



OREGON
HEALTH & SCIENCE
UNIVERSITY

OHSU Board of Directors Meeting

September 12, 2013

SON – 358/364

1:00 p.m. – 3:00 p.m.

OREGON HEALTH & SCIENCE UNIVERSITY BOARD OF DIRECTORS MEETING

September 12, 2013
1:00 – 3:00 p.m.
School of Nursing, Rooms 358 & 364

1:00 p.m.	Call to Order/ Chairman's Comments President's Comments Approval of Minutes (Action)	Charles Wilhoite Joe Robertson, M.D. Charles Wilhoite
1:10 p.m.	Financial Update	Lawrence Furnstahl
1:30 p.m.	Dept. of Public Safety Training Plan	Jeanette Mladenovic, M.D., Greg Moawad
1:50 p.m.	Oregon Institute of Occupational Health Sciences	Steve Shea, Ph.D. <i>Director</i>
2:10 p.m.	Appointment of Board Secretary (Action)	Charles Wilhoite
2:15 p.m.	Other Business; Adjournment	Charles Wilhoite



Next meeting
Thursday, Oct. 24, 2013
School of Nursing, rooms 358/364
1:00-3:00 p.m.

**Oregon Health & Science University
Board of Directors Meeting
June 27, 2013**

Board Members in Attendance: Charles Wilhoite, Ken Allen, Román Hernández, Poorav Patel, Maria Pope, Joe Robertson, Amy Tykeson, David Yaden

Staff Presenters: Lawrence Furnstahl, David Robinson, Jeanette Mladenovic, Norwood Knight-Richardson

Chair's Comments

Mr. Wilhoite called the meeting to order, welcoming all in attendance and outlining the agenda for the meeting, including discussions and presentations about fiscal year financial results, student tuition costs and the institution's strategic plan for diversity. Mr. Wilhoite recounted attending the Diversity and Inclusion Awards program, a wonderful event recognizing many talented faculty and staff for their diversity related contributions to OHSU. Mr. Wilhoite also participated in the School of Dentistry graduation ceremony describing it as an exciting event that is rewarding for faculty, staff, students and their family members.

President's Comments

Dr. Robertson opened his remarks by identifying student debt and the strategic plan for diversity as critically important topics that pose a particular challenge in Oregon. With the initiatives being launched at OHSU in these areas, he expressed confidence that considerable headway has been made and will continue.

Dr. Robertson commented on recognition that Shoukhrat Mitalipov is receiving for his successfully creating an embryonic stem cell from an ordinary human skin cell, describing it as a truly revolutionary development garnering worldwide recognition. Dr. Robertson commented on the nearly 1200 students who graduated from OHSU this year, and mentioned the anticipated arrival of Susan Bakewell-Sachs as Dean of the School of Nursing, and Phillip Marucha as Dean of the School of Dentistry. Dr. Robertson also welcomed Keith Todd, the new President of the OHSU Foundation and described Mr. Todd's background and qualifications. Finally, he recognized Constance French for her exemplary service as interim President of the OHSU Foundation.

Dr. Robertson recapped OHSU's experience with the legislative session, describing it as extremely successful, with OHSU receiving \$3 million more than the budgeted amount proposed by the governor and with the passage of landmark legislation. Senate Bill 2: Scholars for Healthy Oregon creates opportunity for education at OHSU with zero tuition in exchange for commitments to service after graduation in rural or underserved areas. Bills were passed related to skin cancer prevention, biofuels, telemedicine, credentialing, changing the name of CROET to the Oregon Institute of Occupational Health Sciences, and better defining the dental campus. Dr. Robertson also mentioned passage of the public safety authority bill, conferring on the OHSU Board authority to authorize OHSU police officers to carry firearms. This issue will be brought to the Board for consideration in the fall.

Dr. Robertson announced that AIMS Technology received FDA approval for a device designed to assist the recovery of individuals suffering from stroke, spinal cord injuries, or other neurological injuries. OHSU has a significant commercial interest in this technology and believes that this is a tremendous market opportunity that will bring a financial reward, along with relief for many patients.

Finally, Dr. Robertson reported that Doernbecher Children's Hospital continues to rank among the nation's best children's hospitals, and he mentioned the favorable and improved ranking of many of its pediatric specialties.

Approval of Minutes

Mr. Wilhoite asked for approval of the minutes of the March 21, 2013 Board meeting included in the Board Docket. Upon motion duly made and seconded, the minutes were unanimously approved.

Financial Update

Mr. Furnstahl described the proposed budget, noting that it was reviewed by the Finance and Audit Committee, and that it targets 5% growth in revenue to \$2.2 billion. The budget reflects operating income of \$65 million, funding for \$150 million in annual capital projects plus completion of the Collaborative Life Sciences Building, while maintaining liquidity at or above OHSU's benchmark for A+ credit. Mr. Furnstahl noted that OHSU will begin a transition to a more integrative budget approach with the following major thrusts: (i) focusing on our classic business -- excellent academic health care, attracting and educating top students, and securing grant funding; (ii) implementing more standard operating procedures across the university to increase efficiency; and (iii) partnering with others and investing in the future.

Mr. Furnstahl commented that the key financial challenges for the budget include (i) the national slowing of healthcare spending and the corresponding flattening of our payment rates, (ii) federal sequestration and its impact on research funding, (iii) pension funding, (iv) the costs associated with new facilities that are coming online, and (v) the need to reduce relatively high tuition and student debt loads. The current fiscal year operating budget is \$60 million, but in order to address those challenges in the next two years, OHSU must have operating income of \$90 million and \$110 million respectively. Through cost reduction strategies including a hiring freeze, the FY 13 actual run rate puts OHSU on firm financial foundation to meet those challenges.

Commenting on national trends, Mr. Furnstahl reported that over the last 40 years, national healthcare spending averaged 7-8% increases annually, but only 4% in the last two years, resulting in no payment rate increases and a need for OHSU to increase volume and clinical productivity while holding expenses. The NIH budget nearly doubled in the 1990s, but it has been flat against inflation since 2003 and is now decreasing 8-10% with the federal sequestration. May's grant awards compared to last year are down 10-11%. Reduced grant awards will decrease research income over the next three to four years.

Moving to current operation performance, Mr. Furnstahl reported that operating income through May is \$31 million above budget (including \$7 million in one-time gains.) He noted clinical revenue and cost saving and efficiency efforts that supported that strong performance.

Mr. Furnstahl then discussed measures to meet FY 14 budget targets, including continued growth in patient activity, and greater application of gifts to operations and further cost reductions to offset reductions in grant funding. Patient activity is budgeted to grow at 5.7%. The clinical enterprise is striving to improve labor productivity, targeting the 31st percentile among university teaching hospitals, and the School of Medicine is accelerating the PwC initiatives.

On Mr. Furnstahl's invitation, Dr. Jeannette Mladenovic outlined various education initiatives and priorities including developing better access for students, ongoing integration of the inter-professional curriculum, the development of web portals, and the recruitment of the new deans. Dr. Mladenovic noted that addressing the student debt burden and high tuition and fees remains a priority.

Turning to the research mission, Mr. Furnstahl mentioned efforts to shift from individual grants to program grants, to diversify the portfolio of research grant funding, and to track success rates in securing research funding and faculty research productivity. He also described a \$4 million investment in the next two to three years to support the integration of research across OHSU. Responding to a question from a Board member, Dr. Dorsa explained that the program grants bring more support for infrastructure than do individual grants.

Mr. Furnstahl continued by describing the \$150 million capital budget, of which \$83 million is allocated to the hospital, \$53 million to the rest of the university, including the Knight Cardiovascular Institute and the Knight Cancer Institute, and a final \$14 million of capital funded by research grants. The annual capital budget does not include the Collaborative Life Sciences Building for which we will spend the final \$90 million of our \$205 million share in FY 14.

Referencing the balance sheet, Mr. Furnstahl explained that projections for fiscal year end reflect nearly a 10% increase in net worth due to strong operating performance and the Knight Cardiovascular Institute gift. Responding to a question from Mr. Wilhoite related to the projected operating income for FY14 below actual FY13 operating income,

Mr. Furnstahl explained that the operating income is higher this year in part due to one-time revenues, but largely because of efforts across the university to increase baseline performance in advance of next year's financial challenges.

Mr. Furnstahl outlined capital projects for FY14 -- replacing the three decade old telephone system, adding a new data center, funding the first year of capital in the Knight Cardiovascular Institute, replacing a chiller servicing the north side of campus, funding additional hospital beds and certain add high tech and imaging resources, and funding certain facilities and equipment replacement strategies.

Mr. Furnstahl summarized the key focus areas for the upcoming fiscal year -- hospital capacity and throughput, managing growth in patient activity to offset the lack of rate growth in payments, scaling the research enterprise to match the lower levels of federal grant spending, completing the productivity redesign effort, implementing the Knight Cardiovascular Institute business plan, and opening the Collaborative Life Sciences Building. A continuing challenge for the coming year is the uncertainty with the federal budget, the source of 40% of OHSU's revenue. He concluded by noting that belt-tightening measures taken in this past year have helped position the institution to weather this uncertainty.

Mr. Wilhoite asked for approval of Resolution 2013-06-01, adopting the FY 2013-14 Operating Budget and Capital Budget. Upon motion duly made and seconded, the resolution was unanimously approved.

Auditor Approval

Mr. Furnstahl recounted that KPMG has presented a plan for auditing the FY13 financial statements, FY13 being the sixth year of KPMG's performing those services for OHSU. The members of the Finance and Audit committee concluded that 7 years reflects an appropriate cycle to allow continuity and periodic testing of the market for auditors. Mr. Furnstahl recommended continuing with KPMG this year as they have done excellent work, charging reasonable rates, including keeping next year's fees at the current rate.

Mr. Wilhoite asked for approval of Resolution 2013-06-02, selecting and approving KPMG as the OHSU auditor for FY14. Upon motion duly made and seconded, the resolution was unanimously approved.

State Achievement Compact

At Mr. Wilhoite's invitation, Dr. David Robinson discussed the OHSU 2013 Achievement Compact. He provided background for the creation of the Oregon Education Investment Board (OEIB), for Compact 40-40-20 and for Senate Bills 909 and 1581, the latter Bill requiring the governing body of each educational entity to enter into an achievement compact with the OEIB for the upcoming fiscal year. The intent of establishing the achievement compacts is to set targets for statewide goals, report on the progress toward these goals, and to ultimately inform future decisions by the State regarding education.

