PHYSICIANS WITH BLOOD BORNE VIRAL INFECTIONS: UNDERSTANDING AND MANAGING THE RISKS
A diagnosis of infection with a blood borne pathogen such as Hepatitis B (HBV), Hepatitis C (HCV) or human immunodeficiency virus (HIV) can be potentially devastating for any individual and the impact is likely to extend to family and friends. In the case of physicians infected with a blood borne virus, there may also be significant implications for their professional practice. Such difficult situations pose challenges for physicians, medical regulatory authorities (Colleges) and others responsible for ensuring the safety of the medical care.

On one hand, there may be a tendency to overstate the risks of transmission to patients and to unfairly and unnecessarily restrict or curtail a physician’s practice, thereby denying the physician the ability to practise medicine and provide his or her patients the care they may require. Conversely, there may also be instances wherein the risk of transmission is real and, in the interests of patient safety, appropriate measures should be taken to reduce that risk to an acceptable level.

Colleges have an important role in determining the acceptable level of risk and in implementing effective mechanisms to identify when such risk may exceed the standard. They have an equally important role in ensuring physicians are treated fairly and provided every opportunity to continue to provide care to their patients. Given the complexities involved, it is vital that all involved approach the issues with an understanding of blood borne viruses, the potential for effective treatment and the real risks of physician-to-patient transmission.

There have been significant advances in the understanding of blood borne viruses and recognizing the interest of Colleges in this matter, the Canadian Medical Protective Association (CMPA) believes there is a requirement for an evidence-based approach to managing the risk associated with the practices of physicians infected by a blood borne virus. To assist in developing this approach, the CMPA commissioned a panel of independent experts to examine the current science regarding blood borne viruses (HBV, HCV and HIV) and the risk of physician-to-patient transmission. The panel’s findings have informed the CMPA’s position and contributed to the recommendations presented later in this document.

PURPOSE
This paper advocates for the establishment, in each province and territory, of an evidence-based approach to the management of practice risks associated with the medical practice of infected physicians. In so doing, it summarizes the key findings of the expert panel report and offers constructive recommendations for a management framework that addresses the interests of patients, physicians, medical regulatory authorities and others responsible for safe and effective health care delivery.

The CMPA recognizes that the issue of infected physicians is a sub-set of a much wider question regarding the collection, use and safeguarding of physician’s personal health information. To assist physicians, Colleges and others in dealing with this broader question, the Association has recently published “Physician personal health information: Supporting public safety and individual privacy” (available at www.cmpa-acpm.ca). That document’s recommendations should be helpful in the effective management of physicians infected with blood borne viruses.

1 The expert panel consisted of: Drs. Stephen D. Shafran, Jonathan B. Angel, Carla S. Coffin, David R. Grant, Roman Jaeschke, and David K. Wong
As noted, the CMPA commissioned an independent expert panel to conduct a comprehensive review of the current scientific literature related to the management of physicians infected with HBV, HCV and HIV. The panel’s findings and recommendations were generated independently of the CMPA. The panel’s entire report, which includes eleven (11) recommendations, can be accessed at www.cmpa-acpm.ca. The panel’s recommendations are also appended to this paper.

The most salient conclusion from the expert report is that the risk of physicians transmitting blood borne viruses to patients is very low and that this risk will continue to decrease as more effective treatment options and prevention techniques are developed. In a separate report, the Public Health Agency of Canada (PHAC) quotes mathematical models that put the chance of transmission of Hepatitis B at between 24-2,400 transmissions per million procedures; of Hepatitis C at 50-500 transmissions per million procedures; and of HIV at 2.4-24 transmissions per million procedures.

As stated in the expert report, to date, there have been no documented cases of transmission of either HCV or HIV from a Canadian physician to his or her patient. In addition, there is only one reported case of a Canadian physician implicated in the transmission of HBV to two patients and these infections occurred prior to both the implementation of universal precautions and the availability of modern anti-viral therapy.

### Hepatitis B (HBV)

Approximately 350 million persons worldwide are estimated to be chronic Hepatitis B carriers and an estimated 500,000 deaths annually can be attributed to the complications of chronic HBV infection. The prevalence of the pathogen is relatively low in Canada and an effective vaccination program has been in place for almost three decades. However, there are instances of HBV infected health care providers, including but not restricted to those who have immigrated to Canada from countries with higher infection rates.

