

Rx for Health Care

One of UC Santa Cruz's fastest-growing programs is good medicine for California's escalating health-care crisis

By Gwen Mickelson

Diego Inzunza grabbed a laptop on his way past the laboratory inside Plazita Medical Clinic, where jaunty Mexican music danced from a large speaker on the counter. Holding the computer open like a clamshell in one hand, the 21-year-old UC Santa Cruz student walked briskly into an office. Chatting with the patient waiting inside, he quickly typed up her medical history.

Inzunza is a student in UCSC's innovative Health Sciences program, one of the fastest-growing majors on campus and among the 10 most popular majors at UCSC despite only being established in 2003. The program—giving students hands-on experience by requiring an internship at a local or regional health-care facility—reflects the campus's commitment to help meet the future health-care needs of a growing, increasingly diverse population.

In addition to an internship, UCSC's Health Sciences students must complete both a Spanish-language and a writing requirement.

Because of the internship and language requirement, students can effectively apply the knowledge they gain in the classroom to the real world, said Dr. Jeffrey Solinas, owner/director of the Plazita clinic, a privately owned family practice in the Santa Cruz County city of Watsonville.

"An internship was important for me when I did it," said Solinas, who earned a bachelor's degree from UCSC

in 1974, as an independent-studies major. Solinas volunteered for two summers at a United Farm Workers clinic in Delano in 1976 and 1977. "It became clear that it was the best way to combine science information

As part of his internship, student Diego Inzunza (left) records patients' medical histories.



you could get at school with the challenges of working with people."

Health-care-professional schools are looking for people with just the kind of field experience the Health Sciences program provides, said Grant Hartzog, associate professor in UCSC's Molecular, Cell, and Developmental Biology Department, who sits on the program's three-member faculty advisory committee.

"It's one way of measuring someone's commitment, and making sure people have a good understanding of what they're getting themselves into," said Hartzog.

The other distinctive characteristic



Diego Inzunza works side by side with his mentor, Dr. Jeffrey Solinas (right), at the Plazita Medical Clinic in Watsonville.

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of UCSC's Health Sciences curriculum is the requirement that students learn medical terminology and conversational skills in what, for many, is a new language. The internship allows them to see the day-in, day-out practice of a working health professional, and they must also hone their written communication skills and learn scientific writing conventions.

In addition, students have the opportunity to learn about the mechanics of the health-care industry, including the role of insurance companies.

"Health Sciences has allowed me to think of how to approach the system as a whole, not just the pieces," said student Ahoon Karimian, 25, who's now finishing up her final program requirements and applying to medical schools.

A GROWING PROGRAM TO MEET A GROWING NEED

IN THE 2004-05 YEAR, UCSC produced six graduates of the program, according to Hartzog. In 2005-2006 there were 29; in 2006-2007, 42. "Obviously, the numbers are going up as word spreads of our special program," Hartzog said.

One goal of the program is to encourage graduates to consider a career in the Monterey Bay region, where there is already a shortage of trained health-care providers, according to Hartzog.

The seeds for the major were sown close to the beginning of this decade. "Though the campus had a long tradition of contributing to the health-care work force through majors such as biol-



Student Aboo Karimian (right) interviews a patient at the Cancer Research and Prevention Center, where she is an intern.

ogy and anthropology, it didn't have a program catering specifically to those intending to pursue careers as health-care professionals," said Hartzog.

The program's founders—Professor John Tamkun and Associate Professor Lindsay Hinck, both from molecular, cell, and developmental biology—“set out to design a rigorous, high-quality

program in biological sciences that would also meet the needs of people who were going to be involved in health care in California today,” said Hartzog.

Educators see the demand for health-care providers continuing to escalate. Already the most populous state in the nation, California is expected to grow at nearly twice the national average by 2025, according to a 2005 report by the University of California assessing the state's short- and long-term health-care work-force needs. Other key findings in the report include the following:

- ▶ California's elderly population will grow at more than twice the rate of the state's total population from 2005 to 2025.

- ▶ By 2015, more than half the state's population will be of Latino or Asian descent.

- ▶ California ranks 49th in the number of nurses per capita, and predictions indicate a shortfall of 60,000 RNs by 2020 (see graph, left).

COMPASSION FROM EXPERIENCE

FOR SOME STUDENTS, learning about the science of health care is more than an educational opportunity. It's a personal mission to help others.

