

OHSU SCHOOL OF MEDICINE

# Teaching, Healing, Discovering

2018-2019 Report



## United by service to all Oregonians



The School of Medicine is the largest of the OHSU schools. Our faculty and clinicians fuel the clinical enterprise, including OHSU Hospital, ranked #1 in Oregon by *U.S. News & World Report*; our researchers, centers and institutes comprise two-thirds of the OHSU scientific enterprise, ranked among the Top 20 research institutions in innovation by *Nature* magazine; and our education programs are nationally recognized and leaders in curriculum reform.

Yet what most deeply defines us as a school is a value shared across OHSU: caring for all Oregonians. For me as a nephrologist, it means upholding OHSU's commitment to rural communities and to veterans by continuing to see patients at the V.A. Health Care System Renal Clinic in Roseburg. As only the school's second female dean, it also means joining our many faculty women who mentor female students; celebrating crucial initiatives like the OHSU Transgender Health Program (pictured), and supporting our students and faculty for confronting policies and practices that harm higher education or human health.

Following is just a snapshot of the amazing research, teaching and clinical care to which our faculty and students contribute. As our programs further expand across the state, binding together these efforts is a sense of pride in our work and a commitment to serve.

A handwritten signature in black ink that reads "Sharon Anderson".

**Sharon Anderson, M.D. R '82**

Dean, OHSU School of Medicine



## ON THE COVER

“Bridges Clinic allows students to experience first hand our ability to empower patients, make a real difference, better understand the social complexities that they struggle with and learn from these remarkable people.”

Stephanie Radu, M.D. class of 2021, checking the vital signs of patient Sonoman Joe at Bridges Collaborative Care Clinic, launched by OHSU health professions students to offer care coordination to underserved patients.

## OHSU SCHOOL OF MEDICINE

**Sharon Anderson**, Dean

**Irene Barhyte**, Senior Associate  
Dean/Finance

**Mary Heinricher**, Associate Dean/  
Basic Research

**Anthony Masciotra**, Senior Associate  
Dean/Clinical

**George Mejjcano**, Senior Associate  
Dean/Education

**Atif Zaman**, Senior Associate  
Dean/Clinical and Faculty Affairs

## REPORT CREATED BY

OHSU School of Medicine/Dean's  
Office Communications Team

## REACH US

somdeansoffice@ohsu.edu

503-494-8220

[www.ohsu.edu/som](http://www.ohsu.edu/som)

# By the numbers

2,266

faculty

5,195

employees

2,221

students and trainees

\$1.02 billion

budget

18,492

alumni

7

basic science departments

20

clinical departments

2

freestanding divisions

21

centers and institutes

1887

founding year

## Top 20

research institutions, *Nature*  
magazine

#1

OHSU Hospital among Oregon  
hospitals by *U.S. News & World*  
*Report*

#2

family medicine education  
program nationally by *U.S. News &*  
*World Report*

#4

rural medicine education program  
nationally by *U.S. News & World*  
*Report*

#5

physician assistant program  
nationally by *U.S. News & World*  
*Report*

#6

primary care education program  
nationally by *U.S. News & World*  
*Report*

45

percent M.D. grads who practice  
in Oregon (AAMC)

197

nurse practitioners, physicians  
and physician assistants in Top  
Doctors & Nurses 2017



# Using our voices



In summer 2017, Esther Choo, M.D., M.P.H., tweeted her experiences of patients refusing her care because she is Asian, sparking a national conversation amid a rash of hate crimes. Her courage emboldened OHSU medical student leader Ibrahim Ainab and classmates to organize “In the Face of Hate,” a panel discussion on racism in patient care settings that drew a standing-room only crowd. (Ainab, M.D. class of 2020, and Dr. Choo pictured, left to right.)

“Being a physician and caring for patients is enough to make you an expert on the downstream impacts of policies and the deepening inequities within our country. This means we have an obligation to speak up.”

