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Dear Colleague,

Welcome Back to Rutgers, this issue of Robert Wood Johnson Medicine, comes to you at an exciting and historic time for our medical school. On July 1, we launched our integration with Rutgers, The State University of New Jersey, and our future has never looked brighter.

This issue features an interview with President Robert Barchi, who shares his perspective on the future of Rutgers University. In New Beginnings, I was pleased to discuss the enormous potential that the integration provides to Robert Wood Johnson Medical School.

Welcome Back to Rutgers offers a variety of articles that explore the history and long record of interconnections between Rutgers and the medical school. In Exciting Times Ahead, key leaders at the medical school, Rutgers, and our partner institutions speak about the aspects of integration they most look forward to, including broadened academic opportunities, new research partnerships, and enhanced patient care.

Perfect Together Again highlights some of the proud alumni who earned their medical degrees here, when we were Rutgers Medical School, as well as others who graduated from Robert Wood Johnson Medical School and hold undergraduate degrees from Rutgers University.

New collaborations will build on the excellence of our two jointly administered institutions, the Center for Advanced Biotechnology and Medicine and the Environmental and Occupational Health Sciences Institute, both now in their third decade. Collaboration Generates Success at Two Joint Institutes features these pioneering institutions, while Joint Academic Programs describes the wide range of options available through programs we share with Rutgers.

Dedicated in 1970, the Research Tower and Teaching Laboratories were the medical school’s first real home. Conrad Remick, architect-in-residence and project designer, reflects on the multiyear project in From Concept to Reality.

A CHARM-ed Beginning features the Continuous Hemodynamic Autoregulation Monitor, developed by Dr. Shabbar Danish and Rutgers colleagues to predict brain swelling in traumatic brain injuries and assist in treatment planning.

The New Jersey Autism Center of Excellence is a year-old interdisciplinary collaboration between the medical school and Rutgers. The Power of Collaborations in Solving the Puzzle of Autism explores the center’s potential for exponential growth.

Word of Mouth takes you to Bangladesh, where children with cleft lips and palates are gaining smiles thanks to a multidisciplinary team from Rutgers Robert Wood Johnson Medical School, the Rutgers School of Dental Medicine, and Rutgers New Jersey Medical School.

I hope you will enjoy this special issue of Robert Wood Johnson Medicine.

Sincerely,

Peter S. Amenta, MD, PhD
Dean
Robert Wood Johnson Medical School is now part of one of the nation’s largest research universities, a move that enhances the school’s core mission of innovation and excellence in education, discovery, patient care, and community service.

When you give to the medical school, you can still designate your gift to support the same programs and initiatives. And now your contributions, which are channeled through the Rutgers University Foundation, also support Our Rutgers, Our Future, the university’s historic $1 billion fundraising campaign.

Contact Denise Gavala at 732-235-8614, Or visit support.rutgers.edu/rbhs to learn more.
Robert Wood Johnson Medicine
A Publication for Alumni and Friends of Rutgers Robert Wood Johnson Medical School

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Dean
Peter S. Amenta, MD, PhD
Executive Editor
Patricia M. Hansen, MA
Director, Communications and Public Affairs
Editor
Roberta Ribner
Writers
Beth-Ann Kerber
Kate O'Neill
Lynda Rudolph
Copy Editor
Richard Slovak
Art Director
Barbara Walsh
Cover Art
Barbara Walsh

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Editorial and Advertising Office
Rutgers Robert Wood Johnson Medical School
Roberta Ribner, Editor, Robert Wood Johnson Medicine
335 George Street • Suite 2300 • New Brunswick, NJ 08903
Telephone: 732-235-6310 • Fax: 732-235-9570
Email: ribnerrs@rwjms.rutgers.edu
Interview

with Robert Barchi, MD, PhD
President, Rutgers, The State University of New Jersey

How do you see the medical schools and Rutgers Biomedical and Health Sciences changing the future of Rutgers?

Rutgers is one of the oldest schools in the nation. It has evolved over almost 250 years along a similar path to those institutions in our peer group, the Association of American Universities (AAU), and other large land-grant schools. But we have been limited in our ability to grow in one critical area: the biomedical and health sciences.

The integration with the former UMDNJ puts the pieces together to create a comprehensive research university, and it gives us the ability to move forward with new programs that coordinate and integrate the health sciences with other parts of our University. And it allows us to take maximum advantage of the synergies we expect from those programs, making the new Rutgers much more than the sum of its parts. The integration strengthens the University, adding a new dimension that amplifies all of our capabilities.

Our goal is not to combine the medical schools, but we certainly want to coordinate their activities so that we are not being redundant. And we want to maximize efficiency and productivity on both sides.

The integration has increased exponentially the opportunities for students to be involved in primary research or to work with mentors in diverse areas of interest, whether they’re working in our healthcare programs or in other areas of the University. As a result of the integration, Rutgers now enjoys a much richer, more diverse, and more nuanced intellectual environment.
look at academic medicine from the point of view of the nation and its economic health. An important part of our gross domestic product, around 18 percent, is going into healthcare, and that's astronomically and insupportably high. And even when we get these costs under control, healthcare—including the biomedical sciences and healthcare delivery—will be a major driver of our nation's economic success.

Because it is so important to our economic vitality, every major comprehensive university should be represented in healthcare. It is essential that we are educating tomorrow's leaders of our healthcare delivery teams and tomorrow's thought leaders of healthcare policy and healthcare economics. Prior to the integration, not having a comprehensive healthcare education system at Rutgers was an artificial deficit. We should be training healthcare researchers and educators in the same way we do in business and engineering, in the humanities, in the natural sciences, and in the social sciences. And with the strength of the pharmaceutical industry in the State of New Jersey, the biomedical and health sciences are critically important and will continue to be throughout our lifetime.

The transition went very smoothly. How did you achieve that?

The effort from our entire team was Herculean. But from the outside, yes, it was remarkably smooth. That was the goal. You want to turn the switch on “day one” and not have anyone’s lights go out, so that everyone who works, learns, and does research here sees no difference between day minus one and day plus one. It was as smooth as any integration I’ve seen in the corporate world, and certainly nothing like this has ever been done in academia.

Chris Molloy, [PhD,] interim chancellor, Rutgers Biomedical and Health Sciences, deserves a huge amount of credit, and his contributions have been critical to this entire process. And he will continue to contribute to the new Rutgers when he becomes the senior vice president for research and economic development in December. From the start, Chris led the integration management office and our 12 teams. His people put in more than 100,000 hours and took a 4,500-item checklist down to zero. These were not minor challenges. They included everything from human resources and information technology systems that didn’t “talk” to one another, to navigating the policies and procedures of the many separate unions.

In the six weeks prior to July 1, we tracked the progress of the individual teams on a daily basis. We had a dashboard that showed the readiness of the various areas as red, orange, or green, and, as we approached, we knew which ones we expected to change color, how fast they should change, and which ones were on a critical path. The teams worked right up to day minus one, and, at the last hour, the last light went green.

Solving those 4,500 individual challenges only got us to day one. It allowed us to bolt the two institutions together in a way that allowed them to operate smoothly. But July 1 also marked the beginning of the next two years’ work. From this point forward, we are focused on the host of items we have to address to completely integrate these institutions, so that they aren’t just bolted together, but rather seamlessly integrated, with everything running efficiently on the same platforms.

You recently filled two major leadership positions. Could you tell us more, particularly about Brian Strom, our new chancellor of Rutgers Biomedical and Health Sciences?

A big part of my job was to recruit a senior management team that is incredibly talented and capable, because, ultimately, the success of the enterprise is determined by its leadership. As in any large operation, whether you’re in academia, business, or government, you need competent people running their part of the operation, and we are an enterprise with assets totaling $3.2 billion—a very, very big operation.

We have recruited Nancy Cantor, [PhD,] as chancellor of the Rutgers–Newark campus, and Brian Strom, [MD, MPH,] as chancellor of Rutgers Biomedical and Health Sciences, both of whom are members of the National Academy of Sciences. So that’s three senior administrators, including me, who are National Academy members. We’ve never had that before.

Brian is a physician who was named to the Institute of Medicine at a young age. But he has other skill sets: he has an international reputation in epidemiology, biostatistics, and areas that relate to population health and its interaction with medicine. As a leader at Penn [Perelman School of Medicine at the University of Pennsylvania], he worked in a complex environment and learned how to build programs. He built a huge center for epidemiology and biostatistics. He was named executive vice dean for the medical school, in charge of all clinical affiliations, and then vice provost. He has very high standards, he knows how to recruit really good faculty, and he knows what to expect of them. But he also understands how hospitals run and how to make things work. He will make a great partner for me and for the deans of our schools.
Could you discuss the importance of collaboration in the future between the schools and their hospital partners?

The linkages here, like the one between Robert Wood Johnson Medical School and Robert Wood Johnson University Hospital, and the one between the schools in Newark and the St. Barnabas system, allow us to create the connector of Rutgers Healthcare. That’s the new brand. All of our clinical practices will fall under that rubric. Rutgers Healthcare will be coordinating and integrating clinically with systems that extend all the way up to the north and to the west and all the way down to the south. That’s a huge population base. It gives us incredible opportunities for growing clinical practices and increasing clinical services, and for tremendous increases in clinical trial activities throughout those networks that are beneficial not just to Rutgers, but also to the St. Barnabas and the Robert Wood Johnson systems, and, ultimately, to the residents of the State of New Jersey. It will be a win-win for everybody.

The model of healthcare delivery has changed. It’s shifting from a physician-centric model to a patient-centric model, where teams work around the patient and coordinate with each other, with each person on that team working at the highest level of accreditation.

For example, the question of whether there will be nurse practitioners is moot. There will be nurse practitioners. We can’t possibly meet the demand for healthcare in this country—especially with insurance now for the previously uninsured—by producing more physicians. It’s not cost-effective, and it’s not possible. We have to expand the number of other providers who can fill in and supplement that activity. So we are creating the environment to educate the entire team of healthcare providers. It’s not just about training medical students. It’s about training nurses and pharmacists, occupational therapists and physical therapists, and lab techs and social workers, and training them to work together.

The concept of interprofessionalism is critically important, and we can do it at the new Rutgers because we have all the pieces. One of the things the chancellor of Rutgers Biomedical and Health Sciences will want to do is to think about how all these schools work together in their educational programs. Denise Rodgers, [MD,] is taking on the role of vice chancellor for interprofessional education and programs, and she’s deeply committed to those areas. In the coming year, she will travel on a mini-sabbatical to look at how other universities are doing interprofessional education to collect best practices to bring back to Rutgers.

The integration gives us the opportunity to add A plus B and create something that is exponentially more than the sum of its parts. That includes the quality and volume of the clinical care we deliver, the quality of the students we educate, and the professionals we train. And, of course, it also includes the volume and quality of the research that we do. We have every reason to expect that current and new faculty will be able to garner an increased share of research dollars. That means that research productivity will go up, not just in terms of total dollars, but also in terms of dollars per faculty, which will bring us in line with our leading peer institutions in the AAU.

How will integration enhance the opportunities to build public-private partnerships?

We will be working hard to develop new public-private partnerships in ways that will not compromise our federal research engine. These public-private partnerships are nowhere better exemplified than in the health sciences, where there are lots of opportunities for our physicians and scientists to collaborate with the pharmaceutical industry and other clinical development entities that would like to partner with us, both for primary research and for the development of new technologies, new therapies, and new clinical trials.

Rutgers, prior to the integration, was very successful in doing this, but only in areas that were relatively limited. Now that we can move into our newly expanded biomedical and health sciences areas, we have so much potential for growth. Brian Strom is particularly experienced in this area. He has an excellent relationship with the pharmaceutical industry, because of the nature of his work and their respect for him as an academician. So it’s a deliverable that we’re both going to expect to see from the various deans and faculty of the schools in RBHS.

Alumni are important to you. How will you engage former alumni of Rutgers Medical School and Robert Wood Johnson Medical School?

The integration brought us approximately 33,000 new alumni, and we’re reaching out to all UMDNJ alumni welcoming them into the Rutgers University Alumni Association (RUAA). And we are welcoming back to the fold many alumni of Rutgers Medical School, and I look forward to meeting them. Donna Thornton and her team at the RUAA have been in contact with our newest members and are planning to introduce them into the new Rutgers community with upcoming events. With a vast majority of UMDNJ alumni living in the New Jersey metro area, we expect these alumni to be frequent participants of RUAA events and programs.
The integration is about as new as anything the country has ever seen in the scope, the depth, and the breadth of what has been accomplished. Some say it’s the largest transaction—or occurrence—of its kind in history. We had a few minor issues come up, such as a brief email glitch, but it has gone very smoothly. I am hearing from friends across the country who want to know, “How did you do it?”

Those leading the process—Dr. Robert Barchi, [MD, PhD, president, Rutgers, The State University of New Jersey,] Dr. Chris Molloy, [PhD, interim chancellor, Rutgers Biomedical and Health Sciences]—did a marvelous job, though we must keep in mind that the job is not done. In some respects, we haven’t even scratched the surface yet. Of greatest importance: the patients are being cared for, and the students are being educated, in their beautiful new lab coats. All the NIH [National Institutes of Health] grants—the research—are continuing, as well as the clinical revenue streams. The goal is to make this merger reach its full potential, and that will take time.
What is the next big step?

The biggest challenge now is to meet and get to know each other to assure maximum interaction around the expertise of our investigators. I think you're going to see a number of areas, such as autism, diabetes, and immunology, lead to new scientific relationships across the organization.

What aspects of the medical school’s future seem especially brightened by the integration?

In The Graduate, one of the party guests takes Dustin Hoffman aside and tells him, “Just one word: plastics.” I was thinking of that scene when I told our graduates at Convocation: “I want to leave you with one word: opportunity. You’re going to have dozens and dozens of opportunities in your careers, and this year, it applies to all of us. Right now we have the opportunity to take this institution to heights it has never reached before.”

As Governor [Chris] Christie said when he signed the restructuring bill [the New Jersey Medical and Health Sciences Education Restructuring Act] last July, we have a new ability to do business across institutional lines without having to overcome interinstitutional and contractual issues that made it hard to work together.

What does Rutgers gain from the integration?

It’s a huge, huge opportunity. Our enrollment may be relatively small compared to Rutgers’, but we bring considerable revenue of approximately $1 billion—almost a third of Rutgers’ $3.2 billion budget.

Beyond that, and more importantly, Rutgers now has the health professions arm, a very important component within our aspirational comprehensive university peers across the country, such as the University of Pittsburgh, Michigan State, Ohio State, and North Carolina. All of these schools have put the component parts together to make themselves real powerhouses in academic medicine.

How will integration advance the medical school in each of its mission areas, starting with education?

Along with the other health-related schools, we’re now part of Rutgers Biomedical and Health Sciences. This new division will facilitate an interprofessional educational experience—something essential as we go forward in the new healthcare environment. Integration enhances our capacity and ability to address issues of interprofessional education.

In just a short time, you’ll be seeing more collaborations like the new PharmD/MD program we’re developing together. Joe Barone, [PharmD, dean, Rutgers Ernest Mario School of Pharmacy,] came up with this great idea for the PharmD/MD. It’s an indication of what we can do together. It’s a model, a framework for future programs, something that we might never have accomplished as two separate schools within two separate administrations.

You’ll see expansions of existing collaborations such as the MD/PhD program. We are so fortunate that Denise Rodgers, [MD, vice chancellor for interprofessional programs,] is going to lead this initiative.

Integration also provides the possibility of having basic scientists in the Rutgers community who would be outstanding lecturers to our students, and vice versa.

And how will integration advance our mission in research?

It will bring together different scientists with varying skill sets and encourage collaborations like the Stem Cell Institute and the Rutgers Brain Health Institute. It will allow us to recruit additional excellent scientists. For example, Steve Burley, [MD, DPhil,] from Rutgers, is joining the Proteomics Center as its director. He’s an outstanding scientist who will advance our efforts campuswide.

Working under one umbrella will facilitate basic research, translational research, and healthcare models preparing for the coming changes in healthcare.

Will integration directly affect our mission in patient care?

In addition to the development of new models of healthcare, we will build healthcare teams to deliver team-based medicine. For example, at the patient’s bedside, you might have a pharmacist, a specialty nurse, a physical therapist—a host of different healthcare providers, not just a physician.

We tend to use medical devices brought to us by the manufacturers. With the new link to bioengineering at Rutgers, we should be able to develop and build the devices together for use in our clinical practice and elsewhere. And we will work to expand public-private partnerships.
How will our mission in community health benefit from integration?

In our discussions, we made sure that, post-integration, we could keep true to that mission, and Rutgers is now one of the few universities in the country to own a federally qualified health center. We are developing our fundraising efforts to support this mission and have experienced considerable success thanks to a number of supporters, including the Robert Wood Johnson Foundation, the New Jersey Health Foundation, and our practice partners. The Eric B. Chandler Health Center already has satellites at New Brunswick High School and on Church Street, and we hope one day to have a new building.

From an academic perspective, we’re developing improved health delivery systems and experimenting with different types of models, including telemedicine, that could enhance the ability of patients to have access to physicians.

What changes are ahead for our students?

Rutgers gives our students access to all the facilities of a large, comprehensive university—libraries and athletics, to name just two examples. I’m a great believer that sports tend to bring an institution together, so I’m excited about having our students go to Rutgers sporting events as part of the new organization, and I’m excited about having our alumni come back to see their teams play.

The potential for campus housing will be a great opportunity for our students to be even more closely tied to the school.

Is the opportunity to reengage alumni another of the hoped-for new beginnings?

I always tell our students, “You’re alumni a lot longer than you are medical students. And we need you to be with us long after you’ve graduated from here.” It’s vital to have a robust alumni group; we need them to give back!

We want to get our graduates involved as Rutgers alumni, but it’s not going to happen in one day. We hope to expand our Annual Scholarship Gala, invite everyone to the Night at the Ball Park, have them come back to Career Night, engage them in new ways, such as hosting out-of-town dinners, and continue the growth of our relationship.

So you expect the Gala to continue now that we are part of Rutgers?

Oh, yes! I hope it goes on for years to come. Next year, in addition to our Gala Scholarships for medical students, we will provide a scholarship for a graduate student.

I love the Gala not only because it’s one really good time, but I also think it’s essential to the organization. It’s the first thing we’ve ever done to bring all aspects of the school together. It brings attention to the medical school, our students, our alumni, and our hospital affiliates statewide. It’s a great opportunity to build relationships, and that’s good for business.

Did strategic planning continue while you were working on the integration?

It did, and we’re 98 percent there! We wanted to keep moving, so that we’d be ready with our plan, when Rutgers was ready with theirs. With the naming of Brian Strom, [MD, MPH,] as chancellor of Rutgers Biomedical and Health Sciences, we’ll put it all together. Then we’ll tie it in with the university’s plan. It’s an exciting process, especially because working together you broaden your vision. Of course, planning is the easy part; implementation is hard.

Our plan addresses the oncoming healthcare environment, making sure our new students are trained to adapt to that and making sure that we develop new programs while maintaining existing strong programs in basic science and clinical and translational science.

After several earlier efforts, why did integration with Rutgers happen now?

Because it had to happen. It was the right thing to do. It’s fantastic, and we can’t give Governor Christie enough credit; it couldn’t have happened without him.

