1999 BUDGET

Senate Resolution Spotlights R&D

Last week the Senate passed a 1999 budget bill that includes a call to double R&D spending over 10 years, with special attention to the National Institutes of Health (NIH). It would also implement a proposal by a National Academy of Sciences (NAS) panel to make it easier to identify federal research expenditures. Some House members have attacked the resolution as feel-good legislation that in the next decade would fall short of the rhetoric, but science lobbyists say the important message is that R&D will fare well in 1999 under the plan.

The budget resolution, approved the day before a 2-week break, is intended to lay out congressional spending priorities for 1999 and beyond. It must be reconciled with a House version, to be completed next month. The resolution's details, however, are not binding on the appropriations panels that set budgets for individual agencies.

Senators Jeff Bingaman (D–NM), Phil Gramm (R–TX), and Joe Lieberman (D–CT) won backing for an amendment that endorses a doubling of civilian R&D spending between 1998 and 2008. That measure was introduced as a stand-alone bill last October with the ardent support of dozens of scientific societies (*Science*, 31 October 1997, p. 796).

Although the resolution gives a boost to most R&D programs for next year, the levels in future years actually decline for some categories, such as one that includes NASA and the National Science Foundation.

"I regret to say that all the sloganeering about doubling science in a decade turned out to be nothing more than talk," says Representative George Brown (D–CA), ranking member of the House Science Committee, who issued his own analysis of the Senate budget resolution. Although Brown is correct about the out years, says one science lobbyist, the focus should be on the 1999 numbers—"and those are very good."

NIH is the unambiguous winner in the Senate plan. The measure calls for its funding to jump to $15.1 billion in 1999, $300 million above the president's request and $1.5 billion over current levels. And Senator Connie Mack (R–FL) won approval of an amendment to double NIH spending over the next 5 years.

Senators also endorsed a measure, proposed by Bingaman, to put all civilian R&D in one category, although it would not affect how money is allocated. "This is a major reshuffling of the way the budget is submitted," one Senate staffer says. "Right now, there is no way of getting a good look at federal [science] funding. And if you can't see it whole, then it is hard to make a compelling argument for it."

An NAS panel chaired by former NAS President Frank Press recommended in a 1995 report that the White House and Congress aggregate all civilian R&D spending in this way to give it a higher profile. Press, who has lobbied hard for the idea, says "now the Budget Committee can talk about the whole [R&D] budget." But although consolidation might work well when R&D is in favor, warns one Administration official, it could make science a tempting target for budget cutters in lean years.

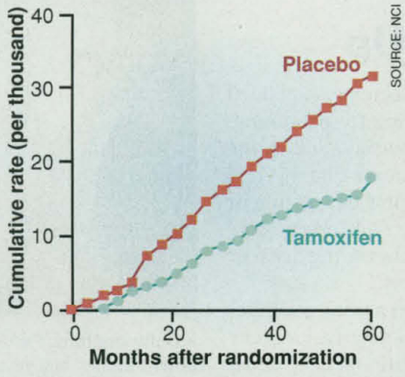
Once Congress returns, the action will move to the House. Representative Joseph Kennedy (D–MA) last week introduced a bill similar to the Gramm and Lieberman measure to double R&D spending. That measure faces an uphill fight, however, given skepticism from members like Science Committee Chair James Sensenbrenner (R–WI).

–Andrew Lawler

TAMOXIFEN

'A Big Deal,' But a Complex Hand to Play

"It's not often that we get to present results like these," said a jubilant National Cancer Institute (NCI) director Rick Klausner last week, as he faced a bank of TV cameras in Washington, D.C. A $50 million study sponsored by NCI has established unequivocally that a synthetic estrogen-like compound called tamoxifen was effective in reducing the incidence of breast cancer in a group of healthy women over age 35 who have a higher-than-normal risk of getting the disease. "This is a big deal," added National Institutes of Health director Harold Varmus, who joined the crowd of researchers on the dais at the Department of Health and Human Services. It's the first time any drug has proved capable of preventing cancer.



Widening gap. The number of cases of invasive breast cancer in the two groups.

But the study, which began enrolling its 13,388 volunteers in 1992, also showed that tamoxifen has "important and serious side effects," Klausner noted, including risks of increasing rates of endometrial cancer and blood clots among older women. Researchers have only a sketchy idea of what's at risk if women start taking the drug in their 50s or 60s or if they use it for longer than 5 years. For every patient, the potential benefits and risks must be balanced carefully—taking into account age and many personal factors—before a recommendation for or against tamoxifen use can be given. This means that while millions of U.S. women will soon be asking whether they should take tamoxifen to fend off breast cancer, their doctors probably will not be able to give them a definite answer.

The study, conducted by a group of more than 300 clinics coordinated by the National Surgical Adjuvant Breast and Bowel Project (NSABP) in Pittsburgh, found that the incidence of invasive breast cancers among tamoxifen users was 45% lower than that of the placebo group. Noninvasive cancer was down about 47%. The tamoxifen group also had a lower rate of bone fractures.

The negative effects were all anticipated, according to the study leaders. The risk of getting endometrial cancer turned out to be more than twice as high among tamoxifen users as among those on the placebo. And the risk of developing a blood clot of the lung was three times higher in the tamoxifen group. But NCI staffer Leslie Ford reported that none of these increased risks were evident among women who began taking tamoxifen when they were under age 50. And the endometrial cancer risk, she and NSABP staffers noted, could be avoided with a hysterectomy.

Ford estimated that as many as 3 million U.S. women in the 35 to 59 age group "fit the risk profile" NCI developed to screen volunteers for the study. But some key issues remain unsettled—such as whether women with the *BRCA1* and *BRCA2* genetic mutations might benefit from using tamoxifen, whether side effects increase with the duration of its use, and whether it is better to begin taking the drug early or late in life. Meanwhile, the Food and Drug Administration will begin reviewing the data soon to see whether tamoxifen should be widely used as a cancer preventative agent.

–Eliot Marshall