

MEDICINE

Public Must Aid Doctors

In order to solve the problem of the shortage of professional personnel, full support of government and the man on the street is needed.

► **FEDERAL**, state and municipal governments, private philanthropists and the man in the street must all chip in to solve our most urgent medical and health problem, the shortage of professional personnel, Dr. Leonard A. Scheele, Surgeon General of the U. S. Public Health Service, declared at the meeting of the Medical Society of the District of Columbia in Washington.

"The total problem of medical education is so vast," he said, "that we should not expect it to be solved with less than active support from all sources."

Medical students of the future will again receive part of their training in the patient's home, as they did when they served their apprenticeships with the old family doctors, Dr. William S. McCann, of the University of Rochester School of Medicine and Dentistry, predicted at the same meeting.

This is part of the major change in trend of medical education toward emphasis on the emotional and sociological phases of sickness.

A change in the rules for postgraduate training set by specialty boards which certify doctors as competent to practice as experts in a special field of medicine must also come, Dr. McCann believes, as part of the evolution of medicine. Without such change he sees the downfall of the boards which have in the past done much to raise the level of competence in the specialties.

The current plans of the U. S. Public Health Service, Dr. Scheele stated, follow

three major trends which were established before World War II and have been extended during the postwar period. These are: 1. expansion of research in medical and related sciences; 2. rapid development of public health programs to accomplish specific purposes, such as tuberculosis control or control of degenerative and other chronic diseases; 3. expansion of Federal support for these activities, primarily through aid to state agencies, public and private non-profit institutions, and individual professional men and women.

"The recent emphasis on cancer, cardiovascular diseases and mental health are logical developments in public health," he said.

A continuous rise in death rates from these diseases has accompanied the aging of the population, he pointed out. For the past 15 years there has also been an increasing volume of mental disease and psychic maladjustment.

"As yet," he said, "we have done very little to deal with the major problems of adults or to change these mortality trends. All of the new medical knowledge and skills have added only two and a half years to the life expectancy of the 40-year-olds. The major steps in public health during the next few years must be toward prevention and control of degenerative and other chronic diseases, including mental disease."

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ENTOMOLOGY

DDT Coatings in Planes

► **INSECTS** hitch-hiking in airplanes will be "taken for a ride" in the sinister sense if experiments now being conducted by the U. S. Department of Agriculture work out as well as they promise.

Instead of subjecting the interior of the plane (including the passengers) to a fuming with an aerosol bomb on landing, as at present, the idea is to spray everything with an invisibly fine but lasting film of a deadly DDT-pyrethrum combination that will knock down and kill any insect alighting on it. Laboratory tests have been satisfactory, and field tests are now in progress on several airplanes.

As in the ordinary household aerosol bomb, the pyrethrum is counted on to score a quick knockdown, followed by slower but surer death from the DDT. The tests so far conducted have shown that the

solution used will remain effective for eight months or more under laboratory conditions. Shorter useful life under ordinary operating conditions is expected. The solution is applied either as a spray or an aerosol.

In one test described by P. N. Annand, of the Bureau of Entomology and Plant Quarantine, a plane full of Army officers (considerately forewarned) had loosed upon them an assorted lot of flies, mosquitoes, grasshoppers, plantbugs and Mexican bean beetles. Life in the plane was far from dull—for about two minutes, during which the insects contacted the poisoned walls. At the end of three minutes, the six-legged fellow-travellers were all on their backs, waving their legs. At the end of a half-hour they were all dead.

Considerable advantages are expected

from the new method for getting rid of insect stowaways, aside from sparing passengers the discomfort of the aerosol-mist fumigation at the end of a transoceanic ride. It will not only stop, much more effectively than the aerosol mist, any unintentional international traffic in insects, but will also kill insects stealing interstate rides, which is now done ineffectually or not at all.

A minor benefit will be the elimination of the occasional bees, yellowjackets and wasps that now make air passengers uneasy by their buzzing buttings against plane windows.

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MYCOLOGY

Fungus Growths Found To Damage Paint Surfaces

► **PAINTS** and certain types of plastic surfaces can be damaged and made unsightly by the growth of a widely distributed mold to which little attention has hitherto been paid. Inroads of this fungus, which is known by the deceptively melodious name of *Pullularia*, have been studied in Miami by Dr. Ernest Shaw Reynolds, industrial plant physiologist.

Pullularia spots were first noticed on a series of painted test panels, exposed to determine the resistance of various kinds of paint to fungus attack and to weather conditions generally. They were black, like soot spots, but would not brush off. On microscopic examination, they proved to be made up largely of dark spore masses. This color characteristic may have been responsible for its name, which is from a Latin word meaning dusky.

Dr. Reynolds grew cultures from spores in the laboratory, and tested the fungus under controlled conditions. It proved ready to attack paints and one type of plastic coating, and was much less discouraged by fungicidal chemicals than several other common types of mold.

A search of the botanical literature showed that *Pullularia* has been found all over the world, from flax-processing establishments in New Zealand to paper mills in Finland. It has been found associated with diseased conditions in certain warm-climate fruit trees, though it has not been definitely found guilty of causing the diseases. Its newly discovered role as attacker of paints must now be taken into account.

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ENGINEERING-AERONAUTICS

Greater Plane Range Seen From New Type of Engine

► **LONGER RANGES** and more power for future planes are predicted from the announcement of a new combination aircraft engine.

The new engine combines a reciprocating engine with three turbines. It is ex-