RAC RESEARCH REPORT

INDIA BATTLES INFLUENZA: A CASE STUDY ANALYSIS OF THE 1918 AND 1968 PANDEMICS

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Influenza, in its pandemic form, makes for a particularly informative historiographical case study. This disease, the severity of which is generally overlooked, continues to thwart our efforts to completely control it. What is even more remarkable is that the history of influenza in India has never been attempted, considering that the Great Flu of 1918 was alone responsible for an estimated twenty million deaths in the country. In 1968, a new virus that originated in China and spread rapidly via Hong Kong, was called the 'Hong Kong flu'. This pandemic prompted a flurry of new research on influenza epidemiology, but hardly any studies examine the 1968 flu pandemic, let alone a focused work on India. My research, therefore, aims to develop a comprehensive narrative of India's tryst with influenza in the wake of the 1918 and 1968 pandemics; a study that seeks to examine notions of power and control in terms of management of epidemics. Matters concerning public health would, of course, be crucial to an understanding of the interactions between the state, the medical profession and the public.

As I contemplated research on the flu, my attention was drawn to the Rockefeller Foundation's (RF) work related to public health in India. I was excited at the prospect of examining how the foundation perceived its role during the pandemics, especially at a time (1918) when the scope of international health was hardly defined, or when, as in 1968, the boundaries of international health were still being debated. I was hoping to trace the networks forged among institutions-

public and private, individuals and disease. These were times when the British colonial government in India had been reluctant to make great financial commitments in the realm of public health. But, this was also when private philanthropy came to play a significant role in propagating western medicine by funding medical education, hospitals, dispensaries, and even medical research. As such, the RF's presence in India, I believed, would offer an insight into private "unofficial" public health initiatives.

At the time of the RF's entry into India (in 1913), it was faced with a deteriorating public health situation. The colonial government was gradually withdrawing its responsibility for public health in the guise of the devolution of power to the provincial governments via the Government of India Act 1919. In effect, it meant the curtailment of expenditure on public health and transference of its control to the provincial governments that lacked the necessary finance and know-how. Also, colonial medicine was curative in nature and catered to the needs of the army and the white neighbourhoods. Under these circumstances, the RF intervention with its public health orientation was likely to have significant implications for India's health policy. The devolution of public health to the provinces necessitated the organization of public health departments on sound administrative principles. This need of the provinces coincided with the RF's offer to undertake various cooperative public health activities in the provinces which included disease control campaigns, the establishment of rural health units and training of public health personnel. The RF's offer of even partial support seemed attractive in the context of the colonial government's policy with regard to health, reflected in its decision to curtail public health expenditure citing economic constraints. RF's health intervention was carried out in two phases: Public Health — consisting of disease control programmes, demonstration health units and training of public health personnel (1919-1950); Medical research and education — which consisted of training of competent teachers and research workers, and encouraging research on the fundamental health problems of India (1951-1967).

I was interested in taking in the big picture in tracing the work undertaken by the Rockefeller Foundation's International Health Division (IHD) which was, prior to the founding of the WHO in 1948, arguably the most important agency of public health work in the world. Between 1916 and 1931 the IHD was engaged in surveys, education prevention and treatment of hookworm disease covering practically all of South India. The Foundation in cooperation with State and

provincial governments also carried out malaria surveys in Mysore (1927), Madras (1936), Pune and Sawantwadi (1937). To demonstrate effective public health organization and administration, the RF even established rural health units. But leadership was, of course, the key to understanding how the IHD worked. The answer to improving public health lay in the eradication of disease, all agreed; but there was a great deal of conflict over how to achieve that goal. Was the Sanitary Commission set up simply to eradicate hookworm and other diseases, or was it, as Wickliffe Rose (the first director of IHD) believed, a means to stimulate state and local effort to develop permanent public health agencies. From Rose's perspective, the Sanitary Commission was a means of awakening an interest in public health. But the three directors who followed Rose were physicians who could not be expected to attack a disease without believing that its eradication or control was the main objective. By 1920, there had been a marked shift away from Rose's vision for the International Health Board, moving increasingly towards eradication of hookworm as the major goal. Hookworm campaigns would now focus on the parasite and not on public health response.