Esther Choo, M.D., M.P.H., associate professor of emergency medicine, OHSU School of Medicine



When OHSU graduate students’ tuition waivers were imperiled by the 2017 federal tax proposal, the Graduate Student Organization organized a letter writing campaign and rally. The entire OHSU executive leadership team signed on to a campus-wide message and stood shoulder to shoulder with students at the rally. The waiver was removed from the bill.

“Growing up, I was told that education creates opportunities and opens doors. We need to fight to ensure that those opportunities and doors are open for everyone.”

Mollie Marr, M.D., Ph.D. student and rally organizer and speaker



Nina Lamble, M.D., then-fellow of hematology and medical oncology, confronted a group of construction workers in Spring 2017 after observing them deride a transgender individual. Dr. Lamble relayed the experience to OHSU leadership, who contacted the construction company to handle the matter with the worker.

“I had the courage to say what I said because I knew that OHSU leadership would stand behind me.”

Dr. Nina Lamble, when OHSU President Joe Robertson recognized her at the OHSU Diversity and Inclusion Awards Ceremony

# Clinical

1,287

physicians

269

advanced practice registered nurses

138

physician assistants

121

physical therapists, counselors, social workers, dietitians and other members

1,021,364

annual patient visits

\$590 million

fiscal year 2017 revenue

The OHSU Practice Plan is the largest organized clinical practice in Oregon, with more than 1,800 clinician members. OPP members are the physicians, nurse practitioners, physician assistants and other providers that care for the more than 283,000 unique patients a year at OHSU hospitals and medical clinics. OPP members are in a unique position to be active clinicians while maintaining strong roots in the education and research missions. In addition, affiliate faculty in communities and private practices across the state help educate OHSU students – the providers of tomorrow.

## The engine of the health care mission

The OHSU health system is expanding. OPP leaders and clinical faculty members are integrally involved in OHSU's growing clinical enterprise. They help cultivate the relationships with partners at Tuality Healthcare and Adventist Portland. They share knowledge and advance treatments to uphold patient care standards. Their professional satisfaction and wellness is paramount in this time of change and growth. The OPP's goals focus heavily on people, patients and adapting to the health care marketplace:

- **People** – attract and retain the best diverse talent
- **Access** – lead with yes
- **Value** – excel in quality, safety and service



*"I like the broad scope of surgical practice, and the team-building and close relationships in a smaller community hospital. Then at OHSU, I see a wide assortment of challenging cases and have access to specialists for consultations and advice."*

Lori Cardwell, M.D. '12 R '17, assistant professor of surgery, OHSU School of Medicine, splits her time between Tuality and OHSU.



*"I'm proud of the work we've done to improve access for our patients."*

David Wilson, M.D., professor and chair of ophthalmology, OHSU School of Medicine

### Leading with yes

Leading with yes ensures patients receive the right care at the right time at the right place, by the right staff. Clinical departments have been working to improve the patient and referring provider experience when it comes to appointment availability. The Department of Ophthalmology is a compelling example. It used to be tough to get an appointment at Comprehensive Ophthalmology. In June 2015, the clinic had a waiting list of 800 patients, most of whom were being scheduled six months or more into the future. By taking a hard look at efficiency and better utilizing staff and providers' valuable time, access has improved dramatically:

- The clinic no longer has a waiting list
- Third next available appointment is down to the identified target of 14 days
- Patient visits are up 30 percent
- A quality manager helps sustain the improvements
- All ophthalmology faculty members get individualized data to monitor progress

### Hospital as command center

OHSU Hospital is the first in the nation to use a command center model with real-time data to manage inpatient occupancy across a system. Digital monitors help staff understand the current capacity picture, the transfer queue and any discharge barriers.



