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DMICE Tracks

From the chair

Welcome to Issue 7 of DMICE Tracks, the newsletter of the OHSU Department of Medical Informatics & Clinical Epidemiology. As always, I am delighted to report on the continuing accomplishments of the department.



In this issue, we report on one of the

flagship programs of the department, the Evidence-based Practice Center (EPC). The EPC has been a fixture in the department for the last ten years, producing dozens of systematic reviews that have been published in leading medical journals (such as *Annals of Internal Medicine*, *JAMA* and *BMJ*). The center is also the department's single largest funded program. Since it was established, the center has attracted more than \$19 million in funding. It has also renewed its designation as an EPC, making it eligible to do evidence reports and other systematic review work for the Agency for Healthcare Research and Quality (AHRQ) for another three years.

Under the leadership of DMICE professor Dr. Mark Helfand, the Oregon EPC has established itself as a leader in both the production

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Oregon Evidence-based Practice Center receives third round of funding

After 10 years and almost \$20 million in funding, the Oregon Evidence-based Practice Center (EPC) continues to be regarded as a national leader in the methodology and production of systematic reviews, evidence-based reports on healthcare topics. This July the EPC received notice from the Agency for Healthcare Research and Quality (AHRQ) that it was awarded a continued designation as an EPC for the next three years.

Directed by Mark Helfand, M.D., M.P.H., M.S., professor of medicine and medical informatics and clinical epidemiology, the EPC is a collaboration of Oregon Health & Science University, the Portland Veterans Affairs Medical Center, and the Kaiser Permanente Center for Health Research (KPCHR). At OHSU the EPC is housed within the clinical epidemiology section of DMICE.

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Directing the Oregon Evidence-based Practice Center under its third round of AHRQ funding are Roger Chou, M.D., scientific director; Nicole Floyd, M.P.H., project director; Evelyn P. Whitlock, M.D., M.P.H., associate director; and Mark Helfand, M.D., M.P.H., M.S., director.



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DMICE chair, vice chair receive university awards

Two DMICE faculty leaders received university awards this spring for their excellence in teaching and mentoring.

William R. Hersh, M.D., professor and chair, received the 2007 Faculty Senate Teaching Award in May. Faculty members are recognized annually through the Faculty Senate Awards for their exceptional efforts in support of OHSU's missions. The Teaching Award, which this year was awarded to someone in the School of Medicine, recognizes a faculty member as an outstanding educator who has demonstrated a sustained and significant record of meritorious academic accomplishments.

At the awards ceremony, Hersh was recognized as both an excellent teacher and an international leader in biomedical informatics education. In addition to the biomedical informatics courses he teaches in DMICE, the Physician Assistants program and the Human Investigation Program, Hersh directs the informatics training program funded by the National Library of Medicine. He also teaches a graduate level, introductory informatics course online through the American Medical Informatics Association 10 X 10 program (see related article on page 11) and this spring taught a short course in Zimbabwe (see related article on page 9).

In June, at the OHSU School of Medicine Hooding Ceremony, professor and vice chair Cynthia D. Morris, Ph.D., M.P.H., received the 2007 John A. Resko Faculty Research and Mentoring Achievement Award. Dr. Morris has had a distinguished career as an investigator and a significant impact on School of Medicine students at all levels, creating and running exceptional educational programs and serving as an outstanding mentor.

One of her most notable accomplishments was the establishment of the Human Investigations Program in

2000. This program, funded by a K30 award to Dr. Morris, has improved the clinical research skills of more than 300 fellows and faculty from all schools of OHSU over the last 7 years. In 2004, Morris collaborated with Tom Becker, M.D., Ph.D., professor and chair of public health and preventive medicine, to establish the Master

of Clinical Research degree.

Morris also serves as education director of the Oregon Clinical and Translational Science Institute, research director of the Oregon Rural Practice-based Research Network, and assistant dean for admissions in the School of Medicine. ■

DMICE creates joint informatics program with Egyptian IT Institute

OHSU has agreed to create a joint graduate certificate program in biomedical informatics with the Information Technology Institute (ITI) of Egypt, based in Cairo. A joint protocol was signed by Lesley M. Hallick, Ph.D., vice president for academic affairs and provost of OHSU, and Mohamed Salem, Ph.D., director of the ITI, on August 2, 2007.

Under the joint program, DMICE distance learning courses will be offered to students enrolling in ITI's new biomedical informatics program, one of 13 information technology tracks ITI students can pursue. The new program targets health care professionals and information technology specialists in Egypt who will be trained to become leaders in the deployment of IT in health care settings.

"We are delighted to be able to share our knowledge in biomedical informatics to improve health care delivery in Egypt," said professor and chair William Hersh, M.D., who was instrumental in negotiating the arrangement with ITI. "We see this as a model for other international collaborations to disseminate knowledge of this important field more widely," he said. Hersh was a keynote speaker at an information technology conference sponsored by ITI in December 2006.

The ITI will graduate 500 students in all IT disciplines this year and, as a result of an expansion program and generous support from the Egyptian government, will graduate 1,000 each year after that, said Salem, at a joint protocol signing ceremony on OHSU's Marquam Hill campus. ■



Participating in the signing ceremony were (left to right): Robert Vieira, Ed.D., vice provost for academic and student affairs; William Hersh, M.D., DMICE chair; Mohamed Salem, Ph.D., ITI director; Lesley M. Hallick, Ph.D., provost; Jerris Hedges, M.D., vice dean, School of Medicine; and Fred Coccodrilli, OHSU Legal Department.

OHSU awards first Ph.D. in biomedical informatics

DMICE student Adam Wright became the first at OHSU to receive a Ph.D. in biomedical informatics on June 8, 2007, four years after the launch of the department's doctoral program.

He also received the 2007 John Resko Award for the outstanding doctoral dissertation in the School of Medicine for his work on a service-oriented architecture for clinical decision support in a national health information network. In addition, Wright was selected to be the 2007 graduate student speaker at the medical school hooding ceremony.

Originally attracted to the DMICE doctoral program for its "balance between theoretical and applied research, and particular strength in clinical systems," Wright saw OHSU as the strongest match for his interests. "I was particularly attracted by the strength of the faculty, and by the relative flexibility of the program," he said.