While HBV remains a concern, as much more is now known about the pathogen, there are now effective screening techniques and treatment therapies available. There is a risk of HBV transmission from an infected physician to a non-immune patient during an exposure prone procedure, although most recorded cases have occurred before the introduction of universal precautions. This has led many jurisdictions to develop guidelines to identify, through infectivity levels, physicians at risk of transmitting HBV and to establish specific medical practices that could then be appropriately performed. For example, HBV infected physicians with high levels of HBV DNA should refrain from performing exposure prone procedures. The independent expert report identifies the various threshold levels established by certain jurisdictions, usually expressed as plasma viral loads. While the threshold levels vary, in the majority of instances many developed countries are pursuing an evidence-based approach that establishes a reasonable level of risk.

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Hepatitis C (HCV)
Hepatitis C is also a global health problem with an estimated 170 million persons being chronically infected. The primary means of transmission of HCV infection (over 90%) is through parenteral exposure, largely linked (at least in the developed world) with the injection of illicit drugs. There are now highly effective antiviral therapies for HCV infection, particularly if these therapies are commenced before the infection has reached an acute stage and the HCV infection can currently be cured in 55% of patients with that rate expected to increase as new therapies are developed.

As detailed in the expert panel report, the probability of transmission from a HCV infected physician to a patient is very low (<0.0025%) and it is noteworthy there have been no documented cases of such transmission in Canada. In fact, an investigation into 231 patients who had undergone exposure prone procedures by a HCV infected Canadian physician did not reveal any HCV transmission.

Human Immunodeficiency Virus (HIV)
In the roughly 30 years since its first description, there has been tremendous progress made in the screening and treatment of the HIV infection. The continuing investment in antiviral therapies has produced a multitude of medications which, when used in combination, have demonstrated considerable success. As noted in the independent experts’ report, it is now possible to suppress the plasma viral loads of HIV-positive patients to levels below that currently detectable.

Notwithstanding the global HIV epidemic, the expert panel observed that there have been only two documented cases of physician-to-patient transmission of HIV pathogens. In both cases, the surgeons involved were not aware of their infection status and resultantly were not undergoing any form of therapy. Recognizing there are no published risk estimates for HIV-infected physicians not receiving antiviral therapies, Shafran et al have conservatively estimated the risk of transmission to a patient being 1 in 2,688,000 to 1 in 26,880,000, which is lower than the risk of death following general anesthesia.

Based on the available scientific evidence, the independent expert panel report provides an estimate of the probability of transmission from HBV, HCV and HIV infected physicians to patients during exposure prone procedures. While these probabilities are, as explained in greater detail in the independent expert report, very low, they are not zero. The CMPA recognizes that, even when a physician is taking appropriate precautions and responding successfully to therapies, the risk is likely never zero. This reality indicates that Colleges and others entrusted with protecting the safety of the public should exercise some caution in addressing the issue of serologically positive physicians.

However, while the application of some caution is an appropriate and prudent course of action, it would be unwise to unduly restrict a physician's practice with the expectation of achieving the “zero risk” level. Such an approach would deny patients the services of their physicians and unfairly prohibit the physician from pursuing his or her professional work and livelihood, while doing little to improve the safety of care.

The scientific research indicates there are prudent and balanced approaches that effectively establish reasonable risk thresholds that enable physicians to continue delivering care, either with or without restrictions on their practice. The challenge for medical regulatory authorities in Canada is to identify, based on the growing body of current evidence, what constitutes reasonable risk for patients and for those physicians whose practice involves exposure prone procedures. This risk level should be an important consideration in two separate but related actions:

- Establishing the threshold for the collection of personal health information from physicians.
- Applying evidence-based criteria to manage the practice of an infected physician, through testing, monitoring and, if warranted, practice restrictions.

The low risk of transmission of a blood borne pathogen from an infected health provider to a patient does not warrant the pro forma disclosure of physicians’ personal health information to Colleges, hospitals and other institutions. However, some Colleges require physicians to disclose information about their personal health when applying for or renewing their licence. The scope of the information required to be disclosed and the conditions surrounding that disclosure appears to differ amongst Colleges. The following examples highlight these different approaches:

- Some Colleges ask general questions about whether the physician suffers from a condition that may limit his/her ability to practise safely;
- Others require all physicians applying for renewal of their licence to disclose whether they have ever tested positive for a transmissible blood borne illness (such as HIV, HBV or HCV) without any consideration as to the risk of transmission as a result of the physician’s practice (i.e., if they are involved in exposure prone procedures).
- While a number of Colleges currently require physicians to specifically disclose whether they have a communicable disease or blood borne pathogen, in some cases, the requirement for disclosure is predicated on whether the condition poses a risk to patient safety in the event of inadvertent exposure (e.g., whether the physician is performing exposure prone procedures).