*"As Oregon's only academic health center, OHSU must remain accessible to patients needing highly specialized care. Our expansion provides a range of inpatient options, often closer to patients' homes."*

John Hunter, M.D., F.A.C.S., chief executive officer, OHSU Health System, pictured (below, right) with Matthias Merkel, M.D., Ph.D., chief medical capacity officer, OHSU Mission Control



## Rethinking primary care

OHSU's primary care clinics had more than 257,000 visits in fiscal year 2017. Now, the OHSU primary care model is integrating across the Portland metro area to include Tuality and Adventist, and providers from multiple departments are working more closely than ever to serve Oregonians in Beaverton and Hillsboro. These "hybrid" practices put patients at the center of their care plan and rely on teams of providers, medical assistants and care coordinators.

Multidisciplinary practices help build a primary care system that can effectively manage risk and coordinate care – necessary functions in a value-based payment model. The OHSU Primary Care Leadership Council leads this work.

## Tackling the most pressing issues

OHSU joined Legacy Health, Kaiser Permanente and Adventist Health to open the Unity Center for Behavioral Health, shoring up a fractured, inadequate system with 24-hour, comprehensive crisis mental health care. The center includes 50 adult psychiatric emergency beds and 80 adult and 22 adolescent inpatient beds, staffed in part by School of Medicine faculty.

"The calm, reassuring and humane atmosphere is extremely moving for anyone who has seen the evolution of patients held in restraints in ERs for days because there was nothing available," said George Keepers, M.D., professor and chair of psychiatry, OHSU School of Medicine.

*"We should be asking not why the addiction but why the pain?"*

Alisha Moreland-Capuia, M.D., assistant professor of psychiatry, OHSU School of Medicine

Dr. Moreland-Capuia (speaking), joined Honora Englander, M.D., associate professor of medicine, OHSU School of Medicine and Dennis McCarty, Ph.D., professor of public health, OHSU-PSU School of Public Health, on an expert panel in November 2017 about opioid abuse, moderated by Dwight Holton, J.D., former U.S. attorney for Oregon who now is CEO of Lines for Life.



# Education

## M.D. program

592

M.D. students

160

entering M.D. class

85 percent, Oregon/Oregon heritage

11 percent, underrepresented minority

22 percent, rural

29 percent, disadvantaged/faced adversity

## Graduate studies

784

graduate studies students

225 Ph.D. students

82 physician assistant students

32

graduate degree programs

327

incoming graduate studies students

12 percent, underrepresented minority

## Graduate medical education

845

residents and fellows

83

accredited GME programs

254

entering residents and fellows

15 percent, underrepresented minority

21 percent, rural

34 percent, disadvantaged/faced adversity

## Continuing professional development

10,801

participants in 194 activities (2016-17)

The OHSU School of Medicine is breaking the mold to offer our more than 2,000 students and trainees the most relevant preparation for a dynamic health care and biomedical research environment in which physicians and scientists advance human health for all and serve where needed, from urban to rural settings. Highlights:

- M.D. class of 2018: first to complete *YOUR M.D.* competency-based curriculum, which condenses classroom time and favors clinical experiences, including self-directed learning.
- Ph.D. program transformation: more flexible multidisciplinary Ph.D. programs are in a planning phase.
- Graduate Medical Education expansion: new slots and programs opening across the state to help address communities' needs.
- Continuing Professional Development: increasing teleconferencing to bring content to providers and expanding such emerging areas as refugee health.

Students across OHSU launched the stand-alone Bridges Collaborative Care Clinic in partnership with Transition Projects, creating care plans for underserved patients and connecting them with health care providers. Zoe Teton, M.D. class of 2019, clinic co-chair, examines patient Sonoman Joe.





