immunization in the workplace and the tremendous return on saving just ONE LIFE
Every year, Ontario’s population of 13.5 million suffers more than seven million episodes of infectious disease severe enough to require health care, according to a study by the Institute for Clinical Evaluative Sciences. This translates into almost 15,000 year-equivalents of reduced functioning and more than 68,000 years of life lost due to premature death.1

On their own, these numbers are disturbing enough. Now consider these facts as well: nearly 40 new infectious diseases have emerged in the last generation, according to the World Health Organization; resistance to medication is growing, making many common infectious diseases more difficult and expensive to treat; and international travel and trade are providing fertile new ground for the infections to spread.

The resulting picture isn’t easy to contemplate, especially when the providers and payers of health care services are already struggling to reallocate resources for the coming challenges of chronic diseases. Employers have long regarded infectious disease as an unavoidable cost of doing business—what more can they do, after all, aside from remind employees to wash their hands more often?

The answer, in a word: immunization. As the Ontario study succinctly states, “a large proportion of the burden of illness could be attributed to a small number of pathogens and syndromes for which highly effective targeted interventions (e.g., pneumococcal, HBV [hepatitis B] and HPV vaccines)...already exist, so the future burden of some of these infectious agents and syndromes may be dramatically reduced with greater uptake of available interventions.”

This report sets out the case for the inclusion of adult immunization as a key component of health promotion in the workplace. Higher levels of immunization against five diseases in particular— influenza, pneumococcal disease, human papillomavirus (HPV), herpes zoster and hepatitis (A and B)—stand to deliver significant reductions in workplace absenteeism and treatment costs.

As the plan sponsors quoted on these pages attest, raising awareness, vaccine-coverage policies and on-site immunization clinics are relatively simple low-cost measures to implement. And unlike the lifestyle changes required of most chronic diseases, which can take years, adult vaccinations are literally a shot in the arm. That’s all it takes to inject a wellness strategy that employees can readily act upon and appreciate.

Vaccines for adults can be compared to a driver’s blind spot—we forget their importance until a disease that could have been prevented hits us from behind or we narrowly avoid impact.

Misinformation is partly to blame. For example, as individuals we assume that we received all necessary inoculations as a child and that they will protect us for the rest of our lives. As plan sponsors, we may assume that public plans fund all vaccinations. We do not realize that some adults were never vaccinated as children, that there are new vaccines that were not available when employees were children, that immunity fades over time and that we become more susceptible to infectious disease as we age.

It’s time to readjust our rearview mirrors and put adult immunization—and coverage of vaccines—clearly into our line of sight. Growing evidence of the effectiveness of vaccines, particularly for conditions that are difficult or expensive to treat, is making the case to incorporate them into our road map for benefits management and wellness strategies.

“It is always cheaper to prevent illness than it is to treat it,” says Dr. Marla Shapiro, an associate professor at the University of Toronto’s Department of Family and Community Medicine and the host of CTV’s Dr. Marla and Friends. “The workplace needs to regard vaccinations the same way as stress management and ergonomic chairs. Primary prevention is so important.”
Currently, 45% of private plans cover vaccines without limits. The main reasons for not covering vaccines, according to a recent survey of plan sponsors, have to do with lack of knowledge: they hadn’t thought of covering vaccines or didn’t know coverage was available. As well, only 34% of carriers say they currently recommend coverage.

These findings could be seen as a reflection of what’s going on in the general population. “Adult immunization rates for publicly funded vaccines are well below target levels,” says Dr. Bonnie Henry, the medical director of communicable disease control at the BC Centre for Disease Control and a past chair of Immunize Canada, a non-profit coalition of governmental, private sector, consumer, health and professional organizations. For example, the most recent data show that only 39% of seniors and 17% of working-age adults with chronic illnesses had been vaccinated for pneumococcal disease, well below the target of 80% set by Canada’s National Advisory Committee on Immunization. Less than a third (29%) of these populations were aware of their increased risk, and only 11% knew the recommended schedule for vaccination. As for influenza, only a third of Canadian adults got the flu shot despite universal funding in most provinces.

Employers should take note. A single case of pneumococcal infection can translate into several weeks of hospitalization followed by weeks of reduced productivity, not to mention drug-plan expenditures. While the severity of influenza is generally lower than that of pneumonia, its relatively high frequency also places a significant cost burden on the workplace. The impact of both could be prevented or greatly reduced with vaccines that are recommended by public health authorities, including the Public Health Agency of Canada’s National Advisory Committee on Immunization.

“The workplace can play a role in raising awareness, for sure,” says Henry. “It’s a pretty clear win for everybody.” Educational posters and brochures on all vaccinations for adults are available free for downloading at Immunize Canada’s website (www.immunize.ca).

