

THE VALUE OF vaccines

By Chris von Heymann

Despite sometimes painful costs, companies might find an ounce of prevention is worth a pound of cure.

MANY HEALTH EXPERTS tout vaccines as one of the most important and beneficial medical innovations of all time. Health policy in Canada has historically supported this notion by providing public immunization programs for routine childhood vaccinations, which have virtually eliminated once life-threatening diseases such as polio and measles. Even within the public healthcare system, however, vaccines are not universally covered. Travel vaccines and others deemed non-essential are either paid out-of-pocket by the individual or covered through private plans.

For plan sponsors who offer vaccine coverage, this benefit has traditionally represented a small percentage of the overall drug plan budget. However, in recent years, we have witnessed a significant increase in vaccine spending—in some cases as much as a 1,000% increase. Many wonder what is driving the cost upwards and some even question whether they should continue to cover these products altogether.

A number of factors have contributed to cost increases:

the introduction of new childhood vaccines, significant increases in the price of some vaccines, and increased awareness and promotion of the flu shot.

CHILDHOOD IMMUNIZATIONS

The introduction of new childhood vaccines has had the greatest cost impact on benefit plans. There are nine standard childhood vaccinations that are administered and paid for by the public health system: diphtheria, tetanus, pertussis (whooping cough), measles, mumps, rubella (German measles), polio, Haemophilus influenza b (Hib) and hepatitis B.

Recently, four new vaccines have been introduced that are costly and not uniformly covered in all provinces. Consequently, the cost burden is being borne by the private sector in provinces where these products are not covered by a public immunization program.

The chart on page 61 is an overview of the new childhood vaccines. All cost approximations mentioned in this section include a 10% pharmacy mark-up and customary pharmacy professional fees.

Menomune-A/C/Y/W-135 and Menjugate

Meningitis is an inflammation of the lining of the brain. It is a severe and often fatal condition caused by an invasive meningococcal or pneumococcal bacterial infection. According to Health Canada statistics, the reported incidence of meningococcal disease in Canada ranges between 200-300 cases annually, with about 40% of cases seen in infants and children under the age of four. Mortality has varied between 5% and 15% of cases.

There are several different subtypes of the bacteria causing this disease. In recent years, meningococcal diseases caused by subtype C have been a major public health problem in

North America and largely responsible for the much-publicized clusters and outbreaks in Canadian schools and communities. The risks posed by other strains, such as subtype Y, have also increased in prevalence in the U.S. and in Ontario in recent years.

To prevent this disease, two new vaccines have been developed. Menomune-A/C/Y/W-135 is a meningococcal-combined vaccine which covers against four different subtypes of meningitis (A, C, Y and W). Menjugate is a meningococcal vaccine that only prevents subtype C. Complete immunization with Menomune consists of a single dose and costs approximately \$125, while complete immunization with Menjugate requires a total of three doses and costs approximately \$340.

Prevnar

Prevnar is a pneumococcal conjugate vaccine that protects against seven different subtypes of pneumococcal disease including: pneumonia, bacteremia (an infection of the blood), bronchitis, otitis media (middle ear infection), sinus infections, and pneumococcal meningitis. Studies have shown that these seven subtypes account for about 86% of all pneumococcal ailments in Canadian children aged six months to five years. Immunization with Prevnar requires four doses and costs approximately \$395.

Varivax III

Varivax III is the latest version of the vaccine to protect against varicella zoster, or “chicken pox.” On healthy children and adults the vaccine’s efficacy is estimated to be approximately 70% to 90% and lasts in the system for seven to ten years. Complete immunization for children 12 months to 12 years of age consists of a single dose and costs approximately \$75; a second dose is recommended for individuals who receive their first dose at 12 years of age or older.

PRICE INCREASES

Aventis Pasteur Canada, the primary manufacturer of vaccines in Canada, increased prices on several products by as much as 287%, effective July 1, 2001. The company raised prices for all older vaccines sold in low volumes to reflect rising costs associated with regulatory compliance issues. While these increases represent a substantial jump in price, they were primarily applied to travel vaccines. Due to a relatively low utilization of these products by plan members, cost increases have had only a minor influence on the overall cost increase for vaccines.

INFLUENZA VACCINATIONS

Health Canada estimates that 10% to 20% of adults and up to 40% of children contract influenza each year. The actual composition of the vaccine against the influenza virus is determined by the predominant strains circulating worldwide and may change on a yearly basis.

Awareness and promotion of influenza immunization has increased over the past few years through news media and public service announcements encouraging people to get a “flu shot.” Only Ontario and the Yukon have public immunization programs that pay for universal vaccination. In all other provinces, the financial burden is the responsibility of the private sector, either through a private drug plan or as an out-of-pocket expense to the individual.

