell Ord, Larry Staker, Val Hansen, Ed Heyes, Curtis Kaesche, Hugh Beatty, Earl Duke, Gary Watts, John Nelson, Bud West
 Front Row L to R: Jerry Gardner, John Gerwels, Andrew Grose, Craig McQueen, Torsten Jacobsen, Nathaniel Matolo, Sharadan Lisk, Lawrence Astle, William York, Bruce McIff

CLASS OF 1978

Back Row L to R: Brent James, Ellen Perricci, Liz Reynolds
 Front Row L to R: Grant Carter, Garner Meads, Jeff Labrum

CLASS OF 1983

Back Row L to R: Kerry Stratford, Craig Astle, Charlene Clawson, Tracy Frandsen, Kelly Murrin, Jan Broadbent, Dan Ely, Jan Osterstock, Richard Graham

Middle Row L to R: Mitchell Barney, Scott Leckman, Carolyn Rich-Denson, Kathy Neal, Leanne Rousseau, Brent Mabey
 Front Row L to R: John Hayes, Camille Collett, Mike Anderson

CLASS OF 1988

Back Row, L to R: Peter Christensen, John Blake, Ivan Flint, Tim Wolfe, Laurie Rice, Rodde Cox, Michael Measom
 Front Row, L to R: Jed Black, John Hardy, Randy Thurgood, Eric Vanderhooff, Teresa Ota, Peter Novak, Mark Johnson, Dan Hammond, Ken Nielson

CLASS OF 1993

Back Row, L to R: Catherine Harris, Shale Wong, Neil Callister, Elizabeth Pen Michell, Mona McArdle, Vince Stack, Scott Taylor
 Front Row, L to R: Seth Riddle, Matthew Clark, Debra Rolfson, Caitlin Ahern, Peter Hathaway, Ryan Evans, William Caine.

CLASS OF 1998

Back Row L to R: Marc Johnson, Thomas Clark, Mark Martinez, Mike Hadley, Trena Bonde, Jennifer Brinton, Janet Grissom, Russell Nelson, Chris Jones, Karyn Springer, Nicole Priest.
 Front Row L to R: Janelle Jager, Stephanie Carney, Matt Brown, Ric Rasmussen, Raphael Allred, Simon Durcan, Carmen Arkansas Nations, Lynn Price, Tammy Park, Brian Fukushima, Sarah Maulden.

CLASS OF 2003-

Back Row L to R: Rachel Woods, Christian Feinauer, Jeremy Hopkin
 Front Row L to R: Jason Schallheim, Anne Perry, Jim Dahle, Andrew Spencer, Jessie Walsh

CLASS OF 2013

Left to Right: John Bautista, Varsha Iyer, Laura Fink, Adrienne Carey, Robert Stoker, Sally Tran.

ALUMNI WEEKEND



Barbara Jones, MD responds after receiving the Golden Anniversary Prize for Distinguished Clinical Investigation endowed by the Class of 1945 at their 50-year reunion



Joyce Johnson, MD '57 and Liz Hammond, MD '67 enjoy the Awards Banquet reception



University of Utah President Ruth Watkins, PhD and Sr. VP of Health Sciences, Dean of the School of Medicine and CEO of UHealth Michael Good, MD



Barbara Jones, MD enjoying time with George G. Jackson, MD '45



Donald Pedersen, PA-C, PhD, '78, '88 is congratulated by Board President Bryan Stone, MD '86 and School of Medicine Dean Michael Good, MD for receiving the school's Distinguished Service Award



Paul Doxey, MD '80 celebrates his Distinguished Humanitarian Award with his daughter, Jessica



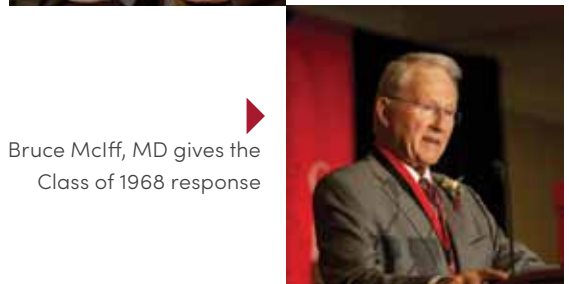
George Woods, MD, '77 celebrates with his family upon receiving the 2019 School of Medicine Distinguished Alumni Award



Angelica Putnam, MD '02 and Karly Pippitt, MD '06 catch up at the Awards Banquet



Devon Hale, MD '69 and Larry Staker, MD '68



Bruce Mccliff, MD gives the Class of 1968 response

RESIDENT LIFE

ZACH KASTENBERG-FELLOW, PEDIATRIC SURGERY

I meet with Zach Kastenberg, a fellow in pediatric surgery at the University of Utah, in Eric Scaife, Chief of the Division of Pediatric Surgery's office at Primary Children's hospital. Eric comments as he walks out the door that I am interviewing the best of the best fellowship trainees in pediatric surgery. Zach is completing his second year of a pediatric surgery fellowship. He is ten years past his graduation from medical school and sees the end zone in sight.

Zach grew up in a small town of 1,200 residents in Wisconsin, where his dad was the family medicine doc for the town. He grew up being very familiar with the practice of medicine, sometimes shadowing his dad on house calls and ward rounds. While at the University of Minnesota for undergraduate studies he became involved with a research project studying the use of stem cells to help heal the heart after a myocardial infarction. This helped confirm his interest in medicine. He attended Harvard Medical School, and while there, attended a lecture by Steve Fishman, MD, a pediatric surgeon, showing videos and pictures of how embryological development could go wrong, which translated to problems Dr. Fishman fixed as a pediatric surgeon. Zach was fascinated and asked to shadow Dr. Fishman at Boston Children's Hospital. He began to focus his studies to pursue a career in pediatric surgery.

After medical school he moved to Palo Alto to pursue his general surgery residency at Stanford University Medical Center, which included five years of clinical training and three years of research in health policy. While at Stanford his mentors helped direct him to what he should look for in a fellowship in pediatric surgery...a busy hospital with numerous highly complex cases, along with a collaborative, collegial atmosphere, where he could build relationships for his future career. The University of Utah Division of Pediatric Surgery and Primary Children's Hospital, quickly rose to the top of his choices.

Zach describes his first year and a half of training as phenomenal, with reality far exceeding his expectations. There are roughly 40 pediatric surgery fellowships offered nationwide, and he feels he has had more opportunity



Zach Kastenberg and his wife, Kelly Konopacki

than what is afforded in most programs, to work on some exceedingly complex and interesting cases. He's operated with Michael Rollins, MD, Director of the Colorectal Center, on many rare conditions including two patients with Currarino syndrome where a triad of sacral agenesis (abnormally developed lower spine), anorectal malformation and a presacral mass, can cause a multitude of problems, often only repaired with surgery. In addition he has completed multiple liver resections with Rebecca Myers, MD, chair of the national Children's Oncology Group Liver Committee, performed complex esophageal replacements with Eric Scaife, MD and Doug Barnhart, MD, and observed the impressive evolution of the Utah Fetal Center under the direction of Steve Fenton, MD. He explained that Utah's high birth rate, Primary Children's' broad geographic catchment range, and U of U attending physicians who are willing to collaborate and have him work with them on their cases, is giving him some of the best training in pediatric surgery offered in the nation.

He and his wife, Kelly Konopacki, a faculty member in the department of psychiatry, enjoy living in the Avenues where they have ready access to the Shoreline Trail. They also enjoy nordic skiing at Solitude, cooking together and entertaining friends. After his ten years of training, and especially the fellowship training he's received at the University of Utah, he feels very well prepared to begin the next stage of his life as a pediatric surgeon.

-Kristin Wann Anderson



THE ACCIDENTAL MEDICAL ST

Growing up in Salt Lake City, Hank Shipman had one great love—alpine skiing. He attended Rowland Hall-St. Mark's school and skied with the Rowmark ski team, competing in downhill and the Super G. He attended school in the morning and skied in the afternoon, traveling most weekends around the west to compete. He skied 100 plus days a year and planned to delay college for a few years to continue to ski competitively. Then in April 2011, just as he was turning 16, things changed in an instant. Returning from a race with the Rowmark ski team to Mt. Hood, Oregon, the van he was a passenger in was in a head-on accident. Most of the students, even those with broken arms and legs, were able to get out of the van, but Hank, and the Rowmark coach, Scott Veenis, were trapped. It took 47 minutes before the Jaws of Life could cut them free. Hank was severely injured, with a spinal fracture to his neck at levels C3-6, spinal cord damage at C4, a broken scapula, a seriously lacerated skull, brain trauma, and a compound fracture of his femur.

He was life-flighted to Portland where he had surgery and his neck was fused. After ten days he was stable enough to transport. A teammate's mother, Tiffany Glasgow, a pediatric in-patient physician at Primary Children's Hospital, flew to Portland to assist with his transport back to Primary Children's Hospital in Salt Lake City.

His spinal cord was damaged, with some significant paralysis. Fortunately, after about ten days, he began to get some movement back on the right side of his body, and then gradually more feeling back on his left side too. He first wiggled his left fingers 20 days after the accident. His injury caused bilateral

neurological changes, with motor weakness on the left side of his body and sensory changes on the right, manifested by the absence of pain and temperature sensation. After completing three months of healing and inpatient rehab at Primary's, he returned to school and every afternoon went to Neuroworx, a nonprofit outpatient physical therapy clinic in Sandy. Neuroworx was co-founded in 2004 by Dale Hull, MD, '85, a former School of Medicine Board President, after his spinal cord injury in 1999 prevented him from continuing his OB/Gyn medical practice. Neuroworx focuses on intensive neurological rehabilitation for individuals experiencing paralysis from spinal cord injuries, brain injuries, stroke, and other neurological conditions.

