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Dear colleagues:

Discovery. Understanding. Healing. Our successes fuel our desire to persevere on that difficult but critical research continuum that links new ideas to new products and services. Our discoveries lead to an understanding about disease and how it affects patients. Armed with that knowledge and our compassion, we work tirelessly to contribute to new therapies and cures.

William Pierce, M.D., is a pioneer on that continuum, having begun his work on artificial heart devices more than thirty years ago. His discoveries and those of his colleagues led to an understanding about how to use technology to help people with heart failure. Today, a man has a new human heart thanks to the left ventricular heart assist device that afforded him the time to gain strength and stamina for this new chapter of his life. That’s just one of a number of successes for the Artificial Organs team. Recently, William Weiss, Ph.D., was awarded a $5 million contract to develop a pediatric version of the team’s incredible heart helper technology.

To bolster our research efforts, we added four associate deans to the institution’s research infrastructure. Each will guide and support our faculty and staff in the areas of technology development, primary care research, basic research, and graduate studies. We plan to add a fifth associate dean to focus on clinical research. With their guidance, we will continue to search for new research and partnership opportunities both within and outside the institution, explore alternative sources of funding, contribute to regional economic growth, and make the discoveries that promote healing and prevent disease.

Research funding at Penn State College of Medicine again hit a record high in Fiscal Year 2003-04 exceeding $98 million, a 15.6 percent increase over Fiscal Year 2002-03. This continues a growth trend in sponsored research funding. Our substantial research growth is due to our excellent faculty, scientists, graduate students, and staff who continue to exhibit extraordinary dedication, initiative, and expertise in the pursuit of new and important biomedical knowledge.

None of this would be possible without collaboration, cooperation, and partnerships with our Penn State University colleagues, federal and state agencies, other colleges and universities, international scientists, and more. This intricate network only strengthens our collective quest for improvements in medical quality, increases our knowledge base, and brings better care to patients more quickly.

This year, we and our community partners will host Innoventure2005™, an event to highlight recent discoveries and intellectual capital of public and private universities, hospitals, and businesses. This event, first held in 2003, will further strengthen ties with regional businesses, scientists, elected officials, and the public, and draw attention to the contribution of the health sciences to the economy, science, and healing. Please join us April 14-15 and visit the event website at www.innoventure2005.com.

Discovery. Understanding. Healing. A bridge leading to the next generation of new diagnostics, therapies, and cures.

Jay Moskowitz
Associate Vice President for Health Sciences Research, Penn State University
Vice Dean for Research and Graduate Studies, Penn State College of Medicine
Chief Scientific Officer, Penn State Milton S. Hershey Medical Center
Penn State researchers recently were awarded a $5 million contract from the National Heart, Lung, and Blood Institute of the National Institutes of Health to develop a pediatric heart assist device.

That award marks one in a long line of successes by the Artificial Organs team at Penn State College of Medicine, led by Gerson Rosenberg, Ph.D., chief of the Division of Artificial Organs, Department of Surgery. That list of accomplishments began more than thirty years ago with the work of William S. Pierce, M.D., professor emeritus and Evan Pugh Professor of Surgery at the College of Medicine, who was a pioneer in the development of mechanical heart and heart assist devices.

Since then, the team of engineers, physicians, fluid mechanic specialists, veterinarians, and technicians from the College of Medicine and Penn State University Park have been instrumental in the design of a number of artificial organs technologies including the adult-sized Pierce-Donachy pneumatic ventricular assist device manufactured by Thoratec Corporation, Pleasanton, California, and the Penn State Total Artificial Heart currently under further development by Abiomed, Inc., Danvers, Massachusetts.

The Arrow LionHeart™, a left ventricular assist device conceived of and developed at the College of Medicine in cooperation with Arrow International, Reading, Pennsylvania, is the latest technology to make headlines. The device was implanted in a 36-year-old man with congestive heart failure in May 2003. That man, Gayle Snider, became the first U.S. patient to go home with the device. Just one year later, his health improved so dramatically that he was eligible for and successfully received a human heart transplant.