PLAN SPONSOR CONSIDERATIONS

Plan sponsors must first verify their drug plan to determine whether vaccines are covered. Within the drug plan, vaccines typically fall under the heading “vaccines, serums and toxoids.” If vaccines are covered under the plan, it is likely that the newer vaccines have automatically been added to the plan at the time they were approved for the Canadian market.

However, not all drug plans cover vaccines. Many

CHILDHOOD VACCINATION COVERAGE IN CANADA

Government coverage of new childhood vaccines varies from province to province.

As of January 2003

Exceptions/New Vaccines	YK	BC	AB	SK	MN	ON	PQ	NS	NB	PEI	NF
Prevnar		✓	✓								
Menjugate		✓	✓				✓				
Varivax		✓	✓							✓	
Influenza (flu)	✓	✓*		✓*	✓*	✓		✓*	✓*		✓*

* Provinces may cover the cost of these vaccines for high-risk groups such as institutionalized patients, seniors over the age of 65 or individuals with medical conditions rendering them highly susceptible to the infections the vaccines protect against.

THE TRAVEL BUG

Vaccines exclusively or primarily used for travel to areas of the world where certain infections are endemic present an interesting dilemma for plan sponsors. On the one hand, it may be argued that such vaccinations are personal expenses and the responsibility of the plan member who has decided to use his or her time off to travel. This perspective suggests that travel vaccinations should be handled no differently than personal travel insurance for a trip. Therefore, they should not be covered on the company's drug plan.

Still, Canadians will continue to travel abroad. Those choosing to save out-of-pocket expenses and not vaccinate themselves against infections such as hepatitis A and B before heading to higher-risk vacation destinations place themselves, their co-workers and their employers at greater risk. Those acquiring such infections can be debilitated and unable to work for weeks upon their return. Absence and disability costs can be significantly greater than the cost of vaccinations.

For more information about recommended vaccinations for travel destinations, consult Health Canada's Web site at www.travelhealth.gc.ca.

contracts were written at a time when provincial governments covered all essential vaccines making such coverage optional. With the new vaccines available today, this approach may save some immediate plan dollars, but it could be a costly position if plan members or their dependents catch a preventable illness or disease. For plan sponsors deciding whether to cover vaccines in their drug plan design, a cost-benefit analysis should consider the actual cost of the vaccine compared to the potential costs associated with the illness the vaccine prevents.

For example, the most common cause of doctor visits for children under five in North America is ear infections—one-quarter of which are caused by the bacterial infection Prevnar prevents. Considering that approximately 80% of these ear infections could be prevented with Prevnar, vaccination could conceivably prevent 20% of all doctor visits for ear infections in children under the age of five, along with consequent drug costs and lost work days for their parents.

Similarly, the overall cost-effectiveness of the flu vaccine has been demonstrated. *The Globe and Mail* recently reported on a Stanford University study that estimates that a person who has contracted influenza loses 2.8 days of work on average, translating into approximately \$500 in working wages. In contrast, the flu vaccine costs about \$15.

Globally, the World Bank identifies vaccination programs as one health intervention that systematically demonstrates greater benefits than costs. Furthermore, the

National Advisory Committee on Immunization at Health Canada suggests that, while new vaccines may seem expensive compared with those currently in general use, these vaccines should be promoted on the basis of the benefits they provide at an acceptable cost.

DISPARITY IN PUBLIC COVERAGE

The disparity amongst public immunization programs across the country has generated considerable debate. In Alberta, for example, the province pays for Prevnar and Menjugate, and is in the process of introducing coverage for the varicella vaccines for chicken pox. On the other hand, Ontario and several other provinces do not. With the combined total cost of these three immunizations at approximately \$800, some are labeling the disparity as an example of two-tier medicine.

Federal organizations such as the Canadian Pediatric Society and the National Advisory Committee on Immunization at Health Canada are currently advocating and lobbying for universal coverage for the new childhood vaccines for all Canadians. Such a standard for immunization programs across the country was also recommended in the Romanow report.

THE DEBATE CONTINUES

As new vaccines are approved by Health Canada, plan sponsors will continue to struggle with this complex issue of whether to include or exclude vaccines in their drug plans. Clinically, these newer and more finely tuned vaccines provide a beneficial addition to the arsenal of products designed to prevent disease. Many plan sponsors have embraced these vaccines and are using them as part of a prevention strategy to enhance overall employee health and wellness rather than focus solely on reactive treatment options.

However, plan sponsors already struggling with double-digit increases in their overall drug plan costs may have a hard time justifying the additional costs. For some, such an upfront cost may simply be too much to accept without an absolute guarantee of return-on-investment.

In the end, vaccination is a complex issue that requires a full examination of the costs and benefits. Plan sponsors must look back at their overall benefits program philosophy and objectives—especially in the area of drug plan management. Such a perspective will ensure that coverage decisions are not being made in isolation and will facilitate a holistic approach to disease management and employee wellness.

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Chris von Heymann is a consultant with Aon who practices community pharmacy on a part-time basis in Toronto. christopher.von.heyman@aon.ca