Over seven months Hank progressed from a wheel chair to walker, to crutches, to one crutch and eventually to walking on his own. He continued his 4-5 days a week rehabilitation schedule for three years at Neuroworx, and feels some of the technology and therapies provided there were crucial for his recovery. He now can walk with a quite normal gait, though he still has weakness on his left side, and minimal feeling on his right side. He has returned to skiing and rock climbing, the things he loves, while continuing to work on his strength, balance and coordination.

He credits the success of his recovery to good luck, Neuroworx, his youth, his great conditioning as a ski racer, his work ethic, from his many years of ski racing training, and the support of friends and family in the Salt Lake community. Still, it took him a good year to accept the fact that he'd not be able to return to competitive skiing, so he needed to find another focus and passion for his future.



UDENT

Prior to his accident, Hank had channeled all his energies into ski racing and competition and had never particularly liked the sciences and had not ever considered a career in medicine. A few things began to change his focus. First, Dr. Glasgow, who had flown up to Portland to assist him right after the accident, became a mentor. She impressed him with her work with patients. Secondly, fueled by his own experience with other healthcare providers, both inspiring and frustrating, he believed his own experience could be a way of helping others. He turned his energies towards academics and a new goal of becoming a physician. Handicapped not only by his spinal cord injury, which

took him out of school for a significant length of time, but also his brain trauma, which reduced his mathematical level early on to first grade math, he worked hard to recover from both his physical and mental injuries.

Because he was frustrated by how little is still known about spinal cord injuries; why some people recover as well as he did, and others, with nearly identical injuries, don't, he began looking for a college degree that would help him better understand his own injuries, and those of others. He chose a program at the University of Michigan called Human Movement Science, with its three foci on, motor control, biomechanics and exercise physiology. Upon graduation he took a year off to teach English for six months at an elementary school in Salt Lake City and spend three months working on a biological conservation site in the Ecuadorian rainforest before he applied to medical school. He also volunteered at Primary Children's Medical Center Neuro Trauma Unit (NTU) a year after his injury and at Neuroworx as he applied to medical school.

Although he had other opportunities for medical school, as soon as he was accepted at the University of Utah, he knew it was the place for him, both because of family and friend support, and because he felt he could build

the best network of mentors, since many of the faculty had treated him after his injury.

He currently thinks about specializing in physical medicine and rehabilitation (PMR) primarily because of his personal experiences as well as the influence of Tiffany Glasgow, Dale Hull, physical therapist, Jan Black. and the nursing staff in the NTU. But he hasn't ruled out pediatrics, or a combination of pediatrics and PMR. Regardless, his primary goal is to work in a specialty that focuses on working as a team, has longitudinal patient care, and where the patients are passionate about getting as much from what medicine has to offer as possible.

He has started his second semester and is very impressed with the support afforded students both academically and personally with the numerous wellness programs available to help them deal with the inherent stress and long hours of medical training. He is excited about his future and thankful for all he has learned. He feels that if not for the accident, he wouldn't have chosen medicine, but now sees a clear path to a career which will be both challenging and rewarding.



A SILENT SENTINEL

by Dannen Wright, MSIV

As I did my first newborn exam today, it hit me. How you were supposed to be. A healthy baby, likely colicky, but nevertheless loved by your family. You should have been interactive with your primitive reflexes still intact, maybe even making a student chuckle with your Moro reflex just like this little one did for me today. Your clavicles and ribs should have been growing, not healing multiple fractures. Your skin should have only displayed the benign lesions we expect, not the numerous ecchymoses we only discovered well into your hospital stay because you came to us in a medical papoose instead of swaddled like your successor.

You haunt me. You've been following me, largely without notice, around the halls of Primary Children's Hospital and even venture home with me. Yet you must always be in my periphery, for you slip into my thoughts frequently now, always leaving melancholy in your wake. I know how much skill this takes, because I, too, do my own slipping in.

I slipped into the trauma bay for the first time that day and shadowed the hoard into the CT reading room to watch Neurosurgery quickly scroll through your scans whispering phrases like globally hypoxic, diastatic fractures, and finally non-operable before brusquely leaving. I slipped behind my fellow as he was leaving the ED and listened as his only reply to police questioning was "his [your] injuries are not consistent with the mechanism from the history." Joining you in the elevator was too obvious, so I slipped through the back stairwells and hallways into your PICU room behind the procession of intensivists, surgeons, and support staff.

I was the silent sentinel to everything that happened to you that day. I watched them take blood and transfuse blood. I witnessed a fellow futilely try to place a central line for two hours before the attending took over, only to take another. I listened as your mother told the police that it was her first day back to work from maternity leave and she had called your father to ensure he was up to drive your brother to school but discovered he had overslept. Everything was running late. It wasn't your fault. I do not know what triggered your father's final episode of abuse, but I hope it was mercifully fast. You did not deserve this.

You became my own private sadness when you slipped in, because the rest of the team quietly continued on, expressing anger with words, but not tone, for those that commit these atrocities against children. But I obsessed about you. I read your chart innumerable times, hitting refresh hoping to see new updates. I eavesdropped on conversations with specialists hoping for mention of you. I compulsively scrolled through your imaging and retinal scans for hours, mentally cataloguing every abnormality. Primary is supposed to serve as a presidio, protecting children like you from disease and death. Our system failed you; someone here had to bear witness to your life.

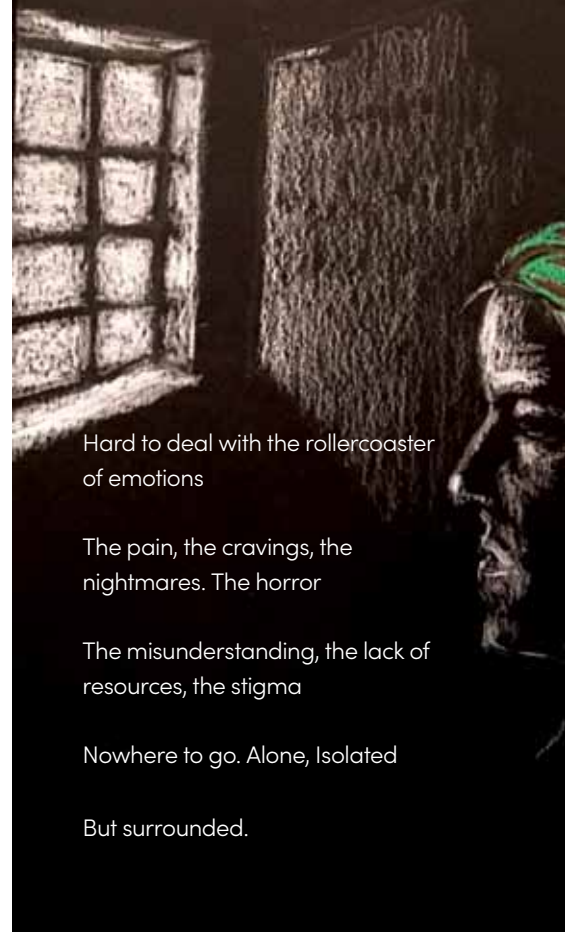
The closest to true enagement I saw on our service was your attending aggressively lecturing me a few days later on another suspected non-accidental trauma case, "Don't belittle it into something more palatable. It's like calling rape 'non-consensual sex.' It's absurd. Call it what it is. Child abuse." I wonder will all your future unfortunate comrades join you until I have a small phalanx as my shadow urging me to call it by its true name?

Maybe you're not always in my periphery, little one; perhaps you're a part of a brigade that follows him, slipping occasionally into his thoughts as well.



THE PSYCH WARD

by Ketevan Amirkhanashvili, MSIV



Hard to deal with the rollercoaster of emotions

The pain, the cravings, the nightmares. The horror

The misunderstanding, the lack of resources, the stigma

Nowhere to go. Alone, Isolated

But surrounded.



BEFORE WE WERE SICK

by Phoebe Draper, MSI

Phoebe Draper is a member of UUSOM Class of 2021. She majored in oil painting at Brown University and believes that both the best doctors and artists know how to look closely.

Ketevan Amirkhanashvili is a member of UUSOM Class of 2019. She was born in the Republic of Georgia and emigrated to the US when she was 6. She received a BS from the University of Utah in Biology. Outside of school you can find her hiking the Rocky Mountains, painting and trying new cuisines.

Dannen Wright is a member of UUSOM Class of 2019. She holds a BS in Biology and will be going into pediatrics. In her spare time, you can find her devouring novels or emulating the Barefoot Contessa by making dinner (with dessert!) for her friends.



Rubor is the medical humanities and arts journal at the University of Utah School of Medicine. This publication is run by medical students, and submission is open to all. To see the current Rubor and past editions go to www.rubor.med.utah.edu

THE PHYSICIAN ASSISTANT STUDIES PROGRAM TEAMS UP WITH RURAL COMMUNITY PARTNERS



On August 28, 2018 students, staff, and faculty from the Division of Physician Assistant Studies (PA) in the Department of Family and Preventive Medicine traveled to Hildale, UT, a small town in southern Utah, to host a one-day medical outreach event with other community partners.

“I am new to the division,” said Dr. Trenton Honda, PhD, PA-C, Associate Professor and the new Physician Assistant Studies Division Chief. “This was my first opportunity to participate directly in the mission of UPAP, and the dedication and altruism I witnessed from faculty, staff, and students alike was humbling.”

Richard Bennett, PhD, PA-C, Associate

Professor in the Physician Assistant Studies Program and clinic event coordinator, identified the needs of the Hildale community and worked with local community leaders and PA partners at Intermountain Healthcare and Dixie State University to organize a multi-specialty health fair with an eye on providing culturally sensitive dental, eye, and medical exams for the children of Hildale. To facilitate this, Dr. Bennett arranged for participants to take a tour of the town, learn about its recent history, and, perhaps most



importantly, develop the cultural competence necessary to provide compassionate care.

