Court File No.: CV-21-671579-0000

ONTARIO

SUPERIOR COURT OF JUSTICE

B E T W E E N:

NATIONAL ORGANIZED WORKERS UNION

(Applicant/Moving Party)

- and –

SINAI HEALTH SYSTEM

(Respondent/Responding Party)

AFFIDAVIT OF DR. PETER JUNI
SWORN 13 NOVEMBER 2021

I, Peter Juni, of the City of Toronto, in the Province of Ontario, MAKE OATH AND SAY:

1. I am the Scientific Director of the Ontario COVID-19 Science Advisory Table. I am the Director of the Applied Health Research Centre at the Li Ka Shing Knowledge Institute of St. Michael's Hospital. I hold a Tier 1 Canada Research Chair in Clinical Epidemiology of Chronic Diseases. I am also a Professor at the Department of Medicine and the Institute of Health Policy, Management and Evaluation at the University of Toronto. I attach as **Exhibit "A"** to my affidavit copies of my curriculum vitae and my publication list.

2. I have knowledge of the matters deposed to herein, unless stated to be based on information and belief, in which case I have stated the source of the information and believe it is true.

3. I have been asked to provide my opinion on the value and benefits of a mandatory COVID-19 vaccination policy in a hospital, in this case Sinai Health System. I have also been asked to provide my opinion on the safety and effectiveness of COVID-19 vaccines currently available in Ontario. I understand my obligation to provide

an objective opinion to the Court, and I attach as Appendix 1 to this affidavit a FORM 53 – Acknowledgement of Expert's Duty, which outlines my obligations in this regard, which I have read and understood and to which I agree.

4. My opinion is that a mandatory COVID-19 vaccination policy is by far the best way to ensure the protection of healthcare workers and hospital patients from contracting and/or transmitting SARS-CoV-2, the virus causing COVID-19, as well as mitigating the severity of the impact of the COVID-19 pandemic on the hospital population. My opinion is that the COVID-19 vaccines currently approved and in use in Canada are safe for use by all persons (other than the very small number who are contraindicated because of allergy to one of the COVID-19 vaccine ingredients, or some other rare conditions), and that vaccines are the most effective way to reduce the risks and transmission of the virus causing COVID-19.

Ontario COVID-19 Science Advisory Table

5. In July of 2020, a group of scientific experts and health system leaders established a provincial advisory table to evaluate and report on emerging evidence relevant to the COVID-19 pandemic, and to inform Ontario's response. This independent group, hosted by the Dalla Lana School of Public Health at the University of Toronto, organized into the Ontario COVID-19 Science Advisory Table (the "Advisory Table"). As noted above, I am the Scientific Director of the Advisory Table. I note that its regular members do not receive compensation for sitting at this Table, whereas I, in my function as Scientific Director of the Advisory Table, am seconded and receive financial compensation through the Dalla Lana School of Public Health at the University of Toronto.

6. The Advisory Table's current mandate is to provide weekly summaries of relevant scientific evidence for the COVID-19 Health Coordination Table of the Province of Ontario, integrating information from existing scientific tables, Ontario's universities and agencies, and the best global evidence. The Advisory Table summarizes its findings for the government's Health Coordination Table, as well as for the public, in the form of Science Briefs.

7. The Advisory Table has played an important role in informing Ontario public policy related to the COVID-19 pandemic, particularly during its second, third and fourth waves.

COVID-19 Vaccines are Safe and Effective

8. In December of 2020, Health Canada approved vaccines for the immunization of Canadians against COVID-19. This was a monumental event, providing a key tool in protecting our population against infection and related serious consequences, including admission to hospital wards and intensive care units and death from COVID-19, and in reducing the spread of COVID-19.

9. Multiple trials and observational studies, which I have read and analysed, clearly indicate beyond any reasonable doubt that COVID-19 vaccines administered in Canada are both safe and effective.

10. In terms of the vaccines' *effectiveness*, scientific studies have established that the COVID-19 mRNA vaccines reduce the risk of contracting COVID-19 by more than 80%, the risk of hospital admission by more than 90%, and the risk of ICU admission and death by 95%.

11. Further, a vaccinated person is much less likely to transmit COVID-19 to others, including unvaccinated children and vulnerable persons. This is explained in more detail in the Advisory Table's report dated October 19, 2021, attached as **Exhibit "B"** to this affidavit and summarized in paragraphs 15 to 19 below.

