New Jersey Dental School
The mission of the New Jersey Dental School is to improve oral health and quality of life through education of oral health professionals and scientists, the conduct of research, the promotion of health and disease prevention, and the delivery of oral health care to communities throughout the state and beyond.
Message from the Dean

William Drayton, one of America’s earliest congressmen, once said, “Change starts when someone sees the next step.” Visualizing the next step and actually taking it, however, are very different experiences. Any change—even one perceived to be positive—brings with it some level of ambiguity and fear. Yet it is by embracing change that we gain new insight, experience growth and opportunity and move forward in today’s highly competitive world.

University of Medicine and Dentistry of New Jersey—New Jersey Dental School (UMDNJ–NJDS) has been “seeing the next step” and then taking it, since its inception in 1956. It has undergone phenomenal changes in its short history. In only 50-plus years it has gone from a small school—with a charter class of 36—to a preeminent academic dental institution, which receives some 2,000 applications for 90 seats every year. You will see as you read the 2012 annual report that NJDS is a school that is constantly on the move.

Our ability to optimize change will once again be tested. Beginning July 1, 2013, most of the University of Medicine and Dentistry’s schools, including New Jersey Dental School, will become part of Rutgers, The State University of New Jersey. Along with that transition our name will change to Rutgers School of Dental Medicine. Our leadership recommended the name change to reflect that dentistry is a health profession founded in biomedical science. We believe our new name more closely aligns with today’s dental education and practice.

We are very excited about joining with this great university and look forward to the many new opportunities the merger will present. We have built a solid foundation that will serve us well as we take on our new identity. And it is the collective talents and dedication of our faculty, staff and students and the achievements and support of our alumni that will sustain us as we take the next step.

Message from the President

Change is imminent for all of us at UMDNJ as most prepare to become part of Rutgers, The State University of New Jersey. One of my favorite quotes on change sums it up: Continuity gives us roots; change gives us branches, letting us stretch and grow and reach new heights. New Jersey Dental School is certainly well rooted in the neighborhoods it serves, the research community it leads, and the reputation for educational excellence it enjoys. Now, as the school becomes Rutgers School of Dental Medicine, it is poised to capitalize on expanded opportunities, as it also preserves a commitment to the same core principles that have guided operations for more than 50 years.

Major happenings and landmarks this year confirmed NJDS’s standing as a premier school of dentistry. A $2.5 million grant from the U.S. Department of Health and Human Services for faculty development will help ease the faculty shortage in dental schools in the mid-Atlantic states. The Community Oriented Dental Education II (CODE II) program marked its fifth year of enabling fourth-year students to work in a private-practice-like setting before graduating. This is an opportunity few other dental schools offer. The Dental Express, a pipeline program designed for the youngest students, celebrated its fifth year, while the Dental Exploration program for middle schoolers reached 100 children this year.

With great pride in these and all of the school’s accomplishments, I thank Dean Feldman and the faculty, staff and students who will take that next step to continue to stretch and grow and reach new heights in the years ahead.
Celebrating Dedicated Service

In 2012 the NUDS faculty and staff came together for the sixth consecutive year to honor employees marking landmark years of service. The December event included remarks by Dean Feldman, who told the gathering that in addition to honoring people for their many years of service, the school was also honoring what they have collectively accomplished. “Each year we see thousands of patients, many of whom might not otherwise have oral health care,” she said. “We also teach hundreds of students, who go on to become some of the top dentists in New Jersey. That doesn’t happen without faculty and staff who are dedicated to excellence in everything they do.” She added that this year’s recognition event is the last one honoring employees of UMDNJ. “Next year we will be part of Rutgers University,” she said. “What Rutgers is gaining is a group of passionate and dedicated men and women from NJDS, who are the heart and soul of this school.”

A Room of Their Own

Several students, faculty and staff members worked together this past fall to create the first student study room on the Newark campus. Although students were welcome to study in the University’s library and the dental school’s Delta Dental Education Conference Center Multipurpose Room, they liked the idea of a quiet study area designated strictly for them.

Class officers Pavi Banav and Emma Pollack (Class of 2013) and Naina Kaushal and Alec Keon (Class of 2014) enlisted the help of Kim Fenesy, DMD, senior associate dean of academic affairs. Two conference rooms near the student lounge were made available. They were painted and re-carpeted and study carrels were installed. The rooms are equipped with WiFi and 24/7 security surveillance cameras. A conference table and chairs were added for group study. Finally several staff members went through the school’s photo archives and had pictures enlarged to hang on the walls.

“We first thought of the idea after talking to students at New Jersey Medical School,” says student-doctor Kaushal. “They have a study room, and we thought it would be nice to have one, as well. Everyone was so helpful in getting the rooms ready for us. We are very grateful and thrilled with the new space.”

Strengthening Community Ties is the Focus of 2012 Retreat

How can NJDS play a broader role in the City of Newark? How can the school better collaborate with its sister schools and nearby universities? What new opportunities are there for joint research? These were only some of the questions raised at this year’s faculty retreat, held on campus in June. Dean Feldman and the faculty exchanged ideas and began laying the groundwork for the next strategic plan. The keynote speaker was Dr. Steven Diner, the former chancellor at Rutgers-Newark and past president of the Coalition of Urban and Metropolitan Universities. Under his leadership that school built strong ties with the local community, and he established Rutgers-Newark’s School of Public Affairs and Administration. Dr. Diner encouraged the faculty to take full advantage of teaching and research opportunities offered by Newark’s rich array of academic, cultural, business, medical and scientific institutions, and its close proximity to New York City.

