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ROCHESTER MEDICINE

Eastman's directive

Medical Center's community health mission reaches across the institution and deep into community and homes.

Osteotoxicology

An advocate for the study of the environment's role in bone diseases, Edward Puzas chases his primary and persistent culprit, lead.

On the cover
J. Edward Puzas, Ph.D., working to understand the environment's role in bone diseases.

I remember well the warm welcome I received last January in the Flaum Atrium on the day University of Rochester President Joel Seligman announced that I would return from my injury and work again as chief executive officer of the University of Rochester Medical Center (URMC).

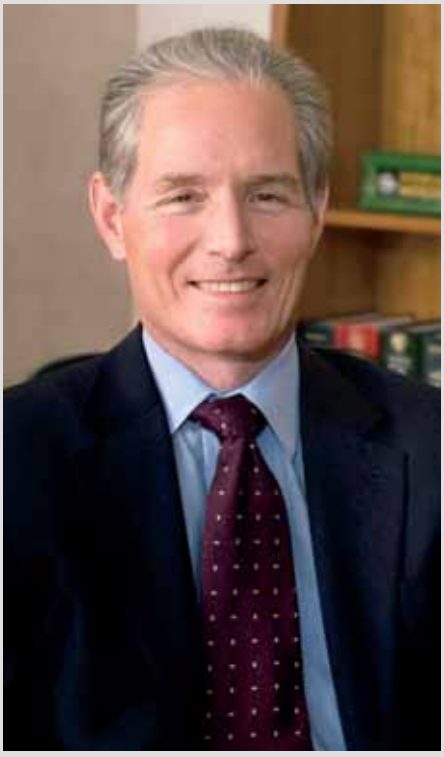
Much has happened in a year, and I especially want to tell you about an exciting program that we announced last month at URMC and our School of Medicine and Dentistry. It marks the next phase of an initiative that we've been working on for several years, but with intense focus over the last year.

My experiences as a patient were a revelation, an undeniable reminder of the critical importance of providing compassionate, attentive care. I was impressed by the caregivers who had the courage to genuinely engage me and my wife, Mary, in conversations about our fears and concerns. As CEO, I've been determined to find a way to provide patient-and family-centered care more consistently across URMC. Our goal is to care *with* our patients, rather than *for* our patients. In addition, we need to engage families in the treatment plans for our patients. Equally important, we need to foster an environment of caring for each other in which teamwork and a shared vision is the norm.

Health systems that support patient-and-family-centered care with involvement in decision-making achieve improved quality, safety, efficiency and greater satisfaction for patients and staff. Given the pressures that all health care providers are currently facing, this explains why so many health care organizations are now embracing patient- and family-centered care. Touted by the Institute for Health Care Improvement, the Agency for Health Care Research and Quality, the University HealthSystem Consortium and others, virtually every major health organization is on a similar journey.

Fortunately, Rochester has considerable advantages, not the least of which is our heritage with the biopsychosocial model. This model has been taught in our medical school for more than 30 years, and has imbued two generations of students and faculty with a deep appreciation of the humanistic elements of health care. Consequently, we have a cadre of nationally prominent clinician-scientists who practice and teach patient-and-family-centered care. Led by Steve Goldstein, CEO of Strong Memorial Hospital and Highland Hospital, Jackie Beckerman, director of Strong Commitment, and Jean Joseph, M.D., Patient-and Family-Centered Care medical director, we have developed a comprehensive approach to implementing this next generation of the biopsychosocial model throughout URMC.

Just last month, we held a series of Town Hall meetings to introduce the concepts developed by our core teams with the entire URMC faculty and staff. The response has been inspiring. Everyone involved in patient care-physicians, nurses, transporters, food service and



environmental service workers alike-is focusing on interactions with colleagues, patients and families. There is a palpable energy around this new way of providing care. Everyone is becoming passionate about living our brand, "Medicine of the Highest Order."

We're already seeing that patient- and family-centered care is rewarding in myriad ways. It builds patient loyalty, improves outcomes and increases efficiency. Not surprisingly, those caregivers who score highest on patient satisfaction surveys report having the highest level of career fulfillment. At a time when caregivers feel the pressure of so much change in health care, patient-and-family-centered care is not "just one more thing we need to do," it is "the thing that we must do."

Bradford C. Berk, M.D., Ph.D.
CEO, University of Rochester Medical Center; Senior Vice President for Health Sciences

This past year marked the centennial anniversary of the revolutionary report by Abraham Flexner for the Carnegie Foundation for the Advancement of Teaching that criticized the quality of most American medical schools.

Flexner found most curriculums offered future physicians little education in science. He proposed basing medical schools at universities, setting high entry and graduation standards, establishing clinical as well as academic settings where students would learn, and facilitating faculty research.

Our School of Medicine and Dentistry grew out of this report. Flexner met with Rush Rhees, who was then the president of the University of Rochester, and with businessman and philanthropist George Eastman, urging them to create a school that would truly educate and prepare physicians and scientists.

Our history shows we have lived up to Flexner's call. The feature articles in this issue of *Rochester Medicine* illustrate how we continue to answer that call.

You will read about the Dean's Teaching Fellowship program that builds the educational skills of our faculty and also helps renew our curriculum. Recipients of the fellowship, to name only a few, helped create a training program for those who care for women and their babies in high-risk deliveries, built a comprehensive assessment of clinical competence in emergency medicine, developed a standardized patient program for third-year surgery students and demonstrated the value of medical student peer assessments.

J. Edward Puzas, Ph.D., is the Donald and Mary Clark Professor of Orthopaedics, the School of Medicine and Dentistry's senior associate dean for basic research and an alumnus of the School. His research into the effects of lead in bone, as described in this issue, not only demonstrates our commitment to research but also our drive to link our research to clinical problems. "Whenever we do experiments, we are always thinking about how to take what we find and apply it to cure a problem in humans," Ed says.

In his report 100 years ago, Flexner recognized changes coming to medicine through science. In the past, he wrote, physicians were responsible to a patient and perhaps the patient's family. "But the physician's function is fast becoming social and preventive," Flexner said. "Upon him society relies to ascertain . . . the conditions that prevent disease and make positively for physical and moral well-being."

So Flexner would recognize the importance of the fourth core mission of the Medical Center, community health. While the official naming of a fourth core mission did not occur until 2004, the commitment to community health by our Medical Center and the School of Medicine and Dentistry goes back decades.

In this issue of *Rochester Medicine*, we begin a series of articles on our community health programs. Our Medical Center and the School of Medicine and Dentistry have more than 300 of these programs. You also can find our community commitment in the research of Ed Puzas and other members of our faculty. These are all reasons why I am confident that, if Flexner could return, he would give us high grades.

Mark B. Taubman, M.D.
Dean of the School of Medicine and Dentistry, Vice President for Health Sciences

***Rochester Medicine* online**

Rochester Medicine magazine's online edition is available simultaneously with the print edition, but with Web extras. The online Rochester Medicine is another way to keep in touch with the School of Medicine and Dentistry. Look online at *www.rochester-medicine.urmc.edu*

ROCHESTER MEDICINE

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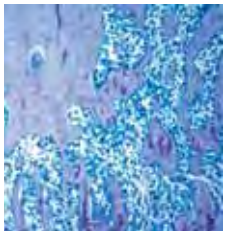

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Eastman's directive

Medical Center's community health mission reaches across the institution and deep into neighborhoods and homes.

By Michael Wentzel

On any given Thursday evening, a half-dozen University of Rochester School of Medicine and Dentistry students meet at Asbury First United Methodist Church in Rochester where they staff a free clinic for the homeless, the uninsured and anyone without the money to get health care.

The medical students, supervised by a volunteer physician, perform physicals, treat minor injuries, arrange care for chronic problems and even help serve a hot meal to the 15 or so patients who come to the evening clinic.

The Asbury clinic is a part of UR Well Student Outreach, through which medical students work at clinics and other programs that provide care and services to residents of the Rochester area. In the last 12 months, more than 210 medical students have volunteered in UR Well community projects.

"At the Asbury clinic, we see patients who do not have alternatives for health care. This is a huge opportunity for us to be engaged with our community and make a significant difference for those in need," said Catherine Trimbur, co-director of the UR Well clinic and a member of the Class of 2012.

"Additionally, it is a great learning opportunity, as we get to see a variety of patients in different clinical settings and work with and learn from attending physicians and our peers."

The Asbury clinic is not a rare community-based project. Individual physicians, scientists and students throughout the Medical Center and School of Medicine and Dentistry routinely apply skills and resources to improve the health of the Rochester region.

Faculty, postdoctoral fellows and staff from the Department of Psychiatry, for example, join with social workers and counselors on a weekly basis to reach elderly people facing loneliness, depression and even suicide.

In at least four projects, the department has partnered with nonprofit community organizations in efforts to find ways to bring better mental health care to older adults. In a project called the Senior Health and Research Alliance, the department helped develop a system for screening older adults for depression at the agency level that has affected the care provided to thousands of people.

The project with Lifespan of Greater Rochester, the largest aging services agency in the Rochester region, and the Catholic Family Center was the first comprehensive effort to join social services and mental health providers to develop approaches to care for the elderly.

"Their work with us definitely has improved the health of older adults in our community. It has allowed us to assess our clients differently and get mental health services to them," said Ann Marie Cook, executive director of Lifespan of Greater Rochester. "Everyone from the Medical Center we have worked with has a tremendous amount of respect for the work we do. There has not been one person who felt there was an ivory tower looking down at us."

In fiscal year 2009, the Medical Center, including Highland Hospital, supported more than 300 community health improvement programs and community-building and community-based research projects with a value of $68.5 million.

"Our commitment to the community is longstanding," said Mark B. Taubman, M.D., dean of the School of Medicine and Dentistry. "One of our most important jobs as an academic medical center is to conduct commu-

nity-based research to evaluate new approaches to prevent, treat and cure disease. To do so, we must work with communities so that we can better understand their needs and priorities."

An academic medical center's responsibility

When he agreed to fund the creation of the School of Medicine and Dentistry in 1920, philanthropist George Eastman directed the University to use the skills and talents of faculty and students "to make Rochester one of the healthiest communities in the world."

Jay H. Stein, M.D., former chief executive officer of the Medical Center, and Lowell Goldsmith, M.D., M.P.H., former dean of the School, echoed the directive when, in October 2000, they launched Project Believe, a campaign that aimed to make Rochester the healthiest community in the country by 2020. The idea came to Goldsmith as he made one of his regular drives through the city of Rochester.

"I had been searching for an audacious idea that would become the signature of the School, something that would be important for the School," said Goldsmith, now a professor emeritus at the University of North Carolina School of Medicine. "We obviously provide medical care to the community. We already had many outreach programs but were we improving the health of the community at large? We knew it was going to have to involve everyone-students and faculty — in projects that made sense academically and made sense to the community."

Utilizing small grants in its first years, Project Believe supported nutrition and fitness programs in Rochester and backed a stop-smoking project for teenagers. While the Project Believe

The Center for Community Health's Healthy Living Program and the Latino counterpart, Vida en Salud, take fitness and health education programs to African-Americans and Latinos in the Rochester area in a partnership with churches, community organizations, the city of Rochester and the YMCA.

name and structure are no longer used, the Eastman directive and what Goldsmith calls "this worthwhile task and mission" stand today as essential guideposts of the Medical Center and the School of Medicine and Dentistry.

In 2004, C. McCollister Evarts, M.D. (M '57, R '64), then chief executive officer of the Medical Center, officially made community health the fourth core mission of the Medical Center. In the same year, the Association of American Medical Colleges awarded the School of Medicine and Dentistry its Outstanding Community Service Award, recognizing the depth and breadth of community service fostered by the School.

In 2006, the creation of the Center for Community Health under Evarts fortified partnerships with local organizations and became a focus of support for community-based research, education and connections of faculty, student and staff with community partners and programs. In 2008, the Medical Center's new strategic plan called for an expansion of health interventions, research and collaboration as part of the community health mission.

"Across the United States, many academic medical centers are located in or near impoverished neighborhoods and communities with many needs," Nancy M. Bennett, M.D., director of the Center for Community Health and professor of medicine. "It is our responsibility to tie our work to improving the health of these communities and to serve our communities very directly. If we work more closely with the community, our research will be more effective and we will improve the health of the people in the community. Some academic medical centers are just coming around to this view but we have understood for years that to improve human health we need to translate our research to community innovations."

The Center for Community Health's programs alone reach across the city and county. Its Cancer Services Program of Monroe County pays for screenings for breast, cervical and colorectal cancer annually for about 1,000 women and men between the ages of 40 and 64 who are uninsured or underinsured. Its Healthy Living Program and the Latino counterpart, Vida en Salud, take fitness and health education programs to African-Americans and Latinos in the Rochester area in a partnership with churches, community organizations, the city of Rochester and the YMCA.

The Healthy Living Center, part of the Center for Community Health which opened in February, offers clinical lifestyle management services and conducts research on the design, evaluation, and implementation of programs to decrease tobacco use, prevent diabetes, boost physical activity, improve nutrition, and increase adherence to medications.

Headed by Geoff Williams, M.D., Ph.D. (PhD '93), a professor of medicine at the Medical Center, the Healthy Living Center aims to better understand the factors that play a role in an individual's health and to create resources for physicians, individuals, and community programs that support lifestyle changes to improve health.

"You will find elements of what we do as an institution at many other academic medical centers, but we have the most comprehensive approach. Our institution has made a commitment at a level that is unique," Bennett said.

An intervention to prevent violence

You can find that commitment to community embedded in the School of Medicine and Dentistry curriculum. Every medical student hears the message of the community mission from the first days at the School. Community volunteer work is not only supported, it is encouraged.

The Community Health Improvement Clerkship (CHIC) is a requirement for graduation from the School of Medicine and Dentistry. The only required fourth-year clerkship of its kind in the country, CHIC provides medical students with a community-based educational experience, while increasing access to health care by underserved populations. Students are encouraged to develop or sustain projects that are beneficial to the community. Since its inception in 2002, CHIC has resulted in more than 190 unique community health improvement projects, involving more than 400 medical students.

You can find the community commitment in the Kessler Burn and Trauma Center in the Medical Center, where teenage patients who have gunshot or stab wounds are not uncommon and where the Rochester Youth Violence Partnership tries to break the lure of the streets.

The partnership is a hospital-based violence intervention program that

targets trauma victims under the age of 18 when they are treated at the Medical Center for a knife or gun injury.

"When we ask the community what issues are most important to them, addressing violence is always at or near the top of the list," Bennett said.

Established in 2006, the partnership is headed by the Kessler center and supported by 28 local non-profit, government, and service-based organizations. The Medical Center serves as the "first responder" by treating injuries and identifying at-risk patients. When the patient is stabilized and the psychological and social issues identified, a coordinated series of law-enforcement and community partner-led interventions occur to help prevent additional violent episodes.

Mark Gestring, M.D., the Kessler center medical director, heads the program. The team also includes Michael Scharf, M.D. (R '01, FLW '03), assistant professor of psychiatry and pediatrics, and clinical nurses and social workers.

At last count, since the inception of the program, 177 youths have been treated for gunshot or stab wounds at the Kessler center. Of these, 155 have received a comprehensive social work assessment; 108 were referred to the gang-intervention team; and 91 received in-patient psychiatric evaluations. In 2007, nine youths previously injured by violence returned as a result of violence. In the three years since then, none of have returned.

"These injuries rarely happen by accident and should be seen as indicators of unacceptable exposure to violence. Our program focuses on victims and families with a goal of preventing further violent injury," Gestring said. "Kids should never get shot or stabbed."

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Over the last five years, Department of Psychiatry faculty members have helped create a network of programs that address another often hidden health threat—depression that hampers and burdens older adults and their caregivers.

A departmental partnership with the Rochester-area organization Jewish Senior Life and Jewish Family Services called the Geriatric Medical and Mental Health Care Collaborative (GEMM) provides integrated care to frail and homebound seniors and often treats their equally homebound caregivers.

A coordinated attack on lead

Kids also should not face exposure to the toxic consequences of lead.

Research conducted in the 1990's at the Medical Center, which documented the impact of even slightly elevated blood lead levels on children's cognitive development and IQ and directly linked this poisoning with the concentration of lead in the dust on the floors of their homes, informed federal standards for lead in dust. Today, Medical Center researchers continue to study lead's role in osteoporosis and other serious health problems.

In 2001, the Coalition to Prevent Lead Poisoning was created in response to studies that showed that children in the city of Rochester had elevated blood lead levels that were 10 times the national average. University faculty and staff have been in leadership positions with the organization since its inception. The University has also been instrumental in several outreach programs including Get the Lead Out, a partnership with Orchard Street Community Health Center, local government agencies and several community groups to test the homes of children at risk of lead poisoning, and a "lead lab" which demonstrated lead safe practices.

Katrina Korfmacher, Ph.D., assistant professor in the Department of Environmental Medicine, has spent the last decade focused on reducing lead exposure for children in the Rochester area. Working with the coalition, Korfmacher helped devise and implement outreach, education, and advocacy activities. These efforts resulted in a far-reaching lead abatement ordinance passed by the city of Rochester in 2005. Through the actions of the coalition, the number of children in the Rochester area with elevated blood lead levels was

Lifespan painting class.

reduced from 1,293 children in 2002 to 283 children in 2009.

"This is a powerful example of the ability of science and outreach to inform and influence public policy decisions that improve public health," Dean Taubman said. "While our physicians and scientists have played important roles in understanding and treating the health effects of lead exposure, it was clear that only a coordinated, community-based approach could address the root cause of this problem."

Outside the Medical Center's walls

Over the last five years, Department of Psychiatry faculty members have helped create a network of programs that address another often hidden health threat-depression that hampers and burdens older adults and their caregivers.

A departmental partnership with the Rochester-area organization Jewish Senior Life and Jewish Family Services called the Geriatric Medical and Mental Health Care Collaborative (GEMM) provides integrated care to frail and homebound seniors and often treats their equally homebound caregivers. Jewish Senior Life physicians had targeted the homebound for much-needed medical services as part of their House Calls program, but they now also screen for mental disorders. If the screen is positive for a mental or cognitive issue, a Medical Center nurse practitioner or a social worker get involved. Since 2008, GEMM has served 189 homebound elders, with about a third identified as having significant mental health or cognitive problems.

The department continues its relationship with GEMM but also has helped launch PEARLS, or the Program to Encourage Active and Rewarding Lives for Seniors. This project started in 2010 with Eldersource, a joint venture of Lifespan of Greater Rochester and the Catholic Family Center. The department trains Eldersource social workers and care managers to screen for depression and to utilize a therapy, known as problem-solving therapy, that has been shown to help older adults with depression.

"In our clinic for older adults in the Medical Center, we only touch the tip of the iceberg," said Deborah A. King, Ph.D. (FLW '85), professor of psychiatry who oversees GEMM and PEARLS. "These programs are really getting out there and reaching people. We have to move so much of what we do outside our Medical Center walls."

Wade Norwood, director of community engagement for the Finger Lakes Health Systems Agency, says he witnesses almost every day in his job and in the community in which he lives the value of the programs that have developed out of the Medical Center's community health mission.

"This commitment and sensitivity to the community and the needs of community members is an important characteristic of the Rochester educational experience," said Norwood, who serves as vice chair of the Medical Center's community advisory council. "It is important because it is the right thing to do. Research and education require service to the community if they are to be truly of the highest order.

"I see the Medical Center's role and partnership with the community everywhere I go. I see it when I can go into a lead-safe home. I see it in what we're doing at city playgrounds to get kids more active and health. I see it in the dozens of University faculty members who are helping the health systems agency wrestle with the difficult challenges we face. The results of the community mission are palpable and clearly evidenced every day."

This is the first in a series of articles about the community health mission.

