There are times in life when opportunity knocks and offers a chance to move forward in a way that alters our perception and opens doors to new possibilities. This past year was one of those times.

In July 2006, the USC School of Dentistry entered into an alignment with USC’s programs in Occupational Science & Occupational Therapy and Biokinesiology & Physical Therapy, creating a unique partnership. With the elimination of Independent Health Professions, the administrative home for the two departments, the Provost appointed me as the acting dean for the programs last September. Faculty and administrators of the three programs engaged in a discovery process to determine if such an alignment should be made permanent. The answer was a resounding, “Yes,” and I couldn’t be happier.

A shared vision emerged from this exploratory process. Working together, we look forward to providing an interdisciplinary model for promoting health, preventing disease, addressing health and healthcare disparities, and providing evidence-based, patient-centered care across the human lifespan. We all agreed that each program would continue to pursue its independent academic agenda, and faculty study groups came up with eight different opportunities for collaboration based on our collective expertise.

One such opportunity is the prevention of musculoskeletal pain and disorders in oral health practitioners—a collaboration that is already moving forward. The combined expertise of Jacquelyn Dylla, director of PT Associates on the University Park Campus, and Jane Forrest, chair of the school’s Division of Health Promotion, Disease Prevention and Epidemiology, created a guide to posture and positioning aimed at preventing chronic pain and disability that often afflict oral health professionals. Their article appeared in the March 2006 issue of ACCESS, a publication of the American Dental Hygienists’ Association. Working with Diane Melrose, the preventive strategies are being translated into our dental hygiene curriculum, utilizing technology funded by a grant from USC’s Technology Enhanced Learning Incentive Program.

The creation of a USC Institute for Health and Wellness, in underserved and high-risk areas, and a Clinic for Health and Wellness is another opportunity. We envision the multidisciplinary institute as a site for large-scale research programs focusing on societal needs. The clinic would serve as a site to test ideas generated by the institute’s research. In the clinic, the dental checkup would be a patient’s point of access to a range of preventive services.

This alignment positions us to be more responsive to funding priorities and federal healthcare initiatives. These priorities and initiatives call for addressing critical societal issues in health and health care, and for redesigning the healthcare delivery system into an integrative model that has as its mandate patient-centered, evidence-based care delivered by interdisciplinary teams.

This alignment is still very new. As we work out the details, we are committed to preserving the identity of our three outstanding programs and, at the same time, providing a model for integrated health care that better serves individuals and society.

—Harold C. Slavkin, D.D.S.
G. Donald and Marian James Montgomery
Professor of Dentistry
We each have

- interdisciplinary relationships for research, education and practice with units inside and outside USC — locally, nationally and internationally,
- research, graduate programs and professional practices that bridge theory and practice,
- learner-centered educational programs for professional, graduate and continuing professional education,
- community health programs that serve the USC neighborhood and provide service-learning opportunities for our students,
- a history of leadership in education, practice and research for our respective fields,
- engagement in biomedical sciences, health promotion, health literacy, risk assessment, disease prevention, and quality of life issues,
- impact on health and health care in diverse populations from preconception to senescence.
Headquartered in the Center for Health Professions on USC’s Health Science Campus, the school’s new divisions are at the top of their game with cutting edge practice, top-ranked educational programs and research that is generating new knowledge and providing an evidence base for practice.

**Occupational Science and Occupational Therapy**

*Occupation.* It is a word that most of us associate with our work—secretary, dentist, mechanic, homemaker. But, to those in the field of occupational therapy, the meaning is much broader. To occupational therapists, occupation means activity—everything from washing dishes to playing the piano or surfing the waves at Malibu. When you think about it, you can’t help but be amazed by the scope of their practice.

By their own definition, occupational therapists evaluate, use and adapt everyday activities to improve function, enhance performance, promote health, and prevent illness and disabilities. They treat patients and clients of all ages, backgrounds and walks of life, teaching them occupational skills from rehabilitative arts and crafts to positioning the keyboard at their desks to the correct height. You’ll find them in hospitals, community centers, skilled nursing and mental health facilities, workplaces, schools, outpatient clinics and in individuals’ homes.