There were times you thought it would never happen, but here we are. Nevertheless, we still wake up every day wondering, “Will something happen today to cause a problem?” So we must stay alert to keep all the nuts and bolts working. There will be challenges, but we feel prepared to deal with them, and I hope that a year from now we feel the same.

Change is always a challenge, but that old saying is so appropriate in these times: “The only thing certain in life is change.”
Exciting Times Ahead:
The Promise and Prospects of Our Rutgers Partnership

When word first surfaced about the “integration” of Robert Wood Johnson Medical School and Rutgers, The State University of New Jersey, there were more questions than answers. Would the distinct identities of the institutions be preserved? How would the relationship work? Conversation spawned speculation after speculation. Finally, the solidly laid plans of the integration committee and the many individuals involved who were central to the new working relationships became known. This was by no means a small feat. And there is still much to be done. But now excitement is taking hold.

Educators, researchers, and students alike have suddenly realized what this could mean, not just to the academic and medical communities in New Jersey, but to the nation and the world. Shortly before the integration, we caught up with some of the deans and other people involved in the process and asked them to tell us what they were looking forward to. Here are their thoughts.

BY LYNDA RUDOLPH
"I can’t wait to see how students will use these new, additional opportunities to expand their horizons."

—Carol A. Terregino, MD ’86, interim senior associate dean for education and associate dean for admissions

"The integration of the two environments will give all of us exposure to different pools of knowledge. The give-and-take will be invaluable—we’ll be learning from each other in new ways. The integration will also pave the way for the creation of programs of the future—for example, a PharmD/MD program. Residents who graduate with a medical education will have the benefit of a dual environment with exposure to faculty, research, and all scholarly pursuits that are a result of that collaboration. Opportunities will be broadened for every student. And as another direct effect, a better patient experience will most certainly result.

“We will now have the opportunity to have a national name and presence. We have to recruit nationally and reestablish our roots in the national academic landscape. New Jersey is probably the greatest exporter of undergraduate students—and, I would argue, of medical school graduates. We want to change that and develop a flourishing environment to keep students here. We want to acquire the reputation of a university that spans all of the disciplines, becoming a powerful presence that draws the best and the brightest to our doors.”

"We’ve had a long history of collaboration with Robert Wood Johnson Medical School—now we’ll be able to fully realize the potential."

—Christopher Molloy, PhD, interim chancellor, Rutgers Biomedical and Health Sciences, leader of the Integration Management Office, and former dean, Rutgers’ Ernest Mario School of Pharmacy

"The interactions have always been there but with a level of ‘red tape.’ There were certain strong research connections—for example, with the Cancer Institute of New Jersey—but there were always funding, faculty, and institutional disconnects. This realignment will enable us to take better advantage of what both universities can bring to the table. It will create efficiencies in research that will help us develop public-private partnerships—for example, in the biological sciences and with the pharmaceutical industry—that will result in new productive collaborations.

“We do know each other well, which will facilitate our ability to mesh quickly. I especially look forward to strengthening our life sciences research. There will be many interprofessional educational opportunities that can be expanded in health care delivery as well. For example, students in pharmacy, nursing, and health-related professions will be able to train closely with medical students—sharing courses and clinical sites—that will benefit all involved. Research and educational partnerships will now be possible.

“The legacy of Rutgers’ 250-year history should also greatly enable fundraising. And as we enter the Big Ten Conference, joining the Big Ten’s Committee on Institutional Cooperation will ensure a level of support in educational programs and research infrastructure that will be big advantages to the expanded university for all of us.”
“I see us making greater strides in health care research that will benefit us in seeking funding to move medicine forward.”

—Richard L. Edwards, PhD, executive vice president for academic affairs, Rutgers University

“Not only can we pursue research and the funding for it more efficiently; in the long run, we’ll improve the processes of health care delivery.

“Together, we’ll do more clinical trials at Rutgers and at the medical school. Since New Jersey is a diverse state, our high density of population lends itself to doing trials. All of which will lead to improved health benefits for people both locally and globally.

“As to immediate outcomes, the combined amount of research dollars of both Rutgers and the [former] UMDNJ units will boost us in the national rankings, which will be good for all of us.

“From a personal point of view, for the last eight to nine months, I’ve had the opportunity to work with key people at Robert Wood Johnson Medical School, and I am excited at the prospect of having them as colleagues.

“We have great strengths that haven’t been fully recognized or promoted up to now. Together, we can become a national powerhouse.”

—Stephen K. Jones, president and CEO, Robert Wood Johnson University Hospital and Robert Wood Johnson Health System

“The Robert Wood Johnson Medical School affiliation with Rutgers should continue the momentum to develop collaborative clinical, educational, and research programs between the school and Jersey Shore University Medical Center.”

—David S. Kountz, MD, associate dean, Rutgers Robert Wood Johnson Medical School at Jersey Shore University Medical Center

“Look forward to continuing our role as a training ground for future discovery and medical breakthroughs.”

As the principal teaching hospital of Rutgers Robert Wood Johnson Medical School and the flagship hospital of Rutgers Cancer Institute of New Jersey, Robert Wood Johnson University Hospital is thrilled with the possibilities that lie ahead for our academic medical center. All members of our team look forward to this transition to Rutgers—one that will elevate the Robert Wood Johnson Medical School affiliation with Rutgers University should bring an additional level of expertise in population health from Rutgers and provides an opportunity to take advantage of their expertise as we develop this new model of care for our communities in Monmouth and Ocean counties.”
From the point of view of clinical affairs, it’s going to be interesting to see how our relationship evolves. Rutgers is well established with a national reputation and a well-defined mission. There are clearly synergies there in research and education missions. However, Rutgers doesn’t have a medical school with an integrated clinical practice. Rutgers’ administrative leaders have worked hard to understand our practice and the needs of our clinicians.

“I see it as a win-win in terms of patient care. The development of an Accountable Care Organization as part of Rutgers Health, with an integrated delivery system, makes us all that much stronger—a plus for every patient.”

“As we recruit more specialists capable of delivering high-level tertiary and quaternary care, the Rutgers name will bring us brand recognition that will help us compete for the very best clinicians.”

The integration is exciting—and still so new that we are only just beginning to appreciate all of the opportunities it opens up in research.”

The integration takes the university to a new level, while, as part of the ‘Big Ten,’ the medical schools gain enhanced recognition. This gives Rutgers an important clinical perspective, while facilitating our clinicians’ and basic scientists’ collaborations in evolving initiatives, such as the Institute for Food, Nutrition and Health or the Brain Health Institute.

Grant facilitators at Rutgers and the Rutgers Foundation will help us identify and tap into new sources of funding. And they’ll help our investigators identify potential collaborators, with similar or complementary interests, to expand our research.

On a practical level, the integration will help to streamline our efforts, eliminating the need to subcontract with our collaborators at Rutgers. We will be able spend more time being scientists, clinicians, and educators and less on administrative processes.”

“I look forward to a synergy that will ultimately enhance patient care.”

—Anthony T. Scardella, MD, senior associate dean for clinical affairs and president, Rutgers Robert Wood Johnson Medical Group

Robert Wood Johnson ▪ MEDICINE 15
“I see it as a chance to work with a large presence of providers vested in other wellness initiatives.”

—Eric G. Jahn, MD ’88, senior associate dean for community health

“The strength of the Robert Wood Johnson Medical School and Rutgers collective can bring added depth to both organizations. There will be significant ramifications in community health on many levels. Because we’ll be collaborating in more fundamental ways—both in planning initiatives and in evaluating them—we’ll be able to develop enhanced programs that will make a difference.

“The more resources we have, the more opportunities we’ll have to create a more effective service delivery model. There are health policy ramifications as well. All of this is exciting in a good way.”

“...collaboration in global health will expand our role—working with international colleagues to help build health programs around the world.”

—Javier I. Escobar, MD, associate dean for global health

“We’ve already been working to integrate the Robert Wood Johnson Medical School’s global health program with Rutgers’ International Affairs program. This collaboration is evident in the jointly held Global Health Fair. Now that we’re more officially united, I foresee expanded opportunities in an initiative that already sends more than 50 medical students and medical school faculty all over the world.

Our goal, to see health education and health sciences from a global perspective, is a timely one. The National Institutes of Health has identified global health as one of its top four priorities. We have a dedicated faculty and programs designed for medical students in more than 25 countries. Partnering with Rutgers, we’ll be a highly visible university in the United States that will have significant international influence.”

A New Era Is Dawning

Robert Wood Johnson Medical School and Rutgers have formed the most robust academic medical partnership the state has ever seen. The next chapters in health care history in New Jersey will be written here. Anything is possible.
At a Glance

THE BIG PICTURE

20 basic science and clinical departments
2,750 faculty members
600 MD students
40 MD/PhD students
131 PhD students
45 graduate medical education programs
447 residents and fellows

PATIENT CARE

Robert Wood Johnson Medical Group

Largest multispecialty group in New Jersey
524 physicians; 200 specialty and subspecialty clinical programs
85 physicians listed in 2013 Best Doctors in America
More than 161,623 patients seen in 2012
$153 million in clinical income in FY 2012

EDUCATION

Admissions:
The Class of 2017
134 new students
54% women
4 new MD/PhD students
31% are graduates of Rutgers University
53% native New Jerseyans
19% born abroad, in 15 different countries

Match Day 2013:
98% residency match rate, 4% above national average
22 specialties chosen

Academic Honors:

Alpha Omega
Alpha Honor Society:
35 new members
Gold Humanism Honor Society:
24 new members

Alumni:

5,340 alumni
Alumni Association awarded $340,000 in scholarships and loans in the 2013–2014 academic year

COMMUNITY HEALTH

The Eric B. Chandler Health Center:

A federally qualified community health center owned by Rutgers Robert Wood Johnson Medical School and operated jointly with a community board
13,848 patients;
53,290 patient encounters
Launched satellite health center at New Brunswick High School

HIPHOP:

Student-directed Homeless and Indigent Population Health Outreach Project celebrates 20th year of service in 2014.

HIPHOP ran and partnered with the community in more than 40 outreach programs in 2012–2013
More than 300 students participated in HIFP programs

RESEARCH

$89 million in research grant awards in FY 2012–2013, including $50 million from the National Institutes of Health
Robert Wood Johnson Medical School and Rutgers, The State University of New Jersey, have always been closely connected. Joint programs, centers, and shared resources link the schools, but people—alumni, faculty, students, and graduate students—form the most significant connection. With the July 1 integration of the two institutions, that connection will strengthen and evolve.

The first class at Rutgers Medical School graduated in 1968. Forty-five years later, the Class of 2013 joined the ranks of the medical school’s more than 5,000 alumni. Countless alumni and current students graduated from Rutgers, many from programs such as BA/MD and Access-Med that lead to admission at Robert Wood Johnson Medical School; medical students in the MD/PhD program can do their research in laboratories headed by scientists on the Rutgers faculty.

In 1986, the school was renamed UMDNJ-Robert Wood Johnson Medical School. With integration, the medical school has again become part of Rutgers. Its mission, character, and traditions will remain distinct, but the people who link the two schools will be the heart of a new institution that is far more than the sum of its parts.

Here we introduce a few of the many alumni who represent the enduring connection with Rutgers.
Paula S. Krauser, MA, MD ’78

Paula S. Krauser, MA, MD ’78, describes family practice as both the “liberal arts” and the “front line” of medicine: “Each patient brings biology, psychology, sociology, and religion, and becomes the mystery behind the exam room door.”

Dr. Krauser majored in psychology and German literature at Douglass College. Subsequently, as a National Institute of Mental Health Fellow, she did doctoral work at Brandeis University, researching the psychological effects of childhood chronic illness. “The physicians I worked with said I asked too many questions and suggested I go to medical school,” she says with a laugh.

Encouraged by two Rutgers Medical School deans—Richard Mason, PhD, assistant dean for student affairs, and John Gardner, MD, associate dean for student affairs—she returned to Douglass and fulfilled her premed requirements. Two years later, she received five medical school acceptances. “I selected Rutgers Medical School and always felt welcome. I was a nontraditional, feminist, older student, and my classmates were diverse, rowdy, and idealistic!”

“The wise and compassionate family physician in Marcus Welby, MD, inspired many of us to go into family medicine,” says Dr. Krauser. “My Welby was Dr. Frank Snope,” she adds, recalling Frank Snope, MD, emeritus professor and founding chair, Department of Family Medicine. “His door was always open to students, and his advice to me was life-changing.”

Dr. Krauser completed her residency at Overlook Hospital, then an affiliate of Columbia College of Physicians and Surgeons. She would later work in student health at Rutgers University and join a private practice, after convincing the six male partners that the group needed a woman physician. “It was the ‘Golden Age of Medicine,’” says Dr. Krauser. “Physicians had time to get to know their patients as people.”

In 1993, Dr. Krauser returned to the medical school, hoping to pass her love of medicine and broad experience on to future physicians and physician assistants. Now a clinical associate professor of family medicine and community health, she has taught health policy, geriatrics, women’s health, and palliative care. She serves as founding medical director of Stein Hospice.

“I deeply appreciate the chances and choices that Rutgers Medical School gave me,” says Dr. Krauser. “It was here I found my life’s inspiration in family medicine, a career where I can give my heart and soul every day and where I am never, ever bored with the challenges.”

Robert Huang, MD ’84

Robert Huang, MD ’84, is dedicated to the practice of otolaryngology (ear, nose, and throat, or ENT). Dr. Huang may have inherited his passion for surgery and hands-on patient care from his father, who practiced general surgery in Taiwan before moving the family to the United States and becoming a physiatrist. At the time of the move, Robert Huang was 11 years old and spoke no English; he had to learn the new language by immersion, as a junior high school student in New York City.

When he entered Rutgers Medical School, Dr. Huang already knew he wanted to be a surgeon. By his fourth year, he had chosen to subspecialize in ENT, drawn by the range of patients served by the field: people of all ages with widely...
varied conditions, who could be treated by the broad spectrum of procedures that ENT offers, from minor repairs to complex surgeries. He completed his internship and residency at Columbia University, followed by a head and neck surgery fellowship at Albany Medical College.

In addition to the diversity of ENT, Dr. Huang notes two events that influenced his career path. First, while he was growing up, the only physician he ever saw—besides his own father—was an ENT specialist. Second, his class at Rutgers Medical School was the first to do rotations on the Camden campus. He was privileged to study there under Lindsay L. Pratt, MD, clinical professor of surgery (otolaryngology), described by Dr. Huang as an ENT “legend.”

Today, Dr. Huang is a partner in Ear, Nose and Throat Group of Central New Jersey. The three-physician practice, which has its main office in Edison, is affiliated with Robert Wood Johnson University Hospital, Rahway. He enjoys working with the residents who train in the family medicine and rehabilitation programs at JFK Medical Center, giving several lectures a year and hosting one or two residents in his office, where they can observe his work firsthand.

A marathoner, tennis player, and cyclist, Dr. Huang finds time to volunteer at Career Night almost every year to represent ENT and meet the students. His links to the medical school include his role as proud parent of Alicia, who graduated in 2013 with the last class at the Robert Wood Johnson Medical School, Camden campus, and Stephanie, who is a member of the Class of 2017.
Francine Sinofsky, MD ’81

Francine Sinofsky, MD ’81, entered Rutgers College with her hopes pinned on going to medical school—with Rutgers Medical School as one of her top choices. Because she loved and excelled in math, she chose a challenging interdisciplinary major, biomathematics, hoping it would prepare her well and make her stand out among the applicants.

Dr. Sinofsky chose to specialize in obstetrics and gynecology, a field that matched her positive outlook and clinical goals. It was a good choice, she says. “We do primary care as well as surgery, which I enjoy. OB/GYN is the happiest field in medicine. People actually look forward to going to the hospital.” Continuity counts as well. “I sometimes see three generations from one family. And, unlike pediatric patients, your patients don’t outgrow you: babies I delivered are coming back to me as patients.”

Until 1996, Dr. Sinofsky was a member of the full-time faculty at Robert Wood Johnson Medical School. Now in private practice with the Obstetrical and Gynecological Group of East Brunswick, she serves as a clinical associate professor of obstetrics, gynecology, and reproductive sciences. She never misses an opportunity to do some impromptu teaching, she says: “Every time I do a C-section, I grab a medical student and drag them into the OR with the resident and me.”

She is a past president of the New Jersey Obstetrical and Gynecological Society and past chair of the New Jersey Section of the American College of Obstetricians and Gynecologists (ACOG). She currently serves as the district representative to the Continuing Medical Education Committee for ACOG and will start her term this year as the organization’s district assistant secretary.

Dr. Sinofsky is a model of unflagging loyalty to the medical school. On the eve of her graduation, the president of the Alumni Association recruited her as class delegate, a position she still holds. She is a past president of the association and has organized every Alumni Reunion since 1983. She loves the association’s Alumni/Student Happy Hours and has attended almost every Career Night.

An avid scuba diver and an assistant scuba diving instructor at Rutgers University, Dr. Sinofsky has pursued her passion in the Philippines, Indonesia, Micronesia, and most recently in New Guinea. Two years ago, she swam with the great white sharks—from the safety of a dive cage—off Mexico’s Guadalupe Island. She will return to the Pacific later this year to dive in the waters off the Solomon Islands and Fiji, where she can also pursue her hobby of underwater photography.

Mark Butler, MD ’84

Mark Butler, MD ’84, didn’t always see himself as a clinician. As an undergraduate at Lafayette College and subsequently as a graduate student at Lehigh University, he earned a bachelor’s degree in biology and a master’s degree in chemistry and was immersed in science. For three years following graduate school, he worked at Johnson & Johnson, doing research and drug development directed at immune rejection of organ transplants.

Dr. Butler planned to earn an MD/PhD at Rutgers Medical School and return to research. But the blueprint changed as his interest in orthopedic surgery evolved. “Dean [Joanne] Medlinsky encouraged me to go back to research,” he says. “And Don Wolff suggested a career in academic medicine,” he adds, recalling Donald J. Wolff, PhD, adjunct professor of pharmacology. “But I wanted to work with my hands.”

To help his advisee select a specialty, Bruce Fisher, MD, clinical professor of medicine, suggested that Dr. Butler list
the specialties and their most attractive aspects. Orthopedic surgery emerged as the clear winner. His patients would be of all ages and both genders. And there was new technology in the field, including developments in fracture fixation and bioengineering to promote bone healing.

Dr. Butler quickly accepted the offer of a residency at Rutgers Medical School from Joseph Zawadsky, MD, professor of surgery and founding chief, division of orthopaedic surgery. “Dr. Zawadsky was a living legend, the kind of person you want to emulate,” says Dr. Butler.

“He wasn’t just a great surgeon and teacher; he also interacted wonderfully with patients.”

Dr. Butler trained in New Brunswick and at Children’s Hospital of Philadelphia and Memorial Sloan-Kettering Cancer Center in New York during his residency. Subsequently, he completed a fellowship at Maryland Shock Trauma Center, a single-purpose hospital that is now part of University of Maryland Medical Center.

Dr. Butler’s pride as a Rutgers Medical School graduate grew when his daughter, Kate Butler, MD ’12, matched with the outstanding orthopedic surgery residency program at Union Memorial Hospital, in Baltimore. More good news came this spring when his son, Andrew, was accepted as a member of the Rutgers Robert Wood Johnson Medical School Class of 2017.

