

GENERAL SCIENCE

Battle Against Disease

The President has called for a full-scale attack against the three biggest killers in the United States today, heart disease, cancer and stroke.

► FOR EVERY SIX MILLION Americans, there will be new or reinforced concentrations of hospitals, medical schools and health centers. Never in human history is sickness to be fought with such facilities as those recommended in President Lyndon B. Johnson's health message now being considered by Congress.

The President said, "In our urbanized society today, the availability of health care depends uniquely upon the availability and accessibility of modern facilities, located in convenient and efficient places, and on well organized and adequately supported services."

The absence of such services and facilities are, in themselves, a barrier to effective health care, he emphasized.

"Complexes" is the term for the new battle order against pain, illness and death. There will be 32 new alignments of medical facilities, located strategically for all the people.

These regional medical complexes will provide the U.S. public with access to "the newest and most effective diagnostic methods and the most recent and most promising methods of treatment."

To combat killer diseases of heart disease, cancer and stroke, equipment and skills that are both scarce and expensive are often needed.

The multi-purpose medical centers would be able to utilize the different assets of participating hospitals and research facilities to provide a particular region with facilities for such treatments as open heart surgery, advanced and very high voltage radiation therapy, and improved disease detection methods.

Most individuals could have access to such specialized facilities, for example, as the heart surgery techniques used in the recent operation on the Duke of Windsor at Houston.

The program as envisioned by its planners is to be affiliated with medical schools, teaching hospitals and medical centers, and to have the support of diagnostic and treatment facilities in community hospitals.

In this way, the coordination of personnel and facilities for teaching, research and the treatment of patients will be achieved in a system that hopes to "speed the application of research knowledge to patient care," the President's message said.

White House officials estimated that the cost of this program over a six-year period would be \$1.2 billion, with \$50 million being spent the first year.

However, their major concern was not financial. Rather, it is the shortage of trained personnel.

In his message, President Johnson appealed to Congress for additional funds to

construct medical and other health education schools and to provide more loans to students.

The President also hopes to meet this manpower shortage by:

1. Authorizing formula grants to help cover basic operating costs of health professional schools.

2. Establishing project grants that enable these schools to experiment with and demonstrate new and improved educational methods.

3. Authorizing scholarships for medical and dental students who might not otherwise be able to enter or complete such training.

White House officials announced that the locations of the multi-purpose health complexes would be made public after the bill is passed.

• Science News Letter, 87:35 January 16, 1965

PUBLIC HEALTH

To Control Smoking Habit

► MILLIONS OF DOLLARS in research, dozens of books, tons of press handouts, scores of workshops, countless new products, big shifts in advertising and endless controversy—all have come forth on the issue of smoking and lung cancer in the year since the Surgeon General's report.

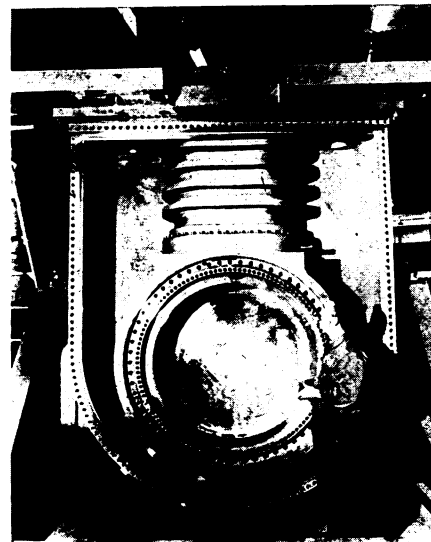
Clinics or workshops to curb smoking range from the bizarre to the serious, the superficial to the professional.

One of the most widely known was the withdrawal research clinic at Roswell Park Memorial Institute, Buffalo, N.Y. At the clinic, a nicotine substitute to ease the craving for tobacco was given, along with an appetite depressant. A check after 12 months on 15 of 20 men who participated disclosed that one man stopped smoking for eight months, and the others cut down to eight cigarettes a day on the average.

A Swedish researcher, Dr. Borje Ejrup of Stockholm's Karolinska Institute, ran clinics which relied primarily on injections of a nicotine substitute. A follow-up study disclosed that half who took the treatment "relapsed." But Dr. Ejrup said that they did so under unexpected stress.

A group of individuals announced plans to set forth on a plush African safari, with all the excitement and glamour but without cigarettes.

One similar smoke workshop was attempted with a captive audience. A three-day ban on cigarettes was imposed during a round-the-world trip of a U.S. nuclear submarine. The test planned for eight to ten days, was called off after three, the Navy



Arcos Corp.

BUBBLE CHAMBER—Charged particles too tiny to be photographed are being tracked by the gas bubble trails they leave in liquid hydrogen in this device, the world's largest welded stainless steel bubble chamber installed at Cambridge Electron Accelerator, Massachusetts.

said, "because psychological symptoms had already become clear."

"The smokers in the test got irritable, ate too much, had trouble sleeping, and personal relations began to deteriorate."

Teen-agers and Cigarettes

In addition to clinics run under controlled conditions and using one or more nicotine substitutes, a wide variety of deterrent clinics also sprang up. These featured anti-smoking pep talks and ranged from single sessions to regular weekly meetings.

