

2000-2001



COLUMBIA UNIVERSITY COLLEGE OF PHYSICIANS & SURGEONS ANNUAL REPORT

**pursuing excellence**



Where is medical science going? How will the College of Physicians & Surgeons at Columbia University continue to provide leadership in reducing the burden of human disease? As revolutionary new tools and disciplines reshape the future of medical science, we are pursuing excellence with a new strategic plan that will shape our future as educators, scientists, and doctors. In this report, we look at the planning process that began this year and at the accomplishments of last year. Both effectively illustrate our core strengths—intellect, dedication, energy, and commitment to excellence—that will enable us to realize our new vision and ensure our pre-eminent role in the future of American medicine.

F O C U S I N G   O N   E X C E L L E N C E

A   L E T T E R   F R O M   T H E   D E A N



Last summer marked the beginning of an intensive strategic planning process for P&S and the other Health Sciences schools. At a time when academic medical centers are challenged by revolutionary developments in biomedical science as well as by changes in financing and public expectations, we have been working purposefully to identify our greatest opportunities and set priorities for future initiatives. The planning process addresses the major elements of our mission—research, education and patient care—as well as the space and facilities needed to support all three.

We have engaged a large number of faculty and key hospital personnel—over one hundred—in a joint effort to chart our future course. Committees met frequently, often on a weekly basis or in the evenings. Hundreds more have contributed to the process as consultants, presenters, and focus group participants. Thanks to their energy and dedication, we have made remarkable progress throughout the

year, despite the tragic events of September 11.

The World Trade Center attack stopped everything as all components of the university responded to the crisis. We can be proud of P&S faculty and students for their wonderful response both in the initial days—volunteering here at the hospital and downtown—and in the aftermath, providing blood, services, and counseling. Our community of psychiatrists continues to help individuals on the front line of the attack deal with the emotional strain of these events.

This crisis has sharpened our desire to pursue excellence and it has strengthened our resolve to be a special resource for the city and the country. We approach our planning efforts with a sense of obligation as well as opportunity.

Now, with some lost time, our four planning committees are nearing completion of the initial phase of our effort to formulate a coherent strategic plan for the Health Sciences.

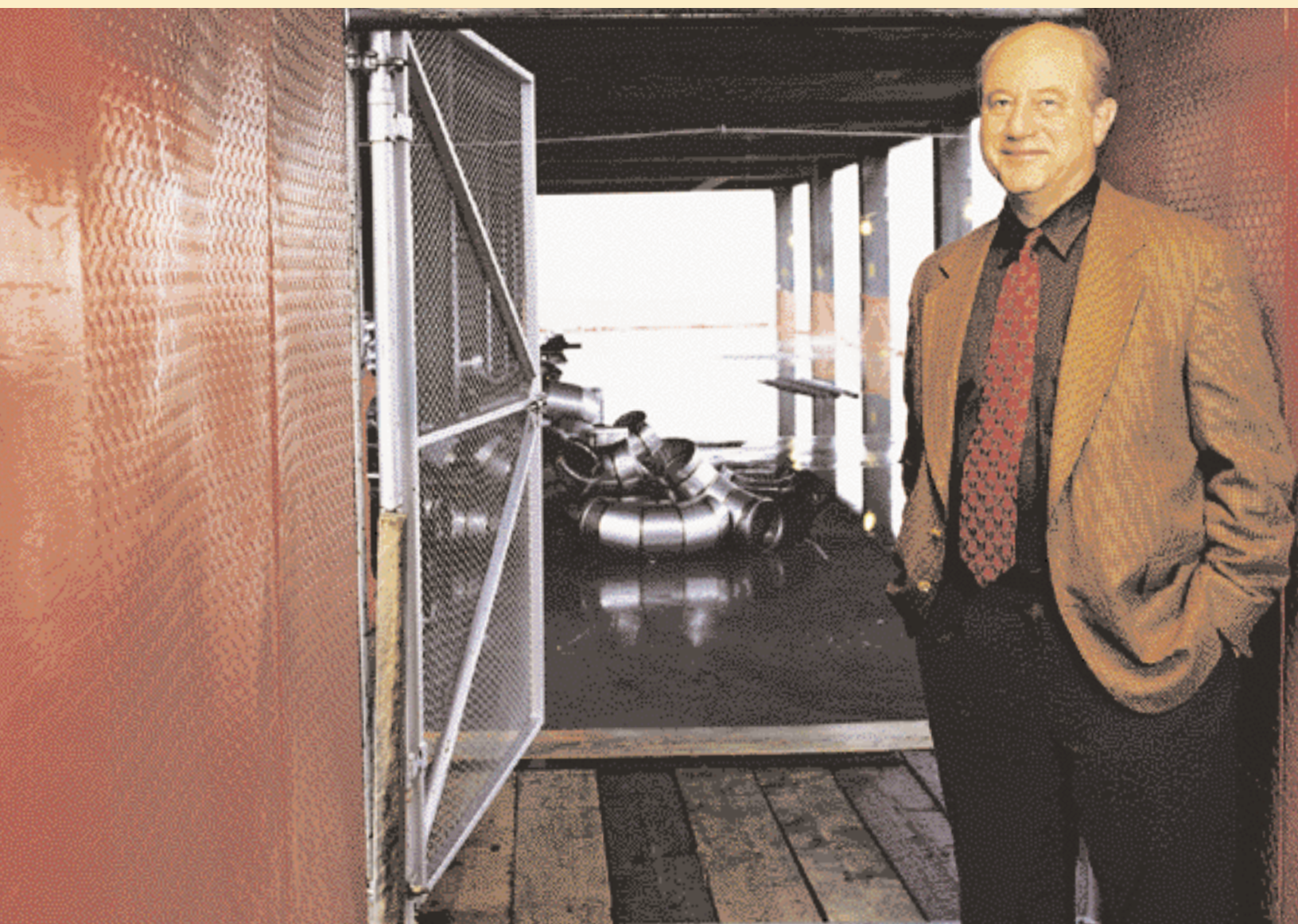
In the area of research, there is a clear need to break down the barriers imposed by departmental structures, especially in the areas separating the pre-clinical from the clinical departments. There is also a need to emphasize translational research designed to bring laboratory research to the point of clinical utility. In this, the Audubon Biomedical Science and Technology Park will play a major role. Already the planning process has led to the recruitment of a new Dean and Vice President of Translational Research, Dr. Harvey Colten, to focus on strategic research planning and on developing opportunities for biotechnology and industrial partnerships.

In education, we are focusing on science in medicine, specifically, how we can systematize the application of new scientific knowledge in the clinical practices of medicine, nursing, dentistry, and public health. There is a consensus about the need to find new and more meaningful ways to support

and honor the most outstanding educators on this campus. We also want to re-think medical education as a continuum that begins in the first year of medical school and continues through hospital training.

In patient care, our emphasis is on quality, on an atmosphere of caring, and on the delivery of care. We need to take advantage of the extraordinary recent innovations available in biomedical research and in information technology by applying them to patient care. We want to make the practice of medicine at Columbia Presbyterian Medical Center the highlight of each individual's career, whether as a student or as a practicing clinician. There is a strong recommendation to appoint a new Dean for Clinical Affairs to help realize these goals.

Of overarching concern to all groups engaged in the planning process is the need for space—not just more space, but better space. Addressing this issue has involved an intense, collaborative





planning effort with NewYork-Presbyterian Hospital, facilitated by a team of consultants, including the architecture and urban planning firm of Cooper, Robertson & Partners, the architectural firm of Rafael Vinoly Architects, and the real estate firm of Karen Backus, Inc. The outcome of this effort will lead to a master plan that should guide growth and development at Columbia Presbyterian Medical Center for the next generation.

Among the inspiring discoveries of this process is the fact that we have room to grow in a creative, imaginative way that will enhance all of our goals in research, education, and patient care. Our planners have identified about 3,000,000 square feet of buildable space within our dense urban environment! We can achieve our goals and create a beautiful and welcoming environment for the campus and the community by working together to raise the funds and spend them wisely.

It is gratifying that our collaboration is well

under way. In the very near future, we will have several options to place before the trustees, faculty, and students of both institutions.

Our planning effort has revealed not simply a series of problems and needs, but also the many great strengths of our institution. I am confident that we possess the intellect, the energy, and the fund-raising capacity to address the needs identified so far and others yet undiscovered. As we begin to move forward with this plan, Columbia University Health Sciences and NewYork-Presbyterian Hospital will be transformed.



GERALD D. FISCHBACH, M.D.

EXECUTIVE VICE PRESIDENT FOR HEALTH AND BIOMEDICAL SCIENCES AND  
DEAN OF THE FACULTIES OF HEALTH SCIENCES AND MEDICINE



The strategic planning process, which began last summer, is guided by commitment to leadership and excellence and by the belief that increased collaboration within and among individual schools, and with NewYork-Presbyterian Hospital and Columbia University, is necessary to achieve our goals. We are addressing the need to make a major investment, guided by careful consideration of strategic opportunities.

Committees addressing research, education, and patient care have followed different pathways to the same goal, which is to identify and discuss the major issues in a collegial but rigorous fashion and to make recommendations for the future in each of these areas of our mission.

What should education look like as a Health Sciences-wide enterprise? What specific curricular issues need to be addressed and what steps can we take to maintain our leadership in training the investigators and practitioners of the future? These are the questions being examined by the multi-disciplinary Education Committee, representing all of the Health Sciences schools under the leadership of Dr. Samuel Silverstein, chair of Physiology and Cellular Biophysics. The complexity of this task led the committee to conduct a series of focus groups involving faculty and students in all schools, at all levels of education. In addition to obtaining broad, representative input, this effort has helped to clarify what concerns are common to all schools and what should be addressed individually.