What about vaccines for adults that aren’t funded by public plans? Depending on the vaccine, costs range from $100 (for pneumococcal disease) to just over $400 (for human papillomavirus, or HPV). Both are well worth the investment when compared to the costs of treatment; HPV, for example, can cause multiple diseases, including cervical cancers, which are most often diagnosed when women are in their 30s and 40s and likely productive members of the workforce. “By making vaccines a benefit, you’re clearly communicating your positive outlook toward wellness through the prevention of disease,” says Henry. “It means you care.”

“That has been our approach right from the start,” says Vic Medland, the CEO of the Ontario Teachers Insurance Plan (OTIP), which covers all approved vaccines. “And we’re quick to review any new ones.” In particular, vaccines for travel, HPV and shingles are seeing steady rates of utilization at OTIP, and plan-member communications include education and reminders around adult immunization.

“Vaccine coverage reflects our commitment to get out of the drug silo and look at the bigger picture for wellness,” says Medland. “The cost is relatively small compared to the very significant value to the member...
and long-term plan savings. This is one of those areas of claims where higher utilization is a good thing.”

Representatives for two insurers, Sun Life Financial and Green Shield Canada, report that vaccines generally account for less than 1% of a client’s book of business. “Covering vaccines makes total sense when you consider some of the treatment modalities for the diseases they prevent,” says Sal Cimino, the director of pharmacy services at Green Shield Canada.

Plan sponsors can also expect their spending on vaccines to remain stable. “There may be an occasional spike when something new comes along, but then it goes back to previous levels because everyone who needed or wanted the shot has received it, and it’s a one-time thing,” says Cimino. “You can’t say the same for the rest of drug-plan spending.”

“The investment into vaccines is at a reasonable price point—they are a strong value proposition,” says Wayne Millar, the assistant vice-president of product, group benefits at Sun Life Financial. While the determination of a return on investment is a barrier for some, Millar cautions against overthinking it. “For the last five years, vaccines have come in at less than 1% of total drug-plan spend, and studies show they reduce sick days and medical costs for drugs and other benefits,” he says. “Anyone who believes in the importance of health promotion in the workplace should include vaccines in their wellness strategies.”

**The Public Example**

Perhaps plan sponsors need to look no further than publicly funded childhood-vaccination programs to see the ROI of this type of coverage. Long-standing programs have virtually wiped out the memory of infectious diseases such as smallpox, and provincial programs for hepatitis A and B, launched in the 1990s, have already started to pay dividends that will soon spill over into the private sector. For example, according to the Public Health Agency of Canada, the rate of hepatitis B among youth aged 10 to 19 dropped 90% from 1990 to 2008 to just 0.6 cases per 100,000. Similar numbers are expected for HPV-related infections as a result of provincial school-age immunization campaigns launched in the 2000s.

Among plan sponsors that already cover vaccines, 87% agree that the benefit is worth the price and 80% would recommend it to other employers. When asked to list the main advantages, they most often cite immunization’s role in protecting health, followed by reduced absenteeism and increased employee appreciation.

Remaining plan sponsors, meanwhile, appear somewhat receptive to expand their drug plans: 53% say they would have included vaccine coverage if it had been offered, while 42% say they need a better understanding or more information before changing their minds. Both results are a call to action to HR staff, benefits providers and advisors, which is welcome news to health care providers.

“People go to doctors when they’re unhealthy and need to be fixed, whereas immunization is about vaccinating people who are healthy to keep them healthy.”