From the days when Junior sneaked behind the barn for his first puff of corn silk to modern times when moppets grab mom's filters for a try, teen-age smoking has been a sizable problem for parents. However, in the year following the Surgeon General's report on lung cancer and smoking, the subject of teens and cigarettes emerges as a national health problem.

Public health authorities estimate that 30% of all American teen-agers smoke. Comparatively few take up the habit in their early teens but by the time they reach the 12th grade between 40% and 55% smoke.

Experts vary widely on why teeners start smoking and even on the best approach to prevent them from taking up the habit.

A Rutgers University sociologist, Dr. Edward Wellin, finds that about 48% of the students who date two or more times a week also smoke.

The Department of Health, Education and Welfare in a study listed these as the top four reasons for teens smoking cigarettes:

1. "Because the rest of my crowd smokes."
2. "It makes me look big."
3. "To be a big shot."
4. "To feel sophisticated."

Also playing a significant part in starting teen-agers on cigarettes is the glamorized picture of the smoker previously portrayed in most tobacco advertising. This had such an impact that the industry, to its credit, announced a stringent new code of advertising designed mainly to stop young people from smoking.

The Rutgers survey supports the reason given by the youths themselves as the main reason for teen smoking, simply because the other kids do. The study showed that the smoking habits of parents have less effect on the high school student than do the smoking habits of friends.

But HEW does not quite agree. It says if you do not want your child to smoke, do not smoke yourself.

The Surgeon General's report emphasizes that youths who smoke cigarettes run a much greater risk of dying of lung cancer, chronic bronchitis, other serious lung disease or coronary heart disease.

Industry Is Affected

Seldom if ever before has a \$7-billion-a-year industry suffered the impact of having its product labeled a health hazard by an instrument of the U.S. Government.

In the 12 months since general private medical suspicion of the cigarette was dramatically crystalized into professional opinion by the nation's top official health authority, two facts stand out:

1. Domestic sales in 1964 are about three percent less than 1963. But, the big drop came in the early months. Sales toward the end of 1964 rose to almost the previous year's figure or slightly less than 500 billion cigarettes. And, industry executives expect a bumper year in 1965.

2. A major overhaul has been made in the industry's advertising program.

Under the administration of former New Jersey Governor Robert Meyner, the code makes stiff ground rules. Overall theme of the code is to avoid advertising that would encourage young people to start smoking. For example, "Cigarette advertising shall not represent that cigarette smoking is essential to social prominence, distinction, success or sexual attraction."

Despite the code and the effort at self regulation, the tobacco industry is by no means admitting that its multi-billions in sales are derived from selling a product that is a health hazard.

Nevertheless, the impact of the report has led the industry to make material adjustments. Whether the code works, how effectively it will be enforced, and whether the slant of advertising in a slightly different direction make a substantial difference in the nation's health as it is affected

by smoking are questions to be answered a year, two years or more from now.

Nostrums Follow Study

Linking lung cancer and cigarettes precipitated an outpouring of probably more money for research in a single year than normally would have come in ten without the Surgeon General's report.

It also brought forth a stream of drugs and concoctions for nicotine substitutes as Americans, impressed by the findings, sought to stop the cigarette habit.

During 1964 the American Medical Association Education and Research Foundation approved 17 projects on which the Foundation is expected to spend more than \$1.3 million. Key areas among them are:

1. A study concerning the effects of smoking on circulation and respiration.
2. Identification of agents in tobacco smoke which produce changes in the surface tension of the film lining inside the lung.
3. A quantitative evaluation of the distribution of radioactive smoke through the system.
4. An investigation into the action of nicotine on the nervous system.
5. An evaluation of the influence of smoking on mental efficiency.

Other projects were launched under contracts let by the Department of Health, Education and Welfare. These studies are in those areas of research where members of the Surgeon General's Advisory Committee on Smoking and Health indicated they felt more information was needed.

One study goes into the multiple causes of lung cancer. Another deals with what goes on in lab animals' windpipes when tobacco smoke is injected. A third tries to identify chemicals in tobacco smoke that may be those catalytic agents called co-carcinogens which do not themselves cause cancer but must be present for the cancer-causing effect to take place.

The tobacco industry itself, with a vested interest of \$7 billion, has pledged support for a variety of research programs sponsored by the American Medical Association. In addition, it conducts its own projects in developing filter substances to remove from the smoke potentially harmful elements.

As to the rash of nicotine substitutes, drug store shelves are full of the nostrums. The continued high incidence of cigarette sales and the generally conceded difficulty of stopping smoking are the best testimony of the notions' worth.

Among the most controversial have been those with a lobeline base. The same drug was used in a stop-smoking clinic in Stockholm but the patients at the clinic received injections containing up to nine times as much lobeline as the manufacturers of the tablets recommend for a daily dose. The clinic reported substantial "relapses" among its patients.

Others include lozenges which are claimed to produce a bad taste when a cigarette is smoked. The Medical Letter said this type of treatment has little significant value.

• Science News Letter, 87:35 January 16, 1965

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