12. Vaccines are also *safe*. We know from the history of vaccines in general that any potential safety signals relating to a vaccine will typically be evident within 60 days after the vaccine is administered. The Advisory Table has reviewed randomized trials and observational data generated worldwide on the potential side effects of the vaccines, and has concluded that COVID-19 vaccines administered in Canada are safe, and recommended for all individuals 12 and over unless contraindicated as a result of a medically documented allergy to one of the COVID-19 vaccine ingredients, for example. Moreover, with respect to safety it is important to note that being vaccinated against

COVID-19 is considerably safer than bearing the increased risk of contracting COVID-19 as an unvaccinated person.

13. For example, the risk of myocarditis (an inflammation of the heart muscle that can lead to heart attack or stroke) is approximately 10 to 50 times greater in persons who are infected with SARS-CoV-2 and have COVID-19 than those who are protected through vaccination.[1] The risk of infection with SARS-CoV-2 is particularly acute as it pertains to the Delta variant, which is more than twice as transmissible as the original strain of the virus. It should be noted that the Delta variant is so easily spread that it is a relative certainty that every Canadian who is not vaccinated will eventually contract it.

Support for COVID-19 Vaccine Mandates for Ontario's Hospital Workers

14. On October 15, 2021, Premier Doug Ford wrote a letter to hospital administrators soliciting their input on the idea of mandating vaccination for all healthcare workers.

15. On October 19, 2021, the Advisory Table issued a response entitled *COVID-19 Vaccine Mandates for Ontario's Hospital Workers: Response to the Premier of Ontario* (**Exhibit "B"**). I participated in the drafting of this document and I agree with its contents.

16. In this report, the Advisory Table conveyed strong support for a vaccine mandate for hospital workers. The report indicated that there is now "conclusive evidence" that COVID-19 vaccines are highly effective and safe, and that the risks of serious side effects from vaccines are "vanishingly low".[2] The report also noted that hospital workers who remain unvaccinated are at greater risk of contracting COVID-19

[1] Barda N, Dagan N, Ben-Shlomo Y, et al. Safety of the BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Setting. New England Journal of Medicine 2021 (https://doi.org/10.1056/NEJMoa2110475).

[2] COVID-19 Vaccine Mandates for Ontario's Hospital Workers: Response to the Premier of Ontario ["Advisory Table Response"].

and of being unable to work due to COVID-19, which poses a “real and serious threat to the health of the hospital workforce” and can contribute to staffing shortages.[3]

17. The Advisory Table also confirmed in its report that fully vaccinated individuals have a lower probability of contributing to ongoing transmission of the virus compared to the unvaccinated, and if infected, appear to be infectious for a shorter period of time compared to the unvaccinated.[4] Accordingly, a fully vaccinated workforce reduces the risk of transmission to both unvaccinated patients (including young children who are not yet eligible for vaccination) and vulnerable fully vaccinated patients (including the elderly and/or immunocompromised, who are at greater risk of breakthrough infections and severe COVID-19 disease).[5]

18. Finally, the Advisory Table emphasized that vaccine mandates for healthcare workers are not new, and have been in effect across Canada for more than two decades.[6]

19. The Advisory Table concluded, and I believe, that a requirement for all hospital workers to be vaccinated against COVID-19 is an “evidence-based policy” that protects hospital workers, patients, and Ontarians generally.[7]

The Challenge of Relying on Testing in the Workplace to Prevent the Transmission of COVID-19

20. It is my view that the use of rapid antigen point of care testing to rule out SARS-CoV-2 infection among healthcare workers, even combined with the use of PPE, is not the most secure way to prevent and/or reduce the transmission of COVID-19 in health care settings. The use of rapid antigen point of care testing to rule out SARS-CoV-2 infection is less effective than full vaccination in decreasing the risk of infection

[3] Advisory Table Response, p 2.
[4] Advisory Table Response, p 1.
[5] Advisory Table Response, p 1-2.
[6] Advisory Table Response, p 2.
[7] Advisory Table Response, p 2.

and transmission,[8] and will become even less effective if adherence to rapid antigen point of care testing of hospital staff is less than 100% (see paragraph 24 below).

21. Prior to the availability of vaccines, we were forced to rely solely on Protective Equipment ("PPE") and rapid antigen point of care testing to reduce the spread of COVID-19 in hospitals and other health care settings. This was far from an optimal solution.

