

A-09/2013
HSP 150.1 Influenza 2011

**IN RE THE MATTER OF AN ARBITRATION
UNDER THE B.C. LABOUR RELATIONS CODE**

BETWEEN:

**HEALTH EMPLOYERS ASSOCIATION OF BRITISH COLUMBIA ("HEABC")
REPRESENTING EMPLOYERS BOUND BY THE COLLECTIVE AGREEMENT
BETWEEN HEABC AND HSPBA**

(the "Employer")

AND:

**HEALTH SCIENCES ASSOCIATION ("HSA")
ON BEHALF OF HEALTH SCIENCE PROFESSIONALS BARGAINING
ASSOCIATION OF BRITISH COLUMBIA ("HSPBA")**

(the "Union")

AWARD

(Influenza Control Program Policy Grievance)

Robert Diebolt, Q.C.

Robert Diebolt, Q.C.

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Counsel for the Union

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Place of Hearing

Vancouver, B.C.

Dates of Hearing

July 9, 10, 11, 12, 22, 23, 24, 25 and 26,
2013; Sept. 16, 17, 18, 19 and 20, 2013

Date of Award

October 23, 2013

I. INTRODUCTION

This arbitration concerns a Union policy grievance challenging the Employer's Influenza Control Program Policy (the "Policy").

In this Award, the Health Employers Association of BC is defined as the Employer. It represents the six Health Authorities in the province and a number of affiliates. The Health Authorities are: Northern Health ("NH"); Interior Health ("IH"); Vancouver Island Health Authority ("VIHA"); Vancouver Coastal Health ("VCH"); Fraser Health ("FH"), and Provincial Health Services Authority ("PHSA"). These entities provide care in both acute care settings, such as hospitals, and in long-term care facilities. They also deliver services into their respective communities at a variety of locations, including private residences.

In this Award the Health Sciences Association is defined as the Union. It commenced this arbitration on behalf of the Health Sciences Bargaining Association of British Columbia, which has a number of constituent units. The Union is the largest unit. Other units are: the Canadian Union of Public Employees; the BC Government and Service Employees Union; the Health Employees Union of B.C. and the Professional Employees Association. There are a wide variety of job families in bargaining unit positions, including: Dietician; Medical Technologist; Medical Radiation Technologist/Diagnostic Sonographer; Occupational Therapist; Orthotist; Pharmacist; Physiotherapist; Social Worker, and Speech/Language Pathologist/Audiology.

Seventeen witnesses testified over the course of 12 hearing days and two days of argument followed. The Union called ten witnesses, three of whom were presented as medical experts. The Employer called seven witnesses, two of whom were presented as medical experts. In addition to their testimony each of the experts prepared written

reports which were adduced at the hearing. In addition to the foregoing evidence the parties adduced a very large body of documentary evidence. In addition to numerous individual documents, they adduced approximately twenty binders and document briefs, each of which contained numerous documents.

Witnesses will generally be identified when their evidence is referred to. However it is useful to identify the medical experts at the outset because their opinions and evidence will be referred to in various locations in this Award.

The Union's first expert was Dr. William Buchta, who is board certified in preventive medicine/public health and in occupational medicine. He is presently employed as a consultant in occupational health at the Mayo Clinic at Rochester Minnesota. Until very recently, and for 11 years, he was the Medical Director for Occupational Health Service at the clinic. His primary focus is on the occupational health of health care workers. In his role at Mayo he was ultimately responsible for its influenza vaccination program, which produced outstanding results. In his report he states, "I do not claim to be an expert in infection control, epidemiology, industrial hygiene, infectious disease medicine, or viral biology, but my training, role and interests keep me abreast of those fields".

The Union's second expert was Dr. Thomas Jefferson, who is located in Rome, Italy. Among other diplomas and certificates, he obtained a medicine and surgery degree at Pisa University and an MSc degree in Community Medicine in the United Kingdom. He is a former family practitioner with some training in epidemiology, but he is not an epidemiologist and not an infectious medicine specialist. His primary focus for the past several years has been research synthesis, or more specifically, conducting meta-analyses of the work of other researchers.

The Union's third expert was Dr. Annalee Yassi. She is a Professor in the School of Population and Public Health, Faculty of Medicine, University of British Columbia. In addition to her medical degree, she obtained a Masters degree in Epidemiology and Occupational Health. Yassi has been awarded a number of Canadian Research Council chairs. Among many services, memberships and associations, she is the occupational medicine specialist on the B.C. Provincial Infection Control Network ("PICNET") and a consultant for the World Health Organization. Her extensive research is primarily in the areas of public health and occupational health. That research included a focus on influenza in the health care sector. Yassi is not an infectious disease specialist but works closely with those specialists.

The first of the Employer's two medical experts was Dr. Allison McGeer. She is a Professor of Laboratory Medicine and Pathology at the University of Toronto, the Director of Infection Control at Mount Sinai Hospital in Toronto, and a microbiologist and infection control consultant at the University/Mount Sinai Hospital in Toronto. She is or has been a member of a number of groups focused on infection control. For examples, in 2009-2010 McGeer was a member of Canada's National Advisory Committee on Immunization where she chaired the influenza vaccine working group. She has also been active internationally. She has served on a number of United States panels and committees focusing on respiratory infections, including influenza, and this year is an advisor to the World Health Organization. McGeer is an expert in internal medicine, infectious diseases and epidemiology. She has published extensively and her research interests are in the prevention and management of healthcare associated infections, adult immunization and the epidemiology of influenza infections.

The Employer's second expert was Dr. Bonnie Henry, who is an associate professor in the School of Population and Public Health, Faculty of Medicine, University

of British Columbia. In addition to her medical degree she obtained a Masters of Public Health and is board certified in Public Health in the United States. An epidemiologist, she is presently Medical Director, Communicable Disease Prevention and Control Service at the B.C. Centre for Disease Control ("BCDC") and Director, Division of Public Health Emergency Management, also at the BCDC. Taken from her report, her "focus as a public health physician has been on communicable disease control (including influenza) prevention of healthcare associated infections, public health emergency management and development and maintenance of effective immunization programs".

The foregoing is by no means an exhaustive description of the degrees, experience, accomplishments and research activities of the five experts. Their curricula vitae are detailed and extensive. It would take many pages to recount this material.

II. BACKGROUND

THE POLICY

As noted below the Policy was amended some months after its introduction. The initial version, partially implemented December 1, 2012 read:

Influenza Control Program Policy

A. Background

Influenza can be a serious contagious disease spread by droplet transmission through close contact with an infected individual. According to the Public Health Agency of Canada, nationally there are between 2000 and 8000 deaths per year from influenza and its complications. Infected individuals are highly contagious and can transmit influenza for 24 hours before they are symptomatic.

Among vaccine-preventable diseases, influenza causes by far the most preventable deaths, outpacing all other vaccine preventable diseases combined. Hospitalized patients are frequently more vulnerable to influenza than members of the general population. Influenza in vulnerable groups especially the elderly, the very young and the immunosuppressed, is associated with significant morbidity and mortality. It is a major contributor to hospitalization in winter.

Healthcare workers have been implicated as the source of influenza in healthcare settings. Vaccination of healthcare workers will reduce their risk of getting influenza and spreading it to patients. The most effective strategy for preventing influenza is annual vaccination. Influenza is vaccine safe and effective.

The wearing of masks can serve as a method of source control of infected healthcare workers who may yet have no symptoms. Masks may also protect unvaccinated healthcare workers from as yet unrecognized infected patients or visitors with influenza.

Other infection control measures such as rapid identification of ill patients, hand hygiene, cough etiquette, restrictions on work and visiting, and the use of anti-viral medications all help but vaccination remains the cornerstone of efforts to control influenza transmission.

B. Policy Statement

All individuals covered by this Policy must be vaccinated annually against influenza or wear a surgical/procedure mask during influenza season when in a patient care area in accordance with this Policy. During an influenza outbreak, this mask-wearing requirement is suspended and standard policies regarding exclusion and the use of anti-viral medications will apply.

C. Scope

This policy applies to all <Organization> employees (unionized and excluded), other credentialed professionals, residents, volunteers, students, contractors, and vendors (collectively, these individuals are referred to as "Covered Individuals") who attend a patient care area.

D. Responsibilities

1. All Covered Individuals must annually advise <Organization> of their immunization status in a manner acceptable to <Organization> by the Vaccination Required Date.
2. All Covered Individuals who are vaccinated against influenza must wear an identifier provided by <Organization> for the duration of the annual Vaccination Required Period. Covered Individuals who are vaccinated but not displaying an identifier are required to wear a mask in accordance with this Policy.
3. During the annual Vaccination Required Period, Covered Individuals who are not vaccinated against influenza or displaying an identifier are required to wear a surgical/procedure mask provided by <Organization> while at a Patient Care Location. Individuals required to wear a surgical/procedural mask will be responsible for maintaining their mask in good condition in accordance with <Organization> protocols. During an influenza outbreak, this mask-wearing requirement is suspended and standard policies regarding exclusion and the use of anti-viral medications will apply.

4. Covered Individuals should continue to use personal protective equipment and abide <Organizations'> infection control practices to prevent the transmission of communicable disease, including influenza.
5. Covered Individuals who witness any instances of non-compliance with this policy are required to report the incident of non-compliance immediately to their supervisor.

E. Definitions

Vaccination Required Date

The date established annually by the Provincial Health Officer after which all persons covered under this policy are required to be vaccinated against influenza or wear a mask in accordance with this Policy. The Vaccination Required Date will usually be no later than the first week of December.

Vaccination Required Period

A period of time determined by the Provincial Health Officer and starting on the Vaccination Required Date. The Vaccination Required Period will usually be from the end of November until the end of March but may vary with seasonal epidemiology and will also include any period of time relating to novel strains of influenza. During the Vaccination Required Period, Covered Individuals will be required to be vaccinated against influenza or wear a surgical/procedure mask in accordance with this Policy.

Patient Care Location

Patient Care Location includes:

- a. any building, property or site owned, leased, rented or operated by <Organization> where there are patients, residents or clients who are receiving care; and
- b. any patient/client/resident home or other location where Covered Individuals interact with the patient/client/resident in the course of his/her work for <Organization>

but does not include any location designated by <Organization> to be excluded from the definition of Patient Care Location.

F. Consequence of Non-Compliance

Any Covered Individual found in violation of this policy may be subject to remedial and/or disciplinary action up to and including termination of employment, cancellation of contract and/or revocation of privileges.

The generic term "<Organization>" was used in several places in the Policy to permit a Health Authority adopting the Policy to insert its name in those fields.

Section 3 of the Policy provides that during an influenza outbreak, the masking requirement is suspended and standard policies regarding exclusion and the use of antiviral medications will apply. Under these policies an influenza outbreak is defined as the occurrence of two or more cases of influenza-like-illness in a facility within a seven-day period. In those circumstances a Health Authority's medical health officer can declare the existence of an outbreak.

The standard policies in the six Health Authorities are not identical but they all have provisions regarding exclusion and antiviral medication. The introduction to the IH policy reads in part:

In the event of a facility outbreak, staff who are not immunized and who are unwilling to take antiviral medication will be excluded from work without pay. Staff who choose to take antiviral medication do so at their own expense.

More specifically, in the event of an outbreak, the IH policy states:

Step four

Staff continue working if:

- Immunized more than 14 days prior to onset of outbreak and free of influenza like illness (ILI) or Respiratory Infection (RI) symptoms. Immunized staff may be assigned to any worksite whether or not an outbreak exists.

Staff excluded from work (contract scheduling) as follows:

- Staff must self report any influenza like (ILI) or RI symptoms. All staff with ILI/RI symptoms should be excluded from work at all facilities for at least 5 days from symptom onset or until symptom free, whichever is longer. Entitled to sick benefits as per terms and conditions of employment.
- Non immunized staff with NO influenza like illness (ILI) excluded from working at outbreak facility with no pay unless:
 - a) Taking Antiviral medication as recommended (protects staff during outbreak period).
 - b) Takes Antiviral medication as recommended and obtain vaccine (provides for immunity for the remainder of the influenza season).
- Non-immunized staff that have been exposed to influenza but have not developed respiratory infection symptoms are restricted from working (no pay) at non-outbreak facilities for at least four days following exposure. "Non-immunized, excluded staff members must not have developed

respiratory infection symptoms and must wait one incubation period (four days) from the last day of work at the outbreak facility prior to working in a non-outbreak facility" (PICNet, 2007, p. 51.)

- Staff with proof of valid medical contraindications to both influenza vaccine and antivirals who are excluded from outbreak facility during outbreak, will be reassigned if possible; if not possible, they will be excluded from outbreak facility with pay.

The Union does not challenge the standard outbreak policies in this arbitration. Some years ago the British Columbia Nurses' Union grieved an IH outbreak policy providing for exclusion in the event of an influenza outbreak. That grievance did not succeed: *Interior Health Authority and B.C.N.U. (Re)* (2006), 155 L.A.C. (4th) 252 (Burke).

Returning to the disputed Policy, the document was unveiled in August 2012. A news release dated August 23, 2012 was also published. Bearing a Province of British Columbia logo and the logos of the six Health Authorities, the document reads:

NEWS RELEASE

For Immediate Release
Aug. 23, 2012

Office of the Provincial Health Officer
BC Health Authorities

Influenza prevention measures to protect patients

VICTORIA – Health authorities in British Columbia are acting on the advice of Dr. Perry Kendall, B.C.'s Provincial Health Officer, and implementing measures to better protect patients and seniors from being exposed to influenza.

Beginning this year, health care workers who come into contact with patients at publicly-funded health care facilities or in the community, including long-term-care facilities, will need to get the influenza vaccine, or wear a mask during the flu season.

"Influenza causes more deaths annually than all other vaccine-preventable diseases combined, and hospitalized patients are more vulnerable to complications from influenza than the general population," said Dr. Kendall. "This policy will protect patients. Putting in place consistent policies to prevent influenza from spreading is the right thing to do from a patient safety perspective."

The policy is in response to low vaccine coverage rates of health-care workers, and is part of comprehensive infection control measures developed by health authorities, acting upon the advice of public-health and patient-safety professionals, in collaboration with the Health Employers Association of B.C.

Other infection control measures include rapid identification of ill patients, adherence to hand hygiene, cough etiquette, the use of antivirals during outbreaks, and asking staff to stay home when ill.

"Health-care workers and the health-care system have an ethical and professional responsibility to protect vulnerable patients from transmissible diseases," said Dr. Bonnie Henry, director of communicable disease prevention, at the BC Centre for Disease Control. "Patients should not have to worry that they could get sick from their care provider. Getting vaccinated is the best way to protect patients, as well as health care workers themselves and their families."

The new policy applies to all health-care workers including health-authority staff, physicians and residents, volunteers, students, contractors and vendors who come into contact with patients.

Each year, health authorities provide the influenza for free to all workers, volunteers and students who work with patients, and encourage as many get vaccinated as possible. However, vaccination rates have historically been less than 50 per cent.

"This decision has been made by all health authorities, acting upon the advice of the Provincial Health Officer, and ensures we are reducing the risk to our patients to the best of our ability," said Dr. Nigel Murray, president and CEO, Fraser Health.

The influenza vaccine is extremely safe, and is the most effective way to prevent illness from the influenza virus, helping to prevent infection in healthy adults up to 80 per cent.

"Ensuring that as a health care worker you are up to date on all of your immunizations-especially influenza-is a matter of patient safety," said Dr. Doug Cochrane, chair of the BC Patient Safety and Quality Council. "People infected with the flu virus can be contagious for at least 24 hours before symptoms appear, so in some cases workers may be unaware they are transmitting the virus to their patients. Influenza is a source of significant complications in health care facilities and long term care homes each year, and health care workers must ensure that they do all they can to reduce patient harms.

Canada's National Advisory Committee on Immunization considers influenza vaccination for health care workers to be an essential component of the standard of care, and supports that workers should consider it their responsibility to get their flu shot each year.

As previously noted, the Policy was only partially implemented during the 2012-13 influenza season. The Deputy Minister of Health, by letter dated November 30, 2012 addressed to all Health Authority Chief Executive Officers, advised that in the first year the enforcement component of the Policy would be placed in abeyance and non-compliant staff were not to be disciplined. The Employer intends to fully implement the Policy in the 2013-14 influenza season.

The Policy was amended in three respects in July 2013. First, the requirement of an identifier was deleted. Second, visitors were brought within the scope of the Policy. Third, the language requiring individuals witnessing instances of non-compliance to report those incidents was changed. Specifically the word "expected" replaced the word "required".

Under the current version of the Policy, therefore, apart from periods of influenza outbreaks, individuals within its scope must either annually be vaccinated against influenza or wear a mask during the influenza season.

INFLUENZA

The following description of influenza is taken in part from the expert medical reports tendered at the hearing and the testimony of their authors. Much of the evidence describing the nature of influenza was uncontroversial and in this section of the Award, unless otherwise noted, I have endeavored to restrict the narrative to non-controversial matters.

Influenza is an acute respiratory infection caused by type A, B, or C human influenza viruses. Type C causes influenza in young children and, because it does not evolve rapidly, most children develop protective antibodies that protect them from this virus for the rest of their lives. In contrast, because types A and B do continuously evolve, antibodies developed against a particular strain of type A or B will not prevent a subsequent infection. Consequently, people can be re-infected with influenza A and B over their lifetimes. There are presently four subtypes of human influenza viruses circulating in the world: A(H3N2); A(H1N1), and two of type B. Each of these subtypes continues to evolve.

The viruses most commonly infect cells lining the upper respiratory tract, but it is possible for them to infect lung tissue and, rarely, heart muscle. Symptoms vary. An infected person can be and remain asymptomatic, or a person can be asymptomatic during the onset of the infection. In many cases, the infection can manifest itself as a common cold-like illness. In others, symptoms can include: headache, chills, cough, fever, loss of appetite, muscle ache, runny nose, sneezing, watery eyes and throat irritation.

Most healthy people recover within a week to ten days although some symptoms can persist for longer periods. That said, influenza can be a serious disease, especially in some segments of the population. Infants, the elderly and people with underlying conditions such as respiratory or cardiac are particularly vulnerable. Influenza can exacerbate those conditions, cause pneumonia and lead to death. Even absent underlying conditions, elderly persons contracting influenza may subsequently lose their independence.

Influenza is a distinct virus the presence of which can be detected in a laboratory test. But it is only one of a number of viruses that cause what is known as influenza-like illness ("ILI"). As a result, absent laboratory confirmation, an ILI may mistakenly be attributed to influenza. Estimates of the percentage of ILI attributable to influenza vary. Buchta's report cited a study that estimated that influenza accounted for 23% of all ILI. McGeer's report cited two studies that estimated 20-35% of ILI in unvaccinated adults is attributable to influenza during an average influenza season.

Earlier it was noted that influenza can lead to death. Evidence was adduced respecting the number of deaths attributable to influenza. The Policy asserts that among vaccine preventable diseases, influenza causes more deaths than all other vaccine

preventable diseases combined. That assertion was not contradicted. The Policy also records the Public Health Agency of Canada as saying that there are between 2000 and 8000 deaths per year due to influenza and its complications.

It is important to view that statistic with caution. As Jefferson pointed out in his testimony the numbers were arrived at based on a modeling technique incorporating certain assumptions. Outcomes can vary depending on the model employed, the assumptions incorporated and what precisely is being measured. Buchta expressed the same view about United States statistics. In his report, after referring to a Jefferson publication, he states, "Such data and misperceptions would explain why the proponents of mandatory influenza vaccination often start their publications with the statistic that influenza causes an average of 36,000 deaths in the USA annually, but a thorough reading of the reference from which that number comes will reveal that the number of cases for which influenza is responsible is closer to 8,000 annually (Thompson 2003)".

Ultimately the evidence came to this. Influenza can and does cause death. The above numbers, however, are only estimates and may well overstate the magnitude of deaths attributable to influenza.

METHODS OF INFLUENZA IMMUNIZATION

There are presently three methods of immunization against influenza: traditional vaccination (the flu shot), intra nasal sprays, and anti-viral medications.

Commencing with the flu shot, because the strains of influenza virus circulating in the world continuously evolve, annual vaccination is recommended for optimal protection. Each year a committee of the World Health Organization assesses the

evolution of circulating strains and recommends changes in the composition of the vaccine to be manufactured for use in the ensuing influenza season.

In the past only trivalent vaccines were available in Canada. Trivalent vaccines are formulated using three strains of influenza virus. Quadrivalent vaccines, formulated with four strains, have been developed. There was some evidence they might be available in Canada by this year. Vaccine is manufactured using deactivated (i.e. dead) viruses and accordingly cannot cause influenza. The selected strains are introduced into chicken eggs and manufactured over the course of six months.

The efficacy of the vaccine in preventing influenza depends on a variety of factors. One factor is the closeness of the match of the strains in the vaccine to the strains circulating in the season in which the vaccine is employed. Over the years, although prediction has improved, the closeness of the match has varied with consequent variations in the effectiveness of the vaccine.

The second immunization method, intranasal spray vaccine, may be an alternative for some persons, such as those with needle phobias. Unlike the traditional vaccine, the spray is manufactured using live, but attenuated, strains of virus. Accordingly the spray may induce a mild form of influenza in some persons. Some studies have indicated that it is less effective than the traditional flu shot. The British Columbia Ministry of Health, however, has stated that the spray vaccine satisfies the immunization requirements of the Policy.

A third method of protection is anti-viral medication. The Ministry of Health has stated that this method of immunization is not an alternative to masks under the Policy. However, as previously described, under the standard policies governing influenza

outbreaks it is authorized for use by unvaccinated health care workers during such outbreaks.

Evidence was adduced describing the efficacy of vaccine in percentage terms. With respect to healthy adults, Buchta testified that the United States Centre for Disease Control estimates vaccine efficacy to be in the range of 70-90%. His view is that it is more likely 59%, plus or minus 10%. McGeer's report estimates vaccine efficacy at 60%. The Henry report discloses that there is not universal agreement on vaccine efficacy but in cross-examination she accepted 60% as a reasonable estimate. As already noted, vaccine efficacy in the elderly is less.

Evidence was adduced respecting "herd immunity". It is a term used to describe the reduction in risk of transmission of illness that can apply to a whole community if enough people are protected through immunization. The principle has greater application in a community where the population is closed. For example, it would have more relevance in a long term care facility where the patient population is more stable than in an acute care facility where there is a much higher patient turnover. So, although the medical experts accepted the concept, there was not unanimous agreement that it would apply in the health care setting. Further, the evidence did not in any way establish what percentage of the community must be vaccinated in order for the herd principle to operate. The most that can be said is that the higher the percentage the more likely the principle will operate.

SAFETY OF VACCINES AND ANTIVIRAL MEDICATIONS

The traditional vaccine (the flu shot) is safe for most persons. Buchta, Yassi, McGeer and Henry shared that view and recommended vaccination, absent contraindications. More specifically, Buchta and Yassi supported vaccination provided it

was offered on a voluntary basis and not required as a condition of employment or obtained on a coercive basis. They considered the Policy coercive and did not support it. McGeer and Henry supported vaccination without those qualifications and supported the Policy. Jefferson does not take a flu shot but testified he is not anti-vaccine, noting he had been vaccinated against a wide variety of diseases. In the case of influenza, however, the evidence respecting its efficacy does not satisfy him.

As previously noted because the vaccine is composed of deactivated viruses it cannot cause influenza. It can, however, produce certain effects. Redness or soreness may develop in the area of the injection site, muscle ache can occur and tiredness can ensue.

Although the traditional vaccine is safe for most persons, it may not be recommended if there are contraindications. If a person has a history of anaphylactic reaction to eggs, or had a reaction to a previous flu shot or to any component of the vaccine, or has a history of Guillan-Barré Syndrome ("GBS") within 8 weeks of a previous flu shot, that person should consult a physician before deciding whether to be immunized. Anaphylactic and GBS reactions are said to be very rare. Babies under six months of age should not be vaccinated because their immune response to the vaccine is not sufficiently strong at that age.

Intranasal spray, as previously mentioned, may induce a mild form of influenza or cause other mild symptoms, such as a runny nose, sore throat and fever. It is not recommended for people with severe asthma or weakened immune systems.

Finally, although anti-viral medications are an acceptable method of immunization under standard policies governing influenza outbreaks, according to the Ministry of Health there are no data respecting their safety beyond a period of six weeks.

It further cautions that some recent influenza strains have shown resistance to one variant, Tamiflu, and that long-term use could increase resistance.

The Union called witnesses who testified about their experiences with and attitudes to vaccination. Ms. Debbie Hodges is a registered psychiatrist who works as an inpatient care coordinator at a hospital in Powell River, B.C.

In direct examination Hodges described two experiences with immunization while working in Great Britain. In 1989 she received a typhoid inoculation. She said she went to work and collapsed, ending up in the emergency department with an anaphylactic reaction in which her throat closed off. Hodges said she experienced the same reaction when she subsequently was vaccinated against influenza. On that occasion she stated she spent three days in an emergency department and then five days in a ward. Her doctor, she said, was unable to identify the precise cause of the reactions. In this connection, she stated she is not allergic to eggs.

Hodges was asked if, in light of her experiences, she would now be willing to be vaccinated against influenza. She replied, "No, because I have not seen any evidence, not from drug companies, that says it is effective". She also stated she had never experienced influenza. When the Policy was partially implemented in 2012, Hodges said she consulted her family doctor respecting intranasal spray. Because the doctor was unable to identify the cause of her prior reactions, she recommended against it.

In cross-examination Hodges agreed that she was under a duty to protect patients and, in particular, to protect her care group against influenza. When it was suggested that she did not have much confidence in the influenza vaccine, she repeated her position that she did not have evidence other than from drug companies. However, she agreed that elderly patients with respiratory issues should be vaccinated because it

may help them, and added that she recommends that staff be vaccinated as well. Finally, she agreed that if her family doctor had recommended she take Influenza vaccine or intranasal spray she would have done so.

The Union subsequently called Ms. Tracey Smith, an employee of VCH. For the past three years she has worked as a receptionist/admin clerk at the Central Community Health Centre in North Vancouver. Before moving to that position she worked as a casual employee at the Pender Community Health Centre.

While working as a casual, Smith was vaccinated against influenza. She said she became sick the following day, experiencing fever and muscle ache. She was off work for three days. Smith said she was fine until a month later, at which time she contracted pneumonia and was off work for three weeks. In direct examination, asked if there were any connection between the vaccine and the pneumonia, Smith said she did not know if there was any connection but "felt" she got ill because of the vaccine. She has not since been vaccinated and is fearful of doing so because she might get sick and miss work.