Hildale, UT, formally known as Short Creek, is an area of southern Utah and Northern Arizona that was settled in 1935 by a group from the Council of Friends. This isolated location allowed the group to continue the outlawed practice of polygamy. In 1953 the governor of Arizona sent troops into the settlement to stop polygamy. A two-year legal battle ensued that proved to be a political disaster and led to a hands-off attitude toward the community.

The area continued in relative isolation for the next 50 years. Leadership change in the church resulted in a series of policies and practices that destroyed families and resulted in significant trauma to the local population. The trauma the community went through is considerable, including separation of parents, children, and siblings, forced malnutrition, lack of safety, and reduced opportunity for basic education. Women and children

in the community witnessed violence with numerous and ongoing reports of sexual assault. Recent changes in the political landscape allowed for outside intervention in the community at a significant level for the first time.



Throughout the course of Saturday's outreach event, the Physician Assistant Studies program and its community partners provided:

- 101 fluoride treatments
- 120 pre-participation sports physicals
- 60 eye exams
- 59 adult screenings for hypertension, diabetes, substance use disorder, and mental health
- Donation of more than 100 children's books

This special event would not have been possible without assistance from Richard Backman, MD; Richard Bennett, PhD, PA-C; Jennifer Forbes, MHS, PA-C; Melissa Husebye; Karen Winningham; Jacqueline Murray, MPAS, PA-C; Jared Spackman, MPAS, PA-C; the St. George UPAP students; and our community partners.



MACULA SOCIETY HONORS TWO MORAN PHYSICIAN-SCIENTISTS

One of the most prestigious invitation-only groups in the international retinal field, the Macula Society is focused on new research in retinal and macular diseases.



Paul S. Bernstein, MD, PhD

Paul S. Bernstein, MD, PhD, delivered the Macula Society's 2019 W. Richard Green Lecture in honor of work that has helped explain the pathogenesis of retinal diseases. Bernstein is Moran's director of clinical research and associate director of basic science research. He specializes in age-related macular degeneration (AMD); inherited retinal and macular dystrophies; and surgical treatment of vitreoretinal disorders. His latest research focuses on the genetics and imaging of macular telangiectasia type II. The lecture was delivered at the 42nd annual meeting of the Macula Society on February 13-16 in Bonita Springs, Florida.



Mary Elizabeth Hartnett, MD

Mary Elizabeth Hartnett, MD, received the Macula Society's 2019 Arnall Patz Medal for outstanding contributions in the study of retinal vascular diseases. An internationally recognized leader in retinal research, Hartnett is director of Moran Eye Center's Pediatric Retina Center and has made valuable contributions to increase awareness of, and improve treatment for, pediatric and adult retinal conditions throughout the world. Funded by the National Institutes of Health, she is a sought-after research collaborator and a care innovator who has greatly expanded pediatric ophthalmology services at Moran and Primary Children's Medical Center. She received the award during the annual Macular Society meeting in February.

Hartnett will also be joining the editorial board of the venerable American Journal of Ophthalmology, a monthly peer-reviewed medical publication established in 1884.

UNIVERSITY OF UTAH HEALTH AWARDED PRESTIGIOUS NIH GRANT STUDYING EARLY ORIGINS OF HEALTH AND DISEASE



Top Row Left to Right:

Robert Silver MD - OBGYN, Joseph Stanford MD - DFPM, Douglas Carrell PhD - Andrology, Michael Varner MD - OBGYN, Jason Atuaia OGRN

Middle Row Left To Right:

Kathy Harvey - OGRN, Joe Letourneau MD - OBGYN: REI, Megan Link MD - OBGYN: REI, Sarah Berga MD - OBGYN: REI, Laurie Leshner RN - Peds, Denise Lamb RN - OGRN.

Bottom Row Left to Right:

Karen Schliep PHD - DFPM, Elizabeth Woolsey - OGRN, Matthew Peterson MD - OBGYN: REI, Marie Gibson - OGRN

University of Utah Health is one of three sites in the nation to conduct a seven-year, multiple-million dollar, multi-disciplinary contract with the National Institute of Health. The U is partnering with the Eunice Kennedy Shriver National Institutes of Child Health and Human Development (NICHD) internal group for a series of studies focusing on improving population health throughout the life course surrounding fertility, pregnancy and the fetal origins of adult disease.

The NICHD established the Division of Intramural Population Health Research to improve population health from birth to death by maximizing health and preventing disease. Research has focused on various population subgroups, with an emphasis on early origins of health and disease. A significant proportion of the focus is on fertility, pregnancy and childhood development. There is an emphasis on at-risk populations including racial-ethnic minorities, individuals with obesity, disabilities or chronic diseases, and poverty. The project will involve a series of studies aimed at issues relevant to reproductive and childhood health.

The first study, led by Dr. C. Matthew Peterson, will assess if infertility is a general marker of health, and if there are subtle underlying health issues or environmental issues which increase a woman's inability to become pregnant or carry a child to term. Past studies have shown that women with inflammation have problems becoming pregnant. The study will assess whether treatments for

inflammation can improve fertility. 1,800 women nationwide (600 at Utah) will be divided up into three study cohorts: women taking a low dose aspirin and a statin, both of which reduce inflammation, women taking aspirin alone, and a placebo group. The fertility rates and pregnancy outcomes will be measured. The second study, led by Dr. Bob Silver, will start in about a year and will evaluate the effects of maternal and paternal mental health on pregnancy outcomes and childhood development.

The Utah Center consists of the Utah Center for Reproductive Medicine as well as the five referral hospitals: (University of Utah Hospital, Intermountain Medical Center, LDS Hospital - Salt Lake City, UT; McKayDee Hospital Center - Ogden, UT; Utah Valley Regional Medical Center, Provo, UT). The UCRM and the five hospitals coordinate care for the majority of fertility and high-risk perinatal referrals from the northern portion of the Mountain Time Zone. This significant referral base for fertility patients and high-risk deliveries has been of great value to numerous previous studies. This Obstetrics and Gynecology Research Network has extensive experience in fertility enhancement, preconception counseling, pregnancy, and post pregnancy outcome management and follow-up. This project is truly a multidisciplinary effort! Multiple departments throughout the UHealth system are collaborating including urology, pediatrics, hospital operations, perinatal epidemiology, psychiatry, population health sciences, family medicine and dentistry.

To learn more about the study, contact: startfertility@hsc.utah.edu

JOSÉ E. RODRÍGUEZ, MD TAKES THE REINS AS INTERIM ASSOCIATE VICE PRESIDENT FOR HEALTH EQUITY AND INCLUSION



In August, 2018 José E. Rodríguez, MD was appointed interim Associate Vice President for Health Equity and Inclusion. Dr. Rodríguez will be filling the role vacated earlier in 2018 by Dr. Ana María López. Dr. Rodríguez is a professor within the Department of Family and Preventive Medicine. He has an impressive background in diversity work within the health care arena.

While at the University of Utah, Dr. Rodríguez has taken a strong role in advancing the institutional goals for health equity and inclusion. Within his department, he has served on the diversity committee, as well as various recruitment committees, supporting focused recruitment of underrepresented ethnic and racial minority faculty and residents. At the institutional level, he has served as a member of the Core Collaborative for the Office of Health Equity and Inclusion. He has represented the university, presenting at national conferences on our work and his research on diversity initiatives.

Prior to his appointment at the University of Utah, Dr. Rodríguez served as the co-chair of the Council on Diversity and Inclusion and the co-director for the Center for Underrepresented Minorities in Academic Medicine at Florida

State University College of Medicine. He is an accomplished academic, publishing numerous articles on the importance of URM in academic medicine.

Dr. Rodríguez is looking forward to capitalizing on the tremendous work that has already been done at UHealth, and is eager to build on those efforts to move toward a more diverse campus for health sciences students and faculty.

TRENTON HONDA, PHD, PA-C WELCOMED AS NEW DIVISION CHIEF OF PHYSICIAN ASSISTANT STUDIES



The Department of Family & Preventive Medicine is pleased to welcome Trenton Honda, PhD, PA-C as the Chief for the Division of Physician Assistant Studies and as an Associate Professor on the lecturer track.


"As our department's Physician Assistant Studies program continues to grow with the recent addition of students at the St. George campus and the expanded research footprint of our faculty, Dr. Honda's credentials and achievements make him an exceptionally capable leader to join our department in this role," said Dr. Kola Okuyemi, Chair of the Department of Family and Preventive Medicine.

Dr. Honda comes most recently from Bouvé College of Health Sciences at Northeastern University in Boston, Massachusetts where he served as program director for the Physician Assistant Program. Dr. Honda brings a track record of scholarship and education program leadership. His major research interest is identifying and quantifying risk factors of cardiovascular disease. His work is concentrated on the quantification of the associations between air pollution exposures and a number of burgeoning and novel

clinical conditions that may be causal intermediaries between environmental exposures and cardiovascular outcomes.

Dr. Honda received his PhD in 2016 from Northeastern University in Environmental Epidemiology. He received a Masters of Medical Science from St. Francis University and a Physician Assistant (PA) Certificate from Moreno Valley College in Moreno Valley, CA.

CHAN-ZUCKERBERG INITIATIVE AWARDS JASON SHEPHERD, PHD \$2.5M TO STUDY ALZHEIMER'S DISEASE



Jason Shepherd, PhD, assistant professor of Neurobiology and Anatomy at University of Utah Health, is one of 17 recipients of the inaugural Ben Barres Early Career Acceleration Award from the Chan-Zuckerberg Initiative.

The Chan-Zuckerberg Initiative was founded by Mark Zuckerberg, CEO of Facebook, and his wife Pricilla Chan to provide new solutions to human disease. A major goal of the initiative is to bring new people with innovative ideas that solve intractable problems, in this case neurodegeneration.

