



DA Henderson, Smallpox Eradicator

The world of public health and the world as a whole grieve the recent demise of Donald Ainslee Henderson, known to most as DA. Obituaries are appearing in a large and growing number of places. In addition to these highly deserved expressions of praise, admiration, loss, and grief, I would like to pay tribute to particular features of DA: his powerful strategic thinking and the wide array of skills he deployed to achieve the smallpox eradication goal.

To control smallpox had been on the international health agenda since 1948, but it was only in 1958 that a proposal was considered by the World Health Assembly to eradicate the disease from the planet.

It took the World Health Organization (WHO) eight more years to gather the support of its member states, many of whom doubted the likelihood of success of such an undertaking, attributable in no small part to the failures of several earlier attempts at disease eradication (including yellow fever, yaws, and malaria). It was therefore not until 1966 that the WHO, having gathered sufficient political support and some start-up funds, established a program aimed at eradicating smallpox. Even before 1966, DA, the chief of the Epidemic Intelligence Service at the US Centre for Disease Control (CDC) during the 1950s, was an early advocate of smallpox eradication. Therefore, he was promptly assigned by the CDC to WHO headquarters to lead a 10-year global eradication program (1967–1977) aimed at the simply spelled but immensely challenging goal, “Target Zero.”

The success of the campaign—zero cases of smallpox—was dependent on a number of factors: the strengthening of surveillance where the disease was endemic, particularly in Brazil and parts of Africa and Southeast Asia; the availability of good quality and stable vaccine; the ease of vaccine administration; human resources able to mobilize and enroll the participation of affected communities; and, of course, sustained political and financial commitment. Only a few of these

ingredients were at hand before DA joined the campaign. DA's charismatic personality and power to convince were critical to filling these gaps. Engaging with world leaders, reminding national governments of their duties to their own peoples and to the rest of the world, maintaining a high level of confidence among funding agencies, boosting the morale of field staff (particularly in cases of setbacks and burnout), as well as constructively confronting detractors of the campaign and those who were feeding it with substandard vaccines—DA was here, there, up and down, addressing the scientific community, honoring audiences with state presidents and kings, venturing to remote rural areas, spending endless hours in four-wheel drive vehicles on muddy roads, or sitting for many, many hours on sometimes hazardous flights. DA was the admired leader and the reference personality for scores of smallpox eradicators whom, regardless of nationality, political affiliation (much of the campaign coincided with the Cold War), cultural background, and position in the local hierarchy, DA prompted to speak out freely, share their experience, challenge the status quo, voice their claims, and, ultimately, suggest better ways of achieving Target Zero.

Many clinicians and biomedical scientists have had their names attached to a disease, a syndrome, a technique, or a scientific discovery, and their names are engraved in textbooks forever as such. This is seldom the case for public health giants like DA. Although his contributions to global health extended far beyond smallpox eradication, DA's life deserves to be attached forever with the death of a virus that he and the many people he inspired succeeded in wiping from the face of the earth. *AJPH*

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100 YEARS AGO

An International Comparison of Health Hazards in the Metal Mining Industry

[In the US metal mining industry] we find men working under conditions of heat and humidity that impair alike both their vitality and their output. . . . We have no laws to regulate the matter, either state or federal. In France the law limits the regular working temperature to 95 dry and 86 degrees wet bulb. . . . In Germany when the wet bulb is above 80 the shift is reduced from eight to six hours. . . . [But in this country] there is far too much work being done under conditions of heat and humidity that favor physical breakdown and consequent disease.

From AJPH, May 1916

50 YEARS AGO

The Urgency of Worldwide Smallpox Eradication

[A]ll of North America, Mexico, Central America, and the West Indies have been free of smallpox for over a decade. In the rest of the world . . . no smallpox cases . . . were reported [in 1964] for all of Europe, all of the USSR, Africa north of the Sahara, and much of the Middle East. Likewise no cases were reported in the entire Western Pacific region of the World Health Organization. . . . The improvement over the past can be considered only a temporary gain unless the campaign is waged to completion. . . . [O]utside pressure and assistance are needed, and . . . countries now free of the disease can best guarantee their continued freedom through such assistance.

From AJPH, October 1966