On cross-examination Smith was asked if she had sought clarification as to whether vaccination presented her with a risk. Her response was no, and that she had never contacted anyone about it.

The Union also called Ms. Jamie Holloway, a social worker. She testified that she preferred not to be vaccinated because research she conducted after introduction of the Policy persuaded her that the vaccine could create a potential health risk. She also said she had been vaccinated in the past and a month later contracted a "horrible" flu.

The Union also called Ms. Havi Neeman, a speech/language pathologist who is an employee of VCH. In direct examination she testified that following the introduction of the Policy and because of it she had an influenza vaccination for the first time. As a program leader, she considered it her responsibility to model for her team. Neeman said she had not previously been vaccinated because she was suspicious of the vaccine and personally did not want to be vaccinated.

Neeman testified about her health following the vaccination. She said she was not sure if it was related but approximately ten days after the vaccination she contracted pneumonia and was sick for ten days. She also said that three weeks after the vaccination she experienced a severe bout of inflammatory arthritis. Describing the condition as acute, Neeman said the condition is still not perfectly under control and that she attends a rheumatologist.

Neeman testified that she discussed her condition with the rheumatologist, asking if it were possible that the vaccination caused it. The rheumatologist, she said, stated that if there is a genetic disposition and the condition occurs after vaccination there is an assumption that vaccination is the trigger. Asked if the rheumatologist had advised her with certainty that vaccination was the trigger Neeman's answer was no. But she said the rheumatologist was willing to provide a letter advising against vaccination. Neeman added that she is not willing to get vaccinated this fall.

In cross-examination, Neeman agreed with the suggestion that the rheumatologist was willing to provide a letter because of the possibility that vaccination was the trigger. But she also agreed that the rheumatologist did not give a diagnosis that vaccination could cause the condition, saying "No, she could not".

Some of these witnesses and others called by the Union also testified about masking. Their evidence in this respect is reviewed later in this Award.

MOTIVATION FOR IMPLEMENTATION OF THE POLICY

The Employer called a number of witnesses to testify about the reasons for the introduction of the Policy and the form it eventually took. A central theme was that the Policy and the standard outbreak policies were implemented because of an inability to achieve target rates of vaccination through Health Authority campaigns promoting voluntary vaccination.

The Employer called Dr. Perry Kendall, the B.C. Provincial Health Officer and, as such, the senior health officer for British Columbia. He testified about the introduction of the outbreak policies, a process in which he participated. The work on these policies began in the B.C. Communicable Disease Policy Advisory Committee. In July 2000, Kendall wrote health care facilities, directing them to develop an outbreak policy providing for exclusion of unvaccinated workers for use in the 2000/2001 influenza season. A companion initiative was a provincial policy to increase the availability of the vaccine and to provide it free to senior persons, people with chronic health conditions and health care providers.

The health care unions indicated they did not support a policy providing for exclusion of unvaccinated employees without pay during a declared outbreak. They characterized such measures as coercive and urged an alternative model based on education and voluntary participation. In response, the Ministry of Health agreed to defer its outbreak policy for a year, to see if a voluntary program would achieve a vaccination rate of 80% among health care workers. In connection with the target rate, Kendall said it was to assist with herd immunity.

The voluntary policy did not achieve the 80% goal. A review ensued, following which the Ministry of Health Services and Health Planning expressed support for an outbreak policy providing for exclusion of unvaccinated health care workers without pay. In October 2001 the Health Employers Association of BC ("HEABC") wrote the Health Authorities recommending that they adopt such a policy.

Outbreak policies were implemented commencing with the 2001/2002 influenza season and have continued to the moving present. As previously noted the Nurses Union grieved the IH outbreak policy but the grievance was dismissed in arbitration.

In the fall of 2003, 2004, 2006 and 2007 Kendall wrote the HEABC and the Health Authorities. In those letters he emphasized the importance of encouraging staff immunization. He also recorded in those letters the vaccination rates of health care workers in long term care, extended care and intermediate care facilities. He wrote that in long term care facilities the rates were: 56% in 2002-2003; 67% in 2003-2004; 68% in 2005-2006, and 65% in 2006-2007. He wrote that the rate in acute care facilities in 2005-2006 was 46%.

The Employer called two witnesses to testify about subsequent campaigns designed to increase rates of voluntary immunization. The first was Ms. Elayne Preston who testified about the experience at FH where she has been Management Consultant for Workplace Safety since 2008. Since that time she has been responsible for the annual immunization campaigns. In addition to her testimony, the Employer adduced a binder containing documents pertaining to the annual campaigns at FH. The extensive documentation showed that the campaigns were multi-faceted and evolved over time with a view to improving vaccination outcomes.

The campaign conducted in the fall of 2008 did not achieve target rates of immunization. A lengthy written report following the 2008-2009 influenza season listed the numerous elements of that campaign which included among other measures: electronic manager's toolkit; banners; marketing messages; immunization clinic calendars; research studies; reminders; roving carts, and weekly reports. The vaccination rate of health care workers in acute care was 36%, four percent lower than in 2007-2008. The rate in residential care facilities was 51%, seven per cent less than the prior season.

The scope of the campaign was expanded for the 2009-2010 season, but again the target rates were not achieved. The report for that season records that, as of March 5, 2010, 56% of acute care staff were vaccinated against pH1N1 (the pandemic vaccine) and 17% against seasonal influenza. In residential care facilities the reported rates were respectively 49% and 39%.

The campaign for 2010-2011 was further refined. Set out below were the planned strategies:

Strategies:

- Theme "Get Your Shot" selected for campaign
- Electronic posters developed featuring the star of our video
- "Apple A Day" Incentive Program – 1 iPad grand prize, 24 iPods given away daily in the first two weeks of the campaign
- Videos – Awareness light-hearted video launched at the campaign start, 2nd video featuring our CEO calling the grand prize winner released in December
- FH News – feature story and ongoing messages
- CEO Message to all Fraser Health employees
- National Chief Medical Health Officer Message distributed
- Immunization Clinic Calendars posted on intranet and internet
- Internet page with influenza information specifically for health professionals
- Workplace Health Team deployed to clinics – OHN Lead at each clinic with standardized kits
- Live data entry with laptops at clinics by designated Workplace Health staff – enabled weekly uptake reports

- Spreadsheets created from WHITE.net to allow quick download of vaccination dates into individual employee files
- Clinic Layout Map developed to speed traffic flow
- Flu Clinic Nurse Orientation half-day provided by Workplace Health
- Site specific reports for residential care managers emailed to them weekly
- VP and Director reports emailed weekly for distribution to managers
- Roving carts at some locations
- Volunteers provided assistance with traffic flow
- Co-presentations (3) with Health Promo/Prevention and Infection Control at "Flu School" for residential care facilities
- Support from Pharmacies & Laboratories for vaccine storage/access
- Consistent use of vaccination wallet cards at all clinics
- Peer Nurse Immunizers – unit-based RNs providing vaccination to coworkers, electronic self-study package & support provided by Workplace Health
- Immunizations provided to contracted staff on our sites on a fee-for service basis

Target rates were not achieved. The report for the 2010-2011 season recorded a vaccination rate of 30.5% for acute care staff and 58.75% for residential care staff. Both rates were for immunization against seasonal influenza.

In direct examination, Preston was taken to a BCDC report respecting the 2012-2013 influenza season, the season in which the Policy was first, but partially, implemented. That document records a staff vaccination rate of 80% at residential facilities, rising to 87% excluding privately funded facilities. At acute care facilities in FH the recorded rate was 74%.

Preston was also examined respecting the vaccination status reporting system. Last year managers recorded the information on laptops using a system known as the White System. She said that managers can run their own reports but they have been instructed that as of this year the information is to be considered confidential and is not to be emailed, copied or distributed.

In cross-examination, Preston was questioned about a manager's need to know the vaccination status of a health care worker. She stated that they needed to know

percentages, but as I understood Preston's evidence her view was that the need went further, to include individual identities in order to be prepared for exclusions in the event of an outbreak.

The Employer called Ms. Catherine Kidd to describe the experience with voluntary programs at VCH. From 2003 until 2011 she was employed as Director of Workplace Health at VCH. She is now a contractor providing services respecting implementation of the Policy. As in the case of FH, the Employer adduced a binder containing details of some but not all campaigns and reports of their outcomes. As was the case at FH, the VCH campaigns were multi-faceted and evolved over time.

Referring to the 2003 campaign Kidd stated it was becoming "more ramped up" but a lack of data made it difficult to measure the results. However, from what could be gathered the staff vaccination rate in acute care facilities was below 50%. In residential facilities she did not state a percentage but said it was high.

A table in the VCH documentation recorded the following vaccination rates. With respect to acute care staff the numbers were: 45% in 2005-2006; 38% in 2006-2007; 44.8% in 2008-2009, and 46% in 2009-2010. With respect to residential care staff the numbers were respectively: 75%; 74%; 76%; 73.9% and 44%. In cross-examination it was pointed out that a BCCDC table reported a rate of 61% for residential care staff in 2009-2010. With respect to residential staff that table reported rates of 69% in 2010-2011; 67% in 2011-2012, and 83% in 2012-2013.

In the course of her direct examination, Kidd testified about the use of declination forms. (As Buchta's evidence established, in some American facilities such as the Mayo Clinic health care workers who choose not to be vaccinated are required to fill out such forms.) Kidd said that the forms were tried in either 2004 or 2005 but were abandoned

when the Union filed a grievance. Neither party was able to uncover any documentary evidence that such a grievance was filed.

Kidd also testified about a presentation she made to VCH senior executives in 2010 entitled Increasing Immunization Rates at VCH. In that document she referred to the influenza program at Virginia Mason hospital in the State of Washington. The presentation document described that program as being similar to the Policy in that it provided for vaccination or the wearing of masks during the influenza season. It identified three matters described as risks; "Union relationships and grievances in relation to enforcement of the policy. (i.e. sending a staff person home who isn't immunized and refuses to wear a mask)"; "Significant costs associated with increased supervision in order to invigilate the policy", and "Decreased uptake of influenza immunization by staff in protest".

With respect to the first risk, in cross-examination Kidd agreed that it was a risk as it had been at Virginia Mason. As to the second risk, she said that she was not sure how to answer the question and that her thought had been to increase supervision and that she was "just putting it out there". She added that she trusts her staff and does not demand proof of vaccination, adding that is her practice in the case of the anti-viral, Tamiflu, under the outbreak policy. Ultimately, however, she agreed it was a significant risk. With respect to the third risk, Kidd testified that sometimes "persons put their foot down", adding she didn't know if they would and that it was "just an idea".

Vaccination rates prior to 2011-2012 may have been underreported in some instances. In cross-examination Kendall was taken to documentation suggesting that coverage rates prior to 2011-2012 should be interpreted with caution. A BCDC report addressing 2012-2013 rates at residential facilities states:

Changes in coverage rates over time should be interpreted with caution as the data collection methods have changed over time. Prior to the 2011/12 influenza coverage report, the number of staff reported for most facilities included staff who did not work during the influenza season (e.g. on long-term disability or leave), which would have underestimated the immunization coverage. Also, staff who worked in more than one facility were usually counted in the denominator of all the facilities in which they worked but only counted in the numerator (as immunized) in the facility where they received their immunization, which would have underestimated the immunization coverage.

An identical passage appears in the 2012-2013 BCCDC report addressing vaccination rates at acute care facilities.

Turning to the other Health Authorities, counsel agreed that evidence respecting campaigns promoting voluntary vaccination and their outcomes would be adduced by the Employer in written form without the necessity of calling witnesses from those Authorities. Voluminous binders were tendered. It is not necessary to recount that evidence because the forms of the campaigns and their outcomes in terms of vaccination rates were not remarkably different than in the cases of FH and VCH.

Pausing here, it should be noted that the evidence disclosed two voluntary immunization programs in the United States that achieved high rates of vaccination. Buchta's report and testimony established that the Mayo Clinic achieved an 88% rate. Other evidence established that a facility in Pennsylvania achieved a 95% rate through a voluntary program. Subsequently, however, that facility moved to a mandatory program. Henry's opinion was that while high rates can be achieved under voluntary programs only mandatory programs can sustain those rates over time.

Resuming the chronology, because campaigns promoting voluntary immunization were not achieving their goals, a movement toward the formation of some form of mandatory policy ensued. Kendall testified that following the 2009 H1N1 pandemic he began discussing with the media that it might be time to move to a mandatory policy.

Kidd testified that senior VCH executives had a robust discussion about the failure of the campaigns at VCH. She said they did not consider it sensible for VCH to proceed on its own with another approach, and that a provincial approach was needed. Subsequently, as outlined below, the several Health Authorities undertook a unified approach.

Dr. Paul Van Byunder is Vice President of Public Health and Chief Medical Officer at FH. He is a certified public health specialist and holds an appointment in the School of Population and Public Health, University of British Columbia. In addition he is the representative of Chief Medical Health Officers on the National Advisory Committee on Immunization ("NACI") care group.

Van Byunder testified about the circumstances leading up to and surrounding the formation and implementation of the Policy. He said Kendall asked him to conduct a formal review, in part because of his role in NACI and in part because of his influenza research. Accordingly he did so. In the initial phase a loose body of interested persons was formed and subsequently a submission was made to a meeting of the Leadership Council in 2011.

The Leadership Council consists of the Deputy Minister of Health Services, the Chief Executive Officers of the six Health Authorities and two or three assistant deputy ministers. This body can make decisions on behalf of all Health Authorities. The meeting addressed only a mandatory vaccination policy, not a vaccination or mask policy. The Council concluded that more information was required, deferred any policy decision and requested Kendall (who was teleconferenced into the meeting) to collect further information.

Kendall transferred the matter to Van Byunder. He formed and led a group on a March 2012 tour of a number of health facilities in the United States. The group

members were: Van Byunder; Preston; Dr. Brodtkin, Executive Medical Director Infection Prevention Control, FH; and Ms. Linda Poirier, BCDC.

From a list of 150 facilities, the group selected and visited nine. Some of the nine are stand-alone facilities, some are multi-site and one is the largest health care system in the United States. Employment levels in these facilities range from 5,000 to 200,000. Some are unionized and some are not. All have university affiliations. The nine visited were: Children's Hospital Boston; Beth Israel Deaconess Medical Center; Dana-Farber Cancer Institute; Lahey Clinic; Geisinger Health System; Emory Healthcare; BJC Healthcare, and Hospital Corporation of America.

Van Byunder said the first four in the list have mandatory vaccination policies with no mask option. Geisinger Health System, he said, has a vaccination or mask policy. The remaining five, he said, have a vaccination or mask policies similar to the B.C. Policy. Hospital Corporation of America, he stated, operates hospitals, clinics and other health services across 13 states and employs approximately 200,000 persons.

Discussing the format of the visits, Van Byunder said that prior to each visit his group submitted a ten-page list of questions, with the result that most hospital presentations were very targeted. He described in some detail the visit to Hospital Corporation of America. They met with the chief executive officer, the medical director, the head of the emergency response system, the head of the workplace health system and the head of the legal branch. For the first two hours the Corporation's representatives presented its policy, its key drivers, its implementation, its success and a series of data. The second half of the visit, he said, consisted of the group questioning the Corporation's representatives.

Van Byunder testified that the basis of most United States east coast policies is mandatory vaccination or exclusion, absent contra-indications or religious objections. Vaccination rates under these policies, he said, exceed 99%. He noted that prior to the United States tour his group had recommended such a mandatory policy to the Leadership Council. However, the group changed its position after learning United States vaccination rates that were achieved under vaccination or mask policies. He testified that across the board, from small facilities to large, from unionized environments to non-unionized, a vaccination rate of 95% was obtained. Accordingly, his group moved to a recommendation of a vaccination or mask policy. Van Byunder also said that a vaccination or mask policy has a special utility in FH because some of its health care workers hold religious beliefs that object to vaccination. Describing these persons as valued employees, he said a vaccination or mask policy would accommodate their religious beliefs.

Following the tour a series of documents was prepared, summarizing the tour and containing the new policy recommendation. They were first seen and endorsed by the chief medical officers in the Health Authorities. A submission was subsequently made to the Leadership Council in April 2012. That body passed a resolution approving the recommendation. Subsequently, matters of detail were worked out and, as previously noted, the initial version of the Policy was published in August 2012.

Van Byunder was cross-examined about the fact that litigation has followed introduction of some influenza policies in the United States. Some of that litigation has been successful, some has not and other proceedings are ongoing. The magnitude of this litigation was not quantified. Nor was a success or failure rate identified. As already noted, some of the United States facilities are unionized and some are not. Counsel for the Union observed that United States jurisprudence is not of much assistance because

the legal environment differs from that in Canada. The Union's point in eliciting this evidence was to establish that some United States programs have provoked legal challenges.

INSTITUTIONAL ENDORSEMENT OF MANDATORY POLICY

Earlier, it was noted that all of the experts, save Jefferson, supported voluntary immunization against influenza. Ms. Norah Miner, one of the Union's senior labour relations officers, testified in cross-examination that the Union strongly encourages voluntary immunization. In addition, both McGeer and Henry support both immunization and the Policy.

There are a number of United States and Canadian bodies that endorse some form of mandatory policy, be it a mandatory vaccination policy or a vaccination or mask policy.

The United States bodies identified at the hearing are: American Hospital Association; American College of Physicians; American Academy of Pediatrics; Infectious Diseases Society of America; National Association of County & City Health Officials; The Society for Healthcare Epidemiology of America; National Patient Safety Foundation; United States Department of Defense; American Public Health Association, and Association for Professionals in Infection Control and Epidemiology. In addition, the Employer produced a document prepared by the Immunization Action Coalition which identifies by name over 200 facilities spread across the United States which have either a form of mandatory vaccination as a condition of employment or some form of vaccination or mask policy.

Turning to Canada, a Canadian Nurses Association position statement was adduced. It endorses annual immunization as "the most effective method of preventing influenza and its complications". That statement also contains the following passage:

CNA believes that policies that place immunization as a condition of service should be introduced if health-care worker influenza immunization coverage levels are not protective of patients, and reasonable efforts have been undertaken with education and enhancing accessibility to immunization. CNA considers mandatory immunization policies by employers to be congruent with the *Code of Ethics for Registered Nurses* in Canada and the obligation to act in the public interest, as noted in CNA's Objects.

A position paper of the Association of Medical Microbiology and Infectious Diseases Canada was also adduced. It endorses mandatory annual influenza immunization as a condition of employment for all workers who spend time in areas where patient care is provided or patients are present. In British Columbia, the BCDC issued a 2012 statement endorsing the Policy.

MEDICAL EVIDENCE

This section of the Award principally addresses the five expert medical opinions but it also recounts some evidence given by: bargaining unit health care workers; Van Byunder, and Dr. Patricia Daly, Vice President Public Health and Chief Medical Officer at VCH. The narrative is subdivided into a number of subject areas.

1. Health Care Worker Immunization and Transmission of Influenza to Patients

It was common ground among the medical experts, save Jefferson, that immunization against influenza is beneficial for health care workers and they supported immunization on that basis. However, the experts did not share a common opinion about whether immunization of health care workers reduces transmission to patients. Because of the disagreement in this area, the technical nature of some of the evidence

and the fact that the experts' oral testimony in considerable measure was a repetition and elaboration of their written opinions, I propose to quote the expert reports extensively. (Because I was provided with electronic versions of their reports, I was able to copy and paste the several extracts appearing in this Award.) The narrative will proceed in the order the experts appeared at the hearing.

Buchta expressed scepticism about the proposition that immunization of health care workers reduces transmission of influenza from them to patients. He was asked the following question and gave the following response:

2. Please give us your opinion on whether the Policy, which is mandatory for HCWs, is likely to be more effective than, less effective than or similarly effective to an influenza protection program that is voluntary for HCWs in terms of increasing HWC rates.

The simple answer is that mandatory vaccination programs will improve HCW vaccination rates in any facility that does not already have 100% compliance. There will be a small number who will choose or be forced to wear a mask. However, the more meaningful question is whether mandatory vaccination programs will decrease the rate of transmission of influenza from HCWs to patients. The end (decreased transmission) must justify the means (mandatory vaccination) even if the means has the appearance of effectiveness.

I mentioned in Assumption II that there were only two published studies that have studied the epidemiology of influenza in acute care hospitals. Only one of these studies made an association between vaccination of HCWs and nosocomial (hospital-acquired) cases of influenza, and that study spanned 13 influenza seasons, ending in the late 1990s, conducted at the University of Virginia. (Salgado 2006) While there are some methodological issues with the study, it did suggest that higher vaccination rates for HCWs coincided with fewer nosocomial cases of influenza. However, one should note that

- a. Despite the hospital having over 600 beds, during no one season were there more than 8 cases of nosocomial influenza.
- b. There is no distinction made between HCWs, other patients or visitors as being the source of the infections.
- c. During the last influenza season, there were no cases of nosocomial influenza during a year when HCW vaccination rates were 60 to 70%.
- d. HCW vaccination was not the only control measure taken during the 13-year span to reduce the likelihood of nosocomial influenza transmission. They instituted furlough policies for HCWs, stricter isolation of patients with suspected ILI, and started a visitor control policy.

Here is my point. As I mentioned in Assumption IV, when the frequency of an event is already quite low, it is difficult to demonstrate a significant effect of any intervention. Also, the number of acceptable cases in a year is a judgment of hospital administration when weighed against other more common but equally serious hospital-acquired infections (HAIs), such as catheter-associated sepsis or post-surgical infections, which brings up the issue of relative risk. Thus, the only published study in the acute care setting that associates HCW influenza vaccination with decreased nosocomial influenza is potentially tainted by other interventions and started with a very low incidence rate which led to an unmeasurable rate during the last year when the HCW vaccination rate was 70% at best. It did not even demonstrate whether the small number of cases was transmitted by HCWs, visitors or other patients. This is a weak argument for mandatory vaccination of HCW for the benefit of patients. However, this study does support a multi-dimensional influenza prevention program involving early identification of cases and subsequent treatment and isolation, strict use of standard of precaution including masking when individuals are symptomatic, visitor control, and vaccination of both HCWs and patients, among other measures, as recommended by the ACOEM position statement on influenza control in the healthcare environment (Swift 2009). Thus, to answer the modified question, in the acute care setting, the evidence is lacking, if not nonexistent, whether 100% vaccination of HCWs is necessary to make a prevention program more effective than a voluntary program. In fact, if one were to believe that asymptomatic shedders were putting patients at risk, which is a major concern underlying the Policy but which I have already questioned as being significant, then **vaccinated** HCWs with subclinical disease, who are not masked and are confident that they could not possibly infect a patient because they have been vaccinated, are likely greater hazards to patients than **unvaccinated** HCWs who are either too ill to come to work or are masked according to the Policy. In other words, the Policy could backfire.

However, I do not think that possibility will be demonstrated due to one serious flaw underlying the Policy: lack of evidence that HCW-associated hospital-acquired influenza has been a significant problem in the recent past or that the intervention of vaccination/masking has had an impact on the incidence of such transmission. The documents supporting the Policy cite over 100 healthcare systems that have instituted mandatory influenza vaccination, and yet not one of the published examples offers the incidence or number of such cases before or after the intervention. Somehow, the association between HCW vaccination and nosocomial influenza has been assumed, and the measure of success of the influenza control program has become the attainment of 100% compliance, not reduction of number of nosocomial influenza cases. The Policy has made the means an end unto itself. At least the published program at Barnes Jewish Hospital in St. Louis, Missouri, addressed this lack of evidence, saying "nosocomial influenza is too difficult to measure." (Babcock 2010) And yet, there have been at least a dozen sporadic cases of hospital epidemics in the literature between 1971 and 2000, as summarized by Sartor et al. (Sartor 2002) in the journal of the Society for Healthcare Epidemiology of America (SHEA), which was the first professional society to call for mandatory vaccination of HCWs in 2010. (Talbot 2010) Salgado and Vanhems had no difficulty citing specific numbers. In 2005, the Healthcare Infection Control Practices Advisory Committee –Advisory Committee on Immunization Practices (HICPAC/APIC) made 14 recommendations

to address the low vaccination rates of HCWs. In June 2006 a survey of infectious disease consultants (418 respondents) questioned which recommendations had been implemented in their facilities, and "active surveillance for healthcare-associated influenza" was the least likely to be applied at a rate of 22%. Logically, if a hospitalized patient suddenly runs a fever, has chills, and is coughing, it is hard to believe that his/her providers will not check for influenza. Yes, it can be measured and the incidence should be trackable by the hospital infection control monitors. I have already mentioned the low number of cases in the Salgado study, but the VanHems study is even more revealing. Using the same criteria used in the Salgado study for nosocomial influenza, in a 400-bed hospital, the rate of nosocomial influenza cases associated with contact by an infected HCW is 0.7 cases per year. Notably, in that study, the rate of HCW influenza vaccination was on par with rates in British Columbia, but an association between HCW vaccination and nosocomial influenza was not cited in the publication.

Virginia Mason Hospital, just south of Vancouver in Seattle, Washington, is the most often-cited example of a successful mandatory vaccination program. I had the pleasure of engaging in a collegial debate against Virginia Hager, the occupational nurse at Virginia Mason who published about their program, at the national meeting of the Association of Occupational Health Providers in Healthcare in October 2012. My debate partner from Vanderbilt University asked Ms. Hager how many nosocomial influenza cases that Virginia Mason Hospital had the year before mandatory vaccination and the year after. Her answer: none the year before, one the year after. I am waiting for data from the different health authorities in British Columbia, if available, and would be happy to comment on them later. However, at this point, it is difficult to say that the Policy is as, more, or less effective at reducing nosocomial influenza transmission than the status quo if we either do not measure the effect before and after the intervention or if the outcome is a rare event.