"This is a tremendous honor for Jason, who is highly deserving," said Monica Vetter, PhD chair of the Department of Neurobiology and Anatomy. "One of the intriguing aspects of the CZI award is the focus on establishing collaborative networks that bring new people to the field of neurodegeneration research. Jason brings exciting new ideas together with an enthusiasm for working collaboratively on challenging problems."

The Shepherd lab will receive \$2.5M over five years for the project titled Viral-like Mechanisms of Intercellular Communication in the Pathology of Neurodegeneration. Their work will explore new molecular mechanisms that may play a role in Alzheimer's disease.

"The Chan-Zuckerberg Initiative is looking for ideas that are out of the box to understand the science behind neurodegeneration," said Shepherd. "For me what is most exciting is this award gives my lab the freedom to pursue high-risk ideas that depart from the typical approach to Alzheimer's disease." Alzheimer's disease is marked by a slow, unforgiving marathon of memory loss. Shepherd is looking for molecular mechanisms that cause neurons to malfunction that predates cell death and the progression of disease.

"By the time most patients are diagnosed with dementia it is too late," Shepherd said. "We need to be able to diagnose early and hopefully do it in an easy way."

His lab is focusing on a particular neuronal gene, Arc, a master regulator that keeps synapses malleable and memory logged. Previous work has shown this gene is turned on when you learn. It has also been linked to Alzheimer's disease.

Shepherd believes Arc may play a critical role in our neurons' garbage disposal system. This system is important because if toxic proteins accumulate in the cell, the neuron dies. Arc may draw from its fascinating origins as an ancient retrovirus to perform this function. It uses its retroviral ability to create capsids, or cocoons, to trap toxic proteins to be removed from the cell. Shepherd's lab will explore the gene's roles in the removal or build-up of toxic proteins in neurons and the progression of Alzheimer's disease.

"The holy grail is to find a marker, like Arc bound with toxic proteins, in the blood that could be used as a diagnostic of the disease," Shepherd said.

In addition, Shepherd wants to leverage the volumes of research on HIV, another retrovirus, to identify new ways to target the protein cocoon created by Arc to find new therapies for Alzheimer's disease.

"We are concentrating on Alzheimer's disease, because we already know that Arc is involved in disease pathology," Shepherd said. "However, I think our results could potentially apply to other neurodegenerative diseases (Parkinson's disease and ALS) that also result from the accumulation of toxic proteins or RNA."

Shepherd says the intellectual freedom he has experienced at University of Utah Health, to follow the intriguing leads in science, no matter how risky, has contributed to the success of his early studies.

The Ben Barres Early Career Acceleration Award awards are administered through the Neurodegeneration Challenge Network, which brings together experimental scientists from diverse research fields — neuroscience, cell biology, biochemistry, immunology, and genomics — along with computational biologists and physicians, to understand the underlying causes of neurodegenerative disorders.



TRAINING THE NEXT GENERATION OF DOCTORS IN PRECISION MEDICINE

Claire Lu, MSII

People turn to direct-to-consumer genetic test kits for a variety of reasons: to answer questions that family are unable to provide, to understand the genetic underpinning that makes you unique, or just sheer curiosity. But what do you do when the results arrive in the mail?

It may only seem natural to trek to your doctor for an explanation. Surprisingly, one breast cancer study found that many physicians lack the genetic knowledge to interpret results. Often, results lie between the guideposts of disease-causing and benign (variants of uncertain significance). When a readout is not clear cut, it is more challenging to formulate evidence-based health care decisions.

Medical schools are aware of this short-coming and many institutions are beginning to develop courses to enhance physician understanding of genomics. To accomplish this goal, University of Utah Health established the four-year Certificate in Personalized Health Care in 2012 to help the next generation of doctors develop the skills needed to practice medicine in the era of genomics.

"I think the certificate is to my medical degree like a minor is to an undergraduate student," said Chad Hilton Webb, a first year MD/PhD student enrolled in the certificate program. "It shows that I sought out and developed additional skills during my education."

Personalized health aims to shift medicine from a one-size-fits-all approach designed for the average patient to more targeted therapies designed to tackle the genetic variation unique to a specific patient. This innovative approach takes into account each individual's genes, environment, and lifestyle.

"Physicians are seeing patients with genetic disease but few have the specialized skills to interpret genomic information, much less communicate this information to their patients," said Emily Coonrod, PhD, Associate Director, Program in Personalized Health at U of U Health. "We have expanded on this certificate program to train the next generation of medical

professionals to be better equipped to help patients navigate complex health care decisions."

Participants in the program obtain skills in understanding and communicating with their patients about health literacy, genome sequencing, inherited disease, and pharmacogenomics to name a few. Throughout the program, students will have the unique opportunity to work with a number of active interdisciplinary stakeholders in the Utah genomics community, including ARUP Laboratories, a national reference laboratory and nonprofit enterprise of the University of Utah, the Utah Genome Project, bioinformaticists, genetic counselors, and bioethicists. In addition, the program offers medical students hands-on genomics experience, including: communicating about direct-to-consumer genetic tests results and limitations; interpreting results of genomics-based medical tests; understanding the role of genetic counselors; understanding how drugs interact with a person's specific genetic make-up; familiarity with bioinformatics tools to interpret genomic data; evaluating patient risk for disease based on genomic information; and applying genomic technologies in an ethical, legal, and socially appropriate way.

Coonrod believes the skills developed during the certificate program will set graduates from the U School of Medicine apart from their peers as they compete for residency programs.

"This certificate program provides our students a platform that exposes them to patient stories and professionals who practice genetic medicine," Coonrod said. "We are educating the next generation of health care practitioners that will meet the needs of an ever-evolving health care system."

The Genetic Science Learning Center, at www.learn.genetics.utah.edu is part of the Human Genetics department at U of U Health. It develops content for the certificate program as well as many resources on precision medicine and genetics, which are available to the general public.

PRACTICING BOUNDARY SETTING TO COMBAT INAPPROPRIATE BEHAVIOR IN THE CLINICAL SPACE



Last fall, Amy Nicole Cowan, MD, MS (Internal Medicine) published a unique perspective piece in *JAMA Internal Medicine*. In her article, she highlights moments in the clinical arena where patient interactions have gone awry: where sexist, racist, or otherwise inappropriate comments have been made by the patient or their family members. What she has

noticed is that in moments like these, trainees and providers alike do not know how to respond to disrespectful treatment.

In her own life, Cowan has begun a practice of setting boundaries by responding directly to inappropriate comments or actions. “My message to whomever I am correcting is always the same,” she states in the article. “I care about you as a person, but I will not tolerate offensive behavior. Now let’s focus on how I can help you today.”

Her experience has led to new training for medical students and trainees to gain practical skills in responding to these situations. “I find that they easily recognize disrespectful behavior, but calling it out is still excruciating,” Cowan notes in her article.

She works within the medical curriculum to implement opportunities to role-play scenarios in informal settings. She may role-play an inappropriate behavior and ask the student to respond immediately. They then have the chance to practice setting boundaries in a professional setting, building confidence in their response.

“Boundary setting has to be practiced to become reflexive,” she notes in the article. “When we practice in a safe environment, we create muscle memory of the skills that will protect us when our white coat will not.”

Amy Cowan, MD, MS is an assistant professor in internal medicine at the University of Utah. Her main clinical practice is at the George E. Wahlen Veterans Affairs Medical Center, where she also supervises residents in training. She completed medical school at John A. Burns School of Medicine at the University of Hawaii at Manoa. She completed a fellowship in geriatrics at the University of Utah.

To read the entire article in *JAMA* go to:



“Boundary setting has to be practiced to become reflexive, when we practice in a safe environment, we create muscle memory of the skills that will protect us when our white coat will not.”



NO ONE DIES ALONE

Dying patients without friends or family by their side are no longer spending their final hours alone at University Hospital thanks to a new volunteer program.

Since July 2018, No One Dies Alone, has transformed the experience of dying for three or four patients each month. The volunteers provide the constant human connection busy hospital staff may not have the capacity to offer. “What we focus on with volunteers is being with patients rather than doing things — being a healing presence,” said Tyler Montgomery, a University Hospital Chaplain.

NODA organizers point to the fact that as no one is born alone, ideally no one should die alone. But people who are isolated from family, may have outlived their relatives or have suffered an accident while far from home do not always have someone nearby to be with them. Homeless or transient individuals are also a part of that population.

PeaceHealth, a health care system in Alaska, Oregon, and Washington, started the program in 2001 after a critical care nurse saw the need to give people respect and dignity through companionship in their final hours. A medical resident who had attended school in Oregon asked if the University of Utah could bring the program here.

The program fit with an ongoing effort to give patients more dignity at death. The Imagine Perfect Care Initiative at U of U Health paid for the PeaceHealth curriculum, and training began in Utah.

Medical students such as Brian Zenger are among those participating, which gives them a unique opportunity to learn more about the end-of-life process and spend substantial time with patients. Volunteering is different from what he expected. “The more I sat there, I realized how important it was — not for me to be sad — but to be present for the patient,” said the

25-year-old MD and PhD bioengineering student.

He tries to make the hospital room more welcoming by dimming the lights, closing the curtains and turning down the volume on the television. He’ll move a chair next to the bed and turn on a CD of ocean waves. Zenger always introduces himself to the patient — even though most are not speaking at this point — and asks what they need.

“I think this is one of the most amazing, priceless experiences I’ll have as a training clinician.”

Every volunteer has their own approach; they may adjust pillows and furniture, read aloud to patients, play soothing music or hold the patient’s hand. Volunteers are provided with a NODA bag, which includes a CD player, CDs, books of poetry and religious books. Nothing is pushed on individual patients.