“Since the late 1980s, there have been numerous successes with adult heart assist devices such as the Arrow LionHeart,” said William J. Weiss, Ph.D., associate professor of surgery and bioengineering at the College of Medicine. “That has sparked renewed interest in funding research and development of a pediatric version of a heart assist device.”

Weiss, who is principal investigator for the $5 million contract for development of the pediatric device, will lead the team’s efforts to develop two blood pumps small enough to provide heart support for infants, children, and teens with the goal of making them available for clinical use in about five years.

Development of the child-size heart assist device started in 1986 at the College of Medicine under the direction of Pierce. Although the team has continued to work on certain aspects of the pump, a lack of industry funding slowed development of the device.

Pediatric heart assist devices pose even more complex problems than the adult ones. Due to the smaller size of the blood pump, blood flow in the smaller version is completely different than in the larger adult heart devices.

“Making these pumps smaller is not just a matter of shrinking everything,” Weiss said. “When you make blood pumps, the fluid dynamics change as the size changes. In the smaller pumps, dead zones, or low-rate flow zones, can form inside the blood pumps. This slow-flowing blood can create clots. Our challenge is to be sure the blood is neither too active, or too slow.”

For more than thirty years, Penn State researchers have acquired significant expertise in the design, development, clinical use, and technology transfer of circulatory support systems. And their legacy continues.
Penn State Milton S. Hershey Medical Center and Meharry Medical College are taking on the issue of racial disparities in women’s health.

A $5 million grant from the National Institute of Child Health and Human Development of the National Institutes of Health funded a partnership between the two institutions that has established a premier clinical research center devoted to minority-based issues in reproductive endocrinology. The grant focuses on four research studies and the creation of two research core facilities at Meharry Medical College, a historically black institution in Nashville, Tennessee, that will mirror those at Penn State Hershey Medical Center.

“This was an opportunity for our institutions to unite to become a powerhouse in terms of reproductive research opportunities,” said Richard S. Legro, M.D., professor of obstetrics and gynecology, Penn State Women’s Health, and co-principal investigator for the grant. “The partnership, and particularly the establishment of the core facilities at Meharry, is helping that institution to secure future additional research funding, and allowing Penn State Hershey Medical Center to expand its research program in reproductive endocrinology by partnering in joint studies.”

Valerie Montgomery-Rice, M.D., chair and professor of obstetrics and gynecology, Meharry Medical College, said both institutions bring unique strengths to the partnership and a largely homogeneous patient population, Meharry’s being primarily African American, and Penn State Hershey Medical Center’s being primarily Caucasian.

“When you look at what happens to women with osteoporosis, polycystic ovary syndrome, and fibroids, the outcomes of those disease processes are worse for African American women,” Montgomery-Rice said. “We don’t know the answer to why. Looking at an age-matched group of Caucasians and African Americans will help to establish baseline differences.”

Laurence Demers, Ph.D., distinguished professor of pathology and medicine, Penn State College of Medicine, will help Meharry set up a Core Endocrine Laboratory similar to the one Demers directs at Penn State Hershey Medical Center. Vern Chinchilli, Ph.D., chair and professor of health evaluation sciences, and Gary Chase, Ph.D., professor of health evaluation sciences at the College of Medicine, will help Meharry establish a Biostatistics Core.

In addition to establishing the cores, Legro and colleagues will take part in four research studies investigating the differences in reproductive endocrinology in minorities that in some cases predisposes them and, in others, protects them, from reproductive morbidities. For example, previous studies have shown that higher levels of sex steroids in African Americans predispose them to a number of reproductive conditions including higher prevalence of polycystic ovary syndrome and benign tumors, and contribute to gynecological cancers. While the increased steroids pose some risks, they also seem to provide protection from osteoporosis.

“The mechanisms explaining racial differences in these diseases are poorly understood and this center is engaged in a number of interrelated projects to address this lack of knowledge,” Legro said. “The clinical projects focus on this major theme with the goal of understanding the differences to improve the reproductive care of minorities that are disproportionately affected by certain reproductive disorders.”
Ian S. Zagon, Ph.D., has spent more than twenty years in the laboratory looking for answers to the mysteries of cancer. The work is bearing fruit thanks to a partnership with Jill Smith, M.D., who’s introducing a therapy the two developed to patients in clinical studies.