## Building a learning community

In the OHSU School of Medicine, community-building is essential to learning. Working with students, the school is focused on fostering a welcoming, supportive and inclusive environment. Opportunities for growth and outreach include:

- Supporting student and trainee organizations.
- Expanding and supporting student mentorship and coaching programs, such as the Diverse Medical Student Mentorship Program launched by the House Officers Association Diversity Committee, the Women's Leadership Development Program and the Alliance for Visible Diversity in Science (pictured).
- Medical and P.A. students joining students across OHSU to launch the Bridges Collaborative Care Clinic (pictured) and to provide health services in Pioneer Courthouse Square during the Health Equity Fair.
- Faculty and staff engagement in unconscious bias training, led by OHSU Center for Diversity and Inclusion using the AAMC-supported Cook Ross curriculum, to support development of an inclusive culture.

*"If we let students know that there is an identifiable group here for them, it already seems less intimidating to come into this space."*

Antoinette Foster, a co-founder of the Alliance for Visible Diversity in Science, pictured at an AVDS mixer.





*“It’s both rural and an area of unmet need.”*

Joe Volpi, M.D., (with dog, Quinn) will become the only primary care physician in Oakridge, Ore., upon graduating in June 2018. He and Stephanie Laudert, M.D., spent their fourth year of medical school at Sky Lakes Medical Center in Klamath Falls with the Oregon FIRST – Family Medicine Integrated Rural Student Training – program and remained for the Cascades East Family Medicine Residency Program. Dr. Laudert will practice in Gold Beach, Ore.

## Changing the face of medicine

The OHSU School of Medicine is investing in new avenues to foster a diverse and dynamic student body and faculty, including pledging significant support for the Northwest Native American Center of Excellence, launched with a \$3.4 million U.S. Department of Health and Human Services grant. Led by Erik Brodt, M.D., associate professor of family medicine, OHSU School of Medicine, the center:

- Is a collaboration between the school, the Northwest Portland Area Indian Health Board – including all 43 Pacific Northwest tribes – and Portland State University to recruit and retain American Indian and Alaska Native students to the OHSU M.D. and P.A. programs.
- Will conduct outreach through new and existing educational pathway programs as early as middle school and continuing through faculty development.
- Will provide ongoing social, cultural and educational support for students once enrolled.

## Serving rural Oregon

Among incoming medical students, 22 percent of the class hails from rural areas. As part of the curriculum, students can choose among rural rotations in more communities than ever, supplementing the traditional Rural and Community Health Clerkship. In the OHSU Physician Assistant Program, 24 percent are from rural areas and 23 percent of its 600 alumni practice in rural areas, many in primary care.

Now Graduate Medical Education (GME) plans to grow the number of residency slots in the state by 100 in coming years, including establishing a new program in Forest Grove and having OHSU residents rotate in rural communities including Grants Pass, Enterprise, Coos Bay, White City and Astoria. GME training is a more predictable indicator of a provider’s permanent practice location than M.D. training, bolstering the GME expansion as a grow-your-own initiative.

And the school’s Continuing Professional Development program, the largest provider of continuing medical education in the state, is adding more teleconference options in communities like North Bend/Coos Bay and La Grande to bring the latest practice guidance closer to home for more providers including in such crucial areas as mental health for adolescents and adults.

# Research

**\$279 million**

sponsored project awards for the school  
in FY17

**1,650\***

faculty conducting research

**2,645\***

papers and articles published in FY17

\*approximate

*In 2017, Nature named OHSU among the top 20 research institutions in the world in innovation, noting the number of OHSU research articles cited by third-party patent holders.*



The OHSU School of Medicine is home to the largest portion of the OHSU research portfolio, with more than 1,650 faculty working in the basic, translational and clinical sciences across disciplines – from molecular biology to population health – in a highly collegial environment.

Powered by more than \$1.75 billion in philanthropic giving and \$150 million in additional institutional investment in recent years, the OHSU research enterprise has greatly expanded, deepening and broadening many areas of research, including: gene therapy, neuroscience, computational biology, addiction science and cardiovascular research.

## Home for high-impact science

In 2017, an OHSU research team made a landmark discovery when they demonstrated an effective use of a gene-editing tool to correct a gene mutation in human embryos, generating headlines worldwide. Using the gene-editing tool CRISPR, they targeted a mutation in nuclear DNA that causes hypertrophic cardiomyopathy, a common genetic heart disease, and prevented it from being inherited by succeeding generations.

