This study focused on identifying the trend of acute hepatitis B (AHB) incidence after 25 years of a universal newborn hepatitis B immunization program in Taiwan and evaluating the need for a booster vaccine for cohorts who received the HBV vaccination in infancy. Since 1984, Taiwan began to immunize high-risk newborns. However, the universal vaccination of hepatitis B started from 1986. The study results found the vaccination coverage rate of HBV reached 86.9-98.0% in the cohort after 1986. Nationwide AHB incidence declined from 1.76/100,000 in 2001 to 0.89/100,000 in 2008. The highest average incidence was at age 25-39 (2.33/100,000). The lowest average incidence was at age 1-14 (0.04/100,000). In overall, the vaccinated cohort had lower risk to get AHB infection than unvaccinated cohort during age 15-24 (rate ratio: 0.42, 95% CI: 0.28-0.62). In addition, AHB incidence at age under 14 was quite low in the last decade. Our results suggested that there was no urgent need to consider booster hepatitis B vaccinations for the vaccinated cohorts, but for the 25-39-year-old age group and the infants born from mothers with HBV infection were needed to enhance vaccination program.