We have already found a considerable consensus on top issues in education, uppermost



among them the need for recognition and rewards for teaching—taking into account the many forms of teaching taking place both in and outside the classroom.

The feedback from these groups has underscored the desperate need for small and large classroom space equipped with the new communication technologies now available, and for study and social space for the more than 600 P&S students and 2500 Health Sciences students on the campus as a whole. And while most students and faculty are satisfied with the general approach of our curriculum, it will need updating to prepare P&S graduates for the advances of contemporary genetics and informatics and their applications in the clinical setting.

Improving care—from the perspectives of the patient, the health care team, and the institution as a leader in the field—has been the focus of the Patient Care Committee, led by Dr. Eric Rose, chair of Surgery. Its recommendations will address the culture in which we provide care, ways to attract and retain the best people, and the organization and systems required to promote our best efforts toward the common goal of ever-improving patient care. Also recommended is a definition of Quality in terms of superior outcomes and superior patient satisfaction—and the need to measure these in systematic ways.

The future of research and how it will be represented at Health Sciences 5, 10, 15 years from now is being explored by the Research Committee. Under the leadership of Dr. Thomas Jessell, professor of biochemistry and molecular recognition, the committee has heard presentations on 24 key research topics and developed recommendations as to areas that warrant substantial

additional investment based on the strength of current programs and future opportunities, and on areas that require additional strengthening. The group has also identified core research efforts such as chemical biology, genomics, and informatics that span multiple disciplines and include both original research and a provision to support other investigators and groups. Other kinds of crosscutting issues important to all research at the Health Sciences campus include the need to identify and support young investigators, the need to optimize internet and web-based information and resources, and the need not only for socializing space, but for a physical layout that facilitates collaboration and interaction.

In fact, [the quality and quantity of space has been a major issue for every planning committee. It affects how research is done, how teaching is done, and every aspect of the patient's experience.](#) Space is a critical factor in attracting the best faculty and students. This fundamental need has been addressed by a fourth group—an interdisciplinary team of university and hospital leadership in consultation with outside experts knowledgeable about the design and use of space for academic health centers. The team has surveyed current space and analyzed its suitability for various uses in view of needs for research, education, and patient care, as well as for office and residential purposes, and for social and professional interaction.


The scope of the space planning effort extends well beyond the specific needs of the Health Sciences schools. [The Columbia University Health Sciences campus is not a walled off fortress within an urban environment. This campus is an integral part of the community through which more than 15,000 visitors, patients, physicians, students, and campus personnel pass each day.](#) We are committed to improving the quality of life for all who work, study, or visit here.

The reports of these committees will no doubt stimulate lively discussion and generate initiatives that will shape the future of P&S and the entire Health Sciences campus. This is only a first step, however. [To realize our vision for leadership and excellence, we must set realistic priorities and raise the funds and other resources required to achieve them.](#)



## E D U C A T I O N

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Addressing the '01 graduating class he described as the “first post-genomic” generation, P&S Nobel Laureate Eric Kandel spoke about a new humanistic agenda made possible by the revolution in genomics and brain science. That was in May. In September, a short time after donning their white coats and taking the Hippocratic oath in the traditional White Coat Ceremony, the 154 members of the incoming class of '05 became the first “post 9-11” generation. Medical education today faces unprecedented challenges and opportunities. As new genetic and information technologies transform the practice of medicine and global currents bring formerly remote health issues close to home, we must prepare our students to use these new technologies and understand the issues. We must also prepare them for their future roles as **leaders.** 

P&S CONTINUES TO DRAW THE BEST MEDICAL SCHOOL APPLICANTS IN THE COUNTRY.

STUDENTS ARE PICTURED HERE AT THE CONSTRUCTION SITE OF THE IRVING CANCER RESEARCH CENTER, THE

THIRD BUILDING IN COLUMBIA'S AUDUBON BIOMEDICAL SCIENCE AND TECHNOLOGY PARK.



NUMBER OF STUDENTS ENROLLED AT P&S:

- M.D. PROGRAM - 625
- PH.D. PROGRAM, BASIC SCIENCES - 349
- M.D./PH.D. PROGRAM - 71
- OCCUPATIONAL THERAPY PROGRAM - 131
- PHYSICAL THERAPY PROGRAM - 97
- M.S. PROGRAM IN NUTRITION - 31



EDUCATION HIGHLIGHTS 2000 - 2001

Preparing tomorrow's physicians will require the novel strategies envisioned in our new academic plan, as well the continuing strengths on which the Columbia P&S tradition of excellence has been grounded for over 200 years—our bright and gifted students, our exceptional educators and scientists, and an extraordinary educational environment that is innovative and humanistic, diverse, and supportive.

**AN INNOVATIVE AND HUMANISTIC ENVIRONMENT**

Even as we develop our new, long-range educational vision, [our commitment to curriculum renewal and to innovation in teaching and learning is ongoing.](#)

The Center for Education Research and Evaluation (CERE) in the Department of Scholarly Resources collaborates with faculty in writing educational grants to support innovations and new programs in health science education. This successful collaboration has resulted in new funding to enhance the curriculum in fields of growing interest to medical practitioners. A grant from the NIH

has enabled P&S to implement a comprehensive clinical nutrition curriculum, and a grant from the Hartford Foundation has funded the development of a four-year longitudinal theme in gerontology and geriatrics designed to integrate seamlessly into the medical curriculum.

[Cultivating humanism and professionalism in medicine is an imperative, and P&S educators have broken new ground in addressing this issue.](#) Last year's unique Program for Narrative Medicine brought the prize-winning author Michael Ondaatje (*The English Patient*) to our campus as Writer-in-Residence for a series of seminars that employed the reading of poetry and fiction about medicine and illness to build empathy and understanding of the patient's perspective. This year, an educational trial, called The Parallel Chart: Developing Empathy, Reflection, and Courage in Physicians, gave randomly selected students an opportunity to get to know very ill and dying

NUMBER OF DEGREES AWARDED AT P&S:

- M.D. PROGRAM - 139
- PH.D. PROGRAM, BASIC SCIENCES - 51
- M.D./PH.D. PROGRAM - 10
- OCCUPATIONAL THERAPY PROGRAM - 44
- PHYSICAL THERAPY PROGRAM - 46
- M.S. PROGRAM IN NUTRITION - 21



DESPITE CHALLENGING ECONOMIC TIMES, THE P&S ENDOWMENT HELD STEADY LAST YEAR AT \$863 MILLION.

patients “off the chart,” and to create a narrative chart in addition to the standard medical charts. Initial results of an evaluation by faculty (who didn’t know which students participated) rated the Parallel Chart students more effective in their overall patient interactions than those students who only wrote the standard charts.

The push to accelerate the translation of research to therapeutics is stronger than ever, and last year the Doris Duke Foundation awarded P&S funding to join its unique, multi-school Clinical Research Fellowship program. The program enables students to take a year off between their third and fourth years to concentrate on clinical research. With nine Doris Duke Fellows, the P&S program is the largest among participating schools. Four students are funded by the grant. Five additional students receive funding from Columbia P&S, including a commitment to support a student from a traditionally African-American medical school.

Curricular innovation at P&S is matched by didactic innovation as new information and computer technologies are applied to support teaching and learning. A large lecture hall has been transformed into a more interactive learning experience with a new technology called the “Audience Response System.” Equipped with mouse-pads and wireless units, students respond individually to questions posed by the lecturer and then see group results on the lecture screen.

Student reaction was equally positive toward other innovative interactive technologies, including the online Heart Simulator, developed by two P&S associate professors in partnership with Columbia’s Center for New Media Technology. The Heart Simulator enables students to perform exercises and experiments and learn about the heart’s mechanics in a “hands-on” way that would otherwise be impossible. An interactive, multimedia program on the eye orbit introduced last year is one of many visually





P&S AND ITS  
AFFILIATES  
COUNTED AMONG  
ITS FACULTY 1,927  
FULL-TIME AND  
3,668 PART-TIME  
MEMBERS.



THERE WERE 3,013  
APPLICANTS FOR 152  
SPACES IN THIS  
YEAR'S ENTERING  
CLASS OF 2005.

## EDUCATION HIGHLIGHTS 2000 - 2001

stunning creations developed by the Curriculum Design Studio in the Office of Scholarly Resources to help students learn human anatomy with the click of a mouse instead of cutting a cadaver. With programs like these that enhance—not replace—traditional methods, P&S is at the forefront with modern teaching technologies, helping students and teachers cope with the rapidly proliferating volume of scientific knowledge.

### A DIVERSE AND SUPPORTIVE ENVIRONMENT

A multi-cultural experience is an integral part of the learning experience at Columbia P&S, as the vibrantly diverse community in which the campus is located not only surrounds but permeates campus life.

The connection P&S students feel to our neighbors in Washington Heights was given powerful emotional expression when the Dominican community was devastated by the crash of Flight 587 from JFK Airport en route to the Dominican Republic. Many students joined Columbia Health Sciences

employees in a candlelight vigil in memory of the victims who lived and worked in the neighborhood. The march was led by members of Cultura, a P&S Club committed to making Columbia medical students better caregivers through meaningful cultural exchanges with local Dominican families, medical Spanish classes, and weekly luncheons for Spanish language practice.

