Pledge, which sends recruiters to high schools to find minorities who qualify for admission, especially in science and math.

At other institutions, the answer is to broaden the pool. At UMBC, for example, Hrawbowski launched the Meyerhoff Scholars program in 1989, which has helped 48 African Americans earn B.S. degrees. But now the highly successful program is reconfiguring to ensure its survival. This fall it will open its doors to students of all colors—if they can demonstrate that they are committed to helping underrepresented groups in the sciences, such as by working with inner-city kids. "Our most important goal is to increase the number of successful minorities in science, and it's not just minorities who can help," says Hrabowski.

The same tactic is being used in programs that assist women. New NSF-sponsored programs now enlist both male and female faculty members in sessions on how to be more effective in teaching and working with women, says Rosser.

And no matter what the government does, nothing is stopping institutions from taking matters into their own hands. At Tulane University, President Eamon Kelly is dangling a juicy carrot in front of departments that hire minorities—$750,000 from its general fund to hire and support qualified new minority faculty members. This is not a new approach, but it's unusual in these times.

Future stock. While Kelly works at the faculty level, many educators are looking to the future, which means today's K-12 students. In El Paso, Texas, where 80% of public school students are Hispanic and 5% are black, a diverse group is working to boost the performance of students in grades K-12 and college. The El Paso Collaborative for Academic Excellence—led by the mayor, a county judge, a nun, and other educators—seeks to have all students master math and a deep understanding of science, rather than tracking only "gifted" kids into these courses. "There are just not enough kids making it through high school to get into science and math in college," says Susana Navarro, an educational psychologist at the University of Texas, El Paso, and executive director of the collaboration.

The El Paso project is one of 25 urban areas to receive an Urban Systemic Initiative Grant from NSF. The bulk of the students in these cities, including New York City, Detroit, New Orleans, and Chicago, belong to minorities, but the initiatives are not affirmative action programs because they include every student in the system. So they should be immune to the anti-affirmative action backlash, yet fill the pipeline with better prepared minorities and girls.

So far, this systemic reform is getting high marks from people like Kati Haycock, who directs the education trust at the American Association for Higher Education. Colleges that join these initiatives tap into a pool of better prepared minorities and women, she says. "CUNY had the best prepared freshman class in decades," says Haycock, referring to the College Preparatory Initiative, a project run by the New York City Public Schools and CUNY. "Pushing students—and schools—toward higher level classes is having a payoff in higher education as well."

In fact, when institutions make structural changes to improve the way they teach minorities and women, almost all students seem to benefit. In New York City, the number of minorities passing college-prep science courses more than doubled—and the number of whites passing these classes rose by 34%. A 2-year study at the University of Southern California found the same result: When faculty members changed their teaching methods and curricula to boost the retention of women in science, men's grades also improved. All this suggests a key strategy to thaw the ice surrounding diversity programs, says Rosser: Get the message out that in many cases, what's good for women and minorities is good for everyone in science.

–Ann Gibbons

ADVICE *from the* TOP

Lydia Villa-Komaroff

Spinning Setbacks Into Success

In 1984, Lydia Villa-Komaroff was up for tenure at the University of Massachusetts, and it wasn't at all clear that she would get it. She had been a rising young star in molecular genetics, but as an assistant professor she had fallen into a trap common to other young minority and women scientists: She had taken on a huge teaching and committee load, leaving little time to pile up publications. "I was a good citizen," she says. Tenure committees, unfortunately, don't give stars for citizenship.

In the end, Villa-Komaroff did win tenure, but the process was so painful that she left the university anyway. Hoping that the high-pressure atmosphere would boost her research productivity, she moved to a nontenured slot at Harvard Medical School's neurology department and concentrated on publishing. She improved her research track record, spun off topnotch protégés—and in January 1996, her career took off, when she was tapped to be a high-level administrator at Northwestern University. She is now second in command overseeing the university's $170 million in research.

Villa-Komaroff, 48, says young scientists should be wary of the "mistake" she made—letting good citizenship take precedence over good scholarship—but that her own career shows that even after a misstep, it's possible to move on and succeed. At a time when only one in 10 grant proposals receive funding, she says, it's important not to fear failure, but to learn from it. "You have to turn it around," she says. "If you consider 'failure' either rejection of a paper or rejection of a grant, then you've really had it, because it's bound to happen."

Villa-Komaroff herself isn't afraid of failure, perhaps because she's always blazed a trail, both as a researcher and as the third Mexican-American woman to earn a Ph.D. in science in the United States. She grew up in a middle-class family in Santa Fe, New Mexico, and studied molecular biology at the University of Washington and at Goucher College. She married and went on to the Massachusetts Institute of Technology, where she earned her doctorate under Harvey Lodish and Nobelist David Baltimore. Then came a "spectacular" postdoc at Harvard University, under another Nobel laureate, Walter Gilbert, conducting some of the first experiments to express a human gene (for insulin) in a bacterium.

When she returned to Harvard, Villa-Komaroff picked up on her old research strengths and made a name for herself working on insulin and insulin-related growth factors. Even as her research gathered steam, she managed to stay involved in advisory panels and groups such as the Society for the Advancement of Chicanos and Native Americans in Science, which she helped found as a graduate student. That made it easy for her to slide into a different track as a research administrator, as now her outside work and broad scientific interests are strengths. For Villa-Komaroff, working hard and learning from her mistakes were the keys to coming out ahead in the end.

–Jocelyn Kaiser