This flexibility afforded Wright the chance to gain practical experience in informatics work. "I spent two summers away from DMICE, the first in the Office of the National Coordinator for Health Information Technology, and the second at Partners HealthCare," he noted. "These experiences complemented my academic work at DMICE, and I think I got a tremendous amount out of them. I think these sorts of opportunities are fairly unique – DMICE gave me the flexibility to spend summers away, and provided me with academic credit for the work I did. Moreover, DMICE faculty were critical in helping me meet the right people to arrange for these opportunities."

As a doctoral student, Wright was funded through DMICE's biomedical informatics training program, an award from the National Library of Medicine for both predoctoral and postdoctoral fellows. "The NLM fellowship program is a tremendous



Adam Wright (third from left) stands with his doctoral dissertation committee after a successful defense. Left to right: adjunct associate professor Dean F. Sittig, Ph.D.; associate professor Holly B. Jimison, Ph.D.; Wright; associate professor Judy Logan, M.D., M.S.; Blackford Middleton, M.D., M.P.H., M.S., Director of Clinical Informatics Research & Development, Partners Healthcare System; and professor Kent A. Spackman, M.D., Ph.D.

opportunity – without it, I almost certainly couldn't have accomplished my research goals, and certainly not in such a short time," said Wright, who completed his degree in three years.

"As a fellow, I was funded to do the informatics research of my choosing, instead of being constrained to a defined topic, as can be the case with research grant funding. I'm extremely grateful to DMICE for selecting me for the fellowship, and to the NLM, the NIH and the taxpayers, who ultimately cover the cost of the program."

Wright sees the DMICE faculty as a major strength of the program. "At the end of the day, this is what made my time in the program so memorable," he said. "I'm especially grateful to Holly Jimison, Dean Sittig, Judy Logan and Kent Spackman, who served as my advisory committee. Each of them had a significant impact on the direction of my research."

He also found exchanges with other NLM fellows thought provoking. "It was a pleasure spending each day in the Fellows Room – it was tremendously engaging to spend my time with a group of smart, engaged, like-minded informatics fellows," Wright mentioned. "The discussions

we had in the Fellows Room will be one of my best memories from my time at DMICE, and they inspired me to do some of my best thinking about informatics."

Wright has now joined the faculty of Harvard Medical School, where he is working in both the Clinical Informatics Research and Development group for Blackford Middleton, M.D., M.P.H., M.Sc., and the Division of General Internal Medicine, headed by David Bates, M.D., M.S. "In CIRD, I will be working on clinical systems, particularly on services for clinical decision support, terminology and event notification and management," Wright said. "In DGIM, my work will be focused more on informatics research, with the goal of building my own stream of grant funding so that I can be self-supporting."

Wright is a Phi Beta Kappa graduate of Stanford University where he earned a B.S. degree with distinction in mathematical and computational science. He started his own information technology consulting business, Metricare Corporation, when he was 14, and the company now has more than a dozen major healthcare and technology firms and agencies as clients. ■

28 students receive biomedical informatics degrees

The June 8th commencement ceremony marked the tenth year that OHSU has awarded advanced degrees in biomedical informatics. This year 27 students received master's degrees or graduate certificates, and one, Adam Wright, received his PhD in biomedical informatics (see related story on page 3).

Six students received master of science degrees (listed with their thesis title):

Blue Blake, Portland, OR
Clinician Participation in a Rural Practice-based Research Network: A Q-Method Approach
 Current position: Application Coordinator, Epic InPatient Clinical Documentation, OHSU, Portland, OR

Denise Dinulescu, Portland, OR
User Interactions with Computerized Provider Order Entry Systems: A Method for Quantitative Measurement of Cognitive Complexity
 Current position: CPOE Project Manager III, John Muir Health, Walnut Creek (East Bay), CA

Julian Lipscombe, Aylesbury, United Kingdom

Where Do the Visually Impaired in Oregon Go to Receive Health Information? Comparison of the Experiences/Opinions of Visually Impaired Internet and Non-Internet Users Within Rural and Suburban/Urban Oregon
 Current position: Data Quality Analyst, Buckinghamshire Shared Services, National Health Service, Aylesbury, United Kingdom.

Siddhartha Mitra, Portland, OR
Characterizing Novel Genetic Sequences Using Web Services: A New Tool for the Biomedical Researcher

Joshua Richardson, Portland, OR
The Effects of Hands Free Communica-

tion Devices: Communication Changes Among Nurses, Nurse Managers, and Information Technology Staff

Current position: OHSU informatics doctoral student, INLM fellow

Poonam Sharma, Wilsonville, OR
A Collection of Multi-Criteria Decision Analyses for a Childbirth after Cesarean Decision Using Two Decision Methodologies – The Analytic Hierarchy Process (AHP) and Decision Trees

Seven students received a master of biomedical informatics degree (listed with their capstone project):

Lysa Bezemek, Lake Oswego, OR
Task Analysis for Medication Reconciliation for Long Term Care Pharmacists
 Current Position: Software Developer, Collegenet, Portland, OR

Neal Goldstein, Wilmington, DE
Development of an Epidemiologic Data Warehouse for the Oregon Immunization Alert Registry
 Current Position: Connectivity Analyst, Hologic, Newark DE

Elizabeth Horn, Portland, OR
Consumer Attitudes Toward and Benefits of Personal Health Records
 Current Position: Director, Medical and Scientific Affairs, International Psoriasis Council, Dallas, TX

Andrew James, Toronto, Ontario, Canada
SNOMED CT® as the Clinical Terminology for Representation of the Clinical Care of the Newborn Infant
 Current Position: Associate Clinical Director, NICU, and Chief Medical Editor, About Kids Health, The Hospital for Sick Children, Toronto, Canada

Renee McKechnie, Portland, OR
DMICE Alumni Website Redesign
 Current Position: Web Engineer, OHSU, Portland, OR



DMICE faculty and graduates pose after the School of Medicine hooding ceremony on June 8, 2007. From left to right: professor and chair William R. Hersh, M.D., associate professor Joan Ash, Ph.D., assistant professor Karen B. Eden, Ph.D., assistant professor Kathryn Pyle Krages, A.M.L.S., M.A.; professor and vice chair Cynthia D. Morris, Ph.D., M.P.H., and graduates Denise Dinulescu, M.D., M.S., Joshua Richardson, M.L.I.S., M.S., Lysa Bezemek, M.B.I., Adam Wright, Ph.D., Glen Stream, M.D., M.B.I., and Ali Sanousi, M.B.B.S., M.B.I.