Extra-curricular opportunities for neighborhood involvement abound—from Community Health Education, which uses skits to teach local teens about HIV, drug abuse and other health topics, to the P&S Children's Players, who entertain pediatrics wards. Clinical practice opportunities are rich and varied. From their first year, students are exposed to community-based public health clinics, and new opportunities have been added to the more than 300 electives available in year four.

P&S and Columbia's Mailman School of Public Health received funding this year from the New



THERE ARE 109 ENDOWED CHAIRS IN THE HEALTH SCIENCES, NINE MORE THAN COLUMBIA'S GOAL FOR 2003. OF THESE, 95 ARE P&S CHAIRS.

2,848 ALUMNI CONTRIBUTED 3,959 GIFTS TOTALING MORE THAN \$5,000,000.

P&S HAS BEEN CONSISTENTLY RANKED AMONG THE TOP MEDICAL SCHOOLS IN THE COUNTRY.

York State Department of Health to establish an interdisciplinary training program in community and school health with a focus on the adolescent patient. Though Columbia has had a long-standing affiliation with an extensive school-based clinic program for students in six middle and high schools in the community, the new grant will support the development of supervised clinical experiences for medical students and residents.


This philosophy—that the better we understand our patients' cultural context, the better we can care for them—also finds expression in our commitment to building strong minority representation among our students.

P&S has been active in developing innovative programs to expand our pool of applicants from under-represented minorities. This past summer, P&S became one of eleven academic medical center sites for the Minority Medical Education Program (MMEP) funded by the Robert Wood Johnson

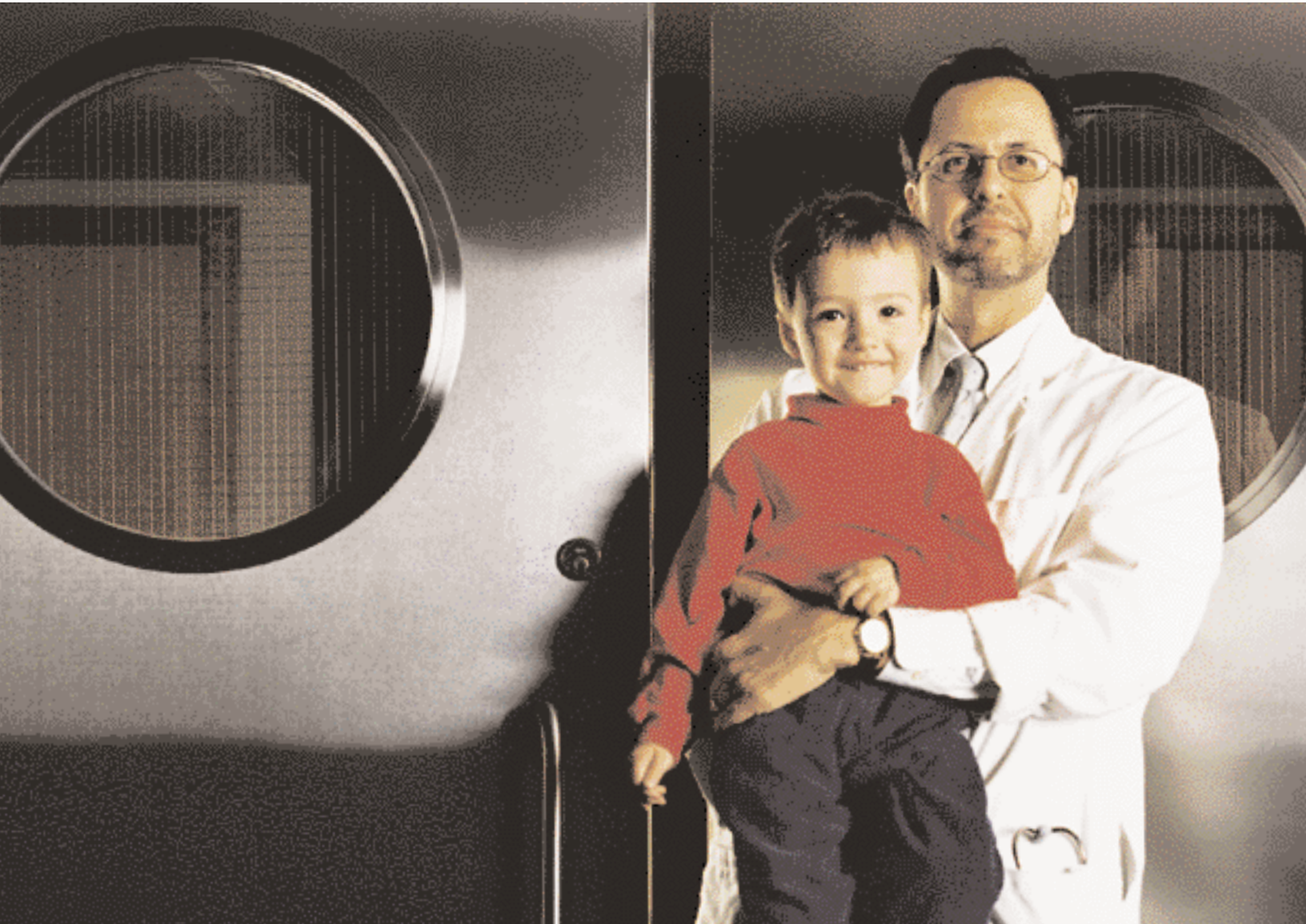
Foundation and coordinated by the Association of American Medical Colleges. One hundred minority students—selected from over 600 applicants from 62 colleges and universities across the country—were invited to this remarkable campus for six weeks of intensive learning, guidance, and mentoring. The program at P&S was distinguished from other MMEP programs in that it offered a real slice of the first-year curriculum with a biomedical science course followed by an experience in clinical medicine. This outstanding program—through which students gain confidence, knowledge, and skills that will help them succeed—is funded for the next four summers.

## PATIENT CARE

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For the tiny newborn and the centenarian, through primary care and complex cardiovascular surgery, through the tradition of compassion and cutting-edge innovation, for our local community and the human community—Columbia P&S is pursuing excellence in patient care. Our determination is unwavering, our caring is deep, and our ingenuity is prodigious. It has to be. We face scourges that have plagued humankind for millennia, and newly emerging diseases and threats. We are challenged by the finite limits of space, time and economy, and inspired by the infinite possibilities of new medical discoveries and of the human mind and spirit. 

† CAMERON DRAYTON, AGE 6, HAD A CONGENITAL DEFECT IN HIS HEART SURGICALLY REPAIRED TWO YEARS AGO AT THE PEDIATRIC CARDIOLOGY SURGERY CENTER AT COLUMBIA PRESBYTERIAN MEDICAL CENTER. CAMERON IS SHOWN HERE WITH HIS DOCTOR, DAVID SOLOWIEJCZYK, P&S ASSOCIATE PROFESSOR OF PEDIATRICS.





COLUMBIA PHYSICIANS CARED FOR OVER 50,000 INPATIENTS AND PROVIDED ROUGHLY ONE MILLION OUT-PATIENT VISITS.

## PATIENT CARE HIGHLIGHTS 2000-2001

The strength of the human spirit and of our commitment to our city and community were very much in evidence during and after the tragic events of September 11. Literally hundreds of doctors and nurses reported to the emergency department to offer their services. Faculty and students from all the Health Sciences—nursing, medicine, dentistry, and public health—joined the relief effort, providing post-traumatic psychiatric counseling, helping to set up temporary medical facilities, and later, using forensic skills to identify victims. Some P&S students spent days at Ground Zero, others volunteered in the neighborhood, while others raised money from the Health Sciences community in the days following the disaster, funds that were matched by P&S.

When disaster struck again, this time in our own Washington Heights Dominican community, Columbia Presbyterian Medical Center again responded by actively reaching out to the family members and friends of those killed in the American

Airlines Flight 587 crash en route to Santa Domingo. Free grief counseling was made available, and, since there is a greater risk for heart problems after a disaster, free heart screenings were also offered.

**EXCELLENCE IN OUR COMMUNITY** Though brought about by extraordinary circumstances, these responses were but another expression of the community commitment that is an everyday reality at P&S, and in the Health Sciences as a whole. The CPMC Neighborhood Fund, for instance, asks all medical center employees to donate a small portion of their paychecks to help local non-profit groups provide needed care and services to our neighbors.

Many programs provide medical care to the community's children. The Division of General Pediatrics in the Department of Pediatrics has a long-standing commitment to work with children and families in our community. The Northern Manhattan Immunization Partnership, for example, develops innovative ways to raise the immunization levels of children under two.



IN 1911, THE COLLEGE OF PHYSICIANS & SURGEONS BEGAN ITS COLLABORATION WITH PRESBYTERIAN HOSPITAL. IN 1928, THE TWO INSTITUTIONS FORMED THE FIRST ACADEMIC MEDICAL CENTER IN THE COUNTRY, COMBINING MEDICAL EDUCATION, RESEARCH, AND PATIENT CARE. P&S CONTINUES THIS RELATIONSHIP AT COLUMBIA PRESBYTERIAN MEDICAL CENTER WITH NEWYORK-PRESBYTERIAN HOSPITAL.



LAST YEAR, THE FACULTY PRACTICE AT COLUMBIA P&S INCLUDED 935 FULL-TIME FACULTY PHYSICIANS IN 18 CLINICAL DEPARTMENTS.

The Pediatric Pulmonary Division has been active in leading a collaborative NIH-supported project to improve the health of schoolchildren with asthma by training community physicians about state-of-the-art asthma care. [At Harlem Hospital, where P&S provides all patient-related services, the Pediatric Injury Prevention Program has helped reduce major injuries for children by 50 percent since its founding.](#) The remarkable success of this program and of the national coalition formed by the program's founder resulted this year in the awarding of a \$15 million grant to expand the program to 40 cities nationwide.