- Dr. Jay Keystone
Medisys Travel and Adult Immunization Clinic

“Family physicians have so much on their plate with the growing prevalence of chronic disease,” says Dr. Jay Keystone, the director of Medisys Travel and Adult Immunization Clinic, a professor at the University of Toronto’s Faculty of Medicine and a self-described “missionary” for adult immunization. “The fact is that right now, people go to doctors when they’re unhealthy and need to be fixed, whereas immunization is about vaccinating people who are healthy to keep them healthy. Our system is not yet set up for preventive medicine, but the workplace is 100% positioned to help fill that gap by encouraging employees to get immunized. I applaud employers who do so.”
<table>
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<tr>
<th>VACCINE AGAINST</th>
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<th>CURRENT FUNDING</th>
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<tr>
<td>TETANUS</td>
<td>Universal vaccination</td>
<td>One shot every 10 years</td>
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<tr>
<td>DIPHTHERIA</td>
<td>Universal vaccination</td>
<td>One shot every 10 years</td>
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<tr>
<td>PERTUSSIS (whooping cough)</td>
<td>Universal vaccination</td>
<td>One shot</td>
<td>Government</td>
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<tr>
<td>INFLUENZA</td>
<td>Adults at high risk of complications from influenza and anyone who wants protection for themselves and loved ones</td>
<td>One shot every year</td>
<td>Governments in British Columbia, Quebec, New Brunswick and Newfoundland and Labrador fund for high-risk groups only; remaining provinces fund for all residents</td>
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<tr>
<td>PNEUMOCOCCAL DISEASE</td>
<td>Adults between the ages of 19 and 64 who are at high risk (e.g., those with diabetes, chronic lung conditions and coronary heart disease and those who smoke); everyone aged 65 and older</td>
<td>One shot</td>
<td>Government for specified high-risk groups; otherwise, employee out-of-pocket or private drug plan</td>
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<td>HEPATITIS A</td>
<td>Adults with medical, occupational or lifestyle risks and anyone who wants protection from hepatitis A</td>
<td>Two shots over a six- to 36-month period or three shots over a six-month period</td>
<td>Employee out-of-pocket or private drug plan; note that the rate of vaccination is expected to decrease steadily as the first cohort of school-age children vaccinated in the 1990s makes its way through the workforce</td>
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<td>HEPATITIS B</td>
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<td>Employee out-of-pocket or private drug plan; note that the rate of vaccination is expected to decrease steadily as the first cohort of school-age children vaccinated in the 1990s makes its way through the workforce</td>
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<td>Meningococcal Disease</td>
<td>Adults with specific medical conditions and those living in residential accommodation, such as students and military personnel who have not had the vaccine or the disease</td>
<td>Initially two shots eight weeks apart; booster shot every three to five years</td>
<td>Government for high-risk groups; note that the rate of initial vaccination for remaining population is expected to decrease steadily as the first cohort of school-age children vaccinated in the 2000s makes its way through the workforce (however, employees or private plans will have to pay for booster shots)</td>
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<td>Measles</td>
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<td>Mumps</td>
<td>Adults who have not had the vaccine or the disease</td>
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<td>Rubella (German measles)</td>
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<td>Varicella (chickenpox)</td>
<td>Adults under 50 years of age who have not had the vaccine or the disease and who have been tested to confirm they are not already immune</td>
<td>Two shots at least six weeks apart</td>
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<tr>
<td>Human Papillomavirus (HPV)</td>
<td>Women up to 45 years old; men up to 26 years old</td>
<td>Three shots over a six-month period</td>
<td>Employee out-of-pocket or private drug plan; note that the rate of vaccination is expected to decrease steadily as the first cohort of school-age children vaccinated in 2007-2009 makes its way through the workforce</td>
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<tr>
<td>Herpes Zoster (shingles)</td>
<td>People aged 60 and older and anyone between 50 and 60 who wants protection from shingles</td>
<td>One shot</td>
<td>Employee out-of-pocket or private drug plan</td>
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<tr>
<td>Travel Vaccines</td>
<td>People who travel; vaccinations vary based on destination</td>
<td>Varies based on destination</td>
<td>Employee out-of-pocket or private drug plan</td>
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* Based on the recommendations of the National Advisory Committee on Immunization
INFLUENZA

INCIDENCE & IMPACT
• An estimated 12% of employees are sick with seasonal influenza every year (from November to April).7
• Flu results in an average of 20,000 hospitalizations and between 2,000 and 8,000 deaths annually.8 Research also shows that influenza can trigger heart attacks and strokes.9

RISK FACTORS
• Anyone can become sick with the flu; the virus is easily caught and spread.
• People with chronic conditions such as diabetes and cancer are at greater risk of complications such as pneumonia.

COST OF ILLNESS IN THE WORKPLACE
• One to six sick days initially,10 reduced productivity due to fatigue may persist for another two weeks or more.
• Drug expenditures for antiviral and antibiotic medications (the latter for secondary infections).

COST OF VACCINE
• All provinces except British Columbia, Quebec, New Brunswick and Newfoundland and Labrador cover the cost of the vaccines (between $10 and $20) for all residents annually. In the remaining provinces, public funding extends to high-risk groups such as those with chronic conditions.
• Vaccination services for on-site flu-shot clinics cost about $20 per employee.
For Trent Dixon, the manager of benefits and employee development at Canadian Natural Resources in Calgary, the math is simple: It's less costly for employees to take 15 minutes out of their workday to get a flu shot than be sick at home for two days or more. When you consider that an estimated 12% of employees come down with influenza every year—half of them within a four- to five-week period—the impact of this infectious disease can be significant.11

"On-site flu shots make sense when you consider the average cost of a sick day," says Dixon. "It's a great investment with a great return."