Shoukhrat Mitalipov, Ph.D., director of the OHSU Center for Embryonic Cell and Gene Therapy, led a team that included the School of Medicine's Paula Amato, M.D., associate professor of obstetrics and gynecology, and Sanjiv Kaul, M.D., professor of medicine and director of the OHSU Knight Cardiovascular Institute. Their work provides new insight into a technique that could apply to thousands of inherited genetic disorders affecting millions of people worldwide.

**It's just one example of the world-class research performed here.**

Fikadu Tafesse, Ph.D., assistant professor of molecular microbiology and immunology, OHSU School of Medicine, received a Gates grant to fund his exploration of nanobodies as a targeted therapy against tuberculosis.





## Research Vision 2022

The OHSU School of Medicine has a bold mission:

*Advance health through excellence in scientific discovery, fueled by a diverse culture that enables collaboration and inspires innovation.*

By aligning research strategies across departments, disciplines, technologies and areas of expertise, leaders and faculty are working together to ensure a future primed for the pursuit of new knowledge.

## Team approach

OHSU is known for its highly collegial, interdisciplinary culture. Just one example: Lisa Coussens, Ph.D., professor and chair of cell, developmental and cancer biology, OHSU School of Medicine, came together with researchers from multiple departments, including Biomedical Engineering, Otolaryngology/Head Neck Surgery, Dermatology, the Computational Biology Program and the OHSU-PSU School of Public Health, to develop a variation of the common method immunohistochemistry to better investigate tumor leukocyte complexity. The resulting paper, published in *Cell Reports*, described a powerful new tool to study tissues and tumors.

Lisa Coussens, Ph.D., professor and chair of cell, developmental and cancer biology (center, pink blouse), celebrates breast cancer awareness with members of the multidisciplinary team that developed a new tool to study tissues and tumors.



## Outside collaborations

One of the school's oldest and most valued research collaborators is the V.A. Portland Health Care System, ranked seventh nationally in total research funding. The 89 dual-appointed faculty members generated more than \$37.7 million in outside research support in fiscal year 2016, the highest ever. Their high-quality research is making a difference in the health of veterans and the nation.

The new OHSU-PNNL Precision Medicine Innovation Co-laboratory integrates several existing partnerships between OHSU and the U.S. Department of Energy's Pacific Northwest National Laboratory (PNNL) in Richland, Wash., to create a comprehensive ecosystem for scientists to utilize advanced technologies – 'omics, data science, advanced imaging – to answer complex biomedical questions.

OHSU has also opened conversations with University of Oregon to boost research collaborations at both universities. And it continues to pursue joint projects with global technology giant Intel.

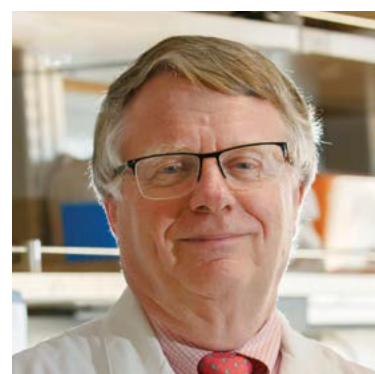
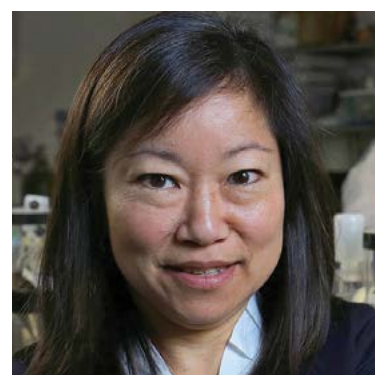
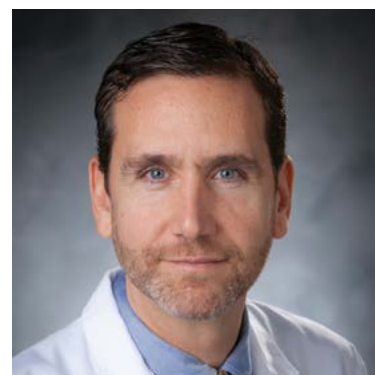
## Investing in the future

A flurry of recent efforts will fuel innovative research in the years to come.

