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In SPHHP's high-tech Biomechanics of Human Movement Laboratory, **Dan Ramsey**, assistant professor of exercise and nutrition sciences, is investigating gait and treatment methods for degenerative joint disorders.

Photo: Celine Tan

On the move

In a growing department, exercise and nutrition work together.

“This is an exciting but nerve-racking time,” says John X. Wilson, chair of the Department of Exercise and Nutrition Sciences. Two of the reasons for his optimism: several new faculty and an influx of students eager to earn an ENS degree at UB.

The department’s undergraduate and graduate programs in exercise science and graduate programs in nutrition and dietetics involve many different areas of public health, including aging, chronic disease, women’s health, cancer and the increasingly critical implications of inflammation

on overall health. The department is well established and highly regarded in the community, and is making some necessary changes as part of the UB 2020 strategic plan.

Following an ambitious three-year plan of its own, the ENS department is moving forward with two central goals as it prepares for reaccreditation this fall: continue uncovering novel ways to improve human wellness, and further develop a more selective curriculum that trains students to consider both exercise and nutrition when assessing human health.

“The incoming students are getting better and better—it’s been difficult to turn away so many qualified applicants,” says Carol DeNysschen, a clinical assistant professor and the department’s new director of clinical education.

An exercise science (ES) instructor since 2005, DeNysschen recently joined the full-time faculty. She says the strong undergraduate exercise science curriculum and its unique emphasis on the basic sciences, coupled with graduate degrees in nutrition and ES, provides a golden opportunity “for

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Where we are today

To readers of this column, it is my pleasure, as interim dean of the School of Public Health and Health Professions, to greet you directly for the first time. Welcome.

As a relative newcomer to the school, and now looking at the school from the dean's office, it is interesting for me to see how future-oriented we are at this moment in our evolution. We're devoting a great deal of energy to building out the school, and we're strongly committed to the university's ambitious UB 2020 planning process. Our goals for the school, and for the university, are exciting—and achievable.

But I'd like to call your attention to the here and now, to appreciate how much we've accomplished recently and to see our strengths as they are today. If we only watch the horizon, we don't realize where we actually stand. Here is a brief survey:

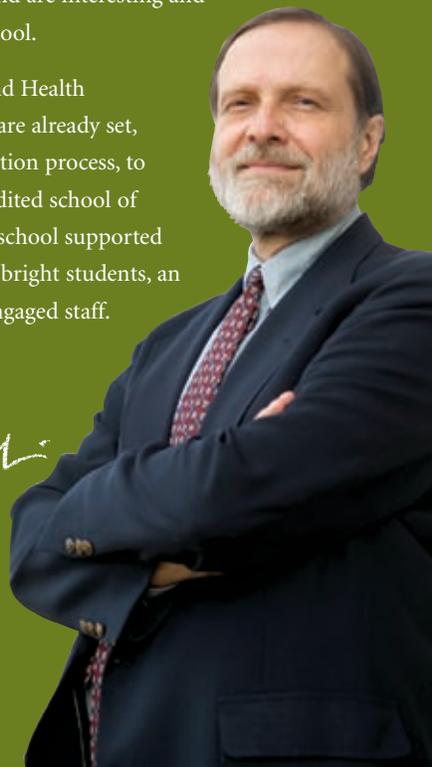
- Our programs in physical therapy and occupational therapy have recently been reaccredited for the longest term allowable, a recognition of their high quality.
- In only two years, we've established the Department of Health Behavior and hired a full complement of faculty in an area that will bridge to the work of other disciplines in the school.
- We have arrived at a level of scholarship and reputation such that we have attracted the distinguished scholar R. Lorraine Collins to join us as associate dean for research and professor in the Department of Health Behavior (see News, right).
- The several new faculty who have joined the school in the past 12 months, mentioned in this or previous editions of Impact, are all top-flight scientists and are interesting and exciting additions to the school.

The School of Public Health and Health Professions is growing, but we are already set, once we complete the accreditation process, to make our mark as a fully accredited school of public health. I see an exciting school supported by loyal alumni and filled with bright students, an accomplished faculty and an engaged staff.

Sincerely,



Lynn Kozlowski, Ph.D.
Interim Dean



Collins named associate dean for research



Collins

R. Lorraine Collins has joined SPHP as a professor of health behavior and the new associate dean for research. Collins has been an important principal investigator at the UB Research Institute on Addictions, where her primary areas of research included drinking restraint, psychosocial factors in substance use, women's issues and smoking.

"Professor Collins is a great hire for the school," says Lynn Kozlowski, interim dean. "She is a prominent senior scholar who also adds to the leadership of the school as associate dean for research."