[In 2001, P&S faculty at Columbia Presbyterian Medical Center were again among the most highly ranked physicians in the country.](#) The Heart Transplant Program is the country's largest, with surgeons known for their pioneering work in the development of partial artificial hearts and minimally invasive surgery. The Neuroscience Department is consistently ranked in the nation's top four, and the Neurological

Institute treats the largest caseload of strokes worldwide. From cancer care at the Herbert Irving Comprehensive Cancer Center to liver transplantation at the Center for Liver Disease and Transplantation, we have implemented a new, interdisciplinary model of patient care, enabling us to address complex problems and achieve the best outcomes while patients benefit from the convenience of one-stop care.

[Exceptional pediatric care has been a long tradition at Columbia Presbyterian](#) where the Babies and Children's Hospital dates back to 1887. In November, ground was broken for the new Morgan Stanley Children's Hospital of New York. The nine-story, 250,000-square-foot facility will be at the forefront in technology and patient care and will be home to one of the largest and most preeminent pediatric cardiology and cardiac surgery centers in the nation.

**EXCELLENCE IN THE CITY AND REGION** Through our affiliates, through our regional network of hospitals, through medical service agreements, and



**P&S AFFILIATED HOSPITALS:**

HARLEM HOSPITAL, NEW YORK, NY  
MANHATTAN EYE, EAR AND THROAT HOSPITAL, NEW YORK, NY  
MARY IMOGENE BASSETT HOSPITAL, COOPERSTOWN, NY  
NEW YORK STATE PSYCHIATRIC INSTITUTE  
ST. LUKE'S-ROOSEVELT HOSPITAL CENTER, NEW YORK, NY

PATIENT CARE HIGHLIGHTS 2000-2001

through our faculty practice, we are widening initiatives to promote excellence in patient care.

To improve access to various medical specialties in the region, we are actively expanding our Medical Service Agreements. Columbia faculty physicians now provide care at more than 35 other institutions throughout the New York metropolitan region. From neonatal care to heart failure to pediatric surgery, we provide specialized care to the region that might otherwise be prohibitively expensive on a local level. We are working on a new Medical Service Agreement in Pediatric Cardiology with the Robert Wood Johnson Medical School, taking the spirit of regional collaboration to a new level, and have agreements in place with the University of Medicine and Dentistry of New Jersey and the State University of New York at Stony Brook.

All of these initiatives build on the foundation of excellence established in the College of Physicians and Surgeons' teaching hospital affiliations, which include

NewYork-Presbyterian, St. Luke's-Roosevelt, Bassett Healthcare in Cooperstown, and Harlem Hospital Center. Each of these teaching centers has fully accredited residency programs and attending staffs that hold faculty appointments at Columbia University.

Columbia P&S has one of the largest faculty practices in the nation and brings exceptional medical care to our community, while providing clinical researchers with access to an abundantly diverse population. Last year, 935 full-time faculty physicians in 18 clinical departments provided care for over 50,000 inpatients and made approximately one million outpatient visits.

Though the managed care environment is a continuing challenge, the practice has grown vigorously. Some of this growth is attributable to various operational initiatives, like a program to improve operating room efficiency, and administrative improvements. The Faculty Practice Organization was established



**P&S/COLUMBIA PRESBYTERIAN AFFILIATED HOSPITALS:**

CORNWALL HOSPITAL, CORNWALL, NY  
HELEN HAYES HOSPITAL, WEST HAVERSTRAW, NY  
HOLY NAME HOSPITAL, TEANECK, NJ  
HORTON MEMORIAL HOSPITAL, MIDDLETOWN, NY  
LAWRENCE HOSPITAL, BRONXVILLE, NY  
NEW MILFORD HOSPITAL, NEW MILFORD, CT.  
NEW YORK COLLEGE OF PODIATRIC MEDICINE  
AND THE FOOT CLINICS, NEW YORK, NY

**P&S/COLUMBIA PRESBYTERIAN AFFILIATED HOSPITALS:**

NYACK HOSPITAL, NYACK, NY  
PALISADES HOSPITAL, PALISADES NJ  
ST. LUKE'S/NEWBURGH, NEWBURGH NY  
ST. MARY'S HOSPITAL FOR CHILDREN, BAYSIDE, NY  
ST. VINCENT'S HOSPITAL, BRIDGEPORT, CT  
STAMFORD HOSPITAL, STAMFORD, CT  
VALLEY HOSPITAL, RIDGEWOOD, NJ  
WHITE PLAINS HOSPITAL CENTER, WHITE PLAINS, NY

and organized in 1998 to create a flexible, responsive, and competitive physician organization that supports and facilitates faculty clinician practices, enabling the delivery of the highest quality patient care and enhancing the mission of the medical center.

**INTERNATIONAL INITIATIVES** P&S has a long history of international outreach, ranging from collaborative teaching and research activities initiated by individuals, institutions, and centers, to individual faculty humanitarian initiatives, to formal exchange programs with medical schools throughout the world.

Last year, the number of international hospital affiliations rose from 11 to 14. These global affiliations enable P&S students to study and train in culturally diverse environments. Last year, 55 fourth year students spent time overseas and 44 foreign students came to our campus, a significant increase from previous years.

The BG-CU Program in International Health and Medicine, an innovative collaboration between

Columbia P&S and Ben Gurion University of the Negev, aims to create a new kind of M.D. degree experience. The curriculum encompasses such subjects as humanitarian emergencies and relief medicine, refugee health, and preventive medicine for diverse populations. These subjects are also a focus of the P&S Club's vigorous International Health Organization, a student-driven initiative to increase student interest in international health and to improve access to information on international electives.

This year, as we develop our ambitious strategic plan, we are building on the excellence of our faculty practice, our medical center, our affiliates, and our international programs.

## RESEARCH

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Even as our strategic planning committee for research identifies themes with high potential for development, there is little debate about the critical importance of non-invasive imaging, informatics and computational biology, genomics and proteomics. These revolutionary cross-cutting technologies impact every area of medicine and biomedical research, and strength in each will be a prerequisite to overall excellence in the very near future. This year, several exciting developments at Columbia demonstrate how the strengths of our current resources in these crucial interdisciplinary sciences are paving the way for the next wave of growth.

┆ DORIS DUKE CLINICAL RESEARCH SCHOLARS POSTPONE THEIR FOURTH YEAR OF MEDICAL SCHOOL TO DO A FULL-TIME RESEARCH APPRENTICESHIP. THIS YEAR, P&S HOSTED NINE DORIS DUKE SCHOLARS. FIVE ARE PICTURED HERE WITH PROGRAM DIRECTOR DR. DONALD LANDRY IN THE NEWLY EXPANDED HATCH NMR RESEARCH CENTER IN THE BASEMENT OF THE NEUROLOGICAL INSTITUTE.





DR. ERIC KANDEL, UNIVERSITY PROFESSOR OF PHYSIOLOGY AND CELL BIOPHYSICS, PSYCHIATRY, BIOCHEMISTRY AND MOLECULAR BIOPHYSICS, SHARED THE 2000 NOBEL PRIZE FOR MEDICINE FOR HIS CONTRIBUTION TO NEUROSCIENCE. KANDEL'S WORK WITH THE SEA SLUG APLYSIA SHOWED FUNDAMENTAL WAYS IN WHICH NERVE CELLS ALTER THEIR RESPONSIVENESS TO CHEMICAL SIGNALS TO PRODUCE A COORDINATED CHANGE IN BEHAVIOR.

THE RISK OF DEVELOPING ALZHEIMER'S DISEASE IS ELLEVATED IN AFRICAN-AMERICANS AND CARIBBEAN HISPANICS COMPARED TO CAUCASIANS LIVING IN NORTHERN MANHATTAN, ACCORDING TO A STUDY BY DR. RICHARD MAYEUX, GERTRUDE H. SERGIEVSKY PROFESSOR OF NEUROLOGY AND PSYCHIATRY AND CO-DIRECTOR OF THE TAUB INSTITUTE, AND COLLEAGUES.

## RESEARCH HIGHLIGHTS 2000 - 2001

**CROSS-CUTTING DISCIPLINES** Columbia P&S has consistently made substantial investments and advances in state-of-the-art imaging technologies. The Kreitchman PET Center, established in 1994 and widely viewed as an innovative combined research and clinical center, is home to a cyclotron facility and to a comprehensive PET (positron emission tomography) facility. At the site of the Hatch NMR Research Center, a major, \$10 million expansion is in progress, creating a 12,000-square-foot magnetic resonance imaging (MRI) and functional MRI (fMRI) research and teaching center for the Radiology and Biomedical Engineering Departments.

This considerable momentum has now been immeasurably enhanced by an \$11 million grant from NYSTAR (New York State Office of Science, Technology and Academic Research) to establish the Integrated Imaging Center at Columbia University. The NYSTAR Center will focus on high resolution imaging of functional neural circuits under normal

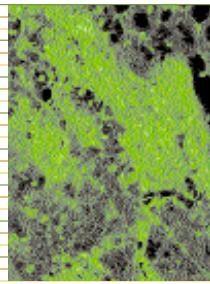
and abnormal conditions, in both health and disease.

Columbia P&S has an outstanding record of commitment to research in the neurosciences, psychiatry and radiology. The new center will combine major new technologies for brain imaging with our strengths in psychiatry and radiology to create new diagnostic and therapeutic tools, drugs, and therapies for treating major neurological and psychiatric diseases such as Alzheimer's disease, Parkinson's disease, and schizophrenia.

