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A RURAL HEALTH EXPERIMENT IN CHINA

*Milbank Memorial Fund Aids the Development of the  
Public Health Program in Ting Hsien*



FROM Cattaraugus County to Ting Hsien seems a long step to take in aiding rural health. Yet the Milbank Memorial Fund, in making a grant to the Chinese National Association of the Mass Education Movement, is now contributing to the development of an experimental public health program in a typical county in the heart of China.

The Chinese National Association of the Mass Education Movement is composed of a number of prominent Chinese leaders in education, business and social welfare. Formed in 1923 as a nationwide movement to promote adult education along the lines initiated by Y. C. James Yen, internationally known as "Jimmie" Yen, its activities were first

mainly along the lines of large scale mass education campaigns and resulted in the establishment of thousands of "People's Schools" for reducing illiteracy among adult Chinese. It is difficult to estimate the scope of this work, but it is stated by officials of the Association that approximately 5,000,000 persons have been taught by about 100,000 voluntary teachers. The Chinese written language of 40,000 word characters was simplified in such a way as to require approximately only 1,000 characters, and twelve million copies of the "Thousand Character Books" have been sold. The principles and methods of mass education developed by Dr. Yen and his associates

have been adopted by the National Government, the Young Men's Christian Association, the American Board of Missions, and other organizations, national and local.

In 1927, the Association decided that the next step, after the extensive work of the preceding years, was to engage in an intensive "qualitative" experiment. Heretofore the Association had been supported by funds contributed entirely from Chinese resources. It was realized, however, that the experi-

IMPROVING the health of 400,000 residents of a rural county in the heart of China, and the task of inaugurating modern public health procedure in a virgin territory, have been recently undertaken by the Chinese National Association of the Mass Education Movement with the financial aid of the Milbank Memorial Fund. The experiment is being conducted in Ting Hsien, where, since 1927, the Association has been engaged in a program of agricultural extension, industrial education, social surveys, and research in methods of teaching. ¶ The first article in this issue of the *Quarterly Bulletin* summarizes the present status of the demonstration, and the program which is proposed for the future.

ment—which would last at least five years—was too expensive an undertaking to be supported by the Chinese in the present unfavorable economic situation, and Dr. Yen came

to the United States to secure contributions for a five-year period. This he was able to accomplish. The experiment includes activities in public health, agricultural extension, industrial education, social surveys, research in methods of teaching and in providing a well rounded literature for the masses. The Association now has a staff of over 100 persons, many of them being American university graduates, and a number being former professors in Chinese universities, govern-

A SUMMARY of a study of the sickness records of sample groups of industrial workers, recently completed by the Fund's Division of Research, appears on page 109. This study is one of a series of studies on disease of adult life being undertaken by the Division. The results of a study of the sickness records of pupils in one school in Olean, New York, are reported on page 113. ¶ With deep regret the Fund records the death of John G. Milburn, who, since 1920, has been a member of its Board of Directors. A statement by Albert G. Milbank, president of the Fund, concerning Mr. Milburn's service on the directorate, appears in this issue.

ment officials, and leaders in various activities. Chinese leadership is a cardinal principle of the Association, and all of the staff are Chinese.

The significance of this health experiment in an interior county of China must be viewed against a background of facts that is not entirely familiar to the average American. At first glance an undertaking of such character in a period of civil war, chaotic political situation and seriously disturbed industrial conditions may seem untimely. The answer of the

Chinese leaders who contribute to and lead this movement is that now is the strategic time for a non-political organization, such as the Chinese National Association of the Mass Education Movement, to begin a genuine experiment and thus lay the foundation for more effective governmental activities when the political situation has cleared itself. The Association, it may be remarked, has steered clear of affiliation with any of the political factions but has the good will of the leaders of the different parties because of the character of its aims, work and personnel. Furthermore, while civil war exists and the outside world hears of military movements, of banditry and of the ebb and flow of political strength from one leader to another, the great mass of Chinese people are as

Outline map of China showing location of Ting Hsien.



