

## **UNIVERSITY OF WASHINGTON SCHOOL OF MEDICINE 2013 REPORT TO THE WASHINGTON STATE MEDICAL ASSOCIATION**

Thank you for the opportunity to update the membership of the Washington State Medical Association on activities, initiatives and accomplishments at the University of Washington School of Medicine over the past academic year and plans for the 2013-2014 academic year that recently started. We greatly appreciate the partnership of the Washington State Medical Association in working toward our common goal of improving health throughout Washington.

### **2013 State Legislative Recap**

After three sessions and adopting an operating budget just one day ahead of state governmental shutdown, legislators concluded their work. The regular session began on January 14, 2013. Policymakers failed to adopt a budget during the regular session or the first special session. The second special session started on June 12<sup>th</sup> and the Legislature concluded in time for the Governor to sign a new budget one day ahead of the 2011-13 biennium close.

Policy bills passed during the regular session included:

- HB 1445 Limited rehabilitation technologies covered.
- HB 1471 Hospital infection control passed. WSHA and DOH advocated for a veto of the section calling for immediate implementation but community action caused the Governor to decide against a veto.
- HB 1679 Health information was Rep. Cody's signature legislative attempt to simplify the overlapping rules and laws governing electronic health information. Given the complexities of change in federal and state laws and practice, this legislation may need additional work in future sessions.
- SB 5434 allows OIC to collect health contracting information and protects confidentiality.
- SB 5601 protects from federal anti-kickback laws on EHR with physicians and hospitals.
- SB 5666 protects hospitals' peer review processes.
- SB 5913 (Becker) on the hospital safety net program extension was enacted upon passage of the operating budget (SB 5034) since the revenue produced is necessary. In the final budget, the state takes \$200 million and hospitals receive \$220 million.

Policy bills that did not pass during the regular session but are to be revisited in future sessions include:

- SB 5265 Transparency in patient billing
- HB 1152 Meal and rest breaks for hospital employees
- HB 1153 Healthcare employee overtime
- HB 1448 Payment for telemedicine

Budget discussions during the regular session: The two chambers passed their respective versions of the operating budgets, with the House advocating for new revenues and the Senate assuming little new revenue and reassigning funds to different programs.

Both House and Senate budgets increased Medicaid under the option provided by the federal Affordable Care Act. Both budgets also extended the state hospital safety net program with different versions of the policy legislation. This represented a major coup since the SNA had become very controversial among hospitals and WSHA has legal action pending against the State for the 2012 amendment increasing the State's share of the net, which reduced many hospital payouts. The major difference lay in the Senate, including a "ratchet-down" period of six years to termination. The final budget provided for ratcheting downward with termination of the SNA program in July 2017, which allows time for future review. This is a positive outcome for safety net hospitals.

Special sessions: With the biennium ending on June 30<sup>th</sup>, concerns increased over possible next steps if the budget was not passed in time. The Office of Financial Management (OFM) directed state agencies and public education institutions to identify in the Governor's office essential services under their jurisdiction. The Health Care Authority (HCA) announced that contracted hospitals, nursing homes and physicians should continue serving patients but without clarity about payment or payment delays.

The UW and others in higher education reported to OFM that if Olympia failed to adopt a budget for a few days after the 11-13 biennium close, it would not require immediate UW furloughs or program closures.

The Legislature passed the budget (ESSB 5034) on June 28<sup>th</sup> and adjourned on June 29<sup>th</sup>. Governor Inslee signed the budget on June 30<sup>th</sup>, one day ahead of furloughs prepared for executive agencies.

The operating budget's near-term outcomes for UW Medicine are positive:

- Medicaid expansion will proceed;
- HCA may proceed with a public hospitals' professional services supplemental program;
- The hospital safety net program's sunset date was extended to 2017, avoiding immediate cuts to safety net hospitals and the state general fund;
- The Life Sciences Discovery Fund was fully funded with \$9.5 million;

- The four-year higher education sector received sufficient appropriations to forego tuition increases (the UW's appropriation to forego tuition increases in the first year was \$40 million);
- State government shutdown or suspension on July 1, 2013 was averted.

Future challenges include Department of Health certificate of need review procedures, telehealth discussions, explorations of new ways to expand graduate medical education and implementation of the state health benefit exchange.

Thank you to all the WSMA leadership and to the WSMA lobby team for outstanding support for medical education and patient care during the legislative sessions.

## **UW School of Medicine Status**

The UW School of Medicine remains financially stable. Our clinical revenue base in UW Medicine hospitals and clinics provides vital support for School of Medicine education programs, and the research productivity of our faculty remains high.

The UW School of Medicine was ranked the No. 2 medical school in the nation for primary-care training in the annual *U.S. News & World Report* professional school rankings, as well as No. 1 in both family medicine and rural medicine for the 22<sup>nd</sup> consecutive year. The UW School of Medicine is again No. 1 in the nation among public medical schools in receipt of NIH research funding and No. 2 among all medical schools in the nation (behind only Harvard) for NIH funding.