Dean's Teaching Fellowship

Endowed program provides time and support for a cadre of faculty committed to teaching and enhancing the curriculum.

By Michael Wentzel

Valerie J. Lang, M.D.

What can be done to give third-year students in the inpatient internal medicine clerkship a more active instructional tool that would replace a series of less engaging lectures?

How can communication between obstetric and pediatric providers in the delivery room be improved?

What is the best way to evaluate student musculoskeletal knowledge and clinical skills in order to develop a basis for curriculum changes that could boost competence?

These are questions asked and answered by faculty who received a Dean's Teaching Fellowship, a unique program at the University of Rochester School of Medicine and Dentistry designed to build a cadre of committed medical educators.

"The Dean's Teaching Fellowship is making our curriculum better," said Ronald M. Epstein, M.D. (R '87, FLW '90), director of the program. "The program also produces opportunity for career development. The program is increasing faculty enthusiasm and capability for leadership in medical education, and therefore the quality of teaching. It's making faculty members want to stay here and the enthusiasm is felt by their students."

Valerie J. Lang, M.D. (R '00), assistant professor of medicine, began her fellowship in 2004 with a goal of infusing more energy in the inpatient medicine clerkship.

"My project was to create online virtual patient cases to teach the content that had previously been covered in the lecture series while helping students organize their knowledge in a way that would help them reason through common internal medicine problems," she said.

As director of the clerkship, Lang had found that students frequently saw patients after a diagnosis had been established and treatment was initiated.

"Losing the opportunity to see patients earlier in the course of their illness was associated with poorer performance on a student's final exam," she said. "Working through virtual patient cases guaranteed that students would be able to practice the cognitive tasks of identifying the key information to obtain in the interview and physical exam and diagnostic studies for patients who present with a symptom but had no diagnosis."

As she worked on her project, Lang realized that covering the entire clerkship curriculum was too broad for her to accomplish alone. She began to work with a national organization, Clerkship Directors in Internal Medicine (CDIM), and a non-profit foundation, the Institute for Innovative Technology in Medical Education. She and her collaborators trained 33 clerkship directors from around the country to write 36 virtual patient cases that now comprehensively cover the entire national curriculum. Each has been peer-reviewed for content and pedagogical format and is available on-line.

The program is called SIMPLE: Simulated Internal Medicine Patient Learning Experience. There is a parallel program in pediatrics, and a program for family medicine was just launched. Today, 75 medical schools subscribe to SIMPLE.

"It's gratifying, but daunting, to know that the majority of medical students in the United States will use our virtual patient program before they graduate," Lang said.

Origins of the fellowship

The Dean's Teaching Fellowship is one of only a few programs of its kind in the country for medical school faculty, and is atypical in that it is supported by an endowment and requires a completed project suitable for presentation at a national meeting and publication in a peer-reviewed journal.

Jules Cohen, M.D. (BA '53, M '57), a former senior associate dean for medical education at the School of Medicine and Dentistry, created the program almost 20 years ago as a reward for excellence in teaching.

In 2001, the program was expanded to provide a rigorous curriculum for faculty members who want to focus on medical education. The endowment, raised by Cohen, has grown enough to support fellowships for seven or eight faculty members annually.

An advisory panel reviews fellowship applications and recommends candidates to the School of Medicine and Dentistry dean who makes the final selections. The fellowships bear a name, honoring a donor or a person of note.

Fellows are expected to spend 15 percent of their time on the program for two years. This includes seminars that meet two times a month for three hours to discuss a variety of topics, including educational theory and technology, research and teaching methods, curriculum design, student assessments and faculty development. Each fellow undertakes an educational project for the two years. Fellows work closely with a mentor and with each other.

Each fellow is provided with a stipend of $13,000 for salary relief and up to $3,000 in support of expenses for research and travel to educational conferences. A fellow's department contributes the difference between the stipend and the fellow's salary. In addition to publications or presentations, many fellows develop new courses, Web-based educational programs and evaluation systems.

Since the program's inception, almost 80 faculty members have been Dean's Teaching Fellows.

"The fellowship program fills an important need in faculty development," said Denham S. Ward, M.D., Ph.D., the School of Medicine and Dentistry's associate dean for faculty development and co-director of the program. "It allows for networking of key faculty who are interested in education across all the departments in the medical center. Over the years, the program has developed a very strong group of faculty who have taken on or enhanced leadership positions in medical education. We are fortunate to have an endowed program such as this and it complements the other programs that we have for medical school faculty development in education."

Knowledge and confidence

Benedict DiGiovanni, M.D., associate professor of orthopaedics and rehabilitation and a Marshall A. Lichtman fellow, focused on musculoskeletal curricular evaluation and the level of medical student knowledge and clinical confidence for his project that began in 2007.

"How optimally are we educating our medical students in this area?" he said. "Some studies suggested we were not doing as good as job we should, that many students lacked the knowledge and lacked the confidence to evaluate musculoskeletal problems. If true, that is significant because 25 percent of what is seen in a primary care doctor's office is musculoskeletal in nature."

DiGiovanni and others questioned the reliability of tools used to assess medical student knowledge. He worked with the National Board of Medical Examiners to evaluate a musculoskeletal exam similar to subject or shelf exams in pediatrics, medicine, psychiatry and other areas.

For his curricular evaluation study, DiGiovanni assessed students for three years. With second year students, he found the knowledge level performance was "just OK."

"Seventy percent is considered a good score but they scored in the mid 50s. But this was second-year students taking a fourth-year exam," he said. "When they took the exam again two years later, the class score went up to an average of 70 percent. This is very exciting. We now have a valid and reliable tool that shows a high level of musculoskeletal knowledge among our graduating medical students. Yet, a problem is still noted in clinical confidence. The score was low in the second year and, even though the students had good knowledge levels by the fourth year, their confidence in being able to diagnose common musculoskeletal problems was still pretty low. We're not sure why confidence has not followed knowledge.

"We are trying to figure out what factors are at play," DiGiovanni said. "You would think less confidence could lead to ordering more tests and more referrals to specialists when they don't need to. That could drive up costs. We need to identify those who have more confidence, tease out the factors that build confidence and promote those factors in our teaching here."

Team approach to high-risk deliveries

Rita Dadiz, D.O., assistant professor of pediatrics and a George W. Merck fellow, collaborated with a team of doctors and nurses from the obstetric and pediatric departments when she began her fellowship project in 2008. They developed an interdisciplinary team training program for those who care for women and their newborns during high-risk deliveries.

"This project is particularly innovative in fostering collaboration between different teams, disciplines and professions through a communication and teamwork-focused curriculum," Dadiz said.

The project also uses simulation-based training (SBT) and highly realistic, computerized mother and baby mannequins to help portray a delivery. The baby, for example, can be delivered vaginally or via cesarean section. The mannequins breathe and the baby vocalizes sounds.

"I'm a full-time orthopaedic surgeon. I am active in clinical research and have published a good deal in the orthopaedic realm. Yet I've always had this drive to be a medical educator.…

"The fellowship provides the support and dedicated time you need to do some good medical education work. It gives you the tools to go to the next level as a medical educator. The Dean's Teaching Fellowship program is a tremendous asset to the School."

— Benedict DiGiovanni, M.D.

Doctors and nurses participate in the simulated delivery as they would during an actual delivery. The simulation is followed by a debriefing during which participants discuss what went well and identify areas for improvement. The simulation is videotaped so that during the debriefing the participants can review the video and reflect as a team on team dynamics.

Dadiz's project has been incorporated into the training of residents, fellows, faculty, nurses and nurse practitioners from the obstetric and pediatric departments. The Medical Center has recognized simulation-based team training for the obstetric and pediatric teams as away to reduce malpractice premiums.

Dadiz is evaluating the effect of this program on communication during actual deliveries. As part of the evaluation process, her group is analyzing how teams communicate with each other by using videotaped deliveries. They have developed evaluation tools that include a survey for the care providers and a checklist for handoff communication in the delivery room.

"If we can show that SBT has a positive impact on patient care, then we can also potentially improve patient outcomes," Dadiz said.

A terrific experience

Recipients of the Dean's Teaching Fellowship are virtually unanimous in their praise for the program.

In a survey of all past and present fellows conducted in 2009, more than 74 percent said their roles in medical education have increased due to their participation in the fellowship program. As a result of the fellowship, they have developed new curricula for their division or department, served on additional education related committees, begun mentoring junior faculty, residents and students, presented at national education related meetings, and jump started their teaching careers.

Almost 70 percent of the Dean's Teaching Fellows said participation in the program positively influenced their commitment to medical education as a major component of their career. Fellows stressed the importance of the relationships they made both personally and professionally, while the cross specialty interactions among faculty enhanced the already rich experience.

DiGiovanni, who now is the director of the musculoskeletal curriculum for the School of Medicine and Dentistry, calls the program a "terrific experience."

"I'm a full-time orthopaedic surgeon. I am active in clinical research and have published a good deal in the orthopaedic realm. Yet I've always had this drive to be a medical educator, to work on improving musculoskeletal knowledge and expertise among medical students, but it was difficult to find the time and appropriate mentoring" he said. "The fellowship provides the support and dedicated time you need to do some good medical education work. It gives you the tools to go to the next level as a medical educator. The Dean's Teaching Fellowship program is a tremendous asset to the School."

Lang said the fellowship program provided her with a foundation in the principles of medical education, learning theory, instructional tools and teaching skills that she utilizes in her role as director of faculty development for the Hospital Medicine Division. The fellowship also inspired her to pursue a master's degree in health professions education and conduct additional educational research projects.

"This project has ballooned well beyond the original goals and has provided me with innumerable opportunities to collaborate with medical educators around the country," Lang said.

The program's leaders, Epstein and Ward, and other fellows advised and guided her whenever her project encountered obstacles, Dadiz said.

"The fellows all have very different backgrounds and projects. The diversity of the program's fellows is one reason for the program's strength and its ability to provide a richness to the way we learn from each other," she said. "On some level, we all teach medical students, either in the classroom or while precepting them during patient care. Because the Dean's Teaching Fellowship program encourages us to think critically about the way we teach, we are able to incorporate innovation to medical education."

Dadiz has received a three-year grant from the federal Human Resources and Services Administration to introduce the training program she helped develop as a fellow to community hospitals throughout the Finger Lakes region.

"The fellowship helped me think about education in a thoughtful and exciting way," Dadiz said. "I believe that the way we train our students and house staff has a profound effect on the way they train others after they graduate from residency or fellowship programs and begin their practice and care for patients."

A sample of fellowship projects

Fellows have launched dozens of project that have tested or improved of the School of Medicine and Dentistry curriculum. They include:

— Anne C. Nofziger, M.D. (R '00), associate professor of family medicine and a fellow from 2005 to 2007, studied peer assessments, in particular the narrative comments, and the impact of the assessments on the professional development of medical students, finding that assessments can be a powerful tool in encouraging the formation of professional behaviors.

— Alec B. O'Connor, M.D., M.P.H. (R '00, MPH '07), associate professor of medicine and a current fellow, is investigating the effects on residents, medical students, and patients of structural changes in medical resident inpatient teams at Strong Memorial Hospital designed to improve the experience for residents and students.

— Carol Ann Diachun, M.D., associate professor of anesthesiology, is developing an electronic portfolio to increase feedback to her department's faculty that includes a program of 360-degree evaluations as well as individual quality improvement data collection.

— Matthew Spencer, M.D., associate

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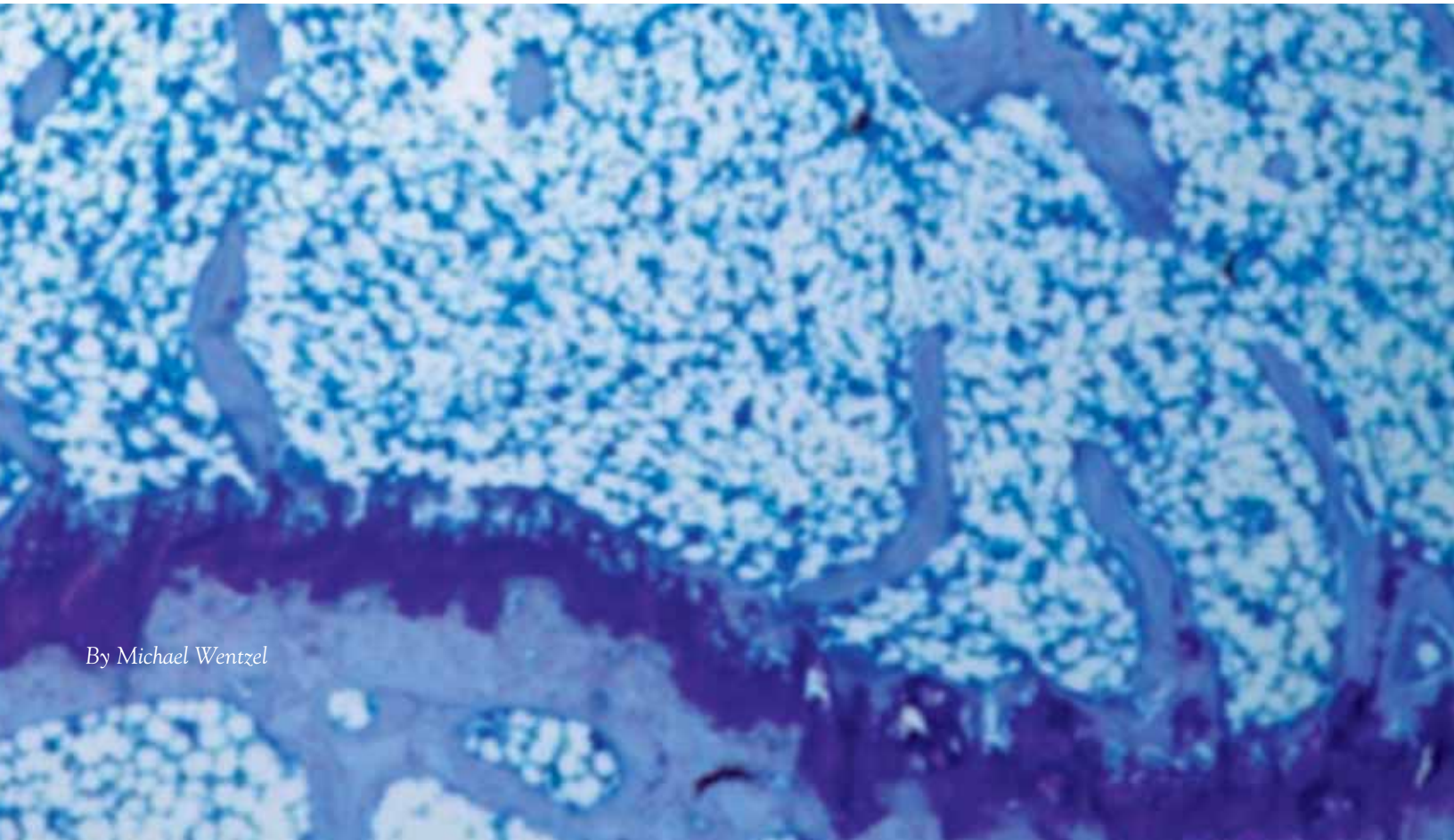
Rita Dadiz, D.O.

OSTEO TOXICOLOGY



By Michael Wentzel

In one way, it all started with a summer student who needed something to do. The student was assigned to the lab of J. Edward Puzas, Ph.D. (MS '73, PhD '76), the Donald and Mary Clark Professor of Orthopaedics who instructed the student to apply low levels of lead acetate to osteoblasts in culture and describe the result.

"The lead had toxic effects and I thought: 'I ought to look into this,'" Puzas recalled.

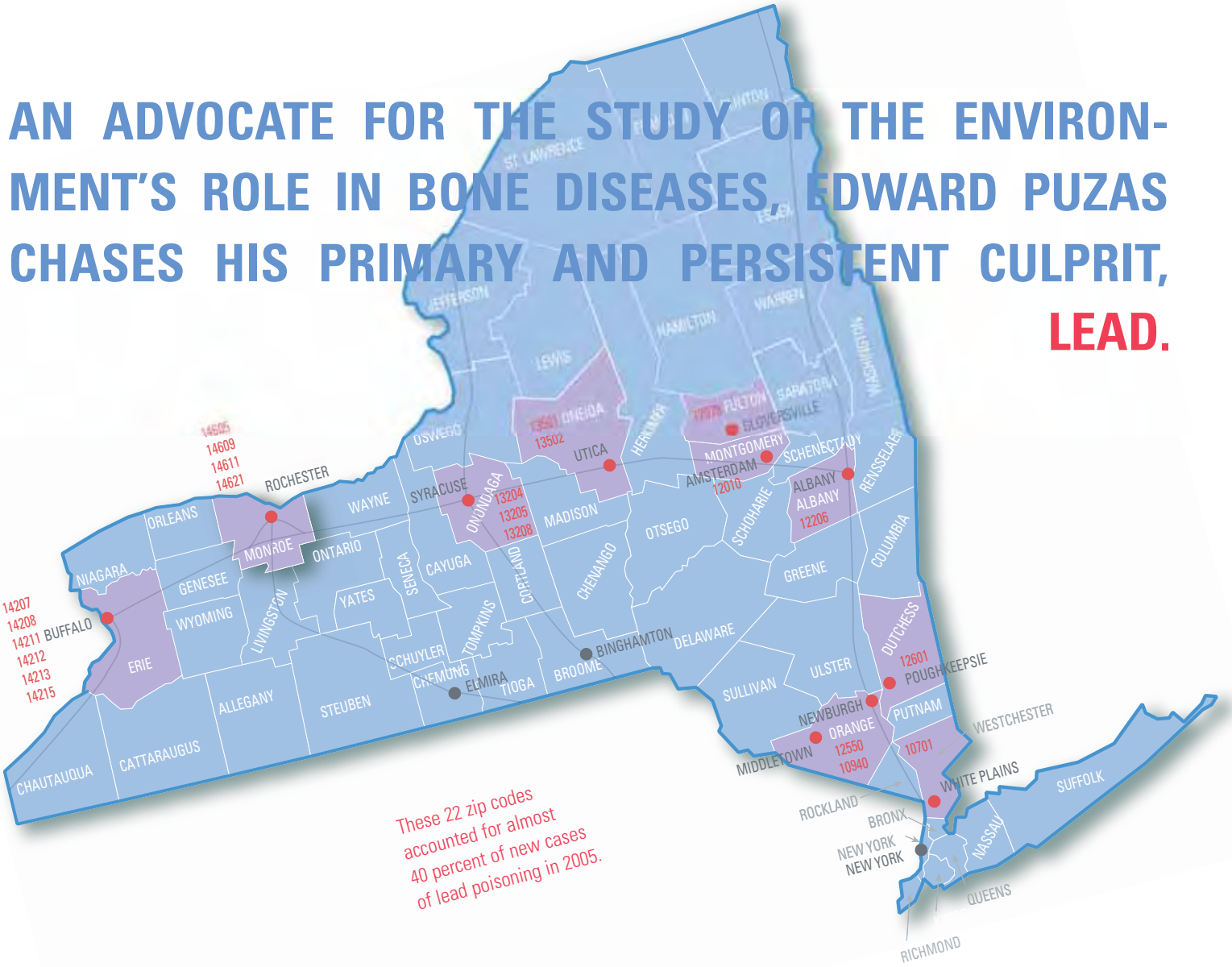
That "look" has translated into an extensive investigation of the impact of lead in bone and the role of lead in bone diseases, in particular, osteoporosis. For at least a decade, Puzas has been a leading voice-sometimes the lone voice-warning of lead's toxic impact on bone cells and tying lead to osteoporosis.

Puzas now has taken a major step in his drive, as he says, "to crack the case on lead exposure."