Research backs this up. A study that grouped 25 preventive services according to cost effectiveness and health benefits ranked flu shots for adults aged 50 and older in the second-highest grouping, along with screenings for hypertension and colorectal cancer.12 A recent Canadian study found that the province with the highest rate of flu vaccinations (B.C., at 52%) also had one of the lowest rates of influenza (10%, including children and seniors). At the other end of the scale, Quebec had the lowest rate of vaccination (27%) and the highest incidence of the disease (25%).13 And last but not least, a 2009 workplace study reported that vaccinated employees were 45% less likely to be sick with an "influenza-like illness" and recorded reductions of at least 60% in days of work lost and days of working while ill.14

Canadian Natural employs 2,000 in its Calgary head office and 1,800 at its oil sands operation, of whom about one-third roll up their sleeves for on-site flu shots. It spends approximately $15,000 annually for a third-party medical services provider, “which isn't expensive in the grand scheme of things,” says Dixon. "Employees have come to us to ask about their flu shots, which is a great thing."

Whether it's an office of 20 or 2,000, third-party medical service agencies, including the not-for-profit Victorian Order of Nurses, administer flu shots in workplaces at a cost of about $20 per employee. “On-site immunizations have definitely become more common,” says Robyn Bradbury, an occupational health nurse at East Coast Mobile Medical in Halifax. Employees often say they can't find the time to get immunized at a doctor's office or public-health clinic. "A lot do realize this is something the employer is doing for them," she says. “They really appreciate it.”

“There is always a large number of adults who want the flu shot but don't get it for any number of reasons. That's where the employer can come in," says Dr. Jay Keystone, the director of Medisys Travel and Adult Immunization Clinic and a professor at the University of Toronto’s Faculty of Medicine. “Employers who offer on-site clinics are doing a tremendous service.”

With this in mind, employers can probably do more to present on-site flu shots as an employee benefit. "I'm not sure every employee knows that their employer pays to have companies come on-site to administer the flu vaccine," says Sara Beech, the president of Pal Benefits in Toronto. “It's an opportunity to communicate that in a positive way to create value.” (For more tips on on-site immunization, see page 18.)

If an on-site clinic isn't feasible, employers can direct employees to an agency's clinic, ideally during work hours if the clinic is close by. Community pharmacies are another option, one that's cost free to the employer. So far, trained pharmacists in B.C., Alberta, Ontario and New Brunswick can give flu shots, with more provinces to come. With their longer hours of operation, local drugstores offer a convenient alternative to the doctor's office.

Whether an employer provides an on-site clinic or simply raises awareness using posters and email reminders to visit local clinics, “you need to try to ensure that as many of your employees are immunized as possible,” says Keystone. “Given the frequency of influenza, immunization is sure to make a positive impact.”
INFORMATION & IMPACT
• The incidence of invasive pneumonia, which occurs when the bacteria invade otherwise sterile body sites to cause complications such as meningitis, ranges from two to five cases per 100,000 adults aged 20 to 39 per year to nine cases for those aged 40 to 59 and 23 cases for those aged 60 and older.15
• Pneumococcal meningitis, a serious form of invasive pneumococcal disease, is associated with high mortality (30%) as well as neurological complications in a significant proportion of survivors.16
• Non-invasive or community-acquired pneumonia is approximately 10 times more common than invasive pneumonia.
• Combined, pneumonia and influenza rank eighth as a leading cause of death in Canada.17

RISK FACTORS
• The risk of both types of pneumonia increases with age.
• People with cancer, HIV, asplenia, rheumatologic disease and other immunosuppressive conditions or treatments are at highest risk. Chronic heart, lung, kidney and liver disease, as well as diabetes, also increase the level of risk, as do alcoholism and tobacco use.

COST OF ILLNESS
IN THE WORKPLACE
• Five or more sick days, with possible hospitalization for three weeks on average;18 reduced productivity due to fatigue may persist for several more weeks.
• Drug expenditures for antibiotic medications.

COST OF VACCINE
• All provinces fund the polysaccharide pneumococcal vaccine for adults with certain chronic conditions; some provinces fund the conjugated pneumococcal vaccine for certain adult high-risk groups.
• For remaining adults, the recommended one-time dose costs about $30 for the polysaccharide vaccine and about $130 for the conjugated vaccine.
TARGETING PNEUMONIA

The *streptococcus pneumoniae* bacterium lurks in the noses and throats of 5% to 10% of adults at any given time—and in most cases, the immune system keeps it at bay. As we get older, however, our immunity weakens. The risk of secondary infections from illnesses such as the common cold and influenza increases, particularly for those who also have a chronic condition. Under these conditions, *S. pneumoniae* can strike.

