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Reprint from **"SWASTH HIND"** April 1975
Volume XIX No. 4, Pages 116 to 118

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It was in May of 1966 that the World Health Assembly voted unanimously to undertake the global eradication of smallpox. Eight years later we stand at the threshold of victory over this dreaded disease—the most feared and devastating disease known to mankind. In fact, there are today in the entire world less than 600 villages which have had one or more cases of smallpox during the preceding month (September). These villages are the danger spots from where smallpox would spread if the disease is to persist. If we were able today to prevent smallpox spreading further from this small number of villages, transmission would be stopped immediately and the global eradication of smallpox would be a reality. The number of infected villages is not large and the population of all the villages together is much less than one million persons.

GLOBAL SMALLPOX ERADICATION PROGRAMME

Dr Donald A. Henderson

May 1973 represented the major turning point in the global programme and the beginning of the final drive against smallpox. By then, the number of endemic countries had decreased from 30 in 1967 to only five. Many sceptics, who in 1967 had pronounced that the task to be impossible, found that they were wrong. They now believe that global eradication of smallpox was not a dream but a very real possibility.

And yet—as near as we are to global eradication and we have never been nearer—we face in the next few months the most crucial and difficult period of the entire global programme. What is achieved in this time, particularly in India, may be determining as to whether victory over smallpox, for which tens of thousands around the world have so diligently struggled for so many years, may at last be achieved.

May 1973, represented the major turning point in the global programme and the beginning of the final drive in which we are now engaged. The smallpox eradication programme was then six and a half years old. The number of endemic countries by then had decreased from 30 in 1967 to only five. The many sceptics from so many endemic countries who in 1967 had so solemnly pronounced that they knew their countries well and knew the task to be impossible, were finding over and over again that they were wrong. The appreciation had come that global eradication was not just a dream but a very real possibility. By May of 1973, South America had been more than two years without smallpox. During this time, surveillance teams had combed the country. No cases could be found and in August of that year, an international commission declared the disease to have been eradicated from the Americas. Africa by then had only two countries which were experiencing smallpox—Ethiopia and Botswana. Botswana has since become smallpox free. In Asia by that time, Afghanistan had become free of smallpox; all cases in Nepal were being traced to importations from India; and Indonesia had been able to detect no cases whatsoever for more than a year. (More recently, an international commission has confirmed the eradication of smallpox in Indonesia.)

In May of 1973, only three countries in Asia—Pakistan, India and Bangladesh—remained afflicted. The World Health Assembly that year took note of this progress and the fact that eradication had already been achieved in many countries where health services were the least extensive, where transport was the most difficult, where communication facilities were the poorest and where population density was the greatest. In brief, it was clear that eradication had already been achieved in areas considered to be the most difficult. It was also noted by the Assembly that the key to the success of efforts to-date had been the adoption of the strategic principle of surveillance and containment of smallpox outbreaks and the abandonment of the superficially attractive but by now thoroughly discredited older philosophy of mass vaccination and nothing more. The Assembly asked

that the remaining endemic countries and the Organization redouble their efforts to complete the task of eradication as soon as possible.

Each of the endemic countries did indeed give the programme a higher priority and last autumn, programmes in each of the remaining endemic areas increased markedly in tempo. In Asia, the programmes of active search were begun—first in India, subsequently in Pakistan and finally in Bangladesh. The results were impressive. Health workers of all categories for one week each month searched every village and eventually, door to door in the municipalities, in an effort to detect all outbreaks. Local, district and special teams then moved in to contain them as quickly as possible. If this search programme were fully effective. it is evident that transmission could be stopped within four weeks. But the system has taken time to develop and by spring, 1974, when it was beginning to function reasonably well in most areas, smallpox in many of the endemic areas had spread so widely that the number of outbreaks overwhelmed the capacities of local health staffs to contain them. Nevertheless, this approach—an approach which is possible only here on the sub-continent where health staff are so plentiful—was recognized by all to be an effective one. And to aid in strengthening efforts in the summer and autumn months, the WHO provided an additional $900,000 and Sweden more than $3 million. With these funds the activities were able to be steadily increased in tempo and since August they have been at maximum pitch. The results have been dramatic.

Pakistan, employing an all out emergency action programme and a reward which has now risen to Rs 100 for any outbreak detected, reported the last cases in October 1974 and has, for all intents and purposes stopped smallpox transmission. Nepal, so long besieged by importations from India, has continued to limit subsequent spread. Bangladesh is now detecting less than 50 cases per week and has now only 135 pending outbreaks—80 per cent of which are confined to two northern districts. Ethiopia is now detecting less than 30 cases per week in remote villages scattered over difficult highland terrain in two provinces. Two helicopters are operative to help cope with this problem area. One can best summarize the situation in these countries by saying simply that it is highly probable that all countries will be effectively smallpox-free during the first half of 1975.

India, during 1974 has reported 86 per cent of the world's cases of smallpox. Progress in India has been exceptionally rapid in recent months. The number of outbreaks has fallen more dramatically than anywhere else in the world and the intensity and extent of the programme is unprecedented in the history of the entire smallpox campaign. But, for success to be achieved, transmission must effectively be interrupted within the next 90 days—before the occurrence of the usual seasonal increase in the rapidity of spread of smallpox. This task will not be an easy one and the issue today hangs in the balance. The final battle now being waged in the Indo-Gangetic plain is a race against time. If successful—the final two-year period of search to confirm the absence of smallpox on earth could well begin in early 1975. India is clearly key to the success of this effort.

Based on a presentation at the National Institute of Communicable Diseases, October 1974, and revised to account for data at end 1974

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