Medical staff request a NODA vigil when a patient without friends or family present is in the final days of life. Volunteers, who commit to three-hour shifts, are contacted for their availability. About a dozen volunteers are currently available and more are going through training.

Zenger emphasized that the NODA program is apolitical and not advocating any particular way of dying. “Our sole goal and mission is to be present with patients during their transition from life to death, so they do not have to be alone,” he said.

NODA offers support of its volunteers, hosting quarterly meetings where volunteers can share their stories and have more closure if they were not there for the patient’s final moments.

“I really consider it a privilege to be with somebody in that time when they transition,” said Zenger, who helps coordinate the volunteers.

If you are interested in requesting a NODA vigil or volunteering yourself, contact University of Utah Hospital Social Work and Spiritual Care at: 801-581-2316 or NODA@hsc.utah.edu.

Spotswood “Woody” Spruance and Joanne Spruance establish an Endowed Professorship in Infectious Diseases

The Division of Infectious Diseases at the University of Utah is a crucial element to the health of the State of Utah. Faculty investigate and treat difficult diseases – namely; viral, fungal, immunologic, and travel and tropic related diseases – across the State of Utah and throughout the Intermountain West.

Currently, there are few resources available in the division to support the recruitment and retention of faculty.

Recognizing this need, Woody and Joanne Spruance established a new endowed professorship to help ensure the success of the division now and in perpetuity.

The Spotswood Lee Spruance and Joanne Louise Spruance Endowed Professorship in the Division of Infectious Diseases will both honor the legacy of former infectious diseases virologist, Spotswood

“Woody” Spruance, MD and will help support faculty in infectious diseases. Woody completed his fellowship

in infectious diseases at the University of Utah and was a faculty member for nearly forty years. Woody is a prolific investigator who has been the Principal Investigator on nearly 100 funded research grants and published in many high-impact publications. His research led to important discoveries in virology which have significantly impacted the standard of care for patients in Utah and across the world.

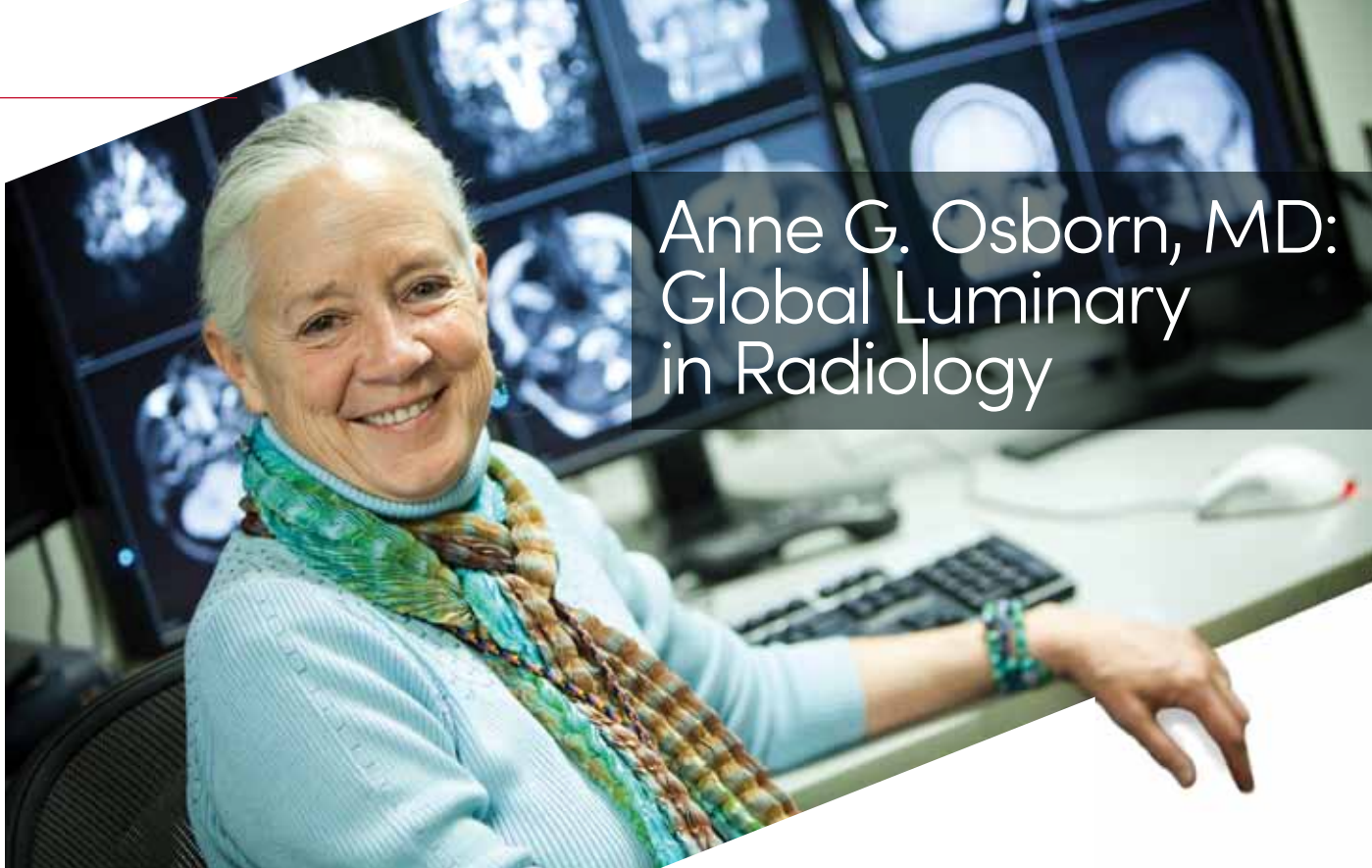
The Spotswood Lee Spruance and Joanne Louise Spruance Endowed Professorship in the Division of Infectious Diseases will not only serve as a continual reminder of Woody’s impact, but will also help support physician scientists within the Division investigating human virus diseases such as herpesvirus infections, human immunodeficiency virus (HIV) disease, influenza, hepatitis, the common cold, Zika virus, and Ebola virus infections.



Research funding from the National Institutes of Health (NIH) and private associations has become increasingly competitive. While the University of Utah has a broad base of extremely talented basic and clinical scientists, there is a need for another nationally and internationally recognized virologist working in the area of oncogenic viruses to allow us to rise to the next level and acquire the critical mass necessary to initiate additional collaborations and successfully apply for a program project through the NIH.

The Spotswood Lee Spruance and Joanne Louise Spruance Endowed Professorship in

the Division of Infectious Diseases will greatly enhance our ability to recruit such a highly talented individual. The benefits will be felt not only in the Departments of Medicine and Biochemistry, where the current virologists work, but throughout the School of Medicine, enhancing our multidisciplinary achievements and the prestige of the academic enterprise at the University of Utah.



Anne G. Osborn, MD: Global Luminary in Radiology

While cable TV viewers might fall over themselves to be near Dr. Oz, serious radiologists find themselves at a loss for words when they line up to ask Anne Osborn, MD, to sign their copies of her landmark textbook, *Osborn's Brain*. Anne Osborn is as close as you get to a celebrity in the field of radiology – not just because she's published over 20 critically acclaimed books used to train neuroradiologists around the world, but because she has a sparkling personality and a true devotion to giving young physicians and researchers a leg up.

Anne is a Distinguished Professor of Radiology at the University of Utah and holds the William H. and Patricia W. Child Presidential Endowed Chair Honoring Pioneering Utah Women in Medicine. She is also the 2004 recipient of the School of Medicine Alumni Association's Distinguished Service Award.

Anne's extraordinary dedication to providing funding for educators and researchers is one of the reasons she is beloved in her community. She and her late husband, Ronald Poelman, JD, have been generous donors to the University. They have fully funded two endowed faculty positions at the University – the Hendrik and Ella May Perkins Poelman Endowed Professorship in English and the Anne G. Osborn and Ronald E. Poelman Endowed Chair for Young Clinician Investigators in Imaging Research. In addition, she established the Neuroradiology Faculty Research Fund in the Department of Radiology and Imaging Sciences and has included a planned estate gift for the fund. Anne has been a generous donor using blended giving techniques (lifetime giving and planned estate giving).

Most recently Anne established the Anne G. Osborn, MD Endowed Chair in the Department of Radiology and Imaging Sciences which is partially funded with lifetime gifts from Anne over five years using the tax savvy IRA charitable rollover technique. She then is supplementing the fund with a planned gift from her estate to fully endow the Chair. She also has estate

gifts to establish three additional endowed faculty positions in the College of Fine Arts, in the Neurosciences, and in Neuroradiology. She was able to provide the generous planned gifts to the University by designating the University as a beneficiary on her retirement accounts which is a simple and tax efficient way to make a planned gift. Retirement assets are potentially subject to double taxation (estate and income tax) when passed to non-spouse heirs, but when donated to charity, such assets pass free of all taxation, allowing the full value of retirement proceeds to be used for the donor's charitable wishes. Anne hopes her generosity will encourage and inspire others to consider giving back to the University using similar charitable giving strategies, and she is excited to know that planned gifts will count toward the university's Imagine New Heights Campaign goal.

Anne is also a charismatic teacher. A quick search on YouTube reveals this as she demonstrates a digital radiology teaching tool called StatdX she helped to develop with fellow Utah faculty. She has had an illustrious career, notably becoming the first female president of the American Society of Neuroradiology. Her achievements have earned her the Gold Medal of the Radiological Society of North America, where she served as First Vice-President and Chair of the Research and Education Foundation Board of Trustees. She has received Honorary Membership from a number of international radiology professional societies, the Beclere medal from the International Society of Radiology, the Marie Curie Award from the American Association of Women in Radiology, and Gold Medals from the Asian-Oceanian Congress of Radiology, the Turkish Society of Radiology, and the Federation of Mexican Societies of Radiology, among many others. Her most recent accolade was to be made an honorary member of the German Society of Neuroradiology at their annual October meeting in Frankfurt. We have a true treasure in Dr. Anne Osborn – an internationally recognized role model for all academic medical professionals.