Faculty and staff newsmakers

Matthew R. Bonner (PI) and Michael LaMonte, assistant professors of social and preventive medicine, have been awarded a three-year, \$599,637 federal grant to conduct active follow-up in the New York State Angler Cohort Study. The Angler Cohort was initiated in 1991 by SPM volunteer faculty professor John Vena, to study the health impact of consuming Great Lakes fish in more than 19,000 fishermen. Bonner and LaMonte are investigating the effects of long-term consumption of Great Lakes fish and the risks of adult chronic diseases, including thyroid disease, endometriosis, and cancer. Funding is by the Agency for Toxic Substances and Disease

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Students to benefit from new award

Saxon Graham, research professor and former chair of the Department of Social and Preventive Medicine (SPM) at SPHP, is one of the country's pioneering nutritional epidemiologists. To honor his achievements and contributions, Graham's family, friends and colleagues recently donated \$39,000 to establish the Dr. Saxon Graham Social and Preventive Medicine Endowed Student Award



Graham

Fund at UB. Jo Freudenheim, current SPM department chair, announced the new award on March 7 at the second annual Saxon Graham Lecture, which featured internationally recognized nutritional epidemiologist Laurence Kolonel, M.D., Ph.D. The first Saxon Graham award recipient will be announced during the 2008-09 academic year.

You can contribute to the Saxon Graham award at www.sphp.buffalo.edu (click on Alumni and Giving) or by using the return envelope in this newsletter.



The biostatistics boom

Immediately following World War II, science and mathematics were thriving in the United States. Encouraged by industry, military and government eager to improve quality and efficiency, universities like UB made ideal hubs for statistical research.

“I started full-time teaching in January of 1947,” recalls Richard Schmidt, professor emeritus in SPHHP’s Department of Biostatistics. “At the time, the department was called the Department of Statistics and Insurance in the School of Business Administration. UB was a private school. We had large classes and a full schedule.”

Schmidt, who turned 90 last year, has seen the fortunes of the department wax and wane over the past 60 years. In 1949, after two decades as an applied subject for business and postwar industry, statistics was granted its own master’s and doctoral programs at UB under department chair Zenon Sztatowski. Five years later, UB’s first M.A. in statistics graduated and went on to become a dean at Carnegie Mellon University. In 1965, after a short stint as a mathematics division, the Department of Statistics was re-established.

Schmidt says the chair at that time, Norman Severo, attracted such prominent statisticians as Seymour Geisser and Marvin Zelen. The department rose to international prominence during the 1960s and 1970s.

During his years at UB, Zelen recruited the country’s top statisticians and mathematicians, and with grants from the National Cancer Institute, built the first true statistical laboratory for clinical trial research. He is widely considered to have single-handedly ushered in the eras of professionalized data management and bioinformatics.

Geisser was a leading proponent of prediction as a key element in the practice of statistics and pioneered multivariate analysis, cross-validation and several Bayesian methods of statistical testing and analysis.

During the mid-to-late 1970s, Zelen and other key faculty members left UB for Harvard University and continued their work in Cambridge. The department then underwent numerous permutations—most recently as a unit within the Department of Social and Preventive Medicine in the School of Medicine and Biomedical Sciences.

Alan Hutson, current department chair, lived through several of the department’s evolutions: he was enrolled as a master’s student when statistics left the College of Arts and Sciences for the medical school and was temporarily disbanded.

In 2002, Hutson returned to UB to lead the Division of Biostatistics, and a year later the division was granted departmental status in the newly formed School of Public Health and Health Professions. With support from the UB administration and a faculty development grant from the New York State Office of Science, Technology and Academic Research (NYSTAR), Hutson hired new faculty and purchased equipment, establishing laboratories with powerful computer software and high-capacity servers.

The new department also strengthened its ties with the New York State Department of Public Health and Roswell Park Cancer Institute, and continues to nurture multidisciplinary research. UB biostatisticians collaborate on a range of public health projects, from improving the diagnosis of

metabolic diseases to vaccine trials to the treatment of injuries of collegiate athletes.

Schmidt credits Hutson with quickly transforming their department into a vibrant, ambitious place for learning and research. It now offers M.S. and Ph.D. degree programs in biostatistics and shares faculty, equipment and facilities with Roswell Park and UB’s New York State Center of Excellence in Bioinformatics and Life Sciences.



Across the generations: Richard Schmidt, one of UB’s pioneering biostatisticians, with department chair Alan Hutson, at Schmidt’s 90th birthday party in 2007.

Photo: Nancy J. Parisi

With a goal to meet an increasing demand for well-trained students in academe, government and industry, the department has become a key player in promoting the proper use of statistics in the health sciences. The only other pure biostatistics unit within a school of public health in New York State is at Columbia University.

“It’s growing back, it deserves it,” Schmidt says of biostatistics at UB. “I believe it will be recognized as one of the greatest statistics departments in the country.”

—Kevin Fryling

A question for the boss

What questions should employers ask themselves about the health of their workforce?

Faculty talk about how the people in charge of workplaces can look at the health and wellness of workers, an issue with implications for both productivity and health care costs.

JOAN DORN

**Social and Preventive
Medicine**

Research has shown that both health and fiscal benefits are best obtained when healthy employees remain healthy and those at risk are targeted and treated. Therefore, first and foremost, employers should be asking the questions, How healthy are my employees? and How likely are they to stay that way?

