

A vintage childhood vaccination card

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Hong Kong's childhood immunisation programme is crucial for reducing infant mortality and controlling many once-common childhood diseases. In 1948, Hong Kong's government implemented a free childhood immunisation programme against tuberculosis (the Bacillus Calmette–Guérin [BCG] vaccine), diphtheria, tetanus and pertussis.¹ Following the opening of new Maternal and Child Health Centres in the 1950s,² greater vaccine research and the World Health Organization's approval of new vaccines, further immunisations, such as those protecting against poliomyelitis (polio) and measles, were included in the 1960s.¹

This immunisation record shown in the Figure was issued by Tsan Yuk Hospital to a girl born there in 1963. It documents the various vaccines the girl received as a child. According to this record, she received the BCG vaccine a few days after birth; the smallpox vaccine within her first month; two doses of the polio vaccine, 1 month apart, at about 8 and 9 months old and three doses of the diphtheria vaccine at 8, 9 and 10 months old. There is no indication

that she received the typhoid, paratyphoid A and paratyphoid B (TAB) vaccine though this was offered to school children and the public at that time.³

General infant vaccination has successfully eradicated smallpox worldwide. In 1890, Hong Kong's Vaccination Ordinance was enacted, legally requiring all infants to be vaccinated against smallpox before the age of 6 months.⁴ The 1923 Vaccination Ordinance further mandated that every child born or brought into the territory had to be vaccinated against the disease within a specified period.⁵ Yet in spite of this legal requirement, the initial public response was poor because many Chinese people believed that a child should experience two Chinese New Years before receiving vaccinations.⁶ In 1946, postwar Hong Kong experienced almost 2000 smallpox cases,⁷ but thanks to extensive vaccination campaigns, the disease was gradually wiped out. The last recorded case occurred in 1952,⁸ and Hong Kong was declared smallpox-free in 1979.⁷ On 8 May 1980, the World Health Assembly announced that the disease had been eradicated globally and recommended countries cease vaccination.⁹ Hong Kong removed the smallpox vaccine from its required childhood immunisation programme in 1981.⁷

Following smallpox, polio is on course to be the second infectious disease eradicated worldwide.¹⁰ An oral polio vaccine, comprising three types of virus (types 1, 2 and 3), was added to Hong Kong's childhood immunisation programme in 1963¹¹ and was replaced with an inactive viral vaccine in 2007, which was less likely to cause complications.¹² Before the implementation of vaccination, Hong Kong had 200 to 300 polio cases per year.¹³ After, the incidence of polio dramatically reduced⁷ to the point that Hong Kong was declared polio-free in 2000.¹⁴ However, due to low vaccination rates in other corners of the world, the disease has yet to be fully eradicated.¹⁰

Another vaccine, the BCG protecting against tuberculosis, was developed in 1927 and introduced into Hong Kong's immunisation programme in 1952 with the assistance of the United Nations International Children's Emergency Fund and the World Health Organization.¹⁵ Initially, a mass vaccination campaign focused on young people aged <15 years and newborn babies. Subsequently, newborns were routinely immunised and primary school children were revaccinated if they failed

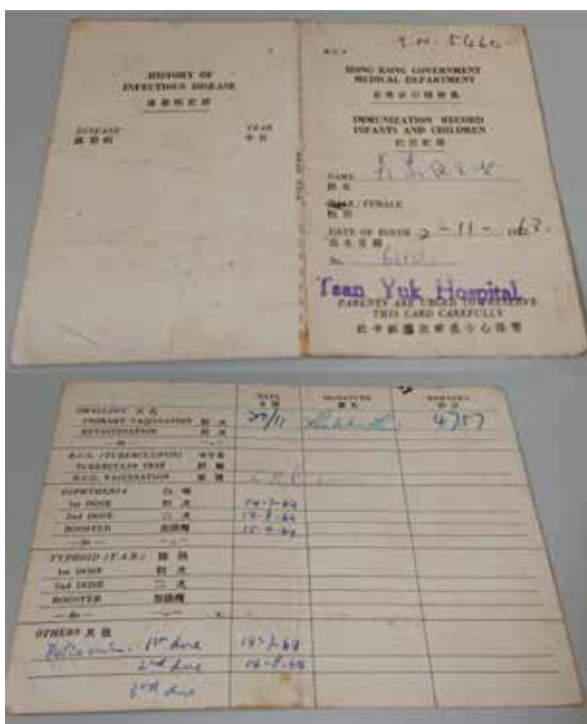


FIG. Immunisation record of a child. Donated by Mr YW Fung to the Hong Kong Museum of Medical Sciences

to react to the tuberculin skin test.¹⁶ However, the revaccination programme was discontinued from the school year 2000/2001 onwards based on the available scientific evidence.¹⁷ Currently, only the BCG is administered at birth. Since the BCG's introduction, both the notification rate of tuberculosis and infant mortality from the disease have steadily declined.⁷

The first vaccine against diphtheria was developed in the 1920s.¹⁵ Nonetheless, Hong Kong experienced around 200 cases of this bacterial infection, half of which proved fatal, annually between 1928 and 1940.⁷ Indeed, the incidence of diphtheria notably increased after the Second World War,¹⁸ peaking in 1959 with an excess of 2000 cases despite the availability of free immunisation at infant welfare centres, public dispensaries, hospitals and schools prior to 1952, and free annual immunisation campaigns targeting children aged between 6 months and 10 years from 1952 onwards.¹⁸ A major breakthrough in the battle against diphtheria occurred in 1959 when the immunisation campaign adopted a house-to-house approach to ensure no children were overlooked.⁷ Consequently, the number of diphtheria cases has fallen drastically since 1960, and the last fatal case was reported in 1982.⁷

Enteric fevers (typhoid and paratyphoid) are life-threatening infections spread by contaminated food or water. The first vaccine against *Salmonella typhi* was developed in 1896 and became widely used from 1911.¹⁹ The TAB vaccine was produced locally in Hong Kong by the then Bacteriological Institute as early as 1920^{16,20} and later by the Institute of Immunology.⁷ During the early 1950s, the disease was prevalent in the territory, with >1000 cases annually. The TAB vaccine was offered to the public throughout the 1950s and 1960s, and

annual campaigns, preceded by publicity, intensified between May and July.²¹⁻²³ As a result, the number of cases decreased substantially.⁸ Following the World Health Organization's advice, in 1981, the TAB vaccine was replaced by the monovalent typhoid vaccine and was only indicated for individuals deemed high risk, such as those who lived with a typhoid carrier or who were travelling to specific areas.⁷ Currently, with the improvement in general hygiene in Hong Kong, typhoid vaccines are only required for those visiting other areas where typhoid is endemic, particularly long-stay travellers and those visiting rural regions where food and beverage choices may be limited.²⁴

Since the childhood immunisation programme's inception, other vaccines, such as those against rubella, mumps, hepatitis B, chickenpox and human papillomavirus, have been added.²⁵ The programme has consistently achieved high coverage rates of >95% for various vaccines in preschool children.²⁶

Since 1992, the Advisory Committee on Immunisation, comprising immunology and public health experts, set up under the Department of Health has reviewed Hong Kong's immunisation strategy and advised the Director of Health regarding the childhood immunisation programme.²⁷ This was replaced when the Centre for Health Protection—under the Director of Health—was established in 2004,²⁸ and the Scientific Committee on Vaccine Preventable Diseases assumed the role of the Advisory Committee on Immunisation.²⁹

Nowadays, digital vaccination records stored and accessed via the eHealth mobile app have replaced physical immunisation record cards, thereby saving the trouble of handling paper records and avoiding losing this vital information.³⁰

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