funding AIDS research. To get research funds, Friedman-Kien accepted the offer of a friend of an AIDS patient to organize an auction. It was held on 12 April at the Leo Castelli Gallery in Soho where the 400 people who attended each paid $50 admission. A total of $55,000 was raised.

David Purtilo of the University of Nebraska had a grant application turned down because it was not given a high enough rating to be funded. But he continues to do AIDS research. "We're basically borrowing money," he says. "A lot has been from my own pockets. I'm a pathologist so I make a fairly good salary. I've also dipped into department funds."

Concern about AIDS has generated other funding sources as well, including an AIDS Medical Foundation, chaired by Mathilde Krim of Sloan-Kettering Institute for Cancer Research. Krim was an early advocate of increased funding for interferon research. "We decided to put this foundation together because we feel a desperate need for money. Instead of a fluke, AIDS is a real medical problem and there has been no money," she contends. Asked about the recent NIH request for research proposals, Krim claimed that from the time a scientist writes a proposal until the time he gets funds "takes easily 18 months. We feel we can't wait. We have dying patients on our hands."

The AIDS Medical Foundation has put together a list of prospective individual donors and is soliciting $1000 from each. The foundation also hopes to get $500,000 from corporations and foundations. Frank Hoffey, vice chairman of the foundation, says, "The early donations are encouraging. The promises are even more encouraging—this includes the whole spectrum from private citizens to corporate donors."

Still another new source of funds is the Cancer Research Institute in New York, a nonprofit organization, established 30 years ago, that describes itself as "devoting all its resources to the immunological approach to cancer." The institute has put out a call for grant applications and plans to award a total of $350,000 in maximum grants of $70,000 each.

Homosexual organizations also have dipped into their pockets to fund AIDS research. For example, the AIDS/Kaposi's Sarcoma Research and Education Foundation, which is a San Francisco organization that has only been in existence for 1 year, has begun supporting research. "We've raised most of our money from the gay community," says Edward Power of the foundation. "But there are many, many more people applying for research money than we have money to give."—**GINA KOLATA**

Review Panel Finds Federal Labs Lacking

White House Science Council report says shortcomings threaten quality, concentrates on management faults and recommendations for improvement

The White House Science Council report* on its year-long study of the federal laboratories is unlikely to sow panic in the ranks at the federal labs. The report is far from uncritical, noting, for example, that "a number of the laboratories do not meet the quality and productivity standards that can be expected of them." But its findings are expressed in very general terms and several of its key recommendations will be difficult to put into effect when it comes to specifics. The report, nevertheless, provides the Administration with plenty of ammunition to use to redirect the labs if it is determined to pursue the matter.

A key point is the panel's view that the labs operate best when they have well-defined missions. The panel found, however, that in many of the labs "the balance of work was often fragmented and unrelated to their main activity." The report says it would be better to reduce the size of a laboratory "to meet the real needs of its legitimate missions than to maintain its size with unrelated research projects" and notes that "If necessary, a laboratory without a mission should be shut down."

At a press conference on 15 July, President's science adviser George A. Keyworth II said that President Reagan had approved a plan to implement the report and asked the Office of Science and Technology Policy (OSTP), which he heads, and the Office of Management and Budget (OMB) to oversee the effort. A committee of the interagency Federal Coordinating Council on Science, Engineering, and Technology will be created to carry out White House wishes in the matter. The budgetary powers of the OMB, however, seem to offer greater leverage for change.

The review panel's assignment was to look at the 755 laboratories supported by the federal government, but the reviewers, not surprisingly, concentrated on the larger labs that account for a lion's share of the roughly $15 billion a year—a third of all federal R & D spending—allocated to the labs. These include laboratories the government owns and operates itself, such as the National Institutes of Health, National Bureau of Standards, and Department of Defense (DOD) and NASA labs, and those that are government-owned and contractor-operated, notably the big, multiprogram laboratories of the Department of Energy (DOE).

The review panel was chaired by David Packard, chairman of Hewlett-Packard and a former Deputy Secretary of Defense, and its membership was strongly representative of big science and big industry.† Since the Reagan Administration is on record as favoring a curtailment of the role of government, there was some expectation that the panel might call for a major transfer of R & D funds from the federal labs to industry and universities. The panel, however, went no further than the comment that "The balance in federal funding between Federal laboratories, universities and commercial firms may not be optimum and needs further attention."

In its discussion of the missions of the laboratories, however, the report did provide a rare example of chapter and verse when it noted that "The panel also concludes that some of the work done by the Federal laboratories could have been done as well, or possibly better, by private industry or by universities (e.g., engine designs, batteries and fuel cells, electric power transmission and distribution, design of specific airframe/engine

*"Report of the White House Science Council Federal Laboratory Review Panel," available from Office of Science and Technology Policy, Executive Office of the President, Washington, D.C. 20500.

†Other members were John Bardeen, University of Illinois; Allan D. Bromley, Yale; Donald S. Fredrickson, Howard Hughes Medical Institute; Arthur K. Kerman, M.I.T.; Edward Teller, Hoover Institution; Albert D. Wheelon, Hughes Aircraft.

installation concepts, and renewable energy sources)."