This divergence of approaches indicates the value of a more consistent, evidence-based approach that is founded on the risk posed by the physician’s condition. Such a risk assessment requires an understanding of the practice involved.
In addressing the issue of physicians’ serologic status, the appropriate application of risk thresholds should occur at two key junctures, each of which requires a balanced judgment that weighs potentially competing imperatives:

- One relates to decisions regarding what, if any, personal health information should be collected from physicians
- The other relates to decisions regarding a physician’s practice

**Information collection**

There is a requirement to achieve an appropriate balance between ensuring that the necessary information is available to enable Colleges and others to ensure safe medical care and protecting a physician’s privacy. All individuals have the right to privacy, personal autonomy and access to treatment without discrimination—regardless of their health condition. The extent, however, to which a fundamental human right can be justifiably infringed upon depends on the specific circumstances, including the level of risk. According to the Canadian Human Rights Commission, “when considering the impact of an accommodation on health and safety, look at the extent of the risk and identify anyone who would bear that risk. However, balance this risk against the right of employees to participate fully in the workplace. The goal is not absolute safety, but reasonable safety.”

Within the context of serologically positive physicians, privacy should only be infringed if it is determined, within the context of the physician’s practice, that the condition poses an unacceptable risk to patients. Making the pro forma disclosure of a physician’s serologic status a mandatory condition of licence application or renewal is a disproportionate measure which can have serious deleterious effects on a physician’s privacy, self-worth and livelihood. This is particularly true in circumstances where an absence of policy or procedures creates additional uncertainty about how such information will be used and safeguarded.

Colleges are experienced in dealing with sensitive information concerning their physician members and, in every jurisdiction, they have generally transparent and publicly accountable processes through which to render decisions regarding a physician’s professional conduct and competence. While additional procedures and safeguards may be required to deal with information regarding infected physicians, Colleges are relatively well positioned to undertake the management of this information. However, this may not be the case with hospitals and other institutions where several factors contribute to making the safeguarding of a physician’s personal health information more challenging. These factors suggest that the role of collecting, using and safeguarding information regarding infected physicians should be restricted to the regulatory authorities who would be responsible to communicate any resulting practice restrictions to hospitals and institutions.

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At the same time, while physicians have certain expectations of privacy, their expectations do not alleviate their responsibilities to consider the interests of their patients. Canadian physicians are ethically bound to be aware of their serologic status and to take appropriate steps where necessary to decrease the risk of transmission to patients. Physicians have a moral duty not to subject their patients and other health care providers to undue risk of harm.

The independent expert panel report provides helpful guidance regarding those situations where, in consideration of evidence-based risk, it may be appropriate to collect personal health information from an infected physician. Once again, the challenge is to identify a reasonable threshold that achieves a balance between privacy and the legitimate information needs of Colleges.

A Physician’s Practice
Should a physician infected by a blood borne pathogen and who performs exposure prone procedures continue to practise? The answer lies in how to manage the risk associated with physician-to-patient transmission in a manner that protects patient safety while respecting the interests of the physician. As previously noted, the adoption of “zero risk” thresholds may have significant and unintended consequences for physicians and achieve the opposite result of what is intended. Such an approach may lead an infected physician to hide a condition for fear of losing his or her ability to practise. Should this occur, physicians may well delay or decline treatment, thereby placing both themselves and potentially their patients at greater risk. Rather than promoting patient safety, such policies are likely to have a negative effect. A proportionate approach to risk, as determined by the available evidence, is more likely to encourage physicians to seek treatment, to report their condition and to enter into monitoring programs that support their full or partial re-integration into practice. This approach also respects the interests of patients and physicians and it seeks to ensure the continued availability of critically short physician resources.

Decision-makers should be encouraged by the increasing availability of evidence related to the risk of transmission. This evidence should enable decision-makers to make informed judgments as to whether limitations on a physician’s practice may or may not be necessary. The independent expert report recommendations are also instructive in this area but they must also be considered in the context of each physician’s practice. There are few “one size fits all” decisions in this domain. Colleges and others will be required to exercise sound judgment and discretion in weighing the relevant considerations.
In proposing recommendations as to how to optimally manage the practice risks associated with serologically positive physicians, the CMPA holds there must be proportionality between the response chosen by Colleges in the exercise of their mandate to protect the public and the potential effect on physicians. The CMPA has stated that the minimal risk to patient safety posed by physicians infected with a blood borne pathogen who take the necessary and recognized precautions against transmission and are receiving treatment or therapy does not justify the intrusive response of requiring all physicians to disclose their serologic status. However, as the expert report indicates, there are instances where mandatory testing, reporting and potential practice limitations are in order. That suggests a more nuanced approach than that currently being employed in some jurisdictions may be in order.

