As New Zealand began to mobilise its military forces in 1940 it became apparent that at mobilisation camps there were a number of soldiers who required long term medical attention in order that they could convalesce from various illnesses or injuries sustained during their training. A plan was put in place to create a convalescent depot at each of the mobilisation camps of Trentham, Burnham and Papakura camps.

A small facility of between 300 and 400 beds with rehabilitation and recreational facilities was planned for Trentham. The Government had previously secured land at Silverstream, on a hill overlooking the Taita Gorge where it was intended that it could be a tuberculosis sanatorium. This land was identified as suitable for the convalescent depot.

Work commenced in September 1941 by the Ministry of Works. The depot had a planned floor area of 65,000 square feet. However before it was completed the Japanese entered the war in December 1941 which required a complete re-think of New Zealand’s defence posture and facilities.

With the arrival of US Marine forces in the Wellington region, the need for a military hospital to cover their needs became apparent. In May 1942, just as the convalescent depot was becoming completed, the Government decided to hand over the facility to the US Navy for a hospital complex. The US Navy reviewed Silverstream convalescent depot and planned a significant expansion to provide for additional facilities and a total bed space of 1,200 beds. In total the complex was expanded to 41 acres of land and 46 buildings totalling 143,000 square feet. The hospital was occupied on 8 August 1942 when the US Navy Mobile Hospital No. 6 (MOB-6) arrived. The MOB-6 totalled 33 officers and 319 enlisted men. An additional 40 US Navy nurses arrived in 1943.

To cater for the heavy casualties from Guadalcanal and Tarawa and illness, primarily malaria, the hospital expanded by creating 360 additional beds at the Wellington Racing Club at Trentham racecourse. In 1943 the name of the hospital was changed to US Navy Base Hospital No. 4.

Due to the Allies success against the Japanese, the war moved northwards and the number of casualties sent to New Zealand significantly decreased and Base Hospital No. 4 closed on 16 May 1944, prior to moving to New Caledonia and later Okinawa. During the period that to US Navy operated the hospital at Silverstream, over 20,000 US personnel were treated.

In 1943 the Wellington Hospital Board had planned for a potential Japanese invasion of the Wellington area and as a precautionary measure had moved geriatric and long term patients to the Levin and Horowhenua areas. In November 1944 the Wellington Hospital Board leased the Silverstream Hospital from the Government and transferred these patients back to the Wellington area. In the immediate post war period patients were admitted for treatment of tuberculosis and polio. As a number of children were treated at Silversea for polio a number of school classrooms had to be established. Upper Hutt Primary School operated a class at the Hospital from 1950 until 1954. The demand for education for children changed as the immunisation programme for various diseases became effective. As the hospital possessed relatively advanced facilities such as hot pools and specialists orthopaedic and physiotherapy staff, this capacity was used by local General Practitioners to treat Upper Hutt residents. Over the period of 1970s and 1980s the average patient numbers were 240, however the old design of the hospital buildings and increasing maintenance bills to maintain the facility, forced its closure on 30 June 1986.