decisions," Reed says. The work may also prove useful for conservation efforts to reintroduce species to new areas, he adds.

The new study beats to press studies on colonial seabirds that show a similar use of public information. Thierry Boulinier and Etienne Dauchin of CNRS and co-workers have found that kittiwakes whose young were removed by researchers were less likely to leave when surrounded by successful neighbors than when surrounded by failed ones. And Thomas Bregnballe and colleagues at the National Environmental Research Institute in Rønde, Denmark, have found comparable patterns with cormorants. Says Pärt: "I'm convinced that this is a widespread phenomenon." –JAY WITHGOTT

COMPUTER SECURITY

Congress Expands Cyberfellows Program

In his 14 years at the University of Tulsa, says computer scientist Sujeet Shenoi, "I never had a student go on to work for the [U.S.] government." But this year some two dozen have promised to join the federal workforce to safeguard the nation's computing and communications infrastructure, with 30 more banging on the door. Shenoi, who sees a terrorist attack on the country's power or communications grid as a matter of "when, not if," couldn't be more pleased with his students' sudden shift in career plans: "I want them to make a difference before they make a buck."

The Oklahoma students are part of a growing network of scientists and technical experts of all ages being trained in various aspects of computer security. "It's time to be as smart about cybersecurity as we are about cyberspace," says Joseph Bordogna, deputy director of the National Science Foundation (NSF), which runs the Scholarship for Service (SFS) program (www.ehr.nsf.gov/DUE/programs/sfs). A $29 billion supplemental spending bill signed into law 2 August gives NSF an additional $19.3 million for the program, which offers 2-year full scholarships for students to earn a bachelor's or master's degree in return for at least 2 years of government service.

The scholarships are aimed at filling a years-long shortage of scientists, engineers, and policy professionals in computer security and information assurance. NSF made the first SFS awards in May 2001, averaging $2.5 million over 4 years, to the University of Tulsa and five other institutions. Last fall's terrorist attacks convinced Congress to nearly double the current year's $11.3 million budget, which in May was distributed to five more institutions. The program has also awarded more than a dozen "capacity-building" grants to universities to train faculty members at institutions breaking into the field of cybersecurity.

The intent of the 2002 supplemental funding is "to produce more professionals as quickly as possible," explains Norman Fortenberry, head of NSF's division of undergraduate education, which manages the SFS program. A partisan fight between Congress and the White House on broader homeland security issues delayed passage of the funding bill until nearly the end of the current fiscal year and the start of the new academic year. To save time, Fortenberry says NSF is likely to "ask existing grantees" if they could grow larger rather than staging a new competition. The foundation might also consider funding highly ranked proposals that didn't make the earlier cut.

Corey Schou of Idaho State University in Pocatello hopes that his school's proposal, submitted in the hope of a supplemental bill, falls in that category. "We didn't apply in 2001 because our program is already in pretty good shape," says Schou, who also chairs a national organization of university programs on computer systems security. "But the government's need for trained professionals is real. We also have a shortage of faculty trained to teach this stuff." Schou points to one student who left Idaho State this winter before completing his bachelor's degree to take a corporate job that pays $83,000 a year. "I couldn't in good conscience tell him to stick around," he confesses.

Cyberdefenders. Rick Ayers (left) and Julie Evans are graduate students in the federally funded Cyber Corps program at the University of Tulsa.

"This stuff" goes well beyond computer technology. Idaho State's program includes a heavy dollop of business management training along with technical expertise, for example. Carnegie Mellon University in Pittsburgh, another member of the 2001 class, offers public policy as one of its four tracks; it has asked NSF to support a new master's degree program in information security that will be run jointly by its computer science and public policy schools.

Shenoi, who came to the U.S. from India 20 years ago for graduate training, says he's looking for students who "want to make a career of federal service" and who see themselves "not just as scientists but also as public-minded citizens." The program, he says, is also "a way to pay back this wonderful country for everything it's done for me." –JEFFREY MERVIS

PATIENT RECORDS

Researchers Welcome Revised Privacy Rules

Greater protection of patient records doesn't have to come at the expense of research. That's the message intended for scientists in final rules announced last week by the Bush Administration (www.hhs.gov/ocr/hipaa) giving patients more control over how their records are used.

