

sionals and volunteers who cooperated in a global effort to achieve that objective.

But we are also here to set new goals, to pledge ourselves to further efforts to combat those diseases which still plague mankind.

When the World Health Organization launched its worldwide eradication program in the year 1967, 131,000 cases of smallpox were reported in 42 countries. The challenge to WHO was great, and everyone involved knew that meeting that challenge would require an international effort of unprecedented proportions.

In the Americas, a concerted campaign to eradicate smallpox dates back to 1950 when the XIII Pan American Sanitary Conference endorsed the decision of the Executive Committee to focus on the dreaded disease. Progress was steady, and in 1966 the Pan American Health Organization signed agreements with the Governments of Argentina, Bolivia, Brazil, Colombia, Paraguay, Peru, and Uruguay to cooperate in a final effort to eradicate the disease. Colombia, Paraguay, and Peru reported their last smallpox cases the next year. Uruguay reported its last case in 1969, and Argentina announced the end of the disease in that country in 1970.

Only Brazil remained. In 1970 it still reported 1,700 cases, a significant reduction from the nearly 5,000 cases reported in 1967. A dramatic, coordinated effort made the difference: more than 83 million of Brazil's estimated population of 94 million were vaccinated. By 1971 only 19 cases were reported.

Those were the last confirmed cases of smallpox in the Americas. After exhaustive studies failed to turn up any further evidence of the disease in Brazil, the report of the Commission for the Assessment of Smallpox Eradication concluded in 1973: "To have eliminated widespread endemic smallpox in so short a time for so large a country through a

national program is without parallel in the history of modern public health."

Fortunately, a parallel achievement was soon to come, for in the wake of that success an even greater feat can now be celebrated. Through these past two years, for the first time in recorded history no naturally transmitted case of smallpox has been confirmed anywhere in the world.

The nations of the Americas join in celebrating the eradication of smallpox. But we are mindful that the elimination of one disease does not guarantee an acceptable level of health for millions in our Region or for people in other parts of the world. The victory we celebrate today is only a beginning, but it gives us confidence that together we can achieve far more in the years ahead.

In eradicating smallpox, we have demonstrated to all people that we can put aside our differences—religious, racial, national, and even political—to achieve a humanitarian goal. We have established a precedent for future cooperative efforts, and everyone understands the important task ahead.

As long as 700 million people are still malnourished, as long as the gap in life expectancy between the more developed and least developed countries is still 30 years, as long as diarrheal diseases still remain and kill millions of helpless children . . . our job is unfinished.

That is the reason we have each endorsed WHO's goal of 'health for all by the year 2000,' and the reason we have committed ourselves to work individually and collectively to that end.

Today we close a chapter in the history of world health, but we begin immediately to write another. We must dedicate all the talent and energy we have to the effort to secure health for all in this century so that our generation can leave, as its legacy, a healthier world."

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## Recent Influenza Activity

During the past year influenza has again been active throughout the world. Whereas parts of Asia, northern China, and the Soviet Union experienced small to moderate epidemics of influenza A(H3N2), Australia and

Japan were affected mainly by influenza A(H1N1). In North America epidemics of influenza B occurred this year, as they have nearly every third year in the past two decades. Scattered isolations of A(H3N2) and

A(H1N1) were also observed in the United States. European countries appeared to receive some spread of influenza A(H3N2) from the Soviet Union through Scandinavia and eastern Europe, as well as limited occurrences of influenza B and/or influenza A(H1N1).

These observations show that for three consecutive seasons (1977-1978, 1978-1979, and 1979-1980), influenza A viruses of two subtypes have circulated in the world at the same time. Most young persons have now experienced an influenza A(H1N1) infection, according to results of serologic surveys, but the viruses may continue to circulate either by infecting the small proportion of previously uninfected youths, re-infecting persons originally infected in 1977 or 1978 who now have decreasing immunity, and/or undergoing major antigenic drift. So far the latter has not been detected as recent isolates have been quite similar to A/USSR/90/77, or more commonly A/Brazil/11/78, in hemagglutination-inhibition tests with ferret sera.

Antigenic drift does appear to be taking place in influenza A(H3N2) strains, as judged by the occasional identification of variants like A/Bangkok/1 and 2/79 which show differences from A/Texas/1/77 in reciprocal hemagglutination-inhibition tests. It has been more common, however, to find that recent isolates are "bridging strains" that react equally with A/Texas/1/77 and A/Bangkok/1/79. Some isolates have also been found to exhibit asymmetric antigenic drift from both A/Texas/1/77 and A/Bangkok/1/79, e.g. A/Arizona/2/

The epidemic of influenza B in the United States during the winter of 1979-1980 was also caused primarily by new antigenic variants which showed drift away from the B/Hong Kong/5/72 reference strain. Two distinct variants were identified in hemagglutination-inhibition tests with ferret sera; B/Singapore/222/79 exhibited asymmetric variation from B/HK/5/72, and B/Buenos Aires/37/79 differed markedly from the

other strains in reciprocal tests. Identification of isolates was confounded, however, by the observation that a large proportion of viruses cross-reacted well with both the 1979 reference strains (e.g., B/Massachusetts/10/80). Because influenza B viruses were isolated more efficiently in tissue culture than in eggs. CDC routinely propagated the tissue culture isolates sent to the Center by growing them in MDCK cells. Analysis of the data has shown that cross-reactive influenza B viruses were very commonly found among MDCK cell-grown isolates but more rarely among egg-grown viruses. Thus, heterogeneity among influenza B strains may depend on both the virus and the host.

One unusual observation made in the United States has been the apparent production of hemagglutination-inhibition antibodies to influenza A(H1N1) strains in a proportion (up to 25 per cent) of individuals who experienced only influenza B infections as judged by confirmatory virus isolations and complement-fixation antibody titer rises. Thus, cases are seen of persons exhibiting antibody titer rises to influenza A(H1N1) and influenza B by hemagglutination-inhibition testing, but to only influenza B by complement-fixation testing. These observations have been made in the absence of recognized influenza A(H1N1) virus isolations in the community, and in older persons not normally infected with influenza A(H1N1) in recent years. Heterotypic antibody response to influenza A(H1N1) caused by influenza B infection therefore seems the most reasonable explanation, although this phenomenon is not known to have been previously reported for man.

(Source: Noble, G.R., and A.P. Kendal, United States Center for Disease Control/WHO Collaborating Center for Influenza, Atlanta, Georgia)

## Tuberculosis in Costa Rica

Costa Rica has an estimated population of 2,312,000 inhabitants (1980). Children under 15 years of age account for 40.6 per cent of the total. Birth and infant mortality rates are low and life expectancy is high.

As may be seen in Figure 1, in the last 40 years the incidence of tuberculosis as well as tuberculosis mortality has steadily declined. The notified incidence/mortality ratio fell from 0.8 in 1945 to 0.1 in 1979. Although