"Does exposure to lead predispose someone to osteoporosis? The answer is yes," he said. "The lead burden in bone does affect the optimal functioning of bone cells. As many as 15 percent of the cases of osteoporosis could be lead induced. That's millions of people. And now we think we understand the molecular mechanism that chronically keeps the bone mass low in people exposed to lead."

Puzas accuses a naturally occurring protein known as sclerostin as lead's co-conspirator in osteoporosis. Normally a potent inhibitor of bone formation, sclerostin plays a part in the body's system of

AN ADVOCATE FOR THE STUDY OF THE ENVIRONMENT'S ROLE IN BONE DISEASES, EDWARD PUZAS CHASES HIS PRIMARY AND PERSISTENT CULPRIT, LEAD.



checks and balances on bone formation. But lead deposits in bone appear to boost sclerostin, disrupting a balanced system with harmful effect.

"We still have to make the case for lead and osteoporosis time after time," said Puzas, a past president of the Orthopaedic Research Society and the United States Bone and Joint Decade. "The bone crowd has not jumped on board. Physicians don't think to check bones for lead. They don't factor in lead in their differential diagnosis. People in toxicology know and understand what we're doing. We keep working at this. It can take a number of years to change a mindset."

Few would challenge a statement that lead is bad for the brain, liver and kidney. Studies have shown lead can damage the nervous system, dull cognition and slow the development of children.

effect of lead on fractures. Nevertheless, considering the very large number of people affected by osteoporosis and its huge health care costs, a clearer picture of the role of lead in bone metabolism is warranted."

The article only suggested where the research would take Puzas.

Linking lead, a gene and bone loss

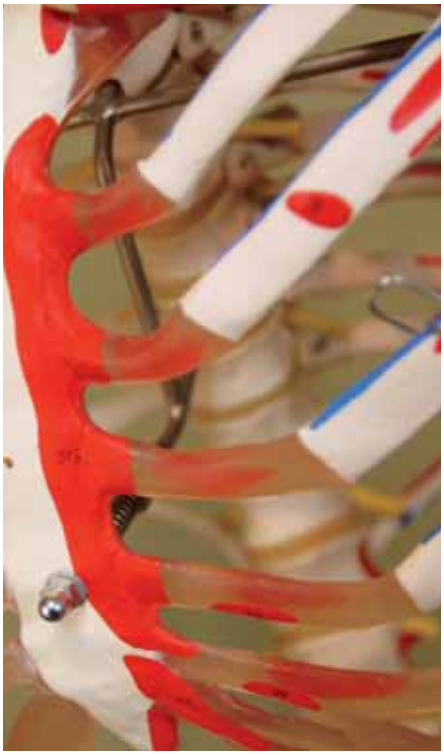
In 2002, Puzas talked publicly about an increased risk of osteoporosis caused by exposure to lead for those in the baby boom generation, especially women. In 2003, he received a four-year, $9-million grant from the National Institute of Environmental Health Sciences to investigate whether lead could cause osteoporosis and also to determine if lead skewed the results of bone density tests.

The DXA scan is the major diagnostic tool used to measure bone density and diagnose osteoporosis. Puzas said

"WE STILL HAVE TO MAKE THE CASE FOR LEAD AND OSTEOPOROSIS TIME AFTER TIME. THE BONE CROWD HAS NOT JUMPED ON BOARD."

Ten years ago, in an article in the journal *Current Opinion in Orthopaedics*, Puzas officially presented his case that lead's toxic effects in the skeleton should be added to the list:

"Our hypothesis is that lead adversely affects the function of growth plate chondrocytes, osteoblasts, and osteoclasts. The effects on osteoblasts are likely to be greater than on osteoclasts, which contributes to a small but chronic imbalance in skeletal remodeling. Taken together, the effects on growing bone and adult remodeling could predispose an exposed individual (most likely a female) to a greater chance of osteoporotic fractures … If we accept the notion that the deleterious effects of lead on bone cells are a continuum related to its concentration and that its effects are superimposed on an already described disease of aging, it might be difficult to identify the specific



lead makes a person's bone mass look denser than it actually is. His findings estimated that a DXA scan overestimated density by 4 to 11 percent, enough to indicate a healthy diagnosis when, in reality, the person could have osteoporosis. The DXA scan has been reengineered in recent years so a lead-induced overestimate is not nearly as severe. But using other technology, Puzas has measured the amount of lead in bone and found that the higher the lead concentration, the higher the incidence of osteoporosis.

"The idea that a lot of lead concentrated in bones could give you an artificially high bone density got the NIH to take a good look at what we were doing," Puzas said. "We all have known for years that the human skeleton is a repository for lead and that the lead had a long life in the bones. Most people thought the storage of lead in the bone was benign, but we were showing the opposite is true."

A gene called SOST encodes for a protein known as sclerostin. A very potent inhibitor of bone formation, sclerostin represses osteoblast function and number and can introduce cellular pathways that cause cell death.

Mutations in the SOST gene lead to a serious disease known as sclerostosis that is characterized by thick bones, entrapment of peripheral nerves, deafness, nerve palsies and intracranial pressure.

"With the mutations, the gene is not effective and that stops the production of sclerostin," Puzas said. "If the sclerostin is not there, you make a lot of bone. It takes the brakes off bone formation. This is a rare genetic disease but it points to the importance of the gene. We all have it so we don't overproduce bone. Lead elevates or up-regulates sclerostin

"MOST PEOPLE THOUGHT THE STORAGE OF LEAD IN THE BONE WAS BENIGN, BUT WE ARE SHOWING THE OPPOSITE IS TRUE."

by tenfold or more, which dramatically down-regulates bone formation. Bone is always being eaten away and formed. Lead depresses the formation process. It gets thrown way out of whack. Resorption exceeds formation and you end up losing bone more rapidly, which is the case in osteoporosis. It looks to us that the lead effect is mediated through a regulation of this sclerostin gene."

Puzas has plans for a series of experiments to further demonstrate the sclerostin connection and define the cellular pathways through which it works. A therapeutic agent that blocks the action of sclerostin is in testing and could be an effective treatment for lead-induced osteoporosis.

"By blocking the inhibitor, you stimulate bone formation," Puzas said. "If lead is working through sclerostin, this agent would be a perfect treatment. But we have to know a lot more. The more

we learn about pathways that control these cells, the more therapeutic options appear. If you can manipulate this process, even if there is no lead present, you can increase the bone formation rate. If it is the mechanism through which lead decreases bone formation rate, then that is your therapeutic target. The key to this is linking a pervasive toxin to a serious bone disease. That's not been done before and that's why I'm still working on this."

Seeking a familiar villain

With a rich history of research, the Department of Orthopaedics routinely ranks as one of the top departments in funding in the county.

"The department has been somewhat ahead of the translational wave. Our basic scientists always aimed at a clinical problem or pathology," said Puzas, who also is the School of Medicine and Dentistry's senior associate dean for basic research.

"Whenever we do experiments, we are always thinking about how to take what we find and apply it to cure a problem in humans," he said. "We are attacking the community's problem of lead exposure at a very fundamental cellular level. But our goal is to take this work from test tubes and make it something of value to the health of people in the community. That is what translational science is and the Department of Orthopaedics has done that a lot. We always have tried to take what basic science we have and apply it to a clinician's problem. We're not just cloning another gene or checking enzymes for the sake of checking enzymes. Actually, the whole School of Medicine has that approach, much more so than some other schools."

Enthusiasm for research from the department's clinical faculty has taken off in recent years, Puzas said. Four years ago, the department had three projects that required approval by the Institutional Review Board. It now has more than 130.

Puzas himself is involved in research on teriparatide, or Forteo, a drug that can boost the body's bone stem cell production to the point that an elderly person's bones appear to have the ability to heal at the rate typically seen in younger adults. Patients, who had been confined to wheelchairs and who took the drug, were able to walk again because their broken bones healed.

He also is investigating the fundamental cycle in which osteoclasts remove bone and osteoblasts restore the bone.

"When the osteoclasts take away the bone, a resorption laucuna or pit is created in the bone," Puzas said. "At some later time, osteoblasts find the pit and settle on the surface and fill in the pit. Osteoporosis occurs when cells don't quite fill in the pit and you end up with a deficit of bone. Millions of pits are being formed over decades of time. When bone is replaced, it is replaced on the lacuna at the surface. That told me that something unique called the osteoblasts to this area of bone. We think we have found the signal. It is a molecule that osteoclasts leave behind. The osteoblasts use it to find their way. They only make bone where this molecule is. This is a unique discovery. Through this mechanism, the skeleton tells the cells where to make bone.

"If I could take that signal and use it to tell the cells that I want them to make bone around an implant—for example, if I want to anchor that implant solidly in bone as in a hip replacement—I can use the same natural signal that the body uses on the implant. I would have a tremendous way to fix that implant in place. There is a lot of basic science but I can see some therapeutic uses too."

Puzas also works with the Department of Environmental Medicine on research projects, part of an effort to create a field he calls "osteotoxicology."

"There are just a handful of people in the country who deal with the toxicology of bones," he said. "It is critically important that we study how the environment affects all of our tissues, but bone has to be included."

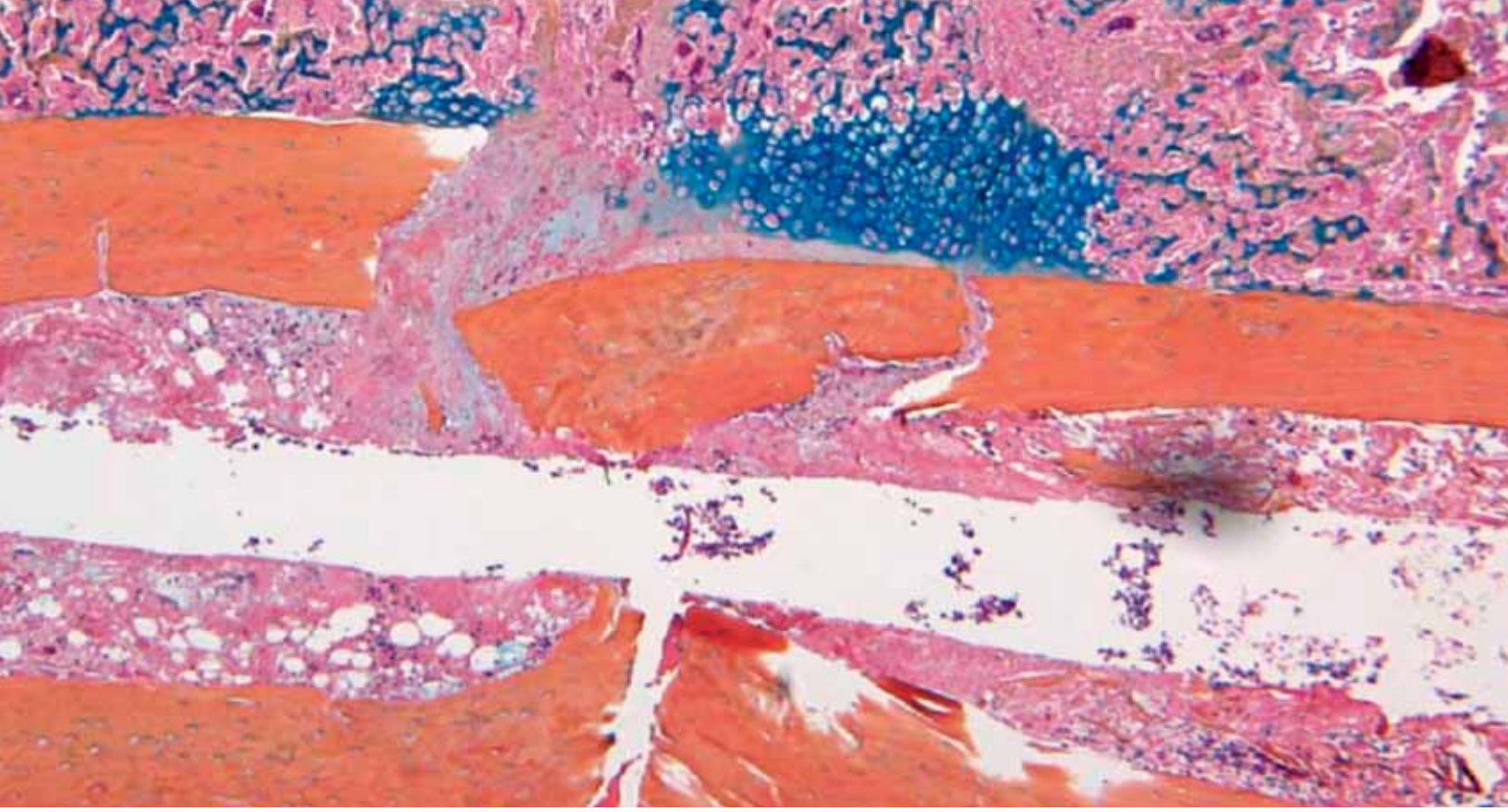
One project focuses on the effects of cigarette smoke on bone.

"The failure rate in healing fractures and spine fusions is really unacceptable. Why is that?" Puzas said. "We have been looking at a receptor called AHR, the aryl hydrocarbon receptor, which binds polycyclic aromatic hydrocarbons, the dangerous toxins in cigarette smoke. This receptor translocates to the nucleus where it does all the bad things to bone. This receptor is a key mediator of the toxic effects of the smoke and hydrocarbons. This research looks promising. It is another example of where researchers in the field of skeletal biology have joined forces with researchers in toxicology."

Puzas also has expanded his work on osteoporosis in projects with toxicology researchers. In this case, the problem is arthritis and once again his suspected culprit is lead.

"Lead was legislated out of our environment in the 1970s but it is still here in many places. It does not degrade," Puzas said. "In cities like Rochester, in the older or poorer neighborhoods, we see a lot of lead in the homes. Mexico still has leaded gasoline, as do some places in Europe. People are still being exposed to lead. Lead is still settling in the bone."

"WE ARE ATTACKING THE COMMUNITY'S PROBLEM OF LEAD EXPOSURE AT A VERY FUNDAMENTAL CELLULAR LEVEL."



"BUT OUR GOAL IS TO TAKE THIS WORK FROM TEST TUBES AND MAKE IT SOMETHING OF VALUE TO THE HEALTH OF PEOPLE IN THE COMMUNITY."

After 14 days, normal healing of a broken bone has begun (upper image), but in a bone with heavy exposure to lead (lower image), consolidation and stabilization of the fracture has been delayed.

Old drug holds promise against opportunistic lung bug

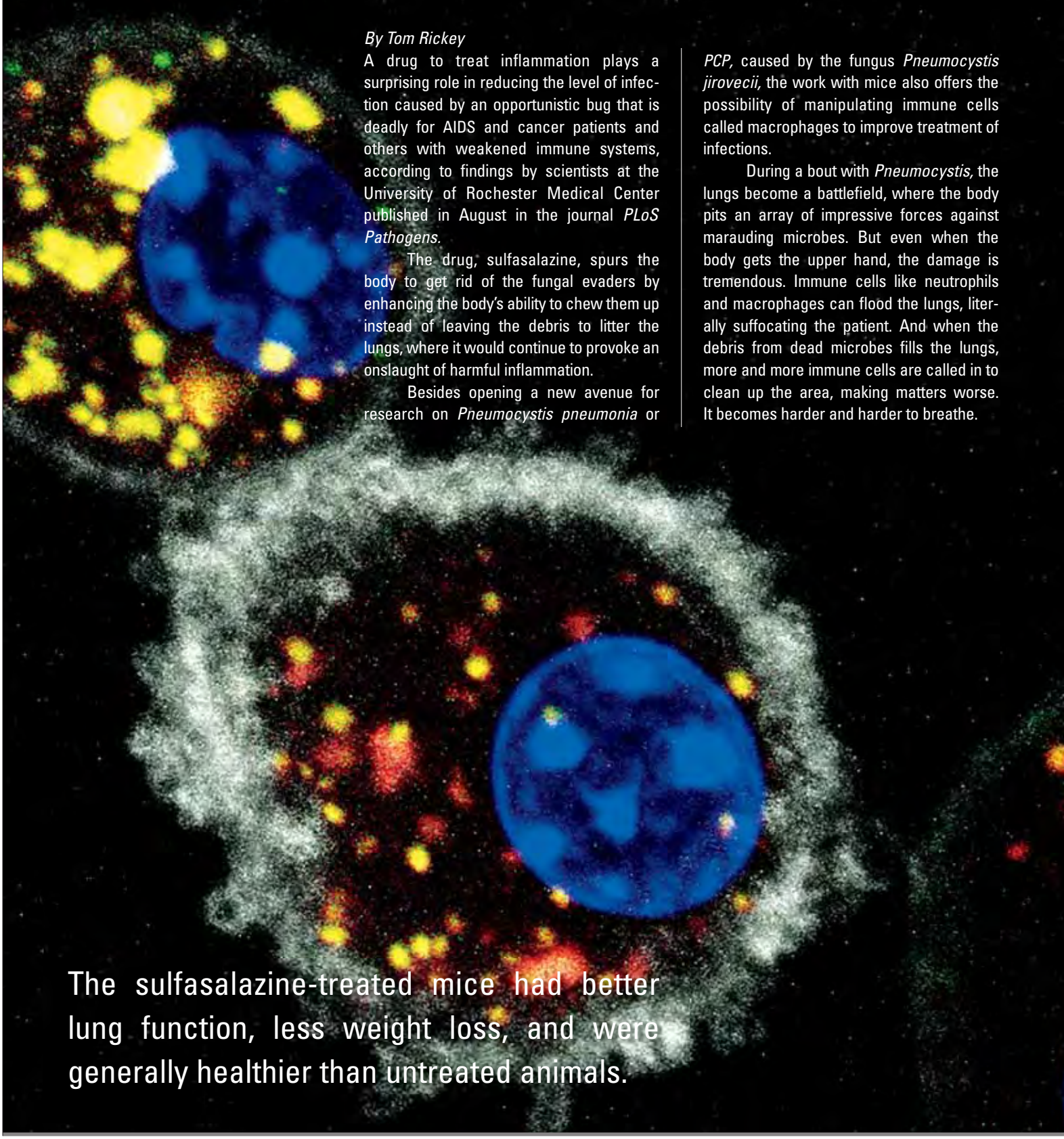
By Tom Rickey

A drug to treat inflammation plays a surprising role in reducing the level of infection caused by an opportunistic bug that is deadly for AIDS and cancer patients and others with weakened immune systems, according to findings by scientists at the University of Rochester Medical Center published in August in the journal *PLoS Pathogens.*

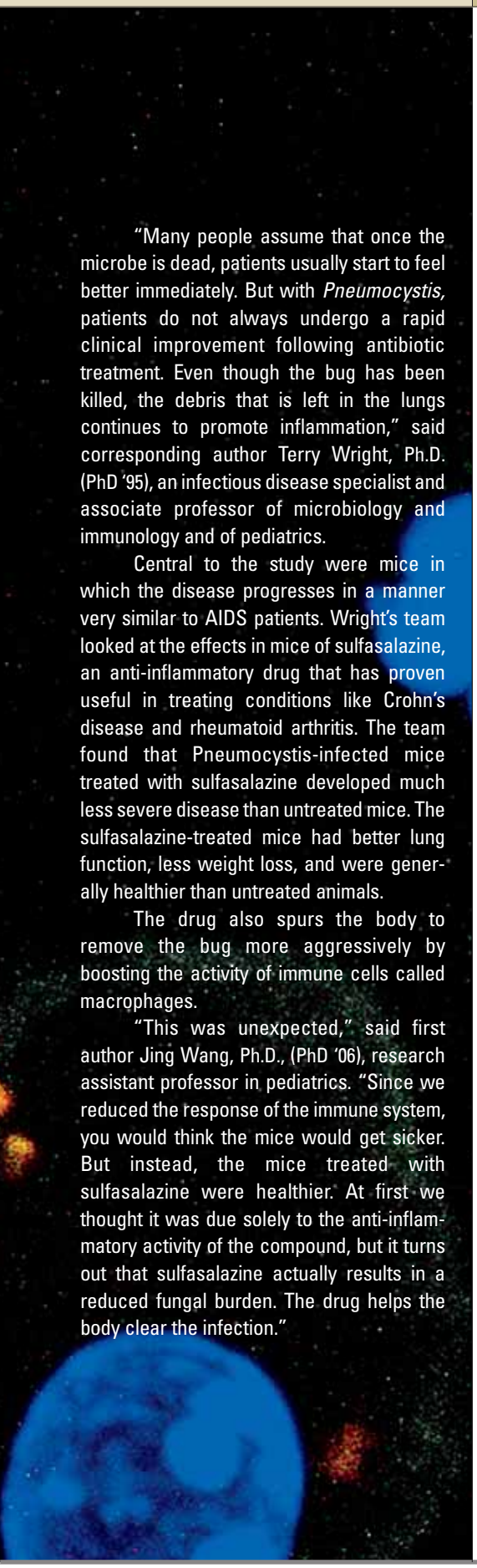
The drug, sulfasalazine, spurs the body to get rid of the fungal evaders by enhancing the body's ability to chew them up instead of leaving the debris to litter the lungs, where it would continue to provoke an onslaught of harmful inflammation.