The "privacy rule" is a response to growing concerns about access to medical records by health care providers. However, many researchers were upset by a December 2000 rule issued by the Department of Health and Human Services (HHS), especially a provision that applied to using "de-identified" records without prior permission. The language would have stripped the records of so much demographic information, including ZIP codes and birth dates, that the data would no longer be usable for research.

The modified rule includes several changes suggested by researchers. One creates a new "limited data set" specifically for research, public health, and health care that retains more identifiers, including ZIP code and birthdate. Researchers must sign an agreement stating they will keep the information secure and use it only for specific purposes. In addition, the rule no longer requires separate forms for getting informed consent and authorization to use a patient's data, and it no longer sets an expiration date for using data for a particular study. "We're encouraged that they made many of the changes we proposed," says Jennifer Kulynych of the Association of American Medical Colleges (AAMC), one of 160 scientific societies and universities that complained about the earlier version (*Science*, 7 December, p. 2070).

At the same time, AAMC is worried that because HHS is requiring a very detailed, binding data use agreement for the limited data set, a health care provider may have to review each agreement and research could be delayed. "The intent was a streamlined alternative" to a waiver from an ethics re-

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view board, Kulynych says, adding that the result may not be any faster.

But the department feels that the new rules should appease scientists who worried that health care providers wouldn't share data. "We worked very hard with the research community to take care of what they feared would be the most chilling aspects of the rule," says an HHS official. The rule goes into effect April 2003. –JOCELYN KAISER

ALTERNATIVE MEDICINE

NIH Trial to Test Chelation Therapy

The National Institutes of Health (NIH) is putting $30 million into a major clinical trial of a cardiovascular therapy that skeptics say has no scientific rationale. Even supporters of the trial acknowledge that they aren't sure how the therapy might work and that a successful trial will leave them no closer to understanding its mechanism.

Last week the National Heart, Lung, and Blood Institute (NHLBI) and the National Center for Complementary and Alternative Medicine (NCCAM) announced joint funding of a 5-year study into whether chelation therapy can help sufferers from heart disease. Chelation, whose active ingredient is a synthetic amino acid called EDTA, binds with minerals in the body and has long been an established treatment for heavy-metal poisoning. In the past 2 decades, it has also become a widely used "alternative" treatment for arterial plaque through its purported ability to draw off calcium.

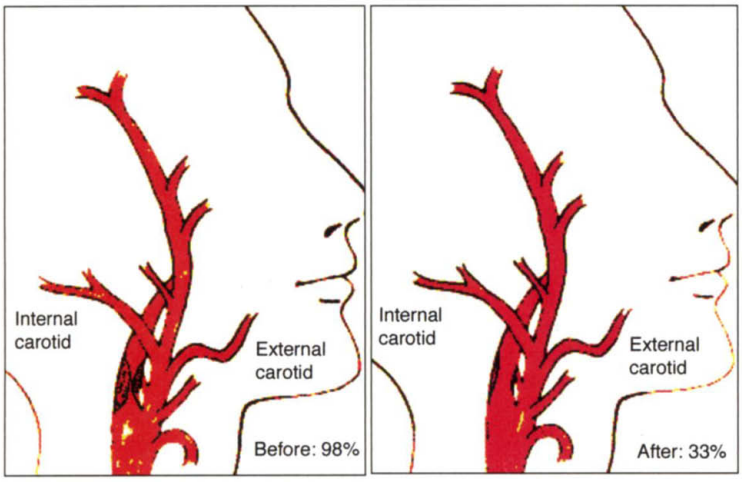
Skeptics say that the method is scientifically implausible and that the only supporting evidence is anecdotal. "The people at NIH are doing it out of political fear," says quackery battler Saul Green of New York City, a biochemist and former cancer researcher. In addition, critics believe that no amount of negative data will persuade supporters to abandon faith in the procedure. But the heart institute's Claude Lenfant says his agency is "enthusiastic" about the project. "Only a large clinical trial can definitively answer the question of whether chelation treatment is truly safe and effective," he says.