Important information about the health of employees can be obtained easily through the use of Health Risk Appraisals (HRA). HRAs can be self-administered and usually ask employees about their lifestyle habits, personal risk factors for such chronic diseases as heart disease, diabetes and cancer, and family history of these same diseases. These surveys are available through health insurance carriers, online services or wellness/health promotion companies.

Typically, the individual employee receives valuable confidential feedback on his or her current health status, as well as recommendations for areas in need of improvement. Employers receive an aggregate, de-identified report which highlights health issues most prevalent among their employ-



ees. An HRA assessment might conclude that 75 percent of the employee population doesn't know their blood pressure. This would be a great reason to organize a blood pressure screening day for employees. If employees and employers don't know their current health status, they can't work together to stay healthy.

Second, employers should be asking How healthy is our worksite's environment? In addition to enforcing requirements that ensure the environment is safe, it is time to make sure the worksite is also healthy. An assessment of the workplace physical environment

should include examining the cafeteria and vending machines to make sure employees have healthy food selections available to them and looking for options to encourage physical activity on the job. This could include anything from checking whether the stairwells, parking lot and sidewalks are clean and safe, to providing a shower or gym right on the worksite. Employers should also be examining existing policies that support healthy behaviors such as offering flex time for exercise, annual physicals or preventive screening tests.

A third question is, What type

of support can I offer to help employees stay healthy? The answer to this question can include anything from offering onsite programs for healthy eating, weight management and smoking cessation to offering incentives such as cash or gifts to encourage participation in programs, or lowering employees' health care cost contribution or copays as long as they practice healthy lifestyle habits.

And last, but not least, employers should be asking themselves How committed am I to keeping my employees healthy? How much am I willing to invest in worksite health promotion?

JOHN WILSON
Exercise and Nutrition
Sciences

Employers should also consider a couple of other questions. First, How can falls in the workplace be prevented? Consideration of this question may lead to assessment and modification of the work environment.

Secondly, How can employees become more aware of obesity? If employees' track their body composition by measuring body weight only, they may be misled into thinking that a leveling off and eventual decline of body weight in later life is accompanied by parallel changes in body fat mass. However, since body weight decreases before fat mass in typically aging adults, waist circumference may be a better indicator of obesity. Abdominal (central) obesity is becoming more prevalent in American adults. For example, waist circumference measurements reported in National Health and Nutrition Examination Surveys show that the prevalence of abdominal obesity in middle-aged women increased from 47 percent in 1988-1994 to 59 percent in 1999-2004. This is a concern because abdominal obesity is a risk factor for morbidity and mortality.

DONALD ROWE
Social and Preventive
Medicine

National employee surveys have demonstrated that a significant percentage of the workforce state that stress is a major factor affecting job performance.

Addressing the physical components of healthy behavior is essential but not sufficient. An employer must recognize and embrace the importance of the mind-body-spirit connection and include this component as part of the workforce health assessment. Moreover, these factors must be included in the development of worksite health initiatives.

The process of assessment and intervention must be a truly collaborative venture between employer and employees. The more "we" in the process, the better. After all, what would the word wellness mean if we remove the we?

JAMES LENKER
Rehabilitation Science

Ultimately, the decision to maintain a healthy lifestyle must be initiated and maintained by the individual. Nevertheless, there are options for employers who want to encourage good employee health.

In terms of environmental supports, employers can ask themselves whether the workplace offers healthy snack options at vending machines and dining areas; serves healthy food options at breakfast and lunch meetings; and offers exercise opportunities.

Food served at staff meetings is often dictated by individuals, not employers. Here, the onus is on employees to self-advocate on behalf of better food. It's equally important, though, for managers and staff to listen and honor such requests when feasible.

On the exercise side of the health equation, employers have at least two options: encouraging group participation in exercise activities, and offering a gym facility for individual workouts. To use my own workplace as an example, UB has done an exemplary job offering employee health awareness supports, including an annual wellness fair and ongoing opportunities for fitness testing and guidance for exercise and nutrition.

Finally, don't overlook the need to ask whether the workplace promotes a healthy social environment. At one time or another, we've all worked for some sort of grouch, tyrant, or weasel who has made our work lives miserable. Nothing boosts employee loyalty and productivity quite like a boss who sets a tone of enthusiasm, respect, and fun.

SAMINA RAJA
Urban and Regional Planning,
School of Architecture and
Planning

Clearly, the health of employees depends on a number of complex factors that are not entirely related to the work environment—yet research shows that the work environment does have an impact on employee health. Employers may want to ask the following questions about the quality of the work environment, especially when worksites are organized in campus settings, such as universities, industrial parks or medical campuses.

Does the worksite create any barriers that may impede

employees from engaging in physical activity at the worksite? A few examples of such barriers are lack of contiguous and well-maintained sidewalks (or other walkways), lack of emergency call boxes, poor lighting and poor way-finding signage.