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Dorr receives Hartford Foundation grant, testifies before senate committee on aging

The John A. Hartford Foundation has awarded a \$2.5 million, four-year grant to OHSU for the implementation of the Care Management Plus model of health care for seniors. David A. Dorr, M.D., M.S., assistant professor of medical informatics and clinical epidemiology, serves as principal investigator.

ary Teams in Practice Initiative.

The current grant will support implementation of the Care Management Plus model in at least 32 primary care clinics over four years, development of reimbursement methodology so that improving care to seniors and those with multiple chronic conditions is encouraged, and

Cherie P. Brunker, M.D., a geriatrician at Intermountain Healthcare, serves as co-principal investigator. At OHSU the research team includes Kelli Radican, project manager; Rachel Burdon, R.N.; John Welte; Hanh Tran; and John McConnell, Ph.D., research assistant professor of emergency medicine.

Related to his work on chronic care coordination, Dorr testified before the U.S. Senate Special Committee on Aging on May 9, 2007. The hearing concerned the future of Medicare and recognizing the need for chronic care coordination. According to Dorr, patients with five or more chronic illnesses account for two-thirds of Medicare spending. Clinics who use the Care Management Plus system can save more than \$250,000 per year, Dorr said. ■



Working on the Case Management Plus project funded by the Hartford Foundation are Rachel Burdon, R.N., research assistant, David Dorr, M.D., M.S., principal investigator, Kelli Radican, project manager, and Hanh Tran, student worker.

The dissemination grant aims to improve information technology for care managers and care management, to train care managers and primary care teams, and to help develop better reimbursement and collaboration models for comprehensive, longitudinal care for older people and those with complex conditions.

The Care Management Plus model was developed with a prior \$1.2 million grant at Intermountain Health Care in Utah as part of the Hartford Foundation's Geriatric Interdisciplin-

creation of a sustainable business plan for the model's dissemination beyond the funding period.

The Care Management Plus model uses computer technology and a nurse care manager to help patients and caregivers self manage their conditions, prioritize their health care needs, and navigate an increasingly complex health care system. The unique computer technology includes a care manager tracking database, patient summary sheet, and messaging systems to facilitate communication and best practices among the health care team.

Rose Awards

Congratulations to Lynne Schwabe, administrative assistant to the DMICE education program, who recently received two OHSU Rose Awards.

One nominator said, "Thank you for being so easy to work with, understanding, kind, dependable and just a joy as a coworker!"

The second nominator said, "Thank you for your ability to be flexible in an ever changing work environment. I marvel at your ability to keep a cool head when everything else around you is out of control. It is a joy to work with you."

Informatics Degrees

Continued from Page 4

Ali Sanousi, Tabouk, Saudia Arabia
The Integration of Phenotypic and Genotypic Data: A Systematic Review and Evaluation of Interoperability Models

Current Position: BioMedical Informatics Specialist and Assistant Research Scientist, King Faisal Specialist Hospital & Research Center, Riyadh, Saudi Arabia

Glen R. Stream, Spokane, WA
Washington Family Physicians Survey of Computer Technology

Current Position: Medical Director, Clinical Information Services, and Chief Privacy Officer, Rockwood Clinic, Spokane, WA

In addition, 14 students completed graduate certificates in biomedical informatics, a 24-credit hour program to provide knowledge and skills in the application of information technology to health care.

Deneen Askew, Sandy, UT

Madeleine Cadwallader, Palm Harbor, FL

Shahim Essaid, Porterville, CA

Justin Fletcher, San Francisco, CA

Jay M. Goldstein, Passaic, NJ

Patrick Hess, Irvine, CA

Barry Little, Lexington, KY

Carolyn Petersen, Rochester, MN

Michel Roy, Laval, Quebec, Canada

Rita Scichilone, Woodbine, IA

Ronald Stevenson, Tigard, OR

Jean-Michel Tivollier, Noumea, New Caledonia, France

Julia Weatherby, Austin, TX

Paul Zlotnik, San Diego, CA

Congratulations to all of our 2007 graduates! ■

DMICE faculty prove central to OHSU translational research institute

The department is very active in the new Oregon Clinical & Translational Research Institute (OCTRI), one of first 12 centers funded by the National Institutes of Health (NIH) to promote more rapid translation of research findings into clinical care. The overall program is called the Clinical & Translational Science Award (CTSA).

Several DMICE faculty serve in leadership roles in OCTRI. DMICE professor and chair William Hersh, M.D., serves as director of the OCTRI Biomedical Informatics Program. Hersh is also involved at the national level, serving as Chair of the CTSA National Informatics Steering Committee, one of a number of committees convened to address CTSA issues across the funded centers. Hersh has been involved in several high-profile events describing the CTSA program, including presentations at conferences hosted by the Association of American Medical Colleges and the American Medical Informatics Association.

DMICE assistant professor Shannon McWeeney, Ph.D., is also involved as co-director of the OCTRI Biomedical Informatics Program and a leader of one of the working groups established by the CTSA National Informatics Steering Committee to inventory tools and other resources available to clinical and translational researchers.

Also playing a leadership role in OCTRI is professor and vice chair Cynthia Morris, Ph.D., M.P.H., who serves as OCTRI director of education. The Human Investigation Program (HIP), which Dr. Morris began in 2000, is now funded through OCTRI, and the Master of Clinical Research program is also under the OCTRI umbrella.

In addition, Morris serves as principal investigator of a K12 award within OCTRI called the Oregon Scholars in Clinical Research (OSCR) program, which supports up to six faculty scholars in mentored clinical and translational research training.

