science news

OF THE WEEK

Medical fund impoundments: More shock, more fury

In his budget message in January, the President announced drastic cuts in funds for health and medical research in fiscal 1974. He also announced that the Administration was not going to spend all the money that Congress had designated for health and medical research in fiscal 1973 (SN: 2/3/73, p. 69).

Since the President had switched Caspar W. Weinberger from director of the Office of Management and Budget to Secretary of Health, Education, and Welfare (SN: 1/13/73, p. 21), Congress anticipated that the withholdings of HEW funds for fiscal 1973 would be substantial. But now that fiscal 1973 is over, they are shocked and dismayed to learn that the Administration withheld more than a fifth of all the funds that Congress had designated.

The withholdings come to \$1.1 billion, out of a Congressional designation of \$4.8 billion. With the exception of Medicare and Medicaid, all of the nation's health and research programs are funded from this money. The withholdings have meant doing away with

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entire programs in some cases.

Federal money for hospital construction was eliminated. Other programs that were drastically cut came under the Health Services and Mental Health Administration. Some \$199 million was lopped from its designated \$744 million budget. The National Heart and Lung Institute did not get \$44 million of its specified \$300 million budget. Even the President's publicized pet, the National Cancer Institute, had \$59 million axed from its designated \$492 million budget.

In a letter to Weinberger, Rep. Harley Staggers (D-W.Va.) wrote, "I am dismayed that you have felt it appropriate to impound the billon dollars. . . ." Staggers heads the House Interstate and Foreign Commerce Committee, of which the Public Health and Environment Subcommittee is a part. Rep. Paul Rogers (D-Fla.), chairman of the subcommittee, accuses the Administration of not carrying out the laws passed by Congress and thus distorting the constitutional premise of the separation of powers.

The Administration is defending its

position on the grounds that an appropriations bill for fiscal 1973 was vetoed and money for fiscal 1973 was made available under a continuing resolution. The Administration interpreted the funds Congress had designated under the resolution as a ceiling, not as a baseline. Says a spokesman for the Public Health and Environment Subcommittee, "In the legal sense, these were not impounded moneys. But in the colloquial sense, they were." Adds a spokesman for Paul Rogers, "There is no longer any doubt in anybody's mind that the \$1.1 billion is an impoundment."

Impoundment or not, Rogers calls it a "very serious situation." He says it might be necessary to hold hearings on the subject and even to call for the resignations of officials who were involved. Declares Rep. William Roy (D-Kan.), a physician, "It's illegal . . . that is where the fight is. Regardless of how you look at it, we spent a billion dollars less on health service programs, which included manpower, family planning, child and maternal health, in fiscal 1973 than we did in fiscal 1972." States Rep. Tim Lee Carter (R-Ky.), also a physician, "Overall I am against the impoundment of health funds. . . . On basic research, applied research, we cannot afford to cut back.'

To counter the Administration's withholding of fiscal 1973 funds, Congress is threatening Supreme Court action. Asked whether he thought Congress would go that far, Carter replied, "Yes ma'am, I certainly do." In fact, says Roy, a District Court ruling in the District of Columbia has already favored Congress' position on 1973 funds. The case was brought by community mental health centers. The ruling requires that money designated for them in fiscal 1973 has to be expended. However the ruling is now before the Court of Appeals. If this court does not overturn the ruling, Roy anticipates that it will be expanded to the national level.

Whether the Supreme Court will favor Congress nationally only time will tell. Presidents have been impounding Congressional appropriations since

Unraveling the chemistry of interferon

In 1957, protein made by human white blood cells was found to be a natural defense against viruses. Scientists hoped that interferon might be used to treat flu and cold infections. But efforts to develop a treatment did not work out, largely because natural human interferon was difficult and costly to obtain. During the past several years, however, techniques for harvesting human interferon have improved, and interferon again looks promising as a cold and flu treatment (SN: 3/31/73, p. 208).

Still, until human interferon can be synthesized and mass-produced in the laboratory, it will not become available to the general public as a flu and cold treatment. And synthesis depends on understanding its chemistry.

No human or animal interferon preparation has reached a state of purity that permits direct chemical analysis, but Austrian researchers have now used enzyme and chemical treatments to partially unravel the chemistry of rabbit interferon. They have found that it is a sugar protein with at least one terminal sequence of sialic acid, which in turn degrades into galactose. Presumably human interferon is similar. They report their findings in the July Proceedings of the National Academy of Sciences.

The reason so much natural human interferon is needed to obtain therapeutic benefits may be due, at least partly, to the quick breakdown of interferon in the body. The Austrian chemists believe their findings may help them to eventually retard this rapid breakdown.

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Thomas Jefferson, and none of their actions have been overridden—not yet.

Meanwhile, there are rumblings over the expected shortages of funds for fiscal 1974. The President proposed a \$500 million budget for the National Cancer Institute in 1974, but a memorandum written last November by NCI Director Frank Rauscher and disclosed this week reports that Rauscher needs at least \$640 million "to carry out the objectives the executive and members of Congress have often enunciated."