Where the report was most specific in calling for a change in the status quo, the practical difficulties seem most formidable. The report, for example, argues that the rigidities of personnel policies for the labs, particularly on pay, limits productivity and "if not corrected will seriously threaten their vitality." Of primary concern are the government-owned and -operated labs that are run under Civil Service rules. The reviewers note that government-owned, contractor-operated labs are similarly affected since supporting agencies apply pressure to have lab salaries follow government scales.

According to the report, pay for middle level lab employees is competitive, but the labs are at a disadvantage in hiring and retaining entry level and more experienced scientists and engineers. Capable researchers bump up against salary ceilings unless they assume managerial and administrative duties. The report calls for an "effective performance-based system" to enable the labs to keep their best scientists active in research.

The panel is asking the government, in effect, to create a special pay and classification category for scientists and engineers within the Civil Service framework. While in theory not necessarily in conflict with the system, in practice such special arrangements would be likely to encounter the sort of objections often raised to merit systems in public service jobs, notably skepticism that it would be administered impartially.

While the report is addressed to Congress as well as the Executive, it probably underemphasizes the importance of congressional influence on the federal labs. The linkage is most obvious in the case of funding. Spokesmen for the DOE multiprogram laboratories have repeatedly stressed that uncertainties about funding are a major cause of "instability." Part of the blame can certainly be allotted to DOE headquarters and the labs themselves, but in recent years Congress has been chronically late in reaching final funding decisions with results that, as the report says, "impede rational planning and effective conduct of R & D activities."

The panel asks Congress and OMB to provide funding on a predictable, multiyear basis so that the labs' R & D programs can be properly planned. It is improbable that forward funding could be done for the federal labs alone, but would require broad changes in the beleaguered congressional budget process.

A recommendation with better immediate chances of implementation is that to give laboratory directors more flexibility in managing labs by allowing them to allocate at least 5 percent and up to 10 percent of their budgets for independent research as they see fit. The report asks that such discretionary power be firmly linked to outside evaluations of how successfully the prerogative is employed.

Another issue given priority by the panel is that of "micromanagement," which the report says is also most serious in the DOE multiprogram labs. In the narrow sense, micromanagement implies excessive meddling by DOE's headquarters bureaucracy in the work of the labs—one lab director has described it as "picomanagement."

> ". . . a laboratory without a mission should be shut down."

What gave rise to micromanagement? The report notes that the turnover in DOE leadership has been high and the agency's mission "has changed and diversified too often, to the point where it is no longer clear." The report also observes that "The Department also must respond to a much larger number of Congressional committees and subcommittees than other federal agencies do."

The summary is accurate but it hardly does justice to the saga of DOE. For nearly a quarter of a century, DOE's predecessor, the Atomic Energy Commission (AEC), concentrated on carrying out R & D on the military and civil applications of nuclear energy. The agency's labs were allowed broad latitude in running their programs. And congressional oversight was exercised by a single committee, the Joint Committee on Atomic Energy, whose members traditionally acted as supportive patrons.

In the late 1960's, pressure mounted for the labs to use their resources to meet other national needs, notably environmental problems. But the real change occurred in the 1970's after the advent of the energy crisis. The AEC was transformed first into the Energy Research and Development Administration, then into DOE and experienced severe problems in absorbing a rapid growth in budget, staff, and program.

The major change in program was the infusion of work on alternate energy sources and increased emphasis on the labs' carrying work through to the point of commercialization. One major element in the rise of the phenomenon of micromanagement was this increase in applied work which encouraged a detailed, project-management style of administration by headquarters. Another factor was the fragmentation of committee jurisdiction in Congress as an increasing number of panels—the total is put at about 30—vied for influence.

As more committees and their staffs subjected DOE to ever closer and more critical scrutiny, DOE headquarters staff acted to protect themselves by imposing ever stricter reporting and performance requirements on the "field," and micromanagement was institutionalized. In general, the review panel's recommendations for improving management stress giving the labs more independence, but with excellence assured by operation of strong oversight exercised by outside expert committees and an increased reliance on competitive peer review process in funding basic research at the labs. The report also advises that Congress should "refocus its oversight of DOE R & D into a significantly smaller number of committees."

The panel report says its most important recommendation is that the parent agencies of the labs review and redefine the missions of the labs. "At most multiprogram laboratories, the research activities could be reduced in breadth, and reconcentrated on those areas most relevant to the missions and of demonstrated excellence."

The report carries no assessments of particular labs, but at the press conference Packard gave some examples of how the panel thought specific laboratories might be improved. The panel saw some "redundancies" in the work of Air Force and NASA labs. DOE's weapons laboratories (Livermore, Los Alamos, Sandia) were doing well with weapons R & D but might well make cutbacks in other work. NIH was faced with a worsening shortage of clinical researchers. And DOE's Argonne, Berkeley, and Brookhaven labs needed their missions redefined.

The White House council report does not offer startling new insights into the problems of the federal laboratories or novel suggestions for change. In general it reinforces the findings of earlier panels that have studied individual agency programs in closer detail (*Science*, 10 September 1982, p. 1015). The new report, however, puts the imprimatur of the White House on a package of reforms. These will be difficult to carry through since they require major negotiations with the bureaucracy and Congress. But the report gives Keyworth and OMB authority to invoke in moving forward with their own agenda.—**JOHN WALSH**