New Jersey Dental School is at once an integral part of the University of Medicine and Dentistry of New Jersey and a vibrant, thriving community of its own. Our school is a microcosm of the diverse region we serve. Our faculty, staff and students have backgrounds that are extraordinarily varied, yet we are united by the common goal of working to improve the lives of those we serve.
The associate and assistant deans and the department chairs make up our Administrative Council, headed by Dean Cecile A. Feldman. They work together to facilitate the fulfillment of our mission, educating the next generation of practitioners and scientists, providing the highest quality oral health care, pioneering new discoveries, and serving as leaders in their fields. In addition to their duties at NJDS, most of them belong to a variety of professional organizations and hold elected offices.
Dental education at NJDS is the gold standard. We know that advancing our education means continually looking ahead and taking the next step. Our DMD classes attest to our reputation for providing a top-notch education: Students come from across the country and from some of the most prestigious colleges and universities in America. Our postgraduate programs attract students from around the world, many of whom go on to become experts in their fields. We have cultivated an international reputation as being among the best.

Our faculty is the lifeblood of the institution. Enthusiastic and caring educators, they take their mission very seriously. They expect nothing less than the students’ best, yet recognize when extra support and nurturing are needed. Our outcomes attest to the faculty’s dedication. Our students’ clinical Northeast Region Board (NERB) exam results continue to top others in the region, with 100 percent passage by graduation. And once again, 100 percent of the students who applied to postgraduate programs were placed.

A Stellar Site Visit
NJDS was slated for a reaccreditation by the Commission on Dental Accreditation (CODA) last year, however, Hurricane Sandy struck just days before the CODA site visitors were scheduled to arrive. The visit was rescheduled for February 2013, and was completed then. After four days of reviewing every aspect of the academic programs, including pre-doctoral programs, the Community-Oriented Dental Education (CODE) program, general practice residency, and postgraduate programs in endodontics, orthodontics, periodontics and prosthodontics, the visitors presented an overwhelmingly positive report. There were no recommendations for improvement, which is the best possible outcome.

At a post-site-visit celebration, Dean Feldman said the school has never had a CODA report of such high acclaim. “Along with the accolades, the team noted the many strengths they found in our programs,” she said. “I could not be prouder of this institution or this outcome.” The school will be officially reaccredited for seven more years in July.

Endodontics Celebrates an Anniversary
The year 2012 marked a milestone for our Department of Endodontics: It turned 50. A daylong celebration titled “50 years of Excellence in Endodontic Education: Our Golden Jubilee” began on campus with a continuing education (CE) program. Two presenters spoke on “Regenerative Endodontics,” and “The Role of the Dentist in the Care of the Medically Complex Dental Patient.” At an evening reception at the Newark Club, more than 50 alumni recognized former chairs, postgraduates and faculty. Proceeds from the CE program and contributions to the Jubilee helped support a new $25,000 endowed scholarship named in honor of Gary Hartwell, DDS, retired professor and chair of endodontics, and Dean Cecile Feldman.

Hartwell, DDS, department chair at the time, said, “I was shocked when the scholarship in my honor was announced; I had no idea it was even being considered.” said Dr. Hartwell, who has since retired. “It is certainly an honor to have a scholarship in place long after I completed my tenure at our great school.”
Addressing a Critical Need in Dental Education

NJDS is helping to alleviate what is, perhaps, dental education’s greatest challenge: a critical, nationwide shortage of faculty.

Thanks to a $2.5 million grant from the U.S. Department of Health and Human Services, the school initiated a new program, “From Practice to Preceptor.” The free program aims to recruit and train 45 practicing general and pediatric dentists to become faculty members at dental schools through the Middle Atlantic States (New Jersey, New York and Pennsylvania). NJDS is one of only a handful of dental schools in the country to receive an award. The principal investigator of the grant is Jeanette DeCastro, PhD, assistant professor of medicine.

The two-year program will emphasize cultural competency and treating underserved and special needs children and adults. Participants will observe and teach in the clinic and pre-clinic and at an extramural site. They will also treat special-needs patients and plan and oversee a service project involving children in underserved communities. In addition, they will develop a research design to complete in the future to strengthen their scholarly activities. Those who complete the program will be qualified to teach, fulfill administrative roles and conduct research in an academic environment. Participants receive a small stipend and have access to many of the school’s resources.

A unique feature of the program is attendance at Grand Rounds with the Family Medicine Department residents at UMDNJ – School of Osteopathic Medicine and at UMDNJ – New Jersey Medical School. The participants will also be part of inter-professional teams at those two schools, as well.

“Recruiting new, talented faculty is vital to any educational institution,” says Dean Feldman. “Because dental education is extremely labor-intensive, it is doubly important for us.”

Students Make the Best Possible Impression

NJDS students are among an elite few who are being trained in the latest technology. Last year 3M ESPE donated five Lava Chairside Oral Scanners (COS) through the Foundation of UMDNJ. Students are learning to use this state-of-the-art equipment and faculty use it to deliver patient care.

The COS captures highly accurate digital pictures of the oral cavity that are electronically sent to the laboratory to fabricate crowns, inlays, bridges or the practitioner uses a wand, about the size of an electric toothbrush, to scan the oral cavity and produce a real-time image on the computer screen. The dentist is able to rotate and magnify the view, and can discuss the findings with the patient, while he or she is still in the chair.

Students will continue to learn the traditional method of making impressions; however, knowing how to perform digital scanning will give them an even greater competitive edge.