The Oregon Scholars Learn and Experience Research (OSLER), also directed by Morris, is another OCTRI training program, a T32 grant from NIH, which funds six students in OHSU doctoral training programs (Ph.D., M.D., D.M.D.) for mentored clinical and translational research each summer, and four students in a year long program that supports both research and education. The goal of both programs is to increase the pipeline of clinical and translational research at OHSU.

Another component of OCTRI is the Academy—a vibrant association of scientists who share a common interest and dedication to clinical and translational research. This group of distinguished translational researchers will foster the culture of clinical and translational research at OHSU. DMICE professor and Evidence-based Practice Center Director Mark Helfand, M.D., M.P.H., M.S., serves as an Academy member in addition to Drs. Hersh and Morris. ■

Faculty Profile: Heidi Nelson focuses on women's health, both at OHSU and Providence Health System

The two hats DMICE faculty member Heidi Nelson, M.D., M.P.H., wears span the field of medicine from examining the evidence about medical diagnosis and treatment to improving clinical care for women and children.

As research professor of medical informatics & clinical epidemiology and medicine at OHSU, Dr. Nelson works as a senior investigator with the Oregon Evidence-based Practice Center where, since 1997, she has produced systematic reviews used by the U.S. Preventive Services Task Force (USPSTF) and National Institutes of Health, among others.

As an EPC investigator, Nelson has conducted systematic reviews on osteoporosis screening and management, management of menopause symptoms, genetic risk assessment for breast and ovarian cancer, postmenopausal hormone therapy, screening for family violence, screening for sexually transmitted diseases, and several other topics. Her work has been published in journals such as *JAMA*, *Annals of Internal Medicine*, *Pediatrics*, and *the Lancet*.

Much of her work has been for the USPSTF, a panel of health experts that provides guidelines for screening and prevention practices based on the EPC's reviews of evidence. "The USPSTF guidelines often become the standard of care in this country and internationally," Nelson noted. "Since our evidence reviews provide essential information upon which the guidelines are determined, our work is very important in this process. This is particularly true when it leads to a change in practice."

Nelson also serves as Regional Medical Director of the Providence Health System Women's and Children's Program, where she and her team provide strategic and program



planning for health services for women and children, and for the past two years she has led their Women & Children's Health Research Center, a centralized research infrastructure facilitating collaborative projects in women and children's health research.

"My colleagues and I focus on improving the health of the women and children Providence serves by strengthening clinical programs and services across the four Providence hospitals in the Portland metro region as well as the non-metro Providence hospitals in Oregon that partner with us," Nelson said.

For example, Nelson's work at Providence includes developing and guiding the process of adopting and implementing patient quality and safety initiatives, such as universal HIV screening of pregnant women delivering at Providence. Outcomes of these initiatives are determined using patient databases developed and maintained at the Women & Children's Research Center.

Wearing the two hats has allowed Nelson to develop some collaborative programs between OHSU and Providence. DMICE assistant professor David Dorr, M.D., M.S., is working with the group at Providence to develop a registry of patients with osteoporosis

who are admitted to the hospital with fractures to track their follow up care to prevent subsequent fractures.

Nelson is also collaborating with Lowell Davis, M.D., OHSU professor of obstetrics and gynecology, in the NIH Maternal Fetal Medicine Unit research network. She has submitted grants from Providence collaborating with OHSU researchers on domestic violence interventions for new mothers, decision aids for women at risk for delivery of extremely premature infants, and national surveys about screening for ovarian cancer.

In fact, Nelson wears a third hat. Since 1994, she served as a director for the Portland VA Medical Center fellowship in women's health, a two-year, post-residency clinical and research experience to physicians focusing on women's health.

"My major role is to provide research mentorship to fellows by sponsoring them in specific projects," Nelson said. "Many fellows over the years have worked on evidence reviews in women's health topics at the EPC and have published their resulting work in major journals. Their contributions to the EPC projects have been tremendous, so this is definitely a mutually beneficial arrangement."

Taking evidence-based research into the real world of clinical care has been a focus for Nelson. "One of the main reasons I took the Providence position was to take the work we do at the EPC and apply it to health system and clinical settings," she said. "Evidence-based guidelines are not useful if they cannot be implemented in the real world. Providence is a real world setting for health care, but one attuned to efficiency, cost, quality, safety and patient outcomes. If we can't implement a practice standard or guideline at Providence, it probably can't be done in a community health system." ■

Oregon Evidence-based Practice Center

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Evelyn P. Whitlock, M.D., M.P.H., senior investigator at KPCHR and clinical associate professor of public health and preventive medicine at OHSU, serves as EPC associate director. Roger Chou, M.D., associate professor of medicine and medical informatics and clinical epidemiology, is the EPC scientific director while Nicole Floyd, M.P.H., serves as project director.

“The Oregon EPC has been a trailblazer for collaboration,” said Helfand. “Our strong collaboration with Kaiser Center for Health Research serves as a model for a much larger collaboration, the Oregon Clinical and Translational Research Institute. One of our lead investigators, Heidi Nelson, M.D., M.P.H., directs the Women and Children’s Program at Providence, and several of our lead investigators, including me, are based at the Portland VAMC.”

The Oregon EPC began in June 1997 as one of 13 centers throughout the United States and Canada funded by AHRQ to produce reviews of the evidence on designated healthcare topics.

The Oregon EPC’s first report, on rehabilitation for traumatic brain injury, was presented at a National Institutes of Health Consensus Development Conference on Rehabilitation of Persons with Traumatic Brain Injury in October 1998.

The EPC’s second assignment is one that has continued for ten years and produced numerous publications. As the EPC that supports the work of the US Preventive Services Task Force (USPSTF), Oregon EPC investigators and staff have worked on 51 topics related to health screening and prevention and produced 37 articles in journals such as *Annals of Internal Medicine*, *JAMA*, *Pediatrics*, *American*

Journal of Preventive Medicine, *The Lancet*, and *Annals of Family Medicine*.

The USPSTF is an independent panel of experts in primary care and prevention that systematically reviews the evidence of effectiveness from Oregon EPC reports and develops recommendations for clinical preventive services.

Another area of expertise for the Oregon EPC relates to reviews of comparative effectiveness of drugs within the same class. In 2001, the EPC began working with the Oregon Health Resources Commission to review the effectiveness of drugs such as proton pump inhibitors, statins,

“The Oregon EPC has been a trailblazer for collaboration.”

