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# KAREL RAŠKA AND SMALLPOX

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An Active Participant in the Eradication Program of Smallpox

In this paper, I would first like to make a few comments concerning Karel Raška and myself. When I entered the field of medicine, I became a regional epidemiologist. Therefore, I often met Professor Raška on a professional basis. In 1960, I passed my certification exams as an epidemiologist. As Professor Raška was the examiner, this led to a closer relationship.

Shortly thereafter, a large epidemic of viral hepatitis broke out in my region. The investigation was led by Professor Raška and his team. I managed to ascertain the cause of the outbreak and subsequently contributed to the containment of the epidemic. Within a week, Professor Raška asked me if I would be willing to work at the World Health Organization (WHO). This opened a new chapter in my career as an epidemiologist.

In May 1964, I found myself in the Global Headquarters of the WHO in Geneva where Professor Raška appointed me as a consultant in epidemiology with the Ministry of health at Kinshasa, Zaire. As there was a rebellion in Zaire at the time with the rebel army dominating most of the country, I was not very enthusiastic. However, the professor shrugged off my doubts and looked after me during my short stay in Geneva. He suggested that I concentrate in Zaire on the practical possibilities of variola (smallpox) eradication.

For years, smallpox had represented a curse for humanity because of the high mortality rate and the overall quick spread of the disease. Around 1800, the British physician, Jenner, confirmed that being infected with cowpox rendered one person immune even to smallpox. Jenner expressed his view that smallpox could be eradicated through universal vaccination. A number of scientists later endorsed this view. However, efforts to eradicate other illnesses, such as yellow fever and malaria, were unsuccessful. Smallpox, on the other hand, met all the criteria for eradication.

The WHO executive board had suggested the eradication of smallpox already in 1953 and every year after that. The efforts, however, were too modest. In 1958, the Soviet delegate suggested an elaborate plan based exclusively upon mass vaccination. Though there were still not sufficient financial resources, the plan was put into action. The plan was rethought and the final eradication program was approved by the WHO in 1966.

Over 100 civilized and developing countries managed to eliminate smallpox on their own. Elsewhere there existed what at the time appeared to be insurmountable problems due to lack of material resources as well as an absence of understanding on the part of respective national authorities. At this time, Karel Raška, already a significant authority at the WHO, and his colleague, Alexander Langmuir, an American epidemiologist at the Centers for Disease Control, agreed on the implementation in the eradication program of epidemiological surveillance methods, which both men had previously applied in their work.

Between 1964 and 1966, a new, surveillance encompassing approach to smallpox was being conceptualized. In Geneva, Raška

was constantly engaged in discussions with the WHO Director, Dr. Marcolino Candau, and the efforts bore fruit. Indeed, at the beginning of 1965, a new smallpox eradication unit was established along with a unit for epidemiological surveillance within the WHO Division of communicable diseases.

It is necessary to keep in mind that not all members of the international scientific community were in favor of a smallpox eradication program. In 1964, Raška faced fierce opponents and skeptics at the WHO and in the global scientific community at large. They feared that the work of the WHO could be discredited in the event the smallpox eradication program failed or they feared that the program would be unwelcome competition for efforts to eradicate malaria. Unfortunately, even the director general of the WHO, Candau, who otherwise was Raška's good friend and brought Raška to the WHO, was among the skeptics. Candau logically had a dual responsibility both to his country, Brasil, and globally. He was uncomfortable with the idea of vaccination teams roaming the Amazon forest facing poison arrows of the natives. However, Candau trusted the expertise of his friend, Raška, who vigorously defended the proposed program. Raška was given approval to initiate negotiations with the Americans. From that point onward, success or failure to attract support depended on Raška's efforts. Wasting no time, Raška immediately flew to the United States where he persuaded White House officials and the relief organization USAID of the feasibility of smallpox eradication and WHO management of the project. Raška also managed to gain Dr. Henderson for the WHO, a trusted colleague of Dr. Langmuir. Henderson, an internationally recognized epidemiologist, assumed the leadership of the smallpox eradication unit in the autumn of 1966.