Service Learning Through CODE

Our graduates leave NJDS with a deep sensitivity to the cultures and beliefs of every patient they see. One way they gain cultural competency is through our Community Oriented Dental Education (CODE) program.

One of only two such programs in the country, CODE enables 11 fourth-year students to spend their entire senior year at an extramural site in our Statewide Network for Community Oral Health. Located in underserved areas of the state, the clinics have widely diverse patient populations and a high percentage of HIV/AIDS patients. Students who participate in CODE also gain experience working in a private-practice-like setting before leaving NJDS. Our graduates tell us their CODE experiences were invaluable and gave them a competitive edge in the workplace.

CODE Celebrates Five Years

The success of the CODE program prompted us to create a CODE II program so every fourth-year student would have the opportunity to spend at least two weeks at an extramural clinic. Since its inception in 2007, 359 students have completed the program. CODE II was originally funded by a grant from the Robert Wood Johnson Foundation.

Closing the Diversity Gap

NJDS is changing the face of dentistry. Our commitment to recruit underrepresented minorities has paid off. The entering class of 2012 consisted of 18 percent Asian, 9 percent black, and 15 percent Hispanic students.

We believe it is never too early to introduce dentistry as a profession to minority students. To do so we designed four unique pipeline programs for children in pre-kindergarten through post-college. Younger children participate in age-appropriate activities, while learning proper oral hygiene. Older students go into the NJDS clinics to observe actual dental procedures being performed and do hands-on activities. A total of 25 students in the entering class of 2012 completed at least one of our pipeline programs.

Two of our programs celebrated landmarks in 2012: Our Dental Express program celebrated its fifth anniversary, and 100 Newark children completed our CODE II program. And, a new element was added to those two programs: The students got to wear white coats while participating. By introducing lab coats, just like dental students receive, the kids get a deeper understanding of what it means to enter the dental profession, while learning the importance of helping others.

Maritsa Camacho, program assistant in student affairs, oversees every aspect of Decision for Dentistry and Gateway to Dentistry—from processing applications to awarding the completion certificates. “It is very satisfying when I see any of these students eventually graduate from dental school,” she says. “It’s wonderful knowing I was a part of their decision to become a great dentist.”

NJDS has international exchange programs with:

Trinity College School of Dental Science
Dublin, Ireland

Sibar Institute of Dental Sciences
Guntur, India

University of Sharjah College of Dentistry
United Arab Emirates

Programs are under discussion with dental schools in Spain, Germany and Brazil.
An integral part of our mission is to provide the best possible care to the residents of our state and beyond. As the largest oral health care system in New Jersey, we do exactly that. With 296 operatories on the Newark Campus and a total of 24 in our Statewide Network for Community Oral Health, we accommodated more than 100,000 patient visits in 2012. And, because we believe everyone should have access to dental care, we treated thousands of uninsured and underinsured working poor, with more than 30 percent of our patients enrolled in Medicaid. We make a significant difference in the lives of the patients we serve.

Making a Difference
At NJDS we improve more than smiles; we improve lives. Our Restorative Dentistry Department is renowned for helping people with facial deformities, resulting from cancer surgeries, accidents or inherited defects. Besides having difficulty eating and speaking, these patients suffer emotional pain, as well. Some even become reclusive.

One example is a 9-year-old child who has only a few teeth, due to a condition known as ectodermal dysplasia. Her face had a collapsed look, making her the brunt of jokes at school. NJDS practitioners fabricated a full set of age-appropriate dentures to fit over her few teeth, until she is old enough for implants. Her mother was so overjoyed she cried when she saw her child's new smile, and the youngster was so grateful she drew a “thank you picture” for her dentist, prosthodontic resident, Dr. Haitham Agha. “Being involved in these types of cases is very rewarding,” says Louis DiPede, DMD, assistant professor of restorative dentistry. “You can completely change someone’s life.”

Care Beyond the Dental Clinic
For many years the link between oral and systemic health was not well understood. Today we know there is a strong connection. We examine the oral cavity for telltale signs of the many systemic diseases that manifest there, and we work closely with other health care practitioners to provide multidisciplinary care for every patient.

In addition to providing care in our clinics, we took the next step. Our faculty teach oral medicine at three of our sister schools. Physician assistant students and medical students learn the manifestations of systemic and local diseases in the mouth, and they learn to examine the oral cavity and its associated structures for the signs and symptoms of these conditions.

Worldwide Inter-professional Education
In 2012 Arnold Rosenheck, DMD, acting chair of the Oral Medicine Department at UMDNJ–School of Osteopathic Medicine (SOM) and assistant dean at New Jersey Dental School, received a development award from the American Association of Medical Colleges (AAMC) to create inter-professional curriculum modules for the association’s Web site, the MedEdPORTAL. Dr. Rosenheck teamed up with Mahnaz Fatahzadeh, DMD, of diagnostic sciences, to create a “Dental Medicine Curriculum within the Medical Curriculum.” The first module, “Head and Neck/Oral Comprehensive Examination” is currently on the site.

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- the only dental school in New Jersey offering pre-doctoral and postgraduate dental education
- the largest dental Medicaid provider in New Jersey
- the largest special needs dental provider in the NJ/NY/PA region
- the largest provider of oral health care to underserved populations in New Jersey

Taking the Next Step
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Patient Care
Meeting the Needs of Special Care Patients

Along with offering comprehensive treatment to traditional patients, we provide specialized care to those who require it. Our Special Care Clinic (SCC) on the Newark Campus serves children with severe developmental disorders, such as Down’s syndrome, muscular dystrophy, cerebral palsy and autism, as well as those with physical disabilities. Part of the Pediatric Dentistry Department, the Clinic serves patients from as far away as Delaware, Pennsylvania and New York State. There are nearly 10,000 patients on the SCC registry, up from 3,300 in 2005. Last year it accommodated 3,500 patient visits, and 350 patients had complex, multiple procedures performed under general anesthesia in the operating room.