**KEY RECRUITMENTS** Duke scientist Alejandro Aballay, Ph.D., joined OHSU to chair the school's Department of Molecular Microbiology and Immunology, and renowned scientist Gordon Mills, M.D., Ph.D., joined the OHSU Knight Cancer Institute to lead precision oncology. Recruitments of notable physician-scientists Joan Teno, M.D., professor of medicine, and Susan Gurley, M.D., Ph.D., associate professor and head, Division of Nephrology and Hypertension, Department of Medicine, OHSU School of Medicine, will augment OHSU's goal to rapidly translate research into improved patient care.

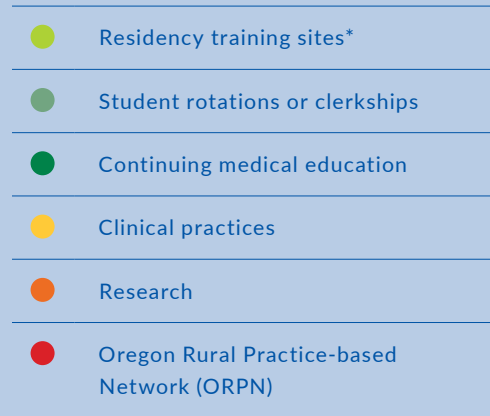
**NEW TECHNOLOGY** Faculty and leaders came together around the need for PET/MR to enhance OHSU's advanced imaging capabilities, building upon the visionary philanthropy of Phil and Penny Knight. Upon completion, OHSU will be one of only a handful of academic health centers across the country to have this state-of-the-art instrumentation.

**PIONEERING PROGRAMS** The OHSU Knight Cancer Institute's Cancer Early Detection Advanced Research Center (CEDAR) studies new methods to detect and eliminate lethal cancers early using a team-based approach. CEDAR will be housed in the new Knight Cancer Institute Research Building, opening in 2018.