Besides opening a new avenue for research on *Pneumocystis pneumonia* or *PCP,* caused by the fungus *Pneumocystis jirovecii,* the work with mice also offers the possibility of manipulating immune cells called macrophages to improve treatment of infections.

During a bout with *Pneumocystis,* the lungs become a battlefield, where the body pits an array of impressive forces against marauding microbes. But even when the body gets the upper hand, the damage is tremendous. Immune cells like neutrophils and macrophages can flood the lungs, literally suffocating the patient. And when the debris from dead microbes fills the lungs, more and more immune cells are called in to clean up the area, making matters worse. It becomes harder and harder to breathe.



The sulfasalazine-treated mice had better lung function, less weight loss, and were generally healthier than untreated animals.



"Many people assume that once the microbe is dead, patients usually start to feel better immediately. But with *Pneumocystis,* patients do not always undergo a rapid clinical improvement following antibiotic treatment. Even though the bug has been killed, the debris that is left in the lungs continues to promote inflammation," said corresponding author Terry Wright, Ph.D. (PhD '95), an infectious disease specialist and associate professor of microbiology and immunology and of pediatrics.

Central to the study were mice in which the disease progresses in a manner very similar to AIDS patients. Wright's team looked at the effects in mice of sulfasalazine, an anti-inflammatory drug that has proven useful in treating conditions like Crohn's disease and rheumatoid arthritis. The team found that Pneumocystis-infected mice treated with sulfasalazine developed much less severe disease than untreated mice. The sulfasalazine-treated mice had better lung function, less weight loss, and were generally healthier than untreated animals.

The drug also spurs the body to remove the bug more aggressively by boosting the activity of immune cells called macrophages.

"This was unexpected," said first author Jing Wang, Ph.D., (PhD '06), research assistant professor in pediatrics. "Since we reduced the response of the immune system, you would think the mice would get sicker. But instead, the mice treated with sulfasalazine were healthier. At first we thought it was due solely to the anti-inflammatory activity of the compound, but it turns out that sulfasalazine actually results in a reduced fungal burden. The drug helps the body clear the infection."

NIH grant aims to help improve diversity in the scientific community

The University of Rochester and regional partners will use an almost $2 million grant from the National Institutes of Health to help improve diversity in the scientific workforce.

The money comes from a new initiative called the NIH Director's ARRA Funded Pathfinder Award to Promote Diversity in the Scientific Workforce, which is supported through the American Recovery and Reinvestment Act of 2009 (ARRA). The University is one of six grant recipients.

Vivian Lewis, M.D., deputy to the president, vice provost for faculty development and diversity, and professor of obstetrics and gynecology, leads a multidisciplinary team that will study how different mentoring interventions can promote the resilience of biomedical researchers from underrepresented groups.

"Resilience is a useful quality for anyone, but it is especially important for women and underrepresented minorities in academic institutions," Lewis said. "Mentors are well-positioned to facilitate resilience among their protégés; and we will conduct a randomized, controlled study of different types of mentoring resulting in greater academic success. Ultimately, we hope to create a workforce of trained professionals who, in turn, will try to address the needs of diverse populations."

The University's 2006 Task Force Report on Faculty Diversity and Inclusiveness cited the need for greater mentoring of faculty. The report found that a lack of mentoring played a role in preventing faculty advancement.

"This initiative is consistent with the University's efforts to provide a more inclusive and welcoming campus for all faculty, regardless of gender, race, and ethnicity," said University President Joel Seligman. "The research results found at the medical center potentially can be applied to all departments at the University of Rochester and at universities nationwide."

The team of researchers from the University of Rochester, as well as from State University of New York Upstate Medical University and the State University of New York at Buffalo, made it possible to secure the NIH grant. The establishment of the Upstate New York Translational Research Network (UNYTRN) as part of the Medical Center's Clinical and Translational Science Institute enabled the creation of teams from as many as 16 regional biomedical research institutions.

"The retention of diverse faculty members is such an issue and our ability to address this problem is made possible by this partnership with our neighboring institutions," said Thomas A. Pearson, MD, Ph.D., director of the Rochester Clinical and Translational Science Institute.

"Resilience is a useful quality for anyone, but it is especially important for women and underrepresented minorities in academic institutions. Mentors are well-positioned to facilitate resilience among their protégés; and we will conduct a randomized, controlled study of different types of mentoring resulting in greater academic success. Ultimately, we hope to create a workforce of trained professionals who, in turn, will try to address the needs of diverse populations."— Vivian Lewis, M.D.

Rochester leads international effort to improve dystrophy treatment

By Tom Rickey

A large international study aimed at improving the care of muscular dystrophy patients worldwide is being launched by physicians, physical therapists and researchers at the University of Rochester Medical Center.

Neurologist Robert "Berch" Griggs, M.D. (R '71), is heading the study of treatments for Duchenne muscular dystrophy, the most common form of the disease that affects children.

Despite decades of research, Griggs calls the current treatment landscape for the disease "chaotic." Recently he has identified 29 different treatment regimens in use by doctors around the world.

The new study is designed to eliminate the chaos. With at least $11 million in funding from the National Institute of Neurological Disorders and Stroke, Griggs, co-leader Katie Bushby, M.D., who is Action Research Professor of Neuromuscular Genetics at Newcastle University in the United Kingdom, and investigators at 41 other institutions around the world will study the three treatments most commonly used today. The study will include 300 boys ages 4 through 7 in North America and Europe. Recruiting will begin in the summer of 2011.

In a study more than 20 years ago, Griggs and his colleagues showed that a daily dose of prednisone improves patients' lives dramatically. Yet Griggs has found that the treatment for Duchenne muscular dystrophy is chaotic because of concern about side effects. In a recent survey of more than 100 centers worldwide that specialize in treatment of the disease, only three were consistently using the recommended treatment of a daily dose of prednisone. Others were using prednisone intermittently or were using deflazacort; 10 weren't using steroids at all.

In the new study, patients will be randomly assigned to receive one of three steroid treatments: prednisone every day; prednisone every day for 10 days, alternating with 10-day periods without the drug; or daily use of a steroid known as deflazacort, which is approved for use in Europe but not the United States. Neither the patients nor the researchers will be aware of the patients' treatment assignments until the conclusion of the trial.

"People have worried about side effects of daily prednisone, and many people have felt there must be a better alternative," said Griggs, who is professor of neurology, medicine, and pathology and laboratory medicine. "Our study is designed to address exactly this question: What is the best balance between effective treatment and side effects?"

Children will be evaluated every six months for three to five years. Researchers will measure the breathing capacity of the patients, which is often an indicator of how long a patient will live; they will ask patients and parents how satisfied they are with the treatment; and they will measure how long it takes patients to stand up after lying down, which is an indicator of how long a patient will be able to walk.

Grant expands family medicine residency

The University of Rochester Medical Center's family medicine residency program has received a $1.9 million federal grant that will add two positions per year for the next five years in response to a critical shortage of primary care physicians locally and nationally.

Investing in the primary care workforce is one of the key elements of health care reform. By expanding training programs and making them more attractive to medical students, government and health officials hope to dramatically increase the numbers of new physicians entering the primary care field, which includes family medicine and general internal medicine.

The University's School of Medicine and Dentistry is the major source of primary care physicians in the Rochester region, said Thomas L. Campbell, M.D., the William Rocktaschel Professor and chair of the Department of Family Medicine, and associate director of the Center for Primary Care at the University Medical Center.

The grant will fund 12 medical residents per year instead of 10. In the past decade approximately 300 family physicians have graduated from the UR, with about half remaining in the Rochester area, Campbell said.

Currently, half of the primary care practices in the Rochester region are too full to accept new patients. The problem is expected to worsen as the population ages and universal health coverage becomes effective in 2014.

The U.S. Department of Health and Human Services awarded $320 million in new grants under the Affordable Care Act to strengthen the health care workforce. Of those, $253 million are to be used to build the primary care network and provide community-based prevention of illness and disease. Rochester's family medicine residency program was one of 82 accredited programs that received an award.

Foundation offers research opportunities in Rochester for scholars in India

"Attracting some of the best and brightest students from one of the world's most populous countries is an excellent opportunity for the University,"— Barbara Iglewski, Ph.D.

By Tom Rickey

Businessmen in India, working closely with their American counterparts who have long supported the University of Rochester, have created a foundation that promises to offer opportunities for the best medical scholars in India and bring talent to Rochester's Medical Center.

The Biomedical Foundation of India, based in Mumbai, is designed to create research opportunities in the Medical Center's programs for graduate students, post-doctoral researchers, physicians, and other scholars in India who are looking for advanced training with top biomedical researchers. An internship in veterinary medicine also will be offered.

The foundation is headed by Praful Patel, an international businessman and investment adviser based in London. Patel works on a wide range of political, social, cultural and religious causes, and is involved with many charities around the world. His co-promoter in India is Dhaval Sanghavi, a commerce postgraduate, chartered accountant and lawyer on international tax from Leiden University, Netherlands.

"This initiative will help place India at the forefront of modern biomedical research—one of the key frontiers of medical advancement—in an important partnership with the United States," said Patel. "The benefits to the Indian economy and the quality of health care in India are very clear. This is a welcome Indo-U.S. initiative when both the governments have decided recently to put into motion the dialogue on the Indo-U.S. Health Initiative."

Scientists will work side by side with their counterparts in University of Rochester laboratories and then return to India, bringing with them experiences, contacts, and exposure to the most sophisticated biomedical technology available, and continuing the collaborative research that they started with Rochester faculty members.

The collaboration will focus on creating research opportunities in several areas, including cancer, neuromedicine, immunology and infectious disease, cardiovascular disease, orthopaedics, and veterinary medicine. Additional areas of focus for visiting researchers will include stem cells, nano-medicine, genomics, systems biology, biomedical imaging, and biomarkers.

"There are already more than 400 international scholars at our School of Medicine and Dentistry. Certainly, attracting some of the best and brightest students from one of the world's most populous countries is an excellent opportunity for the University," said Barbara Iglewski, Ph.D., director of international programs for the Medical Center.

The arrangement came about in large part thanks to Richard T. Aab, a long-time supporter of the Medical Center who is a trustee of the University, and Tansukhv V. Ganatra, a member of the board of the University's Aab Cardiovascular Research Institute.

Aab and Ganatra were colleagues at ACC Corp., which Aab founded in 1982 and is now part of AT&T, and at US LEC Corp., a telecommunications company that the pair founded in 1996. Patel became interested in fostering opportunities at the Medical Center for Indian scholars as he learned more about the University through Ganatra, a friend for more than 50 years.

Researchers study afterbirth to learn what happens before birth and beyond

By Emily Boynton

Researchers at the University of Rochester Medical Center are taking an important first step in the National Children's Study: Determining how to most accurately collect, preserve and analyze placentas to garner valuable information that could fuel new discoveries about children's overall health and development.

The National Children's Study, the large long-term study to better understand how children's genes interact with the environment to influence their health, will follow 100,000 children from before birth to age 21, and Rochester, in collaboration with several other institutions across the country, is honing in on the "before birth" piece of the puzzle.

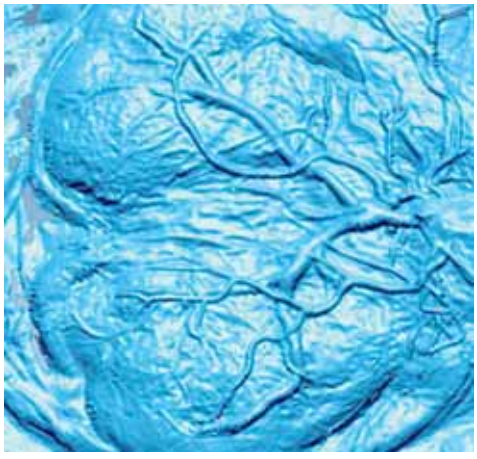
"The whole concept of the National Children's Study is to help kids grow up healthier. By analyzing placentae, we may be able to develop predictive tools that will help us determine if children are at risk for a variety of health problems, allowing us to intervene earlier and help children grow and develop as optimally as possible," said Richard Miller, Ph.D., principal investigator for the project and professor of obstetrics and gynecology at the University of Rochester Medical Center.

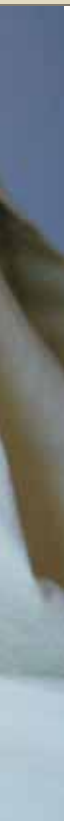
The primary goal of the placenta project is to develop standard protocols for collecting, processing and analyzing placentas so scientists can obtain useful data from these tissues now and in the future. Currently, there is great variability in how placentas are managed following labor and delivery. Improper processing can severely limit the amount of information scientists can acquire from the placental tissue.

The placenta project team will collect 210 placentas from seven different sites across the country and assess the best way to handle placentas so they yield valuable information in four areas: stem cells, genetics, morphology/pathology and environmental contaminants.

"With this study, we're trying to see how

"The whole concept of the National Children's Study is to help kids grow up healthier. By analyzing placentae, we may be able to develop predictive tools that will help us determine if children are at risk for a variety of health problems, allowing us to intervene earlier and help children grow and develop as optimally as possible," — Richard Miller, Ph.D.





far we can push the envelope in terms of the usefulness of the placental tissue. How much time can pass between delivery of the placenta and analysis before the tissue is no longer useful? What conditions are required to ensure the tissue can be used for specific studies, such as environmental analyses? These are the types of questions we're working to answer," said Christopher Stodgell, Ph.D., director of the project's RNA and DNA studies, and a research associate professor in the Department of Obstetrics and Gynecology at the Medical Center.

The Medical Center serves as the central resource for collecting all placentas that will be analyzed throughout the new study.

According to co-investigator Philip Katzman, M.D. (R '98), an associate professor in the Department of Pathology and Laboratory Medicine, "there is considerable evidence that by looking at the placenta you can identify problems that the fetus had in utero which might influence development down the road. The idea is to make sure we're processing placentas in a consistent way that yields good data, so when researchers propose significant projects or studies in the future they are not dealing with a bunch of junk data."

The placenta project is supported with $3.5 million in funding from the National Children's Study, and Rochester will receive approximately $1.5 million for its work on the project.

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Rochester spearheads FDA initiative to develop new pain therapies

By Emily Boynton

The U.S. Food and Drug Administration has selected the University of Rochester Medical Center to lead a new initiative to accelerate the identification of improved pain treatments.

Rochester was awarded a $1 million contract to launch the program where public and private organizations, including professional societies, patient advocacy groups, industry and government, will collaborate on multiple projects to help bring more treatment options to patients.

"Clinical trials come at a great cost, take a substantial amount of time to carry out, and require significant effort from the patients who participate," said Robert Dworkin, Ph.D., professor in the Department of Anesthesiology and the Center for Human Experimental Therapeutics at the Medical Center and director of the new initiative. "We need to understand why so many pain studies have failed to show efficacy so we can make changes that will increase the likelihood that future studies will identify new treatment options for patients who are suffering from pain."

Why the major lag in new treatments for pain? The problem is not a lack of potential medications. Many studies testing experimental therapies have been conducted or are underway. The problem is that many trials fail because they are unable to show a new medication provides meaningfully greater pain relief than placebo.

Although some drugs under investigation may have little or no effectiveness when it comes to minimizing pain, researchers believe other factors may play a role in the disappointing results of many recent studies: The way pain clinical trials are designed and carried out may hinder or limit their ability to distinguish truly effective pain treatments from less effective treatments or placebo.

The partnership, known as Analgesic Clinical Trial Innovations, Opportunities, and Networks (ACTION), will analyze a wide range of clinical trials of treatments for acute and chronic pain, looking specifically at the approach and procedures used in each trial. Researchers hope to identify problems or gaps in trial design and implementation, and find ways to bridge these gaps to speed the development of new safe and effective medications.

"An effective therapy may fail to show significant pain relief in a study because the optimal patients were not enrolled or the research design and methods had important limitations," according to Dworkin. "There is a whole range of things that could lead to falsely negative study results, and our goal is to determine what they are, and what we can do to modify them in future studies."

Dennis Turk, Ph.D., the John and Emma Bonica Professor of Anesthesiology & Pain Research at the University of Washington, will work closely with researchers at Rochester. Turk, the associate director of the new initiative, said: "We really need to make an effort to improve the studies we are conducting to expedite the development of new safe and effective treatments. As the population continues to age, pain is only going to become a larger and costlier problem."

In addition to the University of Rochester Medical Center, researchers and physicians from the American Academy of Neurology, American Academy of Pain Medicine, American Pain Society, American Society of Anesthesiologists, International Association for the Study of Pain and Outcome Measures in Rheumatology, as well as representatives from the National Institutes of Health, the U.S. Department of Veterans Affairs, patient advocacy organizations, and pharmaceutical companies such as Endo, Johnson & Johnson, NeurogesX and Pfizer are participating in the initiative.

Physician chosen for national board

Javeed Sukhera, M.D., a fellow in Psychiatry at the University of Rochester Medical Center, has been named to the board of directors of the Association of American Medical Colleges (AAMC).

The 17-member board serves as the governing body for the association, which represents all 133 accredited U.S. and 17 accredited Canadian medical schools, almost 400 major teaching hospitals and health systems, including 62 Department of Veterans Affairs medical centers, and nearly 90 academic and scientific societies. Through these institutions and organizations, the AAMC represents 128,000 faculty members, 75,000 medical students, and 110,000 resident physicians.

A native of Toronto, Canada, Sukhera will serve a two-year term as the resident physician representative on the AAMC board. He recently completed his residency and is now a fellow in child and adolescent psychiatry at the Medical Center.

Sukhera, a graduate of Trinity College at the University of Toronto, earned his medical degree at the Medical School for International Health, a collaboration between Columbia University and Ben-Gurion University in Israel with an emphasis on global health.

During his time in Israel, Sukhera took a leadership role with a Canadian organization that fostered scientific collaboration between Israeli, Palestinian and Jordanian health professionals. He mentored health professions students and organized a forum between Palestinians and Israelis on the future of academic medicine within the region.

Sukhera has continued to pursue professional and academic interests as a resident at the Medical Center, including establishing a global psychiatry track within his residency program and traveling to rural Honduras to conduct research on intimate partner violence.

Medicaid reimbursement and childhood flu vaccination rates linked

By Mark Michaud

Increasing the amount that physicians are reimbursed by Medicaid for administering influenza shots may raise vaccination rates among poor children, a study published in October in the journal Pediatrics concludes.