The result is pneumonia, which often leads to hospitalization and, sometimes, death. In the workplace, it usually means at least five days lost, plus possibly weeks of reduced productivity as employees regain their strength.

The average length of hospital stay for invasive pneumonia, the most severe type, is 22 days. The average stay for non-invasive or community-acquired pneumonia, which is less severe but much more common, is five or more days, with a 20% chance of re-hospitalization within 30 days. Medical costs typically exceed $15,000 for community-acquired (non-invasive) pneumonia requiring hospitalization and $30,000 for the more serious invasive pneumonia.

Costs are even higher for people with chronic conditions. For example, one study found that costs for community-acquired pneumonia almost doubled for working-age adults with diabetes and chronic obstructive pulmonary disease and were almost three times as high for those with congestive heart failure. “Next to influenza, immunization for pneumococcal disease can deliver the biggest impact for employers,” says Dr. Jay Keystone, the director of Medisys Travel and Adult Immunization Clinic and a professor at the University of Toronto’s Faculty of Medicine.

“The pneumococcal vaccine could prove to be of huge benefit for a company’s high-risk employees,” says Dr. Sol Sax, the medical director for a number of employers, including GlaxoSmithKline and AIM Health. It’s also important to keep in mind that immunization against pneumococcal disease is as much about reducing the severity of the illness as it is about preventing it.

“Childhood immunization prevents disease,” says Keystone. “For adults, immunization is actually more about reducing morbidity and mortality. That’s because, starting at the age of 30, our immune system starts to deteriorate. Immunization for pneumococcal disease definitely translates into fewer lost days of work.”

That’s especially important when you also consider that treatments for pneumonia aren’t as effective as they once were due to the fact that the disease has become resistant to antibiotics.

Lack of awareness is another barrier. “Most adults don’t realize there’s a vaccine against pneumonia,” says Marie Aucoin, an occupational health nurse at Cape Breton University in Sydney, N.S. Those who are at increased risk—such as people with diabetes, chronic lung or chronic heart disease, as well as those who smoke or drink at alcoholic levels—generally don’t realize it, never mind know that a vaccine is available.

“I routinely discuss it with anyone who meets the criteria for public funding, and I always offer to give the pneumonia shot at the same time as the flu shot,” says Aucoin. “People often want to think about it or do more reading about the vaccine first, but they’re generally receptive about getting this second shot.”

Doubling up the flu shot with the pneumococcal vaccine is “definitely worth looking into,” says Vic Medland, the CEO of the Ontario Teachers Insurance Plan (OTIP), which covers the pneumococcal vaccine for those not eligible for public funding.

CONJUGATE PNEUMOCOCCAL VACCINES

The introduction of conjugate pneumococcal vaccines has significantly reduced childhood pneumococcal disease. Conjugate technology elicits a comprehensive engagement of the immune system and ensures the formation of immune “memory.” This immune memory should provide a faster and more robust immune response upon re-exposure to the antigen, and enables a “booster response” should revaccination be required.
HUMAN PAPILLOMAVIRUS (HPV)

INCIDENCE & IMPACT
• Human papillomavirus (HPV) is the most common sexually transmitted disease. An estimated three out of four Canadian men and women will have at least one HPV infection in their lives.
• Most infections resolve themselves without treatment; others cause genital warts and several types of cancer (cervical, anal, penile, throat).
• The prevalence for cancer-causing types of HPV ranges from 3.4% to 31.5% among women. HPV is the primary cause of cervical cancer; one in 150 women will develop cervical cancer, and one in 423 will die of it.

RISK FACTORS
• All sexually active men and women are at risk. The peak risk period is five to 10 years after the first sexual experience; a second, smaller peak period occurs among women aged 45 years and older.

COST OF ILLNESS IN THE WORKPLACE
• The diagnosis of an HPV infection often begins with abnormal results to a Pap smear, resulting in time off work for more tests.
• The mean duration of an episode of genital warts is four months and requires time off for doctor visits. The average cost per treatment is $190.
• Women may be off work for more than six weeks to recover from surgery for cervical cancer; treatment often also requires chemotherapy, which reduces productivity.
• Other HPV-related cancers and precancerous lesions often result in short-term disability and productivity costs.

COST OF VACCINE
• Between $270 and $440 for three doses over six months.
HPV: A SENSITIVE MATTER

When it comes to HPV, teachers in Ontario may have drawn motivation from a public program offered to their students—and are grateful that their own drug plan includes HPV vaccine coverage. “The HPV vaccine accounts for the second-highest number of claims after the travel vaccine for hepatitis,” says Vic Medland, the CEO of the Ontario Teachers Insurance Plan (OTIP), which covers all vaccines not funded by the province.