NIH has been under continuing pressure from Congress to support such research. There have been several small controlled trials that detected no benefit from the treatment, and 3 years ago Lenfant told legislators that he'd love to support a big one if he received the right proposal. The study, headed by Gervasio Lamas, director of cardiovascular research and academic affairs at Mount Sinai Medical Center and Miami Heart Institute in Miami Beach, Florida, will enroll 2300 patients at 100 sites.

Supporters of chelation offer two major theories for its action. One has it sucking the calcium from plaques and facilitating their dissolution, whereas the other involves EDTA's role as a powerful antioxidant. Lamas says that the calcium idea is "probably not a reasonable hypothesis" because, for one thing, EDTA is water soluble and therefore could not penetrate fatty membranes and affect plaque. He prefers the notion that EDTA acts primarily by decreasing oxidation of plaque-forming cholesterol.

Green and Wallace Sampson, a retired Stanford oncologist and hematologist, ridicule both theories. Calcium plays little role in plaque, they say, and chelation may actually promote rather than reduce oxidation. "When you chelate iron, you increase its ability to produce free radicals," says Green. Lamas says that it's "quite a stretch" to extrapolate from basic science and that a clinical trial offers the last word. But he doesn't promise patients a miracle: At best, he says, chelation may only stem further deterioration of blood vessels.

If the trial does show a benefit, researchers still won't know the active ingredients. The usual solution actually has 10 different components, including vitamins and minerals. But NCCAM director Stephen Straus says his primary goal is to test its efficacy. If the answer is yes, he says, "then there will be time to look at mechanisms." –CONSTANCE HOLDEN



Clear path? One case study claims that ultrasound imaging showed a two-thirds reduction in plaque in a woman's carotid artery. But experts say imaging can't tell the difference between plaque and some other type of obstruction.

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ScienceScope

Pleading His Innocence A former government scientist says that he's being made "the designated fall guy" for the FBI's failure to find a suspect in last fall's anthrax mailings that killed five people.

Speaking last weekend at his lawyer's office in Alexandria, Virginia, Steven J. Hatfill, a virologist at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) from 1997 to 1999, said he "never, ever worked with anthrax in my life." Hatfill has not been named a suspect, but the FBI has searched his home twice and the media and Internet sites are full of speculation about his role in the attacks.

Hatfill is on paid leave from his current position as an associate director of the National Center for Biomedical Research and Training at Louisiana State University, Baton Rouge, after being laid off in April from his job at Science Applications International Corp. He complained that the authorities and the media have turned his life into "a wasteland."

Biodefense Buzz U.S. labs are positioning themselves to compete for the lavish sums available for bioterrorism research next year. At a meeting in Gaithersburg, Maryland, last week, National Institute of Allergy and Infectious Diseases (NIAID) officials revealed details of its plan to cover the country with some 10 "regional centers of excellence" to conduct basic and clinical research, train the next generation of biodefense scientists, and help out in case of a new attack.

The centers—the first four to be picked next May—will serve as "beehives of activity," program director Rona Hirschberg told more than 300 eager scientists and administrators. Each center will get $4 million to $6 million a year, but researchers expect that their special status will help them rake in additional funds, including hundreds of millions of dollars in regular NIAID grants. "It's a tremendous opportunity," says microbiologist Joel Baseman of the University of Texas Health Science Center in San Antonio, part of a Texas consortium that plans to apply by the 15 January deadline.

NIAID also plans to spend $450 million over the next 2 years to build and operate half a dozen new regional high-level biocontainment facilities that will be associated with the new centers.

Contributors: Constance Holden, Jeffrey Mervis, Adam Bostanci, Martin Enserink