

Invasion of Privacy (defunct since March of this year). During that time Gallagher held hearings on the proposed National Data Bank and raised concern over the computer and invasion of privacy. He initiated Congressional consideration of the credit reporting industry and disclosed that at least 250,000 grammar-school children were being given behavior modification drugs (amphetamines). In addition, he led the fight to discredit the proposal of Arnold F. Hutschnecker to give every child predictive psychological tests to determine his future criminality. And he objected to a social scientist's plan to bug each room of a federally financed low-cost housing project in an attempt to discover why some people remain at a poverty level.

The attempt to discredit Skinner's ideas however might, as Gallagher himself predicts, be criticized as naive and anti-intellectual. It was. Kenneth B. Little, executive officer of the American Psychological Association, said, "It seems unfortunate that a misunderstanding of the scope and goals of psychological research can lead to misguided attacks such as Rep. Gallagher has made." Little explained that Skinner is not proposing behavior control that does not already exist. Rather, "he is urging that behavior control principles be understood so that they may be used in the best interest of society instead of by a small number for their own self interest."

At NIMH there was no official reaction to Gallagher's statements. All grants are screened by an outside review committee. And NIMH feels that it is following the rules laid down by Congress in distributing the money provided by Congress. But NIMH has been questioned on its connection with the ideas expressed in *Beyond Freedom and Dignity* and authorities there are in the process of preparing an official statement. They will explain that the type grant Skinner received—Research Career Award—was phased out in 1964. The grant goes directly to Harvard University and is used to pay Skinner's salary according to the Harvard scale. It is not in addition to his salary. And furthermore, an NIMH spokesman says, "the award to Skinner was not given particularly for the preparation of his recent book, but recipients of any award are encouraged, as are university professors, to publish the results of their experiments and scholarly works. In Skinner's case it is quite evident that his formulations are controversial. Whether or not NIMH, the academic world or the general public agree with him, the whole concept of academic freedom requires that Skinner be accorded the right to draw his own conclusions from years of academic research and study." □

december 25, 1971

Health manpower: Buying off the care crisis

Generally speaking, the American health care crisis can be lumped into two camps: inadequate or duplicated care facilities, and a vast shortage of physicians, nurses and dentists (the current need is put at 220,000 at least). Because of these shortages, millions of Americans have been receiving less than the best medical care. Medical costs have also skyrocketed in the past decade or so (the old law of supply and demand at work).

To counter the problem of facilities, the Federal and state governments are trying to give hospitals and nursing home planning more rationale. During the past year, for example, Health Services and Mental Health Administration grants have been directed toward building neighborhood health centers rather than hospital outpatient departments. Financial incentives are also being provided by HSMHA to encourage hospitals to share equipment. Now Congress has passed, and the President has signed, a bill that could go a long way toward easing the health manpower shortage in this country. Funds to be made available under the act for fiscal 1972 have been decided by Congress and are now before the President for approval.

These funds were not arrived at without the usual cat-and-mouse game between Congress and the Administration's sidekick, the mighty Office of Management and Budget. What happens is that Congress usually authorizes so much money, expecting the OMB to set appropriations requests below this figure; then, if Congress likes the cause enough, it will reinstate some of the funds OMB slashed. The result, according to John Zapp, deputy assistant secretary of Health, Education and Welfare, is that bills are "seldom fully funded." In any event this is what happened with money for the Health Manpower Act. Congress authorized about \$643 million for fiscal 1972. The OMB appropriation request was only about 50 percent of that. Congress then appropriated about 65 percent of the authorization.

Spokesmen for the Association of American Medical Colleges, the American Nursing Association and the American Dental Association all term the act landmark legislation. Previously the Government has given medical, dental and nursing schools piecemeal handouts for construction, project grants and scholarships. Yet this is the first time the Government is providing across-the-board money for financial distress and for capitation (so much money for each student enrolled). Thus the act will provide money for expansion of present facilities, for en-



Cooper: Landmark health legislation.

rolling more students and for building new schools.

On the whole, the AAMC, ANA and ADA are pleased with the act, but they feel the funds approved for 1972 fall considerably short of what is needed if the goal of the act—to close the manpower gap by 1975 or 1980—is to be met. And chances are strong that the Administration will not even spend all of the 65 percent Congressional authorization. The latest word is that the Administration will allocate all the money approved for capitation, but not all the money approved for construction. Thus, the schools will be put in a bind: They will be given financial incentives to expand enrollment, yet will probably be held up in constructing the facilities to take in more students.

Even with these inequitable cutbacks, though, the Health Manpower Act is bound to benefit recipient schools and qualified persons requesting entrance. Only about a third of the 45,000 applicants to medical schools get accepted annually. Some schools have as many as 5,000 applicants and only 200 seats. And hospitals and nursing homes desperately in need of personnel are bound eventually to profit. Yet from a philosophical vantage point, the act raises this question: Should the Government pick up the tab for medical education?

Since World War II especially, the Government has been assuming more and more medical financial costs—but the vast funding has been for research. In the health care delivery arena, though, the Government started assuming costs of hospital construction under the Hill-Burton Act. During the 1960's the Government took on Medicare and Medicaid. Meanwhile it was underwriting various medical education costs, and now that the Health Manpower Act has been enacted it will give across-the-board funds to medical schools.