The numbers tell Medland that his plan members, most of whom are women, are concerned about their personal risk for HPV infection. Many likely learned of the prevalence of HPV through Ontario’s publicly funded vaccination program for girls in Grade 8, which began in 2007. OTIP’s plan not only gives peace of mind, says Medland, but also prevents expenditures down the road for HPV’s emotionally distressing complications, which include genital warts and cancer.

“I find that older people, those in their 30s, will ask for the HPV vaccine,” says Dr. Pierre-Paul Tellier, a family physician and an associate professor of family medicine at McGill University. “You have to keep in mind that anyone can get this virus. Basically, if you’ve had more than one partner, 60% of you are likely to have picked it up. And because studies have demonstrated that few people have been exposed to all the strains contained in the vaccine, it’s not too late to be vaccinated after you’ve become sexually active.”

Employers who cover the cost of the vaccine will find it to be a relatively short-term investment. All provinces have implemented vaccination programs for girls in Grades 6, 7 or 8. “Eventually, the vaccinated cohort from public schools will result in dramatic decreases in the incidence of HPV-related infections because they will not have picked up the virus in the first place,” says Tellier.

Indeed, other countries are already seeing results. In Australia, for example, the incidence of genital warts has dropped significantly in women and men under the age of 30 who were immunized against HPV. Although it’s too soon to know the vaccine’s impact on cervical cancer—most women are diagnosed in their 30s and 40s—researchers predict that for every 324 girls who are vaccinated at the age of 12, one case of cervical cancer will be prevented.

With these numbers in mind, Tellier strongly recommends that universities’ drug plans offer vaccine coverage to give young adults who missed the publicly funded programs the chance to protect themselves sooner rather than later. “McGill’s undergrad plan includes $300 per person for vaccines, but I know of many university insurance plans that haven’t negotiated anything for vaccines,” he says. “Ideally they would cover vaccines for HPV, meningococcal disease and hepatitis, which are the most important for post-secondary students.”

Meanwhile, Tellier applauds employers such as OTIP that are doing their part to reduce HPV infections. The returns are not only economic but also emotional. “This is a preventive service that’s extremely personal in nature,” he says. “Employees, in turn, will be extremely grateful.”

IMPACT ON PRODUCTIVITY

Working women with precancerous cervical lesions due to HPV are “significantly more impaired in their ability to function at work and more frequently absent,” according to one U.S. study. Based on annual earnings of $35,500, lost productivity costs are 54% higher compared with a control group, and the cost of absenteeism was 133% higher. “The HPV group was significantly more impaired than controls in their ability to handle time management at work, mental and interpersonal job tasks, and output requirements, such as managing the workload and completing work on time,” the study revealed.
HERPES ZOSTER (SHINGLES)

INCIDENCE & IMPACT
• One-third of people will experience an episode of shingles in their lifetime, a painful rash that can appear anywhere on the body.
• Sixty per cent of cases occur in adults younger than 65.
• One in three cases of herpes zoster leads to postherpetic neuralgia, a potentially severe form of chronic pain that can persist for more than a year.

RISK FACTORS
• Anyone who has had chickenpox is at risk of shingles. According to the Public Health Agency of Canada, more than 90% of the population has had chickenpox.

COST OF ILLNESS IN THE WORKPLACE
• People with shingles report missing 27 hours of work on average, plus an additional 34 hours of reduced productivity while at work.
• Presenteeism for those with postherpetic neuralgia climbs to an average of 159 hours, the equivalent of about 21 sick days.
• Drug expenditures for antivirals, which are moderately effective in treating shingles, as well as antidepressants, anticonvulsants and possibly opioids to treat manage pain associated with post-herpetic neuralgia (again with modest efficacy, if any)

COST OF VACCINE
• $175 to $200 for a one-time dose (although post-market surveillance may determine the need for a booster shot at a later age).
THE SPECTRE OF SHINGLES

Shingles can bring down the bravest among us. The rash can occur on your chest, back, face and even the eye. One in three employees of baby-boomer age will experience its unique brand of pain, which is often described as needles repeatedly piercing the skin.

In one study of Canadian employees with shingles, 92% tried treatment with antiviral drugs, to little effect—64% still needed to miss an average of 27 hours of work and 76% reported being less effective while working (estimating an additional 34 hours lost).34

For most, the shingles rash will heal in two to four weeks. About 20% of those aged 50 to 69, however, will suffer the serious complication of postherpetic neuralgia (PHN), an aching, burning or stabbing chronic pain at the site of the rash that lasts at least another month and may linger for years. Up to 50% of cases of PHN are untreatable, or attempted treatments offer poor relief. Not surprisingly, PHN may also lead to depression.