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yet not greatly disturbed. Over 80 per cent of the population live in villages that average perhaps a thousand inhabitants each. These villages are merely clumps of farming families held together by ownership of land, common ancestry and the simplest form of democratic government. It is, in fact, more than rural—it is *of* the soil, earthy in a sense so

literal that the ordinary American can not understand unless he remembers the pioneer life of the West or is familiar with the tenant farms or mountain sections of the South. Yet,



although this has gone on without much alteration for a thousand years or so, portentous changes are inevitable. For, whatever faction controls China in the future will be vitally affected by modern points of view, imbued with the industrial, social and educational ideas of the Western world, and ready to apply Western methods in the building of a new Chinese nation. In fact, China may in time out-modern the nations of the West in certain respects.

The Ting Hsien experiment thus is regarded in China as of pioneer importance in applying modern scientific knowledge to conditions that are extraordinarily peculiar—from the Western point of view—at a time when experimentation may yield results of profound importance in the future.

Although the various new governments that have been set up in China have provided for public health in their paper schemes and actually appointed administrators, little public health has as yet been tried. In a few localities some beginnings have been made. This is notably true of Peiping (formerly Peking) where the great medical college was established by the Rockefeller Foundation. Practically nothing has been

accomplished in rural China, however. It is a virgin field for the application of modern medicine and public health. No dependable nation-wide vital statistics exist, but records of sample populations indicate an annual death rate of approxi-

mately 30 per 1,000 and an average expectation of life at birth of only about 35 years. The health problems depicted by available records of causes of death are widely different from those in

Cattaraugus County, as shown herewith. As to public health conditions in Ting Hsien, Dr. H. Y. Yao says:

Distribution according to cause of 136,799 deaths reported in Shansi Province, China, in 1923<sup>1</sup>.

	Number	Per cent
TOTAL	136,799	100.0
Malaria	834	.6
Cholera	2,732	2.0
Dysentery	7,691	5.6
Typhoid	11,690	8.5
Smallpox	8,203	6.0
Measles <sup>2</sup>	21,625	15.8
Diphtheria	6,647	4.9
Tuberculosis	15,108	11.0
External causes	1,000	.7
Child birth <sup>3</sup>	4,725	3.5
Old age	33,733	24.7
Other causes	22,811	16.7

<sup>1</sup>Compiled by C. M. Chiao, of the College of Agriculture, Nanking University, from the Shansi Province reports.

<sup>2</sup>In all probability includes scarlet fever.

<sup>3</sup>These constitute approximately 22 per cent of all deaths reported as occurring among females 15-44 years of age.

"Over 90 per cent of the people are illiterates and most of them are poor, ignorant and superstitious, living in mud huts, blackened with soot and smoke, swamped with flies, mosquitoes, bed bugs, fleas and rats. Even the so-called middle classes keep their domestic animals in the quarters where they sleep, cook and eat. Their lives are haunted with frequent sickness and disease. The health knowledge of the people is low and the available medical facilities are nil. Modern medicine is a curiosity and public health is unheard of. In the whole county of 400,000 people there is not a single qualified modern trained physician. The old style Chinese physicians are such that they ascribe cause of diseases to heat and wind. They know nothing of infection and will deliberately thrust a needle into a man's abdomen after moistening it with their own saliva."



Ting Hsien is a fairly typical county with a population of about 400,000 living in 400 villages, situated 170 miles south of Peiping on the Peking-Hankow railroad. Dr. Yen and his associates began educational and agricultural extension work there in 1927 and in less than three years have made great progress. Agricultural stations and schools of various types and grades have been established and other activities are under way. The Hsien or county government has given its support and popular confidence appears to have been thoroughly won. In the autumn of 1929, with the financial aid of the Milbank Memorial Fund, public health work was begun. Dr. H. Y. Yao, a graduate of Peking Union Medical College, was chosen as head of the health department. Extraordinarily successful health campaigns were conducted, a small dispensary and clinics were established at the county seat, and a survey of health conditions and collection of vital statistics were begun. In the spring of 1930, vaccinations against smallpox were carried on with great success, and local health organization was further developed. Dr. Yao also devoted considerable time to a study of the health problems and the formulation of a preliminary program. In March, 1930, Edgar Sydenstricker, director of the division of research of the Milbank Memorial Fund, went to China as a technical advisor, and as the result of his conferences with Dr. Yen and Dr. Yao at Ting Hsien, and various public health experts in China, including Roger S. Greene, Professor John B. Grant of the Peking Union Medical College, Miss Anna McCabe and Dr. T. A. Li of the Peiping Health Center; Dr. Marion Yang, director of the National Midwifery School, and Dr. J. Heng Liu, National Minister of Health, a provisional program of activities for 1930 and 1931 was drawn up. Later this program was approved by the directors of the Chinese National Association.