Although the IHD was best known for its field campaigns against hookworm, malaria, and yellow fever, I was mainly interested in its support for laboratory-based research programmes. These dealt not only with yellow fever and malaria but also with other diseases. I wished to learn more about when research on influenza gathered pace. The general move towards research began in October 1928. Under the directorship of Dr.Fredrick Russell, there was an emphasis on scientific research to address fundamental problems of disease. Fred Russell's decision to expand the research effort of the Health Division was reflected in the decision to investigate diseases other than hookworm, yellow fever, and malaria. The diseases included the flu and common cold, rabies, syphilis and yaws, as well as tuberculosis. Influenza and common cold received the most funding. Because the causal agents were unknown at the time, both demanded research at the most basic level. In addition, they offered scope for vaccine research. In anticipation of this, the Health Division funded the research activities of Dr.Alphonse Dochez of Columbia University, formerly a staff member of the Rockefeller Institute. In the 1930s, Dochez even began to investigate the possibility of producing vaccines. Dochez's optimism faded when he discovered that a multiplicity of viral strains would severely complicate the production of vaccines. The Health Division was only too willing to take on the influenza-common-cold problem in offering financial support for Dochez's work at the New York laboratory.

Unfortunately, vaccine research was frustrated by the isolation of new strains of flu and cold viruses, and by the discovery that immunity against one strain did not confer immunity against others. Nevertheless, the Health Division continued its support for Dochez's work until 1945.

The RF Annual Report for 1940 included the details of a nomenclature with regard to various types of influenza which was decided upon by American and English investigators that year. Since the discovery that a virus pathogenic for ferrets could be recovered from patients with influenza, it had become recognized that influenza was not a single etiological entity. The disease caused by infection with any one of the various strains of the virus discovered by the English research workers, Smith, Andrews, and Laidlaw, in 1933, was to be termed influenza A. If any further viruses were isolated from the group that was not influenza A, they would be labelled influenza B, C, etc., and the responsible agents, influenza B virus, C virus, etc. The influenza A virus had, in fact, been originally termed influenza virus or epidemic influenza virus. Furthermore, the accidental discovery that a vaccine prepared from the tissues of ferrets infected with both influenza A virus and a special strain of canine distemper virus was effective in rendering ferrets immune to influenza A, had stimulated intensive study. The results obtained in ferrets were sufficiently interesting to warrant the trial of similar vaccines in human beings. However, the fact that humans cannot be infected readily by lab strains of influenza A virus made it impossible to test directly whether vaccinated individuals were immune to influenza A.

By 1948, the RF health programme was firmly rooted in its emphasis on pure research, advanced training, institutional development and working through universities. Research activities in India were, of course, expanded through the Virus Research Centre (VRC) in Pune, which was established in 1952 and has been maintained since then as a joint venture of the Indian Council of Medical Research and the RF. The Centre had been designated as a WHO Virus Collaborating Laboratory since 1966. The primary objective of the Centre was the study of arboviruses in India, their characteristics, distribution and role in the causation of human disease. In addition to the viruses of Japanese encephalitis, West Nile, Kyasanur Forest disease, Dengue, and Sathuperi definitely known up to 1963, other viruses were isolated subsequently: Chikungunya, Kaisodi, Balagodu, among others. Training of advanced scientific workers in virology and related subjects had been one of the functions of the VRC. In addition, the scheme of awarding research fellowships to suitable persons had been in force. While there are no records of work on

influenza at the VRC, given the dearth of archival sources for the post-colonial period in India, such materials on medical research has been particularly valuable.

