

## Public health classics

This section looks back to some ground-breaking contributions to public health, reproducing them in their original form and adding a commentary on their significance from a modern-day perspective. Elizabeth Fee and Liping Bu review WH Welch and W Rose's *Institute of Hygiene* of the early 20th century to help us consider the choices and options for the future of global public health education.

### Models of public health education: choices for the future?

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#### “II. THE SITUATION AND THE NEEDS IN AMERICA

In this country we are woefully lacking both in laboratories of hygiene and in opportunities for training in public health work. Three or four medical schools have hygienic laboratories, but none is complete, and adequately equipped and supported. Still other schools attempt something in the way of instruction in this subject, but it is all inadequate and unsatisfactory.

The need for supplying these deficiencies is at present the most urgent one in medical education and in public health work, and is recognized on all sides. The cry comes loudest from public health officials, social workers and others interested in public health administration, national, state, municipal and rural, who realize the lack of trained leaders and trained workers in all grades of the service. Here with the rapidly growing appreciation of efficient public health organization new and promising careers of useful service are opening from those who are qualified by ability, character and training. Scarcely less important is it for medical students and physicians who engage in practice to be well grounded in the principles of hygiene and of preventive medicine. Furthermore the advancement of knowledge in this field, the cultivation of hygiene as a science, is one of the great needs of this country and should be a fundamental aim of an institute of hygiene.”

For the full text of the paper by WH Welch and W Rose<sup>1</sup>, please see: <http://archive.rockefeller.edu/>

The result of deliberations between public health leaders and foundation officials was the Welch–Rose Report of 1915, which laid out the need for adequately trained public health workers and envisioned an “institute of hygiene” for the United States.<sup>1</sup>

The term “hygiene” was used to indicate the scientific basis of public health, as taught in the German institutes of hygiene, rather than the British term “public health”, which suggested a greater focus on administration. The remarkable design of an institute of hygiene, as detailed in the Welch–Rose Report, lay in the fact that it would be allied with, but independent of, a medical school in a university setting, and also independent of the structure of state public health services. Hence, the United States created a structure of public health education different from that of the United Kingdom or continental Europe.<sup>2</sup> The aims of the institute of hygiene were to train public health leaders and advance the knowledge of the sciences of hygiene, such as bacteriology, immunology, parasitology, physiology and epidemiology. Finding a balance between researching these scientific fields and teaching the more practical aspects of public health would be a source of ongoing tension within schools of public health.<sup>3</sup> This tension, embedded within the Welch–Rose Report, reflected the different preferences of the plan's two architects: William Henry Welch favoured scientific research, whereas Wickliffe Rose wanted an emphasis on public health practice.

Global public health in the beginning of the 21st century has been threatened by SARS, avian influenza, wars and bio-terrorism, to name but a few dangers. To deal effectively with new as well as existing public health challenges would seem to require an international army of qualified public health workers, as well as an educated public mobilized to deal with health hazards. A retrospective look at the different models of public health education and the creation of schools of public health in the early decades of the 20th century may help us to consider

the choices and options for the future of global public health education. Here we examine the creation of schools of public health in three locations: China, the United States of America and the former Yugoslavia.

In 1913, the Rockefeller Foundation sponsored a conference on the need for public health education in the United States. Foundation officials were convinced that a new profession of public health was needed. It would be allied to medicine but also distinct, with its own identity and educational institutions.

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In June 1916, the executive committee of the Rockefeller Foundation approved the plan to organize an institute or school of public health at the Johns Hopkins University in Baltimore, Maryland, USA. The institute was named the School of Hygiene and Public Health, indicating a compromise between those who wanted the practical public health training on the British model and those who favoured basic scientific research on the German model. Welch became the director of the school and was able to put his own ideas of a largely laboratory-based public health educational system into practice. But the Rockefeller Foundation urged more attention to public health administration, applied public health, short training courses and popular health education. The result was a negotiated compromise between Welch and the foundation. The school would offer short training courses for International Health Board officers and other carefully selected students, would increase curriculum time for public health administration and would make limited excursions into the field of health education for the general population.

In 1932, when the Rockefeller Foundation provided additional funds, the school worked with the Baltimore city health department to establish the Eastern Health District as a “population laboratory” for research and the practical training of students in field surveys and administrative methods. The school, however, remained research-oriented, with faculty and students turning out research publications at a rapid rate. The public health graduates from the school generally remained more interested in research and teaching rather than in the practical activities of public health.

The Johns Hopkins School of Public Health defined the model for other schools in the United States, despite some organizational differences among the programmes. One telling example was that the Harvard-Massachusetts Institute of Technology School for Health Officers, which had preceded the existence of the Hopkins school, was re-organized into a structure similar to the Hopkins model. It cut its ties with MIT and sanitary engineering, and moved over to the medical campus at Harvard University. This new Harvard School of Public Health opened in 1922 with an endowment from the

Rockefeller Foundation. Its building was next to the Harvard Medical School, and the dean of the medical school, David L Edsall, was also made dean of the School of Public Health.

