

PUBLIC HEALTH IN RURAL RECONSTRUCTION AT TING HSIEN¹

FOURTH ANNUAL REPORT OF THE RURAL PUBLIC
HEALTH EXPERIMENT IN CHINA

by C. C. CH'EN, M.D., M.P.H.²

A SURVEY of medical and health conditions prevailing in Ting Hsien was made in 1930, by the Department of Social Survey in collaboration with the Department of Public Health, to serve as a basis for the inauguration of a health experiment. According to the data secured, nearly 30 per cent of the people who die in Ting Hsien receive no medical attention whatsoever. Of the 472 villages in the district, 220 possess no medical facilities of any kind, and the other 252 can boast of little more than a self-made (and not infrequently illiterate) physician of the old type who prescribes drugs which he himself sells. Yet it revealed that the annual per capita expenditure of the people in the district for medicines and medical attention of such an unreliable type is about 30 cents.

The most pressing problem in connection with health in rural China today would seem to be the evolution of a system, practicable under existing conditions, to make elementary medical relief and health protection available for the masses. The system now being developed in Ting Hsien is built according to the resources of the three rural administrative units, the village, the sub-district, and the district

¹This excerpt has been taken largely from a pamphlet issued by the Chinese National Association of the Mass Education Movement under the title, *The Ting Hsien Experiment in 1934*, and is based on Dr. Ch'en's report for the year 1933.

²Head, Department of Public Health, Chinese National Association of the Mass Education Movement. This Department of Public Health has received financial and technical assistance from the Milbank Memorial Fund since 1929.

(hsien), and provides for three classes of service, the village health worker, the sub-district health station, and the District Health Center.

Village Health Worker. The average village, with a population of about 700 and not more than \$150 available for medical purposes, could not possibly support any known type of regular medical personnel; and yet under present conditions in the rural districts, the foundation of a community health system must be the village.

The village health worker is a member of the People's School Alumni Association of his village. He has been recommended by the village elder for the position, and has completed a ten-day course of health training at a sub-district health station. He is expected to perform the following duties:

1. Record the births and deaths in his village.
2. Vaccinate his village against smallpox.
3. Reconstruct his own well, as a demonstration, according to an approved design to reduce the danger of surface pollution.
4. Give simple treatments according to the facilities of his "first aid box," which contains ten essential and safe drugs.
5. "Introduce" to the sub-district health station patients whose ailments do not come within his scope.
6. Serve as a "health extension agent," giving every possible assistance to the higher grades of health personnel in making contacts with the people and transmitting ideas.

Thus in the village is provided the foundation for vital statistics, epidemic control, sanitation, and medical relief.

The village health workers give an average of five treatments a day, at a cost of 1.1 cents per treatment, including material and labor. Over 95 per cent of these treatments are found to be correct.

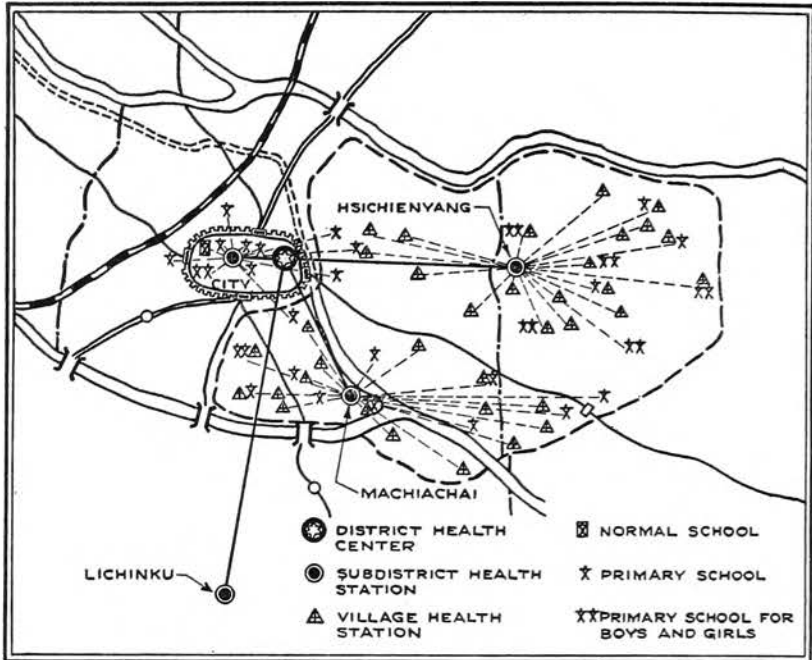


Fig. 1. Map of the research community in Ting Hsien, China, showing the organization of the health service and the distribution of school health work in December, 1933.