Regarding LTC facilities, I will address the specific literature supporting a link between HCW vaccination and resident cases of influenza in question #6. However, to summarize, a Cochrane review of the literature in 2006, which was revisited in 2010, did not find a compelling link between HCW vaccination and resident cases of influenza when discounting poorly controlled studies and adjusting for co-factors. The lead authors are quoted as saying, "We conclude there is no evidence that vaccinating HCWs prevents influenza in elderly residents in LTC facilities." (Thomas 2010)

As for the outpatient clinic or home health environments, other than the study on masking in crowded urban households noted in my response to Question #2b., which would support masking of infected people with any respiratory illness, I know of no literature to either support or refute the efficacy of the Policy over voluntary programs. Methodologically, these would be difficult studies to conduct, but given the paucity of evidence in LTC facilities or acute care hospitals, and given Assumption III that influenza is a community-acquired disease, I doubt the Policy will be able to demonstrate a positive effect. (pp. 6-9)(emphases in original)

Later he wrote:

Response: I must answer this question in a staged fashion. In response to Question #2, I demonstrated that the literature does not support the contention that

HCW influenza vaccination has a strong effect on patient or resident incidence of influenza or ILI in the healthcare setting, making it even more unlikely that HCW vaccination would impact complications of influenza. (p. 12)

Buchta also expressed an opinion about immunization and nosocomial transmission in the long term care setting. In this context he referred to a number of randomized controlled trials that were also addressed in Jefferson's and Yassi's reports, writing:

6. The VCHA power point presentation cites three studies as supporting the contention that vaccination of LTC facility staff protects residents. Please give us your opinion on whether and, if so, how the cited studies support the Policy.

Response: Actually, there are more than three such studies, and I have listed all five of them in my reference list and will discuss them now. LTC facilities involve an environment in which the effect of an interaction between HCWs and residents is most likely to be observed due to its relatively closed nature: resident length of stay throughout the "flu season," daily close contact with a relative small cadre of HCWs, and limited contact with the rest of the community when compared to hospitals, clinics, or homecare settings. As such, this is the environment in which we see almost all of the research on the effect of HCW vaccination on LTC resident health, albeit a relatively sparse body of literature.

The first study was conducted in Scotland in 1994 by Potter *et al.*, using a cluster randomized control trial (C-RCT) by comparing six LTC facilities with "opt in" policies for vaccination against six with "opt out" policies. As such, those with "opt out" policies consistently had higher vaccination rates. There was no statistically significant effect of HCW vaccination on resident influenza infection, pneumonia, or death from influenza or pneumonia as long as the residents were vaccinated as well. Oddly, there was a positive effect in an apparent reduction of all-cause mortality by nearly 50%. (Potter 1997) As this was a small pilot study, the same investigators conducted a larger C-RCT in 20 such facilities in 1996. They found no significant reduction in all-cause mortality or influenza infection when adjusted for patient age, baseline functional status, gender, and vaccination. (Carman 2000) A subsequent Japanese cohort study in 1998-2000 studied the impact of patient and staff vaccination on influenza outbreaks but found such a strong correlation between patient and HCW vaccination rates that HCW vaccination could not be independently evaluated. (Oshitani 2002) Based on these three studies, the only ones worth considering after searching all possible articles on this topic, a Cochrane Collaborative analysis published in 2006 found that even these studies were subject to significant bias. Overall, the investigators concluded, "Both the elderly in institutions and the HCWs who care for them could be vaccinated for their own protection, but an incremental benefit of vaccinating HCWs for the benefit of the elderly cannot be proven without better studies." (Thomas 2006) In a separate publication, the authors of the Cochrane review addressed the issues of true influenza (for which we have a

vaccine) and the more common ILI (no vaccine available), the probable sources of bias in the three studies, and the illogical connection between influenza vaccination and reduction of all-cause mortality. One of the Cochrane authors, Dr. Jefferson, published his own analysis of the evidence, and in addressing the issue of reduced all-cause mortality from HCW influenza vaccination despite lack of demonstration of reduced rates of influenza in residents, he said, "It is impossible for a vaccine that does not prevent influenza to prevent its complications...." He strongly suspects the effects of selection bias such that the two populations being studied differ in some significant characteristic(s). He further commented, "The large gap between policy and what the data tell us (when rigorously assembled and evaluated) is surprising." (Jefferson 2006) There was another review article on this topic published in 2006 by Burls *et al.* out of the University of Birmingham, UK. This review included analysis of two of the three studies in the Cochrane review but also sixteen other articles that did not meet selection criteria of the Cochrane review and which they admit did not directly address the association between HCW vaccination and health outcomes of residents in LTC facilities. This review article was also intended to analyze the economic impact of HCW vaccination, which is not germane to this discussion. Burls *et al.*, in discussing the results of the Potter and Carman studies, lacked attention to detail by stating, "Both demonstrated clinically significant reductions in mortality when a staff vaccination programme was introduced." (Burls 2006) They failed to mention that it was a reduction in "overall mortality" despite lack of effect on the incidence of influenza itself. They did not consider the likelihood of bias. In the rest of their relatively cursory discussion of the results of these studies, they only mentioned effects that tended to promote positive efficacy of HCW vaccination and went so far as to cite one outcome (mortality, assumed to be due to influenza since they did not specify) to have "borderline statistical significance," when, in fact, it was clearly not statistically significant; they invented a new term. As one might expect, their conclusion was quite different from that of the Cochrane review: "Although only a limited number of studies were identified answering the question of effectiveness, the main findings were generally consistent, despite differences in design, setting, and influenza-related morbidity outcomes."

Two subsequent C-RCTs led to another review by the Cochrane Collaborative in 2010. The largest investigation of all was conducted in 44 LTC facilities in London, UK, and studied two consecutive "flu seasons," 2003-2005. The investigators did find a positive correlation between HCW vaccination and resident all-cause mortality (27% reduction) and ILI (50% reduction) during the first season but no such association during the second season. In neither season was the HCW vaccination rate higher than 35%. (Hayward 2006) The fourth and last such study was conducted in 40 LTC facilities in France in 2006-2007. "Despite a high staff influenza vaccine coverage rate in the vaccination arm of the study (69.9%), analysis showed no significant effect on all-cause mortality in residents during the primary study period." (LeMaitre 2009) The investigators did find lower all-cause mortality and ILI rates in the vaccinated group a month before the peak of the influenza epidemic, which coincided with a known peak circulation of respiratory syncytial virus, surmising that the vaccinated HCWs may have been more aware of the risks of all sources of ILI or to be more likely to use other methods of infection control other than vaccination. Thus, with the addition of these two studies, a 2010 Cochrane Review revisited

the issue and came to the same conclusion as in 2006: "We conclude there is no evidence that vaccinating HCWs prevents influenza in elderly residents in LTC facilities." (Thomas 2010)

Other than these five studies, the literature has nothing to offer to answer this question. Two systematic reviews, one of which was done on a second occasion when new data was available, came to quite different conclusions about the impact of HCW influenza vaccination on the health outcomes of LTC facility residents. I am inclined to side with the Cochrane review, having examined more studies that were actually relevant and having offered more incisive analysis. However, there is a "tie breaker," so to speak, in a very thorough review article previously cited above and published in 2012 by Dolan *et al.* I should mention at this point that the Cochrane review and the article by Dolan *et al.* were clear about the potential financial conflicts of the authors, in that they had some financial ties to commercial manufacturers of vaccine, which could sway their opinions. Burls *et al.* did not make such a disclosure, which is concerning.

The Dolan review article culled out 20 articles from a possible 12,352, of which most, but not all, were conducted in LTC facilities. Surprisingly, the Salgado article, the only one to address the association of HCW vaccination with nosocomial influenza in acute care facilities, did not meet their selection criteria for an unknown reason. Regardless, their review was thorough and included all of the articles common to the other two reviews. Their conclusion was more diplomatic than that given by the Cochrane review but is similar: "HCWs would be justified in claiming that the current evidence base is not especially strong and is heavily weighted toward the benefits to patients receiving care in long-term care facilities, although limited evidence would not necessarily legitimize nonacceptance." (Dolan 2012) They went on to say, "Consistency in the direction of effect was observed across several different outcome measures suggesting a likely protective effect for patients in residential care settings. However, evidence was insufficient for us to confidently extrapolate this to other at-risk patient groups." Thus, they admit that there were trends but lack of statistical significance for most outcomes as well as a dearth of evidence in hospitals, clinics, and home care settings. Despite the potential for financial conflict in the Cochrane review, I find it most compelling to understand that if HCW vaccination does not affect the rate of influenza among residents, it logically cannot decrease complications of influenza either, as Dr. Jefferson points out, despite the potential for financial influence to arrive at a different conclusion. In other words, he and his colleagues are revealing data that does not support the product of commercial entities that supported his work in the past.

Thus, in my opinion, with respect to the original question, the cited studies, as well as additional studies and reviews, do not support the Policy. (p. 17-19)

In cross-examination Buchta did not resile from a passage in a document he wrote in 2011. In a section entitled "Coming to a compromise" he wrote:

In 2012, another German colleague suggested that mandatory vaccination may be ethical in specific situations as an application of the precautionary principle. The consequences of nosocomial ILI for those patients with severely compromised immune systems are sufficiently serious to support such a policy, and even one case in that setting would be unacceptable. Therefore, mandatory vaccination for HCWs in certain limited units, such as neonatal/pediatric ICU or bone marrow transplant facilities, is justified as long as other control measures are strictly applied and patients and visitors are required to be vaccinated. Such a policy would allow HCWs who decline vaccination to opt for transfer to other assignments without losing employment. We can discuss the specifics of such a policy in other venues, but I believe nearly all parties in this controversy can live with this compromise.

Jefferson testified by video conference from Rome, Italy, where he resides. He is associated with the Cochrane Collaboration, a charity registered in the United Kingdom and based in Oxford. It is a global network of volunteers whose main product is a database of systematic reviews, which are a form of research synthesis. Expressed somewhat differently, pursuant to protocols they conduct meta-analyses of data generated in studies carried out by others. Jefferson is the first or co-author of a suite of Cochrane reviews on interventions for influenza.

Jefferson's report focused on a number of randomized controlled trials which studied the relationship between health care worker immunization and all cause mortality in long term care settings. In his opinion, the studies were flawed and did not support their authors' conclusions. In a section of his report responding to a request for an explanation of the conclusions reached in Cochrane reviews of those studies, he wrote:

**"Influenza vaccination for healthcare workers who work with the elderly"
(Review A108);**

A108 was first published in 2006, updated in 2010 and is currently being updated (the updated review is in advanced draft form). Conclusions are not likely to change. The rationale for A108 is simple. The review was conceived to bridge the gap between the summing up of evidence of effect of influenza vaccines in situations in which healthy adults and elderly (aged 60 or more) and frail persons are in close physical contact. In such situations one would expect a higher rate of transmission of influenza from one group to the other and the effect of vaccines all the more dramatic because of the likely high rate of person

to person spread. We found that the evidence base is not plentiful and its quality is highly dubious.

The current version (as yet unpublished) includes three cluster-Randomised controlled Trials (C-RCTs) with a combined population of 4,986. Vaccinating the health-care workers who cared for individuals ≥ 60 living in long-term care institutions showed no effect (measured by risk differences) for those ≥ 60 on laboratory-proven influenza (two C-RCTs); lower respiratory tract infections (one C-RCT); admissions to hospital for respiratory or cardiovascular causes (one C-RCT), or death from lower respiratory tract infection/respiratory causes (two RCTs).

All three studies were considered to be at high risk of bias with numerous design problems listed in the text. The low quality and underlying bias in the three trials in the review are exemplified by sentences in the Discussion section of one of the three cluster RCTs in the review, that by Carman et al carried out in Scotland and published in the *Lancet* in 2000. The study was done in 20 medical long-term-care geriatric hospitals across west and central Scotland (although the final number of participating hospitals is unclear). Hospitals were randomly allocated to be openly offered routine vaccination of health-care workers or not to be offered vaccination. Randomisation of clusters was balanced and stratified for policy for vaccination of patients and size of hospital. Hospitals were paired according to number of beds and policy for vaccination of patients, and one was chosen from each pair by random-numbers table for health-care workers to be vaccinated. However some hospitals already had vaccination policies and randomization was uneven. The text says: "Despite an advanced programme of virological surveillance, including tissue culture and PCR, we saw no significant difference in laboratory-proven influenza infection in randomly sampled patients from hospitals offered vaccine compared with those not offered vaccine, although more influenza was detected (by culture and PCR) in samples from patients in no-vaccine hospitals. The positive detection rate in these hospitals of 6.7% was much lower than the anticipated rate of 25% used in our power calculations."

The authors concluded that "vaccination of health-care workers was associated with a substantial decrease in mortality among patients. However, virological surveillance showed no associated decrease in non-fatal influenza infection in patients".

The surveillance appears to have been well designed and executed with state of the art PCR test. So if the vaccines did not affect circulation, how is it possible that they affected mortality? The answer probably lies in the choice of vaccination hospitals and non-vaccination hospitals. The two seemed to be markedly different by vaccination uptake and health status of patients enrolled in the study and response rates to questionnaires sent around by the authors. Once the authors adjusted the results for age, sex and health status, any difference in mortality disappeared. The data presented in Table 2, the main table of the study, is interesting as this is one of the very few trials ever conducted with mortality data and results of specimens taken at death. The likely non comparability of the hospitals, their healthcare workers and patients produced spurious conclusions. As we shall see this is a common occurrence in the influenza vaccines literature.

In the current update we discussed whether to eliminate the "influenza-like illness noise" from previous versions of the review to concentrate on the

outcome (influenza) which the vaccines are designed to prevent. In the end we decided to keep the observational studies in the review but not add influenza-like illness data to our conclusions. Ultimately the use of Risk Difference (RD) and Number Needed to Vaccinate (NNVs - see A060) should minimize the risk of misquotes like the one by Flegel, Senior Associate Editor of the Canadian Medical Association Journal.

Flegel in his 2012 editorial wrote: "The benefits of vaccination in health care workers are clear. Efficacy rates are about 86% when the circulating strain and vaccine strain are well matched"⁹. Flegel cites the 2006 version of A108 as support for his statement, completely ignoring the availability of the 2010 version.

However the complete relevant text of the 2006 reviews states: "Staff vaccination appears to have significant effect against influenza-like illness (absolute vaccine efficacy (VE) 86%, 95% confidence interval (CI) 40% to 97%) only when patients are vaccinated too; if patients are not vaccinated, staff immunisation shows no effect (based on one C-RCT). Based on a small number of observations from two C-RCTs, the vaccines have no efficacy against influenza (odds ratio (OR) 0.86, 95% CI 0.44 to 1.68) or lower respiratory tract infections (OR 0.70, 95% CI 0.41 to 1.20) but were effective against deaths from pneumonia (VE 39%, 95% CI 2% to 62%) and deaths from all causes (VE 40%, 95% CI 27% to 50%). All findings must be interpreted with caution given the presence of selection bias." [my emphasis]. Flegel's misquote consists of failing to mention that the RRR reduction refers to influenza-like illness and not influenza and failing to mention the important caveat which I have emphasized in the text¹⁰.

9. Flegel K. Health care workers must protect patients from influenza by taking the annual vaccine CMAJ November 20, 2012 184:1873; published ahead of print October 29, 2012, doi:10.1503/cmaj.121679

10. Doshi P, Abi-Jaoude E, Lexchin J, Jefferson T, Thomas RE. Influenza vaccination of health care workers. Letters. CMAJ 2013. DOI:10.1503/cmaj.113-

The current review provides low quality evidence of no effect of the vaccines on any of the influenza or "influenza related" outcomes. (pp. 15-18)

Later in a section of the report principally addressing masking, Jefferson wrote:

We could find no evidence that vaccination of health care workers in long term or residential care has any effect on the likelihood of their patients having influenza. (p. 24)

In direct examination respecting Cochrane Review A108, Jefferson stated that, based on the four randomized controlled trials examined in the review, there was no evidence that health care worker immunization prevented patient cases of influenza or serious complications. But he said there was evidence of an effect on less specific

outcomes, such as influenza like illness and deaths. Asked to explain how the studies showed an effect in these areas but not influenza, he ascribed it to poor quality methods.

Yassi did not write extensively about the issue of whether vaccination of health care workers reduces transmission of influenza to patients. Most of her report addresses occupational health topics, but she did address the issue. Early on in her report after commenting on the efficacy of influenza vaccine she wrote:

Thus the vaccine was **not** particularly effective anyhow even with respect to *direct* benefit (i.e. protection to the person vaccinated), let alone for *indirect* benefit (i.e. benefit to people other than the person vaccinated). Indeed, indirect benefit to patients from vaccinating healthcare workers is highly questionable, as discussed below. (p. 14)(bolding and italics in original).

Later in the report she wrote:

3.5.1 Is there evidence to support the benefit of a mandatory vaccination of healthcare workers?

It is important to distinguish between the direct benefits of the vaccine – i.e. benefits to the person who is vaccinated – versus the indirect effects of the vaccine – the protection of others – or the creation of what is called “herd immunity” – and is thought to occur at about 80% of the population of healthcare workers and patients. What we know about the benefits of the vaccine is primarily about the direct effects. We know only a little bit about the indirect benefits. As stated above, healthcare workers are at increased risk due to occupational exposure and therefore should have priority access to vaccinations to protect themselves, even if only of marginal value.

This leads us to ask how effective the vaccine actually is. Estimates are now about 45-75% effective – not 70-90% as once thought. The 2012 systematic review by Osterholm and colleagues (2012b) of the efficacy of the influenza vaccine found that, at best, the current influenza vaccine provides moderate (about 60%) protection from laboratory-confirmed disease in healthy adults and that in some seasons, when the vaccine match with circulating strains is poor, this level can be greatly reduced or even completely absent. With respect to this past season, in January 2013, the US Centers for Disease Control and Prevention released a report regarding effectiveness of the 2012–2013 influenza vaccine (CDC, 2013); they concluded that this year’s vaccine is only 55% effective against laboratory-confirmed influenza A and 70% effective against influenza B. A recent update from CDC has now indicated that the vaccine was only 47% effective against the strain of influenza that caused the main problematic outbreaks last year and research conducted by the BC Centre for Disease Control in collaboration with others from across Canada observed that for the viral strain that was causing influenza outbreaks in Canada (H3N2), the

vaccine was only 39% effective in all those who took it, and calculated as 45% effective when rates are adjusted for population differences to allow comparison with other years and jurisdictions (Skoronski, et al., 2013). This strain, according to their careful research, accounted for 90% of the illness. Thus, even with respect to benefit for people who take the vaccine, the majority would receive no benefit.

The four most commonly referenced studies (see Table 1) to support indirect benefit of healthcare vaccination were all done in Long Term Care (LTC) facilities. No studies of this nature were conducted in Acute Care. The Intervention in these LTC facilities was, ironically, *not* a mandatory influenza program—it was a voluntary program in all of these. The researchers achieved vaccination rates of 40-70% (see Table 1). Three of the studies (Potter et al. 1997; Hayward et al., 2000; Lemaitre et al. 2009) suggested a reduction in influenza-like illness. However, in one of these studies (Potter et al. 1997), the reduction in influenza-like illness occurred during an outbreak of respiratory syncytial virus (RSV) before influenza had actually been detected in the community. There was a mortality benefit in two of the studies in the LTCs (Potter et al., 1997 and Hayward et al., 2000), which had the voluntary vaccine programs. When looking to see if the reduced mortality was attributable to reduced mortality from influenza and its complications such as pneumonia, they found no difference either in the influenza infections or in mortality from influenza or pneumonia. Moreover, as also noted by Swift (2012 in discussing these four studies cited often to justify the mandatory vaccination policy, the LTC facilities were not “blinded” as to the intervention; thus providing this *voluntary* program as a potential benefit to healthcare workers may have improved staff morale and reinforced adherence with infection control procedures and vigilance for symptoms of respiratory illness. (pp. 29-31)(italics in original)

The research by my team over the last 25 years makes me inclined to agree with this interpretation of these results. Systematic reviews conducted by the “gold standard” for evidence-based decision-making on health matters, namely, the Cochrane Collaboration (Jefferson et al., 2010), as well as another study recently published in the *Journal Vaccine* (Thomas et al., 2011), re-analyzing the data in the four key studies (cluster randomized controlled trials) described in Table 1, demonstrated that there is actually no real evidence that vaccination healthcare workers prevents influenza in patients.

We created a summary table of the evidence, synthesizing our own assessment with the critiques from the various systematic reviews and commentaries of others on both sides of the debate, so that the adjudicator can make his/her own judgment. – see Table 1. Overall, my opinion is that the evidence is sufficient to require Health Authorities to offer a program of universal vaccination for healthcare workers, but not to force individuals to comply and certainly not to implement or threaten employment termination if healthcare workers, given all the information they should receive decide to decline the vaccine.

McGeer, in several segments of her report, expressed the opinion that vaccinating health care workers reduces transmission of influenza to patients. On the second page of the report she wrote:

There is also no doubt that vaccination of health care providers is an important patient safety issue. As noted in the detailed answers to the specific questions below, there are four randomized controlled trials, and at least one meta-analysis of these trials, demonstrating that vaccination of health care providers in long term care facilities for the elderly reduces mortality during influenza season and rates of influenza-like illness in residents they care for (5-9). Additional observational data suggest that the risk of influenza outbreaks in long term care also decreases as vaccination rates increase (10,11). There are no randomized controlled trials that have assessed the impact of health care provider vaccination on patient illness in acute or ambulatory care settings; however, the biologic rationale for healthcare worker immunization does not vary by healthcare setting. Acute care hospital associated influenza infection occurs at an estimated rate of 3-6 per 1000 hospital admissions (12-15) and influenza outbreaks in acute care are common (15-28): in metropolitan Toronto, 17 outbreaks of influenza in acute care facilities were reported between 2007 and 2011 (personal communication, Dr. Irene Armstrong, Toronto Public Health). In influenza outbreaks in acute care hospitals, health care provider attack rates mirror and sometimes exceed patient attack rates, and transmission from health care provider to patient, provider to provider and patient to provider have all been described (15,16,26-29). In acute care settings, two observational studies have found that lower health care worker immunization rates were associated with higher rates of laboratory-confirmed hospital acquired influenza (30,31), and transmission of influenza-like illness among and between healthcare workers and patients in acute care hospitals was common (32). There are also increasing data confirming that protection is provided to close contacts of vaccinated individuals, strengthening the evidence from acute and long term care that vaccination of healthcare workers not only reduces the risk of individual worker to patient transmission, but also reduces the overall risk of influenza in vulnerable patient populations (33,34). Modelling studies and observational data suggest that increases in healthcare worker immunization from any baseline will lead to incremental reduction in transmission and better patient protection; that is, optimal patient protection requires that all healthcare workers be vaccinated (10,35,36).

McGeer later commented on the randomized controlled trials conducted in the long term care facilities addressed in the Union's expert reports and their criticisms of those trials:

There is very strong evidence that health care worker influenza immunization results in reductions in mortality in the patients they care for. Four randomized controlled trials have demonstrated that healthcare worker immunization in chronic care hospitals/long term care homes for the elderly reduces patient mortality.(5-8) The striking benefit – a 20-40% reduction in mortality during the influenza season – is consistent across studies, occurs only during periods of influenza activity, and increases with increasing healthcare worker immunization rates.

Some reviewers of these studies, most notably Dr. Jefferson's Cochrane review authors, have argued that the results of these trials are not convincing (9). For this reason, it is important to consider the major criticisms of these reviewers carefully.

The criticisms are:

- (i) *All cause mortality is not the appropriate outcome to choose.* The argument here is that influenza causes respiratory illness and that the outcome should be some form of respiratory illness. This is a specious argument. In clinical trials, all cause mortality is always the most important outcome (97)— what we care about most clinically is whether patients are alive at the end of a study. Survival/mortality is also the best outcome to measure, because the measurement is much less likely to be subject to bias than measurement for other outcomes and will almost always be unaffected by whether assessors are blind to the intervention. The reason that all cause mortality is rarely used as an outcome is that clinical trials almost always have to be very large (and thus very expensive) when this outcome is chosen. Thus, we use “intermediate measures” which permit greater efficiency in trial design. In this particular circumstance, when the original RCT (Potter *et al.*, 5) demonstrated an effect on resident all cause mortality during influenza season with an achievable sample size, all cause mortality was clearly most appropriate primary outcome for later studies.

- (ii) *The effect size is too large – it is not possible that preventing influenza would result in this reduction in all cause mortality.* It is true that a part of the reason why we have four randomized controlled trials (RCTs) of this intervention, when we would normally believe evidence and change practice after one or two RCTs, is because the effect size is larger than almost all clinicians and scientists thought it would be. Substantially, the reason that the UK Health Protection Agency commissioned Dr. Hayward's study was to conclusively demonstrate whether the effect measured in the previous two RCTs was real, because it seemed to large to be true. However, as noted above, the effect that has been measured is consistent across trials, in Carman *et al.*'s study, the degree of protection was shown to increase as vaccination increased, and in Hayward *et al.*'s study the protection could only be measured during influenza season, and in the year when there was substantial influenza activity. In addition, in looking at the studies, the absolute decrease in mortality is greatest in the study populations with the highest baseline mortality, again consistent with the expected effect. Sometimes, outcomes in clinical medicine are not what we expect; finding these outcomes is, of course, is the point of doing research. Consistent, reproducible results of randomized controlled trials are more likely to be true than anyone's opinion.

There are actually no data on the incidence of influenza infection or the case fatality rate in these vulnerable populations; based on other data and my experience, I would expect that about 1.3% of vaccinated nursing home residents in Canada would die each year of influenza (an incidence of infection of 16% and a 8% case fatality rate) (76,98-101), such that if increasing the vaccination rate of HCWs by 40% prevented 60% of deaths, the reduction in absolute mortality would be about 0.8%. This is almost exactly what was measured in the study of Lemaitre *et al.* in a similar population (8). The effect size would be expected to be larger in the British studies, in which the population was more vulnerable, as evidence by the higher baseline mortality rates (5-7).

- (iii) *One would expect to see an effect on outcomes such as laboratory-confirmed influenza, pneumonia or hospital admissions for pneumonia.* In the Cochrane meta-analysis, the pooled results of trials showed a statistically significant reduction in all cause mortality, influenza-like illness, and GP consultation for influenza-like illness (9). There was an estimated reduction in laboratory confirmed influenza, pneumonia and hospital admission for pneumonia, but this reduction did not achieve statistical significance.

In the methods section of the Cochrane review, the authors suggest that the most important primary outcome would be laboratory-confirmed influenza, and deaths and hospitalizations due to influenza. There are two important reasons why investigators did not choose laboratory-confirmed influenza as the primary outcome in these studies. The first is purely logistical – when these studies were done, molecular testing for influenza was not available. Thus, influenza infection would have had to be measured by culture and/or serology. Culture of respiratory samples is known to have limited sensitivity (102). Serology is important, but not always reproducible between laboratories (103,104), of limited value in vulnerable populations who may not generate good antibody responses, and of no use in a patient who has died, since antibody levels must be measured after recovery from infection. The second is that influenza itself is not regarded as a particularly important outcome. Having a fever and cough for two days may be unpleasant, but is not serious. Having a positive influenza test when you are admitted to hospital for pneumonia suggests, but does not prove, that the hospital admission is due to influenza. Because vaccination of healthcare workers can only be justified if the impact of such vaccination is on important outcomes, investigators focussed on these more important outcomes.