Employers may also want to consider how their worksite may be designed or retrofitted to facilitate nonleisure physical activity such as walking from parking lots to offices or walking to run errands. For example, employers may want to examine whether shared physical spaces (parking lots, stairwells, conference rooms, cafeterias, labs, libraries, etc.) and individual offices can be connected using inviting pedestrian pathways (and stairways).

Employers may also want to ask if the work environment supports employees who choose an active mode of transportation to work, such as walking and bicycling. Does the worksite provide bicycle racks in addition to parking spots for cars?

Finally, employers should ask how the work environment impedes or facilitates healthy eating behaviors of employees. Workplaces with a large employee base and in-house cafeterias could explore the feasibility of setting up farm-to-cafeteria programs wherein local farmers deliver fresh, organic produce to institutional cafeterias. Local farmers could also be recruited to set up weekly fresh fruit stands during the growing season.

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students to combine exercise and nutrition education into a complete package—from undergrad all the way through a Ph.D.”

An ongoing self-study, part of a major department-level evaluation mandated by both SUNY and UB, will help the department evaluate and enhance competencies that ES students must satisfy in order to produce strong graduates. The reputation of the program is evident from the overwhelming number of applicants for a limited number of seats in the upper division of the ES program.

The department offers undergraduate concentrations in pre-physical therapy and nutrition, a master’s degree in nutrition, and a combined five-year BS/MS program in exercise and nutrition that prepares students for a variety of clinical and research career options.

Wilson says that in addition to balancing a growing enrollment with UB’s tightening acceptance standards, the ENS department must continue to support its new and veteran faculty in securing funded research. In January, he and research assistant professor Feng Wu received a major NIH grant to study the use of Vitamin C therapy in treating sepsis, a serious blood infection, in hospital patients.

“There are many students, faculty and staff doing fantastic, important work in this department,” Wilson says.

One shining example is Dan Ramsey, who joined the ENS faculty as an assistant professor in August. An expert in osteoarthritis (OA) and how it affects joint function, Ramsey runs the newly upgraded Biomechanics of Human Movement Laboratory on the UB South Campus.

The lab’s 2,000 square-foot space has a raised walkway tracked by high-speed motion-capture cameras connected to computer terminals. By digitally record-

ing three-dimensional images of someone heading down the walkway, the cameras help Ramsey, David Mandeville—a new ENS research assistant and lecturer—and their graduate students map and analyze the stressors put on muscle and bone.



Photo: Douglas Levere

“There are many students, faculty and staff doing important work in this department.”

—John X. Wilson, chair, Department of Exercise and Nutrition Sciences

Ramsey is studying the knee joint and how people with such degenerative joint diseases as OA can benefit from knee braces or other alternatives to surgery. He collaborates with the orthopaedics department in the School of Medicine and Biomedical Sciences, which provides his test subjects, and already sees the advantages of having this lab at his disposal. “By identifying mechanical risk factors that exacerbate OA, we hope to develop strategies that mitigate its progression,” he says.

In nutrition studies, assistant professor Tongjian You just published a study link-

ing a severely restricted diet in rats to greater physical performance and vitality in their old age. According to You, this is the first study to find that restricting calories reduces inflammation in the body’s fat stores, as well as enhancing overall physical function.

And through a \$1.38 million grant from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK), assistant professor James L. Collins is collaborating with UB biochemists in a novel study exploring the relationship between copper and iron, two essential minerals.

Another pillar of the department, UB’s dietetics internship is an accredited program that attracts graduate-level students from across the country. It provides an intense one-year training program in dietary science that combines master’s-level coursework with community-based fieldwork to prepare students for the registered dietitian national exam.

In a new partnership between a West Side community health practice and a UB family medicine site, dietetics director Mary Platek will be coordinating interns who will help establish New York state’s first “Diabetes Center of Community Excellence” funded by a two-year, \$460,000 grant from the New York State Health Foundation.

The project will enable dietetics interns and family medicine practitioners to educate the public, particularly the African-American community, about diabetes by training qualified members of those affected communities to become local health care advocates and educators.

Platek is excited by the opportunity to provide health services directly to the community. “This project will revolutionize the extra care that family medicine can provide to their patients with diabetes,” she says.

—Lauren Newkirk Maynard

When muscles go 'deaf'

Sarcopenia is the loss of muscle mass and muscle strength associated with aging. Clinical sarcopenia occurs in 60 percent of women and 45 percent of men over 60 years of age; it is a significant contributor to frailty.

With life expectancy approaching 80 years in the developed world, staving off the onset of age-related muscle atrophy, or slowing its progress, could be a tremendous public health benefit.

The mechanism of muscle atrophy or wasting away—whether it results from injury, bed rest, or age—is an area of long-standing research interest. Most work in the field has addressed what is required for muscle maintenance; what are the conditions, at a molecular level, that lead to wasting or reverse it?