Providing Statewide Care

According to the New Jersey Department of Health and Senior Services, a disproportionate number of people with HIV/AIDS reside in eight of the state’s southern counties. The lack of dental insurance and the need for private practitioners who are sensitive to these patients’ needs make it difficult for them to get oral treatment.

We have been providing much of that care for more than 20 years, through our Statewide Network for Community Oral Health in clinics in Galloway, Northfield (Atlantic County) and Somerdale (Camden County). This network is under the direction of Drs. Caven Brunsden and Nancy Villa-Brunsden. The network is funded under the direction of Dr. York, DDS, assistant dean of extramural clinics, and Harold Cohen, DDS, professor of diagnostic sciences. Five years ago NJDS received a grant from the U.S. Dept. of Health and Human Services (HRSA) to fund the Community-Based Dental Partnership. The funding is being used to improve access to care for HIV/AIDS individuals and to increase provider capacity for treating them. The largest of only 12 programs in the country to receive this funding, our Statewide Network was lauded by HRSA as a model of excellence in treating HIV/AIDS patients.

Our SCC and the Department of Pediatric Dentistry will soon be renovated and expanded, thanks to a $1.5 million gift from Delta Dental of New Jersey and a $1 million gift from Drs. Caven Brunsden and Nancy Villa-Brunsden. The Delta Dental Special Care Clinic will be adjacent to the new Brunsden-Villa Pediatric Clinic, and has been designed with wider hallways and doorways to accommodate large wheelchairs and stretchers. In addition, it will have its own waiting area, a private reception/billing area, a “smart” educational/conference center and 35 new operatories. There will also be chair-side electronic technology for instant access to patient records.

“The new treatment center will be better equipped to handle the specific needs of this population,” says Dean Feldman. “As our special needs patients roster continued to grow, the need for a new facility became more pressing. We are extremely grateful to our donors, who have helped make the dream come to fruition.”

Richard Bloomstein, DDS, clinical associate professor, orthodontics, goes over a patient’s treatment plan with two NJDS students.

Ahead of the Curve in Implantology

Our implant program, under the direction of Barry Zwieg, DMD, professor, oral and maxillofacial surgery, has experienced dramatic growth in the last seven years. We have gone from placing 300 implants in 2005 to placing 985 implants in 2012. That means all of our pre-doctoral students get experience in implantology before graduation. Only a handful of dental schools in the country can offer their students this academic and clinical experience. We are also one of only a few schools that offer a Fellowship in Implant Dentistry. Using state-of-the-art digital technology, including CAD/CAM and cone beam computer tomography, our dentists can now be even more precise in determining the optimum depth and angle for implants. The result is ideal esthetics and function for our patients.

By teaching other health care professionals this skill, we are helping to lower the risk of life-threatening oral infections, systemic diseases and oral cancer. This is especially true for the indigent, who may see a physician or a dentist, but rarely, if ever, go for the indigent, who may see a physician or
Unraveling the mysteries of genetics; finding biomarkers in human saliva; and decoding the chemical language of biofilms. These are only a few of the studies underway in our laboratories. Our scientists and clinicians have long been seeing the next step and taking it in their quest for new treatments and, possibly, even cures. From relieving neuropathic pain, to finding new, gentler treatments for leukemia, NJDS researchers continually seek to improve the lives of others.

Besides being dedicated and enthusiastic, NJDS scientists are resourceful: in 2012 they garnered $3.7 million in funding to conduct basic and clinical research that encompasses many areas of human health. They take their discoveries into the clinics, so today’s patients benefit from their work, and they prepare the next generation of researchers, who will improve tomorrow’s oral health care.

Making Strides in Treating Leukemia
While doing research on the microorganism Aggregatibacter actinomycetemcomitans (Aa), Scott Kachlany, PhD, discovered a protein, known as leukotoxin that specifically targets and kills malignant white blood cells. The associate professor in oral biology envisioned the next step: leukotoxin as a therapy. In 2009 he formed Actinobac Biomed, Inc., and Leukothera™ was developed. It is currently in pre-clinical trials.

In 2012 Dr. Kachlany received $100,000 from the St. Baldrick’s Foundation, an organization dedicated to raising funds for childhood cancer research. He is using the funding to test Leukothera™ on the malignant white cells of children. His company also began working with Texas A&M College of Veterinary Medicine and Biomedical Sciences last year to examine the use of Leukothera in dogs suffering from white cell disease. “Because of biological similarities, the data we obtain from these new studies will be applicable to dogs and support drug development for human applications as well,” he said.

Dr. Kachlany is finding the possibility that his discovery will make it from the bench to the bedside to be exciting and gratifying. “Being a microbiologist, I considered myself to be a basic scientist, so generally your work is confined to the lab and you don’t usually think about where it can go in the future,” Dr. Kachlany said. “I hope one day I can walk into a hospital or clinic and see something that I developed in the lab actually changing someone’s life for the better.”