The Rockefeller Foundation continued to sponsor the creation of public health schools around the world in the 1920s and 1930s, to extend the American model of the Hopkins school in many developing countries. The new school in São Paulo, Brazil, for example, was staffed with Hopkins graduates and even copied the exact architectural plans of the Hopkins building. But in the cases of China and the former Yugoslavia, the public health educational programmes sponsored by the Rockefeller philanthropies offered different models that were much more clearly oriented to the practical aspects of public health training and aligned to the social needs of these societies. These new types of public health education were developed by two remarkable public health leaders, John B Grant and Andrija Stampar.

In 1924, John B Grant created a Department of Public Health and Preventive Medicine within the Peking Union Medical College (PUMC). The PUMC had originally been built by the Rockefeller Foundation on the model of the Hopkins Medical School, to introduce a high level of scientific medicine into China. But Grant believed that preventive and curative medicine should be combined and practised within a community setting. In his lengthy proposal for a department of hygiene at PUMC, submitted in 1923 to the Rockefeller Foundation China Medical Board, Grant argued that “any artificial separation of curative and preventive medicine is detrimental to the efficiency of both” and that the “medicine of the future” required the “establishment of this combined curative and preventive medicine in a community in ... a real ‘health station’ ”.<sup>4</sup>

Grant was aware that China had neither a system of public health administration nor any professionally trained public health officials. The Chinese police were responsible for sanitation and hygiene. In this, they followed the Japanese practice, which was in turn modelled on an older German system of medical police. Western scientific medicine was just beginning to make its way into Chinese society. Grant was to train the first cadre of public health

officials for China, as the majority of his students subsequently occupied key leadership positions in public health.<sup>5</sup> Central to Grant’s innovative approach to the training of public health professionals was his collaboration with the Beijing Municipal Police in creating the Beijing First Health Demonstration Station in 1925, funded jointly by PUMC and the International Health Board of the Rockefeller Foundation.

Grant viewed the health station as essential to public health education, much as a hospital was to medical education. The health station, located in a population ward of almost 100 000 people less than a kilometre from PUMC, had three divisions: general sanitation, vital statistics and communicable diseases, and medical services. The latter division, intended for the teaching and investigative needs of the whole medical college, maintained a school health service for 1800 students, an industrial medical service for 1200 workers, and a health centre, including public health nursing services, for the whole population.<sup>6</sup> The health station also offered short training courses for traditional midwives and the municipal police. In 1929, this urban health station model was extended into rural areas when Grant sent his students to the county of Ding Xian (Ting Hsien) to work on rural health in Dr James Yen’s Mass Education Movement.<sup>7</sup> The students created a health station in Ding Xian, which provided affordable medical services to farmers, and, importantly, trained village health workers, the precursors of the “barefoot doctors” of Mao’s period.

In then-Yugoslavia, the Rockefeller Foundation sponsored the organization of the School of Public Health and Institute of Hygiene in Zagreb in 1927 under the leadership of Andrija Stampar. Stampar believed that, for public health to succeed, the entire population would have to enjoy “the benefits of hygienic culture”. The state should therefore be responsible for taking public health education out of the classroom and directly to the public with lectures, exhibitions, posters and distribution of relevant literature.<sup>8</sup> One of the many progressive characteristics of Stampar’s health work was the creation of a Peasants’ University, consisting of specially designed health seminars for rural villagers which were conducted for sev-

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eral months at a time in the School of Public Health. Stampar led the Department of Public Health of Yugoslavia to establish more than 250 health-related institutions, from central research and policy institutions to hundreds of health stations in rural areas.<sup>9</sup> Like John B Grant, Stampar was a versatile, charismatic and creative leader in public health education who paid close attention to popular as well as professional needs for health education. Both also encouraged the scientific study of health problems to solve practical problems.

The architects of these early schools of public health each elaborated, advocated and implemented their concepts

of public health education. While the American model emphasized scientific research, public health education in China emphasized community-based health stations offering both preventive and curative health services. In addition to more traditional training for public health officials, the former Yugoslavia highlighted popular health education and a Peasants' University to raise the level of health knowledge and understanding across a largely rural population. This suggests that there are many possible models for public health education. In the future, perhaps we will develop new and innovative models adapted to the needs of diverse societies.

Now that the flow of information and technology across national borders takes place at unprecedented speeds, the architects of future public health educational models should be able to innovate, compare the effectiveness of their programmes and learn from each other's successes and accomplishments more easily. ■

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