The study, conducted by a team of researchers at the University of Rochester Medical Center, analyzes state-by-state vaccination data over three flu seasons and contends that the number of poor children receiving the annual flu shot could be increased by up to one percentage point for every additional dollar provided to doctors to administer the vaccine.

> "There is a strong correlation between flu vaccination and Medicaid reimbursement rates. Improving reimbursement rates could improve vaccine coverage among poor children."
>
> — Byung-Kwang Yoo, M.D., Ph.D.

"There is a strong correlation between flu vaccination and Medicaid reimbursement rates," said Byung-Kwang Yoo, M.D., Ph.D., assistant professor in the Department of Community and Preventive Medicine at the Medical Center and the lead author of the study. "Improving reimbursement rates could improve vaccine coverage among poor children."

The authors looked at immunization rates for children between the ages of 6 and 23 months. The CDC first recommended that children in this age group receive the annual flu vaccine in 2004. Using the NIS data they were able to determine the vaccination rates in each state by family income level.

The income threshold for Medicaid eligibility varies by state, so the study compared rates for children at or below the federal poverty line—$22,000 or less for a family of four—a population that is universally covered by state Medicaid programs. Children in families below the federal poverty level have the lowest vaccination rates.

Medicaid reimbursement rates for services are determined on a state-by-state basis and, in the case of vaccine administration, are widely divergent. The average reimbursement was $9. In a previous study, Yoo and his colleagues calculated that the actual cost to doctor's offices for administering vaccines was $20.

"In most states the reimbursement from Medicaid is far below the actual cost," said Yoo. "This may create an obvious disincentive when physicians' offices lose money every time they give a flu shot, even though vaccines are provided for free."

Their analysis showed that states with lower Medicaid reimbursement rates had lower vaccination rates. Using mathematic models, the authors were then able to calculate the impact on vaccination rates if Medicaid reimbursement rates were increased. They found that for every extra dollar in reimbursement, vaccination rates could increase by between 0.6 and 0.9 percentage points. This means a $10 increase in reimbursement could raise vaccination rates by up to 10 percentage points among low income children.

While it is clear that raising reimbursement rates comes at a cost, the authors point out that there is a significant financial burden associated with the treatment of flu. Among U.S. children under the age of 5 years, it is estimated that the annual cost associated with hospitalization as a result of influenza is upwards of $163 million. The annual cost burden of emergency room visits is estimated to be as high as $279 million.

"This study demonstrates that we can remove one of the barriers to higher vaccination rates among poor children by more closely aligning reimbursement with cost," said Medical Center pediatrician Peter Szilagyi, M.D., M.P.H. (MD '81, MPH '87), a co-author of the study.

Simulation training

The University of Rochester Medical Center and the School of Medicine and Dentistry have created an eight-bed, multi-purpose skills lab. This lab supports educational programs and skills training for students and health care providers through the use of a variety of simulation modalities, including mannequin simulators. Emergency medicine doctors, nurses, and emergency responders recently conducted a large-group training session with a focus on teamwork in the center. Nursing uses the lab routinely to train new employees. Medical students will have access to the lab as simulation strategies become integrated into their educational experience. The lab is part of the growing use of simulation at the Medical Center and the School of Medicine and Dentistry. Plans for a larger center envision a consolidation and enhancement of the Medical Center's mannequin simulation programs in emergency medicine, anesthesiology and other specialties.

Alumni Tuition-Free Program Fund and grants continue to grow

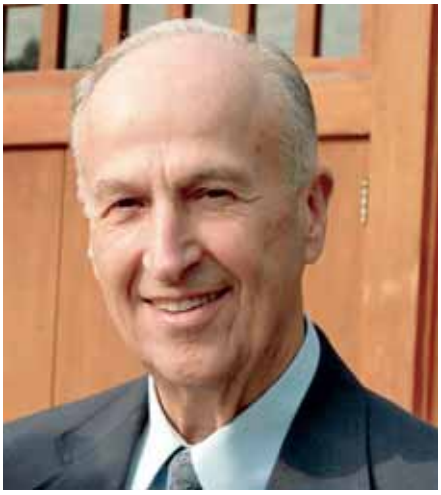
One challenge facing the University of Rochester School of Medicine and Dentistry is meeting the growing need for financial support for medical students.

Through the generosity of alumni, parents, and friends over the years, the School has been able to grow its scholarship endowments A remarkable example of alumni generosity is the gift given in 2006 by Robert Brent, M.D., Ph.D. (BS '48, M '53, PhD '55), and his wife, Lillian (BA '50). To-date they have contributed $1.2 million to the Alumni Tuition Free Program Fund to make the medical school tuition free.

"It is our dream to make the School of Medicine and Dentistry a school free of tuition, or at least to markedly reduce the tuition costs," said Brent, an internationally known physician and researcher.

The burden of debt is a major issue for medical students. Ninety percent of the medical students in the School of Medicine and Dentistry's Class of 2010, for example, borrowed money to attend the School. Their average debt at graduation was $128,000. The School's ability to attract the best and brightest students is enhanced by offering competitive financial assistance. Additionally, providing both need and merit-based scholarships ensures that students are able to pursue specialties of their choosing, instead of feeling pressured to select higher-paying specialties.

While the scholarships currently available to students have an immediate impact on alleviating their economic burden, the fund established by the Brents' gift calls for a novel reinvestment strategy that will help to ensure that adequate scholarship assistance is available for future medical students. The income generated by the principal in the main fund will be allocated to a starting scholarship fund for each medical school class in their first year. The gift would become part of the endowment of the University and be



invested. Each class then also would donate to the fund, thereby increasing its value. The money in the main fund would be retained to support successive class funds.

"Creating an endowment, where the money is not spent but is invested, means you can eventually have tuition-free medical school," Brent has explained.

Alumni have already contributed more than $350,000 to the Alumni Tuition-Free Program Fund.

"The high cost of medical education and the debt faced by many of our students are significant challenges," said Mark B. Taubman, dean of the School of Medicine and Dentistry. "The Brents not only have shown tremendous generosity, they also are providing leadership by giving us a unique plan of attack. I know they want to help create a better future for our medical school and our students."

Many alumni, parents, and friends of the School want to make an immediate impact of support for our medical students and make annual gifts to support need-based or merit-based scholarships. The Dean also uses funds donated to the School of Medicine and Dentistry Annual Fund to support student financial aid.

Alumni and friends of the School can join the long-range plan to perpetuate the educational and patient-focused experience that is the hallmark of the Rochester experience by making a gift to the Alumni Tuition-Free Program Fund or by establishing their own endowed scholarship fund. Annual gifts can be designated to support current student scholarships. To make a gift or for more information please contact Mary Ann King at (800) 333-4428.

Burn, trauma services renamed in honor to benfactors

The University of Rochester Medical Center's regional burn and trauma services have been renamed in honor of two Rochester-area restaurateurs who have raised millions of dollars to support them.

Laurence Kessler and Dennis Kessler, founders and co-owners of the Kessler Group, Inc. & Kessler Family, LLC, which operates 21 Burger King and 48 Friendly's restaurants in the greater Rochester area, have given more than $3 million to the Medical Center's burn and trauma services. Their new commitment of $1 million will create an endowment to ensure future growth of burn and trauma programs, as well as supporting other University projects.

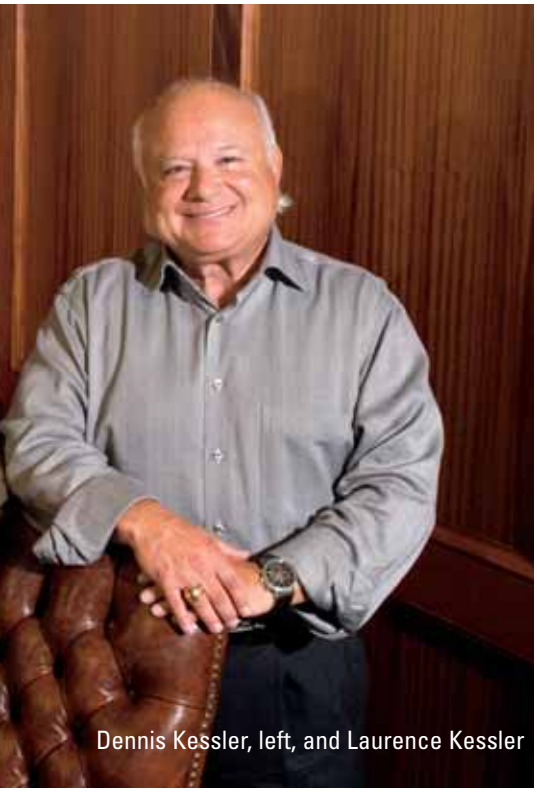
In recognition of their past and future generosity, the Medical Center has renamed the

entire program as the Kessler Burn & Trauma Center. The Kessler Center name will now be used to reference all areas within the Medical Center that provide emergent, inpatient, and outpatient care for patients with traumatic injuries and burns.

"The Kesslers have raised the standard of care in our community through their unflagging support for the only Level One trauma program in our region," said University President Joel Seligman. "Their generosity has enabled our staff to save many lives and eased the suffering of many more in the 17 counties we serve. We are pleased to recognize their extraordinary commitment."

The Kessler Burn & Trauma Center treats more than 3,000 people each year with severe blunt and penetrating injuries and features the area's only dedicated burn service. It boasts an expert team of fellowship-trained specialists bolstered by the most advanced technologies for treating minor to severe injuries in modern facilities financed, in part, by the Kesslers.

Laurence Kessler is a member of the University's board of trustees. Dennis Kessler, the Edward J. and Agnes V. Ackley Executive Professor of Entrepreneurship at the Simon Graduate School of Business, is a member of the Medical Center's board of directors.



Dennis Kessler, left, and Laurence Kessler

Student loan forgiveness program rewards public service

In October, 2007, the U.S. Congress created the Public Service Loan Forgiveness Program to encourage individuals to enter and continue to work full time in public service jobs. The program is designed to forgive all remaining eligible federal loan debt after 10 years of eligible employment while making qualifying loan payments. B.J. Revill, director of financial aid at the University of Rochester School of Medicine and Dentistry, answered questions about the program, which he describes as "the biggest and most generous financial aid program to come along since the GI Bill after World War II."

What is the Public Service Loan Forgiveness Program?

The Public Service Loan Forgiveness (PSLF) Program was established to encourage individuals to enter and continue working in public service employment by forgiving the remaining balance on their Federal Direct Loans after making 120 qualifying monthly loan payments.

What are the eligibility requirements under the PSLF Program?

You must be employed full time by a public service organization, and make 120 corresponding monthly loan payments on your federal Direct Loan(s). Additionally, you must be employed by a public service organization when you apply for loan forgiveness.

What qualifies as working in "public service"?

Eligible borrowers must be employed full time in any position. Basically, if someone is employed at an academic institution-the University of Rochester Medical Center counts-they are in line for forgiveness.

For purposes of the PSLF Program, the term "public service organization" means working for: a federal, state, local, or Tribal government organization, agency, or entity (includes most public schools, colleges and universities); public child or family service agency; non-profit organization under section 501(c)(3) of the Internal Revenue Code that is tax exempt (includes most not-for-profit private schools, colleges, and universities); Tribal college or university; or a private organization that is not a for-profit business, which includes a labor union, a partisan political organization, or an organization that provides any of the following public services: emergency management, military service, public safety or law enforcement, public interest law services, early childhood education (including licensed or regulated health care, Head Start, and state-funded pre-kindergarten), public service for individuals with disabilities and the elderly, public health (including nurses, nurse practitioners, nurses in a clinical setting, and full-time professionals engaged in health care practitioner occupations and health care support occupations), public education, public library services, and school library or other school-based services.

What loan programs are eligible for forgiveness under the PSLF Program?

Only federal loans made under the William D. Ford Federal Direct Loan Program are eligible for loan forgiveness. The Direct Loan Program includes the following types of federal loans: Direct Stafford Loans; Direct Unsubsidized Stafford Loans; Direct PLUS Loans for parents and graduate or professional students; and Direct Consolidation Loans.

What Direct Loan Program repayment plans are eligible under the PSLF Program?

The 120 required monthly payments must be made under one or more of the following Direct Loan Program repayment plans: the Income Based Repayment (IBR) Plan; the Income Contingent Repayment (ICR) Plan; or the Standard Repayment Plan, with a 10 year repayment period.

How can other federal student loans qualify for forgiveness under the PSLF Program?

Although loan forgiveness under this program is available only for loans made and repaid under the Direct Loan Program, loans made under other federal student loan programs may qualify for forgiveness if they are consolidated into a Direct Consolidation Loan. Federal loans that may be consolidated into the Direct Loan Program include: Federal Family Education Loan

(FFEL) Program loans, which include: Subsidized Stafford Loans, Unsubsidized Stafford Loans, Federal PLUS Loans for parents and graduate or professional students and Federal Consolidation Loans (excluding joint spousal consolidation loans); federal Perkins Loans and certain health professions and nursing loans.

Is the amount forgiven under the PSLF Program taxable?

No. According to the Internal Revenue Service, any student loans forgiven under the PSLF Program are not considered income for tax purposes.

Will the years as an intern, resident and/or fellow count towards the 120 months of employment?

Yes. The specific job that you perform does not matter, as long as you are employed by a public service organization. Additionally, you will need to be employed full time, and be making eligible monthly payments.

Give an example of the potential savings.

For physicians, the key to taking maximum advantage of PSLF is entering repayment using the income based repayment option (IBR) as soon as the physician enters residency. Borrowers want to start the clock ticking on the 120 months of public service as soon as possible while income is low. Let's compare a person who enters residency but delays payments on loans the entire time prior to entering repayment as an attending with a person who utilizes IBR while in residency, and then makes full payments for the next six years as an attending.

Each one is a single individual who borrowed $177,500 in medical school, enters four years of residency and then has a starting salary of $190,000 as an attending. The first person defers payment for four years of residency then enters a 10-year standard repayment plan. The estimated monthly payment would be $2,860. The total amount repaid on the loan would be $343,170, including $165,670 in interest. The second borrower begins loan repayment at the start of residency. For the first four years, the estimated monthly payment would range from $384 to $420. For the next six years, the monthly payment would be $2,043. The total amount repaid by the borrower would be $166,373. The government would forgive $126,843. The total savings for the second borrower compared with the first is more than $176,000.

Alumni honored at 2010 reunion ceremonies

The University of Rochester School of Medicine and Dentistry has cited alumni for career achievements and service in ceremonies during the October reunion weekend.

Ruth Anderson Lawrence, M.D. (M '49, R '58), posing with her daughter, Barbara Asselin, M.D. (M '81), received the Distinguished Alumnus Award, which recognizes outstanding and widely recognized achievement, particularly in one who exemplifies the standards and objectives of the School of Medicine and Dentistry through personal conduct, professional accomplishments, and community service.

A preeminent international expert on lactation and on poison control, Lawrence, a professor of pediatrics at the Medical Center, also is an exemplary role model for women in medicine. She quickly rose through the ranks of academia when it was still an exception for women to work outside the home, let alone become doctors.

A highly recognized authority on neonatal nutrition, she helped create the region's first neonatal care unit and its first pediatric intensive care unit. One of eight doctors who helped the American Academy of Pediatrics draft its official policy statement supporting breastfeeding, she has led countless advancements in the field. She is the author of *Breastfeeding: A Guide for the Medical Profession,* a textbook that has been translated into several languages and is widely used by health professionals around the world.

An authority on clinical toxicology and poison control, she developed the second regional poison center in the nation and shaped it into a model that is emulated by medical centers across the country.

▲ **Above:** [left] Mark B. Taubman, M.D., dean of the School of Medicine and Dentistry, [center] Bradford C. Berk, M.D., Ph.D. (M '81, PhD '81), chief executive officer of the University of Rochester Medical Center, and [second from right] C. McCollister Evarts, M.D. (M '57, R '64), Alumni Council president, pose with alumni award winners.

▼ **Below:** Award winner Ruth Lawrence, M.D., was joined by many family members.

Richard M. Hodes, M.D. (M '82), received the School's Humanitarian Award, which is given to an alumnus who has provided unique, compassionate care to patients who have special needs because of specific afflictions, poverty, or living conditions that lack resources. The recipient has devoted a significant portion of his or her medical career to this type of care.

Hodes is the Ethiopian medical director for the American Jewish Joint Distribution Committee in Addis Ababa, Ethiopia, a position he has held for 25 years. He also supervises a clinic for severely or terminally ill patients at Mother Teresa's Mission for Sick and Dying Destitutes in Addis Ababa.

Twenty-five years ago, Hodes initiated a project to send Ethiopian children suffering from heart disease and congenital spine disease to the United States for specialized surgeries at no cost to the patients.

Hodes has adopted five Ethiopian children, the maximum allowed. He also provides a home for up to 20 Ethiopian children with special medical needs.

▲ **Above:** Some alumni award winners brought family members to reunion. Above are Andrew Scala, a member of the College's Class of 2011, John Scala, Ph.D. (BS '80), Robert Scala, Ph.D. (MS '56, PhD '58) and Janet Eddy Scala, (SON '55).

Frederick B. Parker Jr., M.D. (BA '58, M '62), received the John N. Wilder Award. Established in 2008, the award honors an individual, family, corporation or foundation whose commitment to build a greater University of Rochester inspires others in the tradition of philanthropist John N. Wilder, the first president of the University board of trustees.

▼ **Below:** Mary Lou Mees, Abby Anderson (BA '59), Virginia Parker (BA '61), Frederick Parker, M.D. (BA '58, M '62), Pat Parker, John Parker, Tom Mees, and Alice Mees (BA '93).

Parker is a dedicated member of the University of Rochester alumni community. As class agent for the School of Medicine and Dentistry's Class of 1962, he developed a special giving program with a goal of raising $1 million for the School between the 45th and 50th class reunions. He also is a charter member of the George Eastman Circle, the University's leadership annual giving society.

Parker, professor emeritus and former chairman of surgery at the State University of New York Upstate Medical University in Syracuse, was a pioneer in cardiac surgery. He has devoted his career to educating and training surgeons in upstate New York, including most of Central New York's cardiac surgeons.

"His dedication to philanthropy helps build an 'Ever Better' University and inspires his peers and others to give back to the School and support future generations of medical students," Parker's award citation states.

Robert A. Scala, Ph.D. (MS '56, PhD '58), received the School's Alumni Service Award, which honors a graduate who has furthered the interests of the School through significant support and commitment.

Scala is the former senior scientific advisor of Exxon Biomedical Sciences Corp., where he developed and supervised testing programs, established a state-of-the-art toxicology laboratory, and advised management and operating organizations worldwide.

He also has served as adjunct professor at the Institute of Environmental Medicine at New York University, at the University of Medicine and Dentistry of New Jersey at Rutgers University and as an adjunct associate professor at the Medical College of Virginia.

Throughout his career, Scala remained closely connected to the Rochester university community. He served from 2002 to 2009 on the School of Medicine and Dentistry's Alumni Council, including three years as president. Currently a member of the University-wide Alumni National Council, he and his wife, Janet (Eddy) Scala, a 1955 graduate of the School of Nursing, have established three scholarships, the Scala Nursing Scholarship in the School of Nursing, the Scala Endowed Scholarship in the School of Medicine and Dentistry, and the Scala Medical Graduate Studies Scholarship in Environmental Sciences.