The team found that a booster dose of opioid growth factor (OGF), that is already found in the body, appears to be safe and non-toxic for the treatment of pancreatic cancer, a swift and inescapable killer, and shows signs of arresting pancreatic cancer cell growth in patients.

“Our previous laboratory and animal studies showed that OGF can markedly slow down the proliferation of pancreatic cancer cells,” said Zagon, professor of neural and behavioral sciences, Penn State College of Medicine. “Now, in this first study of OGF in people, we’ve shown that administering it to supplement the body’s own supply is not toxic and may help patients with this almost invariably fatal disease.”

In laboratory studies, Zagon and his team including collaboration with Patricia J. McLaughlin, D.Ed., professor of neural and behavioral sciences, discovered that OGF, which is involved in suppression of pain in the nervous system, also controls the production of some cells, both healthy and abnormal. Pancreatic cancer cells have OGF receptors that, when bound with OGF, inhibit additional cancer cell growth. Because cancer cells reproduce so quickly, the body can’t produce enough OGF to bind all of the receptors, so cancer cell growth continues unimpeded. Zagon’s laboratory work suggested that providing enough OGF in the body could bind all of the OGF receptors, inhibit cancer cell proliferation, and give the body’s own defenses time to battle the disease.

About ten years ago, Zagon met Smith, professor of medicine at the College of Medicine. Zagon said her energy and their combined desire to give back to cancer patients some of the time stolen by the disease encouraged them to press on.

Now, in clinical studies sponsored by the National Institutes of Health, Smith and Zagon found that, unlike chemotherapeutic agents often used to treat pancreatic cancer, OGF did not cause white blood cell, platelet, or iron counts to drop, and did not cause gastrointestinal problems. Nor were there side effects such as hair loss, nausea, or loss of appetite.

“Although the first study was not intended to examine tumor response or survival, our preliminary results showed two patients with spread of cancer to the liver responded with loss of metastases, and survival was increased from 5.6 months under the typical treatment with gemcitabine, to 9.1 months with OGF,” Smith said. “Some patients survived from twenty-one to twenty-three months.”

Zagon said that preclinical studies of OGF indicate that a variety of tumors such as colon, head and neck, kidney, and nervous system tumors may respond to OGF treatment.

“Now, in this first study of OGF in people, we’ve shown that administering it to supplement the body’s own supply is not toxic and may help patients with this almost invariably fatal disease.”

— Ian Zagon, Ph.D.
Vernon M. Chinchilli, Ph.D., distinguished professor of health evaluation sciences, was named chair of the Department of Health Evaluation Sciences (HES), effective Jan. 1, 2005. Chinchilli, a professor in the department for more than twelve years, served as interim chair since 2003. He has been principal investigator for the National Institutes of Health-funded Data Coordinating Centers of both the Asthma Clinical Research Network since its inception in 1993, and the Childhood Asthma Research and Education Network since its inception in 1999. Chinchilli currently serves on various national committees that advise and monitor multi-center clinical trials and epidemiological studies. He has contributed extensively to biostatistical and biomedical research and was appointed a Fellow of the American Statistical Association in 1997 for his contributions to biostatistics.

Kent E. Vrana, Ph.D., joined Penn State College of Medicine Jan. 1, 2004, as chair of the Department of Pharmacology. Vrana, who earned a Ph.D. in biochemistry from Louisiana State University Medical Center, most recently served as professor and director of graduate studies for the Department of Physiology and Pharmacology and as director of the Piedmont Triad Community Research Center Molecular Biology Core Facility at Wake Forest University. He has an extensive research portfolio, is a member of a number of scientific professional organizations, and has participated in numerous professional study sections. Vrana’s research is focused in the emerging field of functional genomics and proteomics as they apply to the neurosciences.