OHSU's Achievement Compact has 5 components, most related to performance metrics that OHSU has been measuring so that new reporting requirements are not necessary. Outcomes to be measured include the number and percentage of students who are Oregonians that are admitted to the Schools of Medicine, Dentistry, and Nursing respectively; the total number of graduate degrees and certificates awarded in the School of Nursing; and the total number of healthcare professional degrees and certificates awarded. Responding to questions from Board members, Dr. Robinson said that the Achievement Compact percentages do not present challenges relative to the targeted diversity and inclusion plans, and do not include tracking related to where students practice upon graduation.

Mr. Wilhoite asked for approval of Resolution 2013-06-03, approving the Achievement Compact with the Oregon Education Investment Board. Upon motion duly made and seconded, the resolution was unanimously approved.

Addressing Student Debt

Dr. Mladenovic began her remarks by calling the Board's attention to copies of *The State of Our Health*, provided for the Board, noting that the publication was a part of the efforts in connection with the development of the School of Public

Health. She then described efforts by the institution to help students manage debt and to address OHSU's tuition costs which are third highest among public medical schools, in the upper third among public dental schools, and higher than in Washington for a BS in nursing. Referencing materials circulated to the Board, she commented on OHSU student debt for various OHSU programs, emphasizing that while some students incur no debt, a large percentage of School of Medicine and School of Dentistry students graduate with over \$200,000 in debt. Steps by OHSU to address this issue include (i) keeping the cost of medical and dental insurance flat for students, (ii) flattening the fee structure, (iii) limiting the tuition increase in the School of Medicine to 4%, (iv) pursuing efforts intended to reduce costs over time, such as streamlining central support services and utilizing a uniform academic calendar, and (v) requiring debt counseling for students who take on debt. She also described OHSU's financial counseling activities.

Dr. Mladenovic described other initiatives to address the debt issue including handling scholarships (now referred to as grant-in-aid) via a single application process, providing more grant-in-aid money to students, timing the grant-in-aid for optimal advantage to students, and grant-in-aid focused on diversity. She also described Senate Bill 2: Oregon Healthy Scholars -- which will direct \$2.5 million to approximately 21 Oregonians who in exchange for full tuition for the dental, medical, graduate, nursing, and physician assistant programs, commit to serve in rural or underserved areas, upon graduation. She also described OHSU's tuition commitment that students in clinical programs will have no tuition increase during the duration of their program, a commitment designed to help manage student debt.

In response to Board questions, Dr. Mladenovic commented on the relationship of the K-12 pipeline programs and Senate Bill 2, she discussed the rate of increases in tuition at OHSU relative to other schools, and she and Dr. Robertson commented on the significance of student debt on the workforce. The debt load affects the types of students that are recruited more than the ultimate distribution of the workforce. To attract health care workforce members to rural areas, those areas must have educational facilities for family members and employment opportunities for spouses.

Mr. Wilhoite expressed appreciation for the efforts and focus on this significant issue and noted that OHSU should be proud of the quality of education and the value of the degree that students receive.

Diversity and Inclusion Plan

Dr. Norwood Knight-Richardson acknowledged Leslie Garcia, Michael Tom, and their staff for efforts in developing the Diversity Action Plan. The plan was constructed around OHSU's Vision 2020 and is intended to accomplish a cultural transformation such that the institution not only values diversity but "lives" it. Dr. Knight-Richardson discussed the definition of diversity, the business case for diversity, the guiding principles for success in efforts to drive diversity and inclusion, and the vision of the Diversity Action Plan.

He outlined the five goals of the Diversity Action Plan -- to increase recruitment, strengthen retention, improve the climate of inclusion, build community partnerships, and create a benchmark for excellence -- noting that each goal has associated strategies and quantifiable metrics. Each mission will choose which goal(s) to emphasize, while pursuing all goals. A campus-wide assessment will be conducted this fall to measure progress against goals. Measuring progress will involve a self-evaluation, benchmarking against peer and notable institutions, and benchmarking against accepted standards created by organizations around the world. Responding to questions from Mr. Patel, Dr. Knight-Richardson explained that the diversity of outside vendors engaged by OHSU is identified when possible and that diversity related criteria are included in OHSU selection processes following the issuance of RFPs.

Discussion followed with the Board, Dr. Knight Richardson and Dr. Mladenovic regarding diversity related recruitment efforts for students and faculty, the challenges for OHSU given the competition with other institutions for candidates, training for Search Committees and Admissions Committees and ensuring that as a part of the retention goal, opportunities exist for candidates to senior leadership positions.


Mr. Wilhoite commended Dr. Knight-Richardson on his efforts and noted that he has seen positive results in a relatively short period of time. He cited the upward trend in OHSU minority and underrepresented minority enrollment as a positive development, noting that the Board wants to see advancement in diversity relative to students and faculty and to all parts of the institution. Mr. Wilhoite commented that as the largest employer in the city of

Portland, OHSU has a responsibility to present the best and most inclusive employment environment, and that the Board and the Executive Leadership Team are 100% committed to this plan and to the dedication of necessary resources to achieve the stated goals. This must be a long-term objective since the Pacific Northwest is not a diverse region, but results will be achieved if diversity remains a focused objective. Mr. Wilhoite recognized the efforts of Michael Tom and Leslie Garcia. Mr. Yaden encouraged the institution to work closely with the Oregon University System to identify students in middle school and create a motivational and financial pipeline for them.

Adjournment

Hearing no further business, Mr. Wilhoite adjourned the meeting at 3pm.

Respectfully submitted,



Amy M. Wayson
Board Secretary



Preliminary FY13 Financial Results

**OHSU Board of Directors
September 12, 2013**

Summary of FY13 Preliminary Results

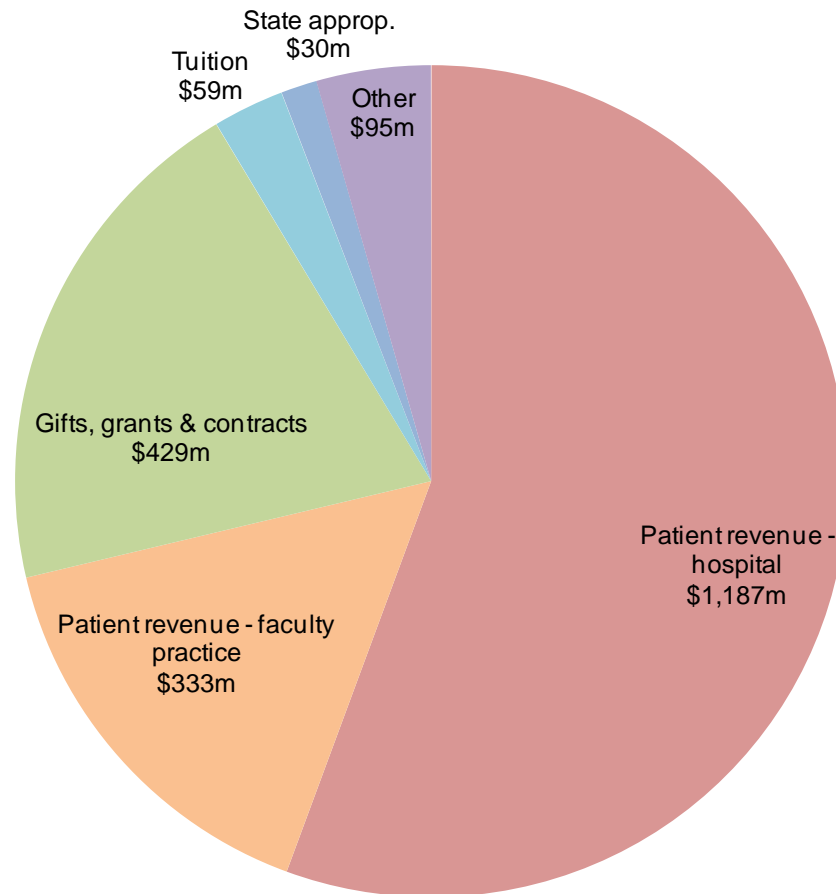
- Unaudited results show FY13 operating income at \$96 million
 - \$36 million above budget
 - 15% over FY12 results
 - KPMG will report on its audit of final results in October
- OHSU's operating income funds program and capital additions at nationally-competitive levels
- Operating cash flow positive \$88 million in FY13
- Consolidated net worth up 69% over 7 years
- Declining results in first half led to mid-year corrective actions and strong second half recovery, with run-rate clearing FY14 impacts from pension costs and sequestration

FY13 Operating Income ~\$96 Million

(millions)	FY12 Actual	FY13 Budget	FY13 Preliminary	FY13 - Budget	FY13 / FY12
Patient revenue	\$1,441	\$1,466	\$1,520	\$54	5%
Grants & contracts	355	370	366	(4)	3%
Gifts applied to operations	49	62	62	(0)	27%
Tuition & fees	55	63	59	(4)	7%
State Appropriations	35	30	30	0	-15%
Other revenues	95	96	95	(1)	0%
Operating revenue	2,031	2,087	2,132	45	5%
Salaries & benefits	1,184	1,234	1,249	15	6%
Services & supplies	566	604	592	(11)	5%
Medicaid Provider Tax	53	49	54	5	2%
Depreciation	111	109	112	3	1%
Interest	35	31	29	(3)	-18%
Operating expenses	1,948	2,028	2,037	9	5%
Operating income:					
Hospital	81	60	79	19	-3%
Other University	2	0	17	17	797%
Total OHSU	\$83	\$60	\$96	\$36	15%

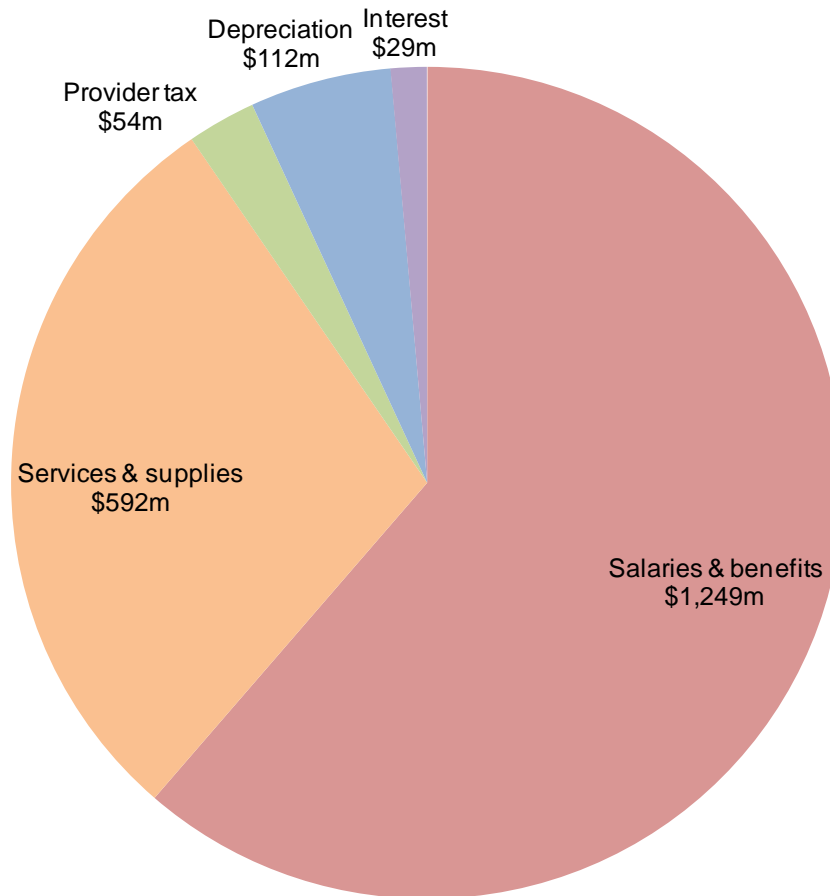
Distribution of FY13 Revenue

FY13 OHSU Operating Revenues (total = \$2,132m)