We remain strongly committed to caring for underserved patients, an essential activity for meeting our mission of improving the health of the public. UW Medicine healthcare professionals are major providers of charity care to Washington residents.

## **Education Programs**

### *Administrative changes*

**Changes among department chairs:** **Trisha Davis**, professor of biochemistry, was named permanent chair of the Department of Biochemistry after excellent service as acting chair over the past year while a national search was conducted. **Nina Mayr** is the new chair of the Department of Radiation Oncology after a national search was conducted to identify a replacement for **George Laramore**, who stepped down to return to the faculty. Dr. Mayr left her position as professor at Ohio State University to join the UW School of Medicine faculty. **Peter Tarczy-Hornoch** was appointed chair of the Department of Biomedical Informatics and Medical Education. Dr. Tarczy-Hornoch served for 18 months as acting chair, succeeding **Fred Wolf** who stepped down in June 2011.

**Deborah Schwinn**, who served as chair of the Department of Anesthesiology & Pain Medicine, accepted a position as dean of the University of Iowa Carver School of Medicine. **Burkhard Mackensen**, professor in the department and chief of the Division of Cardiothoracic

Anesthesia at UW Medical Center, is serving as acting chair while a national search is conducted. **Paul Yager**, professor of bioengineering, stepped down as chair to return to the regular faculty. **Cecilia Giachelli**, professor in the department, is serving as acting chair while a national search is conducted.

**Academic Affairs changes:** **Anne Eacker**, UW associate professor of medicine in the Division of General Internal Medicine, was appointed associate dean for student affairs in the School of Medicine. Eacker has most recently been medical director of the General Internal Medicine Center at UW Medical Center-Roosevelt where she practices and has overseen medical student teaching. She has also served as a faculty mentor in the UW School of Medicine Colleges program.

**Regional Affairs changes:** **Rich Hillman**, Wyoming WWAMI assistant clinical dean for 11 years, retired in June. **Larry Kirven** was appointed assistant clinical dean for Wyoming, effective March 1, 2013. Kirven has long worked with UW medical students in his clinical practice in Buffalo, Wyoming. **Matt McEchron**, Wyoming assistant first-year dean, accepted a position at the University of Arizona. **Tim Robinson**, professor at the University of Wyoming and a teacher in the WWAMI first-year program, will serve as interim director while a search is conducted for a new director. **Deb Harper** stepped down as WWAMI Spokane assistant clinical dean. After a national search, **Daryl Potyk**, a faculty member in the Spokane Internal Medicine Residency Program and UW clinical professor of medicine, accepted the position and began August 1. **Andrew Turner** stepped down after 10 years as the first year assistant dean for the University of Idaho/WSU Pullman program to pursue a clinical position in California. **Joseph Cloud**, professor of zoology at University of Idaho and a teacher in the first-year UI/WSU program, is serving as interim director while a search is conducted for a permanent director.

**Diversity administrative changes:** **David Acosta**, chief diversity officer at the UW School of Medicine, accepted a position at University of California at Davis Health System as associate vice chancellor of diversity and inclusion. **Victoria Gardner**, assistant director of the Center for Equity, Diversity and Inclusion, is serving as interim chief diversity officer while a national search is conducted.

**Major faculty recruit:** UW Medicine and the Fred Hutchinson Cancer Research Center have recruited world-renowned neurosurgeon and brain cancer researcher **Eric Holland** to lead research programs on brain and other solid-tumor cancers. Dr. Holland joined UW Medicine July 1 as a professor of neurological surgery. He holds the Chap and Eve Alvord and Elias Alvord Chair in Neuro-oncology and directs the Nancy and Buster Alvord Brain Tumor Center, established in 2009 to promote, develop and coordinate interdisciplinary brain tumor care and research among physicians and scientists in a variety of fields. At Fred Hutchinson where Dr. Holland's research laboratory will be based, he will be senior vice president and director of the Human Biology Division. He joins us from Memorial Sloan-Kettering Cancer Center in New York City.

#### *Medical student update*

**Incoming 2013 class:** The incoming 2013 class is expanding by 15 positions above the 2012 number as a result of funding from the Idaho State Legislature for 5 additional positions and

from the Montana State Legislature for 10 additional positions. A total of 235 first-year positions are being filled for fall 2013.

The Washington component of the entering 2013 medical school class had 822 applicants, of whom 121 are matriculating. The ratio of Washington applicants to admissions is 5.95 to 1. Overall, 6,015 applications were received for the 235 first-year positions for fall 2013. Among all entering students, 56 percent are women. The average age in the new class is 24, and the average GPA is 3.66.

**Medical students in residency match:** Our medical students had an outstanding match for residency positions. The number of UW students who matched in family medicine residency programs held relatively steady with 36 students (down from 40 in 2012, but up from 33 in 2011 and 26 in 2010). The number of UW students matching into internal medicine also held steady, with 49 students compared with 54 students in 2012 and 42 in 2011.