USC’s occupational therapy program was established in 1942 as a department in the College of Letters, Arts and Sciences. From its earliest days, it has distinguished itself as a pioneering program in the profession thanks to its inquiring and innovative faculty and the achievements of its graduates.

**USC’s Occupational Therapy program** has ranked #1 in the nation since 1998, when *U.S. News and World Report* began ranking occupational therapy programs. It is the only program in the country to offer all degrees in the field. The Bachelor of Science in Occupational Therapy provides the opportunity for undergraduate students interested in the health professions to become familiar with the field and to get a head start on earning a master’s degree. With a major in occupational therapy from USC, students can earn a Master of Arts at USC with one year of additional courses and fieldwork.

The two-year master’s program, established in 1969, was the first such program in the country. Students learn the theory behind the practice of dealing with psychosocial and physical dysfunction. They also study neurology and kinesiology, which is the neuromusculo-skeletal functioning that allows us to perform our daily activities.

Getting into a shower, a task that many of us take for granted, may seem impossible for those with balance and coordination problems. Through task analysis, students learn to break down an activity into each of its components and then to put it back together again in a different way that will enable one to reclaim this skill. These analytical skills are also used in evaluating living and work environments and in developingadaptive equipment that can assist people in living normal lives—everything from accessing facilities in your home while confined in a wheelchair to using specially designed tools that are easier to grasp.

Students also learn how to design lives and living spaces to be maximally health promoting to prevent or lessen the impact of chronic disease or disability. This may entail working with architects to create smart homes, providing consultation to Boomers on the optimal-supported living environment for their parents or helping the Boomers themselves live each day in a healthier way.

Clinical education is conducted through fieldwork at over 500 sites throughout the country and abroad. Three weeks of fieldwork are embedded in the first-year students’ coursework. Second-year students have 24 weeks of full-time fieldwork that are typically taken in two different settings. Although no setting is required, disability and mental health settings are strongly encouraged.
according to fieldwork coordinator Jaynee Taguchi-Meyer. She works with students to ensure their placement in settings that correspond to their interests and that provide experiences with patients in different age groups reflecting a variety of disabilities and diagnoses. International postings in places such as Romania and Ghana are available and popular.

For Jennifer Stokely, fieldwork provided the essential link between a basic understanding she’d gained and transferring it into practice. This summer she completed fieldwork at the Center for Developing Kids, a sensory integration clinic. She had studied sensory integration dysfunction—a neurological disorder that interferes with typical processing of sensory information—but hadn’t seen how it manifests in children. “I walked in the first day, a little worried, but the second I got in there, I was, ‘Oh, I see, that’s what’s going on,’” says Stokely, who earned her master’s this year and is now enrolled in the clinical doctoral program.

The Doctor of Occupational Therapy (OTD) is designed to produce leaders in the areas of clinical practice, healthcare policy and healthcare management. As part of the curriculum, students take courses in the School of Policy, Planning and Development, which may be replaced by coursework in other USC schools to better meet their particular interests. Through the development of individual projects that involve need assessment, program development, execution and evaluation, students demonstrate the requisite skills to earn the degree. In the Ph.D. program, students are trained in the scientific method and its application to the study of human occupation. Rather than a focus on therapeutic application, students are encouraged to contribute to occupational science theory.

With the addition of the world’s first Ph.D. program in 1989, the field of occupational science was founded at USC, providing, a scientific basis for practice and a new name for the department. Occupational science, an interdisciplinary social science, focuses on the relationship of daily habits, activities and practices to health and well-being. Today, with federal funding and support from other sources, faculty are pursuing answers to some of the pressing questions in the field.

One such study, the NIH-funded Boundary Crossing study led by Mary Lawlor and Cheryl Mattingly, is in its 10th year and on its third project. The researchers are looking at how African American children with disabilities and their families develop and change over time and how healthcare practices change in institutional settings, like hospitals.