- Mark Helfand, M.D.,
M.P.H., M.S.

long-acting opioids, and oral hypoglycemics.

Several years later, in conjunction with the Oregon Center for Evidence-based Practice, the Drug Effectiveness Review Project (DERP) was born. A collaboration of 13 organizations that have joined together to obtain the best available evidence on effectiveness and safety comparisons between drugs in the same class, and to apply the information to public policy and decision making in local settings, DERP uses comprehensive, updated and unbiased systematic reviews produced by the Oregon EPC. Assistant professor Marian McDonagh, Pharm.D., serves as principal investigator of the EPC component of DERP.

A related project is the Scientific Resource Center (SRC), where the Oregon EPC provides methodologic

guidance, resources and expertise for the other EPCs in the development of comparative effectiveness reviews. The SRC receives nominations for new topics within the current list of priority conditions and, in consultation with stakeholders, makes recommendations for new research topics.

The center also helps refine key questions and identify knowledge gaps where new research is needed. “I think our EPC is perceived as having a unique focus on patient-centered topic development and on the needs of decision makers,” Helfand said.

Over the past 10 years and with AHRQ funding, the Oregon EPC has also prepared individual evidence reports on a wide range of healthcare topics. Professor and chair William Hersh, M.D., led two reports on telemedicine while Dr. Nelson was principal investigator of reports on management of menopause symptoms and diagnosis of osteoporosis in postmenopausal women, both used at NIH conferences. Dr. McDonagh, along with associate professor Joan Ash, Ph.D., prepared a report on the effects of hyperbaric oxygen therapy in treating stroke, brain injury or cerebral palsy.

Associate professor Holly Jimison, Ph.D., along with Dr. Hersh and associate professor Paul Gorman, M.D., is preparing an evidence report on barriers and drivers of health information technology use in the elderly, chronically ill, and underserved.

In the end, the work of the Oregon EPC has affected health care policy in a variety of venues, from the recommendations of the USPSTF to Medicaid policies in different states to federal Medicare decisions. One of the greatest strengths of the Oregon EPC, said Helfand, “is the large number of experienced investigators and staff who have conducted systematic reviews that made a difference in clinical policy or health policy.” ■

Two DMICE faculty teach biomedical informatics course at University of Zimbabwe

DMICE faculty members Paul Gorman, M.D., associate professor, and William Hersh, M.D., professor and chair, braved political and economic turmoil to travel in April to Harare, Zimbabwe, where they delivered a short course in biomedical informatics at the University of Zimbabwe Medical School. The course was delivered in collaboration with Tungamirai Simbini, M.B.Ch.B., a faculty member at the medical school and a student in the OHSU Master of Biomedical Informatics Program. Assistance was also provided by Dr. Rob Borland, who heads the Health Informatics Section of the Department of Community Medicine at the medical school.

The two DMICE faculty visited during successive weeks. In the first week, Gorman provided lectures and hands-on sessions in evidence-based medicine and information seeking. Hersh followed up the second week with additional lectures and discussions surrounding electronic health records, telemedicine, and careers and professions in biomedical informatics.

"I was struck by the sophistication with computers and the Internet by the participants, on one hand," said Hersh, "and the lack of resources and infrastructure on the other." Hersh noted that information technology support was provided by a single person for the entire medical school, although Dr. Borland had managed to implement a wireless network in his department. "Nonetheless," Hersh added, "we found that the participants were advanced users of email, Pubmed, and Google, and were highly enthusiastic toward adding to their skills."

Gorman and Hersh were particularly pleased by the leadership provided by their student, Dr. Simbini (who

was featured in the Winter 2006 issue of the DMICE newsletter). Dr. Simbini is funded in the OHSU informatics graduate program by a cooperative agreement from the U.S. Centers for Disease Control and Prevention.

"We are delighted to contribute to the much-needed capacity in informatics in Zimbabwe," said Hersh. "Tunga is becoming an informatics expert

and hopefully will assume a leadership role for his country in the field."

Dr. Borland's wireless network also provided an Internet lifeline to Gorman and Hersh. "I was able to keep up with my email and on-line teaching the entire time while in Zimbabwe," said Hersh. "It shows that the Internet has truly become a worldwide, ubiquitous tool." ■



After teaching an informatics short course at the University of Zimbabwe Medical School, DMICE professor and chair William R. Hersh, M.D., poses with Dr. Tungamirai Simbini (left) and Dr. Rob Borland (right), both faculty members at the medical school.



DMICE associate professor Paul N. Gorman, M.D. (front row center) with the students in his biomedical informatics short course at the University of Zimbabwe Medical School last April.

From the chair

Continued from Page 1

and the methodology of systematic reviews (also called evidence reports), which exhaustively summarize the literature on a given medical treatment or test.

This issue also describes our involvement in the Oregon Clinical & Translational Research Institute and our collaboration with the American Medical Informatics Association in the 10x10 Program. I am personally involved in both of these efforts, which have brought national visibility to the department. The two vice chairs of the department, Drs. Cynthia Morris and Joan Ash, are highly involved in the former and latter, respectively.

The department is also proud to report the graduation of our first Ph.D. student, Dr. Adam Wright, who has assumed a faculty position at Harvard Medical School. There have also been awards to faculty members for outstanding teaching and mentoring, including myself and Dr. Morris.

We continue to be successful in obtaining grant funding to support our research. I am particularly pleased to see our junior faculty doing well and establishing their careers through research funding.

I am excited about our new external liaison effort. Marcy Jacobs has joined the department to lead these efforts, which aim to increase our collaboration with industry, health care systems, and other organizations outside OHSU. An article about Marcy describes her planned work in more detail.

We also include a feature on one of our clinical epidemiology faculty, Dr. Heidi Nelson. An inaugural faculty member in the department, Dr. Nelson continues to provide leadership both to the EPC as well as in her recent role as medical director of the Women's and Children's Program at Providence Medical Center.

As if our continued research and educational activities are not enough, the department is also engaged in a strategic planning process. While our tremendous growth has been bottom-up and organic, based on the innovation and vision of the faculty and others, we can benefit from some strategic thinking and organized planning.

