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 probings 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. □

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).

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 planets' 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. □