The NYSTAR grant will enable Columbia P&S to expand its current resources with cutting-edge equipment, including an additional cyclotron, two PET radiopharmaceutical laboratories, and two 2-photon microscopes. The research that will be conducted at this center will cement Columbia's reputation as a world leader in neuroscience research as new discoveries create improvements in health, savings in health care costs, and economic growth for New York's growing biomedical industry.



BY MAKING ITS PARTS EXCESSIVELY STICKY, NNRTI'S, A POTENT CLASS OF ANTI-AIDS MEDICATIONS, DISRUPT THE ACTION OF AN IMPORTANT CATALYST THAT HELPS THE HIV VIRUS REPLICATE, ACCORDING TO DR. STEPHEN P. GOFF, HIGGINS PROFESSOR OF BIOCHEMISTRY AND MOLECULAR BIOPHYSICS AND PROFESSOR OF MICROBIOLOGY.



DR. IOANNIS DRAGATIS, RESEARCH SCIENTIST IN GENETICS AND DEVELOPMENT, AND DR. SCOTT ZEITLIN, ASSISTANT PROFESSOR OF CLINICAL PATHOLOGY, FOUND THAT INACTIVATING THE GENE THAT CAUSES HUNTINGTON'S DISEASE LEADS TO NERVE CELL DEGENERATION AND STERILITY IN MICE AND MAY NOT BE A VIABLE THERAPEUTIC OPTION FOR THE DISEASE.

DR. SCOTT SMALL, IRVING ASSISTANT PROFESSOR OF NEUROLOGY IN THE SERGIEVSKY CENTER, HAS INTRODUCED A NOVEL FMRI APPROACH THAT IDENTIFIES THE ANATOMICAL SOURCE OF MEMORY IMPAIRMENT BY PINPOINTING DYSFUNCTION WITHIN THE HIPPOCAMPUS.

Another area where our present strengths provide the fuel to carry us to the next level is in the explosively growing science of informatics—a field that reaches across the broad spectrum of biomedical sciences.

The presence at Columbia of an unusually large and interdisciplinary informatics faculty—in biochemistry and molecular biology, pharmaceutical and medical informatics, biological informatics, electrical engineering and applied math—speaks to our commitment to leadership in this field. The importance of collaborative efforts is recognized and now supported by a planning grant to establish a Computational Biology and Bio-Informatics Center. The new grant, one of 10 from the NIH intended to promote centers of excellence, will facilitate collaborative interdepartmental and inter-campus research, coordinate seminars, and provide training for the next generation of scientists through the development of a graduate degree program.

Another collaborative effort brings Columbia sci-

entists to the new frontier in genetic sequence research. An interdisciplinary team of nine faculty members from both the Health Sciences and Morningside Heights campuses, under the leadership of University Professor Wayne A. Hendrickson, are joining the Northeast Structural Genomics Consortium. They will be part of a five-year, \$150 million government-sponsored initiative to study the structure and function of thousands of proteins in the human body. Mining the genetic sequence should lead to new disease prevention and treatment strategies.

As the massive effort to turn gene data into useful information moves into this next challenging phase, we are building on our strengths in the four areas of research needed to translate theory into application: informatics, tissue culture models, animal models, and our exceptional clinical research capabilities.

**CLINICAL** Last year, the *New England Journal of Medicine* reported on a landmark clinical trial that showed implanted heart pumps can lengthen and

GENETICS PROFESSOR VIRGINIA E. PAPAIOANNOU AND GRADUATE STUDENT LOYDIE A. JEROME UNCOVERED THE GENETIC BASIS OF DIGEORGE SYNDROME, A COMMON DEVELOPMENTAL DISORDER THAT PRODUCES FACIAL DEFORMITIES, HEART DEFECTS, AND GLANDULAR PROBLEMS.

AN INTERNATIONAL GROUP OF RESEARCHERS, CHAIRED BY DR. RICHARD J. GRALLA, PROFESSOR OF MEDICINE AND ASSOCIATE DIRECTOR AT THE HERBERT IRVING COMPREHENSIVE CANCER CENTER, IS DEVELOPING NEEDED GUIDELINES FOR THE USE OF MEDICATIONS IN ALLEVIATING THE SIDE EFFECTS OF CANCER TREATMENTS.

DR. JANE H. MORSE, PROFESSOR EMERITUS OF CLINICAL MEDICINE, AND DR. JAMES A. KNOWLES, ASSISTANT PROFESSOR OF PSYCHIATRY WITH THE COLUMBIA GENOME CENTER, HAVE UNCOVERED THE GENE RESPONSIBLE FOR PRIMARY PULMONARY HYPERTENSION, A LIFE-THREATENING DISEASE THAT RESULTS FROM THE BLOCKAGE OF BLOOD VESSELS IN THE LUNGS.

## RESEARCH HIGHLIGHTS 2000 - 2001

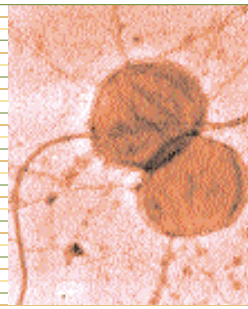
improve lives of terminally ill heart failure patients. That same issue of the publication reported that an eight-year, government-sponsored clinical trial found no difference between aspirin and a blood-thinning drug in preventing stroke recurrence in ischemic stroke patients. What these vastly different trials—reported back-to-back in one of the most prestigious medical publications—had in common was that the principal investigator in each case was from Columbia P&S.

Outstanding intellectual capabilities and facilities, real partnerships between research and clinical faculty, the application of the most exacting academic and ethical standards, and cost effectiveness in administering even the most complex, multi-site trials—these are the hallmarks of clinical trials at Columbia Presbyterian. In just 10 years since its inception, the innovative Office of Clinical Trials has become a model widely emulated in the United States and abroad. Under its management, the Clinical Trials Network (CTN), a research organization formed by

Columbia University, Cornell University, and NewYork-Presbyterian Hospital and Health-Care System, has rapidly grown to 57 sites, 190 investigators, a network of 15,000 excellent physicians, and a rich diversity of patients. Last year, the Office of Clinical Trials had 66 NIH agreements and 118 industry agreements valued at over \$37 million—a remarkable success for investigators, physicians, sponsors, and the patients who benefit from access to cutting-edge therapies.

The Office of Clinical Trial's efforts to foster excellence in clinical research are multi-faceted. Revenue from trials is re-invested in research and faculty recruitment. In order to directly nurture and stimulate our gifted faculty, the Office of Clinical Trials grants New Investigator Pilot Awards—eight \$50,000 awards each year—to new investigators on the basis of scientific merit and need. This funding enables the investigators to collect the preliminary information required to test their hypotheses. To date,

THE DRUG CARVEDILOL DECREASES THE RISK OF DEATH FROM SEVERE HEART FAILURE BY 35 PERCENT, ACCORDING TO A STUDY LED BY PROFESSOR OF MEDICINE DR. MILTON PACKER. IN A DIFFERENT STUDY, DR. PACKER IDENTIFIED CARVEDILOL AS THE FIRST HEART FAILURE MEDICATION TO WORK AS WELL IN BLACKS AS IN OTHER ETHNIC GROUPS.



COLUMBIA RESEARCHERS, LED BY DR. DAVID FIGURSKI, PROFESSOR OF MICROBIOLOGY, HAVE FOUND SEVEN "STICKY" GENES IN BACTERIA THAT HELP THEM ADHERE TO SURFACES—A TRAIT THAT MAY ENABLE THE BACTERIA TO INVADE NEW TERRITORY, FORM COLONIES, AND CAUSE DISEASE. UNDERSTANDING THIS MOLECULAR MECHANISM MAY LEAD TO NEW THERAPEUTIC APPROACHES IN COMBATING OR PREVENTING BACTERIAL INFECTION.

100 investigators have received a total of \$5 million of this critical support.

Uniting the resources needed to transform theory into practice and hope into cure is the ultimate goal and challenge of the Office of Clinical Trials.

**TRANSLATIONAL** The ability to translate scientific innovation from the laboratory to therapeutic and diagnostic applications is increasingly a measure of an institution's excellence. While new and even more expansive strategies are envisioned in our planning process, Columbia P&S has already demonstrated leadership in making scientific breakthroughs available to the world.

A pivotal role has been played by Columbia Innovation Enterprises (CIE). Formed in 1982 as one of the first university technology transfer offices, CIE was reorganized and renamed Science and Technology Ventures (STV) last year. STV identifies, evaluates, protects, and licenses Columbia's intellectual property, and works to increase private sector funding for

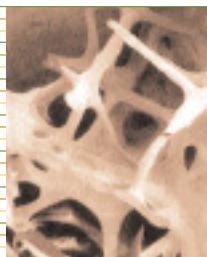
research and encourages technology transfer to improve the health and well-being of humankind. Genetic therapies for skin and hair disorders...new treatments for heart arrhythmias...development of green fluorescent proteins for use as biological markers in pharmaceutical drug discovery processes...the role of macrophage cells in the artery-clogging disease, atherosclerosis...these are just a few of the examples of today's research at Columbia that may become tomorrow's beneficial products for the world.

In 2001, STV reported 102 active research agreements and 145 active licensing agreements for the Columbia divisions it represents, and has contributed technologies to over 40 start-up companies. With more than \$1 billion in revenues since 1982, STV leads all U.S. universities in generating technology transfer revenues—revenue that is reinvested in Columbia's diverse research efforts and fuels new discoveries.