NEW BOARD MEMBERS

Robert Bunnell, MS, PA '89

Mr. Bunnell grew up in Salt Lake City. He earned his MS in Health Sciences at BYU and worked as a public school teacher and community health educator. He completed the University of Utah Physician Assistant Program in 1989 and has since worked in Family Medicine and Occupational Medicine. In addition to working at the Utah

PA Program as clinical coordinator, he launched the ARUP employee health clinic. To continue his service in physician assistant education, he started the Rocky Mountain College Physician Assistant Program in Billings, Montana.

Returning to Utah, he enjoyed clinical work at Wee Care Pediatrics and served as Executive Director of the Utah Academy of Physician Assistants. He currently serves on the Community Health Centers board of directors.

The past three years were spent serving a Church of Jesus Christ of Latter-day Saints mission in Belgium and the Netherlands with his remarkable wife, Jann. They are the parents of five children and grateful grandparents of 20.

Jeremy Chidester, MD '11

Dr. Jeremy (Jerry) Chidester was born in Chicago, Illinois, but grew up overseas in Saudi Arabia while his father practiced dentistry for the Royal Family. He moved to Salt Lake City, Utah, as a teenager, and completed high school at Bingham. He was concurrently enrolled at the University of Utah for advanced classwork and subsequently received a 4-year academic scholarship. He majored in Biology with a chemistry minor, and received an early acceptance into the University of Utah School of Medicine, where he was later inducted into the Alpha Omega Alpha society, graduating in 2011.

He moved with his family to Southern California for his six-year residency training in integrated plastic and reconstructive surgery at Loma Linda University. During his training, he was able to travel to Ruby Nelson Hospital in Jalandhar, India to help establish future mission work and to Hangzhou, China, to work with the wonderful surgeons at the Zhejiang University Children's Hospital.

After completing residency training, Dr. Chidester moved

to Los Angeles, California, where he spent one year in orthopaedic hand and upper extremity fellowship training at the University of Southern California and Children's Hospital Los Angeles. During this time, the wonderful opportunity arose to return to Salt Lake City and start his own practice in plastic and hand surgery, where he currently resides and works.

Dr. Chidester is married to his wife, Mindee, and they have three children: Tayden (9), Mylee (7), and McKay (2).

Ronald M. Larkin, MD '75

Dr. Ron Larkin grew up in Salt Lake City and married his high school sweetheart, Sally Ralphs. He graduated Phi Beta Kappa and Magna Cum Laude from the University of Utah in 1972. In 1975 he graduated from the U's School of Medicine with AOA Honors. He then completed an internship in internal medicine and a residency in obstetrics and gynecology with a fellowship in maternal fetal medicine. All of his training was at the University of Utah.

Early in his career he was on the faculty in the department of OB/GYN, but in 1986 he left academic medicine and became a partner with the Cottonwood OB/GYN group. He cared for many high risk patients and delivered 10,000 babies during his career. He was honored twice with the outstanding clinical professor teaching award by the OB/GYN residents.

In 1995 he was promoted to adjunct professor of OB/GYN at the School of Medicine. He received the James R. Scott award in the Dept. of OB/Gyn in 1999 for outstanding patient care. He served as medical staff president of Cottonwood Hospital and was on the Intermountain Healthcare Board of Trustees for the Urban Central Region for 21 years. He received the William N. Jones Trustee of Excellence Award from Intermountain Healthcare system in 2013. He retired in 2015.

Dr. Larkin is very active in his church, serving in many different capacities. He has four children, the youngest of which has disabilities requiring lifelong caregiving. He enjoys skiing, scuba diving, backpacking, and other active sports. He is happy to be on the School of Medicine Alumni Board for a second time. He also currently serves on the University of Utah College of Nursing Development Board.

Kim T. McFarlane, PA-C '98, MPAS '03 DFAAPA



Born and raised in Price, Utah, Mr. McFarlane has a lifelong love of rural Utah. After serving a church mission in Japan, he graduated with a BA in Exercise Physiology ('91). He was the first ACSM Certified Exercise Specialist employed at the University of Utah Hospital, in the Madsen Preventive Cardiology Program.

Mr. McFarlane attended the University of Utah's Physician Assistant Program, graduating in 1998. He later joined Best Practices Inc., an EMR startup and with four partners opened Draper Medical Clinic to be a model clinic and demonstrate their EMR in practice.

He completed his MPAS ('03) and subsequently spent 15 years in Community Health Centers, 12 years as the sole medical provider in the frontier communities he served. He has also provided locum tenens coverage for many providers at other small isolated clinics in Southern Utah at various points in his career. He serves on the Utah Disaster Medical Assistance Team and was deployed to Hurricane Harvey. He currently is employed with Intermountain Healthcare's Connect Care, an industry leader in Telemedicine.

Mr. McFarlane is immediate past president of the Utah Academy of Physician Assistants. He is also on the Emery County Public Lands Council and Green River Canal Company Board.

He and his wife, Cindy, have 4 children and 3 grandchildren. He spends his free time tending his small farm and riding his horses.

John Macfarlane, MD '90



Dr. Macfarlane is a neurosurgeon currently practicing at Intermountain Medical Center. He is honored to serve on the University of Utah School of Medicine Alumni Board

A graduate of the University of Utah School of Medicine, Dr. Macfarlane completed his neurological surgery residency at the University of Utah School of Medicine in 1996 where he had become the chief neurosurgery resident. He earned his board certification in neurological surgery from the American Board of Neurological Surgery in 2002. Dr. Macfarlane was Division Chief of Neurological Surgery at LDS Hospital (2004-2007) and again at Intermountain Medical Center (2007-2009), where he continues to serve on the Intermountain Medical Center Neurosurgery Spine Committee Directorship (2007-present). He has served on several other

administrative committees including the Rocky Mountain Neurosurgical Society Executive Committee.

Dr. Macfarlane's study of the neurological sciences has informed him of the sensitivity of human neurophysiological health. Since becoming a board member of Utah Physicians for a Healthy Environment in 2018, he has been actively concerned with the consequences of poor air quality on human neurophysiology, especially in regards to sensitive populations such as children and the elderly.

He has four amazing adult children and enjoys cycling and playing the piano and organ.

I. Ray Thomason, MD. HS, '79



Dr. Thomason is a senior transplant hepatologist on the U of U's transplant program, medical director of a new unique transplant outreach program, and member of the University's Value Leadership Change Group, which helps prepare the medical school and students for the future changes ahead, while

improving health care delivery.

Dr. Thomason is a native Texan. He attended Southern Methodist University, the University of Texas Southwestern Medical School in Dallas, and then completed a residency in internal medicine at the University of Utah in 1979. After a short stint at Baylor he returned to Utah to help establish the first Emergency/Trauma 1 Center at LDS Hospital and serve as the medical director on an internal medicine VA rotation specializing in alcohol withdrawal and alcohol liver disease.

He completed a gastroenterology/hepatology fellowship in 1986 and then worked to develop the first liver transplant program in Utah. In 2012 he joined the University's liver transplant team. Working with Value Engineering he learned skills to improve process flow, resulting in improved patient care and more individual satisfaction in the current EMR-driven care system. Through his value training he created a new outreach program where he partners with community physicians to deliver the highest level of care for liver disease in the community.

His extracurricular interests include being a member of the Alta Ski Patrol for 38 years, playing with the Disgusting Brothers Blues band for 34 years, coaching Utah Youth Soccer for 28 years, and raising millions of dollars for Utah nonprofits.

ALUMNI NEWS

CLASS OF 1958

Joseph H. Nelson, MD

Dr. Nelson served 11 years of active duty for the US Army at Tripler Army Medical Center and as chief of orthopedics at Fort Carson Army Medical Center and at the 249th General Hospital in Japan. He retired from the US Army as Colonel and then spent the rest of his career in private practice in Logan, UT. He and his wife, Nanette have six children and Dr. Nelson enjoys creating fancy pens as a hobby.

CLASS OF 1968

Edwin T. Aldous, MD



Dr. Aldous did his residency in ENT at Stanford, then served two years in the Army. After a brief stint on faculty at Stanford he moved to Utah and established a private practice in West Valley. He and his wife, Sydney, have five children and 25 grandchildren. His favorite memory of medical school were hours spent with John Nelson, Mike Steel and Tony Temple trying to dissect their very fat cadaver in gross anatomy.

Lawrence W. Astle, MD



Dr. Astle had a varied career in family medicine, from a clinic in Kearns, to a medical mission in Samoa, another private practice in Murray, and as a physician at the student health center at Brigham Young University. He also was very involved working in drug treatment programs, serving as medical director of Project Reality, one of the few nonprofit methadone maintenance programs in the state of Utah at the time. In his spare time he enjoys wood working and fishing.

Hugh T. Beatty, MD



Dr. Beatty spent the early part of his career in the US Navy, working as a radiologist. While working as a radiologist at the Oak Harbor, WA Naval Hospital, he delivered 200 babies! His best memory is of Dr. Hashimoto drawing his bilateral pictures on the chalkboard. He has four children, 10 grandchildren and eleven great-grandchildren.

Clyde J. Bench, MD



Dr. Bench and his wife, Carol, have enjoyed their family, education and travel. They have lived or traveled in Germany, Hong Kong, Israel, Russia, China and all European countries including the Baltic States, Poland, and the Czech Republic. He remembers fondly the great professors he had, Wintrobe, Cartwright, Tyler,

Hashimoto, Ward, Schmidt and Brizee. He appreciates his medical school friendships, especially with Ed Heyes, John Hopkin and Jerry Gardner.