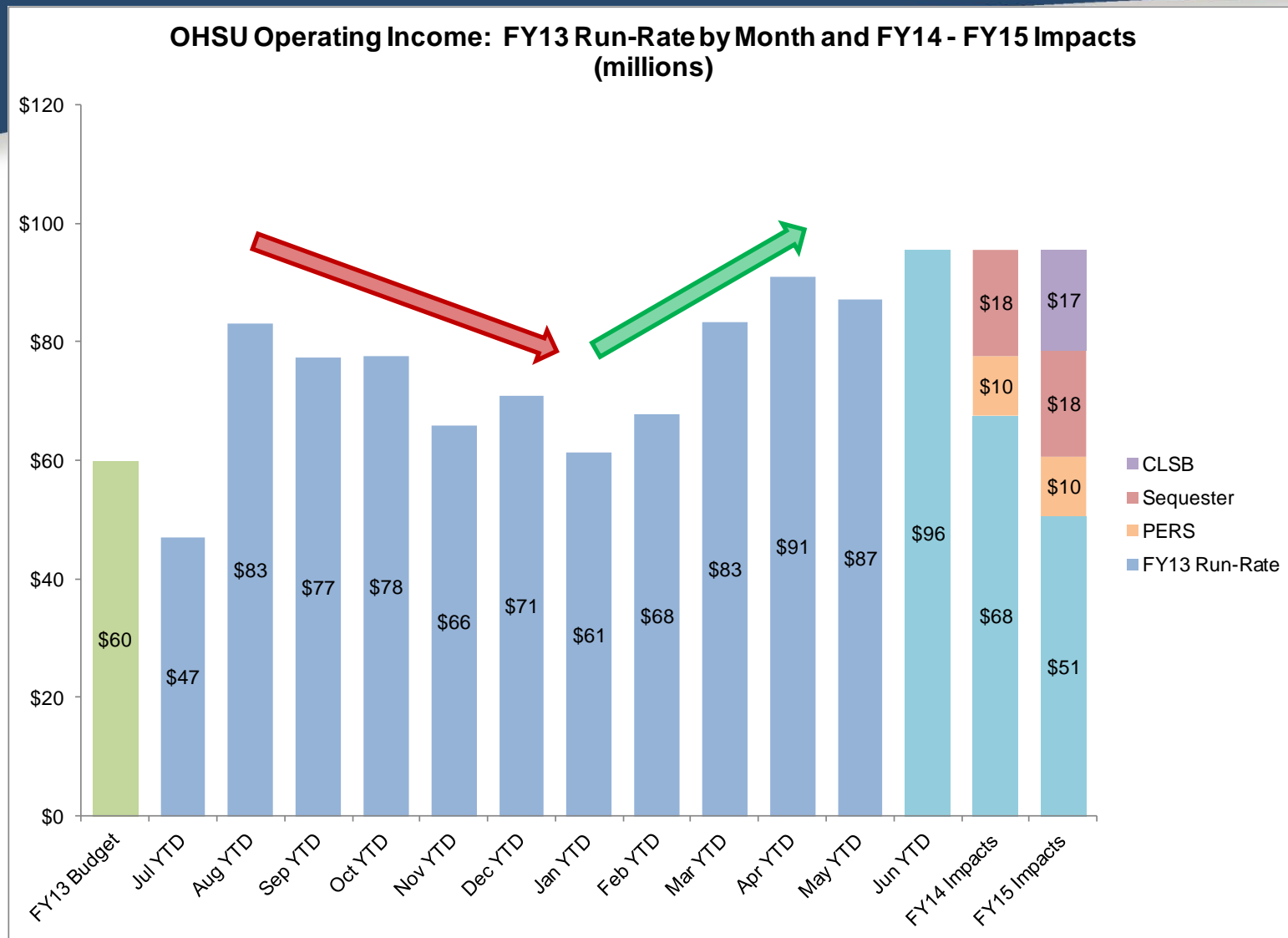


Distribution of FY13 Expense

FY13 OHSU Operating Expenses (total = \$2,037m)



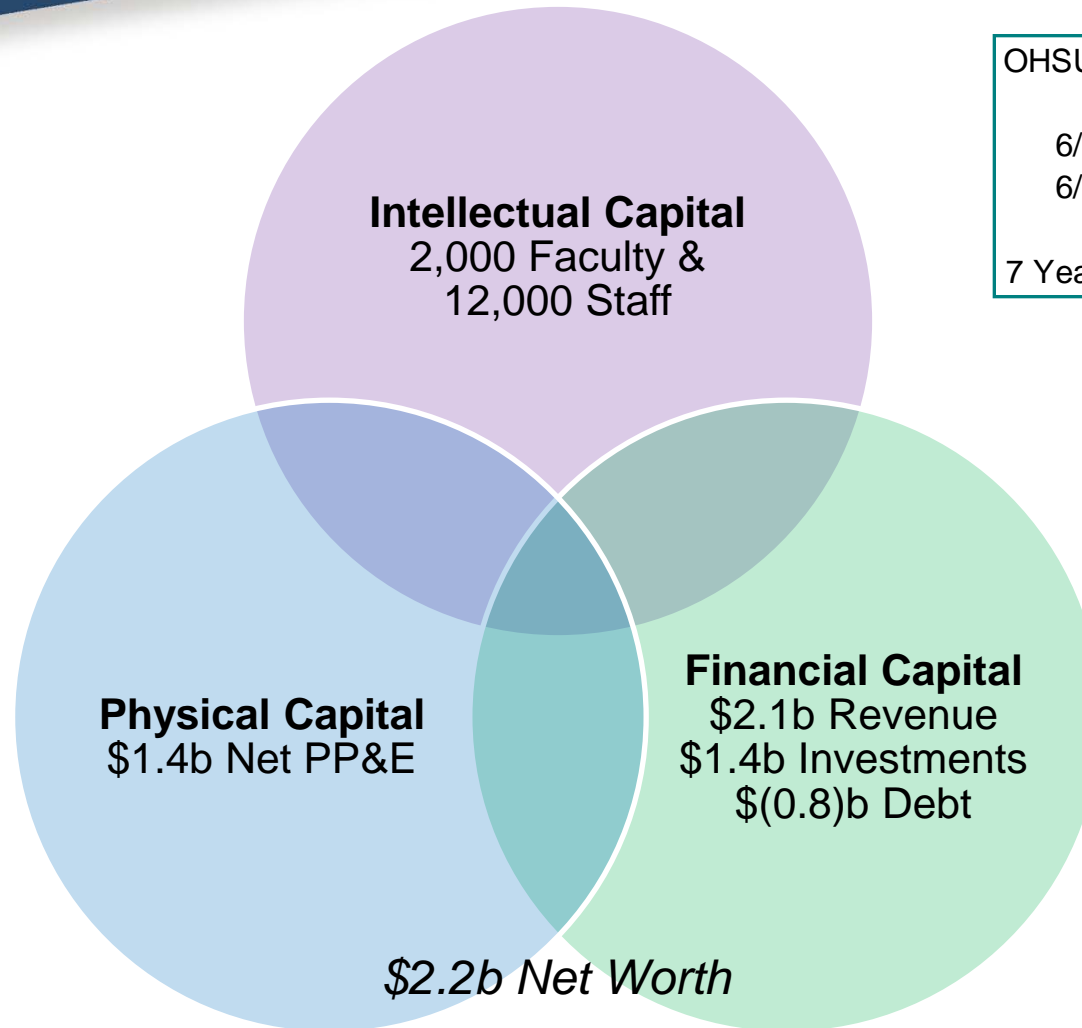
Mid-Year Correction Clears FY14 Hurdles



Key Drivers of FY13 Performance > Budget

- 4.6% increase over budget in CMI/OP adjusted admissions (largely case mix)
- \$40 million incremental revenues supported by only \$4 million incremental expense
- \$2 million in one-time revenues and \$6 million in favorable accounting adjustments
- Schools and institutes met or exceeded budget targets, with \$13 million unrestricted gain in School of Medicine—an especially strong performance
- \$9 million savings in central administrative & support areas on \$134 million base
- Debt restructured with A+ credit rating and lower interest rates
 - \$35 million interest cost in FY12
 - \$29 million in FY13 (with last refinancing in December)
 - \$25 million in FY14: \$10 million savings to bottom line