Working closely with STV in a natural merger of interests is Columbia's Center for Advanced



THE NUTRITIONAL SUPPLEMENT COENZYME Q10 (COQ10) HOLDS PROMISE FOR PEOPLE WHO SUFFER FROM ATAXIA, A NEUROLOGICAL DISORDER AFFECTING COORDINATION AND BALANCE, ACCORDING TO RESEARCH BY DR. SALVATORE DIMAURO, THE LUCY G. MOSES PROFESSOR OF NEUROLOGY.



AMID A GROWING CHILDHOOD OBESITY EPIDEMIC, A NEW COLUMBIA STUDY SUGGESTS OBESITY MAY INCREASE SOME CHILDREN'S RISK OF DEVELOPING OSTEOPOROSIS. THE STUDY, HEADED BY DR. MARY HORLICK, ASSISTANT PROFESSOR OF PEDIATRICS, FOUND THAT NON-FAT BODY TISSUE HELPS INCREASE BONE MINERAL CONTENT—THE LACK OF WHICH DURING CHILDHOOD AND ADOLESCENCE IS A MAJOR RISK FACTOR FOR OSTEOPOROSIS.

## RESEARCH HIGHLIGHTS 2000-2001

Information Management, one of New York state's 15 Centers for Advanced Technology (CAT). Each CAT is a center of excellence with a specific technology focus. At Columbia, the focus is on developing cutting-edge information management technologies to serve real world clients, expand knowledge, and contribute to New York state's economy.

CAT's Medical Informatics researchers at Columbia P&S are currently working on projects that sound like science fiction, but are, in fact, on the verge of commercial development. Among them is a wearable computer aimed at increasing the flow of information between patient and physician to reduce medical errors. Natural Language Processing—computer systems that scan text and apply intelligence to extract valuable information for users—is generating tremendous excitement. Variations of MedLEE, a medical language processing system developed at Columbia, are being used in trials to extract and encode narrative incident reports from emergency

medical work and from physician "visit notes" for easier access by health care professionals and enhanced patient care. In both cases, licensing options are already in place with industry sponsors who can make these technologies widely available for improved patient care.

Support for one of CAT's medical informatics research projects by a small telemedicine company in our biotechnology incubator—Audubon Biomedical Science and Technology Park—is just one example of the productive synergies flourishing as a result of Columbia's strong commitment to fostering academic and commercial research and development.

The first completed building of the five envisioned in the Audubon Park—the 100,000-square-foot Mary Woodard Lasker Biomedical Research Building, built in 1995—is fully occupied with a record 19 biotechnology start-up companies. Also 100 percent occupied is the 175,000-square-foot Russ Berrie Medical Science Pavilion that houses the

DR. JAY. P. MOHR, SCIARRA PROFESSOR OF NEUROLOGY IN NEUROLOGICAL SURGERY, FOUND THAT THE BLOOD THINNER WARFARIN OFFERED NO BENEFIT OVER ASPIRIN IN PREVENTING STROKE RECURRENCE OR DEATH IN PATIENTS WITH NON-CARDIOEMBOLIC STROKE.

A TEAM OF RESEARCHERS, LED BY DR. JAMES GOLDMAN, PROFESSOR OF PATHOLOGY, HAS PINPOINTED THE GENE WHOSE MUTATION CAUSES ALEXANDER DISEASE, A RARE AND FATAL CHILDHOOD BRAIN DISORDER THAT DEVASTATES THE NERVOUS SYSTEM AND KILLS MOST VICTIMS BY AGE 6.

DR. SILVIU ITESCU, INSTRUCTOR IN CLINICAL MEDICINE AND DIRECTOR OF TRANSPLANTATION IMMUNOLOGY, HAS IDENTIFIED A PROMISING TYPE OF STEM CELL, PRESENT IN ADULT HUMAN BONE MARROW AND CAPABLE OF BLOOD VESSEL DEVELOPMENT, THAT COULD BE INSTRUMENTAL IN RESTORING HEART FUNCTION IN HEART ATTACK PATIENTS.

Naomi Berrie Diabetes Center and the Judith P. Sulzberger Columbia Genome Center.

The recent “topping out” ceremony for the Irving Cancer Research Center marked the structural completion of the third Audubon building, where basic scientists and clinicians working on cancer, genetics, genomics, and immunology will come together in one state-of-the-art, 300,000-square-foot facility. Plans are already under way for the fourth building, which will provide much needed commercial space on the New York City-owned site adjacent to the Audubon Business and Technology Center.

#### RESEARCH HIGHLIGHTS 2000-2001 (CONT.)

DR. DAVID J. BRENNER, PROFESSOR OF RADIATION ONCOLOGY, AND DR. ERIC J. HALL, HIGGINS PROFESSOR OF RADIATION ONCOLOGY AND DIRECTOR OF THE CENTER FOR RADIOLOGICAL RESEARCH, HAVE PUBLISHED THE FIRST REALISTIC ESTIMATES OF THE RADIATION RISKS INVOLVED IN PEDIATRIC CT (“CAT”) SCANNING, PROMPTING A NATIONWIDE RECONSIDERATION OF THE TECHNIQUES AND CRITERIA USED IN PEDIATRIC CT.

BETA BLOCKERS MAY REVERSE A BIOCHEMICAL DEFECT IN THE CARDIAC TISSUE OF SOME HEART FAILURE PATIENTS, ACCORDING TO RESEARCH BY DR. ANDREW R. MARKS, THE CLYDE AND HELEN WU PROFESSOR OF MOLECULAR CARDIOLOGY, PROFESSOR OF MEDICINE AND PHARMACOLOGY, AND DIRECTOR OF THE CENTER FOR MOLECULAR CARDIOLOGY.

DR. ANDREW R. MARKS AND HIS TEAM ALSO FOUND THAT MOLECULAR “ZIPPER-LIKE” DEVICES SIMILAR TO ONES THAT HELP OPERATE GENES UNEXPECTEDLY ALSO REGULATE THE FUNCTION OF THE HEART AND OTHER MUSCLES, SUGGESTING THAT HEART FAILURE DRUGS OR MEDICATIONS TO TREAT ABNORMAL RHYTHMS COULD BE DEVELOPED THAT EITHER BLOCK OR PROMOTE THE ZIPPERS’ ACTIONS.

ADVANCING PATERNAL AGE ACCOUNTS FOR AS MANY AS ONE IN FOUR SCHIZOPHRENIA CASES, ACCORDING TO RESEARCH BY DR. DOLORES MALASPINA, ASSOCIATE PROFESSOR OF CLINICAL PSYCHIATRY.

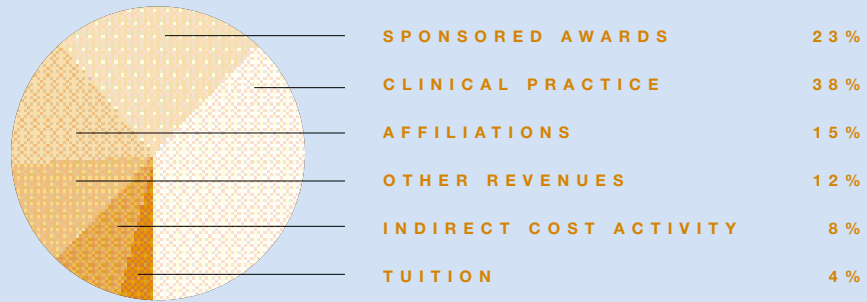
DR. MIKE ROSENBAUM, ASSOCIATE PROFESSOR OF CLINICAL PEDIATRICS AND MEDICINE, FOUND A CORRELATION BETWEEN WEIGHT GAINS IN INDIVIDUALS WHO HAD PREVIOUSLY ACHIEVED WEIGHT LOSS AND DECREASING CONCENTRATIONS OF LEPTIN. THIS DISCOVERY MAY LEAD TO A MORE EFFECTIVE WAY OF DEALING WITH THE EPIDEMIC PROBLEM OF CHILDHOOD OBESITY—AND MAY CONTRIBUTE GREATLY TO REDUCING THE GROWING PREVALENCE OF OBESITY-RELATED (TYPE II) DIABETES IN YOUNG PEOPLE.

College of Physicians & Surgeons has a unique con-  
the future of medicine. Columbia P&S is one of the  
ademic medical institutions, with a history of excel-  
ck over two hundred years. We possess intellectual  
assets that are extraordinary by any measure.  
—dedication, energy, and commitment to excel-  
measure. All of these and more will be needed to  
al of the Health Sciences campus envisioned in the  
and realistic academic plan we are currently devel-  
focused on our continuing mission—to reduce the  
ease. Our challenge, and the measure of our suc-  
gree to which we can bring our goals to life and  
sm of those whose support will define our future  
udents, staff, trustees, university and hospital col-  
leaders, and public and private patrons. We are

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2000-2001





P & S R E V E N U E S

F I N A N C I A L R E P O R T

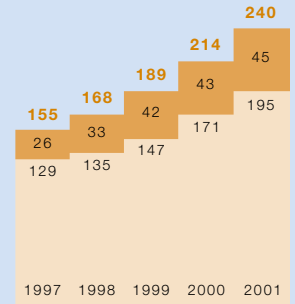
**CONTINUED STRONG PERFORMANCE** THIS YEAR'S STRONG FINANCIAL PERFORMANCE IS REFLECTED IN THE GROWTH OF OUR OPERATING BUDGET, WHICH FINISHED THE YEAR AT \$783.7 MILLION, UP FROM \$726.3 MILLION IN THE PREVIOUS YEAR. THIS GROWTH WAS THE RESULT OF ACROSS-THE-BOARD INCREASES IN REVENUES FROM SPONSORED AWARDS, CLINICAL PRACTICE, AND AN OUTSTANDINGLY SUCCESSFUL FUNDRAISING EFFORT THAT BROUGHT A RECORD-BREAKING \$129 MILLION IN GIFTS TO THE SCHOOL IN 2000-2001.