WWAMI matches: Thirty-seven percent of UWSOM graduates are entering residency training programs in the WWAMI region: 74 graduates are completing residency training in Washington, five in Idaho, one in Alaska and three in Montana. Forty-four UWSOM students matched to UW programs in Seattle.

Primary-care matches: The percentage of our graduating students entering primary-care specialties this year is 53 percent, which is substantially higher than the national average of 41 percent. We are very pleased at the continued interest of our students in primary care and attribute this to a combination of admissions criteria and special programs at the UW designed to promote interest in and knowledge about primary care.

**Thank you, WSMA:** Our educational programs are unique nationally in our ongoing partnership with community physicians to train the next generation of physicians. You, along with our full-time faculty and staff, are the examples to whom our students and trainees look for their inspiration, examples and plans. Thank you for your willingness to teach and model your skills and professionalism and for passing along your commitment and passion for medicine to the next generation.

#### *Graduate Medical Education (GME) update*

**UW residency and fellowship training programs:** UW Medicine is the sponsoring institution for 93 residency and fellowship programs accredited by the Accreditation Council for Graduate Medical Education (ACGME) and for two Board-approved fellowship programs. Approximately 900 residents and 330 fellows participate in these programs each year. Internal medicine is the largest residency program with 174 positions, followed by anesthesiology (112), pediatrics (104), psychiatry (73), general surgery (62), diagnostic radiology (48) and orthopaedic surgery (40). The institution received approval for accreditation of three new programs starting July 1, 2013, in advanced heart failure and transplant cardiology, pediatric orthopaedics, and molecular genetic pathology.

The WWAMI Family Medicine Residency Network, overseen by the UW School of Medicine, consists of 20 family medicine residency programs across the WWAMI region,

including 13 in Washington. The Network trains about 400 family medicine residents, many of whom remain in the WWAMI region to practice upon completion of training. Two new programs, the East Pierce Family Medicine Residency in Puyallup and the Family Medicine Residency of Western Montana in Missoula, recently obtained ACGME accreditation and joined the Network.

UW Medical Center, Harborview Medical Center, Seattle Children's Hospital, and VA Puget Sound Health Care System are the primary training sites in Seattle for our residents and fellows, with some resident and fellow training also offered at Valley Medical Center and Northwest Hospital & Medical Center. The School of Medicine also maintains close affiliations with over 200 community-based training sites in the Seattle area, as well as with many inpatient and outpatient settings for a growing number of specialties throughout the WWAMI region.

The UW School of Medicine partners with multiple hospitals throughout the region to expand the scope of our educational programs and to develop new training affiliations. Advancing GME opportunities and building new GME programs throughout the region remain critical needs. There is a high correlation between site of residency training and site of practice. Without additional residency positions and programs, expansion of medical school opportunities will have limited long-term impact on the region's workforce. I thank those WSMA members who have worked hard on behalf of GME expansion.

**GME accreditation:** All UW School of Medicine residency and fellowship training programs are fully accredited. The institution is embarking on a new model of accreditation oversight directed by the ACGME. In the Next Accreditation System, or NAS, programs will be accountable for reporting key programmatic performance metrics to the ACGME on an annual basis. Programs will also be required to report on individual trainee performance on educational milestones on a semiannual basis. The ACGME will monitor programs, hospitals, and the sponsoring institution through a new site visit process called Clinical Learning Environment Review (CLER) visits, in which field staff observe residents in the learning environment and meet with key hospital and GME leadership, faculty and trainees.

As the sponsoring institution, UW Medicine holds a Continued Accreditation status with a five-year cycle. This very favorable status reflects the strong leadership, oversight, and administration of residency and fellowship education at the School of Medicine, primary training sites in Seattle, and training sites throughout the WWAMI region.

**Thank you to all WSMA members who are involved in residency training.**

**Residency match:** Our residency programs did extremely well in filling positions in the national match. Ninety-five percent (255/263) of available UW resident positions were filled in the initial NRMP Match and the remaining positions were filled with excellent candidates immediately afterwards during the Supplemental Offer and Acceptance Program (SOAP). All residency positions in the SF Match were filled. Ninety percent of our positions were filled with U.S. medical school seniors.

## *Educational initiatives and milestones*

**Medical school curriculum renewal update:** Our curriculum renewal planning is in full swing. As I mentioned in my update last year, two large and diverse committees set the stage for the current work: a year-long evaluation of the medical school curriculum that identified strengths and challenges, followed by a “visioning” committee that developed key principles for curriculum renewal. The resulting report established a direction for and vision of the curriculum renewal that reflects key strengths of the UW School of Medicine, including both primary care and research preeminence, ethics and professionalism, diversity and health equity, patient safety and quality, interprofessional commitment, and other areas that advance our mission of improving health.

In line with curricular trends nationally, the visioning committee called for greater curricular integration and recommended three curriculum phases: a scientific foundations phase, a clinical foundations phase, and an exploration and career focus phase. The WWAMI program will remain a foundational and vitally important part of all our activities.