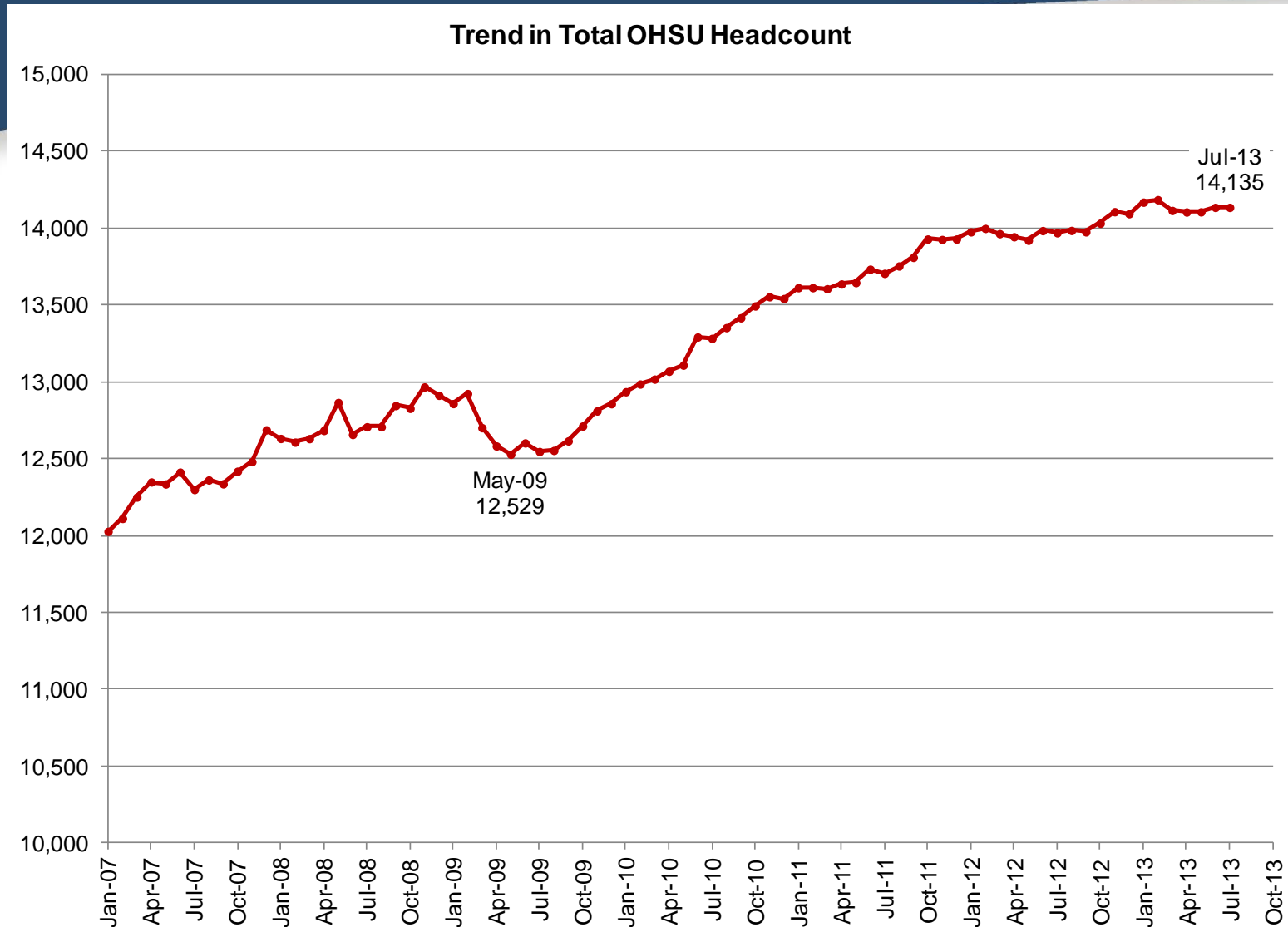
Balance Sheet Supports Intellectual Capital



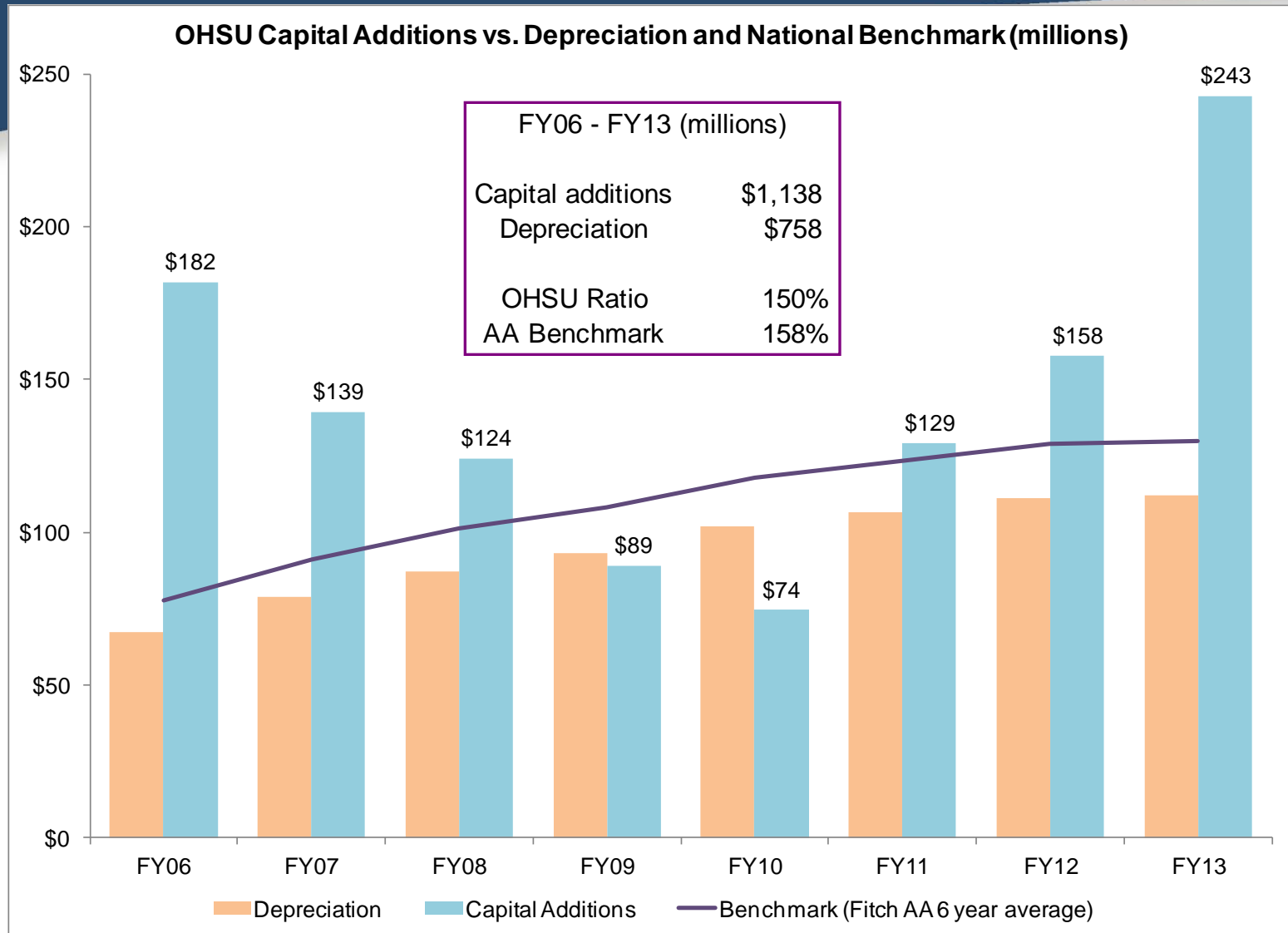
OHSU Net Worth (millions)	
6/30/06	\$1,284
6/30/13	\$2,169
7 Year Growth	69%

*FY13 Preliminary
with Foundations
consolidated*

1,600 Jobs Created Since Financial Crisis



OHSU Bottom Line Funds Capital Budget



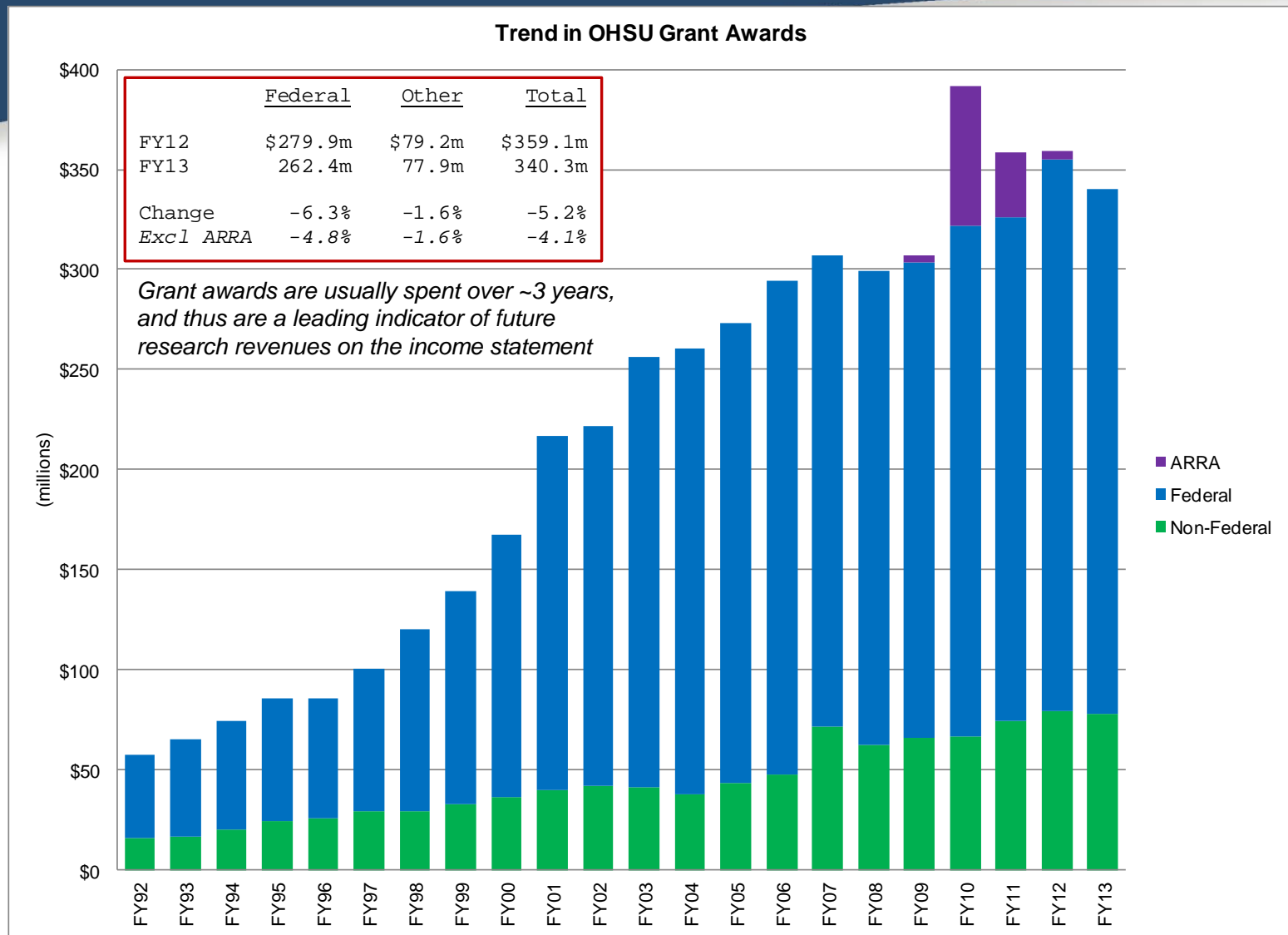
Disposition of FY13 Income > Budget

- \$6 million represents non-cash accounting adjustments
- \$2 million from affiliation payment invested in commercializing ORATECH
- \$2 million added to Diversity fund for student aid and faculty recruitment, doubling amount from FY12 earnings
- Fund for world-class science, including \$3.5 million OHSU senior scientist endowment and new Center of Human Gene & Cell Therapy
- Fund to backstop transition to new OHSU-wide faculty compensation plan, to be developed in FY14 as a core of new budget process
- One-third added to cash reserves to further strengthen balance sheet against uncertainty in health care environment.