P&S continues to be one of the best-funded research schools in the country, spending \$240 million from all sources—up from \$214 million the previous year. This growth demonstrates the success of our faculty in competing for sponsored support over a wide range of disciplines. Indeed, P&S ranks 9th nationally among medical schools in total NIH funding, which increased last year by 14 percent compared with 1999-2000.

Revenue from our clinical practice accounts for more than one-third of the school's budget. This year, in spite of the continuing challenges of the

managed care environment, the practice again grew vigorously, increasing by more than 10 percent, to \$316 million, from the previous year. This was accomplished with new programs and faculty, growth of existing programs, improved billing and collections, and improved information systems.

Our commitment to excellence in all facets of our mission sustains our position as one of nation's foremost academic medical institutions. While medical schools as a whole experienced a downturn in applications, our applicant pool was strong, with 3,013 applicants for 152 first-year places.



**P & S EXPENSES**

**P & S RESEARCH SUPPORT**

DOLLARS IN MILLIONS

■ NON - GOVERNMENT  
 ■ GOVERNMENT

Currently, 991 students are enrolled in the M.D., M.D./Ph.D., and Ph.D. programs, and another 259 candidates are enrolled in the occupational therapy, physical therapy, human nutrition and psychoanalytic research programs.

Even as we develop an exciting strategic plan to chart our future course, our investments in the physical plant, recruitment, equipment, and technologies are ongoing. This year saw the “topping off” of the third and largest building in the Audubon Science and Technology Park, the 304,000-square-foot Irving Cancer Research Center. Other capital initiatives included our investment in state-of-the-art imaging equipment and a comprehensive imaging center under a significant NYSTAR grant, and the construction of a new residence for postdoctoral research fellows—the first new housing constructed at Columbia Health Sciences since the 1970s.

Looking ahead to the new strategic plan, it is

clear that implementing our vision will require the development of significant additional sources of revenue. We are identifying priorities and opportunities for the capital growth that will be needed to support our continued leadership in medical education, biomedical research, and patient care in the 21st century.





HERBERT AND FLORENCE IRVING  
WITH DEAN GERALD D.  
FISCHBACH FOR THE TOPPING-  
OFF CEREMONY FOR COLUMBIA'S  
NEW 13-STORY IRVING CANCER  
RESEARCH CENTER.

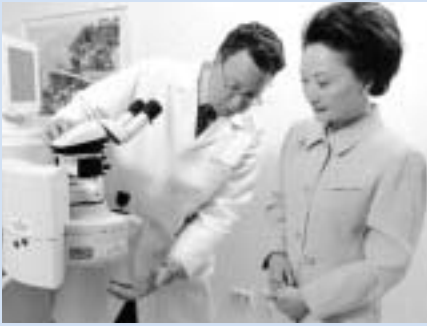
## DEVELOPMENT HIGHLIGHTS

THE COLLEGE OF PHYSICIANS & SURGEONS HAS EMBARKED ON AN AMBITIOUS PROGRAM OF RESEARCH ACTIVITIES AND ENHANCEMENT FOR ITS PHYSICAL PLANT, WHILE ALSO FORTIFYING ITS TRADITIONAL STRENGTHS IN ACADEMIC MEDICINE AND PATIENT CARE. THIS UNDERTAKING, WHICH REQUIRES MARSHALING SIGNIFICANT FINANCIAL RESOURCES, YIELDED EXCEPTIONALLY FRUITFUL RESULTS AT COLUMBIA IN 2000-2001. THE INDIVIDUALS AND ORGANIZATIONS WHOSE CONTRIBUTIONS ARE HIGHLIGHTED HERE REPRESENT THOSE BENEFACTORS WHOSE SUPPORT HAS HELPED P&S MEET THE HIGHEST STANDARDS IN MEDICAL EDUCATION AND, IN MANY INSTANCES, TO SET THE INTERNATIONAL AGENDA IN MEDICAL RESEARCH. COLUMBIA'S PHYSICIANS AND BIOMEDICAL SCIENTISTS SHARE A CONVICTION WITH THESE AND OTHER DONORS THAT IT IS OBLIGATORY TO FIND THE MEANS OF PREVENTING, TREATING AND, EVENTUALLY, CURING MANY OF THE DISEASES AND DISORDERS THAT UNDERMINE SOCIETY'S PHYSICAL AND ECONOMIC HEALTH.

**INFRASTRUCTURE** In the nearly 75 years since its move to upper Manhattan, P&S has taken significant advantage of opportunities for physical expansion that have benefitted the medical school and community alike. New buildings, laboratories, and teaching facilities have meant improved research, training, and patient care. Future growth will ensure that Columbia retains its present status

as one of the pre-eminent medical institutions in the world. The following donors have helped enormously in that endeavor.

Herbert and Florence Irving continued to champion cutting-edge cancer research with further support for construction of the Irving Cancer Research Center, the third building in the Audubon Biomedical Science and Technology Park.



DR. RICHARD E. BRAUNSTEIN,  
MIRANDA W. TANG ASSISTANT  
PROFESSOR OF CLINICAL  
OPHTHALMOLOGY, PICTURED  
HERE WITH MIRANDA TANG.



RUSS AND ANGELICA  
BERRIE CONTINUED  
THEIR LEADERSHIP  
SUPPORT FOR  
DIABETES RESEARCH  
AND TREATMENT.

The building will stand 13 stories and will double Columbia's laboratory space for cancer. It will also include laboratories for genetics research.

† Louis and Gloria Flanzer, who previously made the Medical Center's Flanzer Eye Center possible, endowed the Gloria and Louis Flanzer Amphitheatre at the Department of Ophthalmology, as well as the Gloria and Louis Flanzer Fellowship program during 2000-2001. Both facilities are valuable resources for clinician scientists in their research on eye diseases and for younger physicians who are mastering the skills of their specialty.

† Russ and Angelica Berrie have been among the College of Physicians & Surgeons' most stalwart supporters of research and treatment for diabetes since establishing the Naomi Berrie Diabetes Center at Columbia in 1997. This year, their contributions have helped mount clinical trials, supported research in the basic sciences, and funded efforts to develop new treatments for diabetes patients

with eye disease stemming from their disease.

RESEARCH Biomedical research is one of the crown jewels of Columbia University. The College of Physicians & Surgeons has assembled a team of some of the finest minds in science and medicine and provided them with the necessary tools to write new chapters in the history of the understanding and treatment of disease. The following donors were among those who demonstrated their commitment to helping the clinician scientists of Columbia achieve new breakthroughs in the study and pursuit of medicine.

† Gerald and Janet Carrus have been steadfast in their dedication to funding research in the area of diabetes. This year they sponsored research on the genetics and pathophysiology of diabetes, including insulin signaling mechanisms in different tissues, conducted by Dr. Domenico Accili in the Department of Medicine. They also funded the Gerald and Janet Carrus Professorship of Surgical

Sciences and of Physiology and Cellular Biophysics.

† Elizabeth and Bruce Dunlevie continued to support the Pediatric Pulmonary Hypertension Center in the Department of Pediatrics, through the Dunlevie Gift to Children Fund at P&S. The Center was the first of its kind in the country and, under the direction of Dr. Robyn J. Barst, has been at the forefront of the search for new treatments and improved survival rates for pulmonary hypertension.

† Stephen and Constance E. Lieber, who created the Lieber Center for Schizophrenia Research at Columbia in 1999, continued to fund the Center's work during the past year. They have made frequent and generous contributions to the Department of Psychiatry for research on mental health in general, and for schizophrenia in particular.

† The G. Harold and Leila Y. Mathers Charitable Foundation supported Dr. Dolores Malaspina's studies in the Department of Psychiatry on gene mutations as risk factors for schizophrenia. The Foundation also funded research by Professors Thomas M. Jessell, Richard Axel and Nobel Laureate Eric R. Kandel, who have earned international renown for their discoveries in neurology and molecular biology.

† The Milstein Family Foundation gave generously to support research in all areas of surgery,

including treatments for cardiac disorders, complications of diabetes, and transplant immunology.

† JoAnn M. and Joseph M. Murphy, leaders in the philanthropic community at Columbia, are long-term sponsors of research on diabetes and co-chairs of the Diabetes Committee of the Health Sciences Advisory Council. This past fiscal year, they made major contributions to the research of Drs. Rudolph Leibel and Kevan Herold, who are both doing pioneering work in diabetes research and treatment.

† Suzanne C. and Thomas Murphy were instrumental in guaranteeing that Columbia's Department of Psychiatry remains in the vanguard of psychiatric research. Their 2000-2001 gifts helped support Dr. Alexander Glassman's groundbreaking work in psychopharmacology, and created a professorship to support the work of Dr. Bradley Peterson, an expert in psychiatric disorders affecting children. They have also supported the Taub Institute.

† Joy and William J. Ruane's generosity once more helped the Department of Psychiatry expand its work in childhood psychiatric illness. Their gifts have endowed the Center for Early Identification of Mood Disorders and the Center for the Advancement of Children's Mental Health in the

Division of Child Psychiatry in the Department of Psychiatry. In the past year, they have continued to support efforts to advance the understanding of mental illness.