While the village health worker's training course is exceedingly brief, he receives regular supervision (at least once a week) from the physician at the sub-district health station, which is considered to be the most valuable part of his training. Other factors which make for the effectiveness of the village health workers are these: They realize, and their neighbors also know, the limitations of their training; their membership in an organized group, the Alumni Association, subjects them to group opinion and censure; and they could easily be replaced if they should prove incompetent or should attempt too much. In June, 1934, there were sixty-one health workers in fifty-eight villages in Ting Hsien.

Sub-District Health Station. To supplement the work of the village health workers with a higher type of service, a

qualified physician ("B-Grade") and dresser or nurse are located in the sub-district health station. Under the health system it is possible for the health stations to serve a population of approximately 30,000 each, carrying on both curative and preventive work. To prepare these workers, special supplementary training is given to the station staff at the District Health Center. Graduates of "B-Grade" medical schools are the type of medical personnel ordinarily available today, and this will probably be true for many years to come. Furthermore, the graduates of the highest type of school are beyond the economic reach of rural communities. It may be of interest to mention in this connection that in Ting Hsien there are no less than sixteen graduates of "B-Grade" schools, but only three of them are even attempting to practise. Two reasons may be offered in explanation: the training they have received does not equip them for service in the rural districts; and isolated as they are, they are not able to obtain the confidence of the people, and cannot make a living out of such meager practice as they might secure.

A daily clinic is conducted at the health station. In 1933, the average daily attendance at each clinic was 29. Of the new patients, over 3 per cent were referred by the village health workers. The average cost of treatment was about 9 cents.

Other duties and activities of the health station staff are: supervision of village health workers, local "midwives" (old type retrained) and midwifery helpers; school health work; popular health education; and vaccination against smallpox. There is a weekly conference for the physicians at the District Health Center.

There are at present four health stations, two in the villages maintained by the Movement for experimental purposes, and one city and one village station each under the

auspices of the local government. With the supervision and help of the District Health Center, the physicians in these stations are able to do a great deal of work that could not be expected of isolated physicians.

District Health Center. A Health Center, housing a hospital with fifty beds and a laboratory, as well as administrative offices and classrooms, serves the entire hsien. It coordinates and supplements all the activities of the sub-district health stations so that they will be free from administrative conflicts and maintain a requisite professional standard. The Health Center also takes up such activities as control of epidemics, and special studies in connection with school health, sanitation, maternity and child health, birth control, training of physicians, nurses, dressers, et cetera, as well as giving intensive training courses to medical students and other personnel.

Vital Statistics. The statistical work in 1933 was carried on by a system of supervised registration, using the police in the city and sixteen village health workers in sixteen villages. The method is fairly accurate, and is inexpensive. A birth or death certificate at present costs 13 cents, which eventually, as the system expands, should be reduced to 3 cents. The birth rate per 1,000 population in the research community in 1933 was 40.1. The general death rate per 1,000 was 27.2, with an infant mortality rate of 199.0 and a maternal mortality rate (per 1,000 live births) of 13.0.

Hospitalization. Only patients referred from the sub-district health stations are accepted at the hospital in the District Health Center. In 1933, there were 418 patients admitted, 67.7 per cent male and 32.4 per cent female. The average length of stay was fifteen days, and the average cost per patient per day about \$1.79, of which the patient pays 40 cents.

It is apparent from analysis of the pathological conditions among the patients that in the medical center of a large district, treatment of medical and surgical conditions are of equal importance. The reasonable conclusion would seem to be that special attention will have to be given in the medical schools to training physicians for good, all-round service rather than specialized service, for many years to come.

*School Health.*³ An experiment conducted in twenty-five village primary schools within a radius of six miles from the sub-district health stations included physical examinations by the physicians. It was shown that 58.5 per cent of the children had trachoma and 26.2 per cent ring-worm of scalp. Treatment was given by the teachers and nurses. The program included also attention to personal and environmental cleanliness, and special efforts are being made to have the schools reconstruct their drinking wells and latrines. Health instruction was given in the early stages by the nurses and later by the teachers themselves.