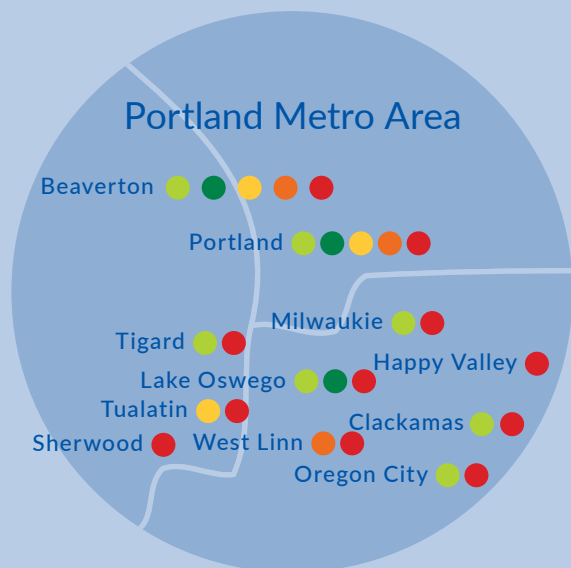
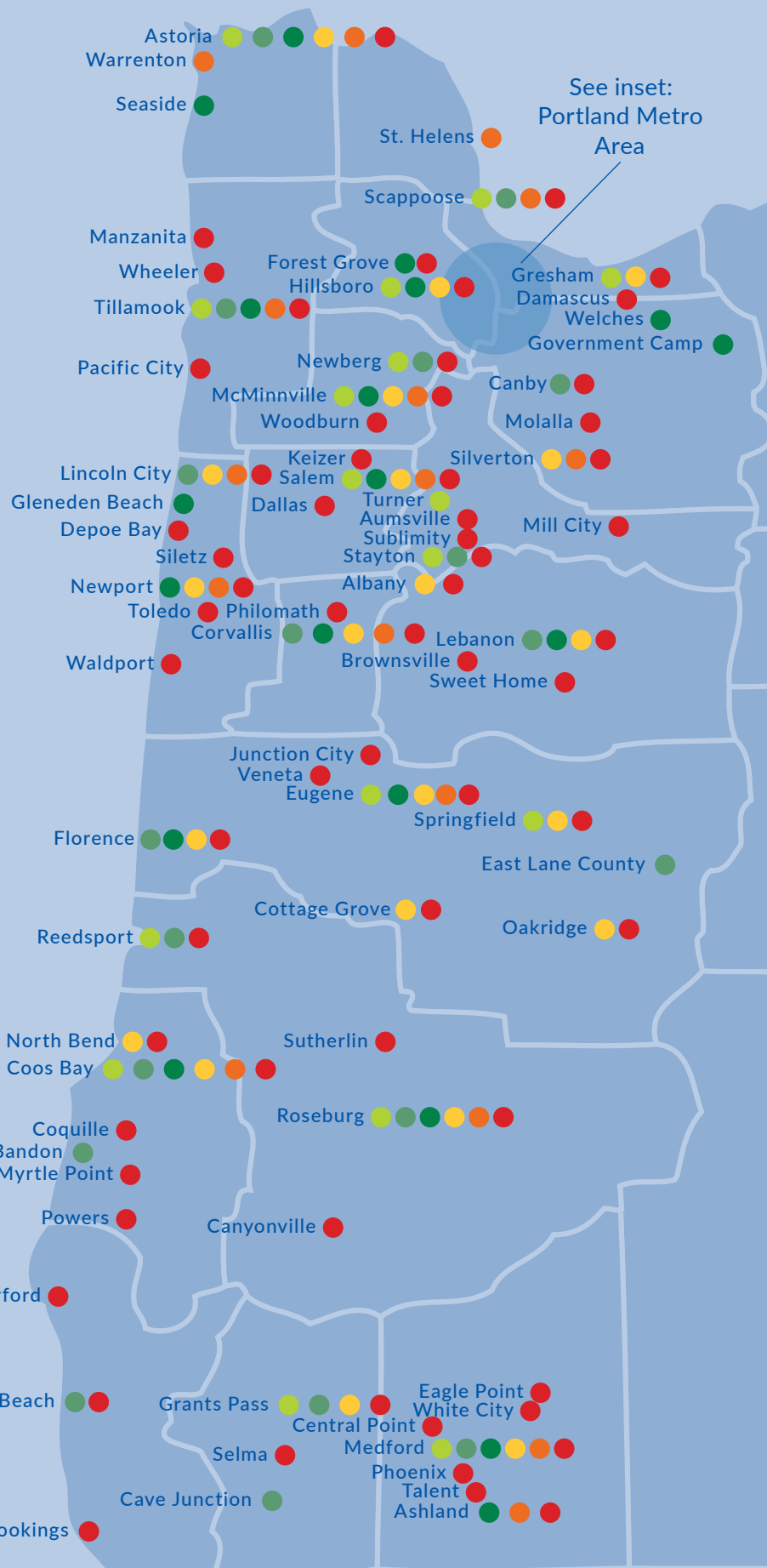