Furthermore, both the School of Medicine and the university at large are currently engaged in strategic planning, and this gives us an opportunity to align our goals with theirs. While a top-down strategic planning process will never replace the creativity and drive of the faculty and staff, it will provide a framework for more predictable growth and accomplishment. I will report on the outcome of this process in coming issues of this newsletter.

Of course, part of the purpose of strategic planning is to help the department identify and leverage more resources. In other words, we need to think about funding, both to sustain existing programs and invest in new ones.

Despite our success in obtaining grant revenue and tuition, these monies are earmarked for specific expenses of the research projects and educational programs, respectively. Most of our grants come from federal sources (e.g., NIH, NLM, and AHRQ), which have very explicit regulations on allowable expenses. Furthermore, these grants are time-limited, can take up to a year to be funded and are highly competitive, with most programs funding only 10-25 percent of applications. Although we get funded at a rate higher than the average, we still write many high-quality proposals that do not get funded.

So although our grants and tuition revenues fund the key activities of the department, they provide little money for investment in the future.

For example, faculty occasionally wish to pursue new areas of research,

which usually requires learning new techniques or generating preliminary data. Or the department may wish to invest in new educational programs. An example of this is our recent work with leaders in the health information management field (the individuals who run medical records departments in health care organizations), where we hope to develop joint course and degree offerings.

Another use for gift funds will be for our students. Having money for things such as student travel to scientific meetings and career development activities will improve their education and increase their competitiveness in the job market, which will in turn attract more students.

We also hope to raise funds for student scholarships that will allow us to attract more high-achieving students, especially those who have been offered scholarships elsewhere and may not otherwise attend OHSU.

Gift monies will allow us to pursue other opportunities, such as recruiting new faculty and advancing the career development of those already here. They will also allow us to bring in distinguished leaders in the field, who often benefit the entire community by participating in our academia-industry dinners.

I hope you will consider investing in DMICE. A form for giving is printed this newsletter, or you can make your gift on-line at www.ohsu.edu/dmice/giving. Putting my money where my mouth is, I myself have been giving to the department each month for several years.

In closing, I want to express my gratitude for the support DMICE has received from faculty, staff, students, the OHSU leadership, and the community. I hope we can continue our mutually beneficial relationship with all of you, providing leadership and value in our respective fields and being a program you can be proud to be a part of. ■

10x10 Medical Informatics Program continues successful ways

The 10x10 (“ten by ten”) Program began in the fall of 2005 as a collaboration between DMICE and the American Medical Informatics Association (AMIA) with the aim of training 10,000 health care professionals in medical informatics by the year 2010. While still short of its goal, the program has been otherwise very successful, both in training a large number of individuals in informatics as well as bringing visibility as an innovator to the department.

The course is an adaptation of the online introductory course in the OHSU biomedical informatics graduate program, taught by DMICE professor and chair William Hersh, M.D. It adds some additional content in the area of organization behavior and management, led by DMICE associate professor Joan Ash, Ph.D., as well as in-person sessions where all who took the course online come together for additional learning and interaction with their new colleagues.

With the completion of the most recent offering, 317 individuals have completed the course. The majority of those doing so have taken standard offerings that culminate with the in-person session at an AMIA conference. There have, however, been several special offerings:

California Health Care Foundation (CHCF): This offering began in the late fall of 2005 and culminated with an in-person session at CHCF headquarters in Oakland in February 2006. CHCF subsidized half of the tuition for the 21 California physicians who took the course.

American College of Physicians (ACP) - This offering began in early 2007 and culminated at Internal Medicine 2007, the annual CME meeting for ACP, the professional society for internal medicine, in San Diego on April 18, 2007.

Scottsdale Institute: This offering was run simultaneously with the regular Spring 2007 offering and culminated at the AMIA Spring Congress in May 2007.

Mayo Clinic: In this offering, the course was embedded in a larger year-long Senior Nursing Executive Leadership for the Mayo organization. The 55 people enrolled in the course attended the in-person session that took place in Rochester, MN in June 2007.

Over 20 percent of those who have completed 10x10 have enrolled to pursue further study at OHSU. In particular, 53 have enrolled in the Graduate Certificate Program and four in the Master of Biomedical Informatics Program. One student in the original cohort of 10x10 has already graduated from the Graduate Certificate Program.

The 10x10 Program has also spawned legislation aiming to address the need to train more people in medical informatics. Our local congressman, David Wu (D-OR), has sponsored HR 1467, the *10,000 Trained by 2010 Act*, which has passed the U.S. House of Representatives and awaits action in the U.S. Senate.

One paper has already been published in *International Journal of Medical Informatics* and describes the first offering of the course and its evaluation: Hersh W, Williamson J, Educating 10,000 informaticians by 2010: The AMIA 10x10 program. *International Journal of Medical Informatics*. 2007 May-Jun; 76(5-6):377-82.

In addition, Sue Feldman, a Ph.D. candidate at Claremont Graduate University, has undertaken a project to delve more extensively into the impact of the course for all who completed it by the end of 2006. She queried 170 individuals, 88 of whom completed it. Analysis of the results is currently underway. ■

Jacobs appointed external relations liaison

DMICE welcomes Marcy Jacobs, M.S., as External Relations Liaison. Jacobs's role is to develop

ways in which DMICE can better connect to the wider medical informatics community to enhance our teaching and



research missions. She is exploring collaborations and opportunities with potential partners, including hospitals, non-profit organizations, private sector companies, and other OHSU departments.

Part of Jacobs' time is allocated to understanding the needs of the expanding medical informatics workforce and translating that knowledge back into the academic setting. “Informatics applications underpin all that is happening in the medical, health, and research environments,” Jacobs said. “It's exciting to support the work of top faculty and students in this realm.”

Jacobs also is completing the second year of a grant to develop a new program in Bioscience Business Management with Dr. James Huntzicker, Associate Dean, OGI School of Science & Engineering. Prior to joining DMICE, Jacobs spent 14 years in state executive service serving three Governors as Oregon's Business Development Officer for the Portland Region. In this role she was the state-wide lead for the high technology and bioscience industries.