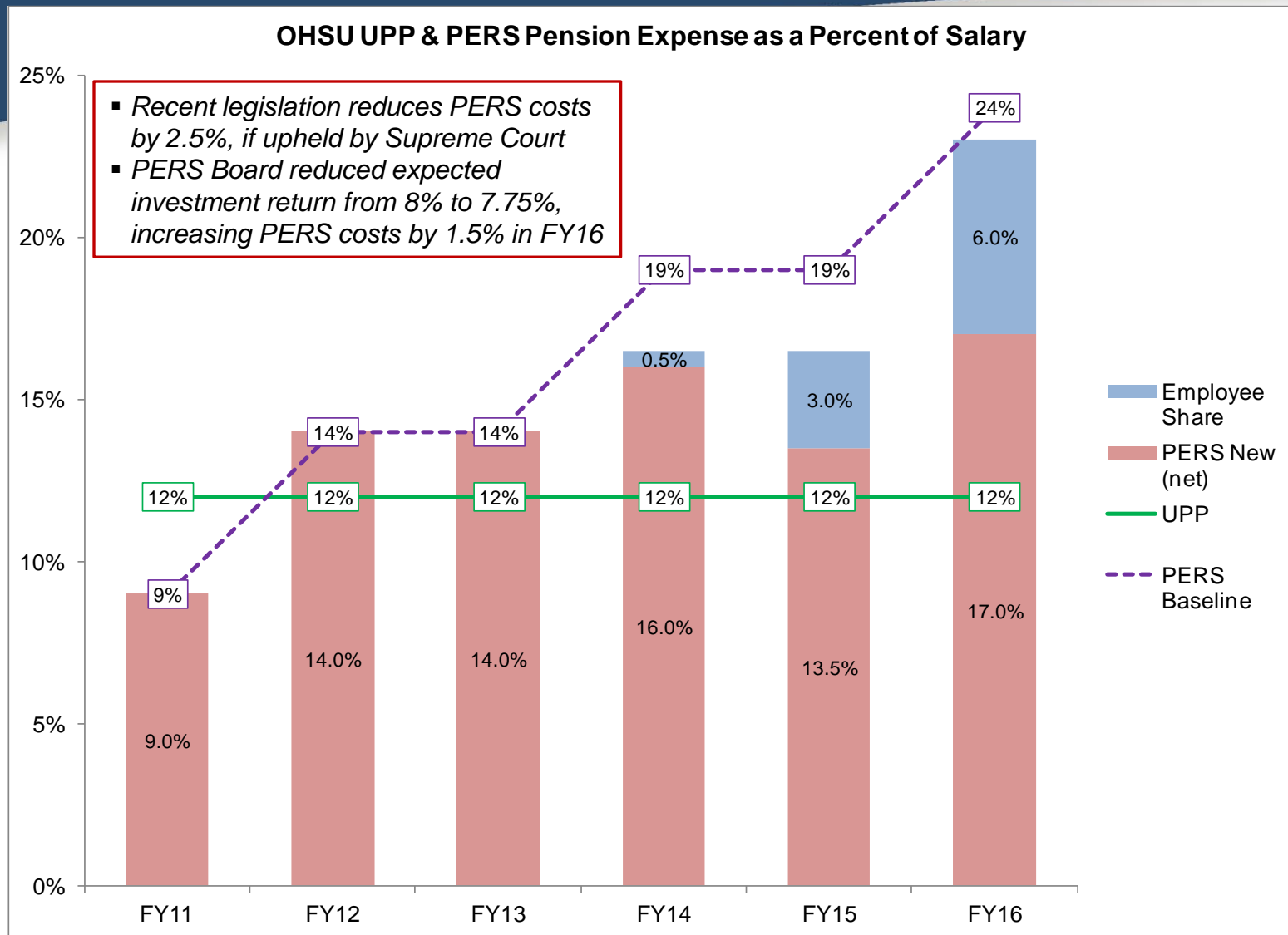
Key Financial Challenges in FY14 – FY15

- National slowing of health care spending, flattening OHSU's payment rates
- Federal sequestration and outlook for research funding
 - 2% cut to Medicare (about \$7 million)
 - 8% cut to NIH and other federal programs (about \$21 – 23 million gross, with about half falling to bottom line)
- Pension funding: PERS expense at +\$10 million in FY14, with significant uncertainty
- Needed new facilities: CLSB interest, depreciation, operations & maintenance estimated at +\$17 million in FY15
- OHSU tuition and student debt loads are relatively high
- In view of the financial landscape ahead, the cautionary belt-tightening implemented earlier this year helps OHSU manage these risks from a strong financial foundation

OHSU Awards Reflect NIH Budget Hold-Back



PERS Pension Costs Continue to Rise



Key Focus Areas to Manage in FY14 Budget

- Hospital capacity and throughput for further growth in patient activity
- Scaling research enterprise to lower levels of grant funding
- Completing implementation of PwC/productivity & process redesign efforts
- Implementing Knight Cardiovascular Institute plan
- Managing transition to CLSB for mid-June 2014 opening
- Continued uncertainty in public policy, especially federal budget
- Developing a more integrated approach to OHSU's budget, with a “faculty outward” look with unified and consistent expectations for faculty effort, compensation and support costs across OHSU



Public Safety Critical Incident Preparedness and Response

September 12, 2013

April 2007

The Daily Telegraph



FREE DVD TODAY
STEPHEN FRY & HUGH LAURIE

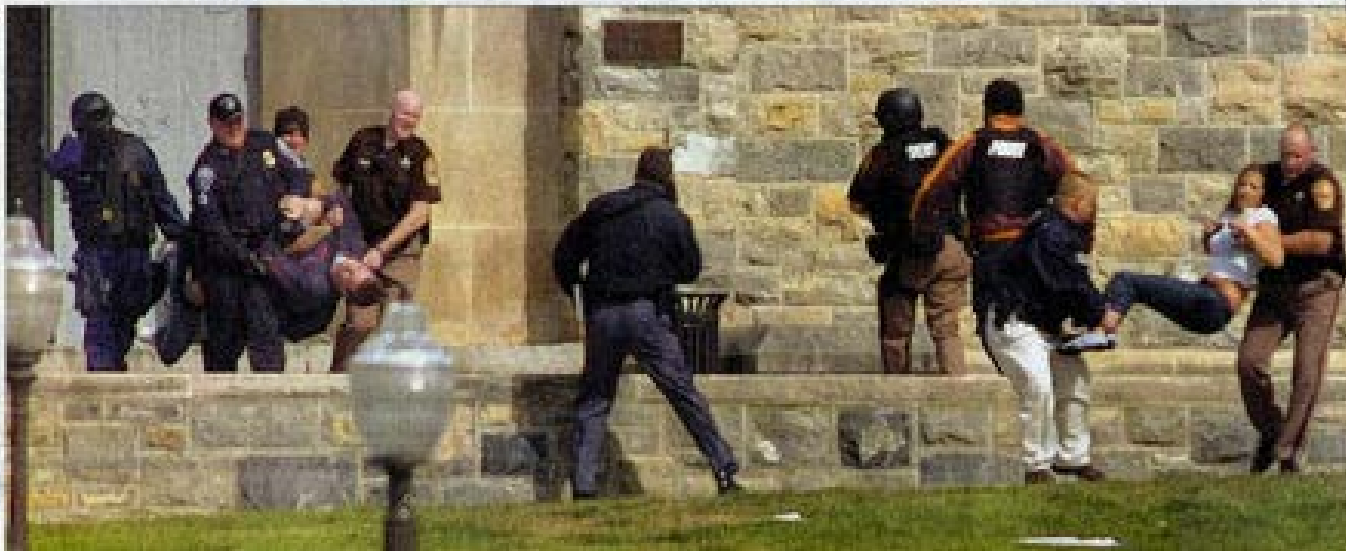


www.telegraph.co.uk FINAL 5

BRITAIN'S BEST-SELLING QUALITY DAILY

Tuesday, April 17, 2007 No 47,234 70p

Lone gunman kills 32 in rampage at US university



QUIZ

What class are you?
How to tell whether you're fit for a prince
FEATURES P21

CRICKET

England's must win game
SPORT P9, 10 & 15

OHSU Preparation for Potential Violence

- Multi-faceted approach
 - Prevention
 - Background checks
 - Panic alarms/lockdown ability
 - Multi-disciplinary Threat Assessment Team
 - Employee Wellness/Student Health
 - Mitigation
 - Electronic access vs. keyed access
 - Run Hide Fight
 - Appropriate law enforcement response to potential and actual incidents

Critical Incident Readiness Task Force

- 2008 Findings:
 1. Portland Police cannot provide adequate coverage
 2. Department of Public Safety (DPS) lacks sufficient legal authority to protect the campus
- 2008 Recommendations:
 1. OHSU should seek legislation to provide DPS with police officer authority
 2. OHSU should arm DPS officers or contract with police agency for armed presence

Police Officer Authority

- Senate Bill 658 (2009)
 - Enhanced training on mental health, law, communication
 - Enhanced lawful abilities
 - Proactive
 - Stop and frisk
 - Police officer holds
- DPS has 19 sworn and state-certified officers
 - Psychological screening
 - 16-week Academy

Armed Presence

- Contracting is unworkable
- Submitted legislation modeled after 2011 Oregon University System bill
- Legislation requires re-commissioning of DPS officers at October Board meeting, effective January 1, 2014
- OHSU could legally arm its officers that same date, but will not

Road Map – Training

- OHSU's unique environment requires uniquely trained police officers
 - Hiring a trainer
 - Monthly training, built by community consensus
 - Firearms
 - Communications
 - 40-hour crisis intervention training
 - De-escalation
 - Cross-agency training

Road Map – Policies

- Establish policies, built by community consensus
 - Firearms
 - Community oversight of all force, used or threatened
 - Complaint process
 - Mental health interactions/strategic disengagement

Road Map – Board Actions

- October 2013: Board re-commissions officers, effective January 1, 2014
- January – March 2014: Board reviews proposed training regimen
- June – September 2014: Board reviews training progress and votes on arming, subject to training completion