In her second to last quarter in the program, student Karimian was diagnosed with thyroid cancer. Last spring, surgeons removed her thyroid, 12 lymph nodes, and a parathyroid gland.

Despite her health obstacles, she was able to continue with her studies. When she chose her health-sciences internship, she went with Dr. Jennifer Choate at Cancer Research and Prevention Center of the Central Coast, in Soquel.

Health Sciences Coordinator Caroline Berger, who counsels and helps place students in internships at local hospitals, clinics, and other facilities, warned Karimian that her choice might strike too close to home.

“She said it might be difficult because people going in there are sick, and not all of them survive,” said Karimian, whose is now cancer-free. “I considered that, but I felt that my experience would help me relate, and—if anything—would make me appreciate my life because I survived.”

She had been planning to go into dermatology, but she's now considering oral surgery or oncology.

For student Inzunza, working with Dr. Solinas at Plazita Medical Clinic is a way of providing people with health-care services that he didn't have growing up.

The clinic's doctors are “dealing with the working poor, people on MediCal, and working with opiate addiction and addiction in general,” said Inzunza. “I was used to seeing that when I was growing up,” said Inzunza, whose parents immigrated to California from Mexico and didn't graduate from high school. “We never went to a doctor when I was younger because of money issues. I wanted to help people in situations similar to mine.”

Both students acknowledge that the health-care field of today is fraught with complicated issues, including skyrocketing costs and dwindling

access. Both are preparing themselves to enter the fray by taking *Clinical Health Care: Organization and Financing*, a class that introduces students to the principles of health-care organizations, including how they're paid for, and that examines social constructions of health care in the United States.

But though they're preparing to play by the current rules, the students feel change is necessary. “I definitely think we need to do something,” said Inzunza. “I want to be part of making it happen.”

EXPANDING NEED, EXPANDING OPPORTUNITY

DR. NANETTE MICKIEWICZ never got to do an internship herself. The president of Dominican Hospital in Santa Cruz had her first real experience in a hospital in her second year of medical school.

Interns at Dominican generally shadow physicians, nurses, and physical therapists, observing them in daily activity. They also usually have a project, work on their term paper, and check in with Mickiewicz once a week. The hospital tries to help them observe as many procedures as possible.

To her mind, the internship component of the Health Sciences program is “a tremendous asset to our student interns, and I think they feel the same way,” said Mickiewicz. “Because the opportunity to actually work with the physician and see what they do day-to-day either completely inspires them or completely deters them.”

For doctors such as Mickiewicz, the Health Sciences program is a vital piece of the puzzle in countering the exploding demand for health-care services.

“Across the board in the United States, the need for health-care providers is increasing,” said Mickiewicz. “I think we'll see an expansion of these programs going forward, to help people recognize all the choices that are out there.”

A HELPING HAND FOR HEALTH SCIENCES GRADS

Local health-care organizations Sutter Maternity & Surgery Center and Central Coast Alliance for Health partnered last year to sponsor the **Primary Care Physician Award**, a \$10,000 scholarship meant to support graduates of the Health Sciences program who plan to focus on primary care medicine and intend to come back to the Central Coast to practice after completing medical school.

The shortage of primary care physicians is a growing national problem that is exacerbated in areas such as the Central Coast by low Medicare reimbursement rates, according to Larry deGhetaldi (B.A. biology and chemistry, Merrill '76), CEO of Sutter Santa Cruz.

About 10 percent of the doctors in Santa Cruz County are UCSC alumni.

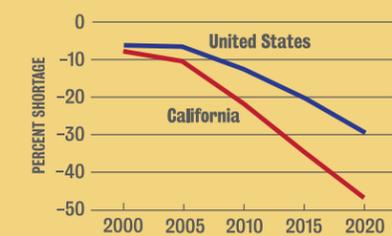
Allison Abresch-Meyer, who graduated from UCSC in December 2006, was the first recipient of the award.

Aboo Karimian, who speaks Spanish, translates between patient (left) and Dr. Jennifer Choate.



California Health Care in Crisis:

Projected Nursing Shortages, U.S. vs. California, 2000–2020



In 2000, California had 542 nurses per 100,000 population, versus the U.S. average of 780 per 100,000. Studies predict California will need more than 116,000 additional nurses to meet demand in 2020.