Maternity and Child Health. This problem has two aspects, reduction of birth rate on the one hand, and reduction of maternity and infant mortality (which is more than twice that found in most Western countries) on the other.

Propaganda among the Alumni Associations through Social Type Education, and a birth control consultation room at the Health Center, resulted, in less than two months' time, in young men coming from over ten villages for advice.

In 1933, twenty-seven "old midwives," trained and under monthly supervision, delivered 428 babies with 8 infant deaths and no maternal deaths. An experiment is being con-

³The school health activities in Ting Hsien were discussed at some length in an article by Dr. C. C. Ch'en in the last issue of the *Quarterly*. See: Ch'en, C. C., M.D., M.P.H.: An Experiment in Health Education in Chinese Country Schools. The Milbank Memorial Fund *Quarterly*, July, 1934, xii, No. 2, pp. 232-247.

ducted in training young "midwifery helpers" gradually to supplant the old type of midwives. It is economically impossible to bring in well-trained midwives to the rural districts, as the cost per delivery would then be about \$7. The midwifery helpers are paid 20 cents per delivery, and with supervision from the sub-district health stations, it is felt that this type of service may render possible a solution of the problem of obstetrical care in the rural districts.

SUMMARY

It is impossible in this brief space to cover every activity of the Department. The foregoing sections are merely intended to show the general developments in the Department and, in order to help visualize the work of the Department as a whole, a summary, contrasting the work in 1933 with that in 1932, is presented below:

1932

1933

Vital Statistics

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| 1. A registration system was being evolved, with no important conclusions. | 1. The system functioned satisfactorily throughout the year, giving definite and instructive results. |
| 2. Cost of the work as done by the system was unknown. | 2. Cost is found to be lower than any other known system. |

Popular Health Education

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| 1. Health education material for adults limited to texts used in People's Schools. | 1. Three different sets of experimental posters for the use of three types of teachers are available. |
| 2. No direct means of developing community health | 2. Chinese New Year Exhibit, Temple Fair Wheelbarrow, |

consciousness had been devised.

3. 40,000 posters and pamphlets were distributed.

Cleanliness Campaign were all demonstrated to be satisfactory.

3. Over 70,000 pieces of printed material were distributed.

Sanitation and Control of Communicable Diseases

1. A sanitary survey was made by competent engineers.

2. About 6,000 vaccinations against smallpox were made.

1. Considerable number of drinking wells and latrines were reconstructed according to proposed designs.

2. Over 15,000 vaccinations were performed with about 3,500 primary "takes."

School Health

1. About 40,000 treatments were given to about 1,200 students.

2. Classroom instruction was limited to the children in the town.

1. About 53,000 treatments were given to 2,700 students resulting in marked reduction of physical defects.

2. Regular health training was extended to the remote villages of the research community.

Medical Relief

1. Full-time first aid service was available in 15 villages.

2. About 4,000 first aid treatments were given.

3. 20,000 treatments by physicians were given at the sub-district stations.

4. Two wards in the hospital

1. The service was extended to 34 villages.

2. 22,418 treatments were given.

3. Over 25,000 treatments were given, not including those given in dental and maternal clinics.

4. Three wards were open with

were used with 2,771 patient-days of care and 62 operations.

5. 2,410 specimens from the hospital were examined in the laboratory.

6,162 patient-days of care and 150 operations.

5. Over 5,500 specimens were examined, over 10 per cent of them from the sub-district health stations.

Maternity and Child Health

1. 27 "old midwives" were trained and supervised.

1. In addition, 4 younger midwifery helpers, the successors of old midwives, were given one-month course.

2. Birth control propaganda reached about 50 villages and men from 10 villages have come for advice.

It is clear that the activities of the Department have expanded both in quantity and quality during the last year, in spite of political and economic unrest. It is especially noteworthy that the expansion was not due to the sole efforts of the Department as an isolated unit, but rather to cooperation and coordination with other phases of the work of the Movement, with the local government, and with other organizations both within and without the district. The entire health system, including the Health Center, health stations, and health workers, is well within the economic reach of the people. The people's acceptance of it, however, depends on the effectiveness not of the health program alone, but of the all-round reconstruction program, raising the general intellectual and economic level of the people.