The secondary outcomes suggested as important in the methods section of the Cochrane review are influenza-like illness (ILI), ILI associated with hospital admission, and all cause mortality. ILI associated hospital admission was only measured in one study (Hayward et al.), in which a statistically significant reduction was detected during influenza season. ILI and all cause mortality were reduced to a statistically significant degree.

In the discussion section of the Cochrane review, the authors appear to ignore their own methods, and suggest that the only secondary outcomes of importance are lower respiratory tract infection (LRTI) and hospitalizations and deaths from pneumonia. It is not clear why this difference between their methods section and their conclusion in the discussion exists. Hospital admissions for pneumonia were not an outcome in any study, and LRTI and deaths from pneumonia are only measured outcomes in one study (*Potter et al.*). In both cases, the point estimate suggests a reduction in the outcome, but the difference is not statistically significant. The likely reason for investigators choosing not to attempt to measure LRTI or pneumonia is the combination of the lack of good criteria for measuring these outcomes, and their lack of specificity. Valid measurement of pneumonia, particularly in elderly residents of long term care facilities is very difficult (105), and there are many causes of pneumonia other than influenza.

- (iv) *The studies are of low quality and at risk of bias.* In fact, the only criticisms of Hayward *et al.*'s study are that the intervention was not blinded (impossible to do, since staff cannot be blinded to a vaccination program) and that data were not available from one of 22 pairs of facilities who dropped out because they could not maintain data collection (9). The loss of less than 5% of data is not a significant loss, and the absence of blinding in a study when death is the primary outcome is also not a significant reduction in quality. Haywards *et al.*'s study is a very high quality study and it is simply incorrect to say that it is at high risk of bias. The quality of this study would be difficult to exceed. The other studies are of lower quality, but the consistency of effect across them is important.
- (v) *There is no comparison of vaccination to a program which fully implements other interventions to prevent influenza transmission in healthcare:* These interventions, as listed by the Cochrane review, include: "hand washing, face masks, early detection of laboratory-proven influenza in individuals with influenza-like illness by using nasal swabs, quarantine of floors and entire long-term care facilities during outbreaks, avoiding new admissions, prompt use of antivirals, and asking healthcare workers with an influenza-like illness not to present for work". This issue is clearly worthy of consideration. Influenza is a common and serious problem in all long term care facilities for the elderly, and it is safe to assume that all facilities involved in these studies had programs to enhance hand hygiene and prevent transmission of influenza. It is also true, however, that no healthcare facility currently has optimal hand hygiene practice, that "avoiding new admissions" may not be possible during influenza season, that there continue to be uncertainties about the best use of antivirals, and that HCWs are known to work ill regularly, and despite policies that suggest that they should not (89,106,107). It is also true that, despite systematic implementation (and regulation) of programs with these elements to prevent influenza in Ontario long term care facilities for at least the last two decades and >90% influenza vaccination rates in residents, influenza outbreaks and sporadic cases of influenza continue to cause significant morbidity and mortality in residents (108, 109, 110). It is most likely that, because of the limitations associated with both these methods of protection and vaccination, we will only achieve best protection of patients if both vaccination and all of these interventions are implemented as effectively as possible.

Thus, careful review of the data from these RCTs, and review of the criticisms that have been advanced, results in a clear conclusion that increasing vaccination rates in healthcare workers results in reduced all cause mortality during influenza season. In addition to the data from these RCTs, observational studies have found that the risk of influenza and influenza outbreaks decreases as the immunization rate of staff increases.(10,11) Additional evidence of protection of close contacts by vaccinating people against influenza is found in studies of school-based vaccination programs (e.g.33), in a randomized controlled trial of vaccination of children in Hutterite communities (34), and in an ecologic study of school-based influenza vaccination programs in Japan (111).

In sum, there is no question that influenza vaccination of healthcare workers providing care for residents/patients in long term care protects residents from significant morbidity and mortality. This reduction is achieved by preventing the

introduction of influenza into these facilities by staff, and by reducing the risk of transmission of influenza among staff and between staff and patients.

There remains the question of whether protection of patients extends to patients in acute care and community care. The relevant differences between these settings and long term care facilities for the elderly are that some patients may not be as compromised as long term care facility residents, and that they may be more likely to have exposures to influenza external to patient care. However, the biologic rationale for healthcare worker immunization does not vary from one healthcare setting to another, and many patients in acute care hospitals and in the community are as vulnerable as those in long term care. There is evidence in acute care hospitals that transmission of influenza occurs between and among patients and health care workers, and that vaccination of staff protects patients from hospital-acquired pneumonia. Influenza outbreaks in acute care are common, and healthcare worker attack rates mirror and sometimes exceed patient attack rates in these outbreaks.(16-28) Two observational cohort studies have found that lower health care worker immunization rates were associated with higher rates of laboratory-confirmed hospital acquired influenza (30,31), and transmission of influenza-like illness among and between healthcare workers and patients in acute care hospitals was common (32). There is no question that vaccination of health care workers will prevent transmission of influenza from them to the patients they care for, whatever the setting. I believe that, because of the potential for other exposures to influenza in patients in the community, the protection afforded by vaccinating health care providers in community and acute care hospital settings is likely less than that provided by vaccinating health care providers in residential long term care. However, the effect size in residential long term care is so large that I think it very likely that the benefit in all settings is clinically significant.

Having healthcare providers wear a mask during influenza season will also provide some protection to their patients and to themselves. The primary purpose of having health care providers wear a mask is to prevent transmission from them to their patients at times when they are shedding virus (prior to symptom onset, if they are working while ill, or if they are asymptotically infected). (pp. 22-27)(italics in original)

Finally, McGeer responded to the Employer's request set out at the beginning of the following passage:

- c. *The B.C. Ministry of Health "Health Care Worker Influenza Control Program Questions and Answers" document (Tab 15) says "vaccinating doctors, nurses and other patient care staff will reduce the risk of influenza transmission to patients." Please provide us with your opinion on this statement and whether it is supported by medical and scientific evidence.*

The reservoir for human influenza is infected human beings. Influenza is acquired by exposure of a person to another person with influenza. Influenza infection is common – depending on the year and on exposure risk (eg. whether there are children in the family), between 3% and 30% of unvaccinated healthy adults develop influenza infection annually (67,76). Influenza virus is shed by

persons before they develop symptoms of influenza, and by persons who are asymptotically infected (80,81). Vaccination prevents approximately 60% of these infections (118). Since an infected healthcare worker can transmit influenza to persons they come into contact with, it must be true that preventing influenza in patient care staff reduces the risk that they will transmit influenza to patients. It is true that not working while ill, good hand hygiene and wearing a mask may reduce the risk of transmission, it is also clear that they do not abrogate the risk. This, while it is possible to argue about the absolute size of the reduction in risk of transmission associated with vaccination, do not believe that there are any circumstances in which there would not be some risk reduction. (pp. 28-29)(Italics in original)

Henry, the second of the Employer's medical experts, addressed the four randomized controlled trials considered in the foregoing expert reports. In doing so she noted ethical issues respecting the conduct of randomized controlled trials in circumstances where vaccination constitutes a known health benefit. She also noted that the Cochrane reviews exclude many other forms of evidence and data. Her opinion was that on all of the relevant evidence and data, health care worker vaccination reduces transmission of influenza to patients. She wrote:

4. There are studies showing influenza immunization in HCW reduces morbidity and mortality in LTC.

There have been four cluster-randomized controlled trials in long term care that have shown very consistent statistically significant reduction in illness and deaths in elderly residents of long term care homes with increasing staff immunization rates (43-46). Dr Jefferson has commented on the details of these studies in his report and refers to the Cochrane review he led as indicating that these studies were flawed because the outcomes of noted benefit were non specific and did not include laboratory-confirmed influenza (47). The review concludes there is no evidence of benefit to patients from HCW immunization. The Cochrane review however, has been itself criticized for failing to take into account the entire body of evidence that supports HCW immunization as having benefit to HCW themselves as well as to residents and patients. The striking benefit to residents in these four studies is highly consistent in all despite differing methodologies and different populations in different countries and in these studies the benefits were consistent with influenza season and severity in the community. The outcomes that were followed in each study were clearly defined at the start of the study and included outcomes that could be measured consistently in each setting. As discussed above, the detection and laboratory confirmation of influenza is complicated in LTC where access to lab and x-ray services is limited and in many cases it is the exacerbation of underlying illness that is triggered from the influenza infection that leads to recognized illness or death rather than the acute infection itself. I have discussed this issue with Dr

Janet McElhaney (Geriatrician and Senior Researcher at the Advanced Medical Research Institute of Canada) and in her many years of research on the impact of influenza in the elderly she describes the impact of influenza as a tipping over of frailty to a point that many elderly are not able to recover from. We see this in elderly people living independently in the community where influenza may lead to worsening of conditions such as heart failure or chronic obstructive lung disease that lead to hospitalization. As many as half of these people will not be able to return to independent living in the community. Contracting influenza in hospital when a patient or as a relatively well resident in LTC can lead to loss of independence, exacerbation of other illnesses and in the frail elderly with no capacity to recover it can lead to death. Strong, consistent data from all four cluster randomized controlled trials supports this view. Restricting the outcome data to lab confirmed influenza only misses the important impact that is not captured due to lack of laboratory testing rather than lack of impact. The Society for Healthcare Epidemiology of America (SHEA) position paper on HCW influenza immunization summarizes this well: "Although each of these studies, like every study, has inherent limitations and biases, the consistency of impact of HCP vaccination across the 4 trials argues persuasively for the positive impact of influenza vaccination of HCP on reducing mortality of residents of extended care facilities" (48). This conclusion was reached after review of the original four studies, other data from healthcare settings as well as the Cochrane review. This is the view held by myself and many others, both individuals and organizations, who have studied in detail the complete body of evidence of benefit from influenza immunization.

Cochrane reviews by their nature exclude all but what is considered the highest level of evidence: randomized controlled trials. This restrictive summary of the evidence has been criticized as being too narrow for many interventions for which much of the evidence is based on observational and analytical studies, not randomized controlled trials. Cochrane reviews work best for determining effectiveness of medications for example where controlled trials are conducted and can be compared between interventions. This is what they were initially designed to support: decision making around competing interventions. There is less support for the use of the Cochrane methodology for supporting decision making where the evidence is not as rigorous. For example a Cochrane review of hand hygiene programs in healthcare excluded 129 of 133 studies found in their review because of lack of rigour or relevance and determined that there was no good evidence for effectiveness of hand hygiene interventions (49). The authors of that review however, concluded that hand hygiene programs should be implemented and promoted. This illustrates the subjective nature of recommendations that can come from Cochrane reviews in areas where the evidence all points in one direction but is not based on clinical trials. In this case, and in the case of influenza immunization, it would be unethical to conduct a randomized trial when the preponderance of evidence shows a benefit. The strict emphasis on quality of studies in the Cochrane review process means that the data used may be less biased but also that only few data are included in the assessment and this means the variance around the estimate of effect can be very large and uncertainty in the decision could be huge (50). The Cochrane review of influenza immunization of HCW excludes the majority of the evidence and then suggests the four cluster randomized trials are of poor quality and should have used end points that the Cochrane reviewers felt were better

compared to the ones the researchers determined to be relevant; this implies that there is no evidence to support a decision or that nothing is known about the issue. In reality a great deal is known but is not accounted for in this process. In a similar situation the authors of the hand hygiene review based their recommendation not on the narrow evidence they assembled for effectiveness but also incorporated a wider range of considerations such as acceptability of programs and the overall body of evidence. Several groups have proposed methodology to assist in decision making in this context that allows incorporation of different types of evidence into syntheses that then are more robust reflections of the body of evidence (51, 52). Less than perfect information can and must be used to make better decisions in these areas where the ideal clinical trial is not possible or even ethical. I suggest that statistical significance is only one factor in assessing evidence and it is not necessarily relevant for decision making where it may be more important to look at all the data available regardless of the study design or purported quality to assist in making the best decisions in an imperfect world. This I believe is the case with influenza immunization of HCW: there are many observational studies, analytical studies and outbreak reports that are of varying quality and design along with several randomized controlled trials and a number of sophisticated modeling studies that **all** show a benefit to both the HCW and to patients and residents in our care. There is a strong consistent positive trend overall in the data and importantly none that imply negative consequences of higher immunization rates in HCW.

An important consideration in recommending influenza immunization for HCW is safety of the vaccine. This has been studied in a variety of settings from vaccine trials to post marketing surveillance of adverse effects following immunization. In an ongoing study conducted by PCIRN (the Principle investigator is Julie Bettinger who I discussed this with in detail) over 12,000 HCW were followed before and after receiving their influenza immunization in 2012. There were no serious side effects and the only adverse effects that were more common after immunization in this large group of Canadian HCW was a sore arm at the injection site (personal communication, in press). This is consistent with a number of well conducted studies that have shown influenza vaccines are very safe and the most common reaction is soreness at the injection site (7, 22, and 53).

In addition to preventing illness among HCW and patients, several studies have shown that immunization reduces HCW absenteeism ensuring a robust workforce that is able to provide quality care and is cost effective (54-58).

b. Please explain any differences in the evidence supporting vaccination or masking of health care workers working in long-term care facilities, working in acute care facilities, working with outpatients, and working in community health care services (for example, therapists or social workers visiting patients in their homes).

The data supporting a beneficial impact of HCW immunization on residents is strongest in the long term care setting (as described above). Fewer studies have been done in acute care as similar trials would be very challenging and costly given the shorted length of stay in acute care, the large number of interactions between staff and patients and with visitors and others in the healthcare setting making it difficult to attribute influenza infection to any one exposure; in addition (as discussed above) influenza is often not recognized in the acute care setting.

However, the biologic rationale for immunizing HCW is the same: HCW in all settings do become infected with influenza, shed virus before they recognize they are ill or work with mild symptoms without realizing they have influenza. Risks associated with influenza are not equally distributed and while it may be a mild illness in a healthy HCW, those patients we care for may have a life threatening illness or may never recover their health after influenza infection. Randomized controlled trials have shown that influenza immunization reduces the risk of influenza in healthy adults and that the vaccine is safe. Thus, regardless of the specific practice setting, interventions that reduce acquisition of influenza will reduce influenza transmission. A very recent report from the Netherlands does support an impact in acute care with even modest increases in HCW immunization rates (59).

c. The B.C. Ministry of Health "Health Care Worker Influenza Control Program Questions and Answers" document (enclosed at Tab 15) says "Vaccinating doctors, nurses and other patient care staff will reduce the risk of influenza transmission to patients." (page 2) Please provide us with your opinion on that statement and whether it is supported by medical and scientific evidence.

I agree with this statement for the reasons I have outlined above. (pp. 9-11)

2. Can Masking Inhibit Influenza Transmission to Patients?

Influenza is primarily transmitted through droplets emanating from an infected person. Commonly this occurs where the infected person coughs or sneezes and a second person inhales or ingests the droplets, but an infected person's cough, sneeze or hands can deposit droplets on a surface which is then touched by another person who subsequently ingests the virus. The value of a mask in this context is a matter addressed in the extracts from the medical reports set out below.

Another matter addressed in the extracts is viral "shedding". An infected person can shed the influenza virus before becoming symptomatic. The extracts below address whether a person shedding the virus can transmit influenza to another person and, if so, whether masking can act as a barrier to inhibit such transmission.

Buchta, in a section of his report describing influenza transmission, wrote:

I will refer you to the slide presentation by Kelly Yu of Vancouver Coastal Health, titled "Annual Residential Care Update on Influenza 2012-2013," slides 8 – 13, which covers very well the issues of reservoirs, anatomy and nomenclature,

antigenic variation, type of infection and mode of transmission. Key points are as follows:

- a. Severity of infection depends on the genetics of the particular virus and the immune status and general health of the host (patient). Certain strains of the virus tend to induce a more robust inflammatory reaction in the host's respiratory tract, creating the devastation as seen in the 1918 epidemic, which was more likely to affect younger victims who had stronger immune systems. More typically with less virulent strains, adults have milder symptoms or no symptoms, particularly if they have been vaccinated yet still contract the illness, but the elderly tend not to mount a good response to the vaccine, putting them more at risk for overt infection, complications and death. People with other serious disease, such as emphysema, heart disease, or neurological disorder are more likely to have complications of ILI, and this is true of children with such conditions as well. Neonates and breastfeeding infants are paradoxically protected by antibodies from the mother while in the uterus and/or through breast milk.
- b. The virus is transmitted from one person to another through close contact (estimated to be within 2 meters) while the infected person is coughing or sneezing. Normal breathing is not considered a mode of transmission. There is some controversy over whether there is airborne transmission (potential of room to room transmission) of influenza through super-aerosolization into tiny droplets during a particularly harsh cough or sneeze, and there have been studies in ferrets that support such transmission, but room-to-room transmission is thought to be unlikely. In a systematic review published in 2010, Cowling *et al.* wrote, "The primary argument against airborne transmission is as much one of absence of evidence as evidence of absence. (Cowling 2010) They found "few compelling examples of airborne transmission of influenza virus and several reports of scenarios where airborne transmission did not occur." The one example cited by Ms. Yu of transmission of influenza in an airplane was published in the 1970s, just one example of many since then that either support or refute airborne versus droplet transmission. Depending on a number of factors, influenza is likely transmitted along a continuum between the droplet and airborne routes.

When an infected person gets oral or nasal secretions on the hands, he/she can transfer the virus to another person directly through touching or indirectly by touching another object later touched by the recipient in the near future, as noted in Ms. Yu's slide #12. However, the presence of viable virus detectable on the hands or inert surface does not constitute transmissibility. A study on influenza transmission in crowded urban households did not find reduction in transmission of influenza through handwashing alone but did find protective effects of mask use coupled with handwashing. (Larson 2010)

- c. Ms. Yu's slide #13 summarizes well the timeline from exposure to resolution, but I beg to differ with the term "period of communicability." One of the most commonly cited reasons for masking unvaccinated HCWs is the issue of the

possible one day of shedding virus before becoming symptomatic. However, as noted in point b. above, simply shedding virus from the mucus membranes does not constitute transmission if the infected person is not coughing or sneezing. Even though hands are a possible mode of transmission, if the infected person is not secreting fluid, he/she is not likely to get virus on the hands anyway. There is no published or logical evidence to suggest that silent shedders are putting others at risk of transmission, particularly in a healthcare setting where the HCWs follow standard infection control precautions (handwashing, distancing, and gloves when appropriate). As for handwashing, it is still a reasonable standard precaution for a variety of infectious agents, but it has not been proven to be effective in preventing the transmission of influenza. To quote Dr. Donald Low, microbiologist at Mt. Sinai Hospital in Toronto, Canada, in the Canadian Medical Journal in 2009, "Handwashing is based on practical rather than scientific considerations." He further explains how influenza transmission by hand contact is less likely than by aerosols in that the receptors for influenza are farther down the respiratory tract than are those for viruses that cause the common cold, making inhalation far more effective in transmission than simply touching one's face. (CMAJ 2009) Thus, transmission is primarily through coughing or sneezing, causing both large droplets and small aerosols containing virus. (pp. 5-6)

In a later section Buchta expressed the following views respecting masking:

However, to fully answer the question, let us assume that unvaccinated HCWs are putting patients/residents at risk. If the alternative to vaccination is masking of HCWs during work performance, the probability of transmission of influenza from HCW to patient/resident is significantly reduced but only when the HCW is symptomatic and wearing the mask properly to act as a barrier to catch the droplets. What about the asymptomatic, unvaccinated HCW? Logically, if the HCW is not coughing or sneezing, then there is no need for a barrier. The literature would support this assertion if one realizes that the surgical mask was developed with the intention of preventing post-surgical infections. While this cause-and-effect relationship seems logical, Dr. Lisa Brousseau, ScD, CIH, of the University of Minnesota discussed three randomized controlled trials from 1981, 1991, and 1991 during an Institute of Medicine Workshop in 2009; none of these studies demonstrated any difference in post-surgical infection whether the surgeon was masked or not, and there has been no subsequent research to offer any other finding. (Brousseau 2009) This lack of efficacy was partially explained by the ineffectiveness of gauze masks, particularly when wet, and by leakage around the edges. I further submit that most surgeons are not coughing or sneezing during surgery, making the mask unnecessary. However, if the HCW is coughing or sneezing, it is very likely that the mask will at least reduce the amount of aerosol reaching a patient/resident within 2 meters of the HCW. There is some evidence of this benefit clinically in a crowded urban setting in New York City when household caretakers of homebound people with ILI were asked to wear masks, and, "if possible, the ill person was also encouraged to wear a mask within 3 feet of other household members." (Larson 2010)

Although compliance with masking was poor in the intervention group and one could not distinguish between the effect of masks worn by the ill person or the caretaker, there was significantly less secondary transmission when masks were worn. Of note, this same study did not find any benefit from use of hand sanitizer alone.

I should note that the body of literature about the effects of masks and respirators is very large and that much of it was spawned by the controversy over their relative benefit to the wearer during the SARS epidemic of 2003 and the H1N1 epidemic of 2009. Almost all of that literature addresses the benefit of masking or respirator use to the wearer. It is simply assumed that masking a symptomatic person, such as someone with tuberculosis, is the right thing to do and will block transmission to others, at least partially. I doubt that any Institutional Review Board would approve a study that compared the transmission rate of influenza or any other respiratory illness when the symptomatic index case was masked as opposed to unmasked; it would not be considered ethical. A recent review article sought to answer whether masks and/or respirators are effective in preventing transmission of influenza. (bin-Reza 2012) Out of 6,015 articles, they found 17 that were suitable for inclusion. Only one study, the Larson study cited above, used masking of the ill person as a factor in the analysis. All of the others dealt with protection of the wearer. Interestingly, their conclusion was that "there is limited evidence base to support the use of masks and/or respirators in healthcare or community settings. Mask use is best undertaken as part of a package of personal protection." However, just this year, Milton published a laboratory experiment that demonstrated a 3.4-fold reduction in the amount of exhaled viral particles from symptomatic influenza patients when wearing a mask, suggesting some protection. (Milton 2013) A review article in 2010 investigated the evidence supporting the use of masks in reducing transmission of influenza. The investigators summarize: "In conclusion, there remains a substantial gap in the scientific literature on the effectiveness of face masks to reduce transmission of influenza virus infection. While there is some experimental evidence that masks should be able to reduce infectiousness under controlled conditions, there is less evidence on whether this translates to effectiveness in natural settings." (Cowling 2010)(pp. 12-14)

Jefferson commented on a Cochrane review addressing masking which appeared to show a beneficial effect:

c. "Physical interventions to interrupt or reduce the spread of respiratory viruses" (Review A122);

A122 was first published in 2007 and last updated in 2010. The review includes 67 studies assessing a mixed bag of interventions: from personal hygiene (handwashing and cough etiquette) to barriers (gloves, masks, gown and goggles) to distancing (quarantine and isolation) to screening at entry ports. A 122 is the odd review out of the module because it assesses multiple different interventions for interruption of transmission of a mixed bag of agents, usually unspecified within the influenza-like illness definition. It also includes evidence from routine studies and studies which were carried out during an emergency: the 2003 SARS outbreak. It is for these reason that it probably is the review with

most public health relevance. When reading the evidence presented in A122 one must bear in mind the logistic difficulty of carrying out most of studies in the review, not just the studies during the SARS outbreak, but studies in halls of residence or studies in hospital healthcare workers who carried uncomfortable masks for hours on the basis of the trial protocol.

The findings of the only partly reliable studies (two cluster-randomised trials by Aiello et al 2010 and Cowling et al 2009) which report influenza cases, suggest that face masks and hand hygiene may reduce respiratory illnesses in shared living settings and mitigate the impact of the influenza A (H1N1) pandemic compared to no control interventions. The trials however were beset by design and recruitment problems and by low viral circulation.

Overall the evidence base appears to show an effect of barrier and hygienic measures especially if combined against influenza-like illness transmission. In A122 meta-analysis (pooling) of data was carried out only on six studies assessing the effect of sundry measures on the transmission of SARS. This due to the disparate nature of the remainder of the evidence with different designs, interventions, outcomes, populations and data reporting formats. There is no reason to believe that effectiveness against influenza-like illness would be vastly different from that against influenza as the measures assessed are non-specific. However, some interventions (such as masks) are not free from harms such as skin irritation, loss of orientation and impediment to communication, a point made in the review.

Yassi spent most of the masking section of her report comparing N95 respirators and surgical/procedure masks, noting that the former are used to protect the health care worker and the latter to protect the patient. It is not necessary to quote those portions of the report. With respect to surgical/procedure masks she wrote:

In WHO Guidelines, and in all the materials our group has reviewed over the years in formulating recommendations and producing evidence-based guidelines (Institute of Medicine, 2004; Yassi et al., 2009; Yassi et al. 2003, etc.) as well as training materials (e.g. Bryce et al., 2008; Hon et al., 2008; O'Hara et al., 2012; tools available at: <http://innovation.ghrp.ubc.ca>), the principle point is that a *physical barrier* – as would be provided by a surgical mask – could be useful in limiting short-distance transmission by direct or indirect contact and large droplet spread, however better precautions are needed to prevent infection via airborne spread of small (nuclei) droplet particles (aerosols). With respect to influenza, the main mode of transmission is thought to be droplet spread and direct contact. However, it has been shown that aerosol transmission does occur at appreciable rates (e.g. Tellier 2006; Tellier 2009); and Weber and Stilianakis (2008) (among others) found that contact, large droplet and small droplet (aerosol) transmission are all potentially important modes of transmission for influenza virus. With respect to airborne or aerosol transmission, to quote the results of the recent systematic review on this issues (Cowling et al., 2010): *“surgical masks are unlikely to lead to reduced infectiousness or protection*

against infection, if worn by ill or by uninfected people, respectively.” There is actually quite wide agreement on this point as well. (p. 16)(italics in original)

In the concluding paragraph of the masking section she wrote:

In summary, there is increasing evidence in favour of N95s as superior respiratory protection for healthcare workers. The logical conclusion is that if healthcare workers are going to be forced to wear a mask or a respirator all shift it should at least be a respirator, as that would at least potentially afford them better protection. If the Health Authorities deem this too expensive, or too inconvenient (as may well be a valid position in my opinion, even from the perspective of healthcare workers themselves, as discussed next), it should at least be acknowledged that **the mandatory continuous use of a mask is likely of limited value in protecting healthcare workers from acquiring and especially of transmitting influenza.** Indeed the number of mask-hours required to even theoretically prevent the transmission influenza by an asymptomatic healthcare worker would be astronomical. (p.21)(bolding and italics in original)

In direct examination, Yassi stated that health care workers, whether or not vaccinated, should wear masks if they are coughing or sneezing. In cross-examination, she agreed that masks limit transmission of ILI or influenza droplets.