† Dr. Judith P. Sulzberger continued to fund the Columbia Genome Center, which now bears her name in honor of the 13 years of time, energy, and support she has devoted to it. An alumna of P&S, Dr. Sulzberger has been a staunch and farsighted supporter of the basic science that makes medical breakthroughs possible. She has also funded the development of a model for bioterrorism preparedness in conjunction with Columbia's School of Public Health, the New York City Department of Health, and the Centers for Disease Control and Prevention. In addition, she has helped endow the Center for Autism Research and Treatment at Columbia.

† Miranda Wong Tang, a longtime supporter of the Department of Ophthalmology and founding member of the Department's Board of Advisors, funded the creation of an Assistant Professorship of Clinical Ophthalmology named in her honor. The professorship is held by Dr. Richard E. Braunstein, a nationally recognized expert on corneal eye diseases and LASIK vision correction.

† Susan and Edward Yawney, generous contributors to research on the treatment of brain tumors, continued to support their Fellowship Fund for Brain Tumor Research in Neurosurgery as well as the Gabriele Bartoli Brain Tumor Research Laboratory. Their foresight will help advance knowledge of how brain tumors originate and progress, providing the foundation for future clinical approaches and techniques.

† Cecilia and James Ying gave to support the endowment of the K. K. Tse and Ku Teh Ying Professorship of Ophthalmology. The Ying Professorship will be a resource for underwriting new initiatives by an established investigator in the field and will also promote collaborations between the Department of Ophthalmology and selected institutions in China.

† The Avon Products Foundation Inc. has set an example in corporate philanthropy through sponsorship of the Avon Breast Cancer Research and Care Program. The program will provide care for medically under-served women in the Columbia Presbyterian Medical Center neighborhood, while spurring advanced scientific inquiry into the origins, progression, and treatment of breast cancer.

† The Doris Duke Charitable Foundation funded breakthrough research at Columbia on the causes and treatment of cardiac and vascular disease. Drs. Andrew R. Marks, Donald W. Landry and Daniel M. Bloomfield, recipients of the foundation's support, have attracted international attention for their study of the mechanisms underlying heart and circulatory malfunction.

† Henry and Marilyn Taub continued to be the major contributors to the endowment of the Taub Institute for Research on Alzheimer's Disease and the Aging Brain. Their ongoing support for this work strengthens the promise of a brighter future for countless individuals coping with the illness.

† The Sackler Foundation carried on the philanthropic tradition through which the family has distinguished itself, endowing the new Sackler Institute for Psychobiology in the Department of Psychiatry at Columbia. Under the leadership of

Dr. Myron A. Hofer, the Institute will take an interdisciplinary approach to studying the genetic and environmental factors that may give rise to a host of psychiatric disorders.

† The Quentin J. Kennedy Foundation donated funds to create a professorship of the same name in the Division of Substance Abuse Treatment in the Department of Psychiatry. The professorship, as well as additional support provided by the foundation, was established to promote the cutting-edge research of Dr. Herbert Kleber and his colleagues about the understanding and treatment of substance abuse.

**EDUCATION** Progress in medicine is achieved with each generation of new doctors whose studies and training allow them to develop successful new therapies. More than ever, there is a need for physicians who combine sensitivity with expertise to produce correct diagnoses and to administer appropriate treatments. With this commitment to teaching, the College of Physicians & Surgeons is ensuring that medicine retains its essential human element. The following donors have shared that sense of mission with the medical school during the past fiscal year.

† Monroe Milstein and the late Henrietta Milstein supported the Henrietta Milstein Fund for Teaching in Gynecology & Women's Health at the

College of Physicians & Surgeons. Columbia is committed to training physicians sensitive to gender differences in the presentation and treatment of disease, an increasingly prominent field of study in which the University has become a leader.

† The Estate of G. Holbrook Barber, Jr. made new funds available to establish and support the Barber Fund for scholarships and student aid at the College of Physicians & Surgeons, as well as for research in the field of surgery. It is a fitting memorial to a family that boasts three generations of P&S graduates, beginning with Isaac H. Barber in 1851.

† The Estate of Arthur H. Milbert left a legacy intended to advance Columbia's educational mission by creating a scholarship fund for medical students at the College of Physicians & Surgeons. Arthur H. Milbert was a P&S graduate who understood the importance of training future generations of physicians.

GENEROUS DONORS 2000 - 2001

\$1 MILLION & UP

American Cancer Society  
 American Heart Association  
 Anonymous  
 Avon Products Foundation  
 Estate of G. Holbrook Barber, Jr.  
 Angelica and Russell Berrie  
 Gerald and Janet Carrus  
 Doris Duke Charitable Foundation  
 Howard Hughes Medical Institute  
 Herbert and Florence Irving  
 The Robert Wood Johnson Foundation  
 Juvenile Diabetes Foundation International  
 Quentin J. Kennedy Foundation  
 Stephen and Constance E. Lieber  
 Estate of Arthur H. Milbert  
 Suzanne C. Murphy  
 Parkinson's Disease Foundation  
 William J. Ruane  
 The Sackler Foundation  
 Estate of Ludwig Schaefer  
 Judith P. Sulzberger, M.D.  
 Henry & Marilyn Taub Foundation

\$500,000-\$999,999

The Burroughs Wellcome Fund  
 The Dyson Foundation  
 Louis & Gloria Flanzer Charitable Trust  
 Foundation for Heart Failure Research  
 Karen K. Fu, M.D.  
 Wesley J. Howe Family Foundation  
 Francis A. L'Esperance, Jr., M.D.  
 Leukemia and Lymphoma Society of America  
 Leon Lowenstein Foundation  
 March of Dimes Birth Defects Foundation  
 G. Harold and Leila Y. Mathers Charitable Foundation  
 William J. Matheson Foundation  
 Milstein Family Foundation  
 Muscular Dystrophy Association  
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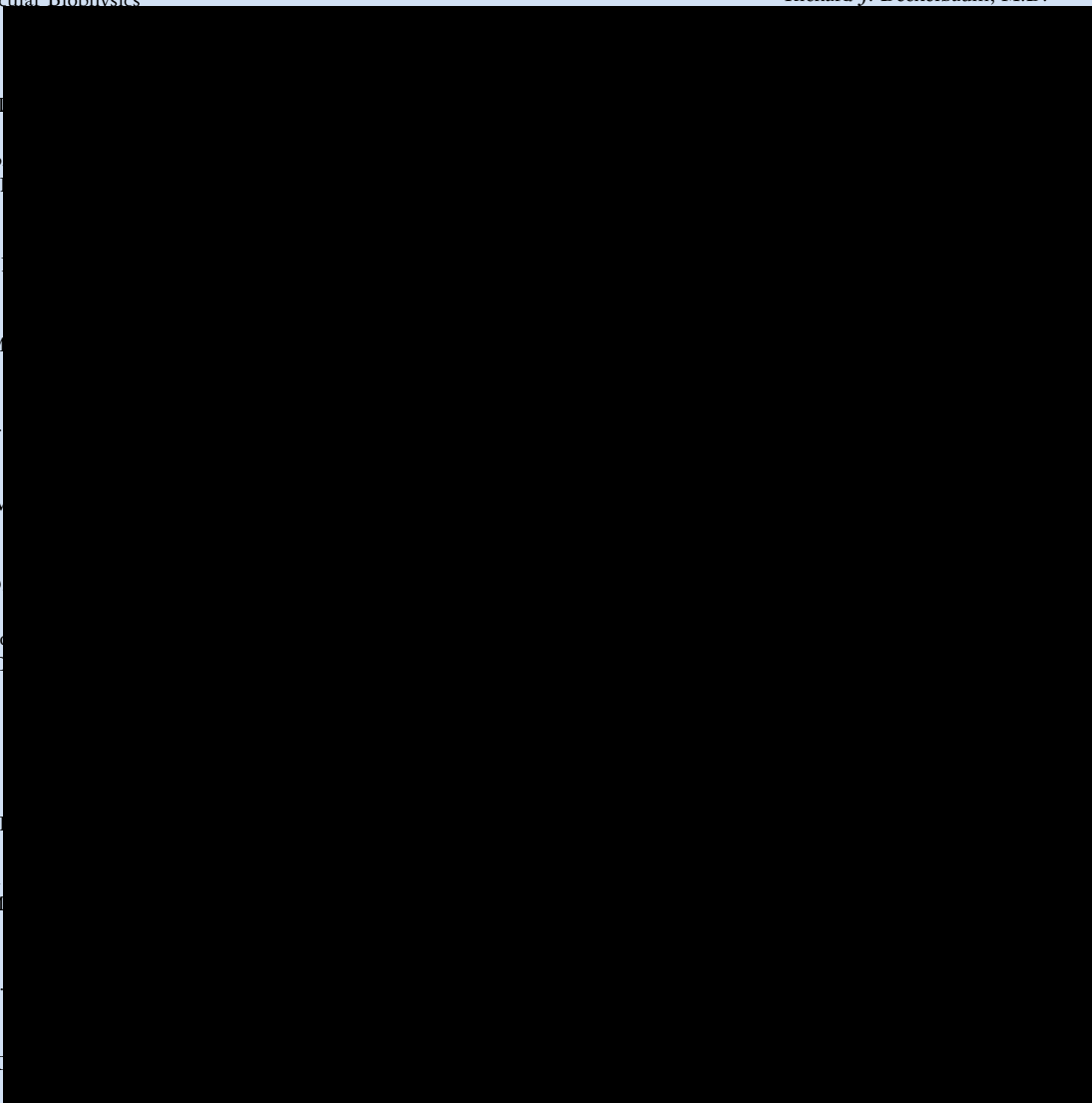
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ia P&S student Carrie Muh '03 becoming a neurosurgeon.

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