“Initially, we were interested in possibilities of misunderstanding and miscommunication in the healthcare context,” says Lawlor. But they soon realized that health care was not only practiced in doctors offices or therapy sessions, but in homes and other places, which led them to immerse themselves in the families’ lives. Here they found that families have considerable knowledge not only about what is going on at home, but also about their children’s condition and how best to implement some aspects of health care.

The researchers began to rethink how they looked at cultural competency in health care. Their conclusion was that the medical model in which the professionals are the experts can make it harder to incorporate the family’s knowledge about the child’s condition. “So we are arguing,” says Lawlor, “that we need a model of how people learn in the midst of the healthcare encounters so they have a more effective communication in partnering up.”

In the current project, researchers have been struck by how much work families do to understand biomedicine and how much they understand the cultural world of biomedicine. Through collective narratives—families sharing their healthcare experiences with each other—researchers are learning how families learn so much about the healthcare system and participants are learning how to ask for things and ways to help the therapist or doctor understand the family.

“We are going to do more with practitioner collective narrative groups too, so that we understand more about how these ideas are getting into practice in ways that will make a difference,” says Lawlor. Some of what researchers have learned has been incorporated in the curriculum, and they hope that, through their presentations at meetings, it will impact other programs.
Ann Neville-Jan is studying ways to assist children with spina bifida in dealing with bowel and bladder issues, and evaluating the efficacy of current therapies. This interdisciplinary research, funded by the Association of University Centers on Disabilities, includes a team of experts in epidemiology, nursing, occupational therapy, pediatrics, psychology and urology from centers in Los Angeles, Portland and Seattle.

At Childrens Hospital Los Angeles, co-principal investigator Neville-Jan and her colleagues use quantitative analysis to track measures of kidney function and the treatments being used—whether or not a catheter was used. They are also using questionnaires and focus groups with children, ages five to twelve, and their parents to understand how these treatments work in real-life settings, an infrequent practice.

She offers a simple example of the kind of social issues such children face. Kids who use a catheter typically go to the nurse’s station for assistance when they need to use the bathroom and are questioned by other children who wonder why they need to go to the nurse. She suggests that if children are trained to insert the catheter themselves, they can avoid the awkward social consequences.

“We are bridging the medical model with what is happening out in the community with people with spina bifida so that those kinds of issues, the social part, can affect the change of treatments in the medical model.”

In a lab that looks more like a child’s space ship, Diane Parham measures children’s responses to specific stressors—light, motion, sound. For the child pretending to control the space ship, it is a playful experience, a frequently used technique in research and therapy with children. For Parham, it is an effective method to gather information that will assist her in studying sensory integration, which links neuroscience with the activities and experiences of children.

Her current study focuses on the part of the autonomic nervous system that produces our fight or flight responses and mediates the response by distinguishing between a perceived threat and a real threat. Parham’s research subjects are children who experience physical sensations differently than most of us, typically ones diagnosed with conditions such as attention deficit disorder and autism.

“Some individuals are more easily activated in this way than most people are, and it was first identified in children although we’ve come to appreciate it’s a lifelong issue for many, many people,” says Parham. “The most common problems we see, we talk about them as sensory modulation problems, having difficulty regulating your reactions to ordinary sensory issues.”

A clicking sound for children having trouble modulating auditory sensations can flood the senses and interfere with attention and concentration. This and other sensory sensations, such as touch, can produce a defensive response to such things as human touch or the texture of clothing or food. Severe sensitivity around the mouth can result in serious nutritional problems and other problems such as requiring general anesthesia in order to tolerate dental treatment. “A lot of these kids get labeled as having behavioral problems,” says Parham.