Reducing the budget below \$640 million, said Rauscher in the memorandum, would restrict clinical trials in immunodiagnosis and immunotherapy, hot new areas of cancer diagnosis and treatment (SN: 5/27/72, p. 341; 6/9/73, p. 367; 6/23/73, p. 408). New cancer drugs would not become available. Industrial contracts to develop equipment to automate Pap smear tests for cervical cancer would have to be postponed. The programs to find viruses or environmental chemicals that trigger cancer would have to be slashed.

In a joint statement this week when releasing Rauscher's memorandum, Sen. Warren Magnuson (D-Wash.), chairman of the Senate Appropriations Subcommittee on Health, and Senate Democratic Leader Mike Mansfield, denounced the President's crash program to conquer cancer as a "fraud on the American people."

The House has approved \$522 million for the 1974 cancer fight. The Senate Appropriations Committee has not yet voted on the bill, but indications are that it will go as high or higher than the House version. If it is, Melvin R. Laird, the chief domestic adviser to the President, says he would recommend a Presidential yeto.

Second Soviet probe heads toward Mars

The Soviets launched Mars 5 last week on the heels of Mars 4 (SN: 7/28/73, p. 55). Both are due to arrive in the vicinity of that planet in mid-February.

The two spacecraft are similar in design. According to Tass, "Simultaneous scientific research by the two stations will make it possible to obtain full data about the planet and the dynamics of physical processes which occur in space." No mention is made of life-detecting instruments on the landers such as those planned for the U.S. Viking landers in 1976.

The Soviets were the first to land a spacecraft on Mars. Mars 3 touched down on the surface during the great dust storm that encompassed the planet in 1971. Signals from the spacecraft were received for only 20 seconds.

A common problem in an uncommon place

The second crew of Skylab astronauts were struggling this week with a problem that faces many world travelers—motion sickness. Astronauts Alan Bean, Jack Lousma and Owen Garriott were launched on schedule July 28 to meet the orbiting Skylab workshop and begin their planned 59-day stay in weightlessness.

When they arrived at the space station which has been unmanned for over a month, they encountered a variety of minor difficulties. They had trouble finding things the first crew had apparently misplaced. They had an annoying awakening early one morning because of a pressure leak due to an improperly closed door on the trash airlock. They had to mop up water from a leak in one of the tanks. They had a problem with the condensation system which removes water from the cabin air.

They even had some pet problems. An electrical overload caused loss of the system housing mice and vinegar gnats. Space biologists had hoped to learn something about the effects of weightlessness on the animals' biological rhythms. Still intact, however, were the spiders, Arabella and Anita, who will be watched for the web-weaving in weightlessness. And Garriott's minnows were performing as predicted. He reported they were disoriented in their aquarium. "They think they are swimming toward the surface," he said, "and sure enough they are heading straight down."

The minnows weren't the only disoriented ones. The astronauts' motion sickness, which began on their first day in space, did not go away. By their fourth day in weightlessness, they were feeling better, but not up to par. "We certainly don't feel good," Bean reported. "Nobody does."

Lousma had been hit by the motion sickness first, shortly after the spacecraft went into earth orbit. He vomited once Saturday and twice on Sundayan unpleasant experience even on earth and even worse in weightlessness where material floats around. Bean and Garriott also had problems. Space biomedics at the Johnson Space Center (JSC) in Houston prescribed motion sickness pills and quick head movements to assist the astronauts in adjusting to weightlessness. Both Lousma and Garriott took the pills-a combination of scopolamine and dexedrine that is suppose to block the nerve paths from the inner ear to the stomach. The head movements-30 to 40 per minute, three times a day-stimulate the three semicircular canals in the inner ear and



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Skylab 2 crew off on 59-day stay.



help the body's vestibular-adjustment. While many astronauts have ex-

perienced some degree of stomach awareness and motion sickness in space, the prolonged illness of the Skylab 2 crew turned out to be a surprise. None of the three crewmen of Skylab 1 had experienced any sickness at all until they were back on earth, bobbing around in their spacecraft in the Pacific.

"The interesting thing," said W. Ross Hawkins, chief of life sciences at Jsc, "is that all three crewmen are sick. We have never had all three sick on any previous mission that I know of."

Part of the problem could be related to prelaunch activities. This particular crew may not have had a chance to perform as many head exercises. None of the crew took the motion sickness pills before launch as other crews had. Scientifically it would be better not to take the pills to allow scientists to understand how and when the vestibular system finally adapts to weightlessness. But obviously, if the astronauts become ill, it is difficult for them to carry out a normal work day when a quick motion causes nausea. "It's a trade off," Hawkins says. "[The pills] are definitely going to influence the data." The feeling at JSC early this week was that the astronauts would soon be better and that the illnesses will not affect the