**Ellen Cosgrove**, vice dean for regional affairs, subsequently charged 14 committees to develop high-level plans for those areas identified during the visioning process. The 14 committees met over a six-month period, and each developed and submitted a report with recommendations.

The recommendations, discussed at a recent retreat of the UW Medicine and School of Medicine leadership, include implementation of an 18-month basic science phase, early clinical immersion starting when students matriculate, integration across the curriculum (within and across years), greater use of active learning modalities, a consensus-based and integrated governance process, and opportunities for students to tailor their career exploration and focus in primary care, research and other areas.

The leadership was enthusiastic about the proposed new direction and Dr. Cosgrove is now charging two new committees to develop the actual structure for and competencies to be addressed in the different phases. These committees will complete their work by December, at which time development of new course content will begin.

I am very pleased with the progress made to date. Our goal is to further develop and continuously enhance the best possible curriculum to serve our students throughout their careers in medicine.

**WWAMI Spokane second-year pilot:** We are on the verge of a historic change in our WWAMI program. Throughout its 41-year history, our medical students from throughout the WWAMI region have come to Seattle for their second year of education. Starting in August, some medical students will complete their second year at WWAMI Spokane as part of a two-year pilot program. In preparation for this, hundreds of individuals from Washington State University (WSU) and the UWSOM have worked together over the past year—enlisting WSU scientists and hiring UWSOM clinicians to work with students; exporting the UW second-year curriculum to

Spokane; sharing teaching resources and learning from one another; and recruiting first-year medical students to spend their second year in Spokane.

The Spokane business community and private donors, WSU and the UW have partnered to raise the needed funding that makes this two-year pilot possible. We would not be at this point without this strong commitment of the Spokane community. WSMA members have been an integral part of this process—thank you for your support and endorsement.

As a result of this groundbreaking effort, 19 UW medical students have chosen to spend their second year at WWAMI Spokane starting in late August. Continuation of the pilot beyond the two-year period will depend on state legislative funding, as well as approval by the national medical school accreditation body. We are committed to making the second year in Spokane permanent and have teams of educators and evaluators in place to ensure outstanding outcomes for the pilot. I look forward to bringing you a progress report about the first year of the pilot.

**WWAMI Spokane to consolidate Eastern Washington first-year program:** Starting in fall 2014, pending approval from the Liaison Committee on Medical Education (LCME) accrediting agency, medical students currently based at WSU-Pullman will instead receive their training through the WWAMI Spokane program on the Spokane WSU Health Sciences campus. Currently, 20 first-year medical students train in Pullman, sharing classes with 20 first-year students from nearby University of Idaho.

Washington and Idaho are both working to expand physician workforces to address physician shortages in each state, and the Idaho State Legislature recently approved funding for five additional medical students starting this fall. Future expansion of medical student positions at the University of Idaho will require additional teaching space and teacher capacity. With students from WSU-Pullman moving to WWAMI Spokane, the needed space and teacher capacity will become available at the University of Idaho.

WSU-Pullman will continue to collaborate with the University of Idaho and WSU-Spokane in educating medical students, and Pullman will remain an active site for clinical training.

The 20 additional students to be located at the WWAMI site in Spokane will be easily accommodated with the opening of a new Health Sciences Building later this year on the Riverpoint campus. Currently, the WWAMI Spokane program trains a first-year class of 20 students per year. The move of 20 additional seats to WWAMI Spokane will expand the total number of first-year students training there to 40 students per year.

**MEDEX changes:** MEDEX Northwest, the UW School of Medicine's physician assistant (PA) training program, received federal funding to expand its training program to the UW Tacoma campus. The funding is part of a national initiative to increase educational and employment opportunities for returning military veterans and to boost the primary-care workforce in rural and underserved areas.



This funding allows the addition of 24 training slots to the UW Tacoma campus. The new Tacoma training site will join existing MEDEX sites located in Seattle, Yakima, Spokane, Wash., and Anchorage, Alaska. Bachelor's degree programs will be offered at the Anchorage, Yakima and Tacoma sites, while master's degree programs will be offered at the Seattle and Spokane sites. The Tacoma program officially began in spring 2013 with an online lead-in to later classroom instruction.

In another change, Yakima will no longer be a MEDEX site for classroom teaching, and students will move to one of three other campuses in the state. The closure of the Yakima classroom site is part of MEDEX's larger goal to centralize training sites. Students who are already partway through the program in Yakima will be able to finish their studies there, but no new students will start classroom training in Yakima after this year. Yakima will remain a training site for PA clinical rotations, with an office in Yakima to coordinate the rotations.

## **Scientific Discovery**

### *Key research initiatives*

**ENCODE:** An international team of researchers, including the UW as a major contributor, made significant progress toward compiling a comprehensive listing of all the working parts of the human genome through Project ENCODE (ENcyclopedia Of DNA Elements). The National Human Genome Research Institute of the National Institutes of Health is a chief source of ENCODE funding. **John A. Stamatoyannopoulos**, UW associate professor of genome sciences and medicine, is director of the UW ENCODE Center and a senior author on seven ENCODE-related papers.