Steven A. Shea, PhD
Oregon Health & Science University
Center for Research on Occupational & Environmental Toxicology
(CROET)



y

Recent Bill in Oregon State Legislature

Change name from

Center for Research on Occupational & Environmental Toxicology

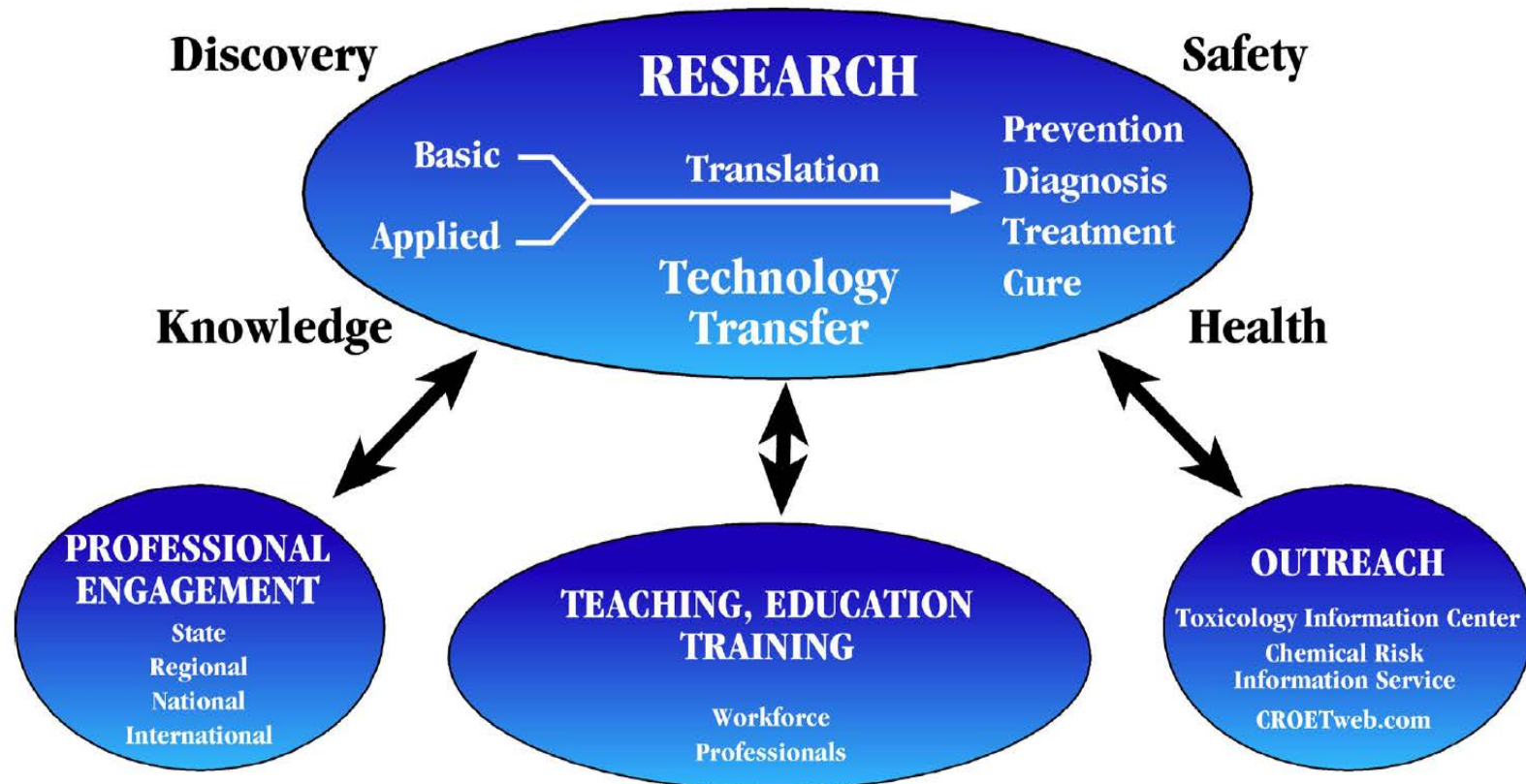
to

Oregon Institute of Occupational Health Sciences

- New name better reflects current and anticipated activities
- Sponsor: Representative Jennifer Williamson
 - Passed house & senate (unanimous)
 - Changes Jan 1 2014

"Oregon Institute of Occupational Health Sciences" (CROET)

State Mandate:
Conduct basic and applied research, outreach and education to address Oregon's occupational health needs



Main Research Areas

Total Worker Health

Oregon Healthy Workforce Center (OHWC) develops, tests and disseminates programs that integrate safety, health and wellness into single programs to reduce injuries and improve health

Exposure: Consequences and Prevention

Characterize adverse effects of occupational exposures, determine mechanisms of adverse effects, and develop interventions to reduce exposures and adverse consequences

Strategies and Solutions for Vulnerable Workers

Tailor programs to help prevent adverse consequences in specific vulnerable occupations such as young workers, agriculture workers and solitary workers

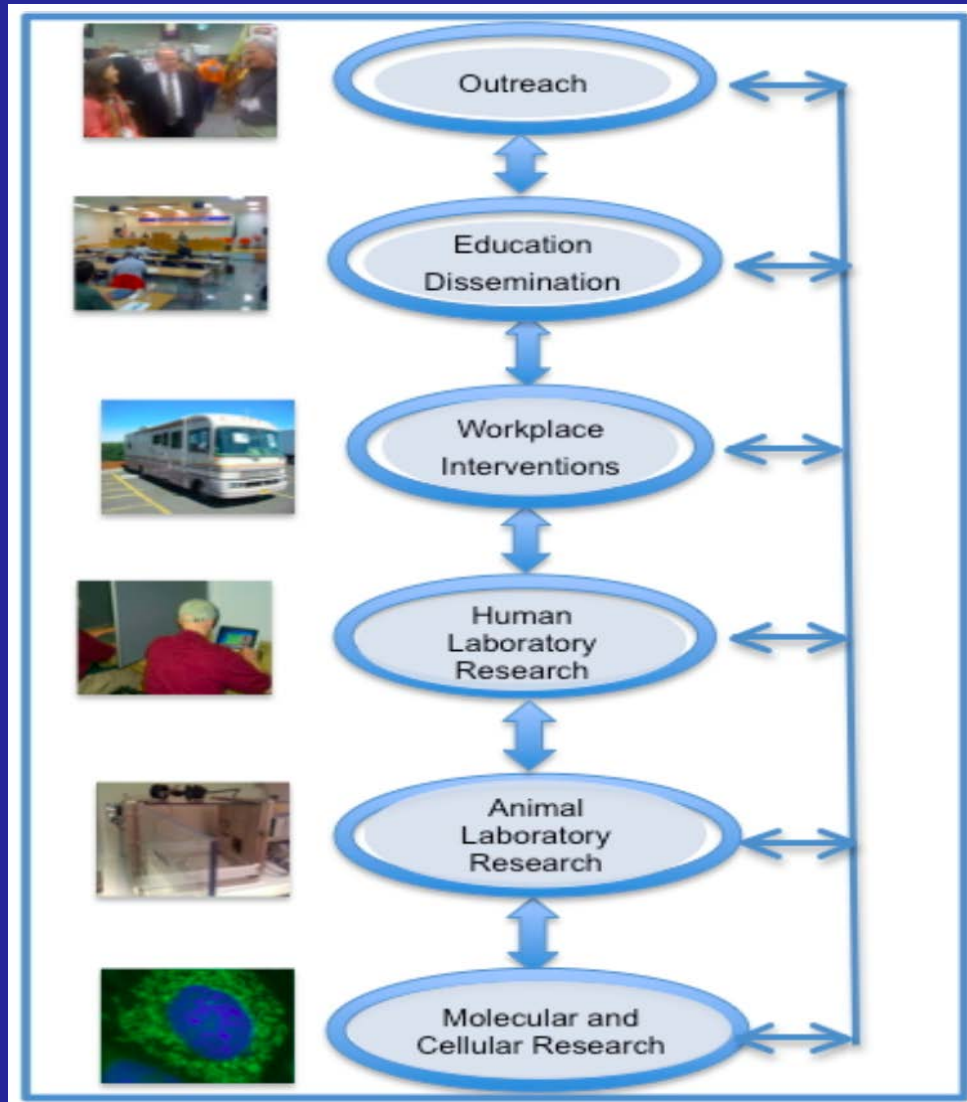
Sleep and Shiftwork: Impact on Health, Safety, and Productivity

New research program to screen for and treat sleep disorders, educate workforces about 'sleep health', and implement interventions to improve sleep, safety, productivity and overall health

Injury, Treatment, Recovery and Prevention

Physical injury is the largest contributor to workers' compensation costs in Oregon. We conduct research on the causes, treatment, recovery and prevention of workplace injuries

CROET THEME: SLEEP, SLEEP DISORDERS, SHIFT WORK, SAFETY AND PRODUCTIVITY



Let's Get Healthy

(Workplace, community & school health fairs [and data collection])

**Sleep and Shift Work:
Impact on Health, Safety and Performance**
(CROET Symposium, June 2013)

**Organizational factors that
improve sleep, health, safety and performance**
(Ryan Olson, PhD; Jackie Shannon, PhD;
Kerry Keuhl, MD)

**Physiology of shift work, sleep loss &
sleep disorders in humans**
(Steven Shea, PhD)

Physiology of shift work in animals
(Matthew Butler, PhD)

How the Circadian Pacemaker Works
(Charles Allen, PhD)

Occupational issues of Lone Workers - Ryan Olson



Developed a wellness and safety intervention program for truck drivers:

- training (eg, dietary choices)
- self-management
- team competition

Results (over 6 months)

were reductions in:

- truck driver weight
- use of sugary drinks
- hard braking

6 mo -7.8 lbs
30 mo -18.3 lbs

Randomized trial in ~ 400 truck drivers



Funding: National Heart Lung & Blood Institute

ACCOMPLISHMENTS

Since CROET began in 1988, there have been many accomplishments. Listed below are several of the ones we consider the most important. Below are a much larger number of "highlights" from the annual reports beginning in 2001 that document these accomplishments in more detail and many others.

The CROET programs include:

- **Outreach, Education, Dissemination**
- **Workplace Interventions**
- **Genome Sciences**
- **Injury and Recovery of Nerves and Muscles**
- **Sleep and Circadian Rhythms**

We have built CROET as a series of vertically integrated programs, from cellular to animal to human laboratory to workplace interventions, as depicted by the graphic, each interacting on multiple levels.

Outreach, Education, Dissemination

Information & outreach serves the CROET mission by interfacing with our Oregon stakeholders to provide opportunities for education, translation of CROET research and individual consultation.