George M. Bennett, MD



Dr. Bennett trained in surgery and anesthesiology at LDS Hospital and the U of U Medical Center and then worked on faculty for ten years, specializing the last two years in obstetrical anesthesiology training. From 1983-2006 he was on the anesthesiology staff at Davis Hospital and Medical Center. Since 2006 he and his wife, Marcia, have volunteered as humanitarian medical specialists in 20 emerging countries in Africa, Central Asia, Southeast Asia, Eastern Europe and the Balkans. He received his training as an instructor in maternal survival programs by Jhpiego, the international non-profit health program affiliated with Johns Hopkins University. He is thankful for the good training he received which has helped him in this second phase of his career.

Stephen Creer, MD

Dr. Creer completed his internship at LA Country Hospital and USC Medical Center and then went to Vietnam in the US Army. Upon returning he completed his general surgery residency at LDS Hospital and his emergency medicine training at Cincinnati General. He is board certified in emergency medicine and spent the majority of his career at Swedish Medical Center in Englewood, CO.

Earl L. Duke, MD

Dr. Duke served for 38 1/2 years in active duty, and as part of the National Guard and the Reserves, obtaining the rank of colonel and serving as commander of the 144th Evacuation Hospital for 14 years. He received the Legion of Merit Award upon his retirement. He felt very privileged to practice OB/Gyn, saying it was a labor of love and fulfillment. Since retirement he and his wife have served an LDS mission in Stuttgart, Germany and enjoy spending time with their six children, 25 grandchildren and 3 great grandchildren.

H. Jerry Gardner, MD



After serving as a national healthcare doctor Dr. Gardner worked as an associate professor in the Department of Family and Community Medicine at the U of U. He then served as the residency director at the McKay Hospital Family Medicine program for seven years and as the Urban North Medical Director, part of the Intermountain Physician group, for 12 years, helping build a multi-specialty group of over 100 physicians. He and

Colleen enjoy hiking, camping and golf, and he is an avid reader.

John W. Gerwels, MD



Dr. Gerwels did his post-doctoral training with Dr. Frederic Mohs at the University of Wisconsin in dermatology and spent most of his time in practice in the Lewiston, ID area. His first love is golf and his second is fishing, which he pursues in Idaho, Montana and Alaska, catching steelhead, trout and salmon and halibut respectively. He spends time in retirement with his wife, Ann Sears, in Washington and Arizona.

Val R. Hansen, MD



Dr. Hansen practiced private internal medicine for 40 years in Bountiful, UT, and then a final eight years as a part-time hospitalist at Lakeview Hospital in Bountiful. He was on active duty with the US Army in Germany from 1971-1973 and then during Operation Desert Storm as a member of the Army Reserve 328th general hospital. He has been married to Nita for 23 years and is the proud father and step father of five children. He enjoys golfing, camping and backpacking.

Edward A. Heyes, MD



Following an internship at the U of U Hospital Dr. Heyes spent a year in Western Samoa as a surgical officer at a government hospital in Moto'otua, Apia, where he received hands on training in orthopedics. He returned to the states and completed an orthopedic residency at Mass. General Hospital. He worked at St. Mark's Hospital in private practice until 1998 when he accepted full time responsibilities with the LDS church focusing on trauma, pediatric orthopedics, and knee and hip joint arthroplasty. He and Nancy have four daughters, one son and 16 grandchildren.

D. Radford Hoenes, MD



Dr. Hoenes is board certified in internal medicine and spent his career in the US Air Force in various leadership roles. During his time of service he was stationed in Germany, England and Virginia. He ended his career as Chief of Medical Services at Langley Air Force Base, Virginia. He retired in 1988 as a full colonel. His hobbies include ham radio, skiing, and BMW automobiles.

Bruce C. Irvine, MD



Dr. Irvine completed his internship and general surgery residency at Cook County Hospital in Chicago, then a fellowship at Lahey clinic in Boston focusing on biliary and pancreatic surgery. He met his wife, Rhonda, at Cook County hospital where she was a supervising nurse of the trauma unit. He spent two years in the air force at Hill Air Force Base and then practiced general surgery at Granger Medical Clinic until his retirement a few years ago. He enjoys fly fishing, skiing, golf, pickle ball and reading.

Torsten Jacobsen, MD



Dr. Jacobsen spent two years at Utah in medical school and then transferred to UC San Francisco due to family issues. He completed an orthopedics residency and then a six month fellowship in Africa and three years with the US 8th Army in Germany. The majority of his private practice was at John Muir Medical Center in Walnut Creek, CA. He's also served with SIGN Fracture Care International and Rotary International to establish health projects in Ethiopia, Uganda and Mexico. He and his Dutch wife, Tineke, have four daughters and have enjoyed traversing six continents by motorcycle.

W. Curtis Kaesche, MD



After medical school Dr. Kaesche completed an internship at University of Virginia and an orthopedics residency at Oregon Health Sciences University. After serving two years in the US Navy he practiced orthopedics in Oregon until retirement in 2002. He and his wife split their time between Lake Oswego, OR and Scottsdale, AZ. He enjoys studying history, travel and older cars.

Robert Lewis, MD



Dr. Lewis completed his training in general surgery at Lahey Clinic in Boston and then served two years in the Army Medical Corp. He practiced general surgery in private practice in Chicago for 15 years and then worked in occupational medicine both in Chicago and Las Vegas. He and his wife live in Las Vegas and have two daughters and one granddaughter. He is considering taking up golf again so he can beat classmate Bruce Irvine on the links.

Eugene J. Low, MD

Dr. Low worked as an anatomical and clinical pathologist in South Bend, IN,



Martin Army Hospital at Fort Benning and McKay Dee Hospital in Ogden. He is married to Patricia and they have six children and 13 grandchildren. He has run 12 marathons, 55 half marathons and many 5 and 10K runs. He enjoys hiking, gardening, golf, scuba, reading and travelling.

Nathaniel Matolo, MD



Dr. Matolo spent the majority of his 44 years in academic medicine at UC Davis. He is currently serving as chief of surgery and chair of the Department of Surgery at San Joaquin General Hospital. He is a member of 18 national and regional scientific societies and is widely published. He and his wife, Karen, enjoy travelling and have visited all seven continents. He enjoys golf, but admits his interest doesn't necessarily correspond to his scores.

E. Bruce Mccliff, MD



After his training in radiology and neuroradiology at Harbor General, Long Beach Veterans, and Los Angeles County hospitals, Dr. Mccliff returned to Utah Valley Hospital where he worked for 37 years. He lost his first wife, Emma Lou, after 37 years of marriage, but has now been married to Georgia for 16 years and has 13 children, 50 grandchildren, and eight great-grandchildren between them. He loves travel and golf, reading, BYU sports, cultural events and spending time with his grandchildren.

Craig H. McQueen, MD



Dr. McQueen completed a residency at the U of U in orthopedic medicine, but most of his career was in sports medicine, working with athletes. He was a team physician for the U of U from 1973 to 1990. He was the medical director for the 1984 National Figure Skating Championships and went on to serve on the US World Figure Skating Team as a team physician. He especially enjoyed his time covering the Highland High School Rugby teams from 1975-2000.

John C. Nelson MD

Dr. Nelson had a solo ophthalmology practice in West Valley City for 30 years. He enjoys playing tennis, ancestry research, travel and volunteering in a free clinic once a



week. Although he started college as a chemical engineer major, a stint in the Army National Guard, where he trained to be a medic, led him to pursue medicine. He felt Dr. Thorne, a cardiologist, was a wonderful mentor to him.

Russell J. Ord, MD

Dr. Ord completed his residency in Otolaryngology at the University of Chicago and then spent 33 years in full time practice at Salt Lake Clinic. He's enjoyed working as a leader of a special needs organization for fifteen years and receiving the Silver Beaver Award for his leadership in Boy Scouts of America. He also enjoys participating in many church activities, including serving in the Bountiful temple.



Larry V. Staker, MD

After completing an internship at the U of U and a general internal medicine residency at the USA Naval Hospital in Bethesda, MD he had a fulfilling practice in Idaho Falls for ten years. Eventually he landed in Salt Lake City on faculty at the medical school, and then working at Bryner Clinic and as a diagnostician and health care quarterback for senior leaders of the LDS church. He and his wife of 55 years, Michele, have four sons, two daughters and 22 grandchildren. They currently live in Island Park, Idaho, a place as near heaven as one can imagine.



Murray Stromberg, MD

Dr. Stromberg practiced Ob/Gyn in Boise, ID from 1975 to 1991. Then he and his wife, Kathy Teigen, moved to Washington, where he intended to retire. Instead, he returned to practicing medicine as an urgent care doctor, and did that for 15 more years. He and Kathy built their home in Yelm, WA (east of Olympia) from the ground up and enjoy maintaining their garden, trees and the wooded area around their home.

Anthony R. Temple, MD



After completing his residency Dr. Temple joined the faculty of the U of U School of Medicine. He combined his interest in pediatrics and medical toxicology, teaching general pediatrics and becoming the director of the Intermountain Regional Poison Control Center. He joined the medical department at McNeil

Consumer Products in 1979, where he was instrumental in changing the approach to pediatric dosing of over-the-counter acetaminophen and ibuprofen. He retired in 2005 as VP of Medical Affairs and now lives with his wife, Mary, in St. George, UT.

Gary M. Watts, MD



After training in diagnostic radiology, with a fellowship in nuclear medicine at UCLA Harbor General Hospital and a stint in the Air Force, Dr. Watts moved to Provo and joined classmate Bruce Mccliff in practice at Utah Valley Regional Center, where they worked together for 35 years. He has been married to Mildred for 56 years and they have six children, 13 grandchildren and four great grandchildren.