Jacobs also spent a number of years as an urban planner and commercial real estate developer in Washington D.C., California, Oregon and Idaho. ■

Faculty/Staff Update

Awards and achievements

Congratulation to **Roger Chou, M.D.**, who has been promoted to associate professor of medicine and medical informatics and clinical epidemiology.

Joan Ash, Ph.D., associate professor, joins Cynthia Morris, Ph.D, M.P.H., as Vice Chair of the department. Together, chair William Hersh, M.D., Morris and Ash, along with department director Anne Chisholm, M.B.A., make up the members of the newly formed "DMICE Executive Committee," whose role is to advise the Chair on matters related to departmental policy, faculty affairs, strategic planning, space issues, and departmental growth and development.

Professor **Kent A. Spackman, M.D., Ph.D.**, has been named chairman of the National Library of Medicine's Biomedical Library and Informatics Review Committee. Spackman's chairmanship began July 1, 2007 and will end June 30, 2008. He has served on this committee for three years. The Biomedical Library and Informatics Review Committee evaluates and recommends funding for grant proposals to the NLM's major extramural programs.

In addition, **Dr. Spackman** has been appointed the first Chief Terminologist of the newly formed International Health Terminology Standards Development Organization (IHTSDO). The organization was formed by representatives from nine member nations to develop and provide terminology standards for electronic systems in health care, and to continue the maintenance and dissemination of SNOMED CT (The Systematized Nomenclature of Medicine-Clinical Terms), considered to be the most comprehensive, multilingual clinical healthcare terminology in the world. As the scientific director of SNOMED since 1997, Dr. Spackman was instrumental in the develop-

ment of SNOMED RT and its merger with CTV3. He continues to lead the scientific development of the standard in his new role.

Funding received

Associate professor **Holly Jimison, Ph.D.**, is principal investigator of an AHRQ-funded EPC evidence report on barriers and driver of health information technology use in the elderly, chronically ill and underserved. **Paul Gorman, M.D.**, and **William Hersh, M.D.**, are co-investigators. **Peggy Nygren, M.A.**, and **Miranda Walker** are providing project coordination.

Dr. Jimison is also a co-principal investigator on an award from the National Science Foundation on assessing cognitive function from interactive agent behavior. The goal of this project is to develop a noninvasive early indicator of cognitive decline, using multimodal data analysis techniques to develop optimal metrics of cognitive performance using information from multichannel EEG data in conjunction with computer monitoring data from adaptive computer games.

Assistant professor **Aaron Cohen, M.D., M.S.**, received a three-year R01 grant from the National Library of Medicine entitled Assisting Systematic Review Preparation Using Automated Document Classification.

Joan Ash, Ph.D., associate professor and vice chair, received a one-year NIH Director's Bridge Award for her work on clinical decision support in community hospitals: barriers & facilitators.

Susan Norris, M.D., M.P.H., M.S., assistant professor, received a contract from the American Urological Association to produce a systematic review on vasectomy.

Presentations

Professor and chair **William Hersh, M.D.**, chaired the session on information retrieval/information

studies at the National Library of Medicine Informatics Training Conference June 26-27, 2007 at Stanford University.

Dr. Hersh also participated in three panel discussions, one on building expertise in public health informatics, one on commingling EMR and research data, and the third on the NIH Clinical and Translational Science Award Program and biomedical informatics, all at the AMIA Spring Congress in Orlando in May.

Dean Sittig, Ph.D., adjunct associate professor, participated in an invited panel on improving outcomes with clinical decision support on May 22, 2007, at the AMIA Spring Congress in Orlando. He was also on the scientific program committee for the meeting.

Aaron Cohen, M.D., M.S., assistant professor, gave presentations on enhancing access to the bibliome for genomics with evaluation tasks derived from user information needs: the TREC Genomics Track and on the BioCreative 2 GN and PPI-IAS tasks: approaches and analysis at the Second BioCreative Challenge Evaluation Workshop in Madrid, Spain, April 23-25, 2007.

Assistant professor **Marian McDonagh, Pharm.D.**, spoke at a forum on health technology assessment at the International Society for Pharmacoeconomics and Outcomes Research on May 23, 2007, in Arlington, Virginia.

Joan Ash, Ph.D., associate professor and vice chair, was a presenter in a national Web conference on computerized provider order entry: lessons learned from the trenches on July 10, 2007, sponsored by the AHRQ National Resource Center for Health IT.

Associate professor **Holly Jimison, Ph.D.**, served as a program co-chair for the Neural Engineer Conference in Kona, Hawaii in May and presented a paper on a neural informatics approach to cognitive assessment and monitoring.

Dr. Jimison also presented a

paper on a general architecture for computer-based health coaching at the International Conference on Aging & Technology in Toronto in June.

Evidence-based Practice Center director **Mark Helfand, M.D., M.P.H., M.S.**, professor, gave a presentation on systematic reviews: why they began and where they're going at the Society of Behavioral Medicine Symposium in Washington, D.C. on March 23, 2007.

Other news

Assistant professor **Christopher Dubay, Ph.D.**, has left DMICE as of June 30, 2007, to assume the full time position of Director of the Oregon National Primate Research Center Genetics Resource & Informatics Program (ONPRC GRIP). Dr. Dubay has been with the department for 10 years, and contributed greatly to its growth and maturation. We wish him well in this new endeavor.

The work done by **Holly Jimison, Ph.D.**, associate professor, was featured on the NBC Nightly News July 23, 2007. Drs. Jimison and Misha Pavel were part of a piece on OHSU's projects related to home monitoring and elders' use of technology. NBC News correspondent Robert Bazell first interviewed a representative subject from Oregon Center for Technology and Aging's Living Lab, where the woman demonstrated the activity monitors, medication tracking, and computer used as part of the study on home monitoring of activities for the early detection of cognitive decline. This was followed by interviews with members of ORCATECH in OHSU's Point-of-Care Lab. **Dr. Jimison** was also featured in an article about elders' use of video games in the July 27, 2007 issue of the *Oregonian*.

Joan Ash, Ph.D., associate professor and vice chair, was featured in a story in *Modern Healthcare* on July 31, 2007 related to her JAMIA paper on unintended consequences of computerized provider order entry (see Publications section).