Resources available to Oregonians: Scientific expertise; webinars; CROETweb.com, "Oregon & the Workplace" blog; social media; newsletters. Through these means we have provided the following programs and accomplishments (through 2012):

- **Toxicology Information Center** has provided individualized no-cost consultation on occupational safety and health on a free-to-Oregon call-in phone line (150-250 calls answered per year for
- **Health & Safety Symposia** provided in C
- **Let's Get Healthy! Lending Library** well-lifestyles that has been used in 20 Oregon workplaces.
- **Chemical Risk Information System (CR**

10 years (currently 47 Oregon clients including municipalities)

- **Summer Internships for College Students** supported 10-15 interns/year for 19 years in the largest OHSU summer internship program and perhaps largest in the state.
- **Exhibits and Presentations** at all OR OSHA conferences + regional meetings for over 10 years
- **Collaborations with government agencies, universities and associations throughout Oregon and the Northwest**
- **Investigation and Outreach on Emerging Issues** led to the discovery of a hair smoothing product with undisclosed high levels of formaldehyde that was reformulated due to our initial discovery. Latest blog report 2012.

Workplace Interventions

- **Established a widely-respected capacity to conduct interventions at all levels in Oregon.** This capacity includes serving (e.g., Management Labor Advisory Committee/MLAC, Work OSHA) individual businesses and labor organizations, and centers/programs (e.g., Oregon Healthy WorkForce Center, and Control Evaluation-FACE). Our research capacity encompasses OHSU, PSU, UO/LERC, OSU/School of Public Health, Kaiser Health Authority, St. Charles of Bend, and numerous other CROET's summer intern program.
- **Providing leadership in the creation of evidence-based "integrate health promotion with injury prevention."** Recognizing and productive, CROET showed national leadership by the at-risk population of truck drivers, which is the only published improve "Total Worker Health". SHIFT is a team weight loss motivational interviewing. Over a 6 month period truck drivers mean of 7.8 pounds) and made medium to large (d = .49 - .71) consumption of sugary drinks and snacks, fast food, dietary (recorded by truck engine; associated with fatigue and at-risk paper competition at Work, Stress, and Health (APA/NIOSH NHLBI (\$2.8 M) to conduct a randomized controlled trial of t
- **Developed the Let's Get Healthy! interactive education a** learn about research and the quality of their own lifestyle suggestions. Sought by communities throughout Oregon (43 fairs through 2012), the program has been adopted by 5 being integrated into Oregon school programs (e.g., St. Helix students, the workforce of the future, meet state health education 10,877 participants (through 2012), the program has loaned organizations in the queue who have requested a Let's Get Healthy has been funded by 23 grants, with total funding of \$2.2 M. Capitol Hill exhibits in 2011 and 2012.

- **Invention of cTRAIN computer-based training software to limited education (0 years) to advanced degrees for improved cTRAIN software is being disseminated along with an edited their own training in this effective computer- and web-delivered dissemination model to make the software and grant-support company that now uses revenue (~\$400K in awards) to evolve and web delivery environments. The software has been a key by 1 OR OSHA grant, 10 multi-year federal grants, 1 Center (total awards of ~\$6 M). This has led to the development of**

prevention of skin cancer. This is especially important for outdoor workers in Oregon since the State has one of the highest rates of melanoma skin cancer in the nation (ranking 8th in 2003) and a higher melanoma mortality rate than the national average (ranking 9th in 2004).

- **Developed a comprehensive assessment program to identify and alleviate the toxic effects of cellular exposure to formaldehyde and similar compounds in order to prevent some types of cancers.** Since Oregon had the 4th largest industrial release of formaldehyde in the nation in 2002 (latest data available), this is important to many workers and families living near those release points.

- **Discovered a direct link between DNA damage associated with oxidative stress and obesity that suggests mechanisms to prevent age and diet-related illness.** This discovery is significant since over 28% of Oregonians are obese and this condition leads to numerous health-related problems including diabetes and cardiovascular disease.

- **Discovered that ionizing radiation induces complex types of DNA alterations including chromosome breakage and mutations.** These observations could impact the incidence of leukemia and lung cancers including the estimated 350 Oregonians that get lung cancer due to radon exposure.

- **Developed a new method to identify environmental toxins that can lead to gene silencing, a process in which an actively expressed gene unexpectedly turns off like a light bulb going from the on to the off position.** Understanding these silencing events may give insight into mechanisms of cancer induction including breast cancer which affects approximately 5000 Oregonians and their families each year.

- **Developed a rapid state-of-the-art drug discovery assay that has been used to screen over 400,000 bioactive molecules for inhibition of DNA replication.** This represents the initial step in drug development that may improve therapeutic outcomes in a variety of cancer patients including those with gliomas that are among the most common form of brain cancer and generally regarded as incurable.

- **Served on the advisory council for the National Institutes of Environmental Health Sciences through a multi-year commitment to provide leadership on policy decisions that guide national programs.** This service provides important opportunities to represent environmental issues that are important for the health of Oregonians.

Nervous System Damage and Repair Program

- **Identified proteins that coordinate nerve growth and muscle innervation during normal development and following injury.** By determining the mechanisms of action of these proteins, we can develop new strategies to speed recovery, or even inhibit damage, from neuromuscular injuries,

Oregon Healthy Workforce Center NIOSH Center of Excellence (Kent Anger)

Focus on intervention effectiveness

Support improved Total Worker Health (TWH™):

- lifestyle choices
- safer work practices
- better psychological and physical health

TWH Projects:

- provide training / education
- motivate change by increasing social support, through
 - team activities
 - work or organizational restructuring
 - social media (young worker project)



Project PIs from the 4
largest research
Universities in Oregon:
OHSU – PSU – UO - OSU



Oregon Healthy Workforce Center Current projects

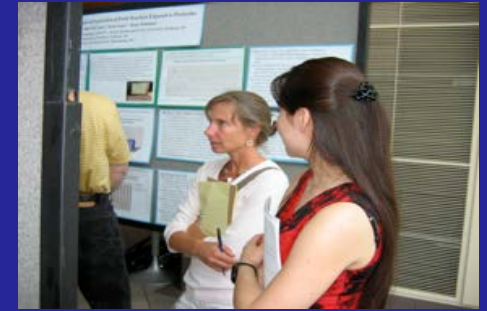
1. **Creating Health & Safety Communities for Home Care Workers**
(Ryan Olson: CROET/OHSU)
2. **Team-Based Work-Life and Safety for Construction Workers**
(Leslie Hammer: PSU)
3. **Health Promotion to Reduce Health Risks in Correctional Officers**
(Kerry Kuehl: OHSU)
4. **Health Promotion and Health Protection in Young Workers**
(Diane Rohlman: CROET/OHSU)
5. **Training supervisors to Promote Health/Safety In Construction**
(Kent Anger: CROET/OHSU)

Pilot Project: 'Be Active Be Safe' Training for Workers with Disabilities

(Laurel Kincl & Simon Driver: OSU)

Let's Get Healthy

(Jackie Shannon)

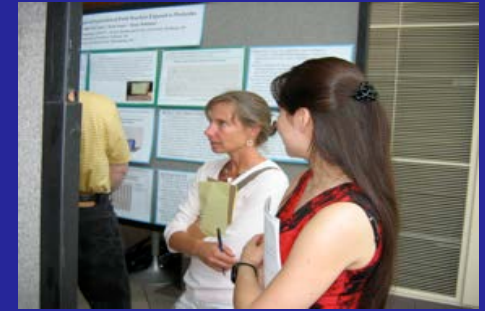


MISSION :

- Partner with communities and researchers to test behavioral and lifestyle interventions aimed at improving health
- Empower people of all ages to make educated healthy lifestyle choices
- Facilitate population health research and disease prevention

Let's Get Healthy

(Jackie Shannon)



- Entry Kiosk
- Diet Assessment
- Body Composition
- Blood Chemistry
- Genetics
- Sleep Station
- Cancer Risk Behaviors

barcode wristband
questionnaire & nutrient analysis
height, weight, % body fat
cholesterol, triglycerides, glucose,
blood pressure
via mouthwash for DNA research
sleep quality and quantity, sleepiness
risk assessment family history

Summer Intern Program (since 1995)

- 10-15 interns/year (from ~150 applicants/year)
- Interns work on a project over summer
- Present a scientific poster



Health and Safety Seminars

- Workplace Accommodations & Return to Work*
- Creating a Healthy Workforce
- Managing the Aging Workforce*
- Oregon's Workplace Health and Safety: Looking Forward to 2020**
- The Body's Response to Environmental Stress
- Innovative Communications & Messaging
- Innovations in Safety Climate*
- Green Chemistry, Safer Alternatives and Work
- An Authoritative Look at the ROI of Workplace Wellness Programs
- Workplace Aggression: Causes, Consequences, and Prevention*

* Co-sponsored by PSU OHP

** Co-sponsored by Oregon OSHA

CROET *Presents:*

**Center for Research on Occupational
and Environmental Toxicology**

Sleep and Shift Work: Impact on Health, Safety and Productivity

**FRIDAY, JUNE 14, 2013
9:00 AM - 4:00 PM**

OHSU School of Nursing Auditorium

Exhibits (typical year)

- Northwest Agricultural Show
 - Portland, January
- Northwest Environmental Conference
 - Portland, February
- Oregon Governor's Occupational Safety & Health Conference
 - Portland, March
- Blue Mountain OR OSHA Conference
 - La Grande, June
- Oregon Building Trades Annual Conference
- Central Oregon OR OSHA Conference
 - Redmond, September
- Northwest Occupational Health Conference
- Southern Oregon OR OSHA Conference
 - Medford, October
- Oregon Small Business Fair
- Western Pulp & Paper Workers OSHA Conference
 - Portland, December

CROETweb.com

160,000 hits/year

putting SCIENCE to WORK for working OREGONIANS

After hairstylist
Blowout, tests

Published: Sunday, October 17, 2010

October 26, 2010



Research

BehindTheChair.com's Profile



Blu Luc ▸ BehindTheChair.com: BRAZILIAN BLOWOUT ALERT!!!

This article confirms reports that their product contains FORMALDEHYDE.

<http://www.ohsu.edu/xd/research/centers-institutes/croet/emerging-issues-and-alerts.cfm>

September 18 at 11:54pm · Comment · Like



...this is huge.

Oregon Health and Science University has just released the following news: they've repeatedly tested brand-new batches of "formaldehyde-free" Brazilian Blowout solution and have found that they each contained shockingly-high levels of formaldehyde (at 10.6%, 6.3%, 10.6% and 10.4%). This comes after a previous test conducted last week, but from older bottles.