Dr. Butler is a member of University Orthopaedic Associates, where all 15 physicians serve on the medical school faculty. Trauma surgery remains his favorite part of orthopedic work. “It presents complex problems to solve, and no two cases are the same. It’s very gratifying to watch your patients recover, going from very injured to a good state,” says Dr. Butler.
Melissa A. Miller, MD ’80

Melissa Miller, MD ’80, always had a distinct vision for her career in medicine. “I was looking for the best way to help people who lacked care,” she says. “I made that clear in my admissions essays, so I think schools knew I wanted to offer as much heart as brains.”

Born, raised, and educated in Brooklyn, Dr. Miller says, “It took me about a second to say yes to Rutgers Medical School. Piscataway was the country. It had fields and trees!” Personal contacts were as important as the setting: Pamela Champe, PhD, professor of biochemistry, whom Dr. Miller remembers as “generous with her help and effervescent with joy;” Parvin Saidi, MD, professor of medicine and chief, division of hematology and oncology, whom she calls “so brilliant and so beautiful;” and the registrar, Dorothy Perlgut, who was never too busy to answer questions.

Dr. Miller is especially proud of the many great physicians who attended Rutgers Medical School; among them, she recalls Donald Rose, MD ’80; Clifton Lacy, MD ’79; and Suzanne Kabas, MD ’79. She enjoys Alumni Association events such as Career Night, which sustain these connections while introducing alumni to current students, and she has supported the annual Scholarship Gala to Celebrate with Alumni and Friends.

In her residency at College Hospital (now University Hospital) in Newark, Dr. Miller worked with the population she had always wanted to help. “It was great training,” she says. “You saw everything.” To fulfill the requirements of her National Defense Student Loan, she next served as a primary care internist at the Sexually Transmitted Disease, Tuberculosis and Family Health Clinics of the Atlantic City Health Department.

Dr. Miller subsequently accepted a position as a medical director for Prudential, where the structured schedule permitted her to remain closely involved in her daughter’s life. Initially, Dr. Miller designed a cross-functional team that connected silos—fragmented, noncommunicating specialists or systems. She went on to serve as a vice president for medical management at Health Plus, working with doctors to keep hospital admissions appropriate and reduce health care costs. She helped confirm evidence-based admission criteria, encouraging doctors to arrange tests and procedures in nonhospital settings when possible. She collaborated on development of a report card for doctors that promoted patient wellness by tracking regular preventive health care.

Dr. Miller enjoys the personal balance that comes from volunteering in the community. After Hurricane Sandy devastated the New Jersey shore, she worked with the elderly to ensure that those with health problems had access to medication and medical care.

Her greatest achievement, says Dr. Miller, is that her only child, a graduate of the University of Pennsylvania, also wants to work as a primary care physician serving an indigent, underserved population.

Paul Weber, MD ’87, MBA

Chemistry has always fascinated Paul Weber, MD ’87, MBA. This fascination, combined with an interest in wellness and health care, determined his nontraditional career path to and after medical school.

Dr. Weber started his health sciences education at the Ernest Mario School of Pharmacy at Rutgers University, where he earned a bachelor of science degree and licensure as a pharmacist. He entered the pharmaceutical industry as a formulation scientist at Warner-Lambert before matriculating at Robert Wood Johnson Medical School, where he also completed his residency in internal medicine. He
says, “My education, first in pharmacy and then in traditional medicine, perfectly fit my service-oriented goals in health care.”

Dr. Weber first engaged in bench research as an undergraduate in the Rutgers Department of Chemistry; then, as a medical student, he advanced to a clinical research position with the chief of dermatology. After his residency, he reentered the pharmaceutical industry as a clinical research physician and became the medical affairs physician of record for a breakthrough AIDS medication (saquinavir) at Roche Laboratories.

Dr. Weber later transitioned to hematology/oncology, strategically developing and leading research and education programs on medications for numerous solid tumors, including breast, brain, skin, and colorectal cancer, as well as several adult and pediatric hematologic malignancies. In his current position at Celgene as executive director, corporate affairs, global professional advocacy and policy, he develops collaborations with leaders of major professional organizations and cancer centers to help shape health care policy regarding access to health care and biomedical innovations.

In 2004, Dr. Weber earned a master’s degree in business administration with a focus on international business, which he finds invaluable in a position that is both professionally rewarding and emotionally intense. In addition to his current position at Celgene, he teaches “Physical Diagnosis” at the medical school and serves as a preceptor at the Ernest Mario School of Pharmacy. He also maintains energy and balance by training and competing as a marathoner and triathlete.

A member of the medical school’s volunteer faculty since 1990, Dr. Weber helps second-year students in physical diagnosis to hone their bedside manner and improve their physical examination and interview skills. In addition, he builds students’ proficiency in the Objectively Structured Clinical Exams. In 2001, they voted him Volunteer Faculty Member of the Year. Dr. Weber often makes his office at Celgene an informal training ground, where pharmacy students and industry novices can witness a pharmacist-physician’s potential impact on the industry.

Since 1993, Dr. Weber has participated in 51 marathons, 12 of them the grueling Ironman competitions. He counts on the enthusiasm of his extended family and valued friends, his number one fans, to get him over the finish line.
Robert Laumbach, MPH, MD ’97

A specialist in the health effects of air pollution, Robert Laumbach, MPH, MD ’97, uses his medical background to help improve his understanding of the human/biological responses to chemical agents and other environmental exposures.

Robert Laumbach, MPH, MD ’97, a specialist in the health effects of air pollution, started college as a fine arts major at the Cooper Union College of Art, in New York City. After several years, however, he decided to pursue environmental issues, another long-held interest, and guarantee himself a more certain future. He completed his undergraduate education in the environmental sciences track at Cook College, Rutgers University.

After graduation, Dr. Laumbach worked as an environmental and occupational health specialist in public health departments and private industry, while earning a master’s degree at the School of Public Health at Columbia University. He applied to medical school eight years later, having decided that a medical background would improve his understanding of the human/biological responses to chemical agents and other environmental exposures.

The Environmental and Occupational Health Sciences Institute of New Jersey (EOHSI), on the Piscataway campus, proved a strong attraction for Dr. Laumbach. As a medical student, he would have ready access to the institute’s expert, multidisciplinary faculty as well as a packed calendar of conferences, rounds, and lectures. Later, after completing residencies in the Departments of Family Medicine and Environmental and Occupational Medicine, Dr. Laumbach was recruited to the faculty of EOHSI.

As a medical student, Dr. Laumbach recalls, he often had to explain his interest in the field of occupational and environmental medicine to fellow students more familiar with the traditional clinical specialties. The emphasis on understanding influences on health in a broader context, “beyond the clinic walls,” as well as on preventing disease and disability, is what excites him about this field. “The great diversity and complexity of environmental factors that impact health are a constant source of new challenges and opportunities to improve the human condition,” he says.

While Dr. Laumbach has studied air pollution in a variety of settings from “sick” buildings to the Turnpike corridor, his current research demonstrates the range of expertise needed to address environmental problems. Under a $1.2 mil-
lalion grant from the U.S. Environmental Protection Agency, Dr. Laumbach is leading six EOHSI investigators in a study that focuses on the Ironbound section of Newark, where asthma is highly prevalent. The study examines the extent to which elevated levels of exposure to air pollutants, coupled with chronic psychosocial stress, may contribute to higher rates of asthma in urban communities.

**Sonia Garcia Laumbach, MD ’99**

“I love this job,” says Sonia Garcia Laumbach, MD ’99, who returned to Robert Wood Johnson Medical School in 2008 to accept an appointment as assistant dean for student affairs.

In this position, Dr. Garcia Laumbach’s responsibilities include oversight of the medical school’s collaborative and dual-degree programs. She is herself a product of one of these: at Rutgers University, she was accepted by the BA/MD program, in which Rutgers undergraduates complete their first year of medical school during their junior and senior year of college and then go directly into their second year at Robert Wood Johnson Medical School.

Teaching is a top priority for Dr. Garcia Laumbach, an assistant professor of family medicine and community health. A native of Cuba, she taught “Medical Spanish” as a medical student, resident, and fellow. As chief resident in the Department of Family Medicine, she received the Mead Johnson Award for Graduate Medical Education—one of only 20 residents nationwide selected for this honor.

Following a postdoctoral fellowship in health policy at Robert Wood Johnson Medical School, Dr. Garcia Laumbach was recruited to the faculty of Centra-State Health System, with primary responsibility for developing and launching a family medicine residency program. She oversaw didactics and provided care for patients ranging from hospital administrators to uninsured migrant farmworkers. Meanwhile, she worked closely with state legislators and local officials to improve health care access for the underserved. Her commitment to domestic violence screening includes the development of a women’s health screening test in Spanish and English for inner-city clinics.

Before returning to the medical school full time, she was briefly the school’s student health director while serving as medical director of an affiliated clinic in Perth Amboy. When she was invited to fill the position of assistant dean for student affairs, she was delighted. She says, “You can be creative in developing new programs and collaborations. You work with teachers and mentors and help students to develop projects and make them happen. I love knowing I’m helping to make the school a better place to be.”

Her greatest satisfaction, says Dr. Garcia Laumbach, is seeing the students grow, find their strengths, and learn who they are. “It’s exciting to be here—in the place where I found out who I was.”
As a BA/MD graduate of Rutgers University, Nadia Ovchinsky, MBA, MD ’02, would have graduated from Robert Wood Johnson Medical School in three years. However, she saw an unexpected opportunity, she says, in the “extra year” she’d gained through the BA/MD program. Concerned about the structure of health care in the United States, she completed a master’s degree in business administration at the Rutgers Graduate School of Business Management and became the first Robert Wood Johnson Medical School student to earn a dual MD/MBA degree.

Dr. Ovchinsky developed an interest in the pathophysiology of gastrointestinal disorders during her preclinical years, when she completed a research fellowship in the Department of Gastroenterology and Hepatology at Robert Wood Johnson University Hospital (RWJUH). During her fourth year, working closely with Soula Koniaris, MD, assistant professor of pediatrics, and other pediatric GI specialists in the Robert Wood Johnson Medical Group, she became intrigued by the field. It was a perfect time to become involved in pediatrics, she says, since The Bristol-Myers Squibb Children’s Hospital at RWJUH had just opened.

“Nadia is bright, empathetic, compassionate, and eager to learn,” says Dr. Koniaris. “She’d see a problem and find a solution. As a student, she understood that to be the patient’s best advocate, you have to be able to explain things thoroughly and help the parents understand.”

Dr. Ovchinsky completed her pediatric residency and was chief resident at NewYork-Presbyterian/Morgan Stanley Children’s Hospital, Columbia University Medical Center, where she subsequently pursued a fellowship in pediatric gastroenterology and received advanced training in pediatric transplant hepatology. She now serves as an assistant professor of clinical pediatrics at the Center for Liver Disease of Columbia University College of Physicians and Surgeons. Dr. Ovchinsky directs pediatric resident education in the division of pediatric gastroenterology and hepatology and codirects a fellowship in pediatric transplant hepatology.

She cares for children with complex liver diseases and intestinal failure, prepares them for transplant, and manages their recovery. “I like being able to take care of children with serious illness, provide support for their families, and make them healthy,” she says.

With support from the National Institute of Diabetes and Digestive and Kidney Diseases, Dr. Ovchinsky’s clinical research focuses on studying the natural history of nonalcoholic fatty liver disease in children. In addition, she is seeking treatment options for this liver disease, which is nearing an epidemic level in the pediatric population in the United States.

Simranjeet S. Sran, MD ’12

After his sophomore year at Rutgers, he was selected for the BA/MD program, and as a medical student, he was a leading scholar and scientist. Now, as a second-year resident in pediatrics at New York University Langone Medical Center, Dr. Sran is on his way to an outstanding career, making a difference for

“I like being able to take care of children with serious illness, provide support for their families, and make them healthy.”

—Nadia Ovchinsky, MBA, MD ’02
generations of children—his own patients and those who will benefit from his research.

Although he focused on the neurosciences in his undergraduate and graduate research, he expects his residency to lead to pediatric cardiology or neonatal intensive care. Dr. Sran’s choice of pediatrics was shaped by Dalya Chefitz, MD ’90, associate professor of pediatrics and chief, division of general pediatrics. “Her dedication to her patients and to teaching is unparalleled,” says Dr. Sran.

He likes to work with children, and he likes the diversity of pediatrics. “Newborns, toddlers, adolescents, and young adults all fall into the realm of pediatrics, and treating each group requires different skills and knowledge,” he says. “Moreover, pediatricians can affect their patients’ health years into the future by influencing lifestyle choices they will make such as not smoking, doing drugs, or drinking excessively.”

During his first year at Rutgers, Simran Sran was accepted as an Aresty Summer Science Fellow and assigned to the laboratory of Bonnie Firestein, PhD, professor of cell biology and neuroscience. He became an “instrumental force in the lab,” says Dr. Firestein, who served as his mentor until his graduation from Robert Wood Johnson Medical School. “Simran is wonderful: curious, kind, enthusiastic, insightful, easygoing, and imaginative. He’ll be a fantastic pediatrician. I’d trust him with my own son.”

Dr. Sran worked in Dr. Firestein’s lab on a wide variety of projects and introduced a mini-project on stroke. “It was good that, after Rutgers, I could continue with the same mentor and projects,” he says. He worked closely with Dr. Firestein in her research on cypin, a protein that regulates dendritic branching in the brain. The research led to his coauthoring a paper that explored why dendrites (neuron cell branches) increase in healthy, active people and decrease when people are ill. “It may lead to a change in how we look at autism and Rett syndrome,” says Dr. Sran, and it opens the door to novel treatments, targeting cypin, to increase dendritic growth.
The Center for Advanced Biotechnology and Medicine and the Environmental and Occupational Health Sciences Institute were established in the 1980s. As outlined in their charters, they are jointly administered by what is now Rutgers Robert Wood Johnson Medical School and by Rutgers, The State University of New Jersey.
the New Jersey Commission on Science and Technology chartered the Center for Advanced Biotechnology and Medicine (CABM) in 1985 to serve as a center of excellence, with a mission to advance knowledge in the life sciences for the improvement of human health. “From the outset, CABM gained strength from Aaron Shatkin, an extraordinary leader, who encouraged a culture of interdisciplinary collaboration,” says Ann Stock, PhD, professor of biochemistry and molecular biology and associate director, CABM. Dr. Shatkin served as director of CABM from its founding until his death in 2012.

In 1990, CABM moved into its own building, which houses the offices and laboratories of its 13 resident members. Both elegant and functional, the building’s design encourages free-flowing thinking and discovery by a multi-departmental faculty. “CABM was founded with an emphasis on scientific research, but it quickly developed an academic spirit that reflected Dr. Shatkin’s passion for training young scientists,” says Dr. Stock.

CABM faculty members hold academic appointments either at Rutgers Robert Wood Johnson Medical School or at Rutgers University; several hold faculty appointments at both. “We try to operate as one life sciences community,” says Dr. Stock. “Members convey to their departments what they experience at CABM, making us an important hub for shared ideas and learning.”
Education and research are closely intertwined in CABM laboratories. More than two decades ago, CABM partnered with the Department of Biomedical Engineering at Rutgers to establish a graduate program in biotechnology, involving faculty and students at the medical school and the university. The Training Program in Biotechnology, now in its 23rd year of funding from the National Institutes of Health (NIH), holds the distinction of being the longest-funded NIH Training Program at Rutgers. CABM laboratories provide a rich training environment where postdoctoral fellows, medical and MD/PhD students, graduate students, and Rutgers undergraduates interact to achieve common research goals.

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CABM has earned approximately $315 million in grant support from the NIH, other public and private agencies, and foundations. More than 1,100 graduate students and postdoctoral fellows have trained in its laboratories.

The collaborative spirit allows for large-scale projects that require a multidisciplinary, multi-expertise approach. It provides the critical mass necessary to gain shared instrumentation grants; it strengthens research grants and lessens the need to subcontract. CABM’s shared instrumentation includes mass spectrometry, nuclear magnetic resonance (NMR), and X-ray crystallography laboratories that carry out studies of structure and function in genomically defined protein targets. This instrumentation enhances life science research throughout the integrated campus. Indeed, the mass spectrometry facility serves users in 80 laboratories that previously spanned two distinct institutions.

Through CABM, the strengths of both schools are brought to bear on research. Departments at Rutgers, such as computer science and chemical biology, strengthen the capabilities of departments at the medical school, and vice versa. For example, the expertise of CABM member Vikas Nanda, PhD, associate professor of biochemistry and molecular biology, who seeks to create a synthetic network of proteins resembling the extracellular matrix, is an important resource for scientists at Rutgers who study synthetic biology and biophysics.

At the interface of neuroscience and genetics, interinstitutional collaboration has facilitated the work of CABM member James Millonig, PhD, associate professor of neuroscience and cell biology and assistant dean of medical scientist training, and Linda Brzustowicz, MD, professor and chair, Department of Genetics, Rutgers School of Arts and Sciences. This partnership recently led to the establishment of the Robert Wood Johnson Medical School New Jersey Autism Center of Excellence at Rutgers University.

Collaboration was critical to researchers at the medical school as the biological sciences moved to a genomic level. Through CABM, scientists at the medical school who studied the role of proteins in cancer were able to benefit from NIH support for the large-scale, high-throughput protein structure and function studies carried out by Gaetano Montelione, PhD, Jerome and Lorraine Aresty Chair in Cancer Research, professor of molecular biology and biochemistry, Rutgers University, and resident member, CABM.

Because its primary mission links basic research to human health, CABM has been a natural incubator for new centers of excellence at the medical school. The Cancer Institute of New Jersey was housed at CABM before its own building was completed, as was the Protein Data Bank at Rutgers University, directed by Helen Berman, PhD, Board of Governors Professor of Chemistry and Chemical Biology, Rutgers University.

Members of CABM also collaborated in initial planning for the Child Health Institute of New Jersey (CHINJ). And in 2010, CABM resident member Arnold B. Rabson, MD, was appointed director of CHINJ. Dr. Rabson is the Laura Gallagher Endowed Chair of Developmental Biology and professor of pharmacology, pediatrics, and pathology and laboratory medicine.
In 1986, New Jersey’s growing number of environmental problems prompted the state government to establish the Environmental and Occupational Health Sciences Institute (EOHSI). Thomas H. Kean, then governor, strongly backed the institute’s creation. Together with the legislature, he provided funds that would both support construction of the EOHSI building and allow the state to address its complex environmental crises. In addition, the governor supported a balanced administration for EOHSI, making it a true collaboration between its two parent institutions, Rutgers University and the University of Medicine and Dentistry of New Jersey. “At EOHSI, the understanding has always been that we would keep university and department walls transparent,” says Kenneth Reuhl, PhD, interim director, EOHSI, and professor of pharmacology and toxicology, Rutgers University.

The interdisciplinary expertise of EOHSI ranges from basic and applied research to patient care, but its members share the goal of applying their research to environmental issues and writing and advocating for legislation that makes their findings effective. “Having a common vision provides for best practices and ideas,” says Dr. Reuhl.