Q&A with Harvey Alter

An award-winning alumnus targets invaders in the blood

Harvey J. Alter, M.D., M.A.C.P., graduated in 1960 from the University of Rochester School of Medicine and Dentistry. He has spent most of his research career at the National Institutes of Health. He is currently a Distinguished NIH Investigator and serves as chief of clinical studies and associate director for research in the Department of Transfusion Medicine. He is co-discoverer of the Australia antigen that proved to be the hepatitis B virus and was principal investigator in studies that identified non-A, non-B hepatitis, defined its chronic sequela and later showed its link to the hepatitis C virus. His prospective studies of transfusion-associated hepatitis demonstrated how different donor interventions reduced hepatitis incidence from 30 percent in 1970 to near zero in 1997. For these studies, Alter has received many honors, including the U.S. Public Health Service Distinguished Service Medal, the Landsteiner Prize, which is the highest scientific award of the American Association of Blood Banks, the Presidential Award of the International Society of Blood Transfusion, the James Blundell Award of the British Blood Transfusion Society, and the Inserm Medal from France. He was elected to fellowship in the American Association of Physicians. For his contributions to the discovery of the non-A, non-B/hepatitis C virus and for his vital role in reducing hepatitis risk and improving the safety of the blood supply, Alter was the co-recipient of the Clinical Lasker Award in 2000. He was elected to the National Academy of Sciences and the Institute of Medicine and was made a Master of the American College of Physicians.

"We are looking for everything, any agents that threaten the blood supply-malaria, dengue, West Nile virus. We also are interested now in developing gene chips that would enable you to look for 20 or 30 agents at one time using a relatively small amount of blood."

How did you get involved in transfusion medicine?

I was an undergraduate at Rochester, a graduate of the medical school and I did my internship there. I was drawn to internal medicine. I loved the medical program. I might still be in Rochester if I had not been drafted out of my residency. They were taking first-year residents, at the time considering them expendable. I had been accepted to NIH but I had not been commissioned. I did a lot of scrambling. Scott Swisher, who was then head of hematology at Rochester, had a connection with the organization that is now the FDA. He helped get a position for me in what was called the Division of Biologic Standards that ran the blood bank. That's how I got into transfusion medicine.

In August, you were the senior author of an article in *The Proceedings of the National Academy of Sciences* that reported finding murine leukemia virus (MLV)-related gene sequences in cells from patients with chronic fatigue syndrome (CFS) and from some healthy blood donors. That caused quite a stir. How did you get interested in chronic fatigue?

The abiding theme through most of my career has been transfusion-transmitted disease. The report in *Science* that came out last October linking chronic fatigue syndrome to the retrovirus XRMV didn't prove the link but raised the possibility of blood transmission. One of my collaborators had samples in hand from well-pedigreed chronic fatigue patients. We had stored blood donor samples. We wanted to look at XMRV DNA in those peripheral blood mononuclear cells. We did not expect what we found: a strong association of MLV-related virus with chronic fatigue patients. The virus is also present in normal donors, but the differential was great. We found mouse leukemia (MLV)-related gene sequences in 86 percent of chronic fatigue syndrome patients and in approximately 7 percent of healthy volunteer blood donors. This raises the possibility that chronic fatigue could be due to a virus and transmitted by transfusions. We have not proven the virus causes chronic fatigue, but we have proven that the virus is there. If it does cause chronic fatigue, it opens the possibility of treatment. Viruses have a way of finding me, instead of my finding them. If this chronic fatigue link pans out, there are years of work in that. Unfortunately, I don't have many years left. There is a lot about this that remains unanswered. I think chronic fatigue will prove to have a whole spectrum of causes. Some will be viral and some won't be. I am convinced this is a real disease for some people. I get letters from these patients and they are so desperate. Their lives have been totally disrupted. If a treatment could come out of this research, it would be a great.

What other targets do you have for your research?

We are looking for everything, any agents that threaten the blood supply-malaria, dengue, West Nile virus. We also are interested now in developing gene chips that would enable you to look for 20 or 30 agents at one time using a relatively small amount of blood. This technology is just emerging. An ultimate goal is to inactivate viruses. There are technologies out there that try to do that but it is not clear they will pan out. There always seem to be another agent that is a threat and interests me. This work is still so interesting and fun, even after all these years. I'm in a very nice setting. NIH is a spectacular place. I have a good boss who lets me do what I want. I may have to quit someday, but I am reluctant to give up. The journals pile up on the floor. There are so many interesting things, not only in viruses, but in all of medicine. I've kept myself in a narrow field, hematology and now hepatology. Hematology was so strong at Rochester that it was very influential in which direction I took my career. Liver and blood have overlapped with infectious disease for me. I work a lot in fields where I have not been trained, but I learn by osmosis.

What concerns you about research today?

It is very hard for a young guy starting out. I have a son who is beginning his research career. He has his first grant but it is a constant battle to get funding. Everything now is so sophisticated that it makes research very costly. It has been touch and go for many people in academia. Rochester has done very well in funding. The faculty have an admirable record in getting grants. It was and is a great medical school.

What is the one nemesis or problem you would like to solve before you retire?

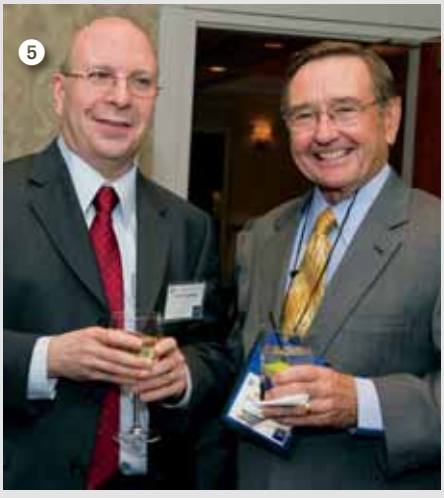
How to save enough money to retire! Besides that I would like to find a way to inactivate pathogens in blood rather than having to test for them. This would not only increase the safety of the blood supply since there are many agents we can't test for, but also would provide a preemptive strike against a totally new lethal agent, such as the next HIV-like agent, that might devastate the blood supply. Unfortunately, my chance of achieving this in the time I have left is very slim, but younger and smarter people are waiting in the wings.

What is the value of simulation in medical education?
For a video interview about simulation, go to *Rochester Medicine* online at *www.rochester-medicine.urmc.edu*

2010 Whipple Dinner

◀ Reunion weekend is a time of memory and memories. Forrest Huntington, M.D. (M '55), at left, studies classmates in the Alumni Hall of Classes. | ❶ Three members of the Class of 1970—Peter Rubin, M.D., Andy Neal, M.D., and Stephen Chentow, M.D.—enjoy recollections together, as do ❷ Laurie Forrest, M.D., and Paul Graham, M.D., of the Class of 1980 and Carmel Graham. | ❸ Thomas Mou, M.D. (M '50), Mark B. Taubman, M.D., and Susan Mou, M.D. (M '80, R '84) | ❹ Alumni Council members Mary Anna Friederich, M.D. (M '57, R '62) and Carol Nadelson, M.D. (M '61, R '62) | ❺ Alumni award winner Richard Hodes, M.D. (M '82), chats with medical students. | ❻ Andy Neal, M.D. (M '70) | ❼ Mark B. Taubman, M.D. | ❽ David Gandell, M.D. (R '82), James Woods, M.D., chair, Department of Obstetrics and Gynecology, Eva Steadman, Ellen Horey-Thiede, Kenneth Steadman, M.D. (R '68), and Henry Thiede, M.D. (BS '45, R '56) | ❾ Class of 1962 members, Herb Machleder, M.D., Robert Newman, M.D., Ronald Bruce, M.D., Frederick Parker, M.D., and Lowell Weitkamp, M.D. | ❿ Barbara Simms and Bradford C. Berk, M.D., Ph.D. (M '81, PhD '81)


SIENA



▲ **Above:** Members of the Class of 1985

◄ **Facing page:** ❶ Class of 1960 members, William Powell M.D., William Hermance, M.D., Mona Klahn, Peggy Hermance and John Klahn, M.D. | ❷ Class of 2000 members (back row) Andrew Weinfeld, M.D., Timothy Benson. M.D., and Allen Pardee, M.D. (front row) Julie Sandruck, M.D., Ivette Motola, M.D., and, Aaron Lewis, M.D. | ❸ Members of the Class of 1960 celebrated their golden anniversary. | ❹ Members of the Class of 2000 celebrated their anniversary. | ❺ Mark B. Taubman, M.D., and David Culton, M.D. (M '60).

▼ **Below:** Members of the Class of 1990.

If you see any alumni whom you would like to contact, use the Online Directory at *www.alumniconnections.com/URMC* to find address information.

Submit your class notes to your class agent or to *RochesterMedicineMagazine@urmc.rochester.edu*.

Note: MD Alumni are listed alphabetically by class, Resident and Fellow alumni follow in alphabetical order, and Graduate Alumni are listed separately in alphabetical order.

MD Alumni

Class of 1959

Donald R. Huene (R '67) recently was granted his 15th patent on a controlled force orthopaedic impact hammer. His other patents also are for orthopaedic surgical devices. He is still in active practice of orthopaedic surgery and will continue as long as "I am able to keep all my marbles intact."

Class of 1962

Ezra A. Amsterdam (R '63), University of California at Davis professor of cardiovascular medicine, was honored in 2010 with numerous awards for his work in the practice, investigation and teaching of methods to prevent heart disease. He received the Joseph Stokes III Award from the American Society for Preventive Cardiology in recognition of his research and education concerning the prevention of cardiovascular disease. He also received the 2010 Distinguished Physician Award from the American Society of Chest Pain Centers, the 2010 School of Medicine Faculty Research Award from University of California, Davis School of Medicine, and the 2010 Lifetime Teaching Award from the Division of Cardiovascular Medicine at UC Davis School of Medicine.

Amsterdam founded *Preventive Cardiology,* the first journal dedicated to this field, and he continues as its editor-in-chief.

Fritz Parker (BA '58) writes: "The class of 1962 held a New York City mini-reunion in May 2010 for classmates, wives, and significant others. Dr. Bob Newman and his wife, Seiko, entertained the group for dinner on Friday night. Saturday lunch was in the director's dining room of the Metropolitan Museum of Art. The remainder of the time was spent visiting the many highlights of the city. Needless to say, seeing each other and reliving old times made for a much enjoyed time together."

Sol Solomon reports the birth of his fourth grandchild, Ida Rose, on Sept. 1 in a parking lot on the way to Mt. Auburn Hospital in Cambridge, Mass. Becca (Sol's daughter) gave birth and the baby was delivered by Jim Rohr, the father. The baby was born on the father's birthday. Whew!

Class of 1964

Michael Hamilton (BM '55) writes: "Jack of all trades, master of none. Before medical school: Eastman School of Music and four years in the United States Marine Band. After medical school: pediatric internship at University of California at San Francisco, two years as a Peace Corps physician in Jalalabad, Afghanistan, then, medical residency at the University of Kentucky, and an M.P.H. at University of North Carolina at Chapel Hill.

"First real jobs: internist in an OEO health center serving low-income residents in Durham, N.C.; director of Duke University's Physician's Assistant program; director of the Duke Diet and Fitness Center (1984–1999). Last medical position: associate professor at the Louisiana State University Pennington Biomedical Center. My current and very last "trade" at age 75: owner with Sarah Hill of Hamilton Hill Jewelry, a gallery for jewelry artists in Durham, N.C. Along the way, two children, Sebastian and Sunita, and ex-wife and best friend, Brigitte.

"Visitors on the way south or anywhere are welcome."

Class of 1965

Svend Bruun received the Distinguished Physician Award presented by the medical staff of University of Massachusetts Health Alliance Hospital in Leominster in September. He also received the Committee Chair Service Award of the Massachusetts Medical Society for his nine years of service on the communications committee. He completed six years on the board of trustees of the medical society and is now an alternate trustee.

Class of 1967

Robert Tortolani was elected president of the Vermont Medical Society for the 2010 term. He has been an active member in the society since he began his practice of family medicine in Brattleboro in 1974.

Class of 1968

Russell Chesney will receive the 2011 John Howland Medal, the highest honor of the American Pediatric Society. Chesney, a nephrologist at Le Bonheur Children's Hospital in Memphis, has served as chair of the Department of Pediatrics for the University of Tennessee Health Science Center since 1988. He plans to retire as chair this year but will continue to teach, conduct research and see patients at Le Bonheur.

Class of 1969

After 36 years in clinical practice of gastroenterology in Burlington, Vt., **Paul Mayer** retired in July to focus on other interests. During his career, he grew a single private practice into a four-physician specialty practice, Associates in Gastroenterology. The opportunity to be on the clinical staff at the University of Vermont School of Medicine allowed him to "stay on top of his game" and interact with some of the finest students and house staff imaginable.

Class of 1970

Charles B. Rodning serves as professor of surgery at the College of Medicine and Medical Center of the University of South Alabama in Mobile. He is president of the Alabama chapter of the American College of Surgeons and president of the Medical Society of the County of Mobile. He is a recent recipient of the distinguished service award form the Alumni Association of the College of Medicine of the University of South Alabama for his scholarship and mentorship during the past three decades.

Donald Kufe was appointed to the board of directors of Synta Pharmaceuticals Corp., a biopharmaceutical company focused on discovering, developing, and commercializing small molecule drugs to treat severe medical conditions. Kufe is professor of medicine at Dana-Farber Cancer Institute and Harvard Medical School. He has served as chief of the Division of Cancer Pharmacology and several other leadership positions. He also is an editor of the textbook Cancer Medicine. He sits on the board of Genus Oncology, LLC, and Linus Pharmaceuticals, Inc.

Class of 1973

James A. Delmez is a professor of medicine in

Frank Young, M.D., Ph.D., dean of the University of Rochester School of Medicine and Dentistry from 1979 to 1984, met with the current dean, Mark B. Taubman, M.D., at the School of Medicine and Dentistry reception during the annual meeting of the Association of American Medical Colleges in November in Washington, D.C.

the renal division at Washington University School of Medicine in Saint Louis and medical director of Chromalloy Kidney Center.

Class of 1974

Philip Greenland, the Harry W. Dingman Professor and senior associate dean for clinical and translational research at the Feinberg School of Medicine at Northwestern University, gave the Ancel Keys Memorial Lecture at the American Heart Association annual meeting in November. In March, he will give a National Institutes of Health Great Teachers Lecture at the NIH Clinical Center in Bethesda.

Anne Scholl Moore (BA '70) retired from practice, but continues to work part time for the Children's Hospital of Denver. She also is raising a Holsteiner jumper stallion (with help) and runs a therapeutic riding program in Denver.

Class of 1979

California Healthcare Institute (CHI) elected **Eric J. Topol** to its board of directors. Topol is the director of Scripps Translational Science Institute, chief academic officer of Scripps Health, and vice chairman of West Wireless Health Institute. CHI is a non-profit public policy research organization, representing leading California academic institutions, biotechnology, medical device, diagnostics and pharmaceutical firms.

Jim Suojanen provides the following updates on his children: Anna completed her undergraduate degree at Holy Cross in 2006 and received her M.P.H. from Boston University in 2010. She works at Partners in Health. Krista graduated from Williams College in 2007 and began the Columbia-Bassett medical school program. Emma is a junior at Colby College and spent the fall 2010 semester in Spain.

Class of 1980

Peter Boling writes: "Greetings from Richmond, Virginia. I did not make last fall's reunion event as I was on hospital inpatient teaching service. My news: On December 2, 2009, I appeared on the NBC Nightly News segment "Making a Difference" that focused on house calls. Roger O'Neill was the reporter and Brian Williams, the anchor. This appearance resulted from articles on the Associated Press news wire and in the *Los Angeles Times* earlier in the summer and fall, which in turn focused on 'Independence at Home.' This is a new national demonstration program that is part of the health care reform legislation. I worked closely with a small group of colleagues for the past few years on the writing, promotion, and eventual passage of this bill. We had 41 co-sponsors, including 10 Republicans and 31 Democrats, and we are now working on the implementation. The goal is to restore home-based medical care, which is the original and most truly patient-centered medical home, to a central place in the care of people with advanced chronic illness and immobility, both improving care and saving money out of the gate.

"Back at home, Sue and I recently moved to a new house in the suburbs. I continue to look after the needs of the Virginia Commonwealth University general medicine division and its 52 faculty, which includes the geriatrics programs. Cheers to all my old friends, classmates, and teachers!"

Matthew L. Cartter writes: "I am the state epidemiologist for the Connecticut Department of Public Health. In June, I received an award from the Council of State and Territorial Epidemiologists called the "Pump Handle Award." For people who do what I do for a living, receiving this award was a wonderful experience and very cool!"

Lee Deakins Hieb (FLW '90) began her term as president of the Association of American Physicians and Surgeons. The association has been called "the voice for private practice since 1943." She recently moved with her family back to her hometown of Logan, Iowa, and has taken a part-time position doing orthopaedic and limited spinal surgery at Lake City, Iowa. Her oldest son, Nathan, is a senior at Creighton University and just completed his applications for medical school, being the third generation to apply to the U of R School of Medicine.

Steven G. Friedman has been chairman of the Department of Surgery at New York Downtown Hospital, since 2004. He is also professor of clinical surgery at Weill Cornell Medical College.

David Wilbur (R '84) and **Margaret Fallon** (R '84) are alive and well and living in Salem, Mass. Margaret is a pathologist at Northshore Medical Center in Salem, and David is a pathologist at Massachusetts General Hospital in Boston. David was recently promoted to professor of pathology at Harvard Medical School and was honored with the Papanicolaou Award, the highest award of the American Society of Cytopathology, at their 2010 annual meeting. Margaret and David have two sons, both graduates of Williams College. Scott, also a medical graduate of SUNY Buffalo, is currently a radiology resident at the University of Rochester Medical Center, and Jeff is an investment banker working for Guggenheim Partners in New York City. The family is still closely tied

to upstate New York, spending most summer weekends at their home on Keuka Lake.

Class of 1981

Camp Good Days and Special Times Inc. honored University of Rochester Medical Center **CEO Bradford C. Berk** (PhD '81) with their first Courage Award during the Camp Good Days' Courage Bowl Game in September 2010. The Courage Award is a new award to be bestowed upon someone who has displayed great courage at a difficult time in their personal life.

Myra W. Wiener (R '85) was welcomed to the University of Rochester Medical Center's general medicine division in July. Over the last two decades, Wiener has assumed several leadership positions in medical education programs involving medical students and residents at both the Medical Center and the former Genesee Hospital. She has served as a preceptor, helped develop and implement new curricula, and delivered lectures for continuing education programs. Her skills in the classroom and in clinical settings were recognized with major departmental awards. In her new position, she will continue to serve as director of the "Successful Interning" course and faculty chair of the honor board for the School of Medicine and Dentistry.

Class of 1983

Allan R. Macdonald (R '86) teaches in the family medicine residency at McLeod Regional Medical Center in Florence, S.C. He also was appointed assistant director for obstetrics and children's health. He teaches the Advanced Life Support in Obstetrics (ALSO) course across the state.

Peter J. Mariani has been promoted to professor of emergency medicine at State University of New York Upstate Medical University in Syracuse. In 2009, he achieved board certification in undersea and hyperbaric medicine, and was recipient of the Hospice of Central New York "Physician Hero Award" for work involving ultrasound guidance of palliative procedures for home hospice patients.

Class of 1985

Mark J. Eisenberg, professor of medicine at McGill University and staff cardiologist at Jewish General Hospital in Montreal, has published *The Physician Scientist's Career Guide,* a book with first-hand experiences and practical advice on choosing a degree and training program, navigating the tenure track, and understanding the intricacies of applying for and obtaining funding. Springer is the publisher.

Class of 1988

James M. Musser (PhD '88) was appointed chair of the Department of Pathology and Laboratory Medicine at The Methodist Hospital in Houston, Texas. He holds the Fondren Endowed Distinguished Chair, and serves as executive vice president and co-director of The Methodist Hospital Research Institute and director of the Center for Molecular and Translational Human Infectious Diseases Research. He is married to **Camille M. Leugers** (M'88, R '91).