Occupational therapy can help these children develop coping skills. Parham tells a story of an autistic child with a very high IQ and issues of control and obsession. The sensitivity around his mouth resulted in an eating problem that threatened his life. The therapist created a game using Jell-O, which he could tolerate, and they would alternate telling each other what size bite they could take. Then there were games about what kind of food he could eat. He would be told that, for a month, he could only eat food that had holes, allowing him to obsess on foods with holes in them—donuts, cheerios, bagels—and it worked.

By the age of eight, children are developed and sophisticated enough to learn strategies to recognize and cope with distressing experience, and occupational therapists have developed a curriculum to teach them how.
In 1997, with the publication of the USC Well Elderly Study in the Journal of the American Medical Association, the profession began to re-examine its traditional focus on rehabilitation and to step into the realm of preventive therapy. The three-year, groundbreaking study examined the effect of customized occupational therapy sessions on a culturally diverse group of individuals age 60 and older. The results demonstrated that seniors who received the personalized intervention showed improved health and well-being that were sustained over time, making it cost effective.

With the publication in 1999 of Lifestyle Redesign: Implementing the Well Elderly Study—one of 13 publications that came from the study—occupational therapists now had a guide to integrating the study’s findings into practice. At USC, faculty were busy doing just that. “We began to apply the concepts and the intervention to a variety of other domains. So we opened up the Lifestyle Redesign® weight-loss program at USC that is housed in our faculty practice,” says Florence Clark, primary author on the original study and the original practitioner in the weight-loss program.

Many of the programs initially developed from the study now represent most of the therapy provided through the faculty practice. In addition to providing several Lifestyle Redesign® group and individual therapy sessions, the Motion Picture and Television Fund sponsors the weight-loss program for those they insure, and USC Network covers costs for USC employees.

Among the other practice programs is a student-support Lifestyle Redesign® program through the Student Health Center. Mary Kay Wolfe, a member of the faculty practice, directs this program that helps students deal with the transition from family life to college life and with college-related stresses. At the USC’s Executive Heath and Imaging Center, Katie Salles-Jordon, director of the faculty practice, offers Lifestyle Redesign® for stress management and does lifestyle risk assessments for clients.

The newest Lifestyle Redesign® program is for pressure ulcer prevention in people with spinal cord injuries. When these painful ulcers develop and are left untreated they can lead to surgery costing up to $60,000. The techniques patients learn to prevent pressure ulcer development are effective, but not always practiced regularly. The availability of this Lifestyle Redesign® protocol for pressure ulcer prevention will position therapists to work with clients to establish routines that will engage them in preventive activities as part of their daily lives.

Clark, working this summer with experts from the USC Marshall School of Business and others, trained life advisors who will serve guests of the California Well-being Institute scheduled to open in fall 2006. The Institute, inspired by the keen interest in health and well-being of Dole Pineapple owner Donald Murdock, will include a high-end, Four Seasons Hotel and spa with a wealth of sports, workout facilities and health-promoting extras. USC-trained life advisors will work with guests to accomplish their individual goals during their stay and to develop a personalized life plan that will extend beyond their stay.

The original and follow-up study demonstrated that the Lifestyle Redesign® intervention worked to slow age-associated declines, but researchers don’t know why. In a new NIH-funded study of 440 multiethnic elders receiving Lifestyle Redesign® interventions, Clark and her colleagues are now studying the factors that they believe accounted for the positive change in physical well-being. They are also looking to see if Lifestyle Redesign® also supports better cognitive outcomes, an area not covered in the original study.

“So, when somebody begins to live in a way that is more customized to their needs and is more active, what changes? And, is it associated with the positive health outcomes?” says Clark, who is measuring stress-related biomarkers using cortisol in saliva.

“All of my research is really about life design,” she says. “That’s what I am calling it now, not so much Lifestyle Redesign®, but life design.” Whether Lifestyle Redesign® or life design—it’s what occupational therapists do.

During her internship in the faculty practice, M.A. student Camille Dieterle teaches yoga as part of the Lifestyle Redesign® programs.
A revolutionary force in the field of occupational science, Florence Clark has blended art and science to reinvent the role of the occupational therapist.