Studying Air Pollution in China
With the great expansion of industrial activity in recent years, much of China has seen decreases in air quality. In Beijing air pollution levels are usually much higher than even in the most severely polluted places in the U.S. During the 2008 Olympics unprecedented measures were implemented by the government to reduce air pollution during the Games so that athletes’ performances would not be adversely affected. Scott Diehl, PhD, director of the Center for Pharmacogenetics and a professor in oral biology, and Chinese scientists teamed up to take advantage of this unique opportunity to learn more about the
Defending Against Infections

Gill Diamond, PhD, associate professor of oral biology, has spent most of his career researching how the human body fights infections. He is currently focusing on two aspects of antimicrobial defense in the oral cavity.

One study is looking at the potential role of vitamin D in enhancing the innate immune defense against periodontal pathogens. He and his team have demonstrated that the inactive form of vitamin D can be locally activated by the gingival cells, leading to an increased antimicrobial and anti-inflammatory defense against periodontal pathogens.

The second area he is working on involves the use of predatory bacteria to fight other bacteria. Diamond and his collaborators are researching how the human body fights infections.

Bacteria vs. Bacteria

Daniel Kadish, PhD, associate professor, oral biology, is looking to develop new antibiotics by using microorganisms to produce antimicrobial compounds that might be used to fight infections. He is using two particular predators (Babillonobacter and Micobacter), which are among the fastest-moving organisms in all of nature, and among the potential weapons in the battle against antibiotic-resistant infections. Micobacter has been dubbed vampire-like because it sucks nutrients out of its prey, but is harmless to most of the beneficial bacteria.

The U.S. Department of Defense has invested more than $1.5 million in his work to find treatments for the deadly infections soldiers are bringing back from Iraq and Afghanistan. “Veterans don’t always die from wounds, but from the massive infections later on. He is looking at more than 500 microbes to find potential infection fighters. “There will be a time when we face infections that are resistant to everything,” he says. “We want something in our arsenal.”

Avoiding Potential Side Effects

Daniel Fine, DMD, chair of oral biology, has spent decades researching the pathways of oral bacteria. His studies have given him insight into how and why certain microorganisms climax to mucosal tissue to cause disease. He recently set out to understand how to break that “magnetic attraction” and detach the bacteria from their natural target. And he did just that.

“We created a decay molecule to compete with the infectious agent and prevent it from attaching to either the tooth enamel or its mucosal surfaces,” he says. By fusing parts of two salivary proteins—one from lactoferrin, which functions as an antimicrobial, and one from statherin, a salivary protein with a natural affinity to enamel—he was able to synthesize a “sticky” peptide that attaches to enamel surfaces and blocks plaque formation. The ingenious aspect of this newly created fusion peptide is that it is released slowly from that enamel surface. “Half of this peptide is an active antimicrobial with the ability to kill a wide variety of bacteria that cause caries and gingivitis,” he says. “The other half makes the killer-bacteria stick to its target,” he explains.

Improvement in dental materials, equipment and techniques

A third area of research is the drug delivery system that will help reduce dental pain. When a tooth’s root surface is eroded, and the two types of dental sensitivity: one occurs when a tooth’s root surface is eroded, and the other is the pain that occurs with inflammation, from a caries infection, filling a cavity, or other causes. The two researchers are developing a fluid emulsion that contains anti-inflammatory drugs, as well as small, porous particles that will carry the drug and deliver it to the affected tooth nerve. The emulsion will be placed into the tooth during dental procedures and the medication will permeate the dentin—the dense, bone-like tissue beneath the surface of the tooth—to the nerve.

The associate professor in oral biology at NJDS and Evros Vassiliou, PhD, associate professor of biological sciences at Kean, make the perfect team. Dr. Markowitz’s side of the research is the drug and Professor Vassiliou’s is the particle that carries the drug. The third team member is Mark Rosenblum, PhD, DMD, an associate professor of restorative dentistry at NJDS and a dental materials and electron microscopy expert. He was also one of Dr. Markowitz’s teachers at NJDS.

This treatment would only add a minute or two to the dental visit,” says Dr. Markowitz. “By applying this medication during treatment, you’re short-circuiting the inflammatory process before it can even get started.”

Mentoring the Next Generation of Scientists

When asked, most scientists say it was an outstanding mentor who prompted them to go into research. NJDS faculty members have mentored hundreds of students at the pre- and postdoctoral level. These caring, dedicated individuals enjoy counseling their students and are thrilled when the future scientists uncover new knowledge.

This past year was exceptional for NJDS students who entered the research arena. Three pre-doctoral students submitted their summer research results to the New York Academy of Dentistry’s annual competition. They won, and were invited to present their poster in February in New York City. Second-year students Grijohnie Etso and Jonathan Snow and third-year student Benjamin Immanuel presented “Analysis of Charged Silica Adhesion to Deep Dentin.” The $4,000 prize will be used for research in Dr. Daniel Fine’s lab, where they conducted their winning investigation.

NJDS postgraduate students took more honors than any school that participated in the American Academy of Implant Dentistry (AAID) annual meeting in Washington, D.C. Linda Xing, DMD, a postgraduate in periodontics, won third place for her poster “Comparative Clinical Study of Membrane Assisted Socket Healing.” And Prashanth Konatham Barai, BDS, a postgraduate in diagnostic sciences, took second place for his poster “The Utilization of Mineralized Cortico-Cancellous Block Allograft in Alveolar Ridge Defects for Implant Rehabilitation.”