EOHSI houses six major research divisions: toxicology, exposure science, clinical research and occupational medicine, environmental epidemiology and statistics, environmental health policy, and public education and risk communication. Among its six research centers are the Clinical Center for Environmental and Occupational Medicine, the CounterACT Research Center of Excellence, and the Center for Environmental Exposures and Disease (CEED).

Since 1986, EOHSI has received more than $570 million in extramural funding. This total includes five competitive five-year center grants (ES005022) from the National Institute for Environmental Health Sciences (NIEHS) to support CEED. The center hosts three research cores and a community education core and sponsors nine NIEHS-funded pilot programs, which encourage interdisciplinary approaches to environmental health sciences and innovative collaborations between junior and senior faculty. CEED’s 78 members serve in the Department of Environmental and Occupational Medicine.
at the medical school or in one of 23 schools and departments at Rutgers.

At CEED—as is true throughout EOHSI—the leadership and membership are balanced between the medical school and Rutgers. Its director, Helmut Zarbl, PhD, professor of environmental and occupational medicine, serves on the medical school faculty, while the deputy director is Rutgers faculty member Debra Laskin, PhD, professor and chair, Department of Pharmacology and Toxicology, Ernest Mario School of Pharmacy.

From the start, EOHSI was an important resource for New Jersey, but it quickly became a national and international resource as well. It has seen enormous growth over the past 15 years, and, with the new millennium, environmental crises have broadened the scope of its work. Dr. Reuhl describes a few of them.

“At EOHSI, the understanding has always been that we would keep university and department walls transparent. . . . Having a common vision provides for best practices and ideas,” says Kenneth Reuhl, PhD (far left), with Howard Kipen, MD, MPH.

In 2001, EOHSI scientists were among the teams of experts summoned by NIEHS to the site of the World Trade Center (WTC) attacks, and they have been involved in multiple ensuing projects, including the World Trade Center Medical Monitoring Program, led by Iris G. Udasin, MD, professor of environmental and occupational medicine and director of employee health. Funded by the National Institute for Occupational Safety and Health, the program provides continuing health care monitoring and advocacy for WTC emergency responders. A far-reaching assessment of effects of exposure to the dust plume that rose from the site was coordinated by Paul J. Lioy, PhD, professor of environmental and occupational medicine and deputy director of government relations and director of exposure science, EOHSI.

In 2008, as China prepared to host the Olympics, its government engaged EOHSI to perform a panel study of 130 Beijing medical students to measure the effects of the government’s drastic reductions in air pollution. The study was led by Howard Kipen, MD, MPH, professor of environmental and occupational medicine and acting associate director, EOHSI. Characteristically, the study included EOHSI faculty from the medical school, Rutgers, and the School of Public Health.

In October 2012, Hurricane Sandy devastated the New Jersey coast. In its wake, communities faced overwhelming long-term consequences that included fungal infection and acute effects of chronic exposure to mold—new areas of research for EOHSI. In a multifactorial crisis, being multidisciplinary helps, says Dr. Reuhl, naming a few of the many intersecting, post-Sandy concerns addressed by EOHSI scientists: environmental destruction, indoor air pollution, groundwater contamination, infrastructure collapse, housing and energy crises, widespread health risks, and a threatened economy. “You have to have versatile expertise to look at unexpected and unpredictable outcomes,” he says.

In collaboration with the Rutgers School of Engineering, Stuart Shalat, ScD, associate professor of environmental and occupational medicine, is using robots to safely assess the health effects—particularly the risk of asthma—of environmental pollutants on young children. Also focusing on asthma is Robert J. Laumbach, MPH, MD ’97, associate professor of environmental and occupational medicine. Under a grant from the U.S. Environmental Protection Agency, Dr. Laumbach is leading a multidisciplinary team focusing on the Ironbound section of Newark. The study examines the extent to which elevated levels of exposure to air pollutants, coupled with chronic psychosocial stress, may contribute to higher rates of asthma in urban communities.

EOHSI provides strong undergraduate and graduate training at both collaborating institutions. Rutgers Robert Wood Johnson Medical School is one of the few medical schools nationwide to have a Department of Environmental and Occupational Medicine, and EOHSI faculty introduce first- and second-year students to issues of environmental health as part of the curriculum.

Fifty physicians, including Dr. Laumbach, have completed EOHSI’s residency program in occupational and environmental medicine since 1985. The NIEHS-supported Joint Graduate Program in Toxicology, established in 1984, has graduated more than 140 PhD, MS, and PhD/MD students since its inception. In 2011, EOHSI established the first-in-the-nation NIEHS Training Grant in Exposure Science, a collaboration of the Graduate School in Biomedical Sciences at the medical school and the Department of Environmental Sciences at the university.
Jointly sponsored academic programs have deep roots at Rutgers Robert Wood Johnson Medical School and Rutgers, The State University of New Jersey. At every level, from the accelerated premedical program to the dual-degree and PhD programs, collaborations have provided enormous benefits to both the medical school and Rutgers, including an expanded faculty, access to additional resources, and a more vibrant academic environment.

BY KATE O’NEILL
Undergraduate Programs

The BA/MD and Access-Med programs provide strong incentives to students who have a deep commitment to their chosen profession, and who add academic strength and diversity to the medical school.

BA/MD

The accelerated BA/MD program is available to undergraduates at the Rutgers–New Brunswick Campus. The highly competitive program opens up a fast track to the medical school for top students in Rutgers’ health sciences program who have chosen a career in medicine.

Historically, about one-third of the applicants are admitted to the BA/MD program, based not only on their academic strength and commitment, but also on their clinical experiences and outreach activities. They complete most of their undergraduate work as juniors and begin their first-year medical school courses during their senior year. Upon graduation from Rutgers, they enter the medical school as second-year medical students.

Access-Med

Access-Med is an articulated, two-phase BA/MD or BS/MD program, jointly administered by the medical school, Rutgers, and Seton Hall University. Designed to augment the number of medical students from groups underrepresented in medicine, it offers academic support, guidance, and career counseling to undergraduates, who are accepted during their sophomore year.

Strong academic performance in Phase 1 of the program leads to admission to Phase 2, after their junior year. This step constitutes conditional acceptance to the medical school, which may offer admission to qualified participants at the conclusion of their senior year. In recent years, seven to 11 Access-Med students have been annually admitted to the medical school.

Graduate Programs

MD/PhD Program

The MD/PhD program reflects the medical school's focus on physician-scientist training. This commitment is shared by Rutgers University and Princeton University, the school’s partners in the MD/PhD program. With the addition of Princeton, in 2004, the program evolved into a much-expanded, public-private partnership that offers participants their choice of research mentors at the medical school, at Rutgers, or in Princeton's Graduate Program in Molecular Biology. The expansion created an exceptional combination of faculty, facilities, and resources, while adding structure that builds a strong community among participants. In addition, it has facilitated interactions between the participating schools and their clinical–basic research communities.

Forty students are currently enrolled in the program, in different phases of their education; eight students were admitted in 2012—the highest number ever. Students generally do their doctoral research full-time between the second and third years of their medical studies and average three and a half years to earn their PhD. Their doctoral research has involved all areas of science, including cancer biology, neuroscience, biomedical engineering, and biophysics. This year, for the first time, students were accepted by Rutgers PhD programs outside the traditional biomedical sciences, including anthropology and public policy.

Program participants have received numerous prestigious predoctoral fellowships from the National Institutes of Health, the Department of Defense, and the New Jersey Commission on Cancer Research. They have published articles in leading journals, and they actively participate in community service. In addition, they match with excellent residency programs, with this year’s matches including internal medicine at the University of Pennsylvania, child neurology at Washington University, St. Louis, and ophthalmology at the University of Utah.
Graduate Programs

PharmD/MD

The nation’s first dual-degree PharmD/MD program is under development at the medical school and the Ernest Mario School of Pharmacy at Rutgers.

The PharmD degree is a six-year program at the School of Pharmacy. Students who apply to the program must be accepted by both the dual-degree committee at the School of Pharmacy and the medical school admissions committee. Students complete their third year of didactic pharmacy studies before beginning experiential learning on rotations.

Built on the established collaborations of the medical school and Rutgers, the program represents an innovative, tangible benefit of the schools’ recent integration. This highly competitive program integrates core instruction in basic and clinical sciences with clinical clerkships/rotations and interprofessional enrichment. While respecting the individual histories and missions of medicine and pharmacy, it aims to train an elite cadre of interdisciplinary practitioners and clinicians, along with other healthcare professionals, as leaders in policy, research, and clinical settings.

MD/MS in Clinical and Translational Sciences

Medical students have the opportunity to pursue research and training in the MD/MS in Clinical and Translational Sciences Program, a collaboration of the medical school and Rutgers Graduate School of Biomedical Sciences at Robert Wood Johnson Medical School. The program includes courses in ethics, clinical trial design, commercializing innovation, and biostatistics. Students may take additional courses in partnership with the Rutgers Professional Sciences Master’s Program. The student thesis has allowed students to perform cutting-edge biomedical research, with faculty at the medical school that has been recognized at international scientific meetings.

The Molecular Biosciences Umbrella Program

The Molecular Biosciences Umbrella Program administers five joint graduate programs at the Graduate School–New Brunswick of Rutgers University and the Rutgers Graduate School of Biomedical Sciences at Robert Wood Johnson Medical School. They comprise biochemistry, cell and developmental biology, cellular and molecular pharmacology, microbiology and molecular genetics, and physiology and integrative biology.

The umbrella program oversees admissions and a required first-year core curriculum, and it offers research opportunities in more than 200 laboratories in 15 departments, centers, and institutes. It provides access to an extended, diverse, and highly interactive community of biological scientists, in fields spanning molecular biology, cell biology, cancer biology, genetics, neurobiology, and developmental biology.

In addition to the Molecular Biosciences Program, four individual graduate programs are offered in biomedical engineering, exposure science and assessment, toxicology, and neuroscience.
Rutgers Medical School wasn’t built in a day. The school grew slowly and deliberately, from its conception in 1960, through the recruitment a year later of DeWitt Stetten, MD, as dean, followed by the appointment of a faculty, and the matriculation, in 1966, of the first 16 medical students.

Dr. Stetten was eager to move quickly with the design and construction of the medical school’s first permanent building. He led the search for a proven architectural team whose experience and creativity matched his vision for the school. In 1964, the architectural firm of McDowell-Goldstein, based in Madison, won the contract. Dr. Stetten worked closely with Stanley James Goldstein, the partner in charge of the project. They traveled to sites near and far to explore the latest architectural concepts applied in academic and research settings.

Mr. Goldstein met with each faculty member to ascertain his or her individual criteria for teaching and research. Meanwhile, the ambitious young school, already turning heads among medical educators, made headlines in the architectural community, as well. The first rendering of the
design for the project was published in January 1966 in the Architects’ Bulletin, the official publication of the New Jersey Society of Architects. It was also selected for the society’s traveling exhibition. By 1968, the project was ready to move ahead. Fulfilling a commitment to Dr. Stetten, Mr. Goldstein appointed an architect-in-residence, Conrad Remick, a young associate at McDowell-Goldstein who had worked closely with Mr. Goldstein on the design development of the project.

Later named project designer, Mr. Remick saw it through to completion right on schedule in 1970. That year, photographs and drawings of the completed medical school were exhibited at the New Jersey Society of Architects’ convention, and the project was honored with the society’s Award of Merit, its highest award for design.

The concept was successful. The floor plan encouraged collaboration and exchanges of ideas. Space was provided for evolving technology, and the building would later connect smoothly with the Center for Advanced Biotechnology and Medicine, completed in 1985, and the Robert Wood Johnson Medical School Research Building, dedicated in 2003.

The medical school building has two parts: the Research Tower, at the western end, and the Teaching Laboratories, facing east. Throughout, form follows function. The monolithic, eight-story western section is dedicated to research, with each of the school’s seven basic science departments occupying one of the upper floors. On the exterior, a pair of square towers bisects each facade. The towers’ visible, vertical ribs contain the building’s mechanical and circulation systems, such as pipes, ducts, stairs, and elevators.

Exposed, precast concrete panels form the exterior and interior walls, copiously punctuated with windows on each of the seven upper stories. The glass curtain wall wraps around much of the ground floor, continuing around the long, two-story eastern wing, which houses academic and public spaces: lecture halls, an auditorium, and a student lounge, with a Steinway grand piano donated by McDowell-Goldstein. Dr. Stetten’s concept for the 16 multipurpose teaching labs on the second floor was considered highly innovative. “Everything the students needed was there,” says Mr. Remick. “Instead of the students making the rounds to classrooms, the faculty came to them.”

The Great Hall is at the eastern end of this wing—“bold and dignified” space, as Mr. Remick describes it. Unfinished, textured concrete walls and large windows echo the building’s exterior. Here and in the student lounge, exposed beams create coffered ceilings with skylights that add light and height and enhance the rooms’ architectural interest.

Dominating the Great Hall is a double cantilevered, or floating, staircase. “The director of teaching facilities wanted a staircase large enough to hold the entire class for graduation,” says Mr. Remick. “The staircase was constructed in one continuous pour of concrete, and its design was a real challenge for the structural engineers.”

### 40 Years Later, Architect Revisits Campus

In November 2011, more than 40 years after the completion of the medical school building, Mr. Remick returned to the site with his son Glenn, also an architect. Although neither one now lives in New Jersey, they dedicated a day to touring the state, showing each other projects they had worked on.

“Glenn was overwhelmed by the building’s modernism, a product of the use of poured-in-place, ribbed concrete towers; aggregate, precast panels; and a glass curtain wall,” says Mr. Remick. “He found it brutal and bold but extremely simple and finely articulated. And he found the scale of it to be wonderful.”

“The building presents an even stronger architectural statement today than when first constructed, and its contextual design and use of natural materials blend well with the adjacent, newer buildings,” Mr. Remick said after his visit to Piscataway. “The vertical concrete towers look as though they were poured yesterday. The quarry tile floors are as elegant as the day they were installed. The monumental staircase still dominates the Great Hall in grand style.”

And, as he had hoped, the building has weathered extremely well. “The trees, plantings, benches, and walkways reduce the entry to a very friendly human scale in stark contrast to the structure beyond.

“As the years passed,” he adds, “I felt that my experience on the Rutgers Medical School project provided me with the most valuable foundation in architectural design and construction that a young architect could have hoped for. Visiting the building again with my son will remain as one of the most memorable events of my career as an architect.”
“We are constantly thinking of ideas to improve care and outcomes for patients,” says Shabbar F. Danish, MD ’01, assistant professor of neurosurgery at Robert Wood Johnson Medical School.
Every day, thousands of people nationwide are hospitalized or treated in emergency rooms as a result of traumatic brain injuries (TBIs), from mild concussions to the most severe cases. Yet the initial incident may not be the sole determining factor in a patient’s outcome. Instead, it’s what comes in the days after that injury that could have the most impact.

The reason lies in part with the body’s normal healing response. With the limited space available in the skull, the accumulation of extra nutrients and fluid in the brain as part of the healing process can cause dangerous swelling, reducing the flow of oxygen-rich blood and injuring parts of the brain not impacted initially.

These secondary injuries often are more damaging than the initial trauma. And because they happen gradually—usually within the first 48 hours, but as long as five days after the injury—knowing the best time for treatment to prevent the swelling has been a challenge.

BY BETH-ANN KERBER
Portraits by John Emerson
“Treatments exist, but it is difficult to predict when they should be applied, since we don’t fully understand what triggers the swelling. As a result, treatment often comes too late,” says Shabbar F. Danish, MD ’01, assistant professor of neurosurgery at Robert Wood Johnson Medical School.

Frustrated by a lack of real-time measures to predict such swelling and eager to find a way to improve outcomes for his patients, Dr. Danish sought a solution in his work as a mentor for students in the senior design project curriculum of the Department of Biomedical Engineering at Rutgers, The State University of New Jersey.

Dr. Danish presented Alex Krasner, then a Rutgers undergraduate, with the challenge: create a device and the software that could provide such real-time data. The end result was a prototype that serves as the basis for the Continuous Hemodynamic Autoregulation Monitor (CHARM).

Now Dr. Danish is serving as coinvestigator with William Craelius, PhD, professor of biomedical engineering at Rutgers, on a three-year, $539,000 grant from the New Jersey Commission on Brain Injury Research (NJCBIR) to further develop this prototype.

Testing the Clinical Application

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Testing the Clinical Application

“Our goal is to help attending physicians make informed therapeutic decisions during TBI treatments by providing continuous, accurate predictive information,” says William Craelius, PhD, professor of biomedical engineering at Rutgers.

This study expands on the senior design project work and will put it to use in the clinical environment. It is about perfecting the CHARM unit and giving clinicians data they can follow to better treat these patients,” notes Dr. Danish, who is also the director of stereotac-
tic and functional neurosurgery at the medical school and director of the Gamma Knife Center at Robert Wood Johnson University Hospital.

Once developed, CHARM units will be installed in the critical care units at Robert Wood Johnson University Hospital and JFK Medical Center—where Steven V. Escaldi, DO, clinical assistant professor of physical medicine and rehabilitation and medical director, Outpatient Spasticity Clinic at JFK Johnson Rehabilitation Institute, will assist with providing and interpreting patient data for the study. The unit will be developed at Rutgers’ Biomechanics and Rehabilitation Engineering Laboratory, where Krasner is studying for his master of science degree under the supervision of Dr. Danish and the laboratory’s director, Dr. Craelius.

“Our goal is to help attending physicians make informed therapeutic decisions during TBI treatments by providing continuous, accurate predictive information,” says Dr. Craelius, the study’s principal investigator.

By developing an intelligent monitor of blood supply to the brain that will help guide therapeutic interventions after TBI, the researchers are hoping to develop a method to predict the swelling up to an hour before it occurs, Dr. Craelius adds.

Understanding the Process

Under normal circumstances, the body is able to maintain a relatively constant flow of blood to the brain due to the protective process known as autoregulation. However, after a traumatic brain injury, that ability is often lost. If there’s too little pressure, the brain tissue can become ischemic (not enough blood flow); too much, and the intracranial pressure increases. Either can mean secondary injuries resulting in disability or even death.

The CHARM units are designed to continuously monitor the brain’s ability to autoregulate cerebral pressure, so that information can be reported efficiently to clinicians during treatment, resulting in better clinical interventions, Dr. Craelius says.

“The actual values and their potential meanings are known, but there has not been a well-established way to collect the data and perform real-time analysis. This device would allow us to do that,” Dr. Danish adds.

Though in its earliest stages—the NJCBIR grant began in June—this research addresses a growing problem in the state, as well as nationwide. Between 12,000 and 15,000 New Jersey residents suffer brain injuries from traumatic events each year, of which 1,000 are fatal, NJCBIR statistics indicate. In addition, approximately 175,000 people in the state currently live with disabilities resulting from TBIs.

In comparison, nationally, at least 1.7 million TBIs occur each year, with 237,000 people hospitalized with moderate to severe TBI and 52,000 resulting deaths, according to the Centers for Disease Control and Prevention—a mortality rate of about 3 percent, compared to New Jersey’s 7 percent.

The Power of Collaboration

This new research collaboration epitomizes the synergies inherent in the closer ties now between the medical school and Rutgers—combining the expertise of the neurosurgeons and physiatrists involved in the clinical care of patients who have TBIs with engineers’ technical expertise needed to create the device and develop the software program to achieve the project’s goals.