PHYSICIANS:

- Physicians have an ethical responsibility to know whether they have a medical condition that may negatively impact their ability to safely deliver care to their patients. For those physicians who perform exposure prone procedures, this should include testing for HBV and, given the current level of knowledge regarding transmission, HCV. However, there is no evidence to conclude that mandatory testing is required for HIV or for those physicians not involved in exposure prone procedures.

- Inherent in their responsibility to protect their patients, physicians should take the recommended precautions (e.g. double-gloving, etc) that reflect their serologic status and their specific practice.

- Should a blood exposure occur between a patient and a physician, both should be tested for blood borne pathogens and be provided appropriate follow up. Should the exposure involve a serologically positive physician, the patient should be informed of the exposure but not the identity of the physician.

- Physicians should disclose personal health information (including their serologic status) to Colleges in circumstances where it is required by law, or where it is necessary to protect patient safety.
REGULATORY AUTHORITIES (COLLEGES):

- Colleges should establish unambiguous policies for dealing with physicians infected by a blood borne virus. To the greatest extent possible, such policies should be evidence based and reflect ongoing advances in the prevention and treatment of such medical conditions.

- Colleges should adopt management approaches based on reasonable risk and avoid seeking an unattainable and potentially injurious goal of zero risk. The report of the independent expert panel provides, based on the scientific evidence, reasonable risk thresholds. The report’s recommendations are included as Appendix A and may be helpful to Colleges in defining reasonable risk.

- Colleges should encourage physicians to meet professional and ethical obligations to self-report blood borne pathogen infections that may impact their ability to practise. This encouragement should include engendering trust that the information collected will be handled and used with discretion and with the strictest privacy. To this end, before the collection of any physician personal health information, Colleges should establish and communicate the procedures and processes to be used to safeguard that information. These procedures must address the confidentiality requirements of this sensitive information.

- In accordance with their legislated role to protect the safety of the public, Colleges should ensure that hospitals and other institutions are aware of any practice restrictions resulting from a physician’s serologic status. They should not divulge personal health information that is not required to ensure adherence to those restrictions (including the nature of any blood borne infection). Given this College responsibility, there should be no requirement for a hospital or other organization to collect or use a physician’s personal health information, including that related to a blood borne pathogen.

- Any information obtained should be used only in limited and confidential settings. In employing information about a physician’s serologic status to make decisions regarding his or her practice, Colleges should (as is currently the case in many jurisdictions) employ a blind procedure whereby an expert panel determines risk on an anonymous basis and recommends practice requirements and periodic assessments based on the level of risk. In this regard, Colleges and the expert panels supporting their decision-making should recognize that infection does not necessarily result in an impaired ability to practise, particularly if appropriate treatment regimes and practice precautions are in place and adhered to.

- Physicians with blood borne viral infections that may impair their ability to practise should be able to participate in the discussions regarding that practice and any health-related restrictions being considered. Participation should include the right to make submissions, to respond to reports with expert opinion, and to appeal decisions.

- Colleges should ensure their processes to subsequently assess and monitor physicians undergoing therapy for a blood borne infection respect the physician’s privacy and ensure reasonable procedural guarantees.
While the number of Canadian physicians infected by a blood borne virus is estimated to be very small and the likelihood of physician-to-patient transmission very low, the effective management of this issue is one that is important to patients, physicians, Colleges, governments and health care organizations. The potential health, emotional and practice-related implications on those involved demand that decisions be made using the best available evidence. Decision-makers must also recognize that, as detection and treatment therapies improve, the evidence used in decision-making must be regularly reviewed to ensure its currency.

Although understanding the evidence is the necessary first step, decisions regarding the management of physicians infected with a blood borne virus necessarily require judgment and the prudent application of well thought out and communicated risk thresholds. The CMPA strongly believes these thresholds must be based on reasonable, rather than zero, risk; to do otherwise may deny patients access to the care from physicians and physicians the right to privacy and the ability to practise medicine.