The Penn State Milton S. Hershey Medical Center and College of Medicine have begun taking steps to achieve Magnet Designation. Awarded by the American Nurses Credentialing Center, magnet status...
is the highest award for nursing excellence and quality patient care achievable in the world. Because research plays an important part in achieving this special status, the Research Achievement Team for Magnet was formed by Donna Reck, M.S.N., C.N.A., chief nursing officer, to look for opportunities to facilitate nursing research and examine resources already available at the institution. Co-led by Kim Kopenhaver Haidet, Ph.D. (c), C.R.N.P., research associate, Division of Newborn Medicine, and Judith Hupcey, Ed.D., C.R.N.P., assistant professor of nursing and humanities, the team also will look for opportunities to strengthen collaborations between nurse scientists and other researchers, and offer nursing research seminars and support services.

David J. Hufford, Ph.D., director of the College of Medicine’s Kienle Center for Humanistic Medicine since 1990, was named chair of the Department of Humanities effective Jan. 1, 2004. Hufford had served as interim chair of the department since July 2002. Hufford joined the College of Medicine in 1974 as an assistant professor in behavioral science after completing his Ph.D. in folklore and folklife at the University of Pennsylvania. He has received numerous awards and honors for his teaching and research including an Excellence in Teaching Award from the College of Medicine. He was inducted into the International Association of Folklore Fellows in 1995.

Ronald Wilson, V.M.D., M.S., was appointed interim chair, Department of Comparative Medicine, effective Dec. 9, 2004, succeeding C. Max Lang, D.V.M., the first chair of the department and a founding faculty member of the College of Medicine. Wilson joined the College of Medicine as a postdoctoral fellow in comparative medicine in 1989, was appointed assistant professor in 1991, and was promoted to associate professor in 2000. He has been a member of the Institutional Animal Care and Use Committee since 1991, serving as chair from 1995 to 2004. Wilson also has served on the Medical Student Selection Committee since 1993 and the Radiation Safety Committee since 1991. Wilson specializes in anesthesia and analgesia, experimental surgery and wound healing, and is a Diplomate of the American College of Laboratory and Animal Medicine.

The Medical Center and College of Medicine received a gift of $4 million from the estate of Grace Woodward, a long-time friend of Penn State. One million dollars will be combined with $1 million given to Penn State’s College of Engineering to support collaborative research programs that combine the efforts of researchers from the two colleges. The first grants supported by the $2 million endowment will be awarded in fall 2005. The remaining $3 million given to the College of Medicine by Woodward established the Woodward Endowment for Medical Science Education.

Thomas W. Uhde, M.D., who was named chair of the Department of Psychiatry in January 2004, was appointed director of the newly-formed Penn State Hershey Neuroscience Research Institute (PSHNRI) in November 2004. The mission of the PSHNRI is to promote and support interdepartmental and translational brain research and to direct pre-doctoral education and graduate neuroscience doctoral and fellowship training. Scientists associated with the PSHNRI conduct basic and clinical neuroscience research, which focuses on advancing knowledge about normal and disordered brain functions at the cellular, molecular, and integrated systems and service levels. Uhde, who is also director of the Central Pennsylvania Psychiatric Institute,
pulmonary surfactant, the proteins and lipids that make it possible for the lungs to inflate. Surfactant components also play a role in the innate host defense or the first line of defense in the lung. Premature infants who lack adequate amounts of surfactant develop respiratory problems that may lead to death. One of the complications in these infants is infection. Floros is credited with being the first to characterize, clone, and study the molecular complexity of some of the proteins and initiate studies to try to understand how this translates to differences in disease risk among individuals.

The Nancy Kruger Award for Clinical Scholarship was awarded to Myra Popernack, R.N., C.C.R.N., for her article, “Decreasing Unplanned Extubations: Utilization of the Penn State Children’s Hospital Sedation Algorithm,” which was published in Pediatric Critical Care Medicine. The annual award, presented in honor of Nancy Kruger, D.N.Sc., R.N., who was vice president for patient services for the Medical Center from 1986-2000, recognizes the outstanding contributions of nurses who have enhanced the scholarly advancement of nursing science through scientific publications or national presentations.