And it is a natural outgrowth of the clinical and research missions of the medical school.

“We are constantly thinking of ideas to improve care and outcomes for patients,” says Dr. Danish.
The Power of Collaborations in Solving the Puzzle of Autism

A long-standing business and sports-world trope proclaims: “together, everyone achieves more.” Though dismissed by some as merely cliché, at its heart, this saying touts the ability of a united team to enhance the capabilities of each of its members.

At Rutgers Robert Wood Johnson Medical School, those words can be seen in action every day, as nationally renowned programs and researchers—each highly respected and accomplished in their own right—collaborate in ways that are creating breakthroughs in what we understand about autism spectrum disorders.

This process demonstrates the concept of a “virtuous cycle” at work in an academic medical center.

“Everyone brings value to the table. Our clinical efforts support our academic and clinical missions, while the research and education components enhance clinical practice. Each continues to build on the other. The ‘virtue’ is that each makes the other better,” explains Peter S. Amenta, MD, PhD, dean.

“Basic science research on autism serves as building blocks to the clinical research that will be conducted. Eventually, those findings are hoped to feed into improved clinical care for people with autism spectrum disorders and their families,” adds Dr. Amenta.

And now, with the integration of Robert Wood Johnson Medical School and Rutgers, The State University of New Jersey, those opportunities may be growing exponentially.

It’s fortuitous timing for the one in 49 children with autism in New Jersey—a rate that has doubled in six years to become among the highest in the nation, according to the Centers for Disease Control and Prevention. To a large degree, this increase in autism is due to greater societal awareness and changing diagnostic criteria, as well as outstanding skills of developmental pediatric practitioners. The newly integrated Rutgers Robert Wood Johnson Medical School is well positioned to take advantage of the expanding research opportunities and clinical services focused on autism spectrum disorders.

Research: Putting Together the Pieces

Autism, with its many issues and varied clinical presentations, has often been likened to a puzzle. So, too, are the multifaceted approaches needed to address it, researchers say.

“We know that there is not just one...
Because of the disorder’s complexity, a wide variety of experts are needed to deal with the multifaceted issues surrounding autism, says Emanuel DiCicco-Bloom, MD, professor of neuroscience and cell biology and pediatrics at Robert Wood Johnson Medical School.
We each have our different areas of expertise. ...Together, we’re better as a group. That’s why it works. Everybody brings a different piece,” says James H. Millonig, PhD, associate professor of neuroscience and cell biology, and assistant dean of medical scientist training at Robert Wood Johnson Medical School.
This research, which contributed to the development of a new genetic test for autism spectrum disorder, earned Dr. Millonig and Dr. Brzustowicz the coveted Edison Patent Award from the Research & Development Council of New Jersey. Diagnostic tools developed through this research have been used, in part, to test for the risk of autism in children who have siblings already diagnosed with the disorder.

It is one of the most recent steps in the efforts they and colleagues like Dr. DiCicco-Bloom have taken to work progressively toward a deeper understanding of the causes and treatment of autism: first, identifying En2 as one of the genes contributing to autism spectrum disorders, then looking for the genetic variant or mutation within En2 that increases an individual’s risk, then determining when and in which cells that works during brain development.

“Now we need to look at which of the cell biological pathways are disturbed. And by doing that, hopefully we’ll identify targets for therapeutic intervention,” Dr. Millonig explains.

Powerful Research Partnerships

Often a productive strategy among collaborators is to take parallel yet complementary approaches to a research question. Dr. Millonig recently defined the genetic variant that increased autism risk and how it worked in neuronal cells, and he is currently genetically engineering mouse models to test its function in the brain. In the meantime, Dr. DiCicco-Bloom has been asking what goes wrong in the brain when En2 is deleted in a knockout mouse.

In neuropsychiatric research, many studies in both humans and mouse models indicate that either too little or too much of a developmental gene can lead to similar abnormalities in brain function and behavior. Significantly, medications used to treat psychiatric disorders often focus on monoamine neurotransmitters like norepinephrine and serotonin, which originate in the back of the brain—the same area where En2 is expressed, explains Dr. DiCicco-Bloom, adding that their recent research took the added step of measuring neurotransmitters in the front of the brain.

“We found not only hindbrain abnormalities where En2 is expressed, but also unexpected changes in the forebrain, including reduced monoamine neurotransmitters, increased hippocampal neurogenesis, and abnormal autism-related behaviors such as social interactions and cognition,” says Dr. DiCicco-Bloom.

In turn, using a drug to enhance levels of norepinephrine in the En2 knockout mouse has helped resolve some of these deficiencies, he says: “A lot of our work has been on what’s gone wrong, and what can be done to fix it.”

Being on the cusp of new discoveries in the area of autism is perfect for the person who favors discovery, rather than the
focus on diagnosis and management of conditions that is inherent in maintaining an exclusively clinical practice. But the two divergent backgrounds also give Dr. DiCicco-Bloom the ability to bridge research interests and clinical practice.

“It’s allowed me to be a spokesperson on the importance of basic science to addressing clinical issues—to translate conceptually for physicians, affected families, and the public,” explains Dr. DiCicco-Bloom, who in November begins his term as a councillor of the Society for Neuroscience.

It’s a skill he has used in his more than 15 years as an adviser to a host of private organizations related to autism, including the National Alliance for Autism Research, Autism Speaks, the Autism Tissue Program, the Simons Foundation, Rett Foundation, and Autistica, as well as in numerous neurodevelopmental journals.

The ‘Next-Generation’ Collaboration: Clinical Applications

Robert Wood Johnson Medical School is now tapping into the vast resources of its clinical partners to expand basic science findings into areas of clinical research as well. For example, Dr. DiCicco-Bloom and Dr. Millonig are working with PSE&G Children’s Specialized Hospital, the largest regional provider of services for children with autism, on clinical research involving the analysis of En2 and how individuals with those variations present clinically.

And, on an even larger scale, they will be working with Dr. Brzustowicz; Child Health Institute of New Jersey researchers Zhiping Pang, PhD, assistant professor of neuroscience and cell biology, and Chi-Wei Lu, PhD, assistant professor of obstetrics, gynecology and reproductive sciences, Rutgers Robert Wood Johnson Medical School; Yong Lin, PhD, of the Rutgers Cancer Institute of New Jersey; and the Rutgers University Cell and DNA Repository, as part of a five-year grant from the New Jersey Governor’s Council for Medical Research and Treatment of Autism.

“It’s the next generation of our collaborative team, the next step in where we need to go scientifically,” Dr. Millonig says.

This new research involves the use of induced pluripotent stem cells (iPSCs) to create neurons that will help define the “biological signature” of autism. These iPSCs are scientifically derived stem cells from individuals that mimic the traits of embryonic stem cells and can be used to create other cell types—in this case, human neurons—to determine how they may develop abnormally in individuals with autism. The researchers then will test drugs approved by the U.S. Food and Drug Administration on the neurons to identify therapeutic treatments that may improve or reverse the disorder.

Analyzing how these neurons mature differently is key to developing drug therapies tailored to the needs of individuals with autism, say Drs. DiCicco-Bloom and Millonig.

“The unraveling of the genetics of a complex disorder like autism is like solving a jigsaw puzzle. Each piece that can be assembled, no matter how small, makes the placement of the next piece that much easier,” says Linda M. Brzustowicz, MD, professor and chair of the Department of Genetics at Rutgers School of Arts and Sciences.

This study is part of the more than $6.5 million in competitive state funding that has been awarded in the past two years to Robert Wood Johnson Medical School and its research partners as part of the New Jersey Autism Center of Excellence initiative: $2.125 million to the medical school to fund the iPSC research, $2.2 million to the Rutgers Institute for Human Genetics to focus on the genetics of autism spectrum disorders, and $2.25 million to PSE&G Children’s Specialized Hospital to develop a new autism screening tool for culturally diverse families.
Generating Expanded Interest

The En2 findings have also prompted other researchers to reach out to discuss collaborations, Dr. DiCicco-Bloom says. For example, Nicholas T. Bello, PhD, assistant professor, animal of sciences, Rutgers University, has been conducting studies regarding feeding and eating disorders using animal models of anorexia.

“Because norepinephrine levels in the front of the brain are deficient in individuals with eating disorders, he thought our mouse would have an eating disorder, and wanted to research that. Feeding and eating issues are a common problem with individuals who have autism spectrum disorders,” notes Dr. DiCicco-Bloom.

Additional interest was expressed by Elizabeth Torres, PhD, assistant professor in the areas of cognitive psychology and computational neuroscience at Rutgers School of Arts and Sciences, with regard to work she is doing on sensory-motor performance of individuals with mental disorders, like Parkinson’s disease. In very recent work with children with autism, Dr. Torres is harnessing their endogenous sensory-motor feedback systems to improve motor performance and cognitive engagement.

“Just the fact that these researchers think that looking at mice is important in terms of clinical applications—They are starting to see opportunities in a way that hasn’t been seen before,” Dr. DiCicco-Bloom says.

“These developments show the way things grow in the areas of research and how collaborations start to form. They are excellent examples of people crossing their disciplinary comfort zones,” he adds.

Providing Clinical Care

While research advancements may get a lot of media attention and funding, Rutgers Robert Wood Johnson Medical School and its clinical and academic partners also are skilled providers of a robust array of clinical and social services for individuals with autism spectrum disorders and their families.

The Douglass Developmental Disabilities Center, part of the Rutgers Graduate School of Applied and Professional Psychology, for years has been providing leading-edge services to children and adults with autism spectrum disorders and other developmental disabilities.

The Elizabeth M. Boggs Center on Developmental Disabilities at Rutgers Robert Wood Johnson Medical School emphasizes a community-based, life-span approach to meeting the needs of individuals with developmental disabilities and their families.

PSE&G Children’s Specialized Hospital sees more than 10,000 outpatient visits each year for autism-related issues and follows more than 3,500 children annually for the evaluation or treatment of autism spectrum disorders statewide.

And in the area of community health initiatives, ongoing screening programs are offered at PSE&G Children’s Specialized Hospital and at the medical school’s Eric B. Chandler Health Center.

A Framework for the Future

Also an important part of this “virtuous cycle” in autism research and treatment is the education component, where current initiatives include training graduate and postgraduate students in developmental biology and neuroscience, as well as in translational medicine, molecular biology, and genetics, with ongoing training of primary care physicians and nurses in screening patients for autism. Plus, autism-related education is extending far beyond the school’s students to include area clinicians and psychologists, along with parents and caregivers.

Additional expansion could be seen as a result of a $1.5 million gift to Rutgers University, which is being paired with an anonymous matching gift to endow a faculty position in adult autism. The Karmazin and Lillard Chair in Adult Autism was established this year by Dina Karmazin Elkins, daughter of Mel Karmazin, philanthropist and former CEO of Sirius XM Radio; and Michael Lillard, chief investment officer of Prudential Fixed Income, and his wife, Amy.

It is hoped that the endowed professorships based at Rutgers University’s Graduate School of Applied and Professional Psychology, will expand training opportunities for students and build resources in the state for autistic adults aging out of the school system. It will facilitate interdisciplinary teams of research and practice within the university, increasing its ability to train a cohort of professionals highly skilled in residential and vocational issues faced by adults with autism. It will also help position Rutgers as a global leader in issues related to adult autism, Stanley Messer, dean of the Graduate School of Applied and Professional Psychology, said at the time of the gift, noting that it “deepens our commitment to this area of autism.”

The commitment to expanded collaborations runs deep as well. Dr. DiCicco-Bloom says he foresees increasing attempts to foster interactions among basic science researchers and clinicians across the organizations, laying the foundation for successfully competing for support by the National Institutes of Health’s Autism Centers of Excellence Program.

“There’s an institutional appreciation of the value of basic science. You need that kind of support, leadership, and the financial resources to advance,” he stresses. “There is clearly a green light for all of us to get in the room and build relationships. Not only is leadership saying it, but we’re seeing that as well. What’s really exciting is that we are talking about programs, strategies—how we get the pieces we need to bring our work to the next level. It’s very exciting.”
In rural Bangladesh, 700 new smiles have appeared since 2006. Each one resulted from the repair of a cleft palate or lip, performed by the specialists who volunteer for Smile Bangladesh.

Smile Bangladesh, a New Jersey–based, nonprofit medical organization, promotes, provides, and expands health care access for the medically underserved. “The objectives of this international initiative make it a perfect fit for the medical school’s missions in clinical care, education, and...
community health,” says Javier Escobar, MD, professor of psychiatry and associate dean for global health at Robert Wood Johnson Medical School. “I enthusiastically support it. And I look forward to developing a new elective for our students, in which they will accompany Smile Bangladesh and learn not only about cleft repair, but also about inequities and opportunities in global health.”

The need for the team’s expertise is overwhelming. In this small, densely populated South Asian nation—formerly East Pakistan—an estimated 300,000 Bangladeshis, out of a total population of 161 million, have a facial cleft, or cleft anomaly: a split lip, palate, or a combination of both. One in every 600 to 800 Bangladeshi babies is born with a cleft, while the worldwide average is one in 1,000. Yet the nation has only 15 plastic surgeons, and few of them are trained to repair cleft deformities. This gives Smile Bangladesh two leading objectives: not only to make cleft repairs more widely available through their surgical missions, but also to train Bangladeshi medical personnel to perform the procedures.
The president and cofounder of Smile Bangladesh is Shahid Aziz, MD, DDS, DMD, associate professor of oral and maxillofacial surgery and plastic and reconstructive surgery, Rutgers School of Dental Medicine (formerly New Jersey Dental School) and Rutgers New Jersey Medical School. A 1991 graduate of Rutgers College, he is an attending surgeon at University Hospital, in Newark, and Hackensack University Medical Center.

Dr. Aziz had already been on several cleft repair missions to South America when he learned of the vast need for his specialty in Bangladesh. Although his father was a native Bangladeshi who immigrated to the United States in his youth, Dr. Aziz first visited the country on a cleft repair mission in 2006. During that trip, he met Christina Rozario, then deputy director of Impact Foundation Bangladesh, who was coordinating floating hospital missions that delivered health care to people in hard-to-reach inland communities.

After returning to New Jersey, Dr. Aziz and his wife, Anita Puran, PhD, cofounded Smile Bangladesh to serve those remote communities. Dr. Puran, who earned her doctorate in public administration at Rutgers University, serves as the organization’s executive director.

Year-round recruitment assembles a multinational, multi-institutional, multidisciplinary core team for each mission: dental and plastic surgeons, anesthetists, and nurses, most of whom have several years’ experience with the group. Their efforts culminate in twice-a-year cleft repair missions, led by Dr. Aziz and Ms. Rozario, who now serves as an administrative assistant in the Office of Global Health at the medical school. Gregory Borah, MD, professor of surgery and chief, division of plastic surgery, accompanies the Smile Bangladesh team on one mission each year. He performs cleft lip repairs, while Dr. Aziz concentrates on palates.
Robert Wood Johnson

and chief, division of plastic surgery, accompanies the Smile Bangladesh team on one mission each year. He performs cleft lip repairs, while Dr. Aziz concentrates on palates.

For each mission, Dr. Aziz has recruited two or three residents from the oral and maxillofacial surgery program at Rutgers School of Dental Medicine. In addition, Dr. Borah takes along a resident from the plastic surgery program at University Hospital. “I want to open their eyes to the fact that surgery becomes philanthropy when you provide first-world medical care in a third-world country,” Dr. Borah says. “I tell them: ‘You have the brain and the hands, and when you have the skills, you can spend time giving back wherever you are.’”

Smile Bangladesh has also widened the horizons of its patients and their families. “Many of these children have never seen people from beyond the borders of their villages,” says Dr. Borah. “They are visibly struck by the diversity among members of our team, as we work alongside native Bangladeshis.” Building trust can take a little time, he adds, but when the trust comes, it is total, contributing to the smiles that will follow.

Word of Mouth:
Collaboration, Communication, and Education

The developmental causes of cleft anomalies are not completely understood. Every embryo starts out with a cleft that runs from the upper lip to the back of the soft palate. The cleft should fuse during the first trimester of gestation, but in some cases, the pathways of fusion are interrupted by factors that might include, individually or in combination, genetics and the mother’s health, nutrition, and environment.

In Bangladesh and many other parts of the world, cleft anomalies tend to be shrouded in superstition and carry a harsh social stigma. Children disfigured by facial clefts are likely to be socially ostracized, affecting their ability to become educated, develop friendships, and, as adults, to marry and become employed.

In addition to creating social barriers, the deformity can present a wide range of health problems, many of them profound. Babies with cleft palates often have difficulty
nursing and require special feeding techniques; respiratory problems are common. Cleft lips and palates can also lead to hearing loss, dental abnormalities, and impaired speech, so the earlier the repair can occur—preferably between the ages of 3 and 18 months—the better a child’s chance of developing normally.

While other medical missions come to Bangladesh to repair clefts, most do their work in the cities. “We go where the need is greatest, to the remote areas where children don’t have access to medical care,” says Dr. Borah. One of the program’s greatest challenges is to reach families in these remote areas, to educate them about the clefts and recruit patients for surgery. Many parents are unaware that their children’s deformities can be corrected. Therefore, the work of Smile Bangladesh begins with enlightenment: to tell rural communities about the arrival of the Smile program, inform people that clefts can be repaired—often quite easily, especially in the case of cleft lips—and support the mothers, who are commonly condemned as having caused the cleft. “Many learn by word of mouth,” says Ms. Rozario. “Children return home transformed, and news spreads to the parents of children who need surgery. When we return to areas we have already visited, our numbers double.”

**Global Connectivity**

**Ms.** Rozario spends a week in Bangladesh before and after each two-week mission, working with the medical teams, reaching out to patients and their families, and coordinating logistics to provide everything the surgical teams need to work straight through 12- to 14-hour days.

Ms. Rozario’s extensive experience working with Bangladeshi nonprofits has been key to the growth and outreach of Smile Bangladesh. Local partners have spurred patient recruitment, distributing pamphlets and brochures to remote communities to link Smile Bangladesh with the families of children with cleft deformities.

Through these partnerships, Smile Bangladesh has solidified relationships with independent (non-government-run) hospitals, where the “surgery camps” take place. Now, with nonprofit partners serving as the liaison, rural hospitals have replaced hospital boats. They provide not only space for three operating theaters but also intravenous fluids and antibiotics to supplement the equipment brought in by Smile Bangladesh. Moreover, Bangladeshi medical teams are involved with the cleft repair process from start to finish, beginning with patient screening and selection, and with pre-surgery blood work and X-rays. And local surgeons continue to receive training from Smile Bangladesh specialists.

“We are becoming one world, one economy, globally connected,” says Dr. Borah. “The distinction between haves and have-nots is growing greater everywhere. Still, in one afternoon, you can change a life. And in two weeks, you can make a really big difference.”

**Imtiaz**

At his family’s home in Bangladesh, 2-year-old Imtiaz enjoys a visit with Christina Rozario, administrative assistant, Office of Global Health, Rutgers Robert Wood Johnson Medical School.

The previous day, his cleft lip had been repaired by a team from Smile Bangladesh.

Imtiaz’s four-member family lives in a small tin hut. Like many homes in rural Bangladesh, it is at constant risk of blowing away in a coastal storm or being washed downriver in a monsoon. There is no sanitation or running water. Without outreach from Smile Bangladesh, Imtiaz’s parents might never have known that his lip could be repaired; certainly, they could not have afforded the surgery that would give him his new smile.