Class of 1989

Warren S. Pear, professor of pathology and laboratory medicine at the University of Pennsylvania School of Medicine, was appointed to the Gaylord P. and Mary Louise Harnwell Professorship. A professor at Penn for 14 years, Pear is a cancer researcher and a faculty member of Penn's Abramson Family Cancer Research Institute. His work focuses on the development of hematopoietic cells, their function and the abnormal processes that transform normal hematopoietic cells into cancer cells.

Class of 1990

Thomas A. Sweeney is vice chair for the Department of Emergency Medicine at the Christiana Care Health System in Newark, Delaware.

Class of 1991

University of Rochester School of Medicine and Dentistry Department of Medicine selected **John F. Cox III** as a Lawrence A. Kohn Senior Teaching Fellow. The fellowship honors the memory a well-known and greatly respected Rochester physician, who was the first chief resident of medicine at Strong Memorial Hospital and the first clinical professor of medicine at the School of Medicine and Dentistry.

Darrell Pardi has been appointed associate dean in the Mayo School of Graduate Medical Education and chair of the graduation education committee for internal medicine and pediatrics. He has been a consultant in the division of gastroenterology and hepatology since 2001. He completed his fellowship training at Mayo in 1998. He is an associate professor of medicine at Mayo.

Class of 1993

Carmen Guerra (R '96) has been associate professor of medicine at the University of Pennsylvania School of Medicine since 2008. She continues to practice general internal medicine and conducts cancer control research. Carmen lives in Philadelphia with her husband, **Dilip Viswanath,** (R '96), a practicing cardiologist and partner with Cardiovascular Associates of the Delaware Valley in southern New Jersey. Together, they have three children: Isabela (age 9), Carolina (age 7) and Kiran (age 2).

Eric M. Perlman (PhD '92) was promoted to associate professor of pediatrics and chair of the Department of Pediatrics for Mercer University School of Medicine's Savannah campus. He also was named medical director and physician-in-chief of The Children's Hospital at Memorial University Medical Center in Savannah.

Class of 1994

Lt. Col. Antonio J. Eppolito, a family physician and flight surgeon on active duty in the United States Air Force, has been promoted to chief of USAF Telehealth & Telemedicine in the Office of the Air Force Surgeon General in Washington, D.C. His job is building a Web-based, bidirectional, image-enabled, comprehensive e-HR compatible with specialty teleconsultation.

Class of 1996

Titan Medical Inc. appointed **Louis Eichel** (BA '92, R '01) to its medical advisory board. He has an extensive background in researching the clinical aspects of surgical robotics and surgical simulation and is currently a clinical assistant professor of urology at the University of Rochester Medical Center. He is a recipient of the Pfizer Scholars in Urology Award and also serves as a reviewer for *Urology* and the *Journal of Endourology,* and several other journals pertaining to minimally invasive surgery.

Class of 2001

Christopher C. Wyckoff (BA '97) is married to **Layla Saidi** (BS '97). They have three children, Sanaz (age 5), Sina (age 3), and Setareh (age 1). He specializes in pulmonary and critical care medicine at Virginia Hospital Center in Arlington.

In Rochester history

Romano and Engel transformed medicine in Rochester and the United States

Through almost four decades, two physicians-John Romano and George Engel-practiced medicine at the University of Rochester Medical Center and taught generations of aspiring physicians.

The two physicians significantly influenced psychosomatic medicine, the place of psychiatry in medicine and medical education, bringing to the University's School of Medicine and Dentistry and the Medical Center international attention and fame.

John Romano, M.D., was the founding chairman of the Medical Center's Department of Psychiatry. He developed post-doctoral psychiatric training for physicians and community mental health services. He oversaw the creation of the Medical Center's "R Wing," one of the first psychiatric centers built as an integral part of a university hospital.

Dr. Romano, who served as chair from 1946 until 1971, often held Saturday morning meetings with medical students to discuss contemporary social and cultural topics and shape their concepts of psychiatry. He was recognized worldwide as a reformer of medical education.

"Along with a handful of others of his generation, he was responsible for shaping modern psychiatry in America," Sharon R. Kaufman, author of *A Healer's Tale: Transforming Medicine and Culture,* told *The New York Times* when Dr. Romano died.

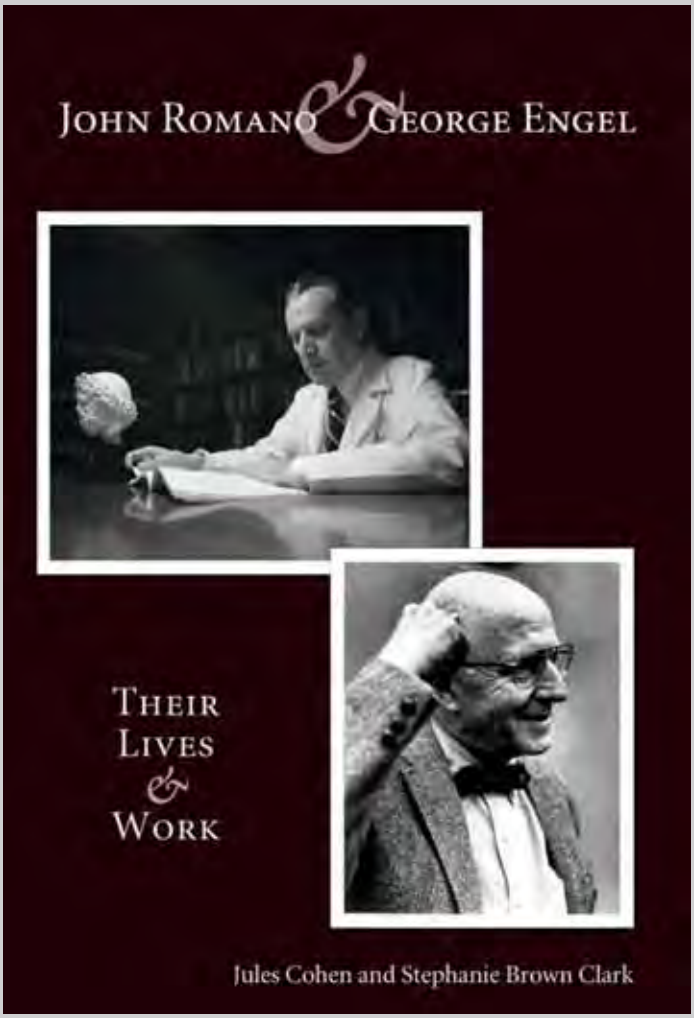
George L. Engel, M.D., came to Rochester with Dr. Romano and became very involved in incorporating psychiatric training in the School of Medicine and Dentistry curriculum. Before an assembled class or with students at a bedside, he interviewed patients, revealing the emotional components of illness.

He became one of the leading figures in psychosomatic studies. He was prominent in the American Psychosomatic Society, edited its journal, *Psychosomatic Medicine,* and published several books and many articles on the relation of emotion and disease and on the incorporation of these ideas into medical training and clinical practice.

Dr. Engel published his seminal paper on the "biopsychosocial model" in the journal *Science* in 1977, stating the case for the interaction of biological, psychological, behavioral and social forces in maintaining health and influencing the onset and course of illness. He also emphasized the influence of the physician as a patient remain well or heal. This "biopsychosocial model" of medical practice became a hallmark of the University of Rochester School of Medicine and Dentistry and strongly influenced medical education in the United States.

John Romano and George Engel: Their Lives and Work, a biography of the two physicians, has been published by Meliora Press, an imprint of the University of Rochester Press.

The authors of the new biography are Jules Cohen, M.D. (BA '53, M '57), professor of medicine and medical humanities at the University of Rochester Medical Center, and Stephanie Brown Clark, M.D., Ph.D., associate professor and director of the Medical Humanities Programs at the Medical Center.



The two physicians significantly influenced psychosomatic medicine, the place of psychiatry in medicine and medical education, bringing to the University's School of Medicine and Dentistry and the Medical Center international attention and fame.

The book was published by Meliora Press, an imprint of the University of Rochester Press. To order, write Jules Cohen, M.D., 601 Elmwood Avenue, Box 601, Rochester, NY 14642, and include complete mailing information and a check made out to the University of Rochester for $50 for each book (the cost of shipping is included).

Class of 2003

Shana Dowell and her husband, Jon, recently had another son. His name is Simon Frederick.

Class of 2004

Drew Davis completed his residency in plastic and reconstructive surgery at Stanford University and will be part of the adjunct clinical faculty as an attending physician at Santa Clara Valley Medical Center in San Jose, Calif.

Josh Diamond (BS '00) and his wife, **Tracy Diamond** (BS '00, MS '02, PhD '04), welcomed Sophia Jane Diamond, on June 4. She joined big sister Chloe at their home outside Philadelphia.

Ethan Healy finished a fellowship in sports medicine at New England Baptist Hospital and joined MetroWest Newton-Wellesley Orthopedics and Sports Medicine. He specializes in sports medicine and arthroscopy as well as general orthopedics.

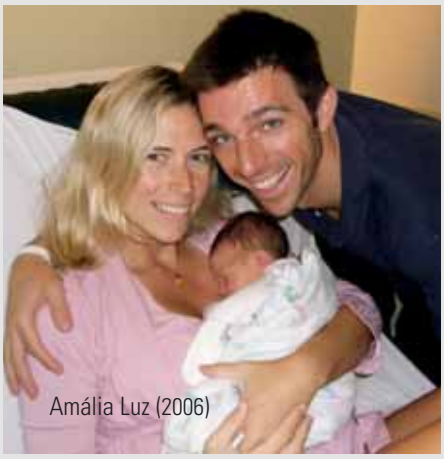
Class of 2005

Wen Dombrowski works for Visiting Nurse Service of New York as the assistant medical director of VNS CHOICE.

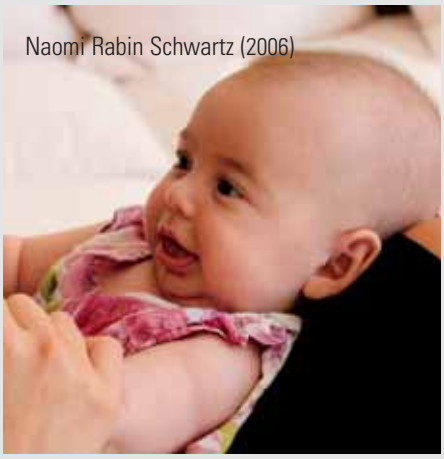
Sarah Goldfeder is a fellow in musculoskeletal radiology at the New England Baptist Hospital in Boston. She will marry William Dodge in June 2011. The wedding planning is underway and going well. Next project is to find a job for next year!

Class of 2006

Margie Donlon and her husband, **Goncalo Nuno Souto** (MBA '05), welcomed their daughter, Amália Luz, on July 7. Donlon finished her residency in physical medicine and rehabilitation in June and spent the fall months in Portugal visiting her husband's family.



Amália Luz (2006)



Naomi Rabin Schwartz (2006)

Jeremy Schwartz and his wife, Tracy Rabin, are the proud parents of Naomi Rabin Schwartz, born on April 22. Jeremy reports that Naomi is "almost as tall as her dad, but with mom's nose." They also enthusiastically welcome visitors if you're in the area of New Haven, Conn.

Kim Washington (R '10) has taken a position as a staff PM&R physician with the Northern Arizona V.A. in Prescott. She says she is "thrilled to be working with our service members and their families, and am enjoying the 360 days per year of sunshine that will be part of living in Northern Arizona."

Class of 2007

Jessica (Felt) Miller and her husband, Dan, announce the birth of their son, Maxwell Chandler Miller on July 26. She writes: "He's outgrowing clothes faster than we can keep up and is just a delight!" Miller is a fourth year anesthesiology resident at the University of Washington.

Emily Pilger and **Mustafa Coskun** (BS '02, MS '03) were married on June 12 at the Downtown Harvard Club of Boston. They had another wedding reception in Izmir, Turkey, on August 7. Emily is a chief neurology resident at Beth Israel Deaconess Medical Center and Mustafa is a senior product manager at Cambridge Technology, Inc. The couple resides in Brookline, MA.

Class of 2008

Joshua Miller (BA '02, MPH '04) and his wife, **Ellen** (BA'03, MBA '08), announce the arrival of their son, Brendan Arthur Miller, on October 10.

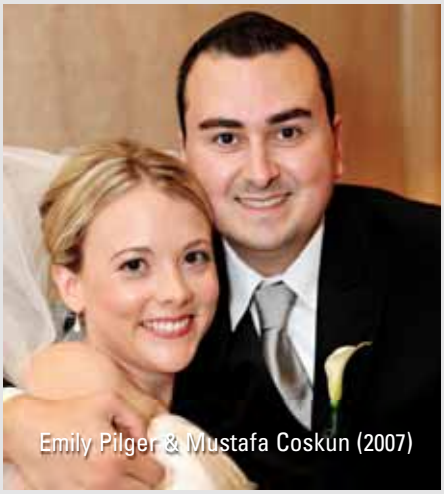
Class of 2009

Andrea Tavlan married **Edward Vuong** (current MD/PhD student) on October 22 in Scotch Plains, N.J. Tavlan is a second-year resident in pediatrics at Golisano Children's Hospital at Strong.

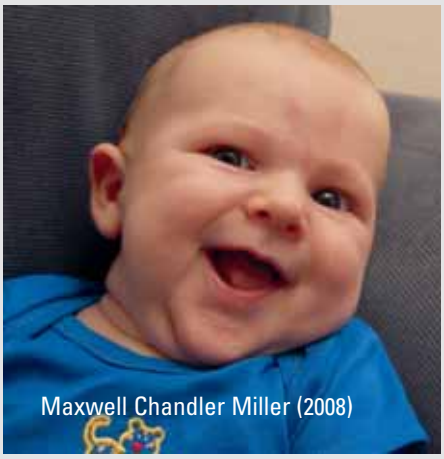
Class of 2010

Ajay Kuriyan (BA '05) married **Aparajita ("Tuma") Biswas** (BA '05) on May 31, 2010. See photo next page.

Sophia Jane Diamond (2004)



Emily Pilger & Mustafa Coskun (2007)



Maxwell Chandler Miller (2008)

GRADUATE Alumni

(Arranged alphabetically)

William J Bair (PhD '54) was honored in June with the Health Physics Society's highest award, the Robley D. Evans Commemorative Medal, at its annual meeting in Salt Lake City. The award recognized his distinguished contributions to radiation safety, particularly in the areas of radiation biology, inhalation toxicology, and internal dosimetry. Bair received the world's first Ph.D. in Radiation Biology, granted by the University of Rochester School of Medicine and Dentistry, under Professor J. Newell Stannard in the Department of Radiation Biology.

Bradford C. Berk (MD '81, PhD '81) – See MD Class of 1981.

Joanna Toke Brougher (BA '04, BS '04, MPH '05) was appointed as an adjunct lecturer on health policy and management at the Harvard School of Public Health. She is teaching a course called "Special Topics in Public Health Law: Intellectual Property Law and Health Technologies."

Tracy Diamond (BS '00, MS '02, PhD '04) – See MD Class of 2004.

Adam Giangreco (BS '99, MS '01) was awarded a European Research Council Starting Investigator Grant to establish an independent lab to be based at University College London in the United Kingdom. The five-year grant will address the role of the molecule tumor suppressor of lung cancer 1 in lung repair and lung cancer initiation.

Joshua Miller (BA '02, MPH '04, MD '08) – See MD Class of 2008.

James M. Musser (MD, PhD, '88) – See MD Class of 1988.

Eric M. Perlman (PhD '92, MD '93) – See MD Class of 1993.

Timothy P. Ryan (PhD '07) is the occupational epidemiologist for the state of Wyoming. He will examine workplace safety issues in the state. Ryan had been an environmental epidemiologist in Wyoming's Department of Health.

Rachel L. Roper (MS '90, PhD '92) received tenure and was promoted to associate professor of microbiology and immunology at the Brody School of Medicine at East Carolina University. Her research focuses on viral pathogens and mechanisms of virulence.

Marcia J. Scherer (MS '86, PhD '87) received the 2010 Roger G. Barker Distinguished Research Contribution Award. Presented annually by Division 22 (Rehabilitation Psychology) of the American Psychological Association, this annual award recognizes an individual who has made an outstanding lifelong contribution to rehabilitation psychology through empirical research, conceptual/theoretical development or both. Scherer is the Editor-in-Chief of *Disability and Rehabilitation: Assistive Technology.*

Kenneth J. Tomaszewski (BA '93, MS '96, PhD '02) and **Carol Ann Fruehan** (BA '02, MS '06)

Ajay Kuriyan & Aparajita Biswas marriage (2010)

Pictured are fellow UR and SMD classmates in attendance: Back row: Ari Stillman (BA '08), Reeshi Ray (BA '03), Samit Shah (BS '04, MD '09), Kathryn Walsh (BA '05), Neil Dani (BS '06), Carrie Heid (BA '05), Mohammed Gangat, Mohini Gurme (BA '05), Meghan Ochal (BA '05), Meghan Schubmehl (BA '05), Paramita Das, Indira Biswas, Middle Row: Christy Rakoczy (BA '05), Jehu Mathew (BS '04, MD '08), Shailey Desai (BS '04, MD '08), Atul "Sippy" Gulati (BA '04), Kathryn Wolak (BA '05), Aparajita "Tuma" Biswas Kuriyan (BA '05), Ajay Kuriyan (BA '05), Emily Locker (BA '05), Front Row: Nidhi Geevargese & J'mir Cousar (BS '06). Also in attendance but not pictured were: Gordon Chang (BA '05), Father Brian Cool (Newman Community), and Dr. Steven & Mrs. Diane Feldon (Flaum Eye Institute).

have three boys: Ben (age 11), CJ (age 9), and Will (age 6). After completing his Ph.D. and a brief stint at SUNY Cortland, the couple settled in Mendon, N.Y., where Ken runs KJT Group, a market research and consulting firm specializing in the health care industry. Carol and Ken also have started the Falls View Academy, a tutoring and education services provider. Ken has been an adjunct assistant professor at the U of R and will be teaching health economics in the spring of 2011. The whole family is steeped in sports with the kids and scouting. Ken is the committee chairman of Pack 105 in Mendon.

Rochester Business Journal named **Susan Yussman** (MPH '03, R '03) to its annual "Forty Under 40" list. The award recognizes professionals under age 40 for service in their jobs and in the Rochester community. Yussman is an assistant professor of pediatrics at the University of Rochester School of Medicine and Dentistry and medical director of Threshold Center for Alternative Youth Services.

RESIDENTS/FELLOW Alumni

(Arranged alphabetically)

Michael S. Albert (R '93) was recently selected the "Physician of Distinction" for 2010 at Buffalo Mercy Hospital. He was chosen from more than *600* members of the medical staff for this honor. Albert has been chairman of the hospital's pathology department since 2001, and recently was elected vice president of the medical staff. He also serves as chairman of the credentials committee and sits on the medical executive committee, performance improvement committee, and acts as the Catholic Health System transfusion medicine coordinator.

Two of his five children took first place honors in a recent regional piano competition and his 12-year-old son, Nathan, was selected to participate in the State University of New York at Buffalo's gifted math program, where he will attend math classes twice a week during middle school and high school and earn 22 credit hours of college math before graduating high school. Both older sons aspire to be neurosurgeons (Hear that Dr. Popp?). Albert and his wife, Melissa, reside in Orchard Park, N.Y. with their five children.

Ezra A. Amsterdam (R '63) – See MD Class of 1962.

Julian Aroesty (FLW '63) reports: "My son, Adam, who graduated cum laude in engineering at University of Michigan this past May, is an Edison Fellow at GE aeronautical division. He has a five-year commitment to GE, during which he is groomed to a leadership position in the engineering division. He will be taking one year during the 5-year program to get a master's degree paid for by GE.