Medical Students from Penn State College of Medicine’s Class of 2004 were recognized in April for their research efforts at the annual Medical Student Research Symposium. The medical research requirement has been in place since the College of Medicine’s founding and each year the symposium recognizes the top research projects with a presentation to parents, faculty, staff, and students. Oral presenters at the symposium were Alicia Groft, Marie Le, and Brian Swenson. Posters were presented by Casey Glass, Linda
Kjewski, Fatuma Kromah, Jessica Lundeen, Ai Mukai, Sadeq Quraishi, Robyn Smith, and Megan Young.

Diane Thiboutot, M.D., professor of dermatology, and Robert Levenson, Ph.D., professor of pharmacology, were named co-directors of the College of Medicine MD/PhD Program. Thiboutot and Levenson succeed Harriet C. Isom, Ph.D., Distinguished Professor of Microbiology and Immunology and professor of pathology, who served as assistant dean and director of the MD/PhD Program since January 2001.

Brian Poole, Ph.D., a 2004 graduate of The Huck Institutes of the Life Sciences Integrative Biosciences Graduate Program who studied in the laboratory of Stanley J. Naides, M.D., Thomas B. Hallowell professor of medicine, professor of microbiology and immunology, and pharmacology at the College of Medicine, was awarded Penn State’s Intercollege Graduate Student Outreach Award. The award recognizes Poole’s work to advance his area of scientific interest through community education. His efforts included writing newspaper articles, helping local teachers with science questions, designing a science curriculum for elementary schools and giving tours to a Boy Scout troop.

Sarah Bronson, Ph.D., successfully launched the Summer Undergraduate Research Internship Program. Fourteen undergraduate student interns from nine academic institutions designed and executed projects in the laboratories of twelve College of Medicine scientists. Students also took part in all activities in the faculty mentor’s laboratory, including attending laboratory research meetings, journal clubs, and seminars. The Biomaterials and Bionanotechnology Summer Institute, a research program for students between the junior year of college and the second year of graduate school, also marked its third year. That program, funded by the National Institutes of Health and the National Science Foundation, as well as the Huck Institute for the Life Sciences and the Materials Research Institute, supports four student researchers at the Medical Center and twelve at Penn State University Park.

Paula Ulsh, R.N., B.S.N., was named clinical research specialist for the Penn State Clinical Trials Office (CTO). In her new role, Ulsh serves as a fulltime resource for information and expert advice on clinical research issues and will be responsible for the administrative functions of the CTO and its staff. In addition, she will provide research education and training for individual Medical Center investigators and research staffs, serve as a liaison between faculty investigators and industry sponsors, and implement the protocol feasibility process.

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Ronald E. Harbut, M.D., Ph.D., assistant professor of anesthesiology, found that limited, low-dose infusions of ketamine, a widely used anesthetic drug, may relieve the often intolerable pain of complex regional pain syndrome (CRPS). Published in Pain Medicine, the retrospective study, initiated by Graeme E. Correll, B.E., M.B.B.S., of Australia, involved thirty-three patients with CRPS who received ketamine treatments between 1996 and 2002 in Australia. Pain was completely relieved for twenty-five patients and partially relieved for six patients. Although the relief was not indefinite, patients who received a second treatment remained pain-free for one to three years. Harbut has been instrumental in bringing this new methodology to the U.S. and is developing a clinical prospective study.

Two active ingredients found in many over-the-counter (OTC) cough medicines are no better than non-medicated syrup for nighttime cough and sleep quality in children with upper respiratory tract infections, reported Ian Paul, M.D., M.Sc., assistant professor of pediatrics, in an article published in Pediatrics. The study randomly assigned children to receive syrup with dextromethorphan or diphenhydramine—both common active ingredients in cough medicines—or placebo syrup. All three groups showed dramatic improvement, with scores for cough frequency, impact on child and parent sleep, bothersome nature of cough, and severity of cough scoring lower. Syrups with the active ingredients, however, were no better than placebo for any outcomes studied.

An inch-long tropical fish will enjoy improved global exposure thanks to a five-year, $2.7 million grant from the National Center for Research Resources awarded to Keith Cheng, M.D., Ph.D., associate professor of pathology. The grant will support the creation of a virtual, computer-based zebrafish microanatomy atlas that will allow scientists to access high-resolution and three-dimensional images of the microanatomy of healthy zebrafish. The images of healthy zebrafish can be compared to the zebrafish used in studies of gene functions and disease, allowing
investigators to quickly detail the anatomical abnormalities associated with variables manipulated in their experiments. The grant is also facilitating cross-campus collaborations with Penn State University Park to develop high-throughput in vivo imaging.