And, for the first time ever, a NJDS student received the prestigious William S. Kerr Award from the Mid-Atlantic Society of Orthodontists, which includes the District of Columbia, Maryland, New Jersey, Pennsylvania and Puerto Rico. Bruce Taisios, DMD, ’12, a resident in orthodontics, received the award for the best research and thesis, “Dentoseptation Effects of Damon and Tp-Edge Space Closure Mechanics.”

KEY RESEARCH

Cardiorespiratory biomarker responses to drastic air quality changes

Genetic factors involved in patients’ side effects from opioid-based drugs

Development of microbial peptides in the lab that protect against infection

Use of vitamin D in the mouth to quell the production of plaque and periodontitis

Genetic factors underlying bacterial colonization of oral tissue

Use of vitamin D aerosol spray in the treatment of cystic fibrosis

Causes, diagnosis and treatment of orofacial pain

Mechanisms of disease resistance

Microbial markers in saliva for osteoporosis

Use of bacteria to fight other bacteria

Improvement in dental materials, equipment and techniques

“how and why” of air pollution’s effects on human health

Subjects in the study were evaluated for oxidative stress, autonomic tone, and cardiovascular function in their blood, urine and exhaled breath. In addition, they provided saliva samples that were used to extract DNA. Each participant was assessed before the Olympics, during the Games when air quality was improved, and after the Olympics when air pollution was expected to increase. The results were recently published.
At NJDS serving our community is a vital part of all that we do. Our students, faculty and staff routinely participate in outreach programs in Newark, throughout the state and around the world.

Last year was no exception. Our students participated in 65 community service projects, including health fairs, health education programs and oral health screenings on campus, at schools, community and cultural centers and other locations throughout the region.

“As oral health care providers we have a responsibility to provide care to those who would otherwise not get it,” says Dean Feldman. “We have been successful in instilling that responsibility in our students. Many of them go well beyond the required hours of community service, and some even organize outreach projects on their own. Serving others is a priority at NJDS.”

Serving Close to Home

Going to the dentist can be fun, especially if it’s the first Friday in February. That’s what kids who came to NJDS discovered on February 3, during Give Kids A Smile! (GKAS). In 2012 some 361 kids were seen on the Newark Campus, and a total of 44 visited the network sites at Galloway, Northfield and Somerdale. Because many of the children have never been to a dentist, Debra Goldsmith, RDH, MS, assistant professor, community health and event director, ensured the experience was a positive one. A juggler entertained the kids while they waited to see the dentist, and NJDS students distributed crowns made of balloons, chatted and played games with the patients. An added feature this year was a visit from US Senator Robert Menendez of New Jersey. Senator Menendez held a press conference on campus, during which he lauded the community service that the school provides, not only during GKAS but throughout the year.

“It is so important that a first dental experience takes place somewhere other than an emergency room,” says Dean Feldman. “This day is great, because we reach so many children at once and can teach them that proper oral hygiene is vital to good oral health and good overall health. We want to set the stage for them to practice good oral hygiene for the rest of their lives.” More than 100 NJDS faculty, staff and students had a hand in making the day a success.

NJDS partnered with the ADA and the NJ Dental Association to host the event. Funding was provided by the PNC Foundation and the ToysRUs Children’s Fund.

At the Olympics

About 100 students, faculty, staff and alumni volunteered at New Jersey’s Special Olympics Summer Games of 2012. During the two-day event, more than 550 athletes visited Special Smiles headquarters, where they received free dental screenings, oral hygiene instructions and free custom-made mouthguards. Special Smiles is part of the Special Olympics Healthy Athletes initiative created to focus on health issues facing the athletes.

Recognizing the unmet dental needs of Special Olympians, NJDS was the first to design and pilot a program that collected data on the athletes at the Games. We looked at the athletes’ oral health status, patterns of care, and barriers to care. Data are now collected worldwide at the Games and used to encourage dental schools to implement the dentist, and NJDS students distributed crowns made of balloons, chatted and played games with the patients. An added feature this year was a visit from US Senator Robert Menendez of New Jersey. Senator Menendez held a press conference on campus, during which he lauded the community service that the school provides, not only during GKAS but throughout the year.

“It is so important that a first dental experience takes place somewhere other than an emergency room,” says Dean Feldman. “This day is great, because we reach so many children at once and can teach them that proper oral hygiene is vital to good oral health and good overall health. We want to set the stage for them to practice good oral hygiene for the rest of their lives.” More than 100 NJDS faculty, staff and students had a hand in making the day a success.

NJDS partnered with the ADA and the NJ Dental Association to host the event. Funding was provided by the PNC Foundation and the ToysRUs Children’s Fund.

Taking the Next Step
special needs curricula and to demonstrate to all levels of government that access to care must be increased for this population.

A Capitol Connection
Anyone who stopped by the New Jersey State House Visitors Center on June 30 could get more than tourist maps; they could have free oral cancer screenings and learn about the life-threatening condition. In conjunction with the New Jersey Dental Association, Drs. Mahnaz Fatahzadeh, DMD, associate professor, diagnostic sciences, and Arnold Rosenheck, DMD, acting chair of community health, performed the screenings.

Among the 57 who opted to have screenings were five legal secretaries, three assemblers, and three senators. Debra Goldsmith, RDH, MS, assistant professor, community health, distributed information on smoking cessation, the signs and symptoms of oral health, and the importance of early detection.

Debra Goldsmith, assistant in restorative dentistry, and Rebecca Read, DMD, assistant professor, community health, went to the Center for Geriatric Health at Newark Beth Israel Medical Center to talk to seniors about oral health care because they can’t afford it. Financial help is available, however, and Doric Johnson, staff assistant in restorative dentistry, and Rebecca Read, DMD, assistant professor, community health, went to the Center for Geriatric Health at the University of Medicine and Dentistry of New Jersey.