“I held Imtiaz in my arms and said to myself, ‘This is a very good reason for Smile Bangladesh to continue,’” says Ms. Rozario.
Day One Marks a New Era for the Medical School

On July 1, Robert Wood Johnson Medical School entered a new era, as it and six other schools of the former UMDNJ transferred to Rutgers, The State University of New Jersey. The complex integration of the two universities followed more than a decade of restructuring recommendations and an intense period of preparation. At noon on Day One, a ceremony celebrating the culmination of those efforts was held in the Great Hall on the medical school’s Piscataway campus.

The event featured remarks from Governor Chris Christie, the Honorable Thomas H. Kean, Rutgers President Robert Barchi, Interim Chancellor Christopher J. Molloy, Vice Chancellor and former UMDNJ President Denise Rodgers, Senator Joseph Vitale, Assembly Speaker Sheila Oliver, and Assemblyman John Wisniewski. Amid cheers and applause from the standing-room-only crowd, banners were unfurled, commemorating the new affiliation and featuring the names of the schools that constitute the newly created Rutgers Biomedical and Health Sciences.

—K.O’N.
Match Day was a day of well-deserved celebration for the 175 graduating students in the Class of 2013. Ninety-eight percent of the students matched, exceeding the national match rate by 4 percent. Most are headed for their first choice—many at the nation’s leading residency programs, including the Hospital of the University of Pennsylvania, Georgetown, NewYork-Presbyterian Hospital, and Yale–New Haven Hospital.

Twenty-two specialties are represented among the matches. A total of 47 percent of the class matched with programs in internal medicine, medicine-pediatrics, pediatrics, family medicine, and obstetrics and gynecology. While 27 percent matched with programs in anesthesiology, emergency medicine, and radiology, 19 percent will enter programs in general surgery or surgical subspecialties.

—K.O’N.

Ramsey A. Foty’s Studies on Cell-Cell Interactions Are Tackling Tumor Cells and More

Ramsey A. Foty, PhD, associate professor of surgery and chief, division of surgical sciences, at Rutgers Robert Wood Johnson Medical School, spends a portion of his days “generating structure from chaos.”

A basic scientist in a clinical department, Dr. Foty is working with his team to apply the biology of cell adhesion to genetically engineered tissue-like constructs—in particular, pancreatic islets. They’ve discovered that by varying the relative adhesion of cells from two types of tumors—glucagonoma, a very rare tumor of the glucagon-producing cells of the pancreas, and insulinoma, a tumor in the pancreas that produces too much insulin—it is possible to create an islet that is structurally similar to a normal pancreatic islet.

It is just one of the four main areas of interest in Dr. Foty’s laboratory, which explores how the chemistry of cell adhesion can influence physical interactions between cells to ultimately influence biology.

Interest in the liquid-like tissue-spread and cell-segregation phenomena of development can be traced back to Dr. Foty’s days as a National Sciences and Engineering Research Council of Canada (NSERC) postdoctoral fellow at Princeton University. There, he worked for the better part of seven years with the renowned developmental biologist Malcolm Steinberg, PhD, to test Dr. Steinberg’s differential adhesion hypothesis (DAH). He first posited the DAH some three decades earlier to explain embryonic cell-sorting behavior. The researchers ultimately showed that any tissue with lower surface tension envelops tissue with higher surface tension—proving the hypothesis by finally finding a way to measure the mechanical properties of those tissues through the use of tissue surface tensiometry.

Dr. Foty and his team are currently pioneering efforts regarding malignant invasion of cells, particularly for prostate cancer and glioblastomas. They are applying the concept of miscibility—the property of liquids to mix and form a homogeneous solution—to explain how tumor cells interact with normal tissues, he says.
“The weak physical attraction between oil and water can explain why these two liquids do not mix,” Dr. Foty says. “This represents the conditions found in the normal prostate or in less aggressive prostate cancer, where tumor cells adhere weakly to normal cells.

“In the case of an aggressive tumor, however, the tumor cells stick much more tightly to normal cells, more like the interaction between ethanol and water—a good Scotch and soda,” he adds. “Understanding how to interfere with this interaction could prevent the spread of prostate cancer.”

The challenge with glioblastomas is the fact that cells from the tumor have already migrated away from it, resulting in tumor recurrence even after surgery, chemotherapy, and radiation treatment, Dr. Foty says.

“We are exploring how, by manipulating cell adhesion on a molecular level, it will keep tumors that have recurred more contained, so you have a better chance of getting all of the malignant cells if you reoperate. It may also allow for better targeting of the recurrent tumor with radiotherapy,” he explains.

Another exciting area of research in the lab involves the effects of dexamethasone (Dex) on brain tumor cohesion. Approved by the U.S. Food and Drug Administration, Dex is currently used to reduce swelling in patients with brain tumors. Typically, in the lab, three-dimensional spheroids of grade IV astrocytoma/glioblastoma cells spread from a ball shape, with individual cells breaking away, in the course of eight hours. When Dr. Foty and his team introduce dexamethasone, the spheroids spread much more slowly and as a sheet, rather than as individual cells. Dex appears to reactivate a natural process called fibronectin matrix assembly (FNMA), which moves the cells into a very tight ball, helping to keep the tumor cells together, Dr. Foty says. Dex also causes cells to stick very tightly to the surface over which they migrate.

“So even if you have some cells that have already broken away from the tumor and are ‘crawling away’ or migrating to a different area, now they’re Velcroed to the road, so it’s very difficult for them to move,” he explains.

The breakthrough with glioblastomas has its roots in earlier research with Siobhan A. Corbett, MD ’87, associate professor of surgery, who had contacted Dr. Foty after observing that fibrosarcoma cells that had been treated with Dex seemed to become much more cohesive. Their research revealed that several types of tumor cells responded well to Dex, including fibrosarcomas and prostate cancer.

“So when it came to glioblastoma, I thought, ‘Why don’t we test Dex?’ This is a perfect example of how one project paves the way to other projects. That’s why it’s so important for scientists to talk to each other,” Dr. Foty says.

He says the recent integration of Rutgers Robert Wood Johnson Medical School with Rutgers, The State University of New Jersey, will expand efforts in this regard.

“Biomedical engineers have always needed medical schools and the clinical applications they provide,” adds Dr. Foty, who also serves as codirector of the master of science program in clinical and translational science at the medical school and codirector of the biomedical engineering graduate program in molecular biosciences at the Graduate School of Biomedical Sciences.
A Protein Molecule Could Control the Body’s Response to Viruses

Understanding how enzymes work can help us learn how to control them,” says Smita S. Patel, PhD, professor of biochemistry at Rutgers Robert Wood Johnson Medical School. Her laboratory specializes in the mechanics of biomolecules and the activity of enzymes. She and Joseph Marcotrigiano, PhD, associate professor of chemistry and chemical biology at Rutgers, The State University of New Jersey, are investigating the role played by a protein molecule—retinoic acid–inducible gene I (RIG-I)—in causing or controlling inflammation.

Every cell has RIG-I, and it is the first line of defense against viral infection. “Since RIG-I detects viral ribonucleic acid (RNA) that is present in 80 percent of the viruses infecting humans, it could be used as a tool, to either prevent or eliminate infection,” says Dr. Marcotrigiano.

“Our goal is to understand the mechanisms by which the protein selects and can discriminate RNA that are viral-based versus those that are cellular-based,” says Dr. Marcotrigiano.

The Patel-Marcotrigiano team was the first to determine the structure of RIG-I at the atomic level. But there is still much to be learned. “We want to know the purpose of the discrimination in terms of signaling or alerting the immune system—what are the mechanistic aspects of it,” says Dr. Patel.

RIG-I could become a therapeutic-based mechanism for viruses. A small molecule could activate RIG-I, to bring about the body’s natural defense mechanisms. Or for cells not yet infected, a molecule could turn on RIG-I, subsequently turning on defenses to protect them.

“Right now, most of the drugs for diseases such as HIV target specific viral proteins. The new thinking is to consider targeting specific cellular proteins that are important for the virus to be down-regulated,” says Dr. Marcotrigiano.

This collaboration between the medical school and other departments at Rutgers also involves graduate students. Anand Ramanathan from the medical school and Fuguo Jiang from the Rutgers Department of Chemistry and Chemical Biology, have had the advantage of a learning experience that rotated from lab to lab.

The research has had past funding from the National Institutes of Health.
Letters

Dear Editor:

I joined the faculty of the Rutgers Medical School in 1964. During that time, I was a member of the Admissions Committee and was responsible for organizing the course in physical diagnosis. The first group of students was admitted in 1966. Milton J. Koch was a member of that class, which finished in 1968; he then transferred after the two-year program to Mount Sinai in New York City for completion of his medical education. He recently retired after a productive career in internal medicine and gastroenterology. On June 12, 2013—47 years after he matriculated at the Rutgers Medical School—I had the opportunity to review his education and details of his career when he came for a day long visit with us. As you can appreciate, it is always gratifying to see an example of the success of our educational program. I am attaching a photo of us (Milt is the good-looking one).

I hope the Alumni Association will continue to prosper with the new administrative structure.

Sincerely,
Gordon D. Benson, MD
Honorary Alumnus, 1993

Dear Editor:

Is it my age or my position as a hospice medical director that draws me to read obituaries? I especially take note of the passing of young physicians. My best friend during medical school was Elizabeth Parisi Quinn (Betty), the most brilliant, generous physician I have ever known. She was one of those who died too soon, just as her career was taking off, after all the studying, self-sacrificing, and dedication were about to be acknowledged by grateful patients and colleagues who sought her consult. It was the recent obituary of my son’s friend who later became my Robert Wood Johnson Medical School student that prompted this déjà vu sorrow and letter. Jodi Pike, MD ’04, died recently at the same age of the same disease as my classmate Betty.

Some may wonder if these physicians who sought her consult. It was the recent obituary of my son’s friend who later became my Robert Wood Johnson Medical School student that prompted this déjà vu sorrow and letter. Jodi Pike, MD ’04, died recently at the same age of the same disease as my classmate Betty.

Some may wonder if these physicians regret all the years of study while accumulating financial and physical debt, while delaying personal goals, and, then, having so few years to use all they had learned. The answer depends on the individual, of course, but only one who has gone through this training can truly understand the weight of this question. We physicians and faculty belong to a somewhat private, sequestered club that has its own forms of stress and intrinsic recompense. Therefore, we should honor and grieve any loss from our medical school family. Because of our shared experiences at Robert Wood Johnson Medical School, it behooves all of us to take a moment to read our alumni magazine: the class notes, accomplishments, and, especially, the obituaries that mark the life events of our colleagues and friends. Even if we never see one another again after graduation, those formative years in which we were fellow travelers still mean something unique and special in the “good old retrospectoscope.”

Paula S. Krauser, MA, MD ’78

Robert Wood Johnson • MEDICINE 61
Rutgers Alumnus Glenn S. Parker, MD ’88: 
Focusing on Patients, Outcomes, and Education

By Beth-Ann Kerber

B oard-certified colorectal surgeon Glenn S. Parker, MD ’88, has earned numerous awards and recognition throughout his surgical career, but he’s most proud of the recent recognition that speaks to his work with medical students and surgical residents.

This year, Dr. Parker received a Robert Wood Johnson Medical School Volunteer Faculty Award for outstanding service and teaching in the Department of Surgery. In 2012, he received the Theodore Kocher Award from the chief residents of surgery at Robert Wood Johnson University Hospital, for “meticulous surgical technique and outstanding clinical judgment.”

“Teaching is of utmost importance. To win those awards, in back-to-back years, was just a shining moment in my career,” says Dr. Parker, clinical instructor of surgery at Rutgers Robert Wood Johnson Medical School. “I was humbled by it.”

Alan Graham, MD, Norman and Ruth Rosenberg Professor of Vascular Surgery, interim chair, Department of Surgery, and chief, division of vascular surgery, says the accolades are well deserved.

“He has been stellar in his support of the medical student and resident teaching programs at Jersey Shore University Medical Center and is an advocate for excellence for the teaching program at the medical center,” Dr. Graham says.

Setting Service Goals

A dvancing Jersey Shore’s surgical residency program even further is just one of Dr. Parker’s goals as the medical center’s interim chair of surgery, a position he assumed in April after two years as vice chair of the department. He is also chief, division of colon and rectal surgery, and, as a member of the hospital’s robotic surgery implementation committee, was instrumental in developing Jersey Shore’s robotic surgery program.

Dr. Parker envisions an expanded robotics program as part of an advanced colorectal surgery program he hopes to enhance. As interim chair of surgery, he also seeks to grow each service line and foster greater collaboration among all disciplines. And, most of all, he wants to find ways to improve patient outcomes.

“It’s at the heart of all I do,” says Dr. Parker, an unsurprising sentiment for a man who has been named one of the New Jersey Top Doctors and given the title of “America’s Most Compassionate Doctor” three years in a row, thanks to rave online reviews from his patients.

“That includes his research efforts, such as a study focused on preventing surgical site infections after colorectal surgery, and a newly approved study focusing on improving quality outcomes of pain management and decreased narcotics usage for post-operative patients who have undergone robotic, laparoscopic, and open colon resection.

Dr. Parker has helped develop advanced laparoscopic techniques for colorectal diseases in general. He helped Ethicon develop and modify an instrument that has the potential to spare patients from a permanent colostomy and became the first surgeon in the world to use it in practice. Dr. Parker has since been involved in a number of R&D projects with Ethicon and other companies. And for more than a decade, he has been a surgical educator for minimally invasive, laparoscopic colon surgery and the procedure for prolapse and hemorrhoids (PPH), nationally and internationally.

Motivating Today’s Students

T he role of educator and mentor is one Dr. Parker takes to heart, far beyond his training of residents and medical students.

He has been involved in formal and informal mentoring programs for youths of all ages, from age-appropriate lectures and demonstrations at local schools, to shadowing opportunities in the operating room. He has worked with students in Jersey Shore’s volunteer program to provide experiences in all aspects of medicine. He has drafted countless recommendation letters for medical school, helped students further their education, and even preps college students for their medical school interviews.

“The bottom line is children need direction. Motivating and generating enthusiasm for any career is one of my other passions—to recognize everyone’s
Dear Alumni and Friends:

I am honored to serve as the president of the Robert Wood Johnson Medical School Alumni Association during this exciting time in the history of our medical school as we integrate with Rutgers, The State University of New Jersey.

I am pleased to welcome you to this special “Welcome Back to Rutgers” issue of Robert Wood Johnson Medicine. I know you will enjoy reading the alumni profiles in “Perfect Together Again: Alumni Link Robert Wood Johnson Medical School and Rutgers, The State University of New Jersey.”

Alumni who attended the Third Annual Scholarship Gala to Celebrate with Alumni and Friends last April enjoyed a wonderful evening filled with great school spirit. Special congratulations to our Distinguished Alumni Award recipient, Grace Chang, MD ’82. The Gala was a great success, raising more than $210,000 in support of scholarships for Robert Wood Johnson Medical School students. (Please see Gala article and photos on pages 64 and 65.)

The Alumni Association looks forward to the Fourth Annual Scholarship Gala on Saturday evening, April 12, 2014, at The Heldrich in New Brunswick. We will celebrate the anniversaries of the following classes: 1969, 1974, 1979, 1984, 1989, 1994, 1999, 2004, and 2009. If you are interested in a class list to contact your classmates and arrange for a great reunion at the Gala, please contact: Roberta Ribner at ribnerrs@rwjms.rutgers.edu.

The Alumni Association contributes to the success and future of Robert Wood Johnson Medical School by providing financial aid to our students. Our Board of Trustees awarded an additional $130,000 in scholarships and loans to our medical students during the 2013–2014 academic year. I would like to thank you for your generous contributions in the past and invite you to support the Alumni Association Annual Fund again this year.

The Alumni Association is a great way to keep in contact with fellow classmates, interact with our students, and stay informed about events and programs at our medical school. Please join us on Facebook (www.facebook.com) by searching for Robert Wood Johnson Medical School Alumni Association.

We look forward to another successful year with many opportunities to mentor and support current students, reunite with classmates, collaborate on a variety of new initiatives, and support Robert Wood Johnson Medical School as it continues its pursuit of excellence.

Sincerely,

Andrew Stefaniwsky, MD ’77
President, Robert Wood Johnson Medical School Alumni Association
The Third Annual Scholarship Gala to Celebrate with Alumni and Friends, co-hosted by Robert Wood Johnson Medical School and the Foundation for Healthcare Advancement, was an outstanding success: it raised more than $210,000 in support of medical student scholarships.

Held at The Heldrich, in New Brunswick, the elegant April 27 event offered dining, dancing, and an irresistible silent auction. Guests included alumni, faculty, staff, students, and friends, as well as leaders from the medical school's hospital affiliates throughout New Jersey. “We are extremely grateful to everyone who contributed to this wonderful evening,” says Peter S. Amenta, MD, PhD, dean. “Thanks to their hard work and enthusiasm, we can continue to provide significant new scholarship support for our medical students.”

**2013 Gala Honorees were:**

- **Meritorious Service Award**
  The Honorable Thomas H. Kean

- **Distinguished Alumni Award**
  Grace Chang, MD ’82, MPH, Professor of Psychiatry Harvard Medical School

- **Honorary Alumni Award**
  John B. Kostis, MD, Professor of Medicine Founding Director of the Cardiovascular Institute of New Jersey, Robert Wood Johnson Medical School

—K.O’N.
8. Dr. and Mrs. Peter Amenta (right) greet (left to right) Richard Edwards, PhD, executive vice president for academic affairs, Rutgers University; Carol Friedman, Laureen MacEachem; and Christopher Molloy, PhD, interim chancellor, Rutgers Biomedical and Health Sciences.

9. Mickey Graham and Alan Graham, MD, interim chair, Department of Surgery.

10. Left to right: N. Ronald Morris, MD; Ann Stock, PhD, associate director, Center for Advanced Biotechnology and Medicine; and Patricia Morris.

11. Left to right: Amy Mansue, president and CEO, Children’s Specialized Hospital; Stephen Sampson, MD ’78; Shelly Press-Sampson, DMD; Suhayl Dhib-Jalbut, MD, chair, Department of Neurology; and Marla Jalbut.

12. Left to right: Jacqueline Green, APN; Kristine Peterson, RNC, CCCE; Archana Pradhan, MD, associate professor of obstetrics, gynecology, and reproductive sciences; and Rachel Sotsky, MD ’08.

13. Left to right: Debra Laskin, PhD, chair, Department of Pharmacology and Toxicology, Ernest Mario School of Pharmacy, Rutgers University; Howard Kipen, MD, MPH, acting associate director, Environmental and Occupational Health Sciences Institute (EOHSI); Paul Lioy, PhD, deputy director of government relations and director of exposure science, EOHSI; and Mary Jean Lioy.
For 40 years, Marie Trontell, MD ’76, professor of medicine and associate dean for graduate medical education, has helped guide the growth of Robert Wood Johnson Medical School. In June, as she prepared to leave her administrative post, Dr. Trontell expressed gratitude for the opportunity to serve the school in such a variety of ways, adding, “The medical school has come full circle, and it is a good time for me to step down as associate dean for graduate medical education.” In the coming year, while continuing to teach and care for her patients, she will assist in the ongoing process of integration between the medical school and Rutgers, The State University of New Jersey.