...say that they have found dangerous hair-straightening treatment. The contains only a trace amount

By Alene Dawson | Special to the

...ling around a pricey and hair-straightening treatment after Oregon announced recently that they had found formaldehyde in the dangerous chemical even in packages labeled formaldehyde-free.

7 tweets

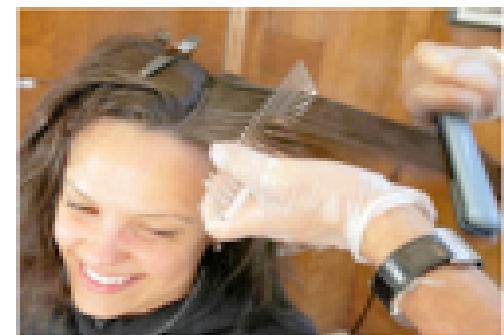
retweet



Submit

0

Digg it



Social Media

- Oregon and the Workplace Blog (1000 hits/month)
- Facebook (where Brazilian Blowout took off)
- Twitter (Blogs and Facebook entries tweeted ... and re-tweeted by others including NIOSH)

GOSH and Workplace Wellness

The Governor's Occupational Safety and Health conference (GOSH) ran last week at the Oregon Convention Center. A highlight for many of us attending was the Excellence in Workplace



Wellness short course on Thursday shown in the top picture. About 75 attended the short course to hear Ron Goetzel, the keynote speaker from Emory University and Truven Analytics, discuss the uses of data to evaluate the success of programs and the return on investment of workplace wellness programs. Ron's slides and many others will be available on the Oregon Healthy WorkForce Center Website in the coming week (www.ohsu.edu/CHWC).

Work, Stress, and Health Conference focused on TWH

The Work, Stress, and Health Conference (formally the 10th International Conference on Occupational Stress and Health) began today in LA. The conference is focused on Total Worker Health (TWH) which is the integration of occupational safety and health with wellness and wellbeing. Attendees are learning about recent research, and practitioners are attending to learn new ways to develop and implement TWH programs in the workplace. A picture of the audience at the opening session is shown below.




2013 Work-Stress-Health Conference on Total Worker Health (TWH) opens.

In the opening session, the keynote speaker (LaMontagne from Melbourne) summarized the research literature reporting the low but significant incidence of employees with poor mental health in the workplace. Stress is associated with depression that affects employees' performance at work and of course also at home. Some of that stress occurs at work.

This conference runs through Sunday. Several scientists from the Oregon Healthy WorkForce Center are attending and making presentations about their initial findings in pilot research conducted in the first year of the projects. More on that later.


For more information about TWH, see CROETweb topics.



Oregon and the Workplace

[Blog Home](#) [About](#) [What we do](#)

CROET and OHSU Participate in Friday's "Don't Fry Day"



Did you know that skin cancer is the most common cancer diagnosed in the United States? And, did you know that melanoma, which is responsible for 75% of all skin cancer deaths, is diagnosed in Oregon at a rate 36% higher than the national average?

Unprotected exposure to ultraviolet light is the most preventable risk factor for skin cancer, including melanoma, and early detection of melanoma can save lives. This is why CROET, the Knight Cancer Institute and the OHSU Department of Dermatology are participating in Don't Fry Day. Don't Fry Day, Friday May 24, is sponsored by the National Council on Skin Cancer Prevention and SunWise, a U.S. EPA health and environmental education program that teaches children and their caregivers how to protect themselves from overexposure to the sun. Don't Fry Day occurs every Friday before Memorial Day.

Remember to Slip! Slap! Slap! and Wrap! when you're outdoors. Slip on a shirt, slap on sunscreen of SPF 30 or higher, slap on a hat, and wrap on sunglasses. You can learn more about skin cancer prevention by visiting the Don't Fry Day booth, located outside the Old Library at OHSU between 11 am and 2 pm this Friday!

For more information, please visit:

<http://www2.epa.gov/sunwise/dont-fry-day>

<http://www2.epa.gov/sunwise>

https://www.facebook.com/DontFryDay?w=app_254553244581393&rest=1

Posted by: [bermand](#) in [Event](#), [Info](#), [Safety](#), [Wellness](#)

On: Monday, May 20, 2013

NO COMMENTS



[READ MORE](#)

Participation Guidelines

Remember: information you share here is public; it isn't medical advice. Need advice or treatment? Contact your healthcare provider directly. Read our [Terms of Use](#) and this disclaimer

Recent Posts

CROET and OHSU Participate in Friday's "Don't Fry Day"

Total Worker Health Conference Points to a Potential Burden of Workplace Wellness Programs and a Way to Avoid It

Work, Stress, and Health Conference focused on TWH

[MORE POSTS](#)

Recent Comments

[Susan Beach](#) on 2013 Safety Break Meets Wellness

[Susan Beach](#) on Helping Students Know Workplace Rights and Speak Up

12 primary faculty + 3 secondary

All faculty are grant-funded:

FACULTY LABORATORIES



Charles Allen, PhD



W. Kent Anger, PhD



Doris Kretschmar, PhD



R. Stephen Lloyd, PhD



Amanda McCullough, PhD



Ryan Olson, PhD



Bruce Patton, PhD



Diane Rohman, PhD



Jackilen Shannon, PhD



Steven A. Shea, PhD



Peter Spencer, PhD,
FRCPath



Desire Tshala-Katumbay
MD, PhD



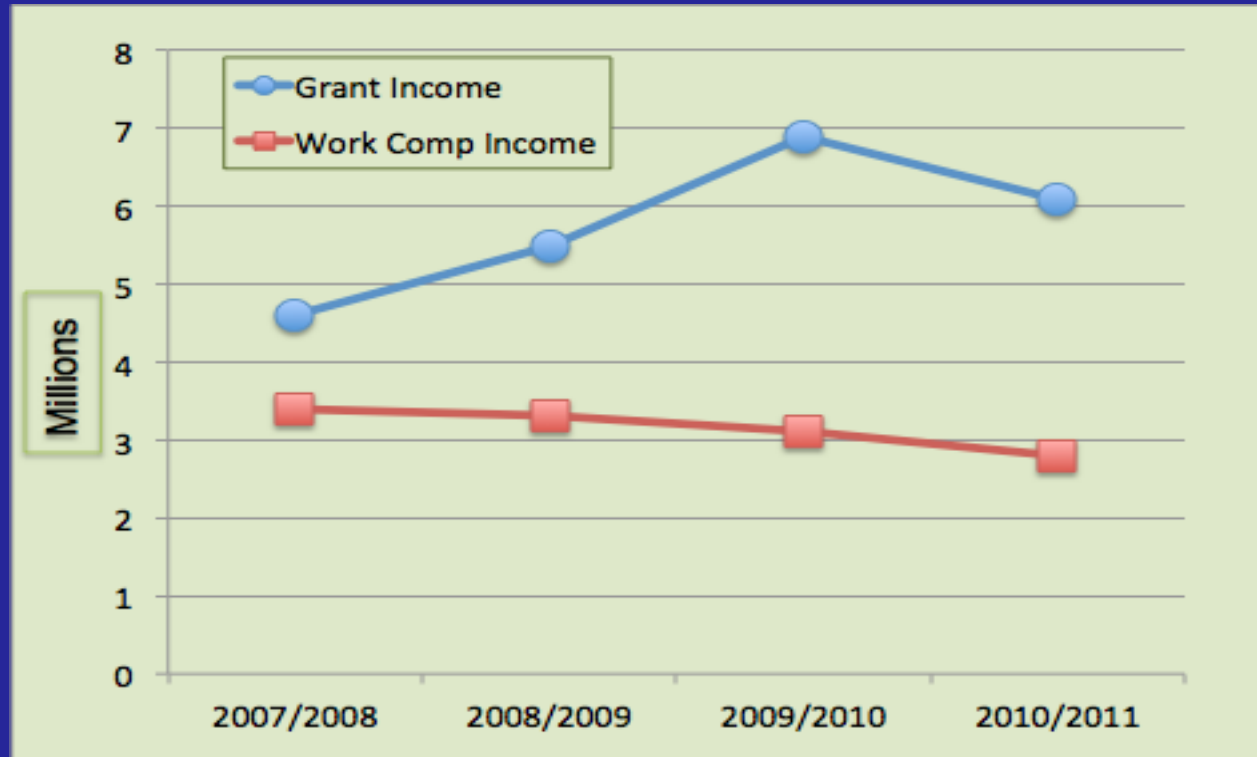
Mitchell Turker, PhD



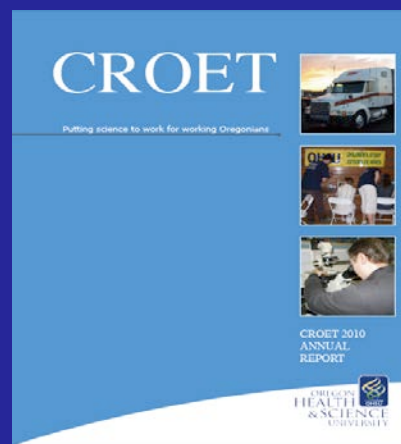
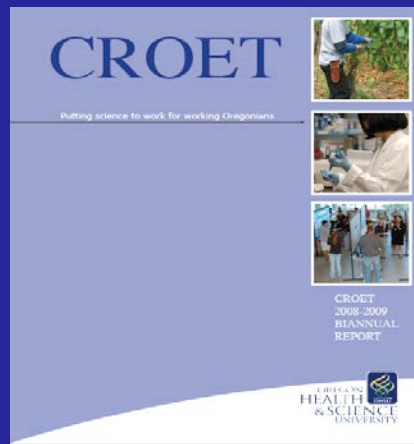
Richard Deyo, MD

Matthew Butler, PhD

Budget and Annual Reports



**>\$4 M
additional
commitment
from OHSU
2012-2015**





**RESOLUTION 2013-09-04
OREGON HEALTH & SCIENCE UNIVERSITY
BOARD OF DIRECTORS
(Appointment of Secretary and Assistant Secretary to the Board)**

WHEREAS, with anticipated departure from OHSU of Amy Wayson who has served as Secretary to the Board, the Board wishes to appoint a Secretary to the Board and Assistant Secretary to the Board effective immediately.

NOW, THEREFORE, BE IT RESOLVED, by the Board of Directors that effective September 12, 2013, Connie Seeley is appointed as Secretary to the OHSU Board of Directors to serve at the pleasure of the Board, and Janet Billups is appointed as Assistant Secretary to the OHSU Board of Directors to serve at the pleasure of the Board.

This Resolution is adopted this 12th day of September, 2013.

Yeas _____

Nays _____

Signed by the Secretary of the Board on September 12, 2013.

ENTER NAME HERE
Board Secretary