CLARASE INACTIVATION OF PENICILLIN

DR. C. A. LAWRENCE reported in SCIENCE (98, 413, 1943) that penicillin could be inactivated by clarase (standardized) as a preliminary step toward the sterility test for penicillin. The writer had been unsuccessfully attempting to do the same thing with a sample of clarase (standardized), when the above-mentioned report was published. Two samples of clarase (regular) and one of clarase (standardized) were secured and, together with some regular clarase already in the laboratory, comparative tests were made.

The 4 per cent. solution of clarase was made in a buffer of pH 5.2 and passed through Seitz filters to sterilize it. This was then tubed aseptically and stored in the refrigerator. The sodium salt of penicillin was dissolved in sterile distilled water to give approximately 20,000 units per milliliter. Two milliliters of this penicillin solution were then mixed with 2 ml of the 4 per cent. clarase solution being tested and placed in a waterbath at 40° C.

This experiment was repeated three times with different lots of penicillin, and the same results were obtained each time. Out of five samples tested, only one (regular clarase No. 1351) completely inactivated 9,000 units of penicillin in six hours but not in four. A sample of the same batch (No. 1351) subsequently received reduced the titer from 10,000 units to approximately 200 units in six hours. The other samples (regular clarase No. 1466, standardized clarase No. 1339, standardized clarase No. 1104 and an unnumbered batch of regular clarase) were essentially inactive, giving no appreciable inactivation of penicillin in 24 hours. All samples of clarase were secured from Takamine Laboratory, Inc., Clifton, N. J.

If clarase is to be used for the inactivation of penicillin prior to the sterility test, each lot must be tested and certified for this particular activity.

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CENTRALIZATION OF PERSONAL RECORDS

ALTHOUGH the nation periodically surveys its industry, commerce and agriculture, and once each decade tabulates its population, it is only in time of war that an exhaustive inquiry is made into its human resources. Even in time of war, the group examined constitutes only a small percentage of the total population.

Many physicians, psychologists, biometricians and physiologists long have felt the need for the centralization of medical and other personal records. Such records would be held in strictest confidence, and would be available only to licensed physicians, authorized public agencies and those qualified in scientific research.

Special forms might be designed for the recording of data. The analysis of such forms would bring under scientific scrutiny the life careers of 135,000,000 human guinea pigs. The data collected would include the complete medical history of the individual from birth to date. His medical record would follow him wherever he went, and would be made available to the physician of his choice. Every physician would be asked or required to file periodic reports on his patients. The assembled records might also include fingerprints, intelligence ratings, family history, education, work history, special skills, hobbies and other pertinent information. Such a project would provide us with invaluable material concerning the nation's most precious resource, namely, human beings.

Material gathered in the course of the war well might serve as a nucleus for such a collection of data. The records would be retained permanently, perhaps for generations, and would be assembled at strategic locations throughout the country. Such records should exist for the entire population.

At the present time, although a tremendous fund of health and other personal data exists, it is not being fully utilized. Much of it is being destroyed by schools, physicians and by the individual himself. The material which survives is often so scattered and so deeply buried that it is of no practical value. Some of the benefits which would derive from the adoption of the proposed plan include:

(1) It would improve medical treatment and facilitate diagnosis. Individuals often change their physicians, either because of choice or necessity, and hence there is no continuity in the medical history. It is well known that patients frequently are unable to provide their doctors with accurate case histories. This is an important handicap in medical practice.

Knowledge of the course of a disease has much to do with its proper management. Complete records would eliminate unnecessary duplication and would bring to light conditions which the busy physician could not determine without a great deal of work. Such records would definitely improve the quality of medical practice and would save time and money.

(2) It would make available to public health agencies a source of important leads with regard to public health work. It would improve our control of communicable disease. It would give us the most accurate picture of the public health and of public health needs that we ever have had.

(3) It would contribute to the national security and to our military effort, by showing us the availability of our human resources for uniformed or indus-