

ing publication. "I was surprised when it only came up with d-wave."

But the issue is not yet cut-and-dried: The tunneling experiments have thrown up some contradictory results that are causing spin-fluctuation theorists to wait before claiming victory. IBM's Chaudhari carried out two different experiments: the first favored s-wave symmetry; the second gave ambiguous results. "I personally sit on the fence," says Chaudhari. "We haven't found evidence for d. It could be because of some reason we don't yet know, but we think our next experiment will be decisive."

In another experiment that gives d-wave

proponents pause, Robert Dynes of the University of California, San Diego, forced electron pairs to tunnel into the superconductor in a direction perpendicular to the copper-oxygen plane. Spin-fluctuation theories do not normally allow conduction in this direction, but Dynes detected some. Results such as these give Anderson heart. He has reworked his theoretical calculations and says that his theory does not exclude spin fluctuations: They could be causing pairing in the copper-oxygen layer, and so creating d-wave symmetry, but alone they are not strong enough to hold pairs together at high temperature. Hopping be-

tween planes is still required. Evidence such as Dynes' "is about as definitive as you can get," he says.

While most researchers believe that it is only a matter of months before they will be able to say, without reservation, that the electron pairs have d-wave symmetry, a comprehensive theory that everyone agrees to may still be years away. But after years of stumbling around in the dark, deciding the issue of pair symmetry is for theorists a glimpse of light at the end of the tunnel. "It's an exciting time," says Scalapino. "We may yet learn what is really happening."

—Daniel Clery

## HEALTH-CARE REFORM

### Support Grows for NIH Trust Fund

All but overlooked in the current congressional debate over health-care reform is the growing prospect of a sizable boost in funding for biomedical research. The essence of a proposal to increase support for the National Institutes of Health (NIH)—first offered last summer by Senators Tom Harkin (D-IA) and Mark Hatfield (R-OR)—has survived the skirmishes over health care and appears in both leadership reform bills now before Congress. If passed, it could yield a bonus of up to several billion dollars to a cash-strapped NIH.

Harkin and Hatfield would like to increase NIH funding in two ways: by giving NIH 1% of every dollar paid in health-insurance premiums, and by inviting taxpayers to donate an amount of their choice to NIH by filling in a blank on their federal tax-return forms. Representative William Coyne (D-PA) introduced companion legislation in the House, where the proposal was incorporated into a bill approved by the Ways and Means Committee at the end of June. An element of the proposal was then adopted as part of the House Democratic leadership bill. The set-aside legislation has 25 sponsors in the Senate and 62 in the House, the majority of whom are Democrats.

Harkin, chair of the Senate Appropriations subcommittee on Labor, Health and Human Services, and related agencies, has pushed long and hard for an increased federal commitment to biomedical research. Writing more than a year ago in *The New York Times*, he argued that Congress is barely able to give NIH enough money for its research programs and that finding additional money

to refurbish the nation's biomedical research infrastructure is beyond its means. This year, for example, the House and Senate have each trimmed by about \$150 million the president's request for \$11.47 billion—a rare act for a body that historically added money to what the president sought for NIH.

Harkin and Hatfield see an additional threat to research from the sweeping changes taking place in the medical marketplace. Those changes are forcing academic medical centers, many of which are in the inner cit-



Proposing trust. Hatfield (left) and Harkin.

ies, to compete on cost and efficiency with community hospitals, which do not typically shoulder the burdens of teaching or providing care for indigents. By increasing the pot of money for extramural grants, the trust fund would provide additional funds for research, an activity that might otherwise get squeezed by hospital administrators who are looking to hold down costs.

If the Harkin-Hatfield measure were to be adopted exactly as written by its sponsors, it would increase NIH's annual \$11-billion budget by almost 50% after being phased in over 4 years. The scaled-down versions now under consideration would raise amounts ranging from \$1 billion to \$2.5 billion a year, depending on the specific bill.

At this point the odds that some version of the trust fund will emerge in the final bill appear good—assuming, of course, that any health-care reform measure is passed and sent to the president. Elements of the Harkin-Hatfield proposal appear in the plans crafted by Senator George Mitchell (D-ME) and Representative Richard Gephardt (D-MO), virtually guaranteeing that the idea will reach the floors of both chambers. The concept also has bipartisan support: It's part of legislation introduced by Senate Minority Leader Bob Dole (R-KS) and Senator John Chafee (R-RI). An aide to Harkin says, "It's going to happen. The only question is how much there will be."

The answer hinges on which proposal is adopted. Although both Gephardt and Mitchell have chosen versions of the proposed 1% set-aside, they have trimmed the amount to be deposited in a fund for NIH. The precise level is open to debate; it could be as little as one-third to one-half of the original proposal. But half would be fine, says Roy Silverstein, chief of hematology and medical oncology at Cornell Medical College in New York and president of the American Federation for Clinical Research. "Two and a half billion [dollars] is a lot," he says. "The scientific community would be happy with that."

The voluntary taxpayer contribution would probably raise less than one-tenth of that amount, according to congressional estimates. But Republicans might be more willing to support the tax checkoff than to support what they view as a "tax" on insurance premiums.

Given the amount of money involved, the days of relative anonymity for the trust fund are probably numbered. At the same time, its presence gives the biomedical research community a bigger stake in the minutiae of the debate over health care.

—Steve Sternberg

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