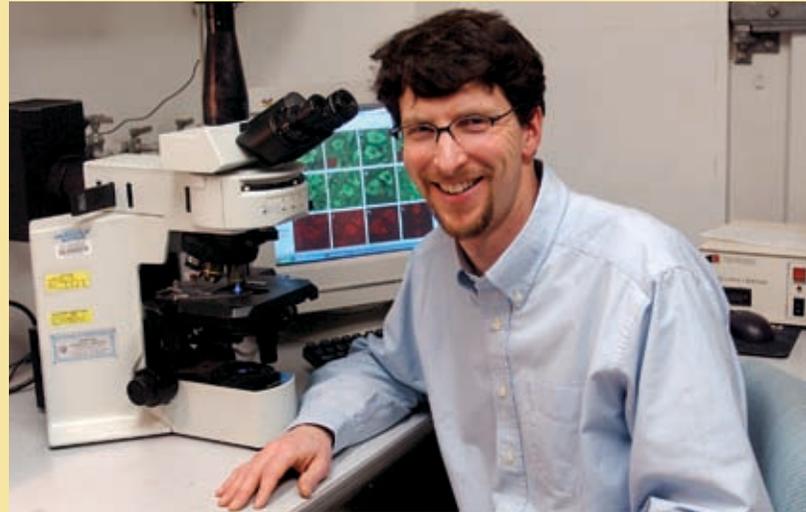
At the School of Public Health and Health Professions, Kirkwood Personius, assistant professor in the Department of Rehabilitation Science, is looking at the question from a different direction: the role the nervous system might play in muscle atrophy.

It is well known that muscles depend on innervation—being connected to the musculoskeletal nervous system—to maintain function. A common, well-studied example of a breakdown in the neuromuscular system is the muscle atrophy seen in Bell's palsy following damage to the facial nerve. If a muscle fiber loses the connection to its nerve—it has only one—it withers.

The area that Personius is investigating is not muscle fiber, but the neuromuscular junction, the connection between nerve and muscle fiber where nerve signals arrive and stimulate actions. His lab is looking at how the connection is maintained in working condition and whether it is failure at the connection that is the chief culprit in the loss of muscle function in sarcopenia.

Changes in the structural and functional integrity of the neuromuscular junction have been observed in skeletal muscles during aging, but the mechanism responsible for the changes has not been discovered. Working with mice, the Personius lab has shown that a particular receptor in neuromuscular junction—the tyrosine kinase B (TrkB) receptor—may be a key to a sequence of molecular events that lead to muscle atrophy.

TrkB—researchers say “track-B”—is a kind of dock for particular proteins called neurotrophins that are messengers in a repair and regulation system that keeps cells healthy and functioning. Personius has found that reducing the number of TrkB receptors in a neuromuscular junction by half causes changes in the junction that resemble changes caused by aging. Reducing the number of TrkB receptors leads to a



Kirkwood Personius Photo: Celine Tan

spreading apart of another set of receptors that “hear” signals from the motor nerve; the function of the neuromuscular junction then starts to show fatigue, and the muscle begins to atrophy.

Personius says that practical implications from this and similar research suggest that if a way can be found to maintain TrkB receptor quantity, that may, in turn, maintain the neuromuscular junction and the muscle fiber it controls.

The neurotrophins involved in neuromuscular junction maintenance—which can't perform their role in maintaining cell function when TrkB receptors are depleted—are also of practical interest in the search for ways to delay or arrest sarcopenia. Personius wonders whether muscle activity may stimulate production of one of those neurotrophins, a kind of feedback loop that keeps the nerve-muscle system healthy. Even if someday there may be a way to keep the body's supply of TrkB receptors topped up, it's likely still to be the case that you “use it or lose it.”

His lab's work in this area has been funded by the National Center for Medical Rehabilitation Research.

In related research, Personius is looking at how the nerve-muscle system develops. When we're born, we have multiple nerves connected to each muscle fiber; during the first few months of life, those connections are reduced to one nerve for each muscle fiber. Personius is working on the question of how the body does this sorting.

—Judson Mead

Internet interventions

Congestive heart failure (CHF) is one of the most common and serious illnesses in people older than 65 in the United States; approximately 5 million people in the U.S. are currently living with the disease. It is the leading cause of hospital admission for people 65 and older, representing as much as 10 percent of all hospital costs in the U.S. The total annual health care cost associated with CHF in the U.S. is approximately \$38 billion.



Machiko Tomita, clinical associate professor in the Department of Rehabilitation Science, recently demonstrated a relatively low-cost Internet-based intervention that helped elderly CHF sufferers manage their symptoms and reduce their hospital use with remarkable success. Although it was conducted on a small scale, her project shows what the future of certain kinds of chronic care might look like—and the prospect is extremely encouraging.

Congestive heart failure is a chronic, debilitating condition. As the disease progresses, the heart weakens and can't pump fluids through the circulatory system efficiently; this causes fluid to back up in the lungs, leaving CHF sufferers' breathing so compromised they may have trouble walking more than a

few feet without having to stop to catch their breath.

There is no cure for the condition, but it can often be managed with medications and changes in diet and exercise. Tomita's intervention enlists the Internet to facilitate such lifestyle changes.

The intervention consists of an Internet hookup, some information, tools for taking vital signs and for exercising, a secure Web site for recording vital signs, and some feedback. With just that—and a few exercise bicycles for people who wanted to use them—Tomita brought about quite dramatic changes in health.