The ENCODE project is leading to new understanding of how genes turn on and off, which is vital to deciphering their role in both normal health and disease. The project found that the instructions for how genes are controlled are contained in small DNA 'switches' scattered around the 98 percent of the genome that does not contain genes. Mapping and decoding these instructions is a central mission of the ENCODE project and the focus of work at the UW ENCODE center.

Data generated in this project so far have already shown, for example, that common DNA variations in the gene-controlling switches can affect the risk of developing different common diseases. This finding, together with emerging information about the basic mechanisms of gene control, is opening new vistas on preventing, diagnosing, and treating disease.

**The Global Burden of Disease Study 2010** (GBD 2010) is the largest-ever systematic effort to quantify levels and trends in the world's health problems. It describes the global distribution and causes of a wide array of major diseases, injuries, and health risk factors. GBD 2010 was a collaborative project led by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington under the leadership of **Chris Murray**, IHME director. The findings were published in *The Lancet*, the first time the journal has dedicated an entire triple issue to one study. The study, funded by the Bill & Melinda Gates Foundation, involved more than 300 institutions worldwide in 50 countries with 486 authors. The data and scientific papers provide a

new platform for assessing the world's biggest health challenges, and then finding the best ways to address them.

The study reveals massive shifts in health trends around the world since 1990, the starting point of the first Global Burden of Disease Study. Since that time, the world has grown considerably older. While infectious diseases and childhood illnesses related to malnutrition were once the primary causes of death, now children in many parts of the world – outside of sub-Saharan Africa – are more likely to live into an unhealthy adulthood and suffer from eating too much food rather than too little.

The GBD data show that health burden is increasingly defined by what is making us sick rather than what is killing us. The largest contributor to the world's health burden used to be premature mortality – driven by more than 10 million deaths in children under the age of 5 – but now the disease burden is caused mostly by chronic diseases and injuries such as musculoskeletal disorders, mental health conditions, and injuries. This burden intensifies as people live longer.

The GBD 2010 data base will continue to generate new information over the coming years. It is freely available for public use on the IHME web site at <http://www.healthmetricsandevaluation.org/gbd>.

I urge all of you to explore this profound source of information that will change policy and underscore successes and new challenges far into the future. Viewers can review and explore data nation by nation.

**Duplex sequencing:** The 'simple' idea of two young UW researchers may lead to reduced error rates in DNA sequencing and eventually better treatment and diagnosis of cancer. As post-doctoral fellows in **Larry Loeb's** laboratory, **Michael Schmitt** and **Jesse Salk** proposed that by reducing the error rate in DNA sequencing, researchers could better pinpoint which cells are mutating. This improvement could lead to early diagnosis of cancer and better treatment plans once researchers know which cells will be resistant to chemotherapy.

Drs. Schmitt and Salk, recent graduates of our M.D.-Ph.D. program and currently UW residents in internal medicine, conceived a method to reduce the error rate by independently tagging and sequencing each of the two strands of a DNA duplex. Their work stems from the start of 'next generation sequencing' that allows researchers to sequence billions of nucleotides at a time – but heretofore impeded by high error rates.

Because the two DNA strands are complementary, true mutations are found at the same position in both strands. Drs. Schmitt and Salk proposed that if both strands of DNA are sequenced, a mutation in one strand and not the other would identify an error in sequencing rather than a true mutation.

The results of their hypothesis and subsequent research testing the approach were published in the *Proceedings of the National Academy of Sciences*. When Dr. Schmitt and another postdoctoral fellow, **Scott Kennedy**, tested the approach through several methods, they

found that the duplex sequencing methodology yielded mutation numbers that closely matched expected numbers and were significantly closer to known or suspected mutation rates than conventional sequencing methods.

The group hopes to use the approach to test the hypothesis that Dr. Loeb, professor and director of the Joseph Gottstein Cancer Research Laboratories in the Department of Pathology, generated in the 1970s that the mutation rate in early tumor development is much greater than that for normal cells, which enables rapid accumulation of later mutations.

*Major new research awards:*

The following are a few of the many new research awards received by UW Medicine faculty and staff this past year:

- The UW received nearly \$10 million from the U.S. Department of Defense to continue a project aimed at building a small, paper-based device that could test for infectious diseases on-demand in areas where diagnostic capabilities are limited. The cooperative agreement awarded to the UW and its partners – General Electric Co. Global Research, Seattle-based Epoch Biosciences Inc., global health nonprofit PATH, and Seattle Children’s – will fund researchers to build a prototype of the device, which could be as small as a deck of playing cards and would work much like an over-the-counter pregnancy test. **Paul Yager**, professor and former chair of bioengineering, leads the research.
- A national resource for predicting the efficacy of potential AIDS vaccines is being established at the UW. The new functional genomics laboratory aims to measure vaccine responses at a molecular level and discover markers that may be prognostic in assessing if a vaccination will protect against HIV. The National Institute of Allergy and Infectious Diseases of the NIH announced the award of a five-year, nearly \$15 million contract, including the exercise of all options, to the UW for the Nonhuman Primate Core Functional Genomics Laboratory for AIDS Vaccine Research and Development. The lab will apply leading-edge biotechnology, biocomputing tools and systems biology approaches to conduct this service. The principal investigator is **Michael Katze**, UW professor of microbiology who pioneered systems biology to understanding immune responses to infections.
- **Elizabeth M. Swisher** was recently awarded three grants to continue her research on ovarian cancer. Dr. Swisher, UW professor of obstetrics and gynecology and an adjunct professor of medical genetics, is medical director of the Breast and Ovarian Cancer Prevention Program at the Seattle Cancer Care Alliance. These grants from the Department of Defense and the Ovarian Cancer Research Foundation — which total about \$2.6 million over the next three years — will allow her to extend her current studies to investigate clinical applications in order to personalize therapy for women with ovarian cancer.