22. A Canadian study of rapid antigen point of care testing for SARS-CoV-2 in healthcare workers published on October 19, 2021 by the Journal of Clinical Microbiology evaluated rapid antigen point of care testing in healthcare workers. This study, a copy of which is attached as **Exhibit "C"** to this affidavit,[9] evaluated a large-scale, multi-centre implementation of asymptomatic antigen testing of healthcare workers in continuing care facilities. The study found that antigen point of care tests ("APOCT") had a high proportion of false positives (55.2%), consistent with a number of previous studies that raised similar performance concerns relating to APOCTs.

23. A low PPV and high incidence of false positives can lead to operational challenges in a healthcare setting, as the need to isolate in response to a false-positive result can contribute to staff shortages and add further stress on the healthcare workforce.

24. Further, while rapid tests may reduce the risk of SARS-CoV-2 transmission by a factor of 4 (unlike the vaccine which reduces transmission by a factor of 5 to 6), this factor assumes 100% adherence to the applied testing regime multiple times per week. Any lack of adherence with such a regime will reduce its effectiveness. As such, an additional benefit of a vaccination policy vs. a testing policy is that once vaccinated, the health care worker and the employer are both relieved of the obligation to ensure compliance with an ongoing regime. In other words, the effectiveness of the

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[8] Brümmer LE, Katzenschlager S, Gaeddert M, et al. Accuracy of novel antigen rapid diagnostics for SARS-CoV-2: A living systematic review and meta-analysis. PLoS Med 2021;18(8):e1003735.

[9] Kanji, J. et. al., Multicenter Postimplementation Assessment of the Positive Predictive Value of SARS-CoV-2 Antigen-Based Point-of-Care Tests Used for Screening of Asymptomatic Continuing Care Staff, Journal of Clinical Microbiology, November 2021.

vaccine is constant until at least the point of time at which a booster may be required, unlike a testing regime which is only as good as its compliance rates will allow.

25. For these reasons, it is my opinion, and that of the Advisory Table, that mandatory vaccination policies implemented in health care settings present by far the greatest protection from the contraction and transmission of SARS-CoV-2, the virus causing COVID-19, to workers and patients, and should be implemented throughout Ontario's health care system.

26. On November 4th, Premier Ford indicated that the Ontario government was declining to impose a provincial vaccine mandate on healthcare workers, instead leaving the decision of whether to impose mandatory vaccination policies "up to individual hospitals". I understand that the Province's decision to maintain a permissive approach to mandatory vaccination policies related to concerns that a provincial mandate could impact human resourcing in certain hospitals in rural communities depending on their particular circumstances. The Health Minister, Christine Elliott, indicated that Ontario supports the right of hospitals to make individual decisions. A copy of this announcement is attached as **Exhibit "D".**

Comments on Dr. Brindle's Report

27. I have been provided with a report written by Dr. Byram Bridle of the University of Guelph on November 12, 2021. I have read Dr. Bridle's report, and have the following comments:

28. Dr. Bridle selectively cites a single authored controversial review by Ioannidis to suggest that the infection fatality rate (IFR) of SARS-CoV-2 is 0.15%.[10] I do not agree this this assertion.

29. IFRs depend on the age and sex structure of a population. For the age and sex structure of a population like France, the IFR for the original strain of the virus

[10] Ioannidis JPA. Reconciling estimates of global spread and infection fatality rates of COVID-19: An overview of systematic evaluations. Eur J Clin Invest 2021;51(5):e13554.

was estimated by an eminent group of scientists to be 0.79% .[11] It is likely that the IFR of the Delta variant is more than twice as high as the IFR of the original strain. A Canadian group estimated a 2.32-fold increase.[12] Taken together, results of these studies indicate that the age-standardized IFR of the Delta variant in unvaccinated people is likely around 1.8%. This IFR is reduced approximately 20-fold in fully vaccinated people,[13,14] to around 0.24%.

30. Dr. Bridle claims that "SARS-CoV-2 is not a problem of pandemic proportions". I disagree. This statement is at odds with the international scientific consensus. I am not aware of any credible evidence that would support such a statement.

31. Dr. Bridle states that "PCR testing should not have been the gold standard to detect SARS-CoV-2". I disagree. This statement is at odds with the international scientific consensus.