"I am continuing my activities at the Beth Israel Deaconess Medical Center in Boston and have an associate clinical professor appointment at Harvard Medical School. I remember with fondness my years at Strong under Paul Yu who was a wonderful mentor. I just turned 79, but health remains good and I continue to go into the hospital every day. Within the next couple of years, I will stop seeing patients and spend more time seeing children and grandchildren scattered across the United States so that they can remember me and my wife while we are still healthy and active.

Lee Deakins Hieb (MD '80, FLW '90) – See MD Class of 1980.

Louis Eichel (BA '92, MD '96, R '01) – See MD Class of 1996.

Margaret Fallon (MD '80, R '84) – See MD Class of 1980.

Margot Fass MD (R '85) was named a Distinguished Life Fellow in the American Psychiatric Association. She has a private practice and also creates multimedia art. Her recent show and presentation were on the subject of "Endangered Us."

Stacy Fisher (R '01) is a member of the clinical faculty in adult and pediatric cardiology at the University of Maryland and is director of the women's and complex heart disease division at the University of Maryland Comprehensive Heart Center.

Elmar H. Frangenberg (R '72) recently published an article titled "A Good Samaritan-inspired Foundation for a Fair Health Care System" in *Medicine, Health Care and Philosophy.* It was published online by Springer, SpringerLink, in June.

John Fung, M.D., Ph.D. (R '84), has been named chair of the Cleveland Clinic's Digestive Disease Institute. He will oversee more than 350 employees. Prior to his appointment, he had served as chairman of the Department of General Surgery at the Cleveland Clinic. He is a professor of surgery at the Lerner College of Medicine at Case Western University.

Carmen Guerra (MD '93, R '96) – See MD Class of 1993.

Donald R. Huene (MD '59, R '67) – See MD Class of 1959.

Gena (McKinley) Kluwe (R '01) was named a fellow of the American College of Physicians in September.

Allan R. Macdonald (MD '83, R '86) – See MD Class of 1983.

Darrell Pardi (MD '91, R '94) – See MD Class of 1991.

Charles E. Turner (R '69) is governor for West Virginia for the American College of Physicians.

Richard Ugoretz (R '69) published *Talking to The Sick: A Clinician's Guide To Effective Communication.* The book presents practical approaches to achieving effective communication in contemporary medical practice. Ugoretz is a retired medical oncologist and clinical professor of medicine at the University of California at San Diego.

Kim Washington (MD '06, R '10) – See MD Class of 2006.

Myra W. Wiener (MD '81, R '85) – See MD Class of 1981.

David Wilbur (MD '80, R '84) – See MD Class of 1980.

Susan Yussman (MPH '03, R '03) – See Graduate Alumni

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— James T. Adams, MD, Professor of Surgery, & Jacqueline Stemmler Adams '67 (BS), '80 (MS), Honorary Board of Managers, Memorial Art Gallery

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Frederick A. Horner, M.D.

Frederick A. Horner, M.D. (M '47), the first chief of child neurology at the University of Rochester School of Medicine and Dentistry, died April 20 at the age of 90.

"He was always a very gentle, warm person, and he never lorded (his knowledge) over anybody," said Robert J. Haggerty, M.D., former chair of the Department of Pediatrics. "He was just a very skilled clinician, a very good consultant and a very warm colleague."

Dr. Horner graduated in 1947 from the School of Medicine and Dentistry and went on to complete a pediatric internship and an assistant residency at Strong Memorial Hospital.

Dr. Horner left Rochester to serve as chief resident at the Los Angeles Children's Hospital and then assistant chief of pediatrics at Fitzsimmons Army Hospital in Denver. In 1953 and 1954, he held a fellowship at the National Hospital for Nervous Diseases in London. On his return to the United States, he held positions at the Massachusetts General Hospital, University of Colorado, University of Kentucky and Jefferson Medical College.

Haggerty, along with Robert J. Joynt, M.D., Ph.D., then chair of the Department of Neurology, recruited Dr. Horner to return to Rochester in 1968. During that era, child neurology was in the Department of Pediatrics. Haggerty knew Dr. Horner from their years training at Strong Memorial Hospital and credits Dr. Horner with helping him decide to become a pediatrician.

During Dr. Horner's 17-year tenure as chief, he set a high standard for the new division's clinical service, seeing patients almost every day of the week. He also set high standards for developing education programs in adult and child neurology. All 25 neurology residents who rotated through pediatric neurology during his tenure passed the pediatric neurology section of the neurology boards on their first attempt, as did the eight child neurologists who graduated from the program. Dr. Horner was especially known for his ability to diagnose complex pediatric cases.

"He would work through very difficult problems," Joynt said. "He often amazed me with the diagnoses he would come up with that turned out to be correct."

Following his retirement in 1985 he was named professor emeritus of pediatrics.

Dr. Horner is survived by his wife, Marjorie; a sister, Kathryn Altmas; a brother, David Horner; nieces and nephews. Contributions in memory of Dr. Horner may be made to the Dr. Frederick A. Horner Social Work Emergency Fund, University of Rochester, P.O. Box 270032, Rochester, NY 14627.

Kenneth Jackman, M.D.

Kenneth "Van" Jackman, M.D. (M '67), a University of Rochester School of Medicine and Dentistry faculty member for more than 30 years, died Aug. 18 at his home on Upper Saranac Lake, New York. He was 69.

Dr. Jackman, professor emeritus of orthopaedics, was the first full-time faculty member in pediatric orthopaedics. He was a surgeon with a deep interest in the care of children with musculoskeletal disorders.

"His wisdom, knowledge, caring, compassion and skills blessed so very many children and their families," said Richard I. Burton, senior associate dean of academic affairs for the School of Medicine and Dentistry and chair emeritus of the Department of Orthopaedics.

"Van was totally committed to the mission for the best possible care of children, for the education of residents and medical students, and to foster productive relationships with pediatricians and children under their care," said Burton.

Dr. Jackman also was a skilled and avid player of bagpipes. A native of San Diego, he became interested in the bagpipes as a freshman at Pomona College. Dr. Jackman played with the Rochester Scottish Pipes & Drums for almost 30 years. He also played with a group called Faedan Or and was a founding member of Ceilidh Connection, a Scottish smallpipe ensemble.

After he received his medical degree, Dr. Jackman served in the U.S. Navy, including a two-year tour at the Navy's hospital on Guam. He completed his orthopaedic residency at University Hospital in Cleveland and a pediatric orthopaedic fellowship at Children's Hospital in Washington.

Dr. Jackman joined the School of Medicine and Dentistry faculty in 1976, rising to the rank of associate professor of orthopaedics and of pediatrics. He became professor emeritus in 2007.

After moving from Rochester to Upper Saranac Lake, Dr. Jackman, who also was a dedicated ham radio operator, became a member of the Search and Rescue Association of the Northern Adirondacks and a naturalist volunteer at The Wild Center of the Natural History Museum of the Adirondacks.

In 2002, Dr. Jackman was diagnosed with a lymphoma. He received chemotherapy and the lymphoma was in remission. In February, 2010, however, he was diagnosed with amyotrophic lateral sclerosis.

Dr. Jackman is survived by his wife of 46 years, Carol Benson Jackman; his son, Stephen V. Jackman, M.D., of Pittsburgh, Pa.; a daughter, Lauriann Garland of Seattle, Wash.; a sister, Diana Raney of Pasadena, Calif.; and several grandchildren.

Contributions can be made to the Natural History Museum of the Adirondacks, High Peaks Hospice or the Piper's Gathering Scholarship Fund in care of the Fortune-Keough Funeral Home, 20 Church Street, Saranac, N.Y. 12983.

Robert M. McCormack, M.D.

Robert M. McCormack, M.D. (R '49), professor emeritus who was chairman of the Division of Plastic Surgery at the University of Rochester Medical Center from 1950 to 1983, died Dec. 16 in Ocean View, N.J., at age 92.

Elethea H. Caldwell, M.D., professor emeritus of surgery, said Dr. McCormack was "a humble man, not caught up in a desire for worldly possessions or personal recognition but rather driven by the need to impart values of personal and professional life that are generative and sustaining."

"He was an exemplary teacher, a compassionate physician, a skilled surgeon, a respected statesman, a devoted friend, a role model without parallel and a valued colleague without replacement," Caldwell said.

Dr. McCormack, a native of Sheboygan, Wisc., was the son of a physician. He graduated with honors from Swarthmore College, where he was an All-American lacrosse player. He received his medical degree from the University of Chicago. He came to Rochester as a surgical intern in 1943.

After further surgical training, Dr. McCormick entered the U.S. Army Medical Corps in World War II and was assigned to the Hand Surgery Section at Beaumont Army Hospital in El Paso, Texas. This was the spring board for his lifelong interest in hand surgery. Following military service, he returned to Rochester to complete his residency in plastic surgery in 1949.

After a year of private practice in Milwaukee, and at the age of 34, he was asked to return to Rochester to assume the leadership of the Division of Plastic Surgery. He served as chair for 33 years until his retirement in 1983, educating more than 50 plastic surgical residents and countless medical students.

Dr. McCormack was appointed professor of plastic surgery in 1957, vice-chairman of the Department of Surgery in 1968 and director of the burn unit in 1975.

Dr. McCormack served as president of the American Association of Plastic Surgeons, the American Society for Surgery of the Hand and the American Burn Association. He also was chairman of the American Board of Plastic Surgery.

Honors for Dr. McCormack included the Clinician of the Year Award from the American Association of Plastic Surgeons, the Distinguished Alumnus Award from the University of Chicago, the Honorary Award of the American Association of Plastic Surgeons, the Gold Medal Award from the University of Rochester and the Albert David Kaiser Medal from the Rochester Academy of Medicine. He was also elected to Alpha Omega Alpha as a faculty member by students at the University of Rochester School of Medicine and Dentistry.

In 1964, Dr. McCormack received the *Sports Illustrated* Silver Anniversary Award that cited 25 college football players who went on to distinguished careers.

He was predeceased by his wife of 61 years, Marjorie Carter McCormack. Surviving are three sons, Steven McCormack of Oakland, Calif., Robert B. McCormack, of Cape Cod, Mass., Carter J. McCormack, M.D. of Greenville, S.C., and four grandchildren.

Memorial contributions may be sent to the Robert M. McCormack Endowed Professorship, University of Rochester, Department of Surgery, P.O. Box 270032, Rochester, NY 14627.

Leon Miller, M.D., Ph.D.

Leon L. Miller, M.D., Ph.D. (M '45), a scientist and physician who was part of the University of Rochester Medical Center for much of its history, died Sept. 3, at Highland Hospital in Rochester. He was 97.

Dr. Miller, who arrived at the Medical Center in 1938, was most recently professor emeritus of biochemistry and biophysics. A Rochester native and the son of immigrant parents, he earned his bachelor's degree in chemistry and his doctorate in organic chemistry at Cornell University in 1934 and 1937, respectively.

Through his brother, the well-known conductor Mitch Miller, who died in August at the age of 99, Dr. Miller connected with a physician who put him in touch with George Hoyt Whipple, founding dean of the School of Medicine and Dentistry. In 1938, Dr. Miller joined Whipple's laboratory as a post-doctoral research fellow, collaborating in studies of hemoglobin and plasma protein production.

Dr. Miller found himself working with young physicians, learning about medicine and enjoying it. He received permission from Whipple to study medicine while he continued the lab's metabolism studies. Dr. Miller worked seven years while continuing his research studies in order to earn his

medical degree in 1945. He practiced medicine before concentrating full time on research and teaching.

It was for his teaching, his leadership, guidance and insight for which Dr. Miller will be remembered most, said his colleagues.

"His generosity was universal, helping students, trainees, and faculty alike," said Paul LaCelle, M.D. (M '59), professor of pharmacology and physiology and former chair of the Department of Biophysics, who knew Dr. Miller for more than three decades. "He showed interest in others while remaining self-effacing and modest. He was kind in assisting me in my chairmanship, offering constructive criticism and suggesting strategies for dealing with the wide range of personalities and situations. He made me, a relative novice, to feel I was his equal."

Robert Bambara, Ph.D., chair of the Department of Biochemistry and Biophysics, also received guidance from Dr. Miller over the years.

"Dr. Miller was as vigorous and lucid a person as you can imagine," said Bambara. "He came to every faculty meeting and all the seminars, sitting in the front row, listening intently to presentations and asking very astute questions. He was a deep part of the fabric of our department. He was a real advocate for supporting younger faculty members and gave inspiring talks about how established faculty members should support younger faculty."

Dr. Miller continued to teach medical students until 2009, leading discussions in the "Molecules to Cells" course for first-year medical students, and still had a hand in interviewing medical school applicants. It was largely due to Dr. Miller's influence, Bambara said, that many scientific departments at Rochester have created formal mentoring programs, an aspect of the environment for which Rochester has been recognized nationally.

The Leon Miller Graduate Fellowship, established by Dr. Miller's family and friends to honor his contributions, is awarded annually to a student or students entering the Ph.D. program in biochemistry and biophysics.

Internationally, Dr. Miller is best known for developing a way to keep an animal's liver functioning outside of the body for several hours or even a full day, making possible detailed studies about the organ and the body that had previously not been feasible. Known as an "isolated perfused liver system," he used the model for metabolic studies, looking at the effects of hormones and other compounds on the body, especially their role in the synthesis of proteins. He became one of the first experts in the use of radioisotopes in medicine and research, taking advantage of the budding field to make new findings in areas like hemoglobin synthesis, protein synthesis and metabolism.

Although he became professor emeritus in 1978, Dr. Miller remained engaged with the University and its students to an amazing degree, said Bambara, noting that Dr. Miller often arrived to his office earlier than his colleagues, departed later, and in between walked the Medical Center corridors daily for exercise.

"He was our elder; he was our patriarch," said Bambara. "He was totally devoted to the University, its students, and its faculty."

Dr. Miller is survived by his wife of 52 years, Betty Miller; children Lynn Miller Coleman, Ellen L. Miller (M '77), Michael E. Miller (M '76), Laura J. Miller, John Rhodes Miller (M '90), and Nancy B. Miller; one brother, William Joseph Miller of New York City; and four grandchildren.

Contributions in his memory may be made to the University's Edward G. Miner Library or to the Leon Miller Graduate Scholarship Fund, 300 East River Road, Suite 208, Rochester, NY 14627, or to a charity of one's choice.

James M. Stewart, M.D.

James M. Stewart, M.D., clinical professor emeritus of the Department of Medicine at the University of Rochester Medical Center, died Sept. 20 at his home in Rochester. He was 88.

Dr. Stewart will be remembered by family, colleagues and those in the community as a versatile clinician, a distinguished teacher and a man of high ideals who inspired countless individuals and enriched the community throughout his long and successful life.

His history at the Medical Center spans more than six decades. Dr. Stewart came to the Medical Center in 1948 as a post-graduate fellow in pathology and physiology after receiving his undergraduate degree at Dartmouth College, where he graduated Summa Cum Laude, and completing his medical degree at Harvard Medical School. Following his arrival in Rochester, he served as assistant resident in 1948 and chief resident in 1950. He joined the faculty of the Department of Medicine in 1951 and was promoted to professor in 1970. He retired in 1990 and was named clinical professor emeritus.

Dr. Stewart's teaching and clinical skills were recognized throughout his career. He was appointed the Lawrence A. Kohn Senior Teaching Fellow in 1970, a distinction he held through 1981, and received the American College of Physicians Upstate New York Recognition Award in 1983. He also received several awards from the Rochester community, including a special citation for community activities from the Colgate Rochester Divinity School and a Merit of Honor from the Rochester Academy of Medicine in 1981. In 1996 he was awarded the prestigious Albert David Kaiser Medal by the Rochester Academy of Medicine, its highest honor.

In 1988 in recognition of Dr. Stewart's dedication to teaching, the Department of Medicine established the James M. Stewart Distinguished Teaching Award, which is presented annually to outstanding clinical faculty in the community.

He was extremely dedicated to the local medical community, including serving on the board of directors of the

Monroe Plan. He was a member of the board of directors and finance and budget committee of Genesee Valley Medical Care, board of directors of Visiting Nurse Service, board of trustees and medical scholarship committee of the Monroe County Medical Society, and the medical advisory committee of the Rochester Presbyterian Home.

Dr. Stewart had a particularly strong commitment to the Rochester Academy of Medicine, for which he had served as executive director and board president, according to Marc N. Berliant, M.D. (R '81), chief of the Medical Center's Division of General Medicine, and he played a role in "its preservation and renovation, keeping that wonderful building functional, alive and vibrant."

Dr. Stewart served as a mentor for Berliant, who trained under him, eventually working with him for nearly a decade before he retired in 1990.

"I had the honor of practicing with him for many years, in addition to his being one of my early mentors," Berliant said. "He was a fabulous teacher who educated using both an impressive scope of knowledge and a steady, reassuring demeanor. He was a consummate physician who exemplified the kind of integrity, compassion and humanism that we strive for in today's world."

Paul C. Levy, M.D. (R '86, FLW '89), acting chair of the Medical Center's Department of Medicine, recalls Dr. Stewart as "one of our community's most admired clinicians. His attention to detail was unwavering whenever he was working with patients, as well as when he taught us as medical residents."

William Morgan, M.D., clinical professor emeritus of the Department of Medicine, knew Dr. Stewart as a colleague and a close family friend. Their relationship lasted nearly half a century.

"He was one of the top practicing physicians of his time and was highly thought of as an internist and an educator," Morgan said.

Dr. Stewart is survived by his wife of 65 years, Natalie; a sister, Janet Hengerer of Slingerlands, N.Y.; four children Nancy (Raymond Terekpa) of Ithaca, N.Y., Jampa M. (Shanti Dechen) of Crestone, Colo., Richard Stewart of Guilford, Vt., and Cynthia Stewart of Boston, Mass.; seven grandchildren and two great-grandchildren.

Contributions in his memory may be made to the Monroe County Medical Society Scholarship Fund, 132 Allens Creek Road, Rochester, N.Y., 14618.

In memoriam

Thomas B. Barnett (MD '49)
Kurt M. Bertram (MS '10)
Julian Carroll (R '57)
Robert Chiarello (MD '79)
Nelson M. Chitterling (R '62)
Alexander E. Dodds (MD '48, R '51)
Solomon Fisch (PhD '49)
F. David Fisher (MD '57)
James F. Fortune (MD '44)
Russell W. Garrett (MS '03, PhD '05)
Donald A. Gordon (MS '62)
Samuel Gross (MD '55)
Donald W. Helbig (MD '61)
John L. Ilsley (MD '48)
Kenneth V. Jackman (MD '67)
John A. King (BA '44, MD '46)
Bernard Macik (R '83)
Parker E. Mahan (PhD '65)
Leon L. Miller (MD '45)
Arthur R. Morley (MD '52)
Myles C. Morrison (MD '47, R '54)
Dominic J. Scaramuzzino (MD '57)
Frederick A. Schroeder (MD '61)
Calvin A. Stanfield (MD '53, FLW '60)
Otis L. Tucker (MD '77)
Russell C. Vannoy (PhD '73)

Dean's Teaching Fellowship

Continued from page 14

professor of emergency medicine and a fellow from 2006 to 2008, created a comprehensive assessment of clinical competence for graduate medical education in emergency medicine.

— Nicole Stassen, M.D., associate professor of surgery and a fellow from 2005 to 2007, developed a standardized patient program for third-year surgery students that has been incorporated into the curriculum.

— Scott Tripler, M.D. (M '85, R '90), associate professor of family medicine and a fellow from 2003 to 2005, put together a curriculum to educate students in writing prescriptions appropriately, avoiding errors and reviewing medications that includes an appreciation for the value of collaboration with clinical pharmacists.

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