Shedding and its potential to infect others is considered in McGeer's report. She stated:

The reservoir for human influenza is infected humans; there is no carrier state for influenza, human influenza does not easily infect other species, and influenza cannot multiply in the environment (67). Infection with human influenza is thus always acquired from another human being. Infected individuals shed virus from their respiratory tract when they breathe, talk, cough or sneeze. It is logical to assume that the more virus is shed, the greater the risk of transmission, although this has not been proven. Further, it is apparent that individual characteristics of a person's exhaled breath may have a significant impact on the amount of virus shed and the amount of virus in particle of different sizes (78,79). Asymptomatically infected persons may shed virus, and thus can potentially infect others (80). Similarly, virus is shed prior to the onset of symptoms, when infection can also potentially be transmitted. One recent study estimated that 15-22% of influenza transmission can be attributed to asymptomatic infection, or infection prior to the onset of symptoms (81).

The great majority of virus is present in large droplets, which can be deposited on the hands of the infected person, on the face or hands of others, or on objects in the environment (82,83). Large droplets travel "ballistically" from the mouth, and most are deposited within a few feet of the infected individual.

However, as the droplets move away from the infected person, they dry out and become much smaller; these "droplet nuclei" can travel long distances on air currents. Individuals may be infected because droplets are deposited on the mucous membranes of their mouth, nose or eyes; because droplets deposited on their hands inoculate their mouth/nose/eyes when hands are raised to the face; because droplets deposited on the environment contaminate their hands, which are then raised to their face, or because they breathe in "droplet nuclei". Which of these mechanisms are more important in transmission remains the subject of a great deal of controversy (84-86). The demonstration the increasing hand hygiene results in reductions in transmission of influenza (87) means that contamination of the hands must play a significant role in transmission, but does not rule out other routes as contributing significantly. There is a relative absence of evidence for transmission of influenza over long distances, suggesting that inhalation of airborne particles is a less common mode of transmission, but these data do not mean that infection by inhalation of small particles never occurs (86). (p. 19)

McGeer returned to virus shedding and masking. She wrote:

Having healthcare providers wear a mask during influenza season will also provide some protection to their patients and to themselves. The primary purpose of having health care providers wear a mask is to prevent transmission from them to their patients at times when they are shedding virus (prior to symptom onset, if they are working while ill, or if they are asymptotically infected).

Two types of studies are available to consider the protection afforded by masks (called surgical or procedure masks) and respirators. Experimental studies measure influenza virus concentrations in different particle sizes in the air and in people's airways, and have asked whether masks prevent both egress and ingress of particles containing influenza. There is good evidence that surgical masks reduce the concentration of influenza virus expelled into the ambient air (a 3.4 fold overall reduction in a recent study) when they are worn by someone shedding influenza virus (56,57). There is also evidence that surgical masks reduce exposure to influenza in experimental conditions (112). There is disagreement in the literature as to whether N95 respirators reduce expelled virus more effectively than surgical masks (56,113,114). The extent that N95 respirators add protection to surgical masks to prevent exposure to influenza virus in droplets or aerosols is currently uncertain: there is evidence that they improve protection (114), but whether the increase is clinically significant is unknown. In addition, the degree of protection depends on exactly which surgical mask and which N95 respirator, and whether the respirator is fit tested or not.

Clinical studies have also suggested that masks, in association with hand hygiene, may have some impact on transmission of influenza infection (58-60, 115). These studies are not definitive. The household studies are limited by that fact that mask wearing did not start until influenza had been diagnosed and the patient/household enrolled in the study, such that influenza may have been transmitted prior to enrolment. The study of in student residences is limited by the fact that participants wore their mask for only approximately 5 hours per day.

Two systematic reviews of the cumulative studies conclude that there is evidence to support that wearing of masks or respirators during illness protect others, and a very limited amount of data to support the use of masks or respirators to prevent becoming infected (116,117). One concluded: "the effectiveness of masks and respirators is likely linked to early, consistent and correct usage".(117)

In summary, there is evidence that supporting the use of wearing of masks to reduce transmission of influenza from health care workers to patients. It is not conclusive, and not of the quality of evidence that supports influenza vaccination. Based on current evidence, patient safety would be best ensured by requiring health care providers to be vaccinated if they provide care during periods of influenza activity. However, if health care workers are unvaccinated, wearing masks almost certainly provides some degree of protection to their patients; in my view, it is possible that this degree of protection is as good as that conferred by current vaccines. (pp. 27-28)

Henry addressed masking in the course of responding to a request for her opinion about the relative merit of N95 respirators and masks, writing:

e. The same document at page 7 says that surgical or procedure masks have been shown in a randomized controlled study to be as effective in prevention of transmission of influenza as N-95 respirators in the acute care setting. Please give us your opinion on this statement and whether it is supported by medical and scientific evidence.

This statement needs to be put in the context of the overall policy document which describes HCW wearing of masks as a 'source reduction' strategy for those who refuse or cannot be immunized. Immunization is clearly superior in terms of protection from influenza as the vaccine needs only be received once in the season and it protects the HCW at work and in the community (providing individual protection for the HCW and their family/contacts in the community as well as in the work setting). Wearing a mask will only protect the patient for the short encounter in the healthcare setting. The mask option is described as a way to provide choice to HCW but is not intended to replace immunization as the primary measure to prevent influenza in healthcare settings. Studies have shown however, that wearing a mask can capture droplets containing viable respiratory viruses (including influenza) from an ill person (65,66). Given the data that show HCW frequently work ill and/or do not recognize their illness, mask wearing needs to be throughout the period when influenza is circulating in the community to be effective. This is supported by studies in home setting and in community settings like college dormitories as well as in lab studies (67-70) There is also a potential for mask wearing to provide a benefit to the HCW by providing a barrier to them contacting respiratory viruses or bacteria from an infectious patient (frequently with unrecognized infection). This option therefore can work to protect patients and also HCW. In discussions I have had over the 2012-13 influenza season with a variety of HCW there is general acceptance of mask wearing when HCW have a concern they may be infected with a virus (the common cold being the one many HCW brought up) and a degree of comfort in

telling patients that they are wearing a mask to be sure they don't pass on anything. This is part of a program of respiratory hygiene (covering your cough, cleaning your hands, staying home when you have a fever....for both HCW and patients) that have been routine in healthcare since the SARS outbreak in 2003.

The comment above about protection from masks versus respirators was part of a document explaining the source reduction strategy and why respirators were NOT recommended. First, data supports that masks are effective for source reduction and secondly a number of studies have shown that masks can protect the wearer as well. The contention that masks are as effective as respirators is based on a seminal study by Loeb et al that found that the protection from masks in a real world setting were the same as that from respirators (71). Dr Yassi brings up a number of criticisms of this study however, the study design was robust and the non-inferiority criteria were established a head of time making the study valid in most people's opinions (72). Several other studies have come to the same conclusion including a study by McIntyre that Dr Yassi does not discuss (72). This study initially reported that respirators were superior but the analyses were found to be flawed and when it was analyzed correctly there was again no difference found between use of masks and respirators in protecting HCW. There has been intense debate since the SARS outbreak in 2003 about the optimal protection of HCW from respiratory infections using masks versus respirators. This is especially true given the greater discomfort and side effects HCW experience when wearing respirators. The primary aim of the mask option of the Influenza protection policy is to enhance patient safety however there is reasonable probability that this strategy will also provide some individual benefit to the HCW wearing a mask. (pp. 12-14)

3. Can Masks Impair a Health Care Worker's Ability to Perform Job Functions?

The medical experts offered opinions respecting this question, albeit very briefly. For example, Jefferson in a previously quoted portion of his report stated that "some interventions (such as masks) are not free from harms such as skin irritation, loss or (of?) orientation and impediment to communication, a point made in the review" (p. 20).

Yassi commented more extensively:

3.1.2 Can wearing a mask do any harm?

The added physiological burden endured by the wearer of mask includes an increase in temperature and humidity caused by expired air trapped within the mask (Beck et al., 2004; Donney et al., 2003; Li et al., 2005; Roberge 2008;), increased in respiratory resistance (Roberge 2008); possible skin irritation and itchiness (Donney et al., 2003; Li et al., 2005; Jonas-Simpson, 2003) and a potential sensation of overall discomfort (Farquharson and Baguley, 2003; Li et al., 2005; Ofner-Agostini et al., 2006; Shenal et al., 2012). This widely reported

discomfort poses a considerable problem with the efficacy of usage of masks by healthcare workers (Roberge 2008), especially over extended periods (Shenal 2012), perhaps explaining the "compliance issue" often reported in the literature (Cowling et al., 2010).

Vocal and auditory acuity can also be impaired while wearing a mask (Donney et al., 2003; Khoo et al., 2005; Meyer et al., 1997; Roberge 2008), as may be speech intelligibility (Roberge 2008), thus negatively impacting communication amongst workers. In an environment in which patient safety is enhanced by clear, efficient, precise and prompt communication, the mask-wearing induced hindrance to communication is thought, by some authorities to potentially compromise work quality and patient safety (Roberge 2008). As for non-verbal communication, it is completely impaired by mask-wearing (Beck et al., 2004). This will pose a significant challenge for people who rely on lip-reading and subtle facial cues, such as people who are hearing impaired or linguistically challenged, and children (Beck et al., 2004). The possible effects of masks on visibility (Chow 2004; Donney et al., 2003; Khoo et al., 2005; Meyer et al., 1997) and communication can possibly impact patient-healthcare worker rapport, though little research has assessed the psychosocial impact of masks in a healthcare setting.

Additionally, to avoid self-contamination and respect standard precautions, the same mask cannot simply be worn all day, putting it into one's pocket or hanging around one's neck. Healthcare workers would have to change their mask when it gets wet or contaminated; and, according to standard infection control practices, would be expected to change masks after caring for a patient with an infectious disease before caring for someone else. A healthcare worker having to use the same mask for hours on end, in addition to the physiological burden, discomfort and inconvenience, would likely have to adjust his or her mask, and unless able to wash hands immediately before doing so, can even be increasing the risk of infecting oneself. This is especially the case because when a mask becomes damp from exhaled moisture, it not only increases the resistance to airflow but is also less efficient at filtering pathogens. The number of masks that would be required to be available (preferably adjacent to hand-washing stations) would be daunting. When there is an important reason to wear a mask – to protect the health of healthcare worker or to protect others – the added physiological burden, possible effects on communication and rapport, as well as cost of supplying an adequate number of masks would be secondary. However, when there is no valid reason for wearing a mask or N95, these factors argue against the policy of masking throughout the work shift. (pp. 21-22)

McGeer and Henry did not comment about the topic of this section in their written reports, but in their oral evidence they did not share the opinions of the Union's experts.

In addition to the foregoing evidence, the Union called a number of bargaining unit employees who testified about the effect of masking upon their ability to carry out their job functions. Mr. Brendan Shields, a music therapist at a long term care facility in

Richmond, sings and plays musical instruments with individuals and groups, to address depression and isolation arising from dementia. He testified that he uses music to build relationships, saying persons with dementia often lose the capacity to speak one complete sentence but can sing a whole song because of the manner in which the brain processes music. Shields takes the influenza shot, but he was asked whether he could have performed his job had he not been immunized. He said he could perform some parts of his job masked but could not perform many other parts which depend upon patients being cued by looking at his face and mouth.

The evidence of Hodges, a registered psychiatric nurse, was partially reviewed in an earlier section of this award. She also testified about the effect of masking on her work in a psychiatric unit of an acute care facility on Vancouver Island. When the Policy was implemented last year, Hodges contacted Ms. Nora Koros, manager, mental health and addiction services, to express concern that masks would put nurses working with volatile psychotic patients at risk. She spoke about a patient with a psychotic view about germs, saying that masks would "wind him up". Hodges also testified about a new graduate who was wearing a mask because of his cold. She said she witnessed a patient who threatened to kill him. Apart from risks, Hodges testified masking would impair her ability to counsel psychiatric patients because they need to see her face, giving as an example a need on the part of the patient to ensure that she is not laughing.

Hodges testified that she sometimes is asked to wear a mask in medical wards and has no objection to doing so, because volatile patients are not there and the patients who are present are used to seeing masks. In cross-examination, Hodges said that she has no problem with masking in general and would do so if asked, but does have one when working with psychiatric patients. She agreed that her main issue is with patients who are out of control and have not been brought under control with medication.

The evidence of Smith, a receptionist/clerk, has also been partially recounted earlier in this Award. She fields approximately 100 to 150 telephone calls a day and greets patients attending the facility. Asked to express her concerns respecting masking she responded that it would be hard to talk on the phone and that hearing impaired persons would not be able to hear her. She also expressed concern about the impression masking would make on persons arriving and being greeted at the facility.

The evidence of Holloway, a social worker, has also been partially recounted. With respect to masking, in direct examination she expressed the following concerns. Last year for a period of three and one half weeks, she was required to mask during a period when there was a Norwalk virus. She said the mask was incredibly uncomfortable, became moist and made breathing difficult. Holloway said patients focused on the mask but did not say anything. Holloway said masking also changed their interaction with patients, making it difficult to communicate and build therapeutic rapport.

The evidence of Neeman, a speech/language pathologist has also been partially addressed. She works with children who are five years old or younger. In some of her work she sits with a child at a small table, makes eye contact and models what to do with her face, mouth, lips, tongue and teeth. Building rapport, she said, is a very important aspect of the work. Neeman testified that when the Policy was introduced she spoke to her manager, saying that she did not see how she could do her work while masked.

In cross-examination the Employer produced a clear plastic mask said to be used in surgery. Neeman testified that she had never seen such a mask. In redirect examination, Neeman said she had been instructed to wear a surgical mask under the Policy.

Turning to witnesses called by the Employer, Daly testified about masking and accommodation under the Policy. She said that masking policies have evolved over the last 15 years and there are now many more situations in which masks or respirators are required. She drew a comparison with dentists, testifying most now wear masks. Again referring to the evolution of infection control policies, Daly said she had never experienced staff concerns. Referring to the SARS outbreak, Daly said staff, believing they were at risk, asked for masks. Asked if masks would impair the ability of staff to do their duties, Daly answered that masks would not interrupt duties and that some staff wear masks all day. She testified that if a masking issue arose, the matter would be reviewed on a case-by-case basis. If it were a skin issue, Daly said a medical specialist would be consulted. If the issue were interference with job duties she said a senior management committee, which included her, would review the matter.

In cross-examination Daly agreed that staff requests for masks during the SARS outbreak were made for the protection of the health care workers. With respect to the review committee spoken about in direct examination, Daly said there was no documentation but the decision had been made in meetings a month ago.

Van Byunder also testified about masking. In direct examination he said that masking was not an issue during the SARS or Pandemic episodes. With respect to medical or job duty issues, his evidence was the same as that of Daly. If a health care worker raised a skin issue, he said the matter would be assessed by a physician and accommodated. With respect to interference with job duties and using a speech/language pathologist as an example, he said there is no class exemption, but an accommodation would be made if needed. As an example, he said a vaccinated alternate staff member would be preferable but if there was no availability the unvaccinated employee could use a clear plastic mask. Testifying more generally, Van

Byunder said medical and job duty issues would constitute "rare examples" and that he was not expecting such issues would often arise.

In cross-examination, Van Byunder agreed that the Policy does not speak to individual accommodation. When it was pointed out that the Policy does not speak about clear plastic masks, Van Byunder replied that, as applied, people with special needs would be accommodated.

Finally, Buchta referred to a California case in which mask complaints were few and in which suitable alternative masks were possible:

At the University of California Irvine, infection control practitioners were able to increase HCW influenza vaccination rates from 45% to 60% by 2006 through decentralized vaccine distribution, mobile carts, mandatory declinations, vaccination fairs, and educational campaigns. (Quan 2012) However, holding the erroneous assumption that influenza causes annual mortality of 36,000 deaths in the USA (mentioned three times in the article), they were unsatisfied with that level of participation and instituted mandatory vaccination that, over a span of 5 years with a policy very similar to the Policy in British Columbia, resulted in 93.7% vaccination by 2011 for 2,230 of 2,379 eligible personnel, implying that 149 HCWs were either masked or terminated (latter option not specifically addressed). Only four HCWs had "mask complaints," and "in all cases, a suitable alternative mask was identified."(p.10)

4. Evidence of Potential Negative Impacts of Health of Health Care Workers

At the outset of her report Yassi wrote, "You specifically asked me to respond to the question of whether the Policy could have potential negative effects, and specifically, whether the mandatory nature will potentially have negative effects on the healthcare workforce including employee morale and mental health". Yassi's response included an occupational health perspective. The focus of this section is certain aspects of her evidence pertaining to this perspective. It should be noted, however, that evidence of other witnesses recounted in previous sections of the Award have also touched on this area.

Yassi's evidence was that healthcare workers perceive the policy as being coercive, insulting and punitive with the consequence that there are potential negative impacts on employee morale, as well as their mental and physical health. She wrote:

3. 1.5 If the evidence does not support this Policy, what could be the rationale?

As noted by Modak and colleagues (December 2012), "*masking has been reported as an effective way to increase influenza vaccination among healthcare workers. In surveys of first-time vaccine recipients, the inconvenience and stigma of masking was the strongest motivator for vaccination.*" A key study on this issue was by Marx and Gastelum (2011) who reported on an influenza program that consisted of voluntary vaccination with mandatory mask use in a hospital in California. They noted that some employees initially objected to the mask, so many decided instead to get vaccinated – driving employee vaccination rates up to 87.2%. In other words, employees "chose" to get vaccinated as the lesser of the two evils.

Words used by healthcare workers to refer to this policy include coercive and insulting, and have referred to the mask requirement as "*targeting the individual for exercising her rights to refuse a medical intervention*" (Mirza, 2012). In the words of Dr. Jane Orient, Executive Director of the American Association of Physicians and Surgeons (AAPS), an organization of physicians in all specialties in the US, in a letter in December 2011 to the Colorado Public Health officials who were also recommending a policy similar to the one in BC: "*The mask requirement seems to be nothing more than a punitive retaliation against those who decline the vaccine. The mask requirement should be dropped.*" I agree, and will discuss the potential negative impacts on employee morale, as well as mental and physical health below. (pp.24-25)(italics in original)

Yassi also posed the following threat respecting attitudinal reactions:

3.5.4 Are there other downsides to being vaccinated against one's own judgement?

The mandatory vaccination (or shaming people with labels and masks into getting vaccinated "voluntarily") is also a threat to the health of healthcare workers in another way. If healthcare workers feel that they have been misled about the benefits of *this* vaccine, they may begin to question the value of other vaccines – which they really ought not to do. Vaccination against a host of diseases is well established, and healthcare workers need to continue to be vaccinated against these (including hepatitis B, as well as measles, mumps, rubella, varicella, and pertussis, for example). If being forced to annually take a vaccine of potentially much less effectiveness means risking undermining confidence in other vaccines, this could be quite problematic. (pp. 41-42)(italics in original)

Later, addressing a study she had conducted, Yassi expressed the opinion that health care workers perceive the Policy to be unfair:

How do we know that healthcare workers perceive this Policy to be unfair? In the ten focus groups we conducted throughout BC in the years leading up to this Policy, we heard statements to this effect (Yassi et al., 2010). Indeed, as we stated in our Canadian Journal of Public Health article: *"we found, unequivocally across the 10 facilities and all subsectors, that HCWs[healthcare workers] spoke of the importance of the personal nature of making the choice, or not, to be vaccinated. We found that HCWs expressed frustration at the simplicity of vaccination campaigns, which they felt lack scientific information, i.e., access to both systematic reviews and peer-reviewed materials...HCWs expressed the need for a broadened communication campaign with regard to influenza vaccination in which basic principles of infection control and healthy lifestyle choices are included. They felt that current influenza vaccination campaigns were conducted in isolation from other 'health promotion' activities, and they wanted a more unified message about the importance of workers' health and safety on an ongoing basis."* As cited in our 2010 publication, healthcare workers felt that they should not be forced to be immunized. As one participant stated: *"I think the coercion backfires in that it gets people's backs up, and then they become more polarized... I think there should be enough education out there that you're allowed to make a respectful independent decision based on your own views and experience with the understanding that our mandate is to protect the elderly."* (p. 50)(italics in original)

Pausing here, it will be noted that Yassi's study consisted of ten focus groups. Parenthetically, the evidence at the hearing was not empirical in the sense that it did not establish the percentage of healthcare workers in the Health Authorities as a whole, who are opposed to, in favour of, or have no opinion about the Policy. Summarizing her views, Yassi stated:

In summary, while there have been no studies *specifically* on the negative mental and stress-related physical health effects of mandatory vaccination programs, it is reasonable to conclude that the Policy proposed in BC could hurt morale, cause mental health symptoms including burnout, can cause stress-related aggravation of musculoskeletal problems, and can potentially even hasten coronary heart disease related to workplace stress. A Policy perceived as inappropriate or unfair can undermine the extent to which healthcare workers are motivated to follow infection control procedures (which poses risks to patients and to themselves) and it can contribute to skilled healthcare professionals leaving the healthcare sector. (p. 51)(italics in original)

The foregoing concludes the Background section of this Award. I add this. The foregoing narrative is not an exhaustive account of the evidence. As noted at the outset of this Award, the body of evidence was voluminous and, accordingly, it is not practicable to reproduce it in its entirety. That said, I have endeavored to be mindful of the evidence adduced in my deliberations.

III. THE PARTIES' POSITIONS

The Union's essential positions, in outline, were as follows. It asserted the Policy violates and is inconsistent with the Collective Agreement in a number of respects. More specifically, it asserted the Policy violates Article 6.01(a), which states in its relevant part:

6.01 Medical Examination and Immunization

- (a) An employee may be required by the employer, at the request of and at the expense of the employer:
 - (i) To take a medical examination by a physician of the employee's choice.
 - (ii) To take skin tests, x-ray examination, vaccination, inoculation and other immunization (with the exception of a rubella vaccination when the employee is of the opinion that pregnancy is possible), unless the employee's physician has advised in writing that such a procedure may have an adverse effect on the employee's health.

The Union submitted that the Policy also violated Article 4, which states:

ARTICLE 4 – MANAGEMENT RIGHTS

4.01 General Rights

The management of the Health Organization is vested exclusively in the Employer. All functions, rights, powers and authority which the Employer has not specifically abridged, delegated or modified by the Agreement are recognized by the Association as being retained by the Employer.

4.02 Direction of Employees

The direction of employees, including the hiring, dismissal, promotion, demotion and transfer of employees, is vested exclusively in the Employer except as may be otherwise specifically provided in this Collective Agreement.

4.03 Employer Rules

Employees shall be governed by rules adopted by the Employer and publicized on notice boards, or by general distribution, provided that such rules are not in conflict with the Agreement.

More generally, the Union asserted that regardless of which part of the Collective Agreement the Employer relies on, the Policy is subject to a reasonableness standard.

Finally with respect to the Collective Agreement, the Union referred to Article 39.01 of the Collective Agreement and submitted that the Policy contravened the *Human Rights Code*, RSBC 1996, c. 180. Article 39.01 states:

39.01 The parties subscribe to the principles of the *Human Rights Code* of British Columbia.

In taking the foregoing positions, the Union asserted that the Policy does not pass muster because it was not shown to be reasonably necessary, a higher standard than that applied in *KVP Co. v. Lumber & Sawmill Workers' Union of Canada, Local 2537 (Verneau Grievance)*, [1965] O.L.A.A. No. 2 (Robinson). In the alternative, viewed as a unilateral policy, the Union asserted that the Policy is subject to *KVP* standards and does not meet those standards.

Moving to provincial legislation, the Union submitted the policy is discriminatory, contrary to s. 13 of the *Human Rights Code*, RSBS 1996 c. 165. Further, the Union submitted that the Policy infringes employees' privacy rights, contrary to the provisions of the *Freedom of Information and Protection of Privacy Act*, RSBC 1996 c. 165.

Finally, the Union submitted the *Canadian Charter of Rights and Freedoms*, Part 1 of the Constitution Act, 1982, being schedule B to the *Canada Act 1982 (UK)*, 1982, c. 11, applies to the Employer, that the Policy violates s. 2(b) and s.7, and is not saved under s. 1.

Underlying all of these positions, the Union submitted, is a desire on the part of health care workers for autonomy and the dignity of choice with respect to their personal health care decisions. The Union's position was the Policy is mandatory, coercive, stigmatizing and shaming.

In taking the foregoing positions, the Union asked for rulings on the Policy as originally implemented and as amended.