“The pain can be quite debilitating,” says Dr. Jay Keystone, the director of Medisys Travel and Adult Immunization Clinic and a professor at the University of Toronto’s Faculty of Medicine. The launch of a vaccine in 2008 was welcome news. “It’s the one vaccine that sells itself because everybody knows someone who’s experienced shingles.”

Grant Wren can personally vouch for that. The manager of HR and safety at Amway Canada in London, Ont., was only 39 when the herpes zoster virus struck, forcing him to take a week off work. This was before a vaccine had become available; now that one exists, he’s working with his carrier to add it—as well as vaccines for other conditions—to the company’s insured drug plan (for tips on adding vaccines to coverage, see page 18).

The new benefit will not go unnoticed, predicts Wayne Millar, the assistant vice-president of product, group benefits at Sun Life Financial. According to the carrier’s book of business, claims for the shingles vaccine are growing in an otherwise flat market for vaccines overall. An aging population and more media coverage have boosted awareness, and “we’re now starting to see higher utilization,” says Millar. “It makes sense for both the plan sponsor and employee. Vaccines can help avoid and reduce the impact of shingles.”

It’s important to keep in mind that the vaccine will not prevent shingles from ever occurring because the virus is present in the body, in latent form, due to the occurrence of chickenpox decades earlier. Nonetheless, research shows the zoster vaccine significantly reduces (by 61%) the overall “burden of illness,” a measure of the incidence, severity and duration of a disease. It also reduces the incidence of PHN by 67% and the incidence of herpes zoster by 51%.35

“"The pain can be quite debilitating. It’s the one vaccine that sells itself because everybody knows someone who’s experienced shingles."”

- Dr. Jay Keystone
Medisys Travel and Adult Immunization Clinic

With this in mind, coverage of the shingles vaccine is “definitely something to consider for employers with older employees,” says Dr. Bonnie Henry, the medical director of communicable disease control at the BC Centre for Disease Control and past chair of Immunize Canada. Employers can also download brochures to help raise awareness on Immunize Canada’s website (www.immunize.ca).
HEPATITIS

INCIDENCE & IMPACT

• The reported incidence of hepatitis A is 1.5 cases per 100,000. However, underreporting and under-diagnosis suggest an actual rate that is seven times higher.36
• The incidence of hepatitis B is about 2.7 per 100,000. This climbs to between 4.7 and 5.6 among people aged 25 to 39.36
• Twenty-five per cent of adult hepatitis A cases result in hospitalization; the illness recurs in 15% of cases.
• Hepatitis B can lead to chronic liver disease in 10% of cases.37

RISK FACTORS

• Anyone who travels to countries where hepatitis is endemic is at higher risk, particularly for hepatitis A.
• Outbreaks in non-endemic countries such as Canada are often linked to contaminated food.

COST OF ILLNESS
IN THE WORKPLACE

• Absences range from one week to several months for hepatitis A, while hepatitis B typically results in short-term disability leaves of several months.
• Additional drug expenditures to assist in recovery.

COST OF VACCINE

• Between $200 and $260 to vaccinate against both diseases; a single vaccine for both is available. Number of doses and scheduling varies; completed dose gives lifetime immunity.
HEPATITIS BE GONE

More than 10 years later, people in B.C. still talk about the hepatitis A outbreak that was sourced to a food handler at a grocery store. “It was all over the news,” recalls Tyler Romano, the marketing manager at Choices Markets, a competing chain of groceries specializing in organic and natural foods. “Every year in Canada we have to deal with outbreaks of hepatitis A from food handlers who can spread the disease through food they prepare,” says Dr. Bonnie Henry, the medical director of the BC Centre for Disease Control and a past chair of Immunize Canada. “People can become infected when traveling to areas where hepatitis A is still common, like Southeast Asia or Mexico.”

Their competitor’s experience “prompted our CEO to make it policy for all new hires to get the hepatitis A vaccine as a condition of employment,” says Romano. The requirement is explained when people apply and again at hiring. “We educate them about the illness and why it’s so important to protect themselves and customers. We’ve had extremely little resistance.”

Implementation has also been smooth. Employees go to their own physicians or a travel vaccine clinic. Two doses are required, and if necessary the company’s HR department reminds employees to get the second shot within a year after the first. Some will get this second dose at the annual on-site flu shot clinic. Employees initially pay the cost of about $45 per shot, then submit receipts for reimbursement.

Based on an average of 150 hires per year, the company spends about $13,500 annually plus the time required for HR staff to administer the policy. “In our case it’s obvious why this is a worthwhile investment—our business is dedicated to organic, healthy foods. But no matter where you work, you don’t want to make your customers sick. Paying for these vaccinations is the right thing to do for the health and safety of our staff and customers,” says Romano.