- The Military Order of the Purple Heart Service Foundation (MOPHSF) and the UW Medicine Division of Pain Medicine are joining forces to assist veterans with treatment for post-traumatic stress, traumatic brain injury, and acute and chronic pain. MOPHSF, a membership organization comprised of combat-wounded veterans and recipients of the Purple Heart, awarded the Division of Pain Medicine a five-year \$500,000 grant to develop leading-edge technologies that will help improve care for our veterans suffering from these conditions. The funding will also support provider education and training, clinical care guidelines and outcomes-based research. Together, these will equip healthcare providers with the tools necessary to reduce the risk of veteran suicides and deaths, caused in part by accidental overdoses of opioids. **David Tauben**, UW clinical associate professor of medicine, is interim chief of the Division of Pain Medicine.

*Research highlights from the year:*

- **Russell Van Gelder**, UW professor and Boyd K. Bucey Memorial Chair of the Department of Ophthalmology, is co-author and investigator of a study about the discovery of a chemical that temporarily restores some vision to blind mice. Its discoverers are working on an improved compound that may someday allow people with degenerative blindness to see again. Because the chemical eventually wears off, it may offer a safer alternative to other experimental approaches for restoring sight, such as gene or stem cell therapies, which permanently change the retina. The chemical is also less invasive than implanting light-sensitive chips in the eye. A team of UW Medicine researchers, in collaboration with scientists at the University of California, Berkeley, and the University of Munich, conducted the study. The findings appeared in the journal *Neuron*.
- A cure for colorblindness might be in the offing. **Jay Neitz**, UW professor of ophthalmology, and his colleagues are building on their 2009 breakthrough in which they restored red-green vision in two colorblind squirrel monkeys by inserting the missing gene into a virus and injecting it into their retinas. Four years later, the monkeys, Sam and Dalton, still pass daily vision tests, identifying colors on a computer screen correctly. Dr. Neitz and his colleagues are working on a similar therapy for humans, but many hurdles remain.
- A new diagnostic tool called UW-OncoPlex is benefiting many patients at the Seattle Cancer Care Alliance (SCCA). Developed by UW researchers, UW-OncoPlex tests a patient's tumor tissue for the presence of characteristic genetic abnormalities called driver mutations. Each driver mutation causes tumors to behave differently on the molecular level with different vulnerabilities. With knowledge of driver mutations, treatments can be targeted precisely to individual genetic composition. This is an important application of the growing field of precision diagnostics that tailors treatments to individual patient disease profiles. UW-OncoPlex is a multiplexed genomic sequencing panel that detects mutations in tumor tissue, currently in nearly 200 cancer-related genes. UW-OncoPlex was developed by **Colin Pritchard**, UW assistant professor of laboratory medicine; **Tom Walsh**, UW research associate professor of medicine in the

Division of Medical Genetics; and their colleagues in the departments of Laboratory Medicine, Medicine (divisions of Medical Genetics and Oncology), and Pathology.