The Union presented the following Canadian authorities and legislation, cited in order of their appearance in its briefs of authorities: *Communications, Energy and Paperworkers Union of Canada, Local 30 v. Irving Pulp & Paper, Ltd.*, 2013 SCC 34; *KVP Co. v. Lumber & Sawmill Workers' Union, Local 2537*, [1965] O.L.A.A. No. 2 (Robinson); *Rosewood Manor v. Hospital Employees' Union, Local 180*, [1990] B.C.A.A.A. No. 207 (Greyell); *Insurance Corporation of British Columbia v. Canadian Office and Professional Employees' Union, Local 378*, [2010] B.C.A.A.A. No. 22 (Burke); *Vancouver Island Health Authority v. British Columbia Nurses' Union*, [2004] B.C.A.A.A. No. 210 (Munroe); *Brinks Canada Ltd. v. Independent Canadian Transit Union, Local 1*, [1995] C.L.A.D. No. 1202 (Ready); *Metropolitan Toronto (Municipality) v. C.U.P.E.*, [1990] O.J. No. 537 (C.A.); *Re Shaughnessy Hosp. Society and Hosp. Employees Union, Loc. 180*, [1998] B.C.A.A.A. No. 64 (McPhillips); *Delta School District, No. 37 v. Canadian Union of Public Employees, Local 1091*, [1999] B.C.A.A.A. No. 526 (McPhillips); *Ottawa Hospital v. Canadian Union of Public Employees, Local 4000*, [2013] O.L.A.A. No. 6 (Slotnick); *Health Employers Assn. of British Columbia v. British Columbia Nurses' Union*, [2006] B.C.A.A.A. No. 167 (Burke); *Trillium Ridge Retirement Home v. Service Employees Union, Local 183*, [1998] O.L.A.A. No. 1046 (Emrich); *Carewest v. Alberta Union of Provincial Employees*, [2001] A.G.A.A. No. 76 (Smith); *St. Peter's Health System v. Canadian Union of Public Employees*, [2002] O.L.A.A. No. 164

(Charney); *Chinook Health Region v. United Nurses of Alberta, Local 120*, [2002] A.G.A.A. No. 88 (Joliffe); *North Bay General Hospital v. Ontario Nurses Assn.*, [2008] O.L.A.A. No. 669 (Chauvin); *Vancouver (City) v. Vancouver Firefighters Union, Local 18*, [2004] B.C.A.A.A. No. 53 (Nordlinger); *Fording Coal Ltd. v. United Steelworkers of America, Local 7884*, [2000] B.C.A.A.A. No. 112 (Hope); *Eldridge v. British Columbia (Attorney General)*, [1997] S.C.J. No. 86; *British Columbia Public School Employers' Assn. v. British Columbia Teachers' Federation*, 2005 BCCA 393; *Chamberlain v. Surrey School District No. 36*, 2002 SCC 86; *Godbout v. Longueuil (City)*, [1997] S.C.J. No. 59; *Weber v. Ontario Hydro*, [1995] S.C.J. No. 59; *Ontario Nurses' Assn. v. Eastern Ontario Health Unit*, [2005] O.L.A.A. No. 766 (Chodos); *Slaight Communications Inc. v. Davidson*, [1989] S.C.J. No. 45; *Blencoe v. British Columbia (Human Rights Commission)*, 2000 SCC 44; *Fleming v. Reid*, [1991] O.J. No. 1083 (C.A.); *R. v. Big M Drug Mart Ltd.*, [1985] S.C.J. No. 17; *Freedom of Information and Protection of Privacy Act*, RSBC 1996, c.165; *Health Authorities Act*, RBC 1996, c. 180; *Human Rights Code*, RSBC 1996, c. 210, and *Canadian Charter of Rights and Freedoms*, Part 1 of the *Constitution Act, 1982*, being schedule B to the *Canada Act 1982 (UK)*, 1982, c. 11.

The Union also presented the following United States authorities and literature, cited in order of their appearance in its United States brief: *SEIU 121RN and United Healthcare Workers-West v. Los Robles Regional Medical Centre, Riverside Healthcare Community Hospital, West Hills Hospital, San Jose Healthcare System, and Good Samaritan Hospital (Inoculation/Communicable Disease Policy)*, unreported (July 5, 2010) (Goldberg, Arb.); *State of Iowa, Board of Regents, University of Iowa v. AFSCME/IOWA Council 61, Local 12*, unreported (November 1, 2009) (Perry, Arb.); *Virginia Mason Hosp. v. Washington State Nurses, Assoc.* 511 F. 3d 908 (9th Cir. 2007); Randall, Lisa H. et al., "Legal considerations surrounding mandatory influenza

vaccination for healthcare workers in the United States” (2013) 31 Vaccine 1771; Rakita, Robert M., “Mandatory Influenza Vaccination of Healthcare Workers: a 5-Year Study” (September 2010) 31:9 Infection Control and Hospital Epidemiology 881; Khodyakov, Dimitry, et al., “A qualitative analysis of the impact of healthcare personal influenza vaccination requirements in California (2013) Vaccine, and Stewart, Alexandra M. and Marisa A. Cox, “State law and influenza vaccination of health care personnel” (2013) 31 Vaccine 827.

In its reply submission concerning mootness, the Union presented the following authorities, cited in order of their appearance in its brief: *National Automobile, Aerospace, Transportation and General Workers Union (CAW-Canada) Local 114 v. Securicor Canada Ltd.*, [2004] C.L.A.D. No. 377 (Dorsey); *Jazz Air Limited Partnership (Air Canada Jazz) v. Canada Council of Teamsters, Local Union No. 31*. [2008] C.L.A.D. No. 8 (McDonald); *Comox Valley School District No. 71 v. Comox District Teachers' Assn.*, [2009] B.C.A.A. No. 88 (Larson); *Re Windsor Roman Catholic Separate School Board and S.E.I.U., Local 210*, [1994] O.L.A.A. No. 135 (Joliffe), and *Re Durham Region Roman Catholic Separate School Board and C.U.P.E., Loc. 218*, [1991] O.L.A.A. No. 45 (Brandt).

The Employer's essential positions, in outline form, were the following. Its first and primary position was that the Employer was entitled to implement the Policy by virtue of the provisions of Article 6.01 of the Collective Agreement. Article 6.01, it submitted, constitutes a negotiated balance of the Employer's interest in patient safety and the employees' interest in privacy and bodily integrity. The Employer relied on the language stating that an employee may be required to take vaccination and other immunization unless an employee's physician advises such a procedure may have an adverse health effect. It submitted that this language would have entitled the Employer

to compel mandatory immunization. Instead, submitted the Employer, it decided to limit the application of Article 6.01 and to provide a greater exception to the immunization requirement than is permitted under Article 6.01. Accordingly, the Employer submitted it has no need to rely on its residual management rights under Article 4.

Also because of the presence of Article 6.01, the Employer submitted that *KVP* has no relevance. It submitted that *KVP* only applies where an employer has not negotiated and obtained the disputed right in the Collective Agreement. More generally, it asserted that Article 6.01 is not subject to a reasonableness test, as contended by the Union.

The Employer submitted that even if it is found that the Policy promulgates rules which are not set out explicitly in Article 6.01, they are consistent with Article 4.03. Nothing in the Policy, it asserted, conflicts with Article 6.01 or any other provision of the Collective Agreement.

Alternatively, if it is found that the circumstances of this case do attract *KVP*, the Employer submitted that the Policy satisfies its requirements because it is reasonable.

Turning to the provincial legislation, the Employer denied the Policy contravenes either the *Human Rights Code* or the *Freedom of Information and Protection of Privacy Act*. With respect to the *Charter* the Employer submitted that it is inapplicable to the Employer in the circumstances of this case, but if it is found to apply, the Policy does not violate s. 2(b) or s. 7. In the further alternative, it submitted that the Policy survives scrutiny under s. 1.

The Employer presented the following authorities and Orders, cited in order of their appearance in its briefs of authorities: *R. v. Mohan*, [1994] 2 S.C.R. 9; *Henderson v.*

Bakken, 2010 BCSC 455; *Vancouver Community College v. Phillips Barrett* (1987), 20 B.C.L.R. (2d) 289; *CEP, Local 30 v. Irving Pulp & Paper, Ltd.*, 2013 SCC 34; *North Bay General Hospital and ONA (Re)* (2008), 180 L.A.C. (4th) 52 (Chauvin); *Interior Health Authority v. BCNU (Re)* (2006), 155 L.A.C. (4th) 252 (Burke); *Chinook Health Region v. United Nurses of Alberta*, [2002] A.G.A.A. No. 88 (Joliffe); *Carewest v. Alberta Union of Public Employees* (2001), 104 L.A.C. (4th) 240 (Smith); *Trillium Ridge Retirement Home and Service Employees Union, Local 183*, [1998] O.L.A.A. No. 1046 (Emrich); *Virginia Mason Hospital v. Washington State Nurses Association*, US Court of Appeals for the Ninth Circuit, December 21, 2007, No. 06-35073; *Influenza Vaccination for Health Care Workers: Towards a Workable and Effective Standard* (2009), 17 Health L.J. 297; *St. Peter's Health System v. C.U.P.E., Local 778* (2002), 106 L.A.C. (4th) 170 (Charney); *Re Lumber & Sawmill Workers' Union, Local 2537 and KVP Co. Ltd.*, [1965] L.A.C. 73 (Robinson); *Fording Coal Ltd. v. United Steelworkers of America, Local 7884*, [2002] B.C.A.A.A. No. 9 (Hope); *Vancouver Island Health Authority and British Columbia Nurses' Union* (2004), 132 L.A.C. (4th) 102 (Munroe); *Dunsmuir v. New Brunswick*, 2008 SCC 9; *Canada (Citizenship and Immigration) v. Khosa*, 2009 SCC 12; *Canada Safeway Ltd. and United Food and Commercial Workers Local 1518*, [1998] B.C.A.A.A. No. 378 (Kelleher); *Maple Leaf Consumer Foods v. Schneider Employees' Assn.*, [2008] O.L.A.A. No. 165 (Williamson); *Zenner v. Prince Edward Island College of Optometrists*, [2005] S.C.R. 645; *British Columbia (Public Service Employer Relations Commission) v. BCGEU*, [1999] 3 S.C.R. 645; *Stoffman v. Vancouver General Hospital*, [1990] 3 S.C.R. 483; *Eldridge v. British Columbia (Attorney General)*, [1997] 3 S.C.R. 624; *Irwin Toy Ltd. v. Quebec (Attorney General)*, [1989] 1 S.C.R. 927; *Harper v. Canada (Attorney General)*, [2001] A.J. No. 808; *Lavigne v. Ontario Public Service Employees Union*, [1991] 2 S.C.R. 211; *Ontario Restaurant Hotel & Motel Assn. v. Toronto (City)*, [2004] O.J. No. 190; *Blenco v. British Columbia (Human Rights Commission)*, [2000] 2 S.C.R.

307; *Reference re ss. 193 and 195.1 of the Criminal Code (Man.)*, [1990] 1 S.C.R. 1123; *Noyes v. South Cariboo School District No. 30*, [1985] B.C.J. No. 2741; *Anthony v. Misericordia General Hospital (Executive Director)*, [1988] M.J. No. 354; *Canada (Attorney General) v. Gill*, [1992] F.C.J. No. 118; *Walker v. Prince Edward Island (P.E.I.C.A.)*, [1993] P.E.I.J. No. 111; *Waldman v. British Columbia (Medical Services Commission)*, [1997] B.C.J. No. 1793; *British Columbia Teachers' Federation v. Vancouver School District No. 39*, [2003] B.C.J. No. 366 (BCCA); *Mussani v. College of Physicians and Surgeons of Ontario* (2004), 74 O.R. (3d) 1 (Ont. CA); *Health Services and Support-Facilities Subsector Bargaining Assn. v. British Columbia*, 2003 BCSC 1379; *Caritas Health Group & Capital Health*, [2009] A.I.P.D. No. 13; *University of British Columbia Order F13-04* (Office of the Information & Privacy Commissioner); *The Board of Education of School District No. 75 (Mission) Order F07-10* (Office of the Information & Privacy Commissioner for British Columbia); *Schindler Elevator Corporation, Order P12-01* (Office of the Information & Privacy Commissioner for British Columbia), and *Re Baptist Housing Society (Grandview Towers) and Hospital Employees' Union, Local 180* (1982), 6 L.A.C. (3d) 430 (Greyell).

IV. ANALYSIS AND DECISION

At the outset I propose to address the Union's request that I rule on both the Policy as originally implemented and as amended. The Union position was that the Policy as initially implemented has not been made moot, but if it has I should nonetheless exercise my discretion and rule on its validity.

It will be recalled that the Employer amended the Policy in three respects in July 2013. First, it deleted the identifier requirement. Second, it extended the scope of the Policy, to include visitors. Third, it altered the language which initially "required" covered

employees to report instances of non-compliance with the Policy. Specifically, the word "required" was deleted and replaced with the word "expected". In my view, those amendments rendered moot all issues respecting identifiers, the fact that visitors were initially not included, and the word "required". Later in the analysis, I address the word "expected" and the Union's submission respecting its interpretation.

After those amendments, there remains no live issue to be determined, unlike the circumstances in *National Automobile, Aerospace, Transportation and General Workers Union (CAW-Canada) Local 114 v. Securicor Canada Ltd.*, [2004] C.L.A.D. No. 377 (Dorsey). Assuming I am nonetheless vested with discretion to rule on the original version, I can ascertain no practical reason to do so. The fact that the Employer has not conceded the original version was beyond its power to implement is not in my view a persuasive reason to exercise the discretion. Accordingly, I will not rule on the original version and will confine my analysis and decision to the Policy as amended.

Commencing with Article 6.01, for convenience it is quoted again:

6.01 Medical Examination and Immunization

- (a) An employee may be required by the employer, at the request of and at the expense of the employer:
 - (iii) To take a medical examination by a physician of the employee's choice.
 - (iv) To take skin tests, x-ray examination, vaccination, inoculation and other immunization (with the exception of a rubella vaccination when the employee is of the opinion that pregnancy is possible), unless the employee's physician has advised in writing that such a procedure may have an adverse effect on the employee's health.

Does the Policy fall within the scope of this provision? For two reasons, I am unable to conclude it does. First, parsing the language, Article 6.01 states that an employee may be required by the employer to take vaccination and other immunization. Under the Policy, however, the employee is not required to take vaccination or another

form of immunization against influenza. The employee is given a choice between vaccination and masking. The only mandatory aspect of the Policy is masking, in the event an employee declines vaccination. Second, Article 6.01 is silent with respect to masking. Fairly construed, I am unable to conclude that it impliedly entitles the Employer to require masking in the event vaccination is declined. There is nothing on the face of the contract language or that can be implied to suggest the parties did have or could have had masking in view when negotiating the contract language. For these two reasons, therefore, I am unable to conclude the Policy can be characterized as an exercise of a negotiated right under Article 6.01. Accordingly, the Employer must look elsewhere for a source of authority to implement the Policy.

The Policy, in my view, is a case of a unilaterally imposed set of rules. Therefore, it is necessary to establish that it is a legitimate exercise of the Employer's residual management rights recognized and retained in Article 4. That means the Policy must meet the tests set out in *KVP*. Further, because it contains elements that touch on privacy rights, it must meet the privacy tests articulated in *CEP, Local 30 v. Irving Pulp & Paper, Ltd.*, 2013 SCC 34. If those tests are met the Policy will be a valid exercise of the Employer's management rights. In addition, of course, given the Union's submissions it is necessary to determine whether there have been violations of the *Human Rights Code*, the *Freedom of Information and Privacy Act* and, if applicable, the *Charter*.

Before turning to the *KVP* standards, I will address the Union's position that the applicable standard in this dispute is higher than the reasonableness standard adopted in that award. The Union submitted that because of the nature of the Policy it is incumbent upon the Employer to establish that the Policy is reasonably necessary. The Union cited two authorities in support of that submission: *Rosewood Manor v. Hospital Employees' Union, Local 180*, [1990] B.C.A.A.A. No. 207 (Greyell); *Insurance*

Corporation of British Columbia v. Canadian Office and Professional Employees' Union, Local 378, [2010] B.C.A.A.A. No. 22 (Burke).

Rosewood Manor concerned a grievance challenging the employer's unilaterally imposed sick leave policy, which imposed numerous duties on employees to supply medical information respecting absences as a condition of obtaining sick leave pay. The collective agreement also contained negotiated provisions respecting sick leave. At the outset of the arbitration board's analysis the following statement appears:

31. The Employer seeks to sustain the sick leave policy under Article II, sec. 1 (Managements Rights) of the collective agreement. We take that section in essence to be a contractual recognition of the principles expressed in *KVP Co. Ltd.* (1963), 16 L.A.C. 73 (Robinson C.C.J.):

The board then quoted the principles expressed in *KVP*, and focused on the first two, namely, that the rule must not be inconsistent with the collective agreement and it must not be unreasonable. As I read the award those were precisely the tests the board then applied. Some provisions of the policy did not survive scrutiny because they were inconsistent with the negotiated sick leave provisions of the collective agreement. Others were subjected to a reasonableness test. The word reasonable appears numerous times in the award with respect to various elements of the sick leave policy. In short, I am unable to regard *Rosewood Manor* as standing for the proposition that an employer policy requiring medical information attracts a higher standard than that set out in *KVP, supra*.

Insurance Corporation of British Columbia concerned a grievance challenging the employer's right to alter unilaterally an occupational fitness form. The collective agreement contained a sick leave plan referencing such a form. Some of the award was devoted to the issue of whether the employer could unilaterally alter the form. In

addressing the extent of the employer's right to do so unilaterally, Arbitrator Burke stated:

76 I have no hesitation in concluding more information is useful to the Employer in administering its sick leave policy and encouraging early return to work and accommodation initiatives. Indeed, it is evident the Employer has initiated wellness initiatives to prevent illness and assist employees who seek to maintain good health. The enhancement of these initiatives and the desire for an earlier return to work does not however override the recognition in the jurisprudence of the privacy of [an] employee's medical information such that it must be considered "reasonably necessary" to justify the provision of that information under the *KVP* decision or indeed any analysis on this point. The arbitrator in *Brandt* and other cases have similarly commented to this effect; comments with which I agree (See also *Health Employers' Association of B.C. and BCNU [2006] BCAA No. 1629 (Hickling Award) at para. 43*).

This award does stand for the proposition that a unilateral demand for medical information to be used in the administration of a sick leave policy must be reasonably necessary. But the Union did not limit its reliance on *Insurance Corporation of British Columbia* to the circumstance of a unilateral demand for medical information. The focus of its submission was different. In its submission it wrote:

If an Employer's right to require medical records or information for the purposes of administering sick leave benefits may only be exercised when "reasonably necessary", a higher standard than the reasonableness standard under *KVP*, then certainly an employer cannot require an employee to undergo a medical procedure, including vaccination, unless it is reasonably necessary to do so. We argue that the standard in this case that the Employer must meet for the Policy to be upheld is that its Policy is reasonably necessary.

The difficulty I have with that submission is this. As I have already concluded, the Policy does not require an employee to undergo a medical procedure. An employee has a choice to vaccinate or mask. Accordingly, insofar as the focus of this submission is mandatory immunization, it fails on the facts.

In any event, where privacy interests are affected by a unilateral policy implemented as an exercise of management rights, the most recent articulation of the relevant tests is set out by the Supreme Court of Canada in *Irving*, which addressed a

policy of random alcohol breath testing in a dangerous work environment. The majority cited *KVP* with approval, noting both arbitrators and appellate courts have applied its reasonableness test. It wrote in part:

[24] The scope of management's unilateral rule-making authority under a collective agreement is persuasively set out in *Re Lumber & Sawmill Workers' Union, Local 2537, and KVP Co.* (1965), 16 L.A.C. 73 (Robinson). The heart of the "KVP" test, which is generally applied by arbitrators, is that any rule or policy unilaterally imposed by an employer and not subsequently agreed to by the Union, must be consistent with the collective agreement and be reasonable (Donald J.M. Brown and David Beatty, *Canadian Labour Arbitration* (4th ed. (loose-leaf)), vol. 1, at topic 4: 1520).

More specifically, the majority reviewed with approval a number of past arbitral approaches to policies affecting employee privacy. It noted arbitrators have engaged in a "balancing of interests" approach. In the arbitration award under review, the board weighed the employer's interest in random alcohol testing as a workplace safety measure against the harm to the privacy interests of employees. The board asked whether the benefit to the employer from random testing in the dangerous workplace was proportional to the harm to employee privacy. The majority of the Court also noted past decisions in which arbitrators had asked whether less intrusive measures had been exhausted.

The privacy interest in *Irving* was especially significant, because it involved bodily intervention. The majority cited prior Supreme Court of Canada authority that considered mandatory drug and alcohol testing by urine, blood or breath sample "highly intrusive" and therefore subject to stringent standards.

The prior decisions addressed in *Irving* did not address unilateral immunization policies, and there is no Canadian decision assessing a policy similar to the Policy. But there have been a number of Canadian and United States decisions upholding policies mandating vaccination or exclusion on unpaid leave: *North Bay General Hospital and*

ONA (Re) (2008), 180 L.A.C. (4th) 52 (Chauvin); *Interior Health Authority v. BCNU (Re)* (2006), 155 L.A.C. (4th) 252 (Burke); *Chinook Health Region v. United Nurses of Alberta*, [2002] A.G.A.A. No. 88 (Joliffe); *Carewest v. Alberta Union of Public Employees* (2001), 104 L.A.C. (4th) 240 (Smith); *Trillium Ridge Retirement Home and Service Employees Union, Local 183*, [1998] O.L.A.A. No. 1046 (Emrich); *Virginia Mason Hospital v. Washington State Nurses Association*, US Court of Appeals for the Ninth Circuit, December 21, 2007, No. 06-35073, and *Influenza Vaccination for Health Care Workers: Towards a Workable and Effective Standard* (2009), 17 Health L.J. 297.

The Union submitted these authorities are distinguishable because they concerned outbreak, not seasonal, policies. The Employer submitted that the difference between them is only a matter of degree. I do not propose to examine those decisions in this Award. They probably do pose some analytical distinctions. My purpose in citing them is to show that some unilaterally imposed immunization policies have been tested and upheld. There appears to be only one Canadian decision holding a vaccination or exclusion policy invalid: *St. Peter's Health System v. C.U.P.E., Local 778* (2002), 106 L.A.C. (4th) 170 (Charney). That award, which also concerned an outbreak policy, does not appear to have been followed in subsequent awards.

I turn now to the test set out in *KVP* governing the scrutiny of unilateral policies.

Arbitrator Robinson stated:

34 A rule unilaterally introduced by the company, and not subsequently agreed to by the union, must satisfy the following requisites:

1. It must not be inconsistent with the collective agreement
2. It must not be unreasonable.
3. It must be clear and unequivocal.
4. It must be brought to the attention of the employee affected before the company can act on it.

5. The employee concerned must have been notified that a breach of such rule could result in his discharge if the rule is used as a foundation for discharge.
6. Such a rule should have been consistently enforced by the company from the time it was introduced.

Because this is a policy, not an individual, grievance points 4, 5 and 6 have less relevance. For the moment the focus will be on items 1 and 2.

Focusing on item 1, is the Policy inconsistent with the Collective Agreement? I have ruled that the Policy is not within the scope of Article 6.01. It does not conflict with the Policy because that provision does not address mandatory masking. Further, there is no other provision in the Collective Agreement in which the parties negotiated and agreed about an influenza policy, so there is no conflict in that respect. In my view the only potential conflict would be with respect to Article 39.01 stating that the parties subscribe to the *Human Rights Code*. If the Policy does not violate that statute, it would not be inconsistent with Article 39.01. I address the submissions respecting the *Human Rights Code* later.

Moving to item 2 in the *KVP* list, is the Policy unreasonable? I will first address a number of factual matters and issues. I do not propose to repeat in detail the evidence, which was set out extensively in section II of the Award. But I will highlight aspects of the evidence and make a number of factual determinations where there was controversy.

At the outset it is important to recognize that influenza can be a serious disease. Most healthy adults recover from the infection in a relatively short time. But for elderly people and persons with underlying conditions, such as respiratory or heart issues, the disease can exacerbate those conditions, lead to complications such as pneumonia, and death. Further, elderly persons can substantially lose their independence after being

infected with the influenza virus. The evidence varied about the numerical extent of some of these matters but not the fact of them.

The expert evidence also established that influenza vaccine, while not perfect, does reduce the risk of infection. It is more effective in healthy adults and less effective in the elderly and the very young. Its efficacy can vary from year to year but it is fair to say that on average it is 60% effective. Accordingly, the Union strongly encourages immunization. So do all of the experts, save Jefferson, who is not satisfied with the evidence. Because it is beneficial for health care workers, Buchta and Yassi, Union experts, encourage immunization on a voluntary basis. McGeer and Henry, Employer experts, went further, supporting the Policy, in part because of the benefit to health care workers.

Controversy surfaced with respect to the following question. Does health care worker immunization reduce the transmission of influenza to patients? The written evidence of the Union experts respecting this question was extensively quoted in section II of the Award and I commend the reader to that evidence. What follows is only some of the evidence.

Buchta did not unequivocally reject the proposition that health care worker immunization reduces transmission to patients but he did not embrace it. The following sentence from his report is illustrative:

In response to Question #2, I demonstrated that the literature does not support the contention that HCW influenza vaccination has a strong effect on patient or resident incidence of influenza or ILI in the healthcare setting, making it even more unlikely that HCW vaccination would impact complications of influenza. (p. 12)

In Jefferson's opinion there was no acceptable evidence to show that healthcare worker immunization reduces transmission of the disease to patients. The focus of his

opinion on this issue was four randomized controlled trials carried out in long term care facilities. In his view those studies were flawed and did not support the conclusions reached. His evidence respecting these studies was extensively quoted earlier. Some of Buchta's evidence previously quoted also focused on those studies.

Yassi did not opine extensively on the transmission issue but she did address it.

I repeat her evidence quoted earlier.

Thus the vaccine was **not** particularly effective anyhow even with respect to *direct* benefit (i.e. protection to the person vaccinated), let alone for *indirect* benefit (i.e. benefit to people other than the person vaccinated). Indeed, indirect benefit to patients from vaccinating healthcare workers is highly questionable, as discussed below. (p. 14)(bolding and italics in original).

Later in her report, Yassi also addressed and criticized the four long term care studies, referenced by Buchta and Jefferson. That evidence can be found in section II of the Award.

In short, there was a range of opinions among the Union experts. Either there was no acceptable evidence to warrant the conclusion that immunization of health care workers reduces the transmission of influenza to patients, or the evidence of an effect was not strong, or the proposition was highly questionable.

