

For some high-risk groups, depending on relevant provincial programs, immunization can be obtained at a public health clinic at no charge. However, for many, perhaps most, Canadians the price will be substantially higher than the lowest current price of bulk-purchased vaccine. For example, in British Columbia, an individual can purchase the vaccine through a pharmacy and have the inoculations done by his/her family physician without charge under the provincial health-care plan. An informal survey of prices at Vancouver pharmacies indicated a price range for three doses of vaccine between \$102.49 and \$132.

The Sub-Committee has evidence indicating that the cost of hepatitis B vaccine is significantly lower in some other countries than it is in Canada. In New Zealand, for example, which has a universal immunization program against hepatitis B, information from the Department of Health in Wellington states that cost per course of three doses of recombinant vaccine purchased in bulk by the department is less than \$10 NZ. (At current exchange rates this would be less than \$7 Canadian.) This 10-fold price differential is very difficult to understand. Testimony from Mr. Evans states that the price of the vaccine is "volume-sensitive"; that is, the larger the volume purchased, the lower the price per unit.¹⁴

An important factor in the price of the vaccine is the fact that the patent for the viral genetic sequence used to produce the vaccine in yeast is held by a single company, Biogen Inc. of Cambridge, Massachusetts.¹⁵ There is no "generic" brand of hepatitis B vaccine and, given the fact that the production technology is extremely advanced, there may never be. Also, vaccine quality control apparently is a high-cost component of the production process, and this will probably not decrease significantly in the future.

There are two multinational pharmaceutical companies that have received a notice of compliance (that is, government approval) for the hepatitis B vaccine in Canada; SmithKline Beecham Biologicals and Merck, Sharp and Dohme. Neither company produces the vaccine in Canada. Dr. A.J. Liston, Assistant Deputy Minister of Health and Welfare Canada's Health Protection Branch, stated that the two companies market their vaccine on a world-wide basis.¹⁶ This fact makes the large price differential between Canada and New Zealand very difficult to comprehend.

Mr. Evans, and several other witnesses, testified that the price of vaccine is a function both of the volume purchased and of negotiations between the manufacturer and the purchaser.¹⁷ In Canada, the provincial governments must make the decision about specific immunization programs within their jurisdictions although the federal government may offer advice as well as data on which to base decisions.

In their study of hepatitis B immunization programs, Krahn and Detsky also state that vaccine price is a function of volume purchased:

The prospects of progressive reduction of price .. are good. As with many pharmaceutical products, the ratio of development costs to marginal production costs of Hepatitis B vaccine is high. Pricing policies, therefore, are at least partially determined by volume of usage. Negotiations between policymakers in Canada and pharmaceutical manufacturers have revolved around this issue:

¹⁴ *Proceedings*, Issue 3, p. 12.

¹⁵ *Proceedings*, Issue 3, p. 10.

¹⁶ *Proceedings*, Issue 1, p. 29.

¹⁷ *Proceedings*, Issue 3, p. 17.