Tomita is a communication specialist, not a health specialist. (Her doctorate from the University of Minnesota is in

social research, statistics and communication.) What she and her colleagues devised as a health intervention is essentially a communication program—an e-health system. The hardware is an Internet connection; the "software" is the information flowing back and forth through that connection.

Tomita and her colleagues, working as a group called Aging and Technology Research, have been investigating how new technologies can be used to serve the needs of older people with age-related disabilities that make independent living more difficult and older people with chronic diseases that require close attention, such as congestive heart failure.

Most of the people she recruited to try this intervention had never used a computer, but with

a few hours of instruction and a help line to call, this was not a barrier.

For a person with CHF, the key to managing health status is behavior change. To make a change that lasts, one needs to understand why it is necessary. So Tomita's first step is to deliver clear, detailed information about their condition to CHF patients on a Web site. (You can read it at <http://agingresearch.buffalo.edu/chf>.) The information is written for readers with a low level of medical literacy, and delivered on Web pages that are designed for easy reading.

A second piece of the intervention provides simple tools and instructions for a largely self-guided routine of new behaviors. The instructions concern exercise and diet and self-monitoring for vital signs;

they include brief video clips of exercise routines specifically designed for CHF sufferers (see Page 8), made in Buffalo, featuring a woman with CHF. The tools are monitoring devices, like a blood pressure cuff and a bathroom scale, adapted for easy use by an elderly person, and the Internet connection, monitor and keyboard.

The communication from the person at home back to the project—the other direction in the two-way communication pipeline—may be the most important feature of the intervention. The participant takes his or her own vital signs according to a protocol and logs them every day on a secure Web site.

Those vital signs are monitored daily by a nurse who can signal the participant at home if there is any indication of a health problem—the most common would be an overnight weight gain of three pounds or more, a sign of a dangerous fluid buildup. If participants forget to log in, they get a reminder e-mail.

More important for promoting behavior change, project health workers send each participant regular e-mail appraisals of their progress, with recommendations and encouragement.

The secure Web site also has a discussion group for participants where they can share stories and ask questions, offer encouragement or look for encouragement.

This may sound like a fairly involved intervention, but it is

really just an Internet connection, some useful information, and someone at the other end of the connection to provide assessments of the health logs participants keep. The cost of a computer and Internet connection for a year—and a new exercise bicycle, for that matter—is far less than the cost of a single night in a hospital. And these are all off-the-shelf technologies. There is a cost associated with monitoring the health logs, but with some automation and a sufficient number of people wired into a health network, that cost can be small.

But does it work? In a yearlong study of CHF patients, a group using Tomita's Internet intervention fared dramatically better than a control group when measured both by emergency room visits and hospitalizations and such physical indications as blood pressure and weight. Individual patients in the intervention group also showed great improvement in fitness and overall management of their conditions.

Why it works is a question Tomita will continue to explore, but she thinks that the social aspects of the system—the interactivity, the performance appraisals, and the opportunity to belong to a group—are likely to be key to its success.

Tomita and colleagues are now working on a comparable Internet intervention for persons with diabetes. What they are doing may be an early look into the future of health care.

—Judson Mead

Anthony J. Billittier IV, M.D., FACEP

Erie County Health Commissioner



Q: What are Erie County's most pressing health issues right now?

A: Every community thinks they have unique issues, and we do have some. But we often lose sight of the bigger picture. The big killers are the same regardless of where you live: heart disease, stroke, cancer, and infectious diseases. We also tend to overlook personal injury, which is the number-one killer of people between ages 1 and 44. We should pay more attention to the number of years lost from preventable deaths rather than the totals of trendier "diseases of the week."

Q: What is your reaction to the recent World Health Organization prediction of 1 billion tobacco-related deaths worldwide by 2,100?

A: Very disappointing. It may seem like good news that Erie County has reduced the smoking rate to 21 percent, but that's still a terrible number if 21 percent of our community is still engaging in the number-one preventable cause of premature death. People should regularly see their doctors, who will screen for all the major killers.

Q: UB is only one of a handful of U.S. schools that combines public health and allied health disciplines. What special benefits do you think this model can have on regional health?

A: All health-related systems must work together. Through its unique model, UB can unite students during their impressionable years, creating a mindset in the new workforce that will change the culture in regional health care delivery to one that is more integrated and more efficient. For instance, UB's nutrition programs could be key to developing regional programs that teach people how to eat properly.

Q: In New York State, what are the current and future supply-and-demand trends for public-health practitioners?

A: There are heavy personnel demands at all levels of public health, especially nursing. UB must integrate more epidemiologists and other public-health scientists throughout the five schools of the academic health center. In terms of supply, we need to train more laboratorians and sanitarians by providing them with a clear educational route that involves public-health education. Also important are programs like UB's JD/MPH program that combine public health with other fields. Public health is so diverse, there's no one discipline that sees it all—we all must work as a team.