- Misguided killer T cells may be the missing link in sustained tissue damage in the brains and spines of people with multiple sclerosis (MS). Cytotoxic T cells, also known as CD8+ T cells, are white blood cells that normally are in the body's arsenal to fight disease. MS is characterized by inflamed lesions that damage the insulation surrounding nerve fibers and destroy the axons. Affected nerves fail to transmit signals effectively. The UW study, published in *Nature Immunology*, also raises the possibility that misdirected killer T cells might at other times act protectively and not add to lesion formation. Instead they might retaliate against the cells that tried to make them mistake the wrappings around nerve endings as dangerous. Scientists **Qingyong Ji** and **Luca Castelli** performed the research with **Joan Goverman**, UW professor and chair of immunology; the study was published in *Nature Immunology*.
- A new regulator for heart formation has been discovered by studying how embryonic stem cells adjust the packaging of their DNA. This approach to finding genetic regulators may have the power to provide insight into the development of any tissue in the body, including liver, brain, blood and others. A UW-led research team was particularly interested in how stem cells turn into heart muscle cells. This knowledge may further research on repairing damaged hearts through tissue regeneration. The leaders of the project were **Charles Murry**, UW professor of pathology, bioengineering and medicine; **Randall Moon**, UW professor of pharmacology; and **John Stamatoyannopoulos**, UW associate professor of genome sciences. The paper's lead author is **Sharon Paige**, a recent graduate of the UW M.D./Ph.D. program who completed her doctoral degree in Dr. Murry's lab and received her M.D. degree in June. The study results were published in *Cell*.
- Scientists used genetic sequencing to discover that the vaccine used in the RV144 HIV vaccine trial, involving 16,000 men and women in Thailand, did offer some protection against certain HIV viruses. The results were published Sept. 10, 2012, in the online edition of *Nature*. **James Mullins**, UW professor of microbiology, medicine and laboratory medicine, leads one of the two laboratories that performed genetic analyses of the virus. He said the study proved that an HIV vaccine is within reach. As reported in 2009, vaccination with the RV144 regimen demonstrated 31 percent vaccine efficacy at preventing human immunodeficiency virus (HIV-1) infection over three and one-half years.
- **Jonathan Himmelfarb**, UW professor of medicine in the Division of Nephrology and director of the Kidney Research Institute, will be part of the new federal initiative to engineer three-dimensional chips containing living cells and tissues that imitate the structure and function of human organs. These tissue chips will be used for drug safety testing. The project team consists of physicians, bioengineers, pharmacists, environmental health researchers, and pharmaceutical developers from the UW schools of Medicine, Public Health and Pharmacy, and the College of Engineering.

## Patient Care Programs

### *Administrative changes*

**Cynthia (Cindy) Hecker** was appointed executive director for Northwest Hospital & Medical Center (NWH) in May. Hecker served as interim executive director at Northwest Hospital starting in November 2012, in preparation for the retirement of NWH President William Schneider, who retired in June after 30 years of outstanding service. In her new role, Hecker provides executive leadership for Northwest and serves as a member of the senior leadership team for UW Medicine.

### *Key clinical initiatives and milestones*

**Central line infections reduction training:** Over the past four years, faculty, staff and trainees at UW Medicine have focused on reducing central line-associated bloodstream infections (CLABSI), a vital patient safety goal. In pursuit of this goal, UW Medicine implemented a program to standardize the safe insertion, maintenance and timely removal of central lines based on both Institute for Healthcare Improvement and local standards.

The program incorporates a number of standardized procedures, including a checklist for the insertion of central lines; didactic and simulation training for all involved, with “no opt out” by doctors or nurses; systematic on-boarding of new faculty, nurses and trainees; use of central line carts; a procedural “Time-Out” and documentation allowing electronic auditing; and maintenance and daily review of medical necessity.

As a result of the strong commitment of hundreds of individuals and teams to reduce central line-associated bloodstream infections, the number of central line infections at Harborview and UW Medical Center has been reduced by 25 percent and the number of intensive care unit infections has been reduced by 50 percent, to less than one infection per 1,000 catheter days. This surpasses national standards.

Although these strides are significant, UW Medicine is committed to further reduction of central line infections in the intensive care unit and in other acute care settings, with the goal of providing the highest quality, safest and most effective care. This highly successful program has been led by the Institute for Simulation and Interprofessional Studies (ISIS).

**Multiple Sclerosis Center:** In 1977, the Western Multiple Sclerosis Center was established at UW Medical Center and became one of the first programs in the United States to build MS expertise across multiple relevant disciplines. UW Medicine’s new Multiple Sclerosis Center, located at Northwest Hospital & Medical Center, opened in late July 2012.

In its new location, the center provides improved access to care for MS patients and brings together several services in one setting, including neurology, rehabilitation medicine, psychology, and physical, occupational and speech therapy. It also houses a four-bed infusion suite and a new, advanced MRI scanner for monitoring disease activity. For rehabilitative therapy, Northwest Hospital’s “Easy Street” – a cityscape environment – replicates physical

obstacles such as curbs, steps, ramps, theater seating and a restaurant booth. The center is led by **Shana Johnson**, UW assistant professor of rehabilitation medicine, and **Annette Wundes**, UW assistant professor of neurology.

**Airlift Northwest changes:** Airlift Northwest is now permanently based at the Yakima Airport. Previously, Airlift had flown a plane into Yakima on a daily basis. Now the plane is based at the airport ready to fly into action. The Turbo Commander flies with teams of two nurses certified to care for the sickest and most severely injured and burned patients. Airlift Northwest's base at the Yakima Airport also serves Wenatchee, Sunnyside, Toppenish, Ellensburg, Omak, Moses Lake, the Tri-Cities and other Central Washington communities.