Keeping Seniors Informed
Often senior citizens don’t get dental care because they can’t afford it. Financial help is available, however, and Doric Johnson, staff assistant in restorative dentistry, and Rebecca Read, DMD, assistant professor, community health, went to the Center for Geriatric Health at the University of Medicine and Dentistry of New Jersey.

At the “Smile for Dental Health” workshop, Ms. Johnson explained that a grant from the Essex County Division of Senior Services provides financial assistance for county residents 60 or older, who get dental treatment at NJDSS. Ms. Johnson explained how to enroll in the program and that NJDSS is the dental care provider.

Dr. Reed told the group that the many services the dental school offers and what some of the treatments involve. She also explained the importance of proper oral hygiene and the oral health-overall health connection. “It is so important to get the word out that funds are available,” says Dr. Reed. “Getting the oral health care they need helps Essex County’s seniors have a better quality of life and enjoy their golden years to the fullest.”

The seniors also received free toothbrushes and toothpaste.

Every year NJDSS participates in
Give Kids A Smile!
New Jersey Special Olympics
Special Smiles program
Oral Cancer Screening
Essex County Cancer Fair
Statewide Health Fairs
Oral Health Awareness Day at Liberty Science Center

Serving Across the Country
Two groups of NJDSS health care providers, each consisting of eight rising seniors and two supervising faculty, delivered vital dental services to members of the Navajo Tribal Nation at the Four Corners Health Center in Teac Nos Paez, AZ, in August. They performed more than 500 basic procedures, including routine restorations, periodontal therapy, root canals, extractions and minor prosthetics. They also taught patients proper oral health care.

Gary Vitaketti, DMD, director of the Oral Diagnosis Division, started the program in 2005 with six students. Since then a total of 98 NJDSS students have treated members of the Dine’ Sioux in Pine Ridge, SD; Chippewa in Belcourt, ND; Hopi in Polacca, AZ; and Navajo in Red Mesa, AZ. More than 2,400 Native Americans have received this desperately needed treatment. Drs. Vitaketti, Delahanty, Rosenblum and Samant accompanied the students. The trips have been sponsored by the dental school and the Indian Health Service (IHS), along with significant financial support from individuals and groups, such as the AMB Foundation and the NJDSS Alumni Association.

Helping the Global Community
In the U.S. facial anomalies, such as cleft lips and cleft palates, are usually corrected before a child reaches his or her first birthday. In countries like Bangladesh, where people cannot afford even basic medical care, these surgeries are not an option. As a result these children’s faces are misshapen, and they have difficulty speaking and eating. Perhaps worst is the isolation the entire family suffers.

Oral and maxillofacial surgeon Shahid Aziz, MD, DMD, has been traveling to Bangladesh every year since 2006 with a team of colleagues. This past year he made the trek twice: in March he went to Sylhet with Gary Fishbein, DMD, and Sameer Albadawi, DMD, and in November to Cox Bazar with Leo Page, DMD, all residents in NJDSS’s oral and maxillofacial surgery program. They completed a total of 100 procedures.

“When you repair a cleft you are not just fixing a congenital deformity, you are improving a face and bringing happiness and relief to a child’s family,” says Dr. Aziz. “Ultimately, we help improve the quality of life in an entire community.”

Providing Care in the Caribbean
People with no access to oral health care get much-needed treatment when a cohort from NJDSS took a trip to the Caribbean island of Hispanola. Pamela Alberto, DMD, clinical associate professor, oral and maxillofacial surgery, and fourth-year students Patricia Dary, Kerisa Harriott and Gabriela Rosas treated people in Haiti and the Dominican Republic, during a week-long mission.

They flew to the Dominican Republic then drove two vans filled with dental equipment to a hospital in the mountain town of Restauracion. They spent a day setting up the clinic and then began seeing patients. They performed 200 cleanings, 180 extractions, 370 restorations and applied 500 sealants on 332 patients. About two-thirds of the patients were children, including a number of Haitian kids whom two of the students brought to the clinic from the town of Titany, just across the border.

Each evening the group assembled hundreds of bags with toothbrushes, toothpaste and dental floss, donated by Colgate-Palmolive. “In the Dominican Republic the average income is $13 a day, and in Haiti it’s $3 a day. A toothbrush and toothpaste cost $7,” explains Dr. Alberto. “Owning a toothbrush is like having gold. They were thrilled to get them.”

This was Dr. Alberto’s second mission to the Dominican. “The people were shocked that we returned,” she says. “We go up in the mountains, which is difficult to get to and where it is hard to set things up,” she says. “It is truly considered the ‘frontier,’ and an area that tourists never see.” She hopes to return next year with an x-ray unit, so the scope of treatment can be increased. The trip was funded by donations through the Foundation of UMDNJ from NJDSS alumni and other dentists, some of Dr. Alberto’s friends and members of her church.
2012 Timeline

**January**

March: For the Class of 2012 continued the tradition of success. 100 percent of those who applied for postgraduate residencies were placed into programs.

**March**

The Dental Exploration program hits a landmark, an 100 Newark public school children complete the pipeline program. Designated for fifth- through eighth-graders, the interactive program aims to spark students’ interest in possibly pursuing careers in dentistry.

3M ESPE donates five, Lava Chairside Oral Scanners (COS) through the Foundation of UMDNJ. Students will learn to use the scanners to take digital impressions, along with learning the traditional method.