“The spirit of the school hasn’t changed, but its footprint certainly has,” says Dr. Trontell. Hospital and medical school buildings have replaced the frame houses, driveways, and flower gardens she used to see from her office window. “I moved from the New Brunswick Medical Education Building to the Piscataway Research Tower to the New Brunswick Professional Building, and finally back to the Medical Education Building. I hope it isn’t prophetic that the part of the Professional Building where my office used to be is now the deep end of the swimming pool in the fitness center.”

Medical Student and Resident: The Journey Begins

Phi Beta Kappa graduate of Douglass College, Dr. Trontell taught high school biology for three years before resuming her longtime plan to pursue a career in medicine. She matriculated at Rutgers Medical School with the Class of 1976, in which she was one of 23 women in a class of 112. (Times have changed: women constitute 63 percent of the Class of 2016.)

Among Dr. Trontell’s classmates was Robert Amler, MD ’76, vice president for government affairs and dean and professor of public health, New York Medical College. Dr. Amler recalls Dr. Trontell not only as an excellent student—she was inducted into the Alpha Omega Alpha honor society in her fourth year—but also as “a person of extraordinary spirit, who made everyone comfortable and loved her class and her school.”

Dr. Trontell has two diplomas from Rutgers Medical School, the second earned after she completed the internal medicine residency there, having served as chief resident. “No one was surprised that Marie did her residency at the medical school,” says Dr. Amler. “It just seemed organic for someone who loved the place so much.”

When Dr. Trontell was a resident, her intern was her future colleague Anthony T. Scardella, MD, professor and interim chair, Department of Medicine, and senior associate dean for clinical affairs. “She had all the facts at her fingertips,” he says. “More important, she taught in the moment, modeling the behavior of a compassionate
and caring clinician, demonstrating critical judgment—how you process your knowledge into good patient care.”

As she neared the end of her residency, Dr. Trontell was increasingly intrigued by pulmonary medicine—a blend of science, physiology, and patient contact—and was encouraged by the pulmonology faculty to pursue the division’s fellowship. Among her champions was David J. Riley, MD, now a professor of medicine. “It was a time of great growth and activity for us, and to build the fellowship, we were recruiting the best,” says Dr. Riley.

She accepted a faculty appointment directly following her fellowship, serving as an active member of the pulmonary division and as director of medical education at Robert Wood Johnson University Hospital (then Middlesex General Hospital). In 1983, she was asked by Edward D. Harris, MD, professor and chair, Department of Medicine, to become the first director of the internal medicine residency program; she accepted and served in this position for 13 years.

“She was very effective in developing and solidifying the residency,” says Dr. Riley. “Competent and quietly forceful, she related extremely well to students, residents, and house staff. She attracted top people to the program and drove it forward with her high standards.”

In addition to leading the residency program, Dr. Trontell played an important role in curricular planning and implementation. She became associate dean for academic affairs in 1996 and was a member of the Education Task Force that reviewed the preclinical curriculum and proposed integral changes, particularly in the second year. The task force’s model, “ASK—Attitude, Skills, Knowledge,” summarized a new direction featuring interdepartmental planning, small-group classes, and added opportunities for self-directed learning. As vision became reality, she enjoyed playing a key role in the redesign of the Kessler Teaching Laboratories to accommodate small-group classrooms.

Dr. Trontell served as associate dean for academic affairs for five years before her appointment, in 2001, as senior associate dean for education, with responsibility for undergraduate and graduate medical education. During this time, she led a study of the curriculum that proposed major revisions

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Grace Chang, MD ’82, MPH: FOLLOWING HER STAR—AND HER HEART—INTO ACADEMIC PSYCHIATRY

“I was thrilled, honored, and speechless,” says Grace Chang, MD ’82, MPH, describing her reaction to the news that she would receive the Robert Wood Johnson Medical School Alumni Association’s 2013 Distinguished Alumni Award.

Dr. Chang has served on the faculty of the Department of Psychiatry at Harvard Medical School since 1991 and was appointed a full professor in 2009. She is director of addictions psychiatry for the inpatient and residential programs at the Boston Veterans Administration Healthcare System (affiliated with both Harvard and Boston University Medical Schools). She previously served for 20 years as an associate physician in psychiatry at the Brigham and Women’s Hospital. “I have returned to my roots in public psychiatry,” says Dr. Chang. “It is timely for me to contribute to improving the care of our veterans.”

Dr. Chang is widely recognized for her achievements in developing and implementing screening and interventions for alcohol abuse. In addition, she has been honored as a teacher and mentor and for her success in advancing the field of psychiatry associated with stem cell transplantation. Still, she says, the Distinguished Alumni Award stands out among these honors as one of the most meaningful, in part because it shows how much the medical school appreciates its graduates.

As an undergraduate at Yale University, Dr. Chang initially planned to major in either French or English. But she changed her major to molecular biophysics and biochemistry in her junior year and graduated cum laude, after taking “Politics, Policy, and History of Health” at the Yale School of Public Health. When she was accepted by her in-state school, Rutgers Medical School, she was delighted.

Rutgers Medical School: A Focus on Students

“The medical school was very clear about its mission: the focus was on the students,” says Dr. Chang. “We were its primary product, and the faculty took great care in educating each student, preparing us for our subsequent profession.” She recalls that Stanley Bergen Jr., MD, then president, UMDNJ, was the attending physician on the medicine service when she was a student and came daily from his office in Newark to teach and lead clinical rounds. Marie Trontell, MD ’76, stands out in Dr. Chang’s memory as “embodying clinical excellence.”

Students took care of one another, too. Kevin Vitting, MD ’82, now a leading New Jersey nephrologist, was “generous and considerate; he exemplified the spirit of the school,” she says. “Vitting’s General Store”—his desk in the Kessler Teaching Laboratories—“was stocked with complimentary Oreos, M&Ms, peanuts, instant coffee, and Tylenol, whatever a medical student might need to get through the day, to study right, and do well.”
“My class included several very distinguished psychiatrists,” says Dr. Chang, mentioning two in particular: Henry Kranzler, MD ’82, professor of psychiatry, Perelman School of Medicine, University of Pennsylvania, who is now concentrating on clinical research in the field of addictions; and Richard Friedman, MD ’82, professor of clinical psychiatry, director, Psychopharmacology Clinic at Weill Cornell Medical College, and a regular columnist for the science section of the New York Times.

Dr. Friedman was Dr. Chang’s laboratory and venipuncture partner in the first year, and they shared a love of Charles Dickens and the characters and social themes of Dickens’s last completed novel, Our Mutual Friend. Recalling Dr. Chang, Dr. Friedman says, “It’s so wonderful that the medical school has recognized her with this award. She was so smart and so kind—serious but with a playful side. Nonjudgmental and noncompetitive, she would never look for accolades or attention.”

At Rutgers Medical School, recalls Dr. Chang, clinical rotations in psychiatry emphasized addiction, sparking an interest that became the focus of her career. That interest expanded at the Yale University School of Medicine, where she completed her residency and served as chief resident. By the end of her residency, she had defined her research goal: to develop better screening and intervention techniques for alcohol problems, with an emphasis on identifying and moderating prenatal alcohol use. Ideally, screening and intervention would take place in mainstream clinical settings: general medical clinics, general and specialty obstetric practices, and emergency rooms.

Dr. Chang believes that her first forays into clinical research at Rutgers Medical School were an important factor in her being awarded a subsequent Robert Wood Johnson Clinical Scholar Fellowship at Yale University (after residency training in general adult psychiatry), which prepared her for a career in academic medicine.

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Jeffrey N. Bruce, MD ’83:
EXPLORING ‘THE LAST FRONTIER’ THROUGH INNOVATIVE RESEARCH, SURGERY

Jeffrey N. Bruce, MD ’83, does not shy away from challenges. In fact, he seems to thrive on them.

A look at the world-renowned neurosurgeon’s areas of expertise shows a propensity for complicated, problematic conditions and highly skilled techniques. Skull base tumors, pituitary tumors, pineal tumors—all are considered among the most difficult types of brain tumors to treat.

“I like the tumors that are challenging. These are areas where surgeries are much more intense and complex. It’s much more dramatic in terms of what you can do for the patient and the impact you can make in a patient’s life,” Dr. Bruce explains.

Dr. Bruce, who currently serves at Columbia University as Edgar M. Housepian Professor of Neurological Surgery, director of the Bartoli Brain Tumor Research Laboratory, codirector of the Brain Tumor Center, and vice chair of academic affairs, is considered a leading authority on complex tumors of the brain and skull base. He has particular expertise with pineal tumors, an extremely rare condition comprising less than 1 percent of occurring brain tumors.

He developed this expertise after being handpicked by the then chair of Columbia’s Department of Neurological Surgery and one of his mentors, Bennett M. Stein, MD, to build a neuro-oncology program and carry on Dr. Stein’s pineal tumor practice when he retired. Dr. Stein, widely considered the world’s expert in pineal tumor surgery at the time, spent the years prior to his 1996 retirement training Dr. Bruce in the intricacies of these procedures—“showing me the ropes,” as Dr. Bruce puts it. Dr. Bruce has now performed more pineal tumor surgeries than anyone else in the world and has spent decades perfecting the techniques for dealing with these complex tumors.

It’s a long way from the student who first went to medical school with the idea of being a family practice physician.

“The thought of surgery was the furthest thing from my mind,” Dr. Bruce recalls of his early days at what was then Rutgers Medical School. “I spent a summer at the NIH [National Institutes of Health] and really got interested in research, and I decided that I wanted to combine the practice of medicine with research. The idea of being able to develop new treatments, new methods and protocols for dealing with medical conditions, was very compelling.”

Making a Difference

During clinical rotations, Dr. Bruce discovered his love of surgery.

“It was dynamic, fast-moving, and had immediate results. I liked the excitement, the highs and lows of surgery. The ability to make a difference in patients’ lives was really profound,” he says.

He was further intrigued by the possibilities of neurosurgery, which he says seemed like “one of the great, untapped areas” at the time.

“The brain is sort of the last frontier,” Dr. Bruce explains. “It is the
one area that still has so much mystery about it, and the idea of performing surgery in the brain and conducting research to try and improve diseases of the brain was a very compelling thing for me.”

Still undecided in the days just before the start of his fourth year at medical school, he spoke with Robert Fisher, MD, professor of surgery and chief of the section of neurosurgery at the time, who suggested spending a month training at Columbia to get a better idea of whether the field would suit him.

“It was a great experience,” Dr. Bruce says. “In the operating room, they let me assist and be involved with the patients, and I realized that neurosurgery, particularly at academic medical centers, provided the opportunity to be involved in research.”

**Surgeon as Researcher**

Subsequently, of the grueling seven years of neurosurgery residency at Columbia, he spent one year each at the NIH and Columbia conducting research and developing interests—primarily in brain tumors—that have carried through to this day. As director of the Bartoli Brain Tumor Research Laboratory, Dr. Bruce leads NIH-funded translational brain tumor research and is involved with experimental clinical protocols for the treatment of brain tumors. For the past several years, the lab has hosted students from Robert Wood Johnson Medical School.

Among their work is the clinical application of theories about the molecular biology of brain tumors. They’re exploring new drug delivery systems, immunotherapy and vaccines, and molecular genetics.

“It is really an exciting time to be involved with brain tumor research,” says Dr. Bruce. “It’s a very innovative and energetic environment, and it provides me with an opportunity to collaborate with some of the top scientists in the field.”

Recent research includes convection-enhanced delivery (CED), which uses stereotactic brain imaging to place ultrathin catheters deep in the brain, through which chemotherapeutics are slowly pumped directly into the tumor.

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Marie Trontell, MD ‘76:
A PARTNER AND A LEADER IN THE EVOLUTION OF THE MEDICAL SCHOOL

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An exquisite little silver sculpture of the tree of life is the centerpiece of the conference table in Dr. Trontell’s office. A treasured gift, it was created for her by a patient with AIDS whom she cared for decades ago. “She is a wonderful physician, and her patients worship her,” says Dr. Scardella, a fellow pulmonologist who regularly covers for Dr. Trontell. “They always want to be sure that, if we prescribe anything for their care, we’ll run it by her first.”

A two-time recipient of the Excellence in Teaching Award, Dr. Trontell also has won the Outstanding Teaching Attending Award. She will continue to lead first- and second-year small-group discussions, teaching and guiding the same group of students for two years. One of her students, Theresa Henry ’15, says that whether the group was debating professional ethics or working with standardized patients, Dr. Trontell was constantly encouraging. “We could see that students are her first priority. And her empathy for the patient always showed: many times, if we felt awkward, she’d imply the importance of remembering that we’re all just human beings.”

Dr. Trontell enjoys the “smarts” that she sees in today’s medical students: common sense, good judgment, and an appreciation for teamwork. She always looks forward to seeing her students as they move through clinical rotations, and in affiliated residencies. “I love imagining them taking our mission far and wide, serving in practices and medical schools across the country,” she says. “It is humbling and gratifying to be part of this school community.”

Jeffrey N. Bruce, MD ’83:
EXPLORING ‘THE LAST INNOVATIVE RESEARCH,

“Most chemotherapy and drugs have to be given intravenously or orally,” Dr. Bruce explains. “The drug has to travel through the entire body before it actually gets to the brain and into the tumor. In order to reach levels that are sufficient to kill tumors in the brain, you have to give very high doses of the drug, and before you can get enough drug into the brain, the patient has severe side effects. With convection-enhanced delivery, we can achieve very high levels of the drug in the tumor and in the brain, and the patient has very few side effects, because very little of the drug actually gets to the rest of the body.”

After several years of perfecting the strategy in the laboratory, Dr. Bruce completed a successful clinical trial, demonstrating safety and efficacy in administering the chemotherapy drug topotecan by CED in patients with recurrent malignant gliomas. In addition, a multidisciplinary team led by Dr. Bruce and Richard C. E. Anderson, MD, from Columbia’s Pediatric Neurosurgery Center, recently used CED of topotecan directly into the tumors of two pediatric patients who had diffuse intrinsic pontine gliomas (DIPG), one of the deadliest kinds of brain tumors, which are located in the middle of the brain stem and cannot be removed safely through surgery. Their work was published earlier this year in the Journal of Neurosurgery: Pediatrics.
Mentor and Educator

A fellow Robert Wood Johnson Medical School alumnus who has been involved in Dr. Bruce’s research on convection-enhanced delivery is Jonathan Yun, MD ’12, now a post-doctoral research fellow at the Department of Neurological Surgery Columbia’s.

“Dr. Bruce has been a personal mentor since the beginning of my time at Robert Wood Johnson Medical School in 2006, by graciously allowing me to work in his lab as a humble first-year medical student,” Dr. Yun says. “He has guided my growth as a clinician and scientist since, and is truly a pinnacle and role model of academic neurosurgery.”

Dr. Yun adds, “He has a deep commitment to my success, allowing me to garner competitive fellowships, including the AOA Carolyn L. Kuckein and Doris Duke Clinical Research Fellowships. His invaluable mentorship is a primary reason I chose to go to Columbia for my residency in neurological surgery, and he continues to guide and contribute immensely to my training.”

For Dr. Bruce, the role of mentor and educator is a natural part of what it means to be a neurosurgeon at an academic medical center. And, he says, it has tremendous benefits for him as well.

“Being around people who are young, ambitious, and eager to learn keeps you at the top of your game,” Dr. Bruce says. “The dimension teaching brings is that it really forces you to be innovative and on the cutting edge, to always be at the forefront of what is happening in your field.”

It is a field that has seen dramatic changes since Dr. Bruce’s days at medical school. At that time, very few neurosurgical cases were being done, and neurological surgery was covered as part of the surgical rotation rather than separately, he says. MRI scans, today such a vital part of diagnostics, were just coming into use.

“Now we’re much better able to diagnose and plan treatment for these conditions,” says Dr. Bruce. “And the development of minimally invasive and microscopic techniques has dramatically improved patient outcomes. It has become a very technological field, and one in which good outcomes are now routine.”

As a member of this year’s 30th-anniversary class of the former Rutgers Medical School, Dr. Bruce says he looks forward to “coming full circle” in the medical school’s integration with Rutgers, The State University of New Jersey, and what that will mean for the school and its future students: “I have many fond memories of my days at Rutgers Medical School. We had a great class of students who were not only smart and fun to be with, but were great doctors.”

Dr. Bruce is also in the midst of a six-year term with the American Board of Neurological Surgery, further evidence of his commitment to ensuring sufficient training of the next generation of neurosurgeons. He also was inducted last year into Robert Wood Johnson Medical School’s Alpha Omega Alpha Honor Society, signifying his lasting commitment to scholarship, leadership, professionalism, and service. Among other awards he has received are the Physician of the Year Award from CancerCare and the Teacher Recognition Award from Columbia University. He has previously served as chair of the Joint Section on Tumors for the AANS/CNS, vice president of the American Academy of Neurological Surgeons, president of the Society of University Neurosurgeons, and president of the New York Society for Neurosurgery. He is a member of several editorial boards, including Neurosurgery, Journal of Neuro-Oncology, and World Neurosurgery.

Finding the Balance

Despite his busy schedule and many professional obligations, he has always made time with his wife and four children a priority as well, whether it was coaching his children’s baseball or softball teams, getting to see his son’s musical performances, or participating in their other activities.

“Despite the significant rigors and obligations of our profession, it is important to enjoy the journey. Balance is essential, and you have to make time for family,” he says, noting that while his children are now grown, they all still live in the area, and he continues to balance his work life with the opportunity for family time.
Dr. Chang’s dedication to teaching was one motivation for following her star into academic medicine. “I love teaching and seeing the world through the eyes of students and residents. The challenge in my work is to find the best ways to explain complex phenomena—such as how to manage substance abuse withdrawal or complex psychosocial issues—and students always bring a fresh pair of eyes.”

At the same time, she earned a master’s degree in public health at Yale and served as medical director in a variety of clinical and community health settings.

In 1988, she “followed her star to academic medicine,” she says, accepting an appointment as an assistant professor of psychiatry at Yale, to teach and pursue her research. At the same time, she helped establish a program in New Haven that sought to remove barriers to treatment for opiate-dependent pregnant women by providing support such as child care.

Dr. Chang had been serving on the Yale faculty for only three years when her record attracted the attention of Jonathan Borus, MD, Stanley Cobb Distinguished Professor of Psychiatry at Harvard Medical School and chair and psychiatrist in chief, Department of Psychiatry, Brigham and Women’s and at the Dana Farber Cancer Institute was developing rapidly, and to help facilitate its growth, Dr. Borus asked Dr. Chang to become the program’s psychiatrist.

“Grace was the epitome of a team player to take this on,” says Joseph Antin, MD, professor of medicine, Harvard Medical School, senior physician, oncology, Brigham and Women’s Hospital, and chief, HSCT Program, Dana Farber Cancer Institute.

“Stem cell replacement is highly stressful and complicated,” says Dr. Antin, “and it was important to add a psychiatrist to the program to identify the problems and challenges patients might face and help to ameliorate them.” The program needed a study that would identify potential problems. “Grace was one of the few people studying how to design a study to screen and assess patients—to determine who would come through the process unscathed—and to set interventions to help them cope.”