Turning to the Employer's experts, both strongly supported the proposition that immunization of health care workers reduces transmission of influenza to patients. I propose to repeat two passages from McGeer's report:

There is also no doubt that vaccination of health care providers is an important patient safety issue. As noted in the detailed answers to the specific questions below, there are four randomized controlled trials, and at least one meta-analysis of these trials, demonstrating that vaccination of health care providers in long term care facilities for the elderly reduces mortality during influenza season and rates of influenza-like illness in residents they care for (5-9). Additional observational data suggest that the risk of influenza outbreaks in long term care also decreases as vaccination rates increase (10,11). There are no

randomized controlled trials that have assessed the impact of health care provider vaccination on patient illness in acute or ambulatory care settings; however, the biologic rationale for healthcare worker immunization does not vary by healthcare setting. Acute care hospital associated influenza infection occurs at an estimated rate of 3-6 per1000 hospital admissions (12-15) and influenza outbreaks in acute care are common (15-28): in metropolitan Toronto, 17 outbreaks of influenza in acute care facilities were reported between 2007 and 2011 (personal communication, Dr. Irene Armstrong, Toronto Public Health). In influenza outbreaks in acute care hospitals, health care provider attack rates mirror and sometimes exceed patient attack rates, and transmission from health care provider to patient, provider to provider and patient to provider have all been described (15,16,26-29). In acute care settings, two observational studies have found that lower health care worker immunization rates were associated with higher rates of laboratory-confirmed hospital acquired influenza (30,31), and transmission of influenza-like illness among and between healthcare workers and patients in acute care hospitals was common (32). There are also increasing data confirming that protection is provided to close contacts of vaccinated individuals, strengthening the evidence from acute and long term care that vaccination of healthcare workers not only reduces the risk of individual worker to patient transmission, but also reduces the overall risk of influenza in vulnerable patient populations (33,34). Modelling studies and observational data suggest that increases in healthcare worker immunization from any baseline will lead to incremental reduction in transmission and better patient protection; that is, optimal patient protection requires that all healthcare workers be vaccinated (10,35,36). (p. 15)

Later in her report she wrote:

The reservoir for human influenza is infected human beings. Influenza is acquired by exposure of a person to another person with influenza. Influenza infection is common – depending on the year and on exposure risk (eg. whether there are children in the family), between 3% and 30% of unvaccinated healthy adults develop influenza infection annually (67,76). Influenza virus is shed by persons before they develop symptoms of influenza, and by persons who are asymptotically infected (80,81). Vaccination prevents approximately 60% of these infections (118). Since an infected healthcare worker can transmit influenza to persons they come into contact with, it must be true that preventing influenza in patient care staff reduces the risk that they will transmit influenza to patients. It is true that not working while ill, good hand hygiene and wearing a mask may reduce the risk of transmission, it is also clear that they do not abrogate the risk. This, while it is possible to argue about the absolute size of the reduction in risk of transmission associated with vaccination, do not believe that there are any circumstances in which there would not be some risk reduction. (pp. 28-29)

McGeer referred to the four long term care studies with approval, responding to and disagreeing with Jefferson's criticism of them. Her evidence in this regard is set out extensively in section II of the Award.

The Employer's second expert, Henry, also held the opinion that immunizing health care workers reduces transmission of influenza to patients. I will also repeat the following passages in her report, taken from extracts quoted in section II of the Award:

There have been four cluster-randomized controlled trials in long term care that have shown very consistent statistically significant reduction in illness and deaths in elderly residents of long term care homes with increasing staff immunization rates (43-46). Dr Jefferson has commented on the details of these studies in his report and refers to the Cochrane review he led as indicating that these studies were flawed because the outcomes of noted benefit were non specific and did not include laboratory-confirmed influenza (47). The review concludes there is no evidence of benefit to patients from HCW immunization. The Cochrane review however, has been itself criticized for failing to take into account the entire body of evidence that supports HCW immunization as having benefit to HCW themselves as well as to residents and patients. The striking benefit to residents in these four studies is highly consistent in all despite differing methodologies and different populations in different countries and in these studies the benefits were consistent with influenza season and severity in the community. The outcomes that were followed in each study were clearly defined at the start of the study and included outcomes that could be measured consistently in each setting. As discussed above, the detection and laboratory confirmation of influenza is complicated in LTC where access to lab and x-ray services is limited and in many cases it is the exacerbation of underlying illness that is triggered from the influenza infection that leads to recognized illness or death rather than the acute infection itself. I have discussed this issue with Dr Janet McElhane (Geriatrician and Senior Researcher at the Advanced Medical Research Institute of Canada) and in her many years of research on the impact of influenza in the elderly she describes the impact of influenza as a tipping over of frailty to a point that many elderly are not able to recover from. We see this in elderly people living independently in the community where influenza may lead to worsening of conditions such as heart failure or chronic obstructive lung disease that lead to hospitalization. As many as half of these people will not be able to return to independent living in the community. Contracting influenza in hospital when a patient or as a relatively well resident in LTC can lead to loss of independence, exacerbation of other illnesses and in the frail elderly with no capacity to recover it can lead to death. Strong, consistent data from all four cluster randomized controlled trials supports this view. Restricting the outcome data to lab confirmed influenza only misses the important impact that is not captured due to lack of laboratory testing rather than lack of impact. The Society for Healthcare Epidemiology of America (SHEA) position paper on HCW influenza immunization summarizes this well: "Although each of these studies,

like every study, has inherent limitations and biases, the consistency of impact of HCP vaccination across the 4 trials argues persuasively for the positive impact of influenza vaccination of HCP on reducing mortality of residents of extended care facilities" (48). This conclusion was reached after review of the original four studies, other data from healthcare settings as well as the Cochrane review. This is the view held by myself and many others, both individuals and organizations, who have studied in detail the complete body of evidence of benefit from influenza immunization.

Cochrane reviews by their nature exclude all but what is considered the highest level of evidence: randomized controlled trials. This restrictive summary of the evidence has been criticized as being too narrow for many interventions for which much of the evidence is based on observational and analytical studies, not randomized controlled trials. (pp.15-16)

Later she wrote:

The data supporting a beneficial impact of HCW immunization on residents is strongest in the long term care setting (as described above). Fewer studies have been done in acute care as similar trials would be very challenging and costly given the shorted length of stay in acute care, the large number of interactions between staff and patients and with visitors and others in the healthcare setting making it difficult to attribute influenza infection to any one exposure; in addition (as discussed above) influenza is often not recognized in the acute care setting. However, the biologic rationale for immunizing HCW is the same: HCW in all settings do become infected with influenza, shed virus before they recognize they are ill or work with mild symptoms without realizing they have influenza. Risks associated with influenza are not equally distributed and while it may be a mild illness in a healthy HCW, those patients we care for may have a life threatening illness or may never recover their health after influenza infection. Randomized controlled trials have shown that influenza immunization reduces the risk of influenza in healthy adults and that the vaccine is safe. Thus, regardless of the specific practice setting, interventions that reduce acquisition of influenza will reduce influenza transmission. A very recent report from the Netherlands does support an impact in acute care with even modest increases in HCW immunization rates (59).

c. The B.C. Ministry of Health "Health Care Worker Influenza Control Program Questions and Answers" document (enclosed at Tab 15) says "Vaccinating doctors, nurses and other patient care staff will reduce the risk of influenza transmission to patients." (page 2) Please provide us with your opinion on that statement and whether it is supported by medical and scientific evidence.

I agree with this statement for the reasons I have outlined above. (pp. 9-11)

On all of the evidence, including that set out in this section, I am satisfied that immunization of health care workers reduces transmission of the disease to patients. My reasons follow. First, by focusing on randomized controlled trials and apart from the

question of whether the criticisms of them are justified, the Union experts overlook a considerable body of other forms of evidence supporting the proposition that transmission is reduced. McGeer and Henry, in my view, properly take that evidence into account.

Second, with respect to randomized controlled trials, it is not surprising such studies are not being carried out in acute care facilities. Confirming the presence of influenza in a person requires a laboratory test. Such testing becomes difficult in an acute care facility where patient turnover is much higher. Second, the evidence disclosed there are ethical issues relevant to conducting randomized controlled studies with respect to influenza vaccine. Because it has a known benefit, there are ethical issues with respect to withholding it from a person in the study. In these circumstances, it becomes even more sensible to have regard to other forms of evidence.

Third, I am also persuaded by the rationale referred to by McGeer. Because an infected healthcare worker can transmit influenza to persons they come into contact with, it must be true that preventing or reducing influenza in health care workers reduces the risk they will transmit influenza to patients.

Fourth, the Employer made a submission respecting the respective areas of expertise of the five experts. At the outset of the hearing, the Employer said it would not resist their qualification to testify as experts, but reserved the right to examine them respecting the limits of their expertise and to make submissions in that area. It did both.

For convenience I propose to repeat some of the descriptions of the experts set out in section I of the Award. Buchta's report states he does not claim expertise in infection control, epidemiology, industrial hygiene, infectious disease medicine or viral biology, although he added that he keeps abreast of those areas. He is an occupational

health specialist. Jefferson has had some training in epidemiology, but he is not an epidemiologist or an infectious medicine specialist. His primary activity for some time has been meta-analyses of studies carried out by others. Yassi is an occupational health specialist, but she holds an MSc in epidemiology and occupational health. Her primary research areas are public health and occupational health, which includes a focus on influenza in the health care sector.

Moving to the Employer's experts, McGeer is an expert in internal medicine, infectious diseases and epidemiology. She has published extensively and her research interests are the prevention and management of healthcare associated infections, adult immunization and the epidemiology of influenza infections. Henry, an epidemiologist, is medical director, Communicable Disease and Control Service at the BC Centre for Disease Control and director, Division of Public Health Emergency Management at the Centre. Her report states her focus has been on communicable disease control (including influenza), preventions of healthcare associated infections, public health emergency management and maintenance of effective immunization plans.

It is important to recognize that all five of the experts are distinguished doctors who merit and have attracted considerable respect. I have endeavored to take into account all of their evidence, oral and documentary, in determining the medical issues in this arbitration. That said, in my view, given the areas of expertise of McGeer and Henry their evidence on the transmission issues have special relevance.

Pausing here, in my view, the facts that: (1) influenza can be a serious, even fatal, disease; (2) that immunization reduces the probability of contracting the disease, and (3) that immunization of health care workers reduces transmission of influenza to

patients all militate strongly in favour of a conclusion that an immunization program that increases the rate of healthcare immunization is a reasonable policy.

Moving to the masking component of the Policy, the evidence disclosed that in United States health care facilities in which a vaccination or masking policy was implemented, immunization rates rose dramatically. Van Byunder's evidence, previously reviewed, was that a 95% rate was achieved and that this outcome convinced his study group to move from a mandatory vaccination program to a vaccination or masking program. Buchta's evidence reported a rate of 93.7% at the University of California Irvine that implemented a vaccination or masking program he described as being similar to the Policy. The 2012-2013 experience in British Columbia is also instructive. Immunization rates for health care workers significantly increased, likely in expectation of full implementation of the Policy.

In sum, it is clear that a vaccination or masking policy will increase immunization rates. That said, it would be troubling if the only purpose or effect of the Policy's masking component were to motivate health care workers to immunize. In that event, masking would only be a coercive tool. On all of the evidence, however, I am persuaded that masking has a patient safety purpose and effect and also an accommodative purpose for health care workers who conscientiously object to immunization.

Section II of the Award addresses the masking evidence, which the reader should review in its entirety. In this section of the Award I shall confine myself to the following points. Influenza is principally transmitted when an infected person, coughing or sneezing, transmits large droplets to another person. The evidence satisfies me that a surgical/procedure mask will act as a barrier in this situation and so provide some patient protection. In this regard, the evidence disclosed that a health care worker may

not immediately recognize an influenza infection or may continue to work when ill. Health care workers are encouraged to stay off work when ill, but understandably they do not always do so. For example, the symptoms may be mild, and economic considerations can motivate a person to continue working when ill.

I turn now to a health care worker infected with influenza who remains asymptomatic throughout the illness or who is asymptomatic at its onset. The evidence disclosed that in the initial period of the infection and before a person becomes symptomatic, the person will "shed" influenza virus. A fair summary of the opinions of the Union experts is that there is real doubt and little if any reliable evidence to show that silent shedders transmit influenza or that masking would inhibit such transmission. The following segment from Yassi's report is illustrative:

In summary, there is increasing evidence in favour of N95s as superior respiratory protection for healthcare workers. The logical conclusion is that if healthcare workers are going to be forced to wear a mask or a respirator all shift it should at least be a respirator, as that would at least potentially afford them better protection. If the Health Authorities deem this too expensive, or too inconvenient (as may well be a valid position in my opinion, even from the perspective of healthcare workers themselves, as discussed next), it should at least be acknowledged that **the mandatory continuous use of a mask is likely of limited value in protecting healthcare workers from acquiring and especially of transmitting influenza**. Indeed the number of mask-hours required to even theoretically prevent the transmission influenza by an asymptomatic healthcare worker would be astronomical. (p.21)(bolding and italics in original)

The Employer's evidence was to the contrary. McGeer's opinion was that masking can be a useful tool to inhibit transmission when an infected person is shedding:

Having healthcare providers wear a mask during influenza season will also provide some protection to their patients and to themselves. The primary purpose of having health care providers wear a mask is to prevent transmission from them to their patients at times when they are shedding virus (prior to symptom onset, if they are working while ill, or if they are asymptotically infected). (p. 27)

She concluded with this statement:

In summary, there is evidence that supporting the use of wearing of masks to reduce transmission of influenza from health care workers to patients. It is not conclusive, and not of the quality of evidence that supports influenza vaccination. Based on current evidence, patient safety would be best ensured by requiring health care providers to be vaccinated if they provide care during periods of influenza activity. However, if health care workers are unvaccinated, wearing masks almost certainly provides some degree of protection to their patients; in my view, it is possible that this degree of protection is as good as that conferred by current vaccines. (pp. 28)

As contrasted with the utility of a mask in the case of a symptomatic person, the evidence respecting the utility of masking to inhibit transmission when a person is shedding virus is weaker, but there is evidence.

In addition to the foregoing comments respecting masking, it is notable that Buchta and Yassi did not categorically reject the wisdom of masking. Buchta acknowledged that masks should be worn in operating theatres, in neo-natal units, and in areas where patient immunity is compromised, such as bone marrow transplant units and burn units. Yassi made a similar acknowledgement.

In my view, it is relevant to observe that a vaccination or masking policy is not unique to British Columbia. The evidence reviewed in section II showed that many United States health care facilities have such policies. It also revealed there are a number of United States and Canadian bodies that endorse some form of mandatory policy, be it a mandatory vaccination policy or a vaccination or masking policy: American Hospital Association; American College of Physicians; American Academy of Pediatrics; Infectious Diseases Society of America; National Association of County & City Health Officials; The Society for Healthcare Epidemiology of America; National Patient Safety Foundation; United States Department of Defense; American Public Health Association, and Association for Professionals in Infection Control and Epidemiology. Of those, the

American Hospital Association, the American College of Physicians and the National Patient Safety Foundation endorse a vaccination or masking policy.

In Canada, as previously noted a Canadian Nurses Association position statement endorsed mandatory immunization as a condition of employment if reasonable efforts to promote voluntary vaccination prove unsuccessful. The statement reads in part:

CNA believes that policies that place immunization as a condition of service should be introduced if health-care worker influenza immunization coverage levels are not protective of patients, and reasonable efforts have been undertaken with education and enhancing accessibility to immunization. CNA considers mandatory immunization policies by employers to be congruent with the *Code of Ethics for Registered Nurses* in Canada and the obligation to act in the public interest, as noted in CNA's Objects.

In British Columbia the BCDC issued a 2012 statement endorsing the Policy. Finally, as I understood the evidence, there is a vaccination or masking program in a part of New Brunswick. The central fact is that mandatory influenza programs are not uncommon and the vaccination or masking format of the Policy is not unique. In my view, these facts are relevant to the reasonableness of the Policy.

Finally, reference should be made to the precautionary principle which is applied in health care settings. The essence of that principle is it can be prudent to do a thing even though there may be scientific uncertainty. In this connection, Henry wrote:

First the Krever commission into the tainted blood issue noted that decisions were delayed because of a lack of definitive evidence of risk from randomized controlled trials. Krever stated that reliance on high level evidence before action can be taken may be effective in guiding clinical decision making but is inappropriate for protecting public health safety. Justice Campbell's report on the SARS outbreak in Canada (Spring of Fear, Vol 3:1157-7) echoed similar concerns when he stated: 'reasonable efforts to reduce risk need not wait for scientific certainty". (p. 15)

In conclusion respecting the masking component of the Policy, taking into account the foregoing evidence, findings and observations, and having due but not slavish regard to the precautionary principle, I am unable to conclude that the masking component is unreasonable.

Moving to other areas, as previously recounted, the Union called a number of bargaining unit employees who testified that the ability to perform their duties would be impaired if they were required to mask. The Union relied on this evidence, coupled with the fact that there is nothing on the face of the Policy providing for accommodation, to support its position that the Policy is unreasonable.

In my view, that evidence established that there are certain jobs in which surgical/procedure masks, which are opaque, would significantly impede the ability of persons to perform their jobs. Two examples will suffice for present purposes, music therapists and speech/language pathologists. In both cases their work requires their face to be visible to the persons with whom they work. In the latter case, speech/language therapists model in front of the patient, using their mouths, lips and teeth. That activity is simply not possible with an opaque mask.

The Employer's position, recounted previously, is that such difficulties can and will be accommodated. Van Byunder, vice president public health and chief medical officer at FH, testified that a committee would review such situations and make necessary accommodations. As examples, he spoke of the possibility of reassignment or clear plastic masks, an example of which was shown at the hearing but not introduced into evidence. With respect to medical objections, such as skin issues, his evidence was that a medical specialist would review the case. Daly, vice-president public health and chief medical officer at VCH gave evidence to the same effect. Their evidence was

explored but not shaken on cross-examination. As I indicate more fully later in the Award, I accept their evidence respecting accommodation.

It is true that the Policy does not facially address accommodation, but the duty to accommodate is a freestanding duty imposed by law. The duty to accommodate does not depend on express or written representations or promises, in or outside of a collective agreement. In my view, it is also important to recognize that this is a policy grievance not an individual grievance. If a justifiable request for accommodation is not granted in the course of the administration of the Policy it can be, and more properly should be, the subject of an individual grievance. I am unable, therefore, to conclude that the absence of a reference to accommodation in the Policy is a reason to conclude the Policy is unreasonable.

I move now to the reaction of health care workers to the Policy and its potential to harm their mental and physical health. Yassi was the principal witness on this issue and her evidence was set out in section II. Her evidence was that some workers consider mandatory policies to be coercive, punitive and shaming. The magnitude of such reactions in the workforce as a whole was not addressed, beyond the ten focus groups Yassi conducted. With respect to health impacts, Yassi testified about potential damage to morale, stress and burnout, all of which could negatively affect the health of health care workers.

Such harms might occur but it is important to note that Yassi did not opine that they would occur. Repeatedly in her report and evidence she spoke about potential harms that could occur, rather than harms that will occur. In sum, I do not dismiss Yassi's evidence on this issue, but in my view it falls short of establishing a significant risk of harm, such that the Policy should be considered unreasonable.

I return now to *Irving* which requires an arbitrator to balance interests in situations where a unilateral employer policy affects the privacy of employees. I must weigh the Employer's interest in the Policy as a patient safety measure against the harm to the privacy interest of the health care workers. What are the privacy interests affected by the Policy? One interest is an employee's medical information respecting vaccination status. Under the Policy, covered employees must annually advise their Health Authority of their influenza immunization status. For the purpose of this aspect of the dispute, I will assume that the privacy of unvaccinated employees is also affected on the basis that masks would have the effect publishing their immunization status to co-workers and perhaps others.

Over the years the jurisprudence has developed, to the point that medical privacy is a significant and important right that cannot easily be abridged. At the same time, the medical privacy right in this case does not rise to the level of the right considered in *Irving*. The majority in *Irving* cited with approval prior Supreme Court of Canada authority which drew no distinction between drug and alcohol testing by means of breath, urine or blood samples, considering all of them to be "seizure of bodily samples" and "highly intrusive". As a consequence, the majority reaffirmed that such interventions are subject to "stringent standards and safeguards". Accordingly, while I readily accept that the Policy affects an important privacy right, in addressing an appropriate balance in this case, it is relevant that the Policy is less intrusive on privacy rights than was the policy in *Irving*.

With respect to the degree of intrusiveness of the Policy, employees are not subjected to bodily intrusion. Nor is there an attempt to extract a wide-ranging disclosure of their medical condition. The requirement to disclose private medical information is limited to annual disclosure of their immunization status.

In making its submission on this issue, the Employer noted and relied on the fact that the outbreak policy requires employees to report their immunization status and that the Union does not challenge the outbreak policy. In this connection, it will be recalled that the outbreak policy was the subject of an unsuccessful grievance in: *Interior Health Authority v. BCNU (Re)* (2006), 155 L.A.C. (4th) 252 (Burke). There is logical appeal in this submission, but I do not propose to treat it as in any way determinative. I simply note it and continue.

Turning to the Employer's interest in patient safety, it is indisputable that influenza can be a serious, even fatal, disease. Immunization also indisputably provides a measure of protection to health care workers and I have found that their immunization reduces influenza transmission to patients. I have also concluded that there is some evidence to support the masking component of the Policy. In short, there is a real and serious patient safety issue and the Policy is a helpful program to reduce patient risk.

In terms of proportionality, has the Employer used the least intrusive means to advance its interest in patient safety? As previously recounted, over a number of years the Health Care Authorities introduced, refined and expanded annual programs to promote and encourage voluntary immunization. These many faceted programs were not successful. I do not propose to repeat the evidence adduced by the Employer's expert medical witnesses that voluntary programs cannot achieve and sustain high rates of immunization. In saying this, I am mindful of Buchta's evidence that some health care facilities, such as the Mayo Clinic, do achieve and maintain high rates of immunization. However, on the evidence adduced at the hearing these cases were few and exceptional.

When Health Authorities and the government began to consider alternatives to unsuccessful voluntary programs, Van Byunder's study group first recommended a mandatory immunization model to the Leadership Council. When it saw from its United States tour of health facilities that a vaccination or masking policy could also achieve high vaccination rates, and accommodate conscientious objectors, the group moved from a mandatory immunization model and recommended a vaccination or masking policy to the Leadership Council, which endorsed that approach. Accordingly, in my view, the Employer considered and chose the least intrusive of the two measures that had the capacity to achieve success. I am mindful of the Union's submissions respecting the breadth of the masking component of the Policy. I address those submissions in the *Charter* analysis.

In conclusion, weighing the Employer's interest in the Policy as a patient safety measure against the harm to the privacy interest of the health care workers and applying a proportionality test respecting intrusion, based on the considerations set out above I am unable to conclude that the Policy is unreasonable.

For the foregoing reasons, therefore, in my view the Policy satisfies the reasonableness test under *KVP* and, given the privacy interests, the tests under *Irving*.

Before leaving this area mention should be made of evidence pertaining to the distribution of immunization status reports to health care workers at a facility in Richmond in the fall of 2012. It was done to encourage immunization but in my view it was an abuse of the privacy rights of health care workers. Van Byunder was cross-examined about the matter and, as I understood his evidence, he did not seek to condone it. There was some evidence from Union witnesses that reports of vaccination status should only be made to occupational health nurses and physicians who should

keep the information confidential. That is not a practicable alternative, either under outbreak policies or the Policy. As a practical matter managers need to have the information, to administer those policies. But in my view they should keep the information confidential.

Turning to another test in *KVP* is the Policy clear and unambiguous? The issue here focused on language in the Policy stating that covered employees are "expected" to report incidents of non-compliance to their supervisor. As previously set out, the Policy as originally implemented stated that covered employees were "required" to report that information.

The Union's essential position was that the alteration in the reporting language made no material difference. If that were so, I too would have trouble with the reporting aspect of the Policy. But in my view the language change was material. Just as different words normally bear different meanings in a collective agreement, so should the words "required" and "expected". In my view this is especially so in light of the fact the Employer deliberately altered the language. During argument I asked whether the Employer was taking the position that it would be entitled to impose discipline if an employee witnessing non-compliance declined to report the incident. As I understood the response it was not taking that position, but I am unable to say the response was completely unequivocal. In any event I do not find it necessary to rely on that response. Properly construed, especially in light of the amendment, I conclude that the reporting aspect of the Policy is not obligatory in the sense that not reporting can attract discipline.

Moving to the *Human Rights Code*, does the Policy violate s.13? That section states in part:

13(1) A person must not

- (a) refuse to employ or refuse to continue to employ a person, or
- (b) discriminate against any person regarding employment or any term or condition of employments

because of the race, colour, ancestry, place of origin, political belief, religion, marital status, family status, physical or mental disability, sex, sexual orientation or age of that person or because the person has been convicted of a criminal or summary conviction offence that is unrelated to the employment or to the intended employment of that person.

The Union asserted that the Policy is discriminatory and violates s.13(1) because it makes no provision for employees who have medical disabilities that do not permit them to be immunized or for employees who have conscientious objections to immunization. With respect to medical disabilities, in argument the Union referenced Hodges, submitting she is disabled because of a previous anaphylactic reaction to influenza vaccination. The Union also raised the case of employees with needle phobias. The Policy, submitted the Union, is discriminatory because it sets out no exceptions for employees medically disabled or having conscientious objections to immunization. Further, it requested me to disregard the evidence of Van Byunder and Daly respecting accommodation, on the grounds that it is self-serving and not proven.

As to immunization, I have previously observed that the Policy does not require employees to immunize. They have a choice to immunize or mask. As to masking, I have addressed most of these objections in the *KVP* analysis. As I observed there, the fact the Policy does not facially address accommodation is not in itself a reason to impugn it because the duty to accommodate is a freestanding duty imposed by law. As to rejecting the evidence of Daly and Van Byunder on the bases that it is self-serving and unproven, my conclusions are these. First, while their evidence was of course given to advance the Employer's case, I do not consider it self-serving in the technical sense

of that term. Further their demeanor, direct examination and cross-examination gave me no reason to doubt their credibility or sincerity on these issues. Aside from the foregoing, the Union's objections are anticipatory in nature. In my view their concerns are more properly addressed in individual grievances should cases of a failure to accommodate occur. For the foregoing reasons, therefore, I conclude that the Policy does not violate the *Human Rights Code*.

Moving to the *Freedom of Information and Protection of Privacy Act*, does the Policy infringe its provisions? Section 2 sets out the purposes of the statute. It provides in part:

2 (1) The purposes of this Act are to make public bodies more accountable to the public and to protect personal privacy by

...

(c) preventing the unauthorized collection, use or disclosure of personal information by public bodies, and

Section 26 provides in part:

26 A public body may collect personal information only if:

(c) the information relates directly to and is necessary for a program or activity of the public body, ...

The Union submitted that the obligations to report immunization status and wear a mask if not immunized violate this legislation. An employee's medical status is clearly personal information and within the scope of the statute. While the obligation to wear a mask does not, strictly speaking, constitute collection or disclosure of personal information by the Employer, it can signal to others that the wearer is not immunized and therefore disclose the person's medical status. For the purpose of this legislation, therefore, I will assume the masking obligation falls within the scope of sections 2 and 26.