Publications

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New Faces

With the award from the Hartford Foundation for Dr. David Dorr's Care Management Plus project, he has brought on several new staff in recent months. **Kelli Radican** serves as project manager while **John Welte** is their Web designer.

July meant the arrival of several new fellows to the department. The three new fellows funded by the

National Library of Medicine training program are **Heather Hill, D.D.S., Alexey Panchenko, M.L.A.S., and Michael Mooney, M.A.**

Joining the Evidence-based Practice Center's Drug Effectiveness Review Project as a fellow is **Nancy Lee, Pharm.D.**

Welcome to all our new staff and fellows!



Kelli Radican



John Welte



Heather Hill,
D.D.S.



Alexey
Panchenko,
M.L.A.S.



Michael
Mooney, M.A.



Nancy Lee,
Pharm.D.

Faculty/Staff Update

Continued from Page 13

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Student/Alumni News

Congratulations to **Nicholas R. Anderson (M.S. '04)** an alumnus of the medical informatics master's program, who received his Ph.D. in biomedical health informatics from the University of Washington this spring. Assistant professor Christopher Dubay, Ph.D., was a member of Anderson's dissertation committee.

At the DMICE banquet June 10, 2007, NLM fellow **Ken Guappone, M.D.**, received an award from the departmental to help fund his doctoral dissertation research. Congratulations, Ken!

NLM fellow **Suzi Fei** received a student merit travel award from the Research Society on Alcoholism, which allowed her to attend the RSA meeting in Chicago in July and present a poster there. The award covered registration and travel to the meeting.

Alumnus **Robert H. Posteraro, M.D., (M.B.I. '05)** received an appointment as a Clinical Instructor in the Department of Clinic Administration and Rehabilitation Counseling at the Texas Tech School of Allied Health, Lubbock, TX. For the past two years Rob has been giving guest lectures in biomedical informatics as part of the department's master's level course in clinical practice management.

Fogarty International Fellow **Gustavo Petroni, M.D.**, from the University of Rosario in Argentina is part of the Latin-American Brain Injury Consortium (LABIC), a group of health professionals from Latin America with special interest in brain injury. This group recently received a grant from the Integra Foundation to create a Web-based educational platform to provide courses on the management of brain injuries. Initially the group will offer two courses about traumatic brain injury and subarachnoid hemorrhage, created by colleagues from Uruguay and Argen-

tina. These course will be available in November 2007.

Presentations and posters

At the NLM Informatics Training Conference June 26-27 at Stanford University, DMICE fellows **Joshua Richardson (M.S. '07)** gave a talk on the effect of hands free communication device: communication changes among nurses, nurse managers and IT staff, and **Jianji Yang** gave a talk on automatic summarization of mouse gene information by clustering and sentence extraction from MEDLINE abstracts.

At the 2007 AMIA Spring Congress in Orlando in May, NLM fellow **Jianji Yang** presented a poster on analysis of duplication in the Oregon Immunization ALERT Project database and deduplication by machine learning techniques.

Distance student **Bimal Desai, M.D.**, from the University of Pennsylvania, participated in an invited panel discussion on improving outcomes with clinical decision support at the AMIA Spring Congress in Orlando in May.

Denise Dinulescu (M.S. '07) gave an oral presentation at the 24th Annual OHSU Student Research Forum May 11, 2007. The title of her talk was "A Method of Quantifying the Cognitive Complexity of Computerized Provider Order Entry System User Interfaces."

Rose Campbell (M.S. '05) presented a poster on collaborating to start an online nursing research journal club at the annual meeting of the Medical Library Association, May 22, 2007, in Philadelphia.

Distance student **Karen Albert**, Director of Library Services at the Talbot Research Library, Fox Chase Cancer Center, presented on the impact of open access on the small health sciences library at the Medical

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Student/Alumni News

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Library Association annual meeting on May 23, 2007 in Philadelphia.

Master's student **Christian Olsen** attended the sixth annual International Symposium on Systems Biology and the Environment in April in Seattle. The two-day event featured leading researchers in the areas of energy sources, interactions between the environment and microbial communities, plant systems biology, biological responses to extreme environments, biodiversity, toxicology, and infectious disease.

Publications

NLM fellows **Ken Guappone, M.D.**, and **Emily Campbell, M.S., R.N.**, along with alumnus **Richard Dykstra, M.D. (M.S. '06)** were co-authors of a recent *JAMIA* paper. Ash JS, Sittig DF, Poon EG, **Guappone K, Campbell E, Dykstra RH**. The extent and importance of unintended consequences related to computerized provider order entry. *Journal of the*

American Medical Informatics Association. 2007; 14 (4):415-423.

Jennifer Garvin, Ph.D., M.B.A., R.H.I.A., a medical informatics postdoctoral fellow at the Portland VAMC, was co-author of a paper in *Perspectives in Health Information Management*. Watzlaf VJM, **Garvin JH**, Sohrab Moeini S, Firouzan P. The effectiveness of ICD-10-CM in capturing public health diseases. *Perspectives in Health Information Management*. 2007; 4(6):1-31.

Distance student **Khamis Abu-Hasaballah** was first author of a paper in *Contemporary Clinical Trials*. **Abu-Hasaballah K**, James A, Aseltine RJ, Lessons and pitfalls of interactive voice response in medical research. *Contemporary Clinical Trials*, March 2007.

MBI student **Amit Shah, M.D.**, authored a paper in *American Family Physician*.

Ventres W, **Shah A**. How do EHRs affect the physician-patient relationship? *American Family Physician*. 2007; 75(9): 1385. ■

DMICE Tracks

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Department chair:

William R. Hersh, M.D.

Editor: Kathryn Pyle Krages, A.M.L.S., M.A.

Layout: Charlotte Woodward

Contributors to this issue:

William Hersh
Kathryn Pyle Krages
Heidi Nelson
Andrea Ilg
Marcy Jacobs

Photographs supplied by:

Linda Slattery, William Hersh, Paul Gorman, Denise Dinulescu, Adam Wright

Questions? Please contact the editor at 504 494-6058.