A multi-institution research team including three Penn State scientists was awarded a $7.9 million grant from the National Institute on Aging to study the causes of and effectiveness of iron therapies to treat restless legs syndrome (RLS). The grant will fund four projects, one of which will be led by James Connor, Ph.D., vice chair for research, Department of Neurosurgery. His project will focus on further pinpointing the causes of RLS by obtaining a profile of the brains of RLS sufferers. John Beard, Ph.D., professor of nutritional sciences, and Byron Jones, Ph.D., professor of biobehavioral health and pharmacology, will lead additional projects. The grant will be directed by Christopher J. Earley, M.B., B.Ch., Ph.D., of Johns Hopkins Bayview Medical Center.

Carol S. Weisman, Ph.D., professor of health evaluation sciences and obstetrics and gynecology, was awarded a $4.7 million grant from the Pennsylvania Department of Health’s share of the national tobacco settlement to establish the Central PA Center of Excellence for Research on Pregnancy Outcomes. The center’s primary goal is to improve women’s health status and health care prior to conception in high-risk, medically-underserved populations in central PA. The center includes Penn State, the Family Health Council of Central Pennsylvania, Franklin and Marshall College, and Lock Haven University of Pennsylvania. Co-principal investigators are J. Joseph Botti, M.D., professor of obstetrics and gynecology; and Marianne Hillemeyer, Ph.D., assistant professor of health policy and administration and demography.

A $7 million grant from the National Heart, Lung, and Blood Institute—National Institutes of Health awarded to Lawrence Sinoway, M.D., professor of medicine and program director, Penn State General Clinical Research Center (GCRC), will fund three projects aimed at gaining a better understanding of human circulation. Projects will be led by Sinoway, Urs Leuenberger, M.D., professor of medicine and GCRC associate program director, and Chester A. Ray, Ph.D., professor of medicine and cellular and molecular physiology. The studies may lead to new treatments for high blood pressure, heart failure, and heart disease, and help to explain other mysteries of cardiovascular health.

Congressman Tim Holden (PA-17) announced a $7 million appropriation he included in the Department of Defense Appropriations Act for Fiscal Year 2005 for Penn State Hershey Medical Center and the National Naval Medical Center to conduct joint cancer research. The Medical Center/Navy partnership will join clinicians and researchers in active collaborations and provide them access to the appropriate equipment, tools, and technology to make
advances in discovery, early detection, evaluation, treatment, and prevention of cancer that will benefit both the military and civilian populations.

An interactive computer program developed at Penn State College of Medicine is more effective than one-on-one genetic counseling for increasing knowledge of breast cancer and genetic testing among women at low risk for breast cancer, according to a study by Michael J. Green, M.D., associate professor of humanities, published in the Journal of the American Medical Association. Counselors were, however, more effective at reducing anxiety and helping women to understand their risk. The results suggest that the computer program could stand alone as an educational intervention for low-risk women, but should be used in combination with counseling for women at high risk.

Anthony Pegg, Ph.D., Evan Pugh Professor of Cellular and Molecular Physiology, and Pharmacology, and Kieu Luu, MD/PhD student, worked with scientists at The Scripps Research Institute, California, to solve the structure of a human protein called AGT that is known to interfere with the action of certain chemotherapy drugs. AGT repairs damaged DNA inside human cells. Cancer cells can use it to repair DNA that has been damaged in the course of chemotherapy, thus rendering the chemotherapy ineffective. The team’s findings, published in the journal Nature Structural & Molecular Biology, are already being used to develop inhibitors to AGT and improve cancer therapy effectiveness.

Gary Clawson, M.D., Ph.D., professor of pathology and biochemistry and molecular biology, and director of the Jake Gittlen Cancer Research Center, discovered the first molecular therapy to target cancer-causing components and thereby destroy a bona fide human papillomavirus (HPV) infection. The study, published in the Nature group journal Gene Therapy, suggests that targeting therapies to the RNA that encodes a specific pair of proteins in HPV may break a chain that, left unhindered, promotes cellular proliferation and, potentially, cervical cancer. Until this discovery, there had been no effective and specific molecular treatments reported for HPV infections, or for related papillomavirus infections.