People often come to transplantation with additional problems, such as alcohol abuse and other addictions or family issues. Emotional support is important, but it may not be in place. “The transplantation process is very isolating, and there are many risks,” says Dr. Antin. “For a patient who is already immune-compromised, it can be life-threatening. There is a risk of complications and relapse.”

Dr. Chang worked not only with patients and their families, she also counseled nurses and others who work in the HSCT Program, who need support dealing with profound illness, suffering, and loss on a daily basis.

Gaining National Standing

Dr. Chang’s numerous “hats” at Harvard Medical School included wide responsibilities in hospital and academic administration. She continued to serve as a clinician, while refining a rapid assessment tool to identify alcohol use—focusing increasingly on the identification and prevention of prenatal alcohol use. Findings from her research, which included the first-ever randomized trial of a brief intervention, informed the development of the Drinking and Reproductive Health Toolkit, disseminated by the American College of Obstetricians and Gynecologists as a resource for office detection of risk-drinking during pregnancy.

Widely published, she is the author of 74 original articles in peer-reviewed journals, many of them high-impact publications in an area where it is often difficult to get research published. In addition, she is the author of 26 book chapters and reviews.
She serves on numerous scientific review committees and is both a grant recipient of and a contributor to the National Institute on Alcohol Abuse and Alcoholism (NIAAA); she was the 2011 inductee into the Hall of Fame of the National Organization on Fetal Alcohol Syndrome. “Innovative and practical, hardworking, determined, and smart, Grace has met the challenge of finding funding in an underfunded field,” says Dr. Borus. “The value of her work is interesting, if immeasurable, in terms of its prevention of risk-drinking and fetal alcohol syndrome.”

**A Love of Teaching**

Dr. Chang’s dedication to teaching was one motivation for following her star into academic medicine. “I love teaching and seeing the world through the eyes of students and residents. The challenge in my work is to find the best ways to explain complex phenomena—such as how to manage substance abuse withdrawal or complex psychosocial issues—and students always bring a fresh pair of eyes.”

Dr. Chang has taught at all levels of medical education and mentored junior faculty in their research. She has been a leader as well. She has served as site, course, and program director, and was director of education, for the Center for Clinical Investigation at Brigham and Women’s; she ran medical student training and served as an adviser to undergraduates and psychiatry residents at both Yale and Harvard. She has made research and academic presentations from the regional to the international level.

“Grace’s teaching is very structured, and the students love her approach because she brings lots of content to the course,” says Dr. Borus. Her wide recognition as a teacher and mentor includes the 1997 Teacher of the Year Award for Region I from the Association for Academic Psychiatry and a decade-long K-24 Midcareer Investigator Award from the NIAAA.

Dr. Chang’s research expertise, wisdom, and candor make her a much-sought-after mentor and a fine role model, says John R. Knight, MD, associate professor of pediatrics, Harvard Medical School, and associate in medicine, Boston Children’s Hospital. “Grace is regarded as a pioneer with the highest ethical research standards for herself and others.” Dr. Knight was a newly appointed instructor on the medical school’s faculty in 1995, when he asked Dr. Chang to be his mentor on a career grant proposal to the NIAAA. He sought and, with her guidance, earned the support he needed to develop a screening questionnaire for use by general pediatricians to identify substance abuse in pediatric patients.

“Grace is completely selfless and endlessly generous of spirit,” says Dr. Knight. “Her work with at-risk, teen-aged moms-to-be has made her the honorary mother—and godmother—to hundreds of children,” he adds. “The teen moms were a challenging and often medically underserved group, but through Grace’s work, they gave birth to healthy babies with intact families. She could not have a more wonderful legacy.”

Attending the Third Annual Scholarship Gala to Celebrate with Alumni and Friends in April, with her husband, Rory Browne, DPhil; where Dr. Chang was the recipient of the Distinguished Alumni Award.
What’s New?
Please send your professional and personal news for Class Notes to:
Robertta Ribner, Editor, Robert Wood Johnson Medicine, Coordinator,
Alumni Affairs, Robert Wood Johnson Medical School Alumni Association
335 George Street • Suite 2300 • New Brunswick, New Jersey 08903
Phone: 732-235-6310 • Fax: 732-235-9570 • Email: ribners@rwjm.s.rutgers.edu
http://rwjms.rutgers.edu/alumni

1972
Mary Witt writes: “I retired from the Children’s Evaluation and Rehabilitation Center, Albert Einstein College of Medicine.”

1973
Joel Labow was promoted to clinical professor of pediatrics at the Uniformed Services University of the Health Sciences in Bethesda, Md.

1975
Susan Rosenthal writes: “My daughter, Rebecca Karp, finished her internal medicine residency program at Beth Israel Deaconess Medical Center in Boston. She is currently a hospitalist at Beth Israel Deaconness.”

1976
Stephen Cook writes: “Still working and enjoying my group.”

William Mullally is associate chief of clinical neurology at the Brigham and Women’s Faulkner Hospital, Harvard Medical School.

Patricia Thomas is a professor of medicine and associate dean for curriculum at Johns Hopkins School of Medicine.

1978
Paula Krauser writes: “I just got back from China, where I attended the birth of my granddaughter, Leah Yan Shan Isaacs. That infant who sat on my lap in our graduation photo is now a father!”

Alan Schwartzstein practices family medicine at the Dean Clinic in Wisconsin. He serves as the 2012–2013 chair of the American Academy of Family Physicians Commission on Health of the Public/Science. He is also the current board chair of the Wisconsin Academy of Family Physicians.

1980
F. Charles Brunicardi is chief, general surgery group, and vice chair for surgical services at the UCLA David Geffen School of Medicine.

Diane Gabe writes: “My daughter, Ellen Forney, wrote a fantastic graphic novel, which made the New York Times best-seller list: Marbles: Mania, Depression, Michelangelo, and Me. It is about her successful battle with bipolar disorder.”

Robert Vinci was appointed chief of pediatrics at Boston Medical Center and the Joel and Barbara Alpert Professor and Chair of the Department of Pediatrics at Boston University School of Medicine.

1981
John Spiker is medical director of the Lewes Surgery Center and CEO/president of Orthopaedic Associates of Southern Delaware.

1982
Henry Kranzler is a professor of psychiatry at the Perelman School of Medicine at the University of Pennsylvania. He was named the director of the Center for Studies of Addiction.

1985
Edward Niewiadomski is president and founder of Healthcare Initiatives, LLC, a health care consulting firm, established in January 2012, that brings emerging technologies and programs to health care organizations and physicians.

1986
Fred Liciardi composed “Boardwalk DJ,” a song about rebuilding the Jersey Shore. The song is available on iTunes, and a portion of the sales will be donated to the Hurricane Sandy Relief Fund.

Robert Wold is chair of radiology at Riverview Medical Center, vice president of Navesink Radiology, and medical director of Holmdel Imaging.

1989
Eduardo Fernandez received the 2013 Healing Spirit Award from the Lourdes Health Foundation for his compassion and dedication to cancer patients over the past 17 years. The award was presented at the foundation’s annual gala to benefit the Lourdes Breast Cancer Imaging Center.

1990
Kevin McCurry writes: “After 18 years as a solo doctor in private practice, I sold my practice to a local hospital. Best thing ever!”

1991
Mark Calderon was appointed vice president and chief medical officer of Horizon NJ Health.

Edward DelleDonne writes: “I’m a colon and rectal surgeon in South Bend, Ind., in private practice, specializing in robotic colon and rectal surgery and general surgery. I am a clinical assistant professor of surgery at Indiana University School of Medicine. Visit my blog: delledonnesurgery.blogspot.com, and view my videos on YouTube for robotic cholecystectomy, channel: edelledonne.”

Reza Emami joined the Emergency Room staff at Oswego Hospital in New York.

Sabine Hack writes: “Mary Ellen Leddy-Hanley, Corinne Linardic, Esther Khei, and I got together for a weekend of fun and reminiscing in Boston.”

Ira Klein was appointed as national medical director, Clinical Thought Leadership, at Aetna. He was also appointed to the board of directors of ChemoCentrux.

1992
Jennifer Hayes Jacobs practices ophthalmology in Manassas, Va.

1994
Christopher Beach is vice chair of the Department of Emergency Medicine at Northwestern University Feinberg School of Medicine.

Sukumar Nagendran is vice president, medical affairs, at Quest Diagnostics.
Charles Evans III writes:
“We celebrated our 16th wedding anniversary (June 7, 2013). I also
celebrated the six-year anniversary of the opening of New Beginnings
Pediatrics, LLC, in Phillipsburg.”

Arurivo Obob-Weilke is an assistant professor of ophthalmology
at Georgetown University Hospital.

John Lee is an assistant professor of neurosurgery at the University of Pennsylvania.

Megan DiFurio is director of the Pathology Residency Program
at the University of North Carolina at Chapel Hill.

Kenneth Sable is chief clinical officer for St. Peter’s Healthcare System.

Tibesh Wilson is assistant medical director of the Valley Hospital Breast Center, in Ridgewood. She is a specialist in minimally invasive oncologic breast surgery.

Lisa Febles Henson is chair of radiation oncology at Trinitas Regional Medical Center, in Elizabeth.

Giang Nguyen is assistant professor of family medicine and community health and medical director, Penn Family Care, at the Perelman School of Medicine, University of Pennsylvania. He writes: “I keep busy juggling patient care, administrative duties, med student and resident teaching, community engagement, and public health research. I lead the Penn Asian Health Initiatives at the University of Pennsylvania, where I focus on health disparities affecting Asian American communities.”

Felix Olobatuyi is a staff pathologist and hematopathologist at Scott and White Memorial Hospital in Temple, Texas.

Amir Cohen is a glaucoma surgeon in private practice in Roseland. He and Miriam Gross were married in January 2013.

Pediatrician Alison Escalante joined the DuPage Medical Group in Naperville, Ill. She completed her residency at Duke University Medical Center and a fellowship at the University of Chicago’s Comer Children’s Hospital.


Marjorie Brunch, a neurologist specializing in the treatment of epilepsy, is an assistant professor of neurology at Albany Medical College.

Rian Dickstein is a member of Chesapeake Urology Associates in Owings Mills, Md.

Christopher Gentle writes: “My wife and I celebrated the birth of our second child, Alaina Doligosa, on November 16, 2012.”

Radiologist Vickash Panghaal writes: “I changed jobs and started working in Fishkill, N.Y., with a large, multispecialty outpatient group.”

Francisca Abanyie completed her residency in pediatrics at St. Christopher’s Hospital in Philadelphia and a fellowship in infectious disease at Emory University in Atlanta. She works at the Centers for Disease Control and Prevention in the Epidemic Intelligence Service.

Aparajita Das completed a three-year fellowship in cardiovascular diseases at Cooper University Hospital. She practices at Capital Cardiovascular Associates in Pennsylvania.

Michael Lasser is the medical director for the Center for Robotic Surgery at Jersey Shore University Medical Center.

Monica Mishra is on the medical staff at Riverview Medical Center in Red Bank. She specializes in radiology and is fellowship-trained in women’s imaging.

Evelyne Kalyoussef is an assistant professor in the Department of Otolaryngology–Head and Neck Surgery at New Jersey Medical School.

Khadija Dungan practices at OB/GYN Associates of Southern Maryland.

Xequiel Hernandez is a primary care physician at St. Luke’s University Health Network in Palmer, Pa.

Jessica Kraeft began a fellowship in abdominal imaging at Massachusetts General Hospital in July. She is first author of an article that was published in the April edition of the American Journal of Roentgenology.

Phillip Blanc is a resident in emergency medicine at Mount Sinai Medical Center. He writes: “I did a segment with Dr. Oz on TV on November 2 showing him some lifesaving finds at the dollar store.”

George Patounakis began a fellowship in reproductive endocrinology and infertility at the National Institutes of Health.

Chioma Ihunnae writes:
“I am an internal medicine resident at Brown University/Rhode Island Hospital with many other RWJMS alumni, including Abby Tubman ’11, Akinniran Abisogun ’11, Arslan Jonaghar ’11, Erin McKnight ’11, and Naushaba Khan ’11.”

Hemang Dave was appointed chair of medical oncology at Cape Regional Medical Center.

Sarah Wistreich joined Capital Health Center for Women’s Health in Hamilton Township.

In Memoriam
Stanley Hegg, MMS ’70, MD, passed away on March 21, 2013.

Jodi Pike, MD ’04, passed away on July 9, 2013.

Linda Pollack Mercer, MMS ’68, MD, passed away on December 24, 2012.
potential and motivate them to work hard enough to achieve the goals they’ve set, to help them pick the best career for them, medicine or not, so they can excel at whatever they want to do,” Dr. Parker says. And in some cases, like the student whom he gave a first-hand view of the operating room and now wants to go to medical school, it sparks a desire for a career in medicine. “Kids get ‘bitten by the bug.’ This is the giveback.”

Dr. Parker’s own interest in medicine came after his uncle passed away from lung cancer and Dr. Parker decided he wanted to be involved in cancer research. During medical school, however, he developed an interest in trauma, under the tutelage of Stanley Z. Trooskin, MD, professor of surgery and chief, division of general surgery, who was head of trauma at the time. Dr. Parker was particularly influenced by a case in which Dr. Trooskin and Andrew H. Boyarsky, MD, associate professor of surgery, were able to save a patient whose liver had been severed in an accident. Inspired by his experience in trauma, Dr. Parker went to SUNY Downstate Medical Center/Kings County Hospital, Brooklyn, for his residency training in general surgery.

Despite this background in trauma, Dr. Parker opted to pursue colon and rectal surgery as a career, receiving fellowship training at St. Francis Hospital and Medical Center in Hartford. The decision was twofold, he says: it enabled him to treat patients of all ages, and, specifically with regard to colorectal cancer, it harkened back to the impetus that originally drove him into medicine.

It is just one way Dr. Parker says he has seen things “come full circle” for him during his medical career. Most notably, seeing the return to the original affiliation of the medical school—Rutgers Medical School when he attended—but also the opportunity to work once more with individuals from his medical school days, including former chief resident Mark J. Krasna, MD, who as corporate medical director of oncology, Meridian Cancer Care, is a colleague of Dr. Parker’s.

Yet it all comes back to Rutgers and the George H. Cook Scholar Honors Program, which covered the cost of most of his undergraduate tuition, he says: “If it wasn’t for Rutgers, I wouldn’t be where I am today. It was an amazing segue to get into medical school.”

It is also where he met his wife, Elaine, a Douglass College alumna, at the Mabel Smith Douglass Library. They recently celebrated their 25th anniversary, and they have three children: Mitchell, 19, who is in the midst of an eight-year medical program at Monmouth and Drexel universities; Carly, 16; and Jonathan, 13.

Drawing of the Rutgers Medical College building, which opened in November 1826 on Duane Street in Manhattan.
with medicine,” examination by the faculty, and a hefty graduation fee of $25. The diploma itself was to serve as a license to practice in New York State.

Reaction to this interstate alliance was swift and shrill. The state and county medical societies, aligned with the struggling College of Physicians and Surgeons and the New York Regents, opposed granting New York medical licenses to holders of a degree from New Jersey. The Rutgers medical faculty responded with accusations of monopoly and discrimination. Memorials, resolutions, and petitions flew back and forth. Hosack expressed (or perhaps feigned) surprise at the “threats and clamors about foreign [i.e., New Jersey] influence” in New York affairs. Student activists at Rutgers Medical College issued their own manifesto supporting their faculty, denouncing oppression, and defending their right to choose between competing faculties.

In April 1827, the medical faculty recommended 27 candidates for the Rutgers MD degree, to be awarded at the annual commencement in New Brunswick. In the same month, the New York state legislature declared holders of the Rutgers diploma ineligible for licensure in New York, forcing the closure of the school after a single term of operation. Rutgers would not grant another medical degree until 1968, when the first 16 students at the new Rutgers Medical School in Piscataway earned masters of medical sciences degrees before completing their studies at established four-year medical colleges.

Unable to operate as the Medical Faculty of Rutgers College, Hosack and his fellow professors reluctantly severed ties with Rutgers and turned to Geneva College in upstate New York as a degree-granting institution. Ironically, the professors officially became the Rutgers Medical Faculty of Geneva College, and the school, still in the same Manhattan building, was known informally as Rutgers Medical College, evidence that the Rutgers name carried some weight as early as the 1820s. Opposition from the struggling College of Physicians and Surgeons and its allies in the medical societies and legislature continued unabated. In 1830, a ruling by the state supreme court effectively severed the ties between the medical faculty and Geneva College.

This year, almost two centuries after Rutgers Medical College admitted its first class (albeit in New York), Rutgers University in New Brunswick has once again taken on the task of educating a new generation of physicians—and this time it is right here in New Jersey.

Medical Education: The Queen’s-Rutgers Experience, 1792–1830 by the late David Cowen, Rutgers professor of the history of medicine and pharmacy, is a comprehensive history of early ventures into medical education by Queen’s/Rutgers. Many of the original and photocopied documents on which Cowen based his study are in the Rutgers archives.

—Sandra W. Moss, MMS ’69, MD, MA
Past President, Medical History Society of New Jersey
Past President, American Osler Society
The first Rutgers Medical College: 1826–27

The bicentennial year, 1966, of Rutgers, The State University of New Jersey, marked the opening of the new Rutgers Medical School in Piscataway, with 16 students and a single teaching laboratory. The two-year school in time became the prestigious Robert Wood Johnson Medical School under the University of Medicine and Dentistry of New Jersey umbrella. In July 2013, with the restructuring of UMDNJ, Rutgers University once again became a university with a medical school.

Few graduates of New Brunswick’s medical schools know about the very first Rutgers medical school, which opened in New York City in 1826 and lasted precisely one term. The very existence of the school was an act of defiance.

In the early 1820s, an acrimonious feud erupted between the faculty of the College of Physicians and Surgeons of New York (founded as the Medical Department of King’s College in 1767) and a loose coalition that included county and state medical societies and trustees of the medical school; the state Board of Regents and the legislature were drawn into the fray. At issue were faculty income and college finances, professorial autonomy and loci of power, and educational standards. Led by the illustrious physician and medical educator David Hosack, the entire faculty of six professors resigned from the College of Physicians and Surgeons in April 1826. Hosack is best remembered as the physician who attended the mortally wounded Alexander Hamilton following the 1804 pistol duel with Aaron Burr at Weehawken.

Hosack, determined to open a rival medical school in New York City, was unable to gain the support of a New York degree-granting institution. Recalling similar, albeit short-lived, arrangements in 1792 and again in 1812 with the former Queen’s College in New Brunswick, Hosack and his colleagues approached the newly renamed Rutgers College in September 1826. Rutgers trustees approved Hosack’s proposal in October, establishing the Medical Faculty of Rutgers College. The New York medical professors were given a free hand in (and full responsibility for) financing, managing, and staffing the medical school, which would be located in Manhattan. Rutgers, for its part, would grant the diplomas at graduation ceremonies in New Brunswick upon recommendation of the medical faculty. Cash-strapped Rutgers would receive a portion of the graduation fees and a gift of $1,000. No instruction was to take place in New Brunswick; Rutgers Medical College was a New York institution in all but name.

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BY SANDRA W. MOSS, MMS ’69, MD, MA
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