

Hepatitis Control Program Phase V

A. To Administer Hepatitis A Vaccination:

- a. To provide young children aged 2 and older in 39 towns of 12 counties/cities (including 30 mountain regions and 9 areas that are near by the mountain regions) with free hepatitis A vaccination. In addition, the mini-Three Links with China, which have greatly increased personal contacts and commercial exchanges between the two sides of the Taiwan Strait, might lead to the importation of hepatitis A virus from China and threaten the health of children in Taiwan. Therefore, free hepatitis A vaccination is being carried out for children aged 2 and older in Chinmen and Matsu regions.

The Department of Health has consistently administered hepatitis A vaccination on young children between 15 months old and grade 6 in the 30 mountain regions and for preschoolers in the 9 areas near by the mountain regions since June 1995. The incidence of acute hepatitis A at these mountain regions had decreased from 90.7 in 100,000 aboriginal population in 1995 to 1.0 in 2006, which illustrates the effectiveness of such administration.

- b. Nowadays international travels and all types of cross-strait exchanges have become more frequent. The government therefore needs to target its educational campaign at individuals traveling to areas with high prevalence of hepatitis A, such as Africa, Asia and South America, with special attention being paid to those visiting Mainland China and Southeast Asia countries for business or recreational purposes. In addition to traveler education on personal hygiene and food and water safety, visitors without antibodies to the hepatitis A virus are asked to be vaccinated before departure. According to a research conducted in Taipei City in 1999, only 5% of the population between 1 to 20 years old have hepatitis A antibodies, while the percentage increases to 50% for age 21 to 30. This reveals that most people younger than 30 years old do not have hepatitis A antibodies. To prevent the spread of hepatitis A, it is necessary to strengthen health education on hepatitis A for people less than 30 years old.

- c. Measures for hepatitis A prevention and control among restaurant workers are as follows:

To strengthen review of hepatitis A test results among restaurant workers and encourage vaccination for those who have not yet had antibodies. To develop a database for tracing and managing restaurant workers found without antibodies and still unvaccinated after one year in order to effectively control hepatitis A.

- d. Hemophilia:

In light of the possibility of hepatitis A infection through blood transfusion, the Department of Health offers free hepatitis A vaccination to Hemophilia patients who do not have hepatitis A antibodies. This project was implemented on December 15, 2004, and is expected to run till the end of 2005. The administration was made possible through the help of the Hemophilia Association of Taiwan, which conducted a survey to name 18 hospitals regularly visited by the patients as partner hospitals for the program.

B. To Continue the Administration of Hepatitis B Vaccination

- a. To complete calculation of hepatitis B vaccination coverage for children born in 2005. The vaccination coverage for the second and third doses of hepatitis B is 97.6% and 95.4% respectively.
- b. To implement hepatitis B vaccination and prenatal hepatitis B(HBsAg、HBeAg) screen for pregnant women, the data from January to December 2006 showed that the screening rate is 88%.
- c. To review vaccination records of grade 1 in elementary schools and complete appropriate vaccination. This vaccination review found that hepatitis B vaccination rate was 99.6% for the second dose and 99.2% for the third dose in 2006.

C. To Prevent and Control Hepatitis C

Although the prevalence of hepatitis C in Taiwan is around 3.84%, many researchers find that the incidence of hepatitis C in certain regions appear to be higher than the national average. These regions are mostly along the coastline of central and southern Taiwan and in some aboriginal communities. For example, it is as high as 24.3% for the age group of 30-64 years old in Baisha township of Penghu county, 55.1% for the age group of

40 and older in Taisi township of Yunlin county, 30% in some communities in Shueilin township. Besides, Chiayi city, Chiayi county, and Tainan county are all considered high prevalence areas. Due to the fact that some infections of hepatitis C occur through blood transfusion, all blood at blood donation centers must go through hepatitis C screening before it could be use for transfusion since July 1992. Hence, the possibility of infection through such avenue has become very low. In addition to promoting health education, the Department of Health has placed focus on hepatitis infection through substance abuse. Also, the treatment for hepatitis C has become more mature and its outcomes have received professional affirmation. Hence, the Department is eagerly pressing on with the “Trial Program for Enhanced Hepatitis B and C Treatment under the National Health Insurance Scheme”, in the hope of preventing the occurrences of liver cirrhosis and Hepatoma.

D. To Implement Health Education on Hepatitis Prevention and to Supervise Health Education Activities by local health bureaus

In addition to health education through the electronic and print media, it is necessary to design different communication approaches for different populations in order to improve people’s knowledge of hepatitis and to prevent infections.