Exercise is more influential than calcium intake in determining bone strength in young women. Although calcium intake is often cited as the most important factor for healthy bones, a series of investigations by Tom Lloyd, Ph.D., professor of health evaluation sciences, and colleagues has shown that exercise is really the predominant lifestyle determinant of bone strength in young women. Their most recent study was published in the Journal of Pediatrics. The Penn State team, in conjunction with colleagues at Johns Hopkins, is now able to measure bone strength, rather than relying on earlier technology that measured bone mass and bone mineral density.

Christopher C. Norbury, Ph.D., assistant professor of microbiology and immunology, and Keri Donohue, Ph.D. student, found new information about how viral proteins move between cells and alert the immune system that suggests that a double-punch approach to vaccine design would make them more effective. The study, published in Science, suggests a potentially important design principle for vaccines and challenges the prevailing theory used for vaccine design. Ultimately, the findings suggest that vaccines should target both pathways that generate T cells, which are our killer cells, to allow the most efficient protection against viruses.

Patients with diabetes whose glucose is continually monitored before, during, and after coronary artery bypass graft surgery do not incur higher medical costs despite the additional testing, reported Robert A. Gabbay, M.D., Ph.D., associate professor of medicine, in Endocrine Practice. Evidence suggests that sickness and death can be reduced among surgical patients with diabetes if patients’ glucose is
more tightly controlled before, during, and after surgery. Gabbay’s study shows that continuous insulin monitoring and involvement of an endocrinologist in the patients’ care do not increase the cost of treating a patient with diabetes undergoing coronary artery bypass graft surgery.

David P. Welliver, M.S., M.B.A., information technologist, and Kathleen G. Julian, M.D., infectious diseases fellow, partnered with Pennsylvania Department of Health researchers on a study of state health departments’ Web sites. The team found that better disease reporting information on those sites may help physicians more quickly and easily determine how, when, and where to report infectious diseases that may represent outbreaks or bioterrorism-related events. The study, which appeared in the Journal of the American Medical Association, offered the first assessment of the status of U.S. states’ and territories’ use of the Web to aid in infectious disease reporting.

Alan M. Adelman, M.D., M.S., professor and vice chair for academic affairs and research, Department of Family & Community Medicine, was principal investigator for the Prescription for Health project sponsored by the Robert Wood Johnson Foundation. The Penn State Ambulatory Research Network that Adelman directs was one of seventeen practice-based research networks nationwide selected to participate in this pilot project that examined how primary care physicians can promote health behaviors in primary care practice. A health coach supported patients in their efforts to improve health habits at four University Physician Group practices. Preliminary findings show that in six months patients made modest improvements in eating habits and physical activity. The project ended December 2004 and data analysis is ongoing.

Associate Deans Named

Four associate deans recently were appointed as part of an overall reorganization of research administration.

James Herman, M.D., M.S.P.H., who has served as associate dean for primary care for ten years, now adds primary care research to his responsibilities. As associate dean for primary care and primary care research, Herman, who is also Hershey Foods Corporation Professor and chair of the Department of Family and Community Medicine, will oversee and guide care delivery and primary care research efforts at Penn State Hershey Medical Center.

Alan Snyder, Ph.D., was named associate dean for technology development and will expand the Medical Center’s technology development capabilities, take discoveries to the marketplace, continue to build strategic partnerships, and bring needed attention to the region’s research infrastructure. Snyder has served as director of the Office of Technology Development at Penn State College of Medicine since 2002.

Michael F. Verderame, Ph.D., was appointed associate dean for graduate studies. In his role, Verderame, who is also an associate professor of medicine, and assistant professor of microbiology and immunology, will facilitate faculty efforts to both recruit the best possible students to graduate programs and help those students become the scientific leaders of tomorrow.