An acute stroke would be a catastrophic event in the life of anyone, but when that individual is a professional in the prime of her career and an athletic outdoorswoman, the loss of function is utterly devastating. Fortunately, this individual was a colleague of Florence Clark, chair of the Division of Occupational Science and Occupational Therapy. And fortunately, Florence Clark is not the type of person to stand idly by while a friend suffers.

What Clark saw was a woman go from being fiercely engaged in life—a kayaker, nature-lover, a real fighter with a tremendous sense of what is fair and just—to a complete standstill. She knew she had to get her moving. “I came up with the idea that the key to enabling a person to reclaim their lives was to tap into their character, which is shaped by what they have done in the world up until their injury or illness,” says Clark.

Her approach worked. Working closely with Clark, her colleague managed to reinvent and reinvigorate her life based on past experience. She had a new life, and Clark had a new methodology. Dubbed “lifestyle redesign”—a term that is trademarked by Clark, her co-investigators and the university—the new approach was utilized in 1994’s USC Well Elderly Study.

Clarks says her approach is derived from her training in the arts and humanities. In 1968 she received her Bachelor of Arts in English with a minor in speech drama from the State University of New York at Albany. From there, she completed her Master’s in Occupational Therapy at SUNY-Buffalo in 1970.

By 1972 she was working at psychiatric facilities for youth who were at-risk or suffering from severe mental health problems. Drawing upon her arts background, she utilized acting, puppet training and other creative activities as therapy. Later, as a therapist for developmentally delayed adults and children, she would utilize sensory integration techniques that engage patients in the physical spatial world and are thought to provide a foundation for higher cognitive functions and assist in the acquisition of language.

This approach intrigued Clark and she decided to study its effectiveness. USC faculty member A. Jean Ayres, who figurative-ly and literally wrote the book on sensory integration, served as project consultant. This fortuitous meeting led Clark to accept a position as assistant professor at USC’s Department of Occupational Therapy in 1976.

In the 30 years that followed, Clark has worked her way into the very fabric of the university. In 1982 she received her Ph.D. in Education from the USC School of Education. Two years later she received her first grant, and in 1993 she received one of the very first National Institutes of Health grants that funded occupational therapy research. She became chair of the Department of Occupational Therapy in 1989 and has since led the program to its current number #1 national ranking.

A self-described “connector,” Clark stirs many pots both at USC and abroad. She has served as consultant to numerous government, professional and private entities including the National Council on Aging, the NIH’s National Center for Medical Rehabilitation Research, the U.S. Department of Education and the Department of Health and Human Services. She recently learned that, through European Union funding, Lifestyle Redesign® is being adapted to cultures in the United Kingdom, Norway, Georgia, Portugal, Belgium and the Netherlands.

At USC, she is not only a familiar face on projects such as the Health Care Collaborative, but is also heavily involved in the Academic Senate, having served on its executive board and as lead author of the Community and Academic Life publication, The Engaged University.

For the past four years, Clark and her husband have made their home on the University Park campus living with 268 freshmen at the North Residential College, where she is faculty master. She also serves as academic advisor to the Pi Phi sorority. “I love being with young students. I really enjoy interacting with them,” says Clark.

In 2004 the university recognized her many contributions by awarding Clark the Presidential Medallion—USC’s top honor. Among her many professional awards, Clark received the 2001 Lifetime Achievement Award from the Occupational Therapy Association of America, and in 1993 she was the Eleanor Clarke Slagle Lecturer for the American Occupational Therapy Association, the association’s highest honor.

Despite her many accomplishments, Clark is by no means resting on her laurels. In addition to several current lifestyle redesign projects and her duties as division chair, Clark is enthused about the prospect of collaborative efforts at the School of Dentistry.

“I think that this is going to lead to incredible intervention in health care. People need to be treated holistically, not as a series of body parts. My work has always been taking care of the mind, body and spirit, and this alliance will build on that focus,” says Clark.