Dr. Billittier is a clinical assistant professor in the Department of Social and Preventive Medicine in the School of Public Health and Health Professions.

Supporting animal-assisted therapy at UB

MONA SAMS, B.S. '64, puts animals to work, but not in any way you might expect. An occupational therapist, she has enlisted the help of llamas, alpacas, rabbits, ducks and dogs to reach people with special needs.

Some of those animals were Mona's beloved pets that had made the long journey with her from Alberta, Canada, where she worked as a regional rehabilitation director.

After more than 25 years in clinics and schools in the U.S. and Canada, Mona established Mona's Ark, a small occupational therapy practice in Roanoke, Va., that incorporates animals in therapy sessions for special needs children and adults.

Mona is sharing her passion for animals with students in the School of Public Health and Health Professions through a bequest to the occupational therapy program in the Department of Rehabilitation Science. Her gift will provide funds for lectures and student research in the incorporation of animals in occupational therapy.

"Animals make a difference in treatment," says Mona. She adds that llamas and alpacas are very intelligent and have an uncanny ability to single out children with special needs.

Sams co-authored a pilot study that was published in 2006 in the American Journal of Occupational Therapy. The study compared the behaviors of autistic children in traditional OT treatment with those who had animals present during such treatment. Results from the study suggested that the

children who received therapy that incorporated animals exhibited more improved social interactions and language use than those who were treated with traditional therapy alone.

"I wish I could do more research on why certain animals have such a capacity to work well with special needs children," Mona says.

She likes to tell the story of Jordi, an autistic child she reached with the help of her

years, he finally began communicating.

This learned skill saved Jordi's life when he expressed chest pain to doctors, who then discovered that he had a heart condition.

Mona points to her education as being the foundation for a career spent helping others. "UB was good to me and gave me a scholarship. Now I want to help students," she says. "There's a need for students to understand that working with animals in therapy is a possibility."



Occupational therapist Mona Sams, B.S. '64, on the UB South Campus with one of her therapy dogs.

Photo: Douglas Levere

llamas and a canine friend (because all the animals she uses in treatment are her own, she says she can anticipate their actions and knows how each one can help specific patients). After Sams and her "assistants" worked with Jordi over the course of a few

Remember the School of Public Health and Health Professions in your will

Did you know that you can make a major impact on the future of the School of Public Health and Health Professions by including us in your estate plans? Call UB's Office of Gift Planning toll-free at **(877) 825-3422** to learn more about how you can support student scholarships, faculty development—or something that is near and dear to you.

Thank you for supporting educational excellence at UB and helping make a positive impact on this region's public health.

You can contribute to SPHP online at www.sphhp.buffalo.edu (click on Alumni and Giving) or by using the return envelope in this issue of Impact. If you have any questions, please call Tracy Oun at 829-3434, ext. 421.

[continued from page 2]

Registry/Centers for Disease Control and Prevention, U.S. Department of Health and Human Services.

Randy Carter, professor of biostatistics and director of SPHP's Population Health Observatory, has been selected to join an international group of scientists working at the Radiation Effects Research Foundation (RERF) in Hiroshima, Japan. Their collaboration will develop new statistical methods to analyze data from survivors of the atomic bombings of Hiroshima and Nagasaki in 1945. Biostatistics doctoral students Austin Miller and Carmen Tekwe are writing dissertations as part of this collaboration. With Carter, they will present papers in August at the 2008 Joint Statistical Meetings in Denver, Colorado.

Jo Freudenheim, UB Distinguished Professor and chair of the Department of Social and Preventive Medicine, has been nominated to the Board of Scientific Counselors, Clinical Sciences and Epidemiology. The board provides advice to the NCI leadership of the Intramural Research Program.

Elizabeth (Liz) Raleigh has been named associate director for the dietetics internship in the Department of Exercise and Nutrition Sciences. A registered dietitian with 30 years of varied dietetics experience, Liz received her B.S. in human nutrition and foods and an M.S. in nutrition from Cornell University.

Pavani K. Ram, assistant professor of social and preventive medicine, is joining the tenure-track faculty.

Albert Vexler, a recent hire in the Department of Biostatistics, was

promoted from research assistant professor to assistant professor.

Jean Wactawski-Wende, professor and associate chair of the Department of Social and Preventive Medicine, was recently elected co-chair of the Women's Health Initiative Publications and Presentations Committee and will serve on the executive committee for the NIH-sponsored Women's Health Initiative Study until October 2010.

April Whitehead has recently joined the dean's office as assistant to Lynn Kozlowski. She can be reached at 829-3434 x603, whitehea@buffalo.edu, or in Kimball 435.

William F. Wiczorek, adjunct faculty member in SPM and director of the Center for Health and Social Research at Buffalo State College, was awarded a five-year, \$3.1 million federal grant to follow up with young male subjects who had participated in a study of drinking and delinquency from 1992-95.