Sheila Vrana, Ph.D., was appointed associate dean for basic research. She will enhance the Medical Center’s efforts to support faculty and staff in their development and processing of grant proposals, and will oversee the efforts of the Office of Research Affairs, which is responsible for procurement and administration of grants and contracts, compliance, development of budgets, proposal review, award negotiation, and more.
### Penn State Milton S. Hershey Medical Center/College of Medicine Sponsored Awards Trend*

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### Penn State University Research Expenditures*

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</tr>
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### Penn State Milton S. Hershey Medical Center/College of Medicine 2004 Total Awards by Sponsor*

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Number of Awards</th>
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<tr>
<td>National Institutes of Health</td>
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<tr>
<td>Nonprofit</td>
<td>194</td>
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<tr>
<td>Industry</td>
<td>161</td>
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<td>State</td>
<td>41</td>
</tr>
<tr>
<td>Other Fed</td>
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(*$ in millions)
Mark Young, In Memorium

Mark Young, M.D., who from 1997 to 2003 served as the first chairman of the Department of Health Evaluation Sciences (HES) at Penn State College of Medicine, died April 24, 2004, at age 52.

Young left his position as chair in 2003 to assume greater responsibility at Lehigh Valley Hospital and Health Network (LVH) but continued to serve as the College of Medicine’s associate dean for education at LVH. At LVH, Young served in various posts including senior vice-president of community health and health studies, senior vice president for education and research, and Leonard Parker Pool Chair of Community Health & Health Studies.

“One of his special gifts was his ability to balance an intense passion for making medical care better with the gentle sensitivity he had for each and every individual patient,” said Darrell G. Kirch, M.D., Penn State’s senior vice president for health affairs, dean of the College of Medicine and chief executive officer of Penn State Hershey Medical Center. “He was a rare individual. As a chief resident at Michigan, he was always approachable. He looked out for us and he was there for us. He always made everybody feel like they were contributing to the mission. He was a selfless leader.”

~ Richard Simons, M.D.

“One of his greatest contributions to Penn State was the initiation of our masters program in HES designed for the clinical investigator,” Chinchilli said. “It has trained physicians in the methodology of research and given Penn State Hershey a real advantage in growing our clinical research programs. Mark was the driving force behind it.”

Richard Simons, M.D., interim vice dean for educational affairs at the College of Medicine, knew Young for more than twenty years. Young was chief medical resident when Simons was a resident at University of Michigan Hospital. He expressed disbelief and shock at news of Young’s death, but recalled him as an individual of exceptional quality.

“When I think of Mark Young I think of his smile, which reflected his genuine interest in serving others. He was a rare individual. As a chief resident at Michigan, he was always approachable. He looked out for us and he was there for us. He always made everybody feel like they were contributing to the mission. He was a selfless leader.”

~ Darrell G. Kirch, M.D.
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It is the people behind the research who really make the difference—people with hope, compassion and conviction. Researchers at our Penn State Milton S. Hershey Medical Center and College of Medicine understand the impact of disease. They have devoted themselves to looking for ways to bring relief to patients and their families.

Ian Zagon, Ph.D., and Jill Smith, M.D., are shining examples. Dr. Zagon started twenty years ago in the laboratory looking for a way to help people with cancer. He and Dr. Smith then developed his discovery into a therapy for people who suffer from pancreatic cancer. Although this disease is one of the most difficult cancers to treat, their studies are showing that the therapy significantly improves survival time and quality of life for patients. Despite being a mother, a busy physician and a skilled researcher, Dr. Smith has attended and played the music at some of her patients’ funerals. These researchers know and understand the struggles of patients with pancreatic cancer and their families, and their compassion motivates them to find the answers to a dreaded disease.

This report highlights only a few of our extraordinary scientists and their accomplishments. We are fortunate that, each year, we continue to add more of them to our team.

These same inspired people bring the message of care and compassion to our medical and graduate students and directly to our patients through medical care. They are defining the future of medicine one research study, one student and one patient at a time. People who, like all of us, want to make life better for others.

Darrell G. Kirch, M.D.
Senior Vice President for Health Affairs, Penn State University
Dean, Penn State College of Medicine
Chief Executive Officer, Penn State Milton S. Hershey Medical Center
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