Briefly summarized, the program proposes a gradual extension of the public health activities already begun in connection with the other activities of the Mass Education Movement in Ting Hsien, in the following ways:

1. By selecting certain specific health problems for initial attack. Provisionally these problems will include—

Specific diseases and conditions—smallpox, trachoma, tetanus, neonatorum and gastro-intestinal diseases (chiefly typhoid and dysentery), and the relief of the more common and simple ailments in the general population.

These activities can be developed, it is believed, into more extensive attacks upon problems of maternity and infancy, and health of school children, as adequate local personnel are trained.

Health education (a) in normal schools, especially for Mass Education teachers, (b) for public primary teachers, (c) in Mass Education ("people's") schools, (d) for the public, et cetera.

Medical and clinical services in the population groups among whom health activities are carried on. It is proposed that this care be commenced by providing limited facilities for hospitalization of cases not involving serious major operations or chronic conditions, but including maternity cases; general clinics in Ting Hsien City and traveling clinics in villages; special clinics as the opportunity arises in Ting Hsien City and in villages.

Research of a practical kind into methods of purification of water supplies and protection of foods on sale; disinfection of human feces used for fertilizing purposes; production of supplementary foods, such as soy bean milk, in collaboration with agricultural extension work.

Methods of birth and death registration and notification of certain communicable diseases.





The initial health staff in Ting Hsien. From right to left: H. Y. Yao, M.D., health officer; Miss S. L. Kao, supervising public health nurse; C. A. Ma, clinical aide.

2. By enlarging the existing administrative and supervisory health staff to include a medical director (or health officer), an assistant health officer to supervise sanitation work and vital statistics, a public health nurse to supervise other nurses and visiting aides, a woman physician to supervise infant, maternity and preschool activities and midwives, an educational director to supervise public health education work in all of the activities in Ting Hsien, a laboratory technician, a pharmacist and a secretary or administrative assistant.

To these should, of course, be added the necessary staff for the infirmary (see below), including a competent physician, clinical aides, nurses and attendants. The relief activities would be carried on also by the other medical and nursing personnel on the supervisory staff.

3. By providing for the training of local subordinate and

field personnel which, provisionally, would include (a) sanitary inspectors; (b) visiting aides for public health nursing work; (c) midwives. In addition, it is proposed to afford training in first aid and the use of a few medicines to certain individuals, such as public and "people's" school teachers, village elders and others, and some simple instruction of practising midwives to lessen tetanus and other infections.

4. By constructing a health center in Ting Hsien City which would serve as the point of radiation of the various activities. This center would provide:

- (1) Headquarters for the administrative and supervisory staff.
- (2) A small infirmary with 25 beds so arranged as to provide for small wards for men and for women, maternity cases and a nursery, and the necessary quarters for assistant nurses and serving staff.
- (3) A pharmacy.
- (4) A small public health laboratory.
- (5) An outpatient department with waiting room (to be used also as lecture hall for exhibits), medical examination rooms, et cetera.
- (6) A lecture room, to be used also as study hall and library for persons in training.

The provision for an experimental central health center for a rural area is regarded as of primary importance in view of the necessity for medical and clinical facilities and for facilities for practical training of local personnel.

5. By gradual extension of clinical and health activities within Ting Hsien City and into the nearby villages. It is proposed to consider the area surrounding Ting Hsien City as the "health demonstration" or "health experimentation" area. This area includes about one-sixth of the entire Hsien, has a radius of about four miles and a population of about

80,000 in seventy-two villages. For the immediate future, however, it is proposed to begin with a group of three or four villages in the southeast section of this area and gradually to extend activities to the entire southeast section which includes twenty-four villages. The rapidity of this extension will depend upon the supply of local personnel, development of methods and popular support.

6. By continuing, in cooperation with the Survey Department of the Mass Education Movement, general economic, social and health surveys of the population, and making special surveys of sanitary and other conditions of the specific villages in which clinic and health activities are to be begun.

An outstanding feature of the rural health program in this interior Chinese county is the necessity for providing medical and nursing service as well as preventive activities. In fact, the entire program may be characterized as experimental, within strict limits of economy, in order that its results can be put into practice by the Chinese themselves.





*RURAL China is a virgin field for the application of modern medicine and public health.*