32. Dr. Bridle states that "it is improbable that individuals who overcame a SARS-CoV-2 infection can re-transmit the virus". I disagree. This statement is at odds with the international scientific consensus. I am not aware of any credible evidence that would support such a statement.

33. Dr. Bridle claims that there is a lack of rationale for use with asymptomatic/healthy people. I disagree. This claim is at odds with the international scientific consensus.[15]

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[11] O'Driscoll M, Ribeiro Dos Santos G, Wang L, et al. Age-specific mortality and immunity patterns of SARS-CoV-2. Nature 2021;590(7844):140–5.

[12] Fisman DN, Tuite AR. Progressive Increase in Virulence of Novel SARS-CoV-2 Variants in Ontario, Canada [Internet]. 2021 [cited 2021 Nov 13]. Available from: https://www.medrxiv.org/content/10.1101/2021.07.05.21260050v3

[13] Brown KA, Stall NM, Vanniyasingam T, et al. Early impact of Ontario's COVID-19 vaccine rollout on long-term care home residents and health care workers. Science Briefs of the Ontario COVID-19 Science Advisory Table 2021;2(13) (https://doi.org/10.47326/ocsat.2021.02.13.1.0).

[14] Dagan N, Barda N, Kepten E, et al. BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Mass Vaccination Setting. N Engl J Med 2021;384(15):1412–23.

[15] Schünemann HJ, Akl EA, Chou R, et al. Use of facemasks during the COVID-19 pandemic. Lancet Respir Med 2020 (https://doi.org/10.1016/S2213-2600(20)30352-0).

34. Dr. Bridle states that “prolonged isolation and masking of children can cause irreparable harm to their immune systems”. I disagree. This statement is at odds with the international scientific consensus. I am not aware of any credible evidence that would support such a statement.

35. Dr. Bridle claims harmful effects from spike proteins produced by COVID-19 vaccines. I disagree. This statement is at odds with the international scientific consensus. I am not aware of any credible evidence that would support such a statement. A longer discussion of the claim was provided by Health Feedback.[16] Of note, when comparing the risks associated with COVID-19 mRNA vaccines with the risks associated with COVID-19 in Israel, Barda et al, in a landmark study, found the risk associated with the vaccine considerably lower than the risk associated with COVID-19, particularly for cardiovascular outcomes.[17]

36. Dr. Bridle concludes that “the sum of the data indicate that pregnant females are not at enhanced risk of severe outcomes from infection with SARS-CoV-2 compared to non-pregnant females.” I disagree. This statement is at odds with the international scientific consensus.[18]

37. Dr. Bridle states that “COVID-19 vaccines may have the potential to cause long-term neurological disease.” This statement is at odds with the international scientific consensus. I am not aware of any credible evidence that would support such a statement.

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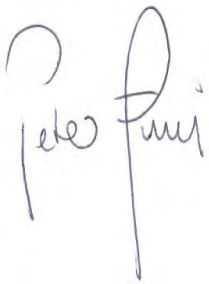
[16] Byram Bridle’s claim that COVID-19 vaccines are toxic fails to account for key differences between the spike protein produced during infection and vaccination, misrepresents studies [Internet]. Health Feedback. 2021 [cited 2021 Nov 13];Available from: https://healthfeedback.org/claimreview/byram-bridles-claim-that-covid-19-vaccines-are-toxic-fails-to-account-for-key-differences-between-the-spike-protein-produced-during-infection-and-vaccination-misrepresents-studies/

[17] Barda N, Dagan N, Ben-Shlomo Y, et al. Safety of the BNT162b2 mRNA Covid-19 Vaccine in a Nationwide Setting. New England Journal of Medicine 2021 (https://doi.org/10.1056/NEJMoa2110475).

[18] Munshi L, Wright JK, Zipursky J, et al. The incidence, severity, and management of COVID-19 in critically ill pregnant individuals. Science Briefs of the Ontario COVID-19 Science Advisory Table 2021;2(43) (https://doi.org/10.47326/ocsat.2021.02.43.1.0).

SWORN by Dr. Peter Juni of the City of Toronto, in the Province of Ontario, before me at the City of Toronto, in the Province of Ontario, on November 13, 2021 in accordance with O. Reg. 431/20, Administering Oath or Declaration Remotely.



Commissioner for Taking Affidavits
(or as may be)

PETER JUNI