

## PUBLIC HEALTH

# Mumps Epidemic Checked

Glycol vapor air sterilization for air-borne diseases is now more than just a hope based on laboratory experiments. It has become a practical method.

► CHECKING the spread of colds and other air-borne diseases by sterilizing the air of living quarters with an invisible, odorless, non-irritating inexpensive vapor of triethylene glycol is now more than a hope based on laboratory experiments. It has become a practical method of disease-fighting that passed rigorous tests in a military camp as reported by Dr. Edward Bigg, Prof. B. H. Jennings and F. C. W. Olson, of Northwestern University, at the meeting of the American Public Health Association in New York.

Specifically, it reduced the total bacterial air contamination; practically eliminated hemolytic streptococci from the air of glycol-treated dormitories; definitely reduced cases of air-borne infections, such as colds, tonsillitis, pneumonia, measles and acute sinusitis; controlled a small epidemic of mumps; prevented the spread of hemolytic streptococci from the throat of one person to another.

The tests, done under contract between the Office of Scientific Research and Development and Northwestern University, were made in two two-story barracks each divided into eight dormitories. Each dormitory housed about 80 men in 40 double bunks about one and one-half feet apart. Four of the dormitories were used for the test and four were kept as controls. These last did not get any of the glycol vapor treatment of the air.

The men mingled during the day in mess-halls, class-rooms, drill-halls, recreation rooms and so on, but as the greatest

degree of air contamination and of cross infection is believed to occur in sleeping quarters, it was decided to treat only these for the test.

The test was divided into three periods, since every six weeks a new group of men replaced the previous group in the dormitories. Altogether there were 1,000 in the test group and 1,000 in the control group.

During the small mumps epidemic there were about the same number of cases developing in the control barracks as in the test barracks during the first three weeks, which is the incubation period of this disease. After that period there were only four more cases from the test barracks while 14 cases occurred in the control barracks that had no glycol vapor. The men who developed the disease during the first three weeks acquired the infection before coming under observation in the test.

For the other diseases, colds, pneumonia and the like whose germs spread through the air, there was little difference between the control and test groups during the first three weeks of each test period. Combining the figures for the first two test periods, there were a total of 126 hospital admissions from the control dormitories and 111 from the test quarters, a reduction of 12%.

For the final 17 days of both periods, however, there were 53 from the control and 19 from the test, a reduction of 64% in cases of illness.

*Science News Letter, October 28, 1944*

## MILITARY SCIENCE

# New "Earthquake" Bomb

► A NEW type six-ton bomb, now being manufactured in both the United States and Britain and described as "the most destructive air weapon ever used," has been announced jointly by the Air Ministry in London and the War Department in Washington.

The bomb combines for the first time a tremendous penetrating power with a very destructive blast. Already in use for several months, the bomb drills its way deep into its target, then sets off

the heaviest possible charge of very powerful explosive.

During attacks on the Nazi submarine pens at Brest, the new bombs fitted with delayed action fuses drilled through 144 inches of concrete, then exploded inside.

Limestone caves, where the Nazis stored flying bombs at St. Leu Desserant, were completely collapsed by the bombs, just as though they had been undermined by a violent earthquake.

The remarkable blast effect of the new 12,000-pound bombs were demonstrated during the bombing of a long-range weapon emplacement at Wizerne. The target was a quarry at the end of which was a cliff that contained passages and cavities used for storing supplies. For protection, the Nazis built a dome-like concrete structure on top of the cliff. One of the new bombs was dropped so that it landed either in the quarry or near to the cliff, causing the whole cliff to drop into the quarry.

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