From top: Alejandro Aballay, Susan Gurley, Gordon Mills and Joan Teno

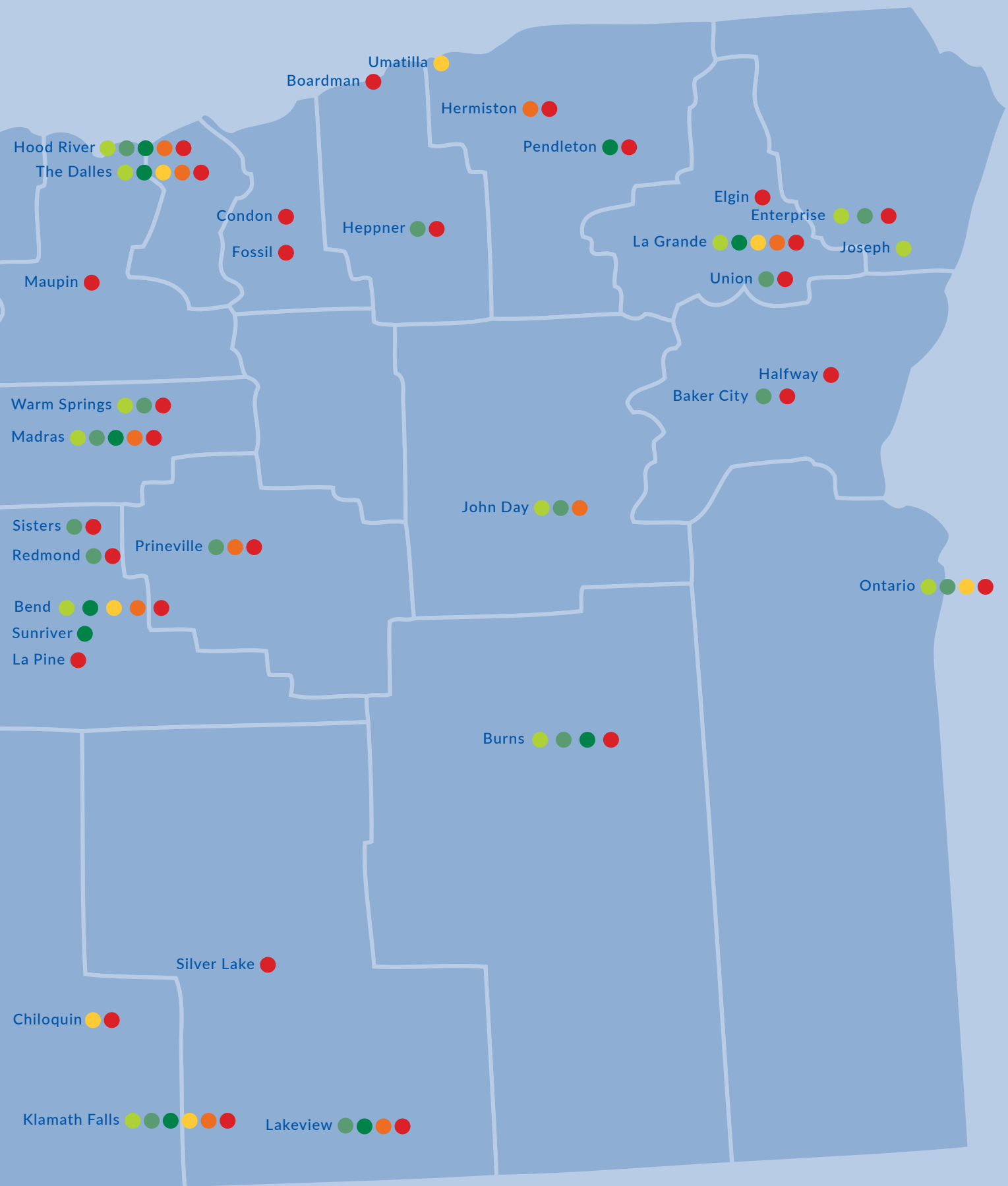
# OHSU School of Medicine: Serving Oregon



\*Includes existing and planned sites for residencies in coming years.







OHSU School of Medicine  
3181 S.W. Sam Jackson Park Rd.  
Mailcode L102  
Portland, OR 97239  
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[www.ohsu.edu/som](http://www.ohsu.edu/som)