## Faculty Honors

- **King Holmes**, UW professor and chair of the Department of Global Health, received the 2013 Canada Gairdner Global Health Award. Dr. Holmes was recognized for his exceptional role in advancing the scientific knowledge, treatment and prevention of sexually transmitted diseases (STDs)—an area of focus for nearly 50 years. The Gairdner Foundation cited that among the more than 35 STDs discovered, Dr. Holmes and the scientists he mentored are working on approximately 20. The award is one of the world's most prestigious scientific recognitions.
- **Mary-Claire King**, the American Cancer Society Professor of Medicine and Genome Sciences at the UW, was awarded Germany's Paul Ehrlich and Ludwig Darmstaedter Prize for her outstanding research achievements in the field of human genetics. She is one of the world's leading geneticists in the area of cancer and forensic genetics.
- Three UW faculty members, two with faculty appointments in the Department of Global Health, administered jointly by the schools of Public Health and Medicine, were elected to the Institute of Medicine. **Chris Elias**, UW clinical professor of global health and president of global development for the Bill & Melinda Gates Foundation; **Thomas Fleming**, UW professor of biostatistics and statistics; and **Andy Stergachis**, UW professor of epidemiology and of global health, were among 70 new members and 10 foreign associates.
- **Moira Aitken**, UW professor of medicine in the Division of Pulmonary and Critical Care, received the Cystic Fibrosis Research, Inc. Professional of the Year Award for excellence in research, clinical care and teaching. Dr. Aitken is founder and director of the Adult Cystic Fibrosis (CF) Program at the UW, one of the first adult CF centers in the United States.
- **Randall Moon**, UW professor of pharmacology, was elected a fellow of the American Academy of Arts and Sciences. Dr. Moon, UW professor of pharmacology, is a leader in regenerative medicine research. He began studying the cell signals that transform tadpoles into frogs, later concentrating on how alterations in these Wnt signaling networks, as they are called, lead to cancer, bone density disorders and other human diseases.

- **Carlos Pellegrini**, the Henry N. Harkins Professor and chair of the Department of Surgery, became president-elect of the American College of Surgeons, in October 2012. Leadership of this influential organization signifies outstanding skills and high respect among the surgical specialties nationally and worldwide. Dr. Pellegrini has been at UW Medicine since 1993 when he came to Seattle from the University of California, San Francisco to chair the department.
- **Douglas E. Wood**, UW professor and chief of the Division of Cardiothoracic Surgery, was elected the 2013 president of The Society of Thoracic Surgeons (STS). Dr. Wood is also vice-chair of the Department of Surgery, where he holds the Endowed Chair in Lung Cancer Research. He is the program director of thoracic surgery at UW Medical Center, chair of the Thoracic Residency Review Committee for the Accreditation Council for Graduate Medical Education, recent director of the American Board of Thoracic Surgery, and has served on the educational program committees of many cardiothoracic societies in the United States.
- The UW Department of Family Medicine received awards for outstanding performance at the 46th Society of Teachers of Family Medicine (STFM) Annual Spring Conference. **Tom Norris**, UW professor and chair of the Department of Family Medicine; **Jay Erickson**, assistant dean of the WWAMI Clinical Phase in Montana; **Suzanne Allen**, professor of family medicine and vice dean for regional affairs; and **Tom Greer**, professor of family medicine and co-director of TRUST, received the 2013 STFM Innovation Program Award for the Targeted Rural and Underserved Track (TRUST) program. TRUST addresses regional workforce needs by selecting qualified students through a separate medical school admissions process and guiding them through a special curriculum that fosters continuity training at rural communities and small cities in the Washington, Wyoming, Alaska, Montana and Idaho (WWAMI) area. **Tom Norris** received the Marian Bishop Leadership Award. The award honors individuals who have significantly enhanced the credibility of family medicine by a sustained, long-term commitment to family medicine in academic settings.

## Passages

During the past year, we mourned the passing of several members of the UW School of Medicine community including: **E. Donnall “Don” Thomas**, UW professor emeritus of medicine in the Division of Oncology, who was founding director of Fred Hutchinson Cancer Research Center’s Clinical Research Division, and a 1990 Nobel Prize recipient for his pioneering work in bone marrow transplantation; and **Wayne Crill** who served as chair of the Department of Physiology and Biophysics from 1983 until 1999. These two individuals made enormous contributions to medical research and training.



## Thank You

Each year as I prepare this report and reflect back on the role of the Washington State Medical Association and its members in our activities in the UW School of Medicine, I am struck by the remarkable collaboration that exists between the UWSOM and WSMA. You make our work possible – through your advocacy for medical education and research, your work with our students and residents in your clinical settings, and your commitment to partnership on behalf of improving the health of the citizens of Washington. As a result, we can together claim success for helping to improve the lives of the next generations through our combined efforts in teaching, research and patient care.

Please let me know if you would like additional information about any of the topics discussed in this report or about topics not covered. You can contact me directly at [pramsey@uw.edu](mailto:pramsey@uw.edu). In addition, if you have comments, suggestions, concerns or ideas related to the UW School of Medicine, please let me know. Your satisfaction with and contribution to our work are vital. Thank you for your commitment and accomplishments on behalf of improving health.

Sincerely,

A handwritten signature in blue ink that reads "Paul G. Ramsey". The signature is written in a cursive, flowing style.

Paul G. Ramsey, M.D.  
CEO, UW Medicine  
Executive Vice President for Medical Affairs and  
Dean of the School of Medicine,  
University of Washington