E. Supervise Quality Control of Blood Transfusion Screening and Hepatitis Screening

- a. Provide guidance for quality control for blood donation centers :
 1. To subsidize the Chinese Blood Service Foundation in implementing the “Blood Supply Quality Improvement Program”, which aims to upgrade blood supply equipment in blood donation centers, improve quality of blood supply, strengthen the knowledge and skills of staff, and improve service quality.
 2. To subsidize the Taiwan society of Blood Transfusion Association in conducting the fifth survey of blood donation organizations, for which councilors are contracted to conduct field inspections at six blood donation centers, 13 blood donation stations and 8 blood donation vans /rooms. These facilities will be required to provide improvement plans for the deficiencies found based on the

councilors' recommendations.

3. To provide guidance on quality control for blood banks in the hospitals: To subsidize the Mackey Memorial Hospital in implementing the "Blood Bank Consultation Laboratory Program", which aims to assist medical institutions in improving the quality of blood bank operation , blood bank problem solving, and in-service training for staff, in order to enhance blood transfusion safety.
- b. Proficiency testing has been carried out for hepatitis B screening at health centers and "designated hospitals for foreign labor health check-up", with the results showing a 100% screening accuracy for HBsAg and HBeAg at health center laboratories and a 98-100% screening accuracy for HBsAg at "designated hospitals for foreign labor health check-up".
- c. To participate and achieve good results in the external quality control assessment for viral hepatitis screening, which are conducted by the College of American Pathologists (CAP) and the Serology Quality Assurance Program.

F. Develop a National Standard Hepatitis Diagnosis Reagent and Blood Serum Kit

- a. Manufacture and stockpile National Standard HBV DNA.
- b. Manufacture and stockpile the National Standard HCV DNA Diagnosis Reagent for serum Kits.
- c. Manufacture and stockpile National Standard HCV DNA.

G. To Conduct Research on Hepatitis Control

Authorize relevant medical academic institutions to conduct research on the following hepatitis control issues. The major focus areas are as follows:

- a. In order to understand how long immunization could stay in effect and when to give the next dose, a 7-year longitudinal research on children's hepatitis B markers and a study on hepatitis B antibodies and immunological memory 15 to 18 years after vaccination have been carried out.

- b. To conduct research on issues related to the development of chronic hepatitis B, C, D and new types of viral hepatitis in Taiwan, such as their molecule epidemiology, abnormal mechanism, ordinary clinical history and treatments.
- c. To conduct research related to the “Trial Program for Enhanced Hepatitis B and C Treatment under the National Health Insurance Scheme” to act as references for large-scale implementation and policy making in the future.
 - 1). To evaluate the treatment outcomes of the “Trial Program for Enhanced Hepatitis B and C Treatment under the National Health Insurance Scheme”.
 - 2). To compare the differences in treatment with lamivudine outcomes, reoccurrence and incidences of drug resistance among HBeAg positive of chronic hepatitis B patients.
 - 3). The indicator for evaluating deterioration from chronic hepatitis B to hepatoma through Pre-s Hepatitis B virus mutation.

To summarize significant research findings: After the implementation of universal hepatitis B vaccination, the 7-year longitudinal research on children’s hepatitis B markers found that when the vaccination was implemented in infancy, the long-term efficacy against chronic HBsAg could be maintained until the age of 14. However, it does not offer full protection against infection with isolated anti-HBc seroconversion, especially when the anti-HBs titer in serum falls to low levels. Yet routine booster vaccination for maintaining immunological memory or for protection against infection of chronic hepatitis B virus may not be necessary before age 15.

H. Develop “National Immunization Information System” (NIIS)

As for improving the coverage of hepatitis B vaccination and related vaccine management, a sub-system was built into the “National Immunization Information System” (NIIS) in 2004 for better management of the central database. The sub-system includes platforms for accessing other information systems, system transformation function, immunization management tools, search engines, e-training and related services to improve the efficiency of practical management.

I. To Implement "Trial Program for Enhanced Hepatitis B and C Treatment under the National Health Insurance Scheme"

There are approximately 2.5 million hepatitis B carriers throughout the nation and approximately 700 thousand people with hepatitis C infection. In order to reduce the prevalence of liver cirrhosis and hepatoma through providing treatment to those infected, the Bureau of National Health Insurance invested NT\$2080 million in 2004 and NT\$1187 million in 2007 to implement the "Trial Program for Enhanced Hepatitis B and C Treatment Program under the National Health Insurance Scheme." This is also the first initiative around the world to provide free medication to patients of hepatitis B and C. During the period from October 2003 to December 2006, there were a total of 33,017 cases, among which 21,074 cases were hepatitis B and 11,943 cases were hepatitis C.