The underlying principle of reasonable risk should inform decisions regarding both the circumstances in which personal health information is collected and the extent of that collection – pro forma disclosure by all physicians is neither reasonable nor necessary. However, it would be equally unreasonable to suggest there are no circumstances in which physicians infected with a blood borne virus should report their condition to those bodies entrusted with ensuring the safety of care. The evidence regarding physician-to-patient transmission should inform the definition of reasonableness.

Reasonable risk is also the foundation upon which subsequent decisions regarding what, if any, practice restrictions would be appropriate for an infected physician. Pursuing a risk-based approach will also assist Colleges in communicating any such limitations to the physician and to hospitals and other institutions and, equally importantly, provide a basis for re-examining any limitations based on changes in the physician’s condition, improvements in therapy or other developments.

While dealing with sensitive personal health issues of physicians is necessarily a difficult and potentially controversial issue for medical regulatory authorities, the significant progress made regarding the understanding, detection and treatment of blood borne viral infections now enables those organizations to employ an evidence-based approach that protects the interests of patients and physicians.
Recommendation 1:
The policies governing physician screening for blood borne virus (BBV) and the management of BBV-infected physicians should be evidence-based.

Recommendation 2:
Provincial/territorial Colleges should develop policies that encourage a safe working environment and maximize the use of measures to prevent BBV disease transmission. Some of these opportunities include but are not limited to 1) mandating professional obligations to always use universal precautions when appropriate and always report occupational blood exposures to and from patients; and 2) identifying additional financial resources to support BBV-infected physicians who face practice restrictions.

Recommendation 3:
When a blood exposure occurs during an exposure prone procedure (EPP), the involved physician and patient should both be tested for BBVs. If a patient is exposed to blood from a BBV-infected physician, the patient should be told about the exposure as well as the specific BBV, and the estimated risk of transmission, but the patient should not be told the identity of the BBV-infected health care worker. Appropriate follow-up of the patient and the physician should be provided. Both the patient and the physician should be offered baseline and follow-up testing, and where appropriate, post-exposure prophylaxis at no cost to the patient or physician.

Recommendation 4:
The available evidence does not support mandatory testing for BBVs for physicians who do not perform EPPs.

Recommendation 5:
Current data support mandatory testing of physicians who perform EPPs for immunity to HBV (presence of anti-HBs).

Recommendation 6:
Current data do not support mandatory HIV testing of physicians who perform EPPs.

Recommendation 7:
Current data are inconclusive to make a recommendation regarding mandatory HCV testing of physicians who perform EPPs. If a decision to test is undertaken, HCV antibody negativity is sufficient to exclude HCV infection, but only HCV RNA positivity indicates infectivity. Decisions about the frequency of HCV testing will be arbitrary, as there is no available evidence on effectiveness to guide this recommendation.

Recommendation 8:
For BBV-infected health care workers who do not perform EPPs, there are no grounds to restrict their practice on account of the BBV infection, provided that they adhere to universal precautions.

Recommendation 9:
HIV-infected physicians should not perform EPPs, but can perform other medical duties until they are on antiretroviral therapy (ART) and their plasma HIV RNA is undetectable. Once documented to have undetectable plasma HIV RNA on ART, HIV-infected physicians should be permitted to perform EPPs using double gloves with the proviso that their personal physician provides regular (every 3 to 4 months) confirmation to an appropriate designated physician that his/her plasma HIV RNA is undetectable.

Recommendation 10:
HBV-infected physicians with plasma HBV DNA over 2000 IU/mL should not perform EPPs, except on patients who are HBV immune (anti-HBs positive) or HBV infected (HBsAg positive), until or unless their infectivity status changes—whether by natural immunity or from antiviral therapy. HBV-infected physicians with plasma HBV DNA consistently below 2000 IU/mL should be permitted to perform EPPs using double gloves and universal precautions, regardless of their HBeAg status, with the proviso that their personal physician provides regular (every 3 to 4 month) confirmation that his/her plasma HBV DNA is suppressed below this level to an appropriate designated physician.

Recommendation 11:
HCV-infected physicians (HCV RNA positive) should not perform EPPs, but they can perform other medical duties. They may resume EPPs while on anti-HCV therapy once HCV RNA is negative. Once anti-HCV therapy is completed, they should once again refrain from EPPs for at least 12 weeks following completion of antiviral therapy until a repeat HCV RNA test done at least 12 weeks after completion of treatment is confirmed to be negative, after which they can resume EPPs.

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APPENDIX A

Recommendations of the independent expert panel on blood borne pathogens7

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