**February**

NJDS celebrated National Children’s Dental Health Month with its flagship event, Give Kids A Smile! A total of 361 kids were seen on the Newark campus and 44 at the network sites.

NJDS faculty and students volunteered at the annual Children’s Oral Health Day, held at Liberty Science Center in Jersey City.

Three students from the University of Sharjah School of Dental Medicine in the United Arab Emirates (UAE) visited NJDS for two weeks, as part of a new exchange program with NJDS.

**March**

Anthony Volpe, DDS, ’90, receives the American Dental Education Association’s William J. Gies Awards for Achievement as a Public or Private Partner. The prestigious award recognizes exceptional contributions to and support of oral health and dental education.

NJDS once again holds a spring Oral Cancer Screening Day, in conjunction with the Essex County Cancer and Health Fair. A total of 182 individuals are screened.

**April**

Pamela Alberto, DMD, clinical associate professor, oral and maxillofacial surgery, and three-year students treat 332 patients, mostly children, in the Dominican Republic and Haiti, during a week-long mission.

A 30-member contingent from NJDS joins other programs to help raise funds for the American Cancer Society’s Relay for Life during the 2012 Relay for Life in New Jersey.

**May**

The 4th Class of 2015 begin their dental careers with a White Coat ceremony. They receive pins from Dr. Anthony Volpe, ’90.

**June**

Strengthening Community Ties is the topic of a faculty retreat. Dean Feldman and the faculty exchange ideas and information and begin laying the groundwork for the next strategic plan.

About 100 students, faculty, staff and alumni volunteer at New Jersey’s Special Olympics Summer Games of 2012. During the two-day event, more than 1,500 patients visit Special Smiles headquarters, where they have free dental screenings, receive oral hygiene instructions and have custom-made mouthguards fabricated.

**July**

NJDS receives a $2.5 million grant from the U.S. Department of Health and Human Services to initiate a new program, “From Practice to Preceptor.” The funds will be used to train 40 practicing, general and pediatric dentists to become dental faculty members in the Middle Atlantic States (New Jersey, New York and Pennsylvania). Special emphasis will be placed on cultural competency and successfully treating underserved and special needs children and adults. Jeannette DiCicco, PhD, is the principal investigator and Jill York, DDS, is co-principal investigator of the grant.

A total of 151 NJDS faculty and/or alumni are chosen Top Dentists, when New Jersey Monthly magazine publishes its list of the top 364 dentists in the state. NJDS is represented in all nine categories, and 61 faculty and/or alumni are also on last year’s list.

**August**

The 94 members of the Class of 2015 begin their dental careers with a White Coat ceremony. They receive pins from Dr. Anthony Volpe, ’90.

**September**

The Diagnostic Sciences Department’s Center for TMD Disorders and Orofacial Pain has a highly successful site visit by the Commission on Dental Accreditation. The Center receives no recommendations, meeting all the standards for accreditation. In March 2013 the Center will receive “full accreditation without report requirement status,” which is the best possible outcome.

**December**

NJDS faculty and staff come together for the sixth consecutive year to honor employees making landmark years of service. The most years of service by a faculty member is 45, and by a staff member is 25.

A delegation from China’s State Food and Drug Administration spend a day at the Newark campus and learn about the American health care system. The 13 scientists begin the NJDS portion of the tour in the Pediatric Dentistry Department, where they discuss U.S. children’s oral health care. They also stop in the Pharmacology and Oral Biology departments, the Department of Operative Dentistry Department, where they discuss U.S. access to dental health care. They also stop in the Pharmacology and Oral Biology departments, the Department of Operative Dentistry Department, where they discuss U.S. access to dental health care.

NJDS students and faculty from two CODE sites participate in World AIDS Day. Five students from Somerville volunteer at an event held at St. Paul’s Episcopal Church in Camden. World AIDS Day raises awareness and demonstrates international solidarity against HIV/AIDS.

**November**

Food, clothing drives and fund-raisers abound on campus, as students initiate a variety of projects to help victims of Superstorm Sandy.

**December**

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From Practice to Preceptor,” a new program designed to increase the number of dental faculty in the region, gets underway. The first participants are Drs. Bradley Smith ’81, Angie Papandrikos, Valerie Rico ’88, Mara Ambrosio and Deborah Brown ’91.

The site visit for re-accreditation by the Commission on Dental Accreditation is rescheduled for February 2013, because of Hurricane Sandy.

Students begin using their new study rooms. The rooms are equipped with Wi-Fi, power strips for plugging in electronic devices, individual study carrels and a conference table for group sessions.

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Thank you to all of these donors who have supported New Jersey Dental School.

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2011-2012

REVENUE
1 Tuition and Fees 21,642,000 42.77%
2 Faculty Practice 2,665,000 5.27%
3 Recoveries of Direct Grant Expenses 3,796,000 7.50%
4 Indirect Cost Recoveries 755,000 1.49%
5 Patent Service Revenues 8,910,000 17.61%
6 Donations and Endowment Income 0.00 0.00%
7 State Appropriation 11,230,000 22.19%
8 Other 1,606,000 3.17%
TOTALS 50,604,000 100.00%

EXPENSE
1 Salaries and Wages 26,214,000 52.80%
2 Non-Salary 13,193,000 26.58%
3 Direct Grant Expenses 3,796,000 7.65%
4 Life Cycle Management 3,802,000 7.66%
5 Debt Service 250,000 0.50%
6 Central Administration Costs 2,389,000 4.81%
TOTALS 49,644,000 100.00%