Bud A. West, MD



Dr. West completed his training in otolaryngology at the University of Oregon Hospitals and Clinics. He then served in the US Public Health Service staffing ENT clinics in Arizona, Utah and Nevada. He and his wife, Joyce, settled in Reno, NV, where he set up a solo practice. It is now a group practice of four, with his daughter joining him 14 years ago. He is still working, but in his free time enjoys tinkering with mechanical antiques, western art, travel, guns and politics.

William B. York, MD

Dr. York completed his internship and pathology residency at the Holy Cross Hospital in SLC and then took three years of graduate training in biophysics and bioengineering at the U of U. He spent the next twenty years in the army, retiring in 1995. He then worked for Litton/PRC and Northrop Grumman Corp. where he was an initial conceptual designer of the Federal Health Information Exchange.

CLASS OF 1978

Ellen Perricci, MD

Dr. Perricci spent her career at Penn State, Hershey Medical Center and the University of Michigan combining clinical psychiatry with teaching and administration. She has two grown children who have married delightful spouses. She is trying to regain her fitness from a fusion from C3-T1 so she can paddleboard. She remembers the chief resident saying to them, "THIS is IMPORTANT: there are 3 things YOU MUST NOT IGNORE: pus, piss, & hostility... Deal w/em. They do NOT go away on their OWN..."

Jeffrey M. Labrum, MD



Dr. Labrum was one of the original founders of Cottonwood Ob/Gyn in Murray, Utah and practiced for 25 years at Cottonwood Hospital, followed by 10 years at Intermountain Medical Center. He and his wife, Katherine, recently completed an LDS mission, serving as the medical advisers in the Florida Tallahassee Mission. They have 5 children and 8 grandchildren and he enjoys golf, hiking, boating/wave-running, arm-chair quarterbacking, and travel.

CLASS OF 1983

Leanne M. Rousseau, MD

Dr. Rousseau has spent most of her career as a family medicine doctor serving underserved patients in Idaho and Washington. She has also been very involved with mental health management and recently retired from the regional mental health board after 13 years of service. She is the proud mother of four boys, all married, and six grandchildren. She enjoys skiing, biking, hiking, gardening, horseback riding, karate, reading and playing with her grandkids. She has very fond memories of medical school and residency.

CLASS OF 1998

Carmen A. Nations, MD



Dr. Nations is the pediatrics and outpatient clinical director at Cherokee Indian Hospital in Cherokee, NC. She and Clay have a 13-year old daughter, Evie. When she has free time she enjoys photography, road trips, and reading. One of her fond memories of medical school was Dr. Yanowitz's cardiology rotation and going to hear his jazz band perform.

CLASS OF 2008

Dr. Emily L. Deer, MD



Dr. Deer practices as a radiologist specializing in breast imaging and early cancer detection, with a side business as an expert witness. She is currently the director of Women's Diagnostic Services at the Louisa Kellam Center for Women's Health in Sun City West, Arizona. She lives with her husband, two children and a menagerie of pets in Phoenix.

TWO PHYSICIAN ASSISTANT ALUMNI ESTABLISH ENDOWED SCHOLARSHIPS

Maggie Snyder, PA-C '79, MS '91 and David Keahey, PA-C '79, BS '83, MSPH '89 have established endowed scholarships in the Division of Physician Assistant Studies at the University of Utah.



From the mid-1980's until 2017 Maggie cared exclusively for patients with HIV/AIDS along with her physician colleague and partner, Dr. Kristen Ries. Together, they cared for these marginalized individuals when no other medical providers were willing to help meet their needs. Maggie taught the human aspect of caring for people who were afraid, alone, and struggling with the stigma of a poorly understood and devastating disease.



David Keahey served in the U.S. Army as a decorated US Army DUSTOFF flight medic, which led him to pursue his PA certificate in 1983 and then a Master's of Science in Public Health in 1989. He practiced family medicine for 24 years at the Salt Lake Community Health Centers and volunteered weekly at the Maliheh Free Clinic, caring for a diverse population of uninsured patients and precepting students. He received the 2004 Inner City PA of the Year Paragon Award from the American Academy of Physician Assistants and the 2013 Maliheh Free Clinic Compassion and Service Award. He was a Robert Wood Johnson Health Policy Fellow and now is the Director of Government Affairs for the Physician Assistant Education Association where he works on health care policy related to the PA profession.

These scholarships will be announced on March 15, 2019 for the summer semester.

FIVE FOR FIVE SCHOLARSHIPS

Five for Five Scholarships are created by making a pledge for five years of \$5,000 a year to support a medical student during their journey through medical school.

CURRENT FIVE FOR FIVE SCHOLARSHIPS

Ron Apfelbaum, MD and Kathy Murray, MD
 Sandra Buys, MD, HS, '82 and Joseph Buys
 Christopher Carlisle, MD, '98 and Jessica Carlisle
 Stephanie Carney, MD, '01 and Kenneth Carney
 William Chamberlain, MD and Linda Chamberlain
 Albert Chen, MD '84 and Vickie Chen
 Dennis Coleman, PhD '80 and Polly Coleman^
 CHG (CompHealth)
 James Freston, MD, '61 and Margie Freston
 Val Hemming, MD, '66 and Alice Hemming
 Robert Hoffman, MD, '81 and Carolyn Hoffman
 Charles Lui, MD and Ming Li Lui
 James O. Mason, MD, '56 and Marie Mason
 Michael Metcalf, MD, '95 and Jane Metcalf

James Parkin, MD '66 and Bonnie Parkin
 Marvin Rallison, MD '57 and Elizabeth Rallison^
 J. Ronald Rich, MD '64 and Linda Rich
 J. Charles Rich, MD '65 and Jasmine Rich^*
 W. Donald Shields, MD, '76 and Virginia Shields
 Thomas C. Thomas, III, MD, '84 and Nina Thomas
 Glen Tonnesen, MD '73 and Meredith Tonnesen*

CURRENT TEN FOR FIVE SCHOLARSHIPS

(\$10,000 a year for a five year pledge)
 Kent Jex, MD, '82 and Terry Jex
 Susan Meyers and John Meyers, MD '58^

*New Five for Five Scholarship ^Deceased

If you are interested in establishing a Five for Five or Ten for Five Scholarship in the School of Medicine contact Kristin Wann Anderson, Executive Director, SoM Alumni Relations at 801-585-3818 or kristin.anderson@hsc.utah.edu

IN MEMORIAM

HS 1950	George A. Kromhout, MD	Housestaff	12/8/2018
HS 1952	Louise B. Kramer, MD	Housestaff	2/2/2019
HS 1955	Herbert L. Fred, MD	Housestaff	12/30/2018
MD 1955	Robert T. Ferguson, MD	Alum	12/5/2018
MD 1960	Dennis W. Christensen, MD	Alum	1/9/2019
MD 1960	Thomas H. Ross, MD	Alum	10/7/2018
HS 1960	Farrell M. Calton, MD	Housestaff	11/2/2018
MD 1961	William T. Black, MD	Alum/Housestaff	8/1/2018
MD 1962	David A. Kimball, MD	Alum	11/30/2018
MD 1963	Thomas H. Caine, MD	Alum/Housestaff	10/6/2018
MD 1963	Donald T. Reay, MD	Alum/Housestaff	11/10/2018
MD 1964	Paul Geniec, MD	Alum	2/4/2019
MD 1964	Odell F. Rigby, MD	Alum/Housestaff	11/2/2018
MD 1965	Ronald F. Hilding, MD	Alum	10/23/2018
MD 1965	James M. Steel, MD	Alum	8/8/2018
HS 1968	Delbert G. Ririe, MD	Housestaff	12/29/2018
MD 1968	Stephen H. Maurer, MD	Alum/Housestaff	10/1/2018
MD 1972	John R. Hawkes, MD	Alum/Housestaff	12/8/2018
MD 1972	Steven E. Kammeyer, MD	Alum	11/3/2018
HS 1975	Edward C. Lewis, MD	Housestaff	10/16/2018
MD 1977	Robert C. Richards, MD	Alum/Housestaff	2/18/2019
MD 1978	Gary L. Lovell, MD	Alum	1/9/2019
MD HS 1978	James M. McGreevy MD	Housestaff	1/29/2019
MD 1981	Larry D. Stoddard, MD	Alum	8/28/2018
MD 1982	Edwin J. Neil, MD	Alum	8/2/2018
MD 1987	Welby N. Jensen, MD	Alum/Housestaff	8/30/2018

MARK YOUR CALENDARS NOW



May 1 • CompHealth Community Faculty Awards Dinner
6:00 p.m.
University Park Hotel

June 5 • Half Century Society Luncheon
11:30 a.m.
Keynote speaker
Craig Selzman, MD
Professor of Surgery and Chief of the Division of
Cardiothoracic Surgery

October 17-19 • Alumni & Medical Community Weekend



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Sharon Cahoon Metzger, PhD '99 won the drawing of the 36 individuals who correctly submitted Kathleen B. Digre, MD as the I Know You...Or Do I contest. She received a \$25 Amazon gift card from the School of Medicine Alumni Office.

A neuro-euro-ophthalmologist, Dr. Digre is a distinguished professor of neurology and ophthalmology as well as an adjunct professor of obstetrics and gynecology and an adjunct professor of anesthesia. She founded Moran's neuro-ophthalmology service and directs the Division of Neuro-ophthalmology and Headache at the University of Utah. Digre started the University of Utah Headache Clinic, which created a care pathway to improve headache treatment and streamline access for patients. She also founded and directs the Center of Excellence in Women's Health, a multidisciplinary group focused on enhancing overall health and wellness for women. She is current president of the American Headache Society.



I Know You...Or Do I?

If you believe you know the identity of the person in the photograph, send your guess to somalumni@hsc.utah.edu by May 1, 2019. We'll draw one of the correct responses and announce the winner in the summer edition of *Illuminations*. The winner will receive a gift from the School of Medicine Alumni Relations office.