The question is whether the collection and disclosure directly relate to the Policy and are necessary within the meaning of s. 26. The Union acknowledged in its submission that managers would need to know an employee's immunization status in the event of an influenza outbreak, in order to administer and enforce the outbreak policy by transferring or excluding from work persons who are not immunized. I am unable to discern a material distinction under the Policy. Managers need to know that information to determine whether the employee can work unmasked. It would not be possible to carry out the Policy without this requirement. Therefore, I am satisfied that the obligation to report immunization status and to mask if not immunized fall within the scope of s. 26(c) and, accordingly, the Policy does not violate the statute.

Finally, does the *Canadian Charter of Rights and Freedoms* apply to the Policy, and if so, does it violate provisions of it. The Union's position was that the *Charter* applies, that the Policy violates s. 2(b) and s. 7 and that it does not survive scrutiny under s.1.

Commencing with the first issue, does the *Charter* apply? The *Charter*, of course, applies to the government of British Columbia. The Union's first position was that the Health Authorities are government and therefore subject to the *Charter*. Alternatively, it submitted that they are carrying out a specific government program and are subject to the *Charter* on that basis. The Employer took issue with both positions. It submitted that it has been authoritatively determined that Health Authorities are not government. Further, it submitted that adoption and implementation of the Policy does not constitute the carrying out of a specific government statutory scheme or a government program.

Two Supreme Court of Canada decisions address the *Charter's* applicability to hospitals and their acts: *Stoffman v. Vancouver General Hospital*, [1990] 3 S.C.R. 483; *Eldridge v. British Columbia (Attorney General)*, [1997] 3 S.C.R. 624.

Stoffman concerned a Vancouver General Hospital mandatory retirement policy requiring physicians to retire at age 65. The policy took the form of a Medical Staff Regulation that was approved by the hospital's board. It was subsequently approved by the Minister of Health, as required by statute. Writing for the majority La Forest J. concluded that the hospital was not government within the meaning of s. 32 of the *Charter* and, accordingly, that was not a basis on which the *Charter* could apply. He also concluded that it was not an act that could bring the hospital within its purview:

On the basis of the foregoing, I would conclude that the appellant hospital does not form part of government within the meaning of s. 32 of the *Charter*. It follows that its actions in adopting and administering Regulation 5.04 do not fall within the ambit of the *Charter*. I would add that there can be no question of the Vancouver General's being held subject to the *Charter* on the ground that it performs a governmental function, for it follows from what I have said above that the provision of a public service, even if it is one as important as health care, is not the kind of function which qualifies as a governmental function under s. 32. The case differs in this respect from the cases of *Re McCutcheon and City of Toronto* (1983), 147 D.L.R. (3d) 193 (Ont. H.C.), and *Re Klein and Law Society of Upper Canada* (1985), 16 D.L.R. (4th) 489 (Ont. Div. Ct.), assuming those cases to have been correctly decided. I would also add that this is not a case for the application of the *Charter* to a specific act of an entity which is not generally bound by the *Charter*. The only specific connection between the actions of the Vancouver General in adopting and applying Regulation 5.04 and the actions of the Government of British Columbia was the requirement that Regulation 5.04 receive ministerial approval. In light of what I have said above in regard to this requirement, a "more direct and a more precisely-defined connection", to borrow McIntyre J.'s phrase used in *Dolphin Delivery*, would have to be shown before I would conclude that the *Charter* applied on this ground.

These conclusions are sufficient to dispose of this appeal in favour of the appellant hospital. However, as in *McKinney*, I shall also deal with the case on the assumption that the Vancouver General is a part of government and discuss the issue of whether Regulation 5.04 and the actions taken in its application violate s.

15 of the *Charter*. (pp. 22-23 Lexum)

Eldrige concerned a refusal by a hospital to provide sign language interpretation to deaf individuals. The Court considered the applicability of the *Charter* to hospitals in that circumstance. La Forest J., writing for the Court, concluded that it did. In the course of his reasons he reviewed and elaborated on his statements in *Stoffman*. His reasons merit lengthy quotation:

44 The second important point concerns the precise manner in which the *Charter* may be held to apply to a private entity. As the case law discussed above makes clear, the *Charter* may be found to apply to an entity on one of two bases. First, it may be determined that the entity is itself "government" for the purposes of s. 32. This involves an inquiry into whether the entity whose actions have given rise to the alleged *Charter* breach can, either by its very nature or in virtue of the degree of governmental control exercised over it, properly be characterized as "government" within the meaning of s. 32(1). In such cases, all of the activities of the entity will be subject to the *Charter*, regardless of whether the activity in which it is engaged could, if performed by a non-governmental actor, correctly be described as "private". Second, an entity may be found to attract *Charter* scrutiny with respect to a particular activity that can be ascribed to government. This demands an investigation not into the nature of the entity whose activity is impugned but rather into the nature of the activity itself. In such cases, in other words, one must scrutinize the quality of the act at issue, rather than the quality of the actor. If the act is truly "governmental" in nature -- for example, the implementation of a specific statutory scheme or a government program -- the entity performing it will be subject to review under the *Charter* only in respect of that act, and not its other, private activities.

45 In the present case, the controversy over the *Charter's* application centres on the question of hospitals. The respondents argue that if the failure to provide sign language interpreters does not flow from the Act but rather from the discretion of individual hospitals, then s. 15(1) is not engaged because the *Charter* does not apply to hospitals. Hospitals, they say, are not "government" for the purposes of s. 32 of the *Charter*. In their view, this result flows from a straightforward application of this Court's decision in *Stoffman, supra*.

46 The foregoing analysis, however, establishes that it is not enough for the respondents to say that hospitals are not "government" for the purposes of s. 32 of the *Charter*. In *Stoffman*, the Court found that the Vancouver General Hospital was not part of the apparatus of government and that its adoption of a mandatory retirement policy did not implement a government policy. *Stoffman* made it clear that, as presently constituted, hospitals in British Columbia are non-governmental entities whose private activities are not subject to the *Charter*. It remains to be seen, however, whether hospitals effectively implement governmental policy in providing medical services under the *Hospital Insurance Act*.

Later he wrote:

50 The structure of the *Hospital Insurance Act* reveals, therefore, that in providing medically necessary services, hospitals carry out a specific governmental objective. The Act is not, as the respondents contend, simply a mechanism to prevent hospitals from charging for their services. Rather, it provides for the delivery of a comprehensive social program. Hospitals are merely the vehicles the legislature has chosen to deliver this program. It is true that hospitals existed long before the statute, and have historically provided a full range of medical services. In recent decades, however, health care, including that generally provided by hospitals, has become a keystone tenet of governmental policy. The interlocking federal-provincial medicare system I have described entitles all Canadians to essential medical services without charge. Although this system has retained some of the trappings of the private insurance model from which it derived, it has come to resemble more closely a government service than an insurance scheme; see Canadian Bar Association Task Force on Health Care, *supra*, at p. 9.

51 Unlike Stoffman, then, in the present case there is a "direct and . . . precisely-defined connection" between a specific government policy and the hospital's impugned conduct. The alleged discrimination -- the failure to provide sign language interpretation -- is intimately connected to the medical service delivery system instituted by the legislation. The provision of these services is not simply a matter of internal hospital management; it is an expression of government policy. Thus, while hospitals may be autonomous in their day-to-day operations, they act as agents for the government in providing the specific medical services set out in the Act. The Legislature, upon defining its objective as guaranteeing access to a range of medical services, cannot evade its obligations under s. 15(1) of the *Charter* to provide those services without discrimination by appointing hospitals to carry out that objective. In so far as they do so, hospitals must conform with the *Charter*.

In the result, therefore, the Court concluded that hospitals are not government, but on the facts the hospital's acts attracted *Charter* scrutiny because they were the chosen vehicles to deliver a specific government program.

In light of *Stoffman* and *Eldridge*, I am unable to conclude that the Health Authorities or the health care facilities in them are government so as to attract *Charter* scrutiny on that basis. I therefore turn to the second basis on which *Charter* scrutiny can be attracted. Is the implementation of the Policy a truly governmental act? Expressed in different language, is the implementation of the Policy an act which carries out a specific

government program so as to render the Health Authorities agents of the government? In my view this question is not easily answered in the circumstances of this case.

The impetus for the Policy did not arise solely within the government. Kendall, the provincial health officer, concluded that voluntary immunization programs were not working and began discussing alternatives with the media. At the same time, the evidence of Daly and Van Byunder, vice presidents of public health and chief medical officers at VCH and FH, disclosed that executives within the hospital system had come to the same opinion.

The Leadership Council met and considered the immunization issue. The membership of this body is a mix of governmental and Health Authority people. The deputy Minister of Health chairs the Council and its other members include the chief executive officers of the six Health Authorities and some other representatives from the ministry. The Council directed Kendall to investigate further and he transferred that duty to Van Byunder, who formed a group which toured facilities in the United States. That evidence has previously been reviewed in some detail.

Van Byunder and his group returned to Canada and recommended a vaccination or masking policy to the Leadership Council, which endorsed the proposal. As I understood the evidence, the drafting was performed within the government. The Policy was then published in August 2013. The document was accompanied by a news release emanating from the office of the provincial health officer. The letterhead of the news release bore the logos of the government and each of the six Health Authorities. Among other matters, the news release stated that the Health Authorities "were acting on the advice of Dr. Perry Kendall...". In this connection, Kendall's evidence was that he does not have legal authority to compel seasonal immunization against influenza.

(Outbreaks, apparently, raise different legal considerations.) Further, there is no legislation which compelled the Health Authorities to implement the Policy.

In all of these circumstances, was the implementation of the Policy an act of internal management, or were the Health Authorities acting to carry out a specific government program? There are some factual distinctions between this case and *Eldridge*. There, the hospitals were chosen vehicles to deliver medical services under the province's Medical Services Plan, which is established and regulated by provincial legislation. Here, governmental representatives participated in the selection of the Policy, the government endorsed it and a provincial appointee, Kendall, recommended it.

In my view, each of the parties in this arbitration has an arguable case respecting the applicability of the *Charter*. Ultimately, however, it is not necessary to decide the issue, because if it does apply my view is that the Policy survives *Charter* scrutiny.

Addressing the first Charter provision relied on by the Union, does the Policy infringe s. 2(b)? That provision reads:

2. Everyone has the following fundamental freedoms:

...

(a) freedom of thought, belief, opinion and expression, including freedom of the press and religion;

The Union submitted that the identifier required under the initial version of the Policy was a form of forced speech, contrary to s. 2(b). At the outset of this section of the Award I decided that I would confine my rulings to the Policy as amended, so I will not address this assertion. The Union also characterized masking as a form of forced expression, stating:

The mask is itself a form of forced speech in this context, and a particularly stigmatizing one, as it obviously marks the individual HCW as different from her

co-workers performing the same job who are not masked. It suggests the masked HCW is sick or infectious, without regard to his or her actual health status.

The Union submitted that freedom of expression in s.2(b) entails the right to remain silent, relying on *Slaight Communications v. Davidson*, [1989] S.C.J. No. 45. In that case an arbitrator ordered an employer to give an unjustly terminated employee a letter of recommendation containing specified content. Lamer J., writing for himself, and dissenting in part but not on the conclusion that the order violated s. 2(b), stated:

92 There is no doubt in the case at bar that the part of the order dealing with the issuing of a letter of recommendation places, in my opinion, a limitation on freedom of expression. There is no denying that freedom of expression necessarily entails the right to say nothing or the right not to say certain things. Silence is in itself a form of expression which in some circumstances can express something more clearly than words could do. The order directing appellant to give respondent a letter containing certain objective facts in my opinion unquestionably limits appellant's freedom of expression.

For completeness, while the majority concluded that the order infringed s. 2(b), it concluded it was justified under s. 1 because it included "only objective facts not in dispute".

The Employer made a number of submissions respecting s. 2(b). In response to the argument that masking forces health care workers to disclose their vaccination status, the Employer submitted:

This argument ignores the fact that health care workers are frequently required to wear surgical or procedure masks in a variety of situations and for a variety of reasons, including involvement in surgeries or as a precaution against the transmission of communicable disease to and from patients, employees or other persons. A member of the public viewing an employee with a mask would have no means of determining the reason why a mask is being worn. Employees who have been vaccinated may also choose to wear masks. There is, therefore, no correlation or inference to be drawn solely from the fact that a health care worker is wearing a protective mask, and no disclosure of personal information.

Even if a fellow employee or other person were able to discern that a mask was being worn due to a lack of influenza vaccination, this represents a minimal and necessary intrusion into the personal privacy of employees, and is directly

connected to the purpose for which the personal information was obtained (i.e. the administration of the Policy). Third parties would be unable to determine the reasons why the employee was not vaccinated, be it for reasons of personal belief or health status.

I agree with the Employer's submission that masking would not automatically and unambiguously signal to everyone that its wearer had not been immunized against influenza. However, over the course of the influenza season, it would eventually signal vaccination status to co-workers and probably others, given the fact of the Policy and the signage publicizing it. So in this context, I believe it is right to characterize masking as a form of forced speech.

However, I am unable to agree, as contended by the Union, that masking is stigmatizing on the basis it suggests the wearer is sick or infectious. As the evidence in this arbitration disclosed, there are many situations in which healthy workers should mask. Even the Union's medical experts conceded that certain units, identified earlier in this Award, should have masking requirements.

More generally, I am unable to conclude there is a reasonable foundation for the perception that masking is shaming. I am mindful of Yassi's evidence and the focus groups she conducted which produced comments to the effect that masking is shaming and stigmatizing. However, the evidence from the focus groups was necessarily anecdotal and does not warrant a factual conclusion that those views are generally held among health care workers. Second, I do not dispute that some health care workers genuinely have such views, but I am unable to conclude there is a reasonable factual foundation for them.

Moving to the *Charter* jurisprudence, it would be inaccurate to assert that a person has an unfettered right to be free from forced expression. As noted, in *Slaight*

itself, the court concluded that the forced expression was justified under s. 1. Subsequently, the Supreme Court of Canada considered forced expression in two other cases.

In *R.J.R.-MacDonald v. Canada*, [1995] 3 S.C.R. 199, a federal statute required tobacco products to be sold in packages displaying a health warning. The warnings were unattributed and consequently they could have been construed as representing the views of the manufacturers instead of the author, the federal government. By a majority, the Court held the legislation infringed s. 2(b). With respect to s. 1, a majority held that a warning could be justifiable, but on the facts the government had failed to provide a justification for the non-attribution. Therefore *RJR* stands for the proposition that, as a matter of law, some forms of forced expression may be justified, even though the particular form there under review did not pass muster.

In *Canada v. JTI-Macdonald Corp.*, [2007] 2 S.C.R. 610, the Court considered a revised statute which required tobacco packaging to display a warning that was attributed to Health Canada and that was required to occupy a larger surface of a package than was the case under the former legislation. McLachlin C.J., writing for the Court, held that the requirement infringed s. 2(b) but was justified under s. 1 because it fell "within a range of reasonable alternatives". There is also some suggestion in her reasons that if the warning had been less prominent, it might not have infringed s. 2(b). She wrote:

6. Health Warning Labels

130 The regulations pursuant to the Act (the *TPIR*) increased the minimum size of the mandatory health warnings on tobacco packaging from 33 percent under the old Act to 50 percent of the principal display surfaces. The question is whether this constitutes an infringement of s. 2(b) and, if so, whether that infringement is justified.

131 The question of whether the mandatory warning requirement infringes s.

2(b) is not easily answered. The Attorney General argues that s. 2(b) is not infringed, claiming that it neither deprives the manufacturers of a vehicle for communicating their message, nor limits the form of expression. He relies on *Lavigne v. Ontario Public Service Employees Union*, [1991] 2 S.C.R. 211, at pp. 279-80, where Wilson J. stated: "If a law does not really deprive one of the ability to speak one's mind or does not effectively associate one with a message with which one disagrees, it is difficult to see how one's right to pursue truth, participate in the community, or fulfil oneself [the values protected by s. 2(b)] are denied." The regulations under the *TPIR* permit the manufacturers to present the health warnings, not as their messages, but as messages from Health Canada. The manufacturers still have half the package to convey such messages as they choose, and they are not confined to a particular size or style of package that might inhibit that ability. As a result, the Attorney General argues, the manufacturers have not shown that they are prevented from conveying messages of their choice on their packaging. Not having discharged this burden, they have not established a breach of their freedom of expression, he concludes.

132 However, this Court has taken a broad view of "expressive activity" for s. 2(b) cases. In *Irwin Toy*, the Court went so far as to say that parking a car could be an expressive activity. In *Reference re ss. 193 and 195.1(1)(c) of the Criminal Code (Man.)*, [1990] 1 S.C.R. 1123, at p. 1184, Lamer J. stated that in some circumstances, silence could constitute expressive activity. **To hold that minor restrictions or requirements with respect to packaging violate the s. 2(b) guarantee of freedom of expression might be to trivialize the guarantee. However, the requirement that manufacturers place the government's warning on one half of the surface of their package arguably rises to the level of interfering with how they choose to express themselves.** I therefore conclude that s. 2(b) is infringed by the warning requirements in general, and specifically the requirement that 50 percent of the principal display surfaces of the package be devoted to the warnings.

133 This leaves the question of whether the infringement is justified as a reasonable limit under s. 1 of the *Charter*. I conclude that it is.

134 Parliament's objective in requiring that a large part of packaging be devoted to a warning is pressing and substantial. It is to inform and remind potential purchasers of the product of the health hazards it entails. This is designed to further Parliament's larger goal of discouraging tobacco consumption and preventing new smokers from taking up the habit. The importance of warnings is reinforced by the trial judge's finding that consumers and the general public are not well informed on the dangers of smoking.

135 The evidence as to the importance and effectiveness of such warnings establishes a rational connection between Parliament's requirement for warnings and its objectives of reducing the incidence of smoking and of the disease and death it causes. In the course of the previous proceedings dealing with the ban on tobacco advertising, this Court unanimously held that "both parties agree that past studies have shown that health warnings on tobacco product packages do have some effects in terms of increasing public awareness of the dangers of smoking and in reducing the overall incidence of smoking in our society": *RJR-MacDonald Inc. v. Canada (Attorney General)*, [1994] 1 S.C.R. 311, per Sopinka and Cory JJ., at p. 353; see also *RJR*, McLachlin J., at para. 158. A mass of

evidence in the intervening years supports this conclusion.

136 If further evidence were required of the rationality of Parliament's requirement that warnings occupy 50 percent of product packaging, it is supplied by the manufacturers' response to the increase from 33 percent to 50 percent of the principal display surfaces. The evidence reveals that they saw the increase as a threat and sought to meet it by devising counter-strategies to minimize the overall impact of the warnings.

137 **Regarding minimal impairment, the question is whether the requirement for warning labels, including their size, falls within a range of reasonable alternatives.** The manufacturers argue that the increase from 33 percent to 50 percent of the package cannot be justified. However, the evidence established that bigger warnings may have a greater effect. Parliament is not required to implement less effective alternatives: *RJR*, at paras. 160 and 163.

138 The reasonableness of the government's requirement is supported by the fact that Australia, Belgium, Switzerland, Finland, Singapore and Brazil require warnings at least as large as Canada's, and the minimum size in the European Union is 48 percent of the package. The *WHO Framework Convention* stipulates that warning labels "should" cover at least 50 percent and "shall" cover at least 30 percent of the package.

139 Finally, proportionality of effects is established. The benefits flowing from the larger warnings are clear. The detriments to the manufacturers' expressive interest in creative packaging are small.

140 I conclude that the requirement that 50 percent of the principal display surfaces be devoted to a warning of the health hazards of the product is a reasonable measure demonstrably justified in our society and is constitutional under s. 1 of the *Charter*. (emphasis added)

In this case it is arguable that masking under the Policy does not rise to the level of the values protected in s. 2(b). However, for purposes of this Award, I will assume but not decide that masking under the Policy does infringe s. 2(b) and proceed to an analysis under s. 1 of the *Charter*. It states:

1. The *Canadian Charter of Rights and Freedoms* guarantees the rights and freedoms set out in it subject only to such reasonable limits prescribed by law as can demonstrably justified in a free and democratic society.

I will address the tests applicable to s. 1 that were first set out in *R. v. Oakes*, [1986] 1 S.C.R. 103 and refined in the subsequent jurisprudence of that Court. First, is the Policy and masking in particular a sufficiently important objective? I have previously concluded that influenza can be a serious, even fatal, disease. Given that fact and the

Employer's responsibility for patient safety, there can be little if any doubt that the Policy is pursuing an objective, patient safety, that is sufficiently important to justify limiting the expression in issue in this case.

Is the Policy rationally connected to the objective? I believe it is. I am unable to conclude that the Policy is arbitrary, unfair or based on irrational considerations. I do not propose to repeat here the extensive evidence and my conclusions respecting the efficacy and beneficial effects of immunization and masking. That material satisfies me that there is a rational connection between the Policy and patient safety. A supporting consideration is the fact, earlier described, that there are a significant number of United States health care facilities that have adopted a vaccination or masking policy.

Turning to the proportionality test, I weighed the interests of the Employer and health care workers in the *KVP* and *Irving* analysis. I apply but do not repeat that analysis here. I propose however to comment on the following issue. Does the Policy impair the s. 2(b) right as little as possible? My overall view is that it does. As noted in the *KVP* analysis, the Employer, despite repeated attempts over the years, failed to achieve success with voluntary policies. It then considered a mandatory immunization policy, but for reasons already set out moved to a vaccination or masking policy, a much less intrusive policy because it provides choice. In my view, based on the foregoing, the Policy does impair the s. 2(b) right as little as possible.

There is, however, one aspect of the Policy's masking element upon which I have reflected extensively. Under the Policy an unimmunized health care worker must mask when in a patient care area. A patient care area is a term that is defined in Part E of the Policy, quoted in its entirety at the outset of the Award. Is that requirement overbroad? The Union contended that it is.

The definition of patient care area is cast broadly. I am mindful that transmission of large droplets is the principal way in which influenza is transmitted, albeit it is not the only way. It is important, however, to recognize that patients are not always stationary in a bed in a ward. They move about and can be found in reception areas, hallways, and in diagnostic units of a facility, to name some examples.

Ultimately, it might be that a more limited definition of patient care area would be medically sufficient. To some extent, however, an adjudicator addressing s. 1 of the *Charter* may have to pay a degree of deference. In *R. v. Edwards Books and Art*, [1986] 2 S.C.R. 713 Dickson C.J. used the concept of reasonableness with respect to minimal impairment. The Courts, he said at p. 782, were "...not called upon to substitute judicial opinions for legislative ones as to the place at which to draw a precise line." La Forest J. stated at p. 79 "...a legislature must be given reasonable room to manoeuvre". In *Edmonton Journal v. Alberta (Attorney General)*, [1989] 2 S.C.R. 1326 La Forest J. repeated that thought and, again writing about a legislature, added "It must also be given adequate scope as to the choice of response to problems". (para. 98)

Commenting on those kinds of judicial observations and other decisions of the Supreme Court of Canada, Professor Peter W. Hogg, in *Constitutional Law of Canada* (Carswell, 2012 Student Edition), wrote:

The majority opinions in *Edwards Books* in effect recognized a margin of appreciation, which would tolerate a variety of different Sunday-closing laws. Indeed, the Court has since used the phrase "margin of appreciation" to describe its approach to the requirement of least drastic means. Certainly, the cases after *Edwards Books* have applied the requirement in a flexible fashion, looking for a reasonable effort to minimize the infringement of the Charter right, rather than insisting that only the least possible infringement could survive. (pp. 38-40, 38-41)

In my view, in the circumstances of this case, these judicial and academic observations are apt. This case, I believe, should attract a margin of appreciation. In this connection, I note that the definition of patient care location concludes with the words, "but does not include any location designated by <Organization> to be excluded from the definition of Patient Care Location. The Policy, itself therefore, provides a measure of flexibility that would permit refinement of its scope as experience is gained. Ultimately, I am not prepared to invalidate the Policy on the basis of the definition of patient care area.

Finally, moving to the proportionality issue, I have previously expressed my thoughts and analysis in the *KVP* and *Irving* analysis and, without repeating them, adopt them here. In my view the Policy meets the proportionality test. I add this. As in *Slaight*, on the basis that masking constitutes forced speech respecting immunization status, the speech is limited and the message is not factually controversial.

In sum on the s. 1 issue, my conclusion is that the Policy survives scrutiny respecting s. 2(b).

Turning to s. 7 of the *Charter*, does the Policy infringe its provisions? That provision and its heading read:

Life, Liberty and security of the person

7. Everyone has the right to life, liberty and security of the person and the right not to be deprived thereof except in accordance with the principles of fundamental justice.

The Union's written submission on this issue stated:

It is submitted that the mandatory requirement to be vaccinated, or to wear a mask, is a breach of both the individual HCW's rights to liberty and security of the person. The decision whether to consent to medical treatment, including

vaccination, is a personal one. Being compelled, on threat of the termination of one's employment, to undergo an invasive medical procedure that one would not otherwise choose, or to wear a stigmatizing mask, violates the rights to liberty and security of the person.

The violation of the rights to liberty and security of the person is not in accordance with the principles of fundamental justice. That is so for the same reasons that we submitted previously that the Policy is not reasonable.

As I previously concluded, health care workers do not have to immunize; they have a choice to immunize or mask during the influenza season. As to the mask, I am unable to characterize it as an invasive procedure. The Union also characterizes a mask as stigmatizing. I am unable to agree. I have addressed this contention in my consideration of s. 2(b) of the *Charter*, and I adopt that analysis here. Finally, mandatory masking does restrict one's freedom of choice, but so do many workplace rules. The mandatory aspect is not, in my view, in itself sufficient to trigger a violation of s. 7.

In conclusion, therefore, I am unable to conclude that the masking element of the policy constitutes a violation of s. 7 of the *Charter*. Accordingly, it is not necessary to proceed to s. 1.

In conclusion, given the conclusions and rulings throughout this Award, it follows that the Policy is a valid exercise of the Employer's management rights. Accordingly, the grievance must be dismissed. I rarely add observations of the following sort, but I believe they are appropriate in this Award. It was my good fortune that both parties had such able counsel. They were consummately professional, both in the case management phase of the arbitration and in the conduct of the hearing itself. IT IS SO AWARDED.

"Robert Diebolt"

Robert Diebolt, Q.C.
Single Arbitrator