If one is to evaluate the role of the RF in India, one of the criticisms levelled against it is that its emphasis was mostly on managerial and medical aspects and that it ignored social, economic and other such factors. However, it needs to be remembered that RF intervention was important for trying to shift focus on public health issues as against mere medical relief at a time when public health for the Indian population was receiving little attention. RF programmes stressed community participation and evolving economical methods for preventive purposes. That in itself was significant. Then again, the limited impact of the RF has been attributed to five specific reasons: a.) No defined and specific policy for India; b.) India was considered to be a laboratory for experimentation; c.) Differences with officials of the Indian Medical Service (IMS); d.) Federal structure – Constitutional and political constraints; e.) Financial constraints. It may be possible to suggest that for the RF, India offered an opportunity to test out some of its own experiments in preventive medicine and a field to demonstrate its methods. The RF was engaged in similar activity elsewhere and was perhaps attempting to establish the universality of their application.

Due largely to the uncooperative attitude of the colonial government, the Rockefeller Foundation could do little in terms of influencing medical policy in India, but it did demonstrate the importance of preventive health care while framing public health policy. RF officials complained about the lack of understanding about its programmes amongst the political leadership, administration and the reluctance of the government to bring about essential reforms in public health policy. Whether it was hookworm or malaria control, demonstration health units or training public health personnel, the government appeared to have done little to develop these, extend the programmes or even carry them through to their logical conclusion. There were instances when the RF faced outright opposition to its work or sometimes failed to get the desired cooperation. This was clearly noticed in the case of the anti-hookworm campaign in Madras where initially the local people were unwilling to participate though later they did. The RF's experience with the plantation owners can also be contrasted with their experience with estate owners in Ceylon where they were able to get more support than from those in Madras. None of the cooperating provincial governments attempted to replace existing health models

with those demonstrated by the RF or even bothered to develop health systems along RF lines. RF activities may have generated some curiosity but it is difficult to discern any particular trends in public health practice or research which could be attributed to RF activity. The RF set up seven demonstration health units all over India which continue till date as rural training centres attached to various medical institutions. Let alone continuing the activities introduced by the RF or meeting the original goals and objectives, these do not even appear to serve the purposes for which they are currently being used, namely, giving rural orientation to medical education or to develop the preventive aspect of health and medical care.

As regards the question of financial support, the RF cooperated with the governments with the clear understanding that the governments had to contribute their share in the programme. In reality, the governments tried to put forth the excuse of financial constraints to avoid meeting their obligation whether it was the actual programme or the commitment to continue the work after the RF withdrew. This happened with the hookworm programme, the malaria control campaign as well as the demonstration health units. The fact that the provincial governments now had Indian ministers did not appear to have helped much. Finance continued to be under the control of British officials. What contributed to the financial limitation was the federal structure of the government. The Government of India Acts of 1919 and 1939 devolved power to the provinces giving them a certain degree of autonomy from the Central Government, but this did not extend to finance. Provincial governments continued to depend on the Central Government in matters relating to finance. Even with the British dominated IMS, the RF had problems. There were instances where the IMS officers seem to have shown little understanding of RF principles and approach. Members of the IMS had two-fold problems which the RF officials noted. One was their reluctance and refusal to accept anything that did not originate in Britain, and the other was their lack of awareness of international trends. The federal character of the Government presented another limitation. There was no uniformity in the health structure and public health policy across the provinces, a problem which continues to plague the health sector in India even today. With these differences among the provinces, it was difficult to think of a public health policy for the whole of India. Yet another problem was that the responsibility for health planning and policy formulation was in the hands of generalist administrators who had little understanding of public health issues. Even today, generalist administrators lacking any grasp or vision about health problems or needs have failed the health services in India.

The experiences of RF officials and the activities of the foundation in India have indeed revealed much about how private initiative functioned alongside official programmes in the domain of public health practices. I would like to thank the Rockefeller Archive Center for offering me a research grant to access such important and interesting archival material. Time invested at the RAC in May 2013 will be invaluable in furthering my research on influenza. I deeply appreciate the assistance and suggestions provided by Bethany Antos. I also wish to thank Camilla Harris for her guidance associated with my visit to the Center.