Some observers believe that the act might serve as a valuable prelude to a national health insurance plan (a number are pressing for passage in Congress). In other words, by helping meet health manpower needs, the act might lower medical costs and make the transition to national health insurance smoother. Others, however, think the Government has gone too far already in paying for medical education. A staff member of the Subcommittee on Public Health of the House Committee on Interstate and Foreign Commerce, for example, asserts that "medical schools have been threatening bankruptcy since 1948." Other critics point out that private contributions to medical schools have never been higher.

Yet an AAMC spokesman reports that of the 108 medical schools, 60 are truly in some financial distress and 30 have indeed been close to closing their doors. This assertion is underscored by Congressional proings into medical education needs before the Health Manpower Act was passed. Appropriation ceilings set for the act were based on needs carefully assessed by HEW. As AAMC president John A. D. Cooper declares, the act was "the consequence of a most intensive examination by the Congress of the state of health professional education in this country. . . ."

In any event, some observers feel

that as long as the Government is paying for applied medical research it might as well—or better—pay for delivery, because such research is only valuable if ultimately delivered to patients who can profit from it. And there are definite indications that many research advances are not available to persons who need them because of the health care delivery crisis. At the recent Capitol Hill hearings on the Conquest of Cancer bill, for example, Donald Pinkel, medical director for St. Jude's Hospital in Memphis, one of the largest cancer therapy centers for children in the United States, testified that while the hospital has achieved a three- to five-year survival rate for 17 to 61 percent of its leukemia patients, it is on the verge of having to turn away children for treatment because of lack of facilities and personnel.

A cancer cure would be nice, Pinkel and others agree, but meanwhile there are millions of Americans desperately in need of hospital emergency room treatment, kidney dialysis, physicians who make house calls, and other types of special therapeutic capabilities.

If the Health Manpower Act does nothing else, its proponents feel it should at least make medical research achievements more available to these people—and to all Americans, in fact, who are paying for a good part of medical research with their taxes. □

A tale of trouble with Mars lander

The tale of three spacecraft circling a dusty Mars continues this week and a frustrated scientific community has become resigned to pictures of dust. Predictions are now that the atmospheric obscuration will continue well into January—for most of Mariner 9's 90-day mapping mission.

The Soviets are having the same problem. This week Tass finally disclosed details of the Dec. 2 landing of the Mars 3 capsule with its parachutes and braking engines (SN: 12/11/71, p. 387). Referring to an earlier report that video signals ceased, Tass said, "At the pre-set time the transmission of video image from the surface was started which lasted 20 seconds. . . . A small part of a panoramic view was transmitted which does not reveal any noticeable differences in the contrast of details. It is too early to say what stopped the transmission. It could be due to the local peculiarities of the landing area, which are absolutely unknown, or to the strong dust storm."

Whatever happened prevented reception of information about the performance of other instruments aboard. The Mars 3 lander also took to the surface instruments for measuring atmospheric temperature and pressure, for mass-spectrometric determination of the chemical composition of the atmosphere, for measuring wind velocities and for determining the chemical composition and physical and mechanical properties of the surface layer. No results, if any were obtained, have been announced. The Soviets have requested that NASA not release information transmitted by the "hot-line" between the two countries (SN: 10/30/71, p. 291).

As did Mariner 9 (SN: 11/20/71, p. 339), the Russian craft found a hot spot on the surface. The surface temperatures measured "did not exceed minus 15 degrees C." But said Tass, "a point was discovered on the planet's night side where the temperature was 20 to 25 degrees higher than that of the surrounding surface." The article ends with a familiar ring: "The conditions for obtaining photographs (of the surface) were complicated by a lasting dust storm."

Mariner 9 will continue to send 16,000 data-bits per second during its 90-day mission (until Feb. 13). But as earth and Mars move farther apart, the percentage of errors increases and so engineers drop the data rate to 8,000, then 4,000 and 2,000 to decrease errors. NASA is now studying ways to stretch the system. Mariner 9 could continue to send back data until mid- or late-summer. □

DEP, cancer and beverages

What makes a chemical cancer-causing or cancer-associated is far from determined. How carcinogens fit into the virus cancer theory and oncogene cancer theory (that cancer susceptibility is genetic) is even more questionable. Still more speculative is how carcinogens act in the human body under normal living conditions, as compared with their performance in tissue culture, or in animals under isolated, manipulated laboratory conditions. Modern medical inquiry, in brief, is fraught with limitations.

These limitations should be kept in mind when assessing the implications of potentially startling research on food additives and cancer such as that reported in the Dec. 17 SCIENCE. University of Stockholm researchers G. Lofroth and T. Gejvall report that a food additive commonly used in the United States and elsewhere in orange juice, white wine and beer—diethyl pyrocarbonate (DEP)—can result in the formation of the carcinogen urethan in such beverages.

The cancer property of urethan

has been known since 1943, but there have been insufficient studies on urethan concentrations in DEP-treated beverages. Thus the radiobiologists took an orange juice product, a beer and a white wine—all without DEP—and added radioactive-labeled DEP to each. They found that urethan indeed formed in all the beverages tested. The yield depended on the quantity of DEP present, on the pH (acidity-alkalinity) of the beverage, on the presence of ammonium ion and other factors. They conclude: "It is thus very probable that foods treated with DEP invariably will contain the carcinogen urethan."

A Food and Drug Administration spokesman told SCIENCE NEWS that the FDA is aware that urethan may be formed by DEP in beverages and is keeping an eye out for more evidence that the additive is cancer-inducing. Whether FDA caution on DEP will prove to be detrimental to Americans' health only time will tell (the FDA is currently evaluating the safety of all 4,000 to 5,000 food additives on the market).