While food handling is not an issue at Amway Canada, an office-based employer of 83 in London, Ont., coverage for the combination hepatitis A and B vaccine is a standard offering for staff, some of whom travel to tropical climates come vacation time. The original intent was to give 100% coverage to first responders on its occupational health and safety committee only; however, “when we amended our contract on a cost-plus basis the coverage became available to any employee with the usual co-pay of 20%, which was fine with us,” says Grant Wren, the company’s manager of HR and safety.

“It’s a very minor cost in the long run,” he continues. “In the end, it was the right decision not only from a health and safety perspective but also because it’s a good thing to do.”

“There’s a real perception that this is a perk,” says Robyn Bradbury, an occupational health nurse with East Coast Mobile Medical in Halifax who administers the hepatitis vaccine on behalf of employers. “It’s great for employee morale, and it boosts their confidence in their employer, that they care about their employees’ health.”

Thanks to school-age vaccination programs launched in the 1990s, hepatitis B is largely an adult disease among Canadians. Unfortunately, adult vaccination levels still fall short. According to the Public Health Agency of Canada, only 30% of adults have been vaccinated against hepatitis B, of whom 40% have not received the required three doses. And only 25% have been immunized against hepatitis A—and half of those haven’t received the required two doses.38

A NASTY TOLL

The symptoms of **hepatitis A** can include fatigue, nausea, diarrhea, fever and jaundice. Mild cases last one to two weeks; severe cases can be disabling for several months. Vaccinations are recommended for those who work in food service, including bartending, supermarkets, the military, garbage collection/waste disposal, veterinary clinics and zoo-keeping.

About half of the people infected with **hepatitis B** do not show symptoms yet are carriers. Acute illness can last for three months and is characterized by fatigue, abdominal pain, fever and jaundice. Vaccination is recommended for work settings that come into contact with blood, such as health care facilities and tattoo or piercing shops.
TAKING ACTION

TIPS FOR ON-SITE FLU SHOTS
The Public Health Agency of Canada suggests that 30% is a reasonable participation level for most workplace flu-shot clinics, while health care settings should aim for 80%. Here’s how to reach that target:

• Recruit employee volunteers. Peer support and word-of-mouth advertising work best to boost participation.
• Provide incentives, which can be as simple as coffee and cookies. One employer increased participation by one-third with a web-based points system that awarded gift cards (www.bestliferewarded.com).
• Share your target and post your progress. Enter names as ballots for a prize or donate $2 for every shot to charity.
• Rather than scheduling appointments, one large employer emails “traffic reports” to let people know when the lineup is short.
• Make it mobile. When foot traffic to her office slows down, Marie Aucoin, the occupational health nurse at Cape Breton University, knocks on doors. “In one morning I can do 50 shots from the trolley,” she says. “People are very grateful.”
• If you have occupational health staff, consider offering the service to employees’ families as well. With a staff count of 350, Cape Breton University gives about 600 flu shots a year to staff and their spouses, children and parents, as well as students.

READY TO COVER VACCINES? HERE’S A CHECKLIST OF ACTION STEPS
✓ Talk to your benefits advisor or provider to flesh out your company’s rationale for covering vaccines.
✓ Use specific wording to ensure that the definition of “vaccine” isn’t open-ended in your contract; you don’t want to cover all injectables, for instance.
✓ Small employers with insured plans may want to consider setting up an additional cost-plus contract so you can pay your carrier for vaccine claims as they’re incurred, plus an administration fee.
✓ Communicate the value. Explain the benefits and criteria and dispel misconceptions. Use free educational materials from public health units and Immunize Canada (www.immunize.ca) and enlist senior management and union stewards to give messages of support (ideally accompanied by photos of them “getting shot”).

RESOURCES

Immunize Canada
613-725-3769, ext. 122
www.immunize.ca

Public Health Agency of Canada
www.phac-aspc.gc.ca

FightFlu.ca
www.fightflu.ca

Victoria Order of Nurses
613-233-5694 or 1-888-VON-CARE (866-2273)
www.von.ca

The Society of Obstetricians and Gynaecologists of Canada
613-730-4192 or 1-800-561-2416
www.hpvinfo.ca

Canadian Liver Foundation
416-491-3353 or 1-800-563-5483
www.liver.ca

Canadian Lung Association
613-569-6411 or 1-888-566-5864
www.lung.ca

Here’s a list of national resources on adult immunization. For more details and resources, including provincial immunization programs, visit www.benefitscanada.com/roi/vaccines
REFERENCES


2. TELUS Health Employer Database, 2011 plan designs.