What were the main issues at hand? The Americans had already promised to support the elimination of measles in French-speaking Africa through USAID. Thanks to Raška's powers of persuasion, they agreed to include smallpox eradication into measles elimination program and to expand it even for non-French-speaking African countries. This required only limited, but sufficient, funds. The next step was gaining American financial support for smallpox eradication in remaining countries. Raška calculated that the resources devoted to smallpox eradication in endemic countries would save the money previously required for smallpox prevention within three years after eradication would be completed. In his State of the Union address in January 1966, President Johnson announced that the United States would provide 65 million dollars in order to help realize smallpox eradication.

Therefore, the Czechoslovak, Raška, at the WHO, American money, and vaccination materials from the Soviet Union all played a role in the decisive phase of the smallpox eradication program. The beginning of final, intensive phase of smallpox eradication was thus underway.

As funding for the smallpox eradication program improved, the recruitment of other qualified epidemiologists intensified. Raška

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used his position at the WHO to ensure that as many top Czechoslovaks as possible would be involved. Already prior to 1970, Drs. Šerý, Markvart, Nedvídek, and Príkazský along with virologist, Dr. Slonim, arrived with me at the WHO to combat smallpox. They proved themselves valuable and laid the groundwork for the recruitment of 14 other Czechoslovak epidemiologists. After the Americans, the Czechoslovak group of experts was the second largest in the WHO smallpox eradication program.

Raška and Henderson prepared a detailed manual with basic principles for all endemic countries.

The program's main problem in the ensuing intensive phase between 1967 and 1977 was in the regions of Northern India, Pakistan, and Bangladesh. Leading national experts did not believe that smallpox could be eradicated from these respective regions. A special unit in Delhi led by Nicole Grasset managed things for the WHO. In 1971, Grasset initiated the Smallpox Recognition Card (with a picture of a smallpox-infected child) as a means to seek out unreported outbreaks. Initially, the smallpox reporting system in India had been set up in a manner such that it was impossible to ascertain how many infected individuals were present in any given place. If an acute case occurred somewhere, in reality it could have been the 50th case in the given area. Somebody who avoided being reported during the first week of his illness simply received a nametag OLD CASE and no longer interested the health administration. Deep religious convictions among the local population also worked against reporting of outbreaks.

In places like Zaire only hotbeds of infection received attention, not individual cases. Once surveillance was implemented, it became clear that some cases in remote regions went unreported because of a lack of paper. Government and provincial officials often had not been paid in years, so they had no means to purchase paper.

After 1968, Karel Raška's work on smallpox eradication was influenced by the Warsaw Pact invasion of Czechoslovakia. Raška publicly criticized the invasion both at home and abroad and after he returned permanently to Czechoslovakia, he was completely deprived of all positions in public health by the Minister of Health, Prokopec. Raška became an exile in his own country for the rest of his life.

It is a pity that Karel Raška was barred from educating medical students and future generations of epidemiologists. His lectures had been informative because he stated concrete cases of fighting infectious diseases.

Raška was also not allowed to publish at home. The main hygienist during the period in question wrote a letter to the editor of journal Vesmír that Raška's scientific capacity had declined and that there was no reason to publish his work. Even citing his work was discouraged. Unfortunately, some authors respected this banishment of Raška all too much.

The stage was thus set for the creation of a vacuum resulting in the forgetting of Raška's accomplishments at the WHO and his decisive role in the eradication of smallpox. Many others in the United States and elsewhere received recognition for the eradication of smallpox. Raška's merits have been forgotten.

Therefore, I welcomed the article published in 1988 by Dr. Henderson, who was the director of the active phase of the smallpox eradication program, which states the following: "Raška played an important role in gaining acceptance of a number of vital administrative and policy matters without which the program could not have succeeded".

Thanks to Raška, the eradication of smallpox was reliably planned, secured and implemented.

Therefore, in my opinion, no serious work concerning the eradication of smallpox can omit reference to Raška's primary and decisive merit for its realization and successful completion.