19th annual J. Warren Perry Lecture award winners

J. Warren Perry Scholarship Award: Ashley Savage (ENS), Neeraj Kumar (RS), Megan Evangelist (RS), Julie Marcotte (ENS)

Alfred T. Caffiero Scholarship Award: Lauren Chinchin (RS), Jennie Donofrio (RS), Kemba Pollard (RS)

Dr. Carlton Meyers Graduate Award in Exercise Science: Sean Smith (ENS)

Francis V. Hanavan Award: Austin Miller (BIOSTAT)

Denise Howland Award: Julie Winters (ENS)

Dr. Richard N. Schmidt Scholarship Award: Wei Deng (BIOSTAT)

Sidney Addelman Master's Award: Qianqian Zhu (BIOSTAT)

Academic Service Award: Christine Ambrosone (SPM)

Perry Poster Winners:
Basic Science: Chong Wang (BIOSTAT)

Population-Based Science: Raymond Skeps (SPM)
Clinical Science: Ariana Cunningham (ENS)

Education and Demonstration: John Stone (RS)

Outstanding Researcher of the Year Award: Jo Freudenheim (SPM)

Outstanding Teacher of the Year Award: Susan Bennett (RS)

Dean's Award (est. by Dr. Albert Rekate): Scott White (ENS)

Outstanding Leadership Award: Michael Schlicht (Health IT)

ASAHP Scholarship for Excellence: Mary Platek (ENS)



Austin Miller (second from left) receives the Francis V. Hanavan Award from Barbara Hanavan and Raymond Bissonette, with interim dean Lynn Kozlowski.

Thinking about pregnancy? Participants needed to test aspirin's prenatal benefits

Western New York women who are thinking about getting pregnant and who have had a pregnancy loss in the past are invited to enroll in a federally funded research study through the Department of Social and Preventive Medicine. The study, called Effects of Aspirin in Gestation and Reproduction, or EAGeR, is investigating low-dose aspirin use to increase a woman's chances of getting pregnant and maintaining a healthy pregnancy. Women in the study will be given a highly sensitive fertility monitor, free folic acid supplements and a small stipend to cover time for study visits. To enroll, call (716)-829-3128.



EAGeR
The Effects of Aspirin in Gestation & Reproduction

Small steps can yield big results in the workplace

As Americans work longer hours, obesity is also working overtime. According to the Center for Disease Control's National Health and Nutrition Examination Survey (NHNES), in the late 1970s the incidence of adult obesity was about 15 percent. The 2003 NHNES survey found that rates had more than doubled to nearly 33 percent, and they are continuing to increase.

In 2005, the Mayo Clinic published a study in the journal *Science* showing that mildly obese individuals (those with a body-mass index of around 30) on average sat more than two and a half hours more per day than those with leaner BMIs.

Obesity is associated with many health complications including hypertension, Type II diabetes, coronary heart disease, stroke, high cholesterol, osteoarthritis, sleep apnea and several types of cancer.

Many scientists, myself included, are convinced that society's increasingly sedentary habits during the eight-plus-hour workday are partly to blame. Countless Americans sit still in front of computers and at desks, rarely getting up to move or stretch.

Most of us also underexercise for the amount of eating we do. That inactiv-

ity, combined with a poor diet, can make a large difference in body weight. For example, two teaspoons of sugar—the amount you might use in your morning coffee—equals only 30 calories (kcal) a day. However, that's 10,950 calories, or nearly three pounds of fat, per year!

To expend 30 kcal by exercise, a 170-pound person would need to walk briskly for at least 6.75 minutes every day. This doesn't seem like much, but we aren't doing it.

Now for some good news. In a recent study I conducted with Karl Kozlowski, a colleague of mine in the Department of Exercise and Nutrition Sciences, we found that such small increases in daily activity levels, whether at home or at the workplace, could potentially have profound effects on minimizing weight gain.

Energy expenditure was measured in two groups of normal-weight workers—one group using a regular desk chair, and one using a "balance ball," which forces the body to sit up straighter and use more muscles for balance. Results showed that the group using the balance ball burned more calories than the other group. Although the daily differences were small, they accounted for

the equivalent of approximately five pounds of fat over a 50-week work year.

There are other ways workers can burn more calories.

Park farther away from your office.

Always take the stairs. Set a timer that reminds you

to stand up and

stretch. Take a quick one-minute walk every hour through your building. At home, cut back the amount of sitting you do, particularly in front of a television or computer.

Remember, if you do something at night that burns off 20 calories, that would amount to more than 7,000 kcal in a year, or two pounds of fat.

But keep in mind that these activities should supplement, not replace, the American College of Sports Medicine's recommendations: 30 minutes of moderate-intensity exercise at least five days a week.

Luc E. Gosselin is associate professor of exercise and nutrition sciences at UB.



Luc E. Gosselin Photo: Celine Tan

Improving health for populations and individuals impact

The University at Buffalo is a premier research-intensive public university, a flagship institution in the State University of New York system that is its largest and most comprehensive campus. UB's more than 28,000 students pursue their academic interests through more than 300 undergraduate, graduate and professional degree programs. Founded in 1846, the University at Buffalo is a member of the Association of American Universities.

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