patients with minimal head injury (including those who did not receive a head CT); however, our study was designed in this manner because this was not a population that we were able to screen for effectively in our emergency department. We also wanted to include physician judgment as a factor in our study design and were concerned about biasing providers toward ordering CTs (and were concerned about the unnecessary radiation exposure for patients), which may have been triggered by a study based on chief complaint rather than the clinical judgment of the provider.

Our goals for this study were 2-fold: trying to ascertain the rate of injury in this population, and identifying whether the Canadian CT Head Rule could safely obviate obtaining a CT in this group and therefore decrease CT use in what is considered to be a very low-risk group. There is a steady increase in the use of CT imaging,[5] and this study suggests that providers should have a higher threshold for ordering a head CT in this population. We regret that we did not more carefully define what shared decisionmaking meant in our study. The study form had a box for the provider to check (yes/no) if they used shared decisionmaking when determining whether a head CT would be performed. In our study, 51% of physicians reported using shared decisionmaking when ordering a head CT. We did not provide a script or suggest any language for these conversations, and the specifics of the discussion were left to the discretion of the individual provider. We suspect that greater use of shared decisionmaking could also reduce the use of imaging in this low-risk population.

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The content of the submitted letter is solely the responsibility of the authors and does not reflect the official views of any aforementioned establishments.

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Safety of a Brief Emergency Department Observation Protocol for Patients With Presumed Fentanyl Overdose

To the Editor:

We read with interest the article by Scheuermeyer et al.[1] Although the study sought to fulfill a needed gap in regard to the management of patients with fentanyl overdose, we have questions about certain aspects of it.

The authors presumed that the majority of study patients were exposed to fentanyl, according to city public health surveillance data demonstrating that 86% of tested heroin samples contained fentanyl. However, because only the heroin samples in the city were tested, and not the patients, it is unclear what opioid was used by any individual patient. Perhaps more information about the source and character of the public health surveillance data would have alleviated some of this concern. We do not know the number of tested samples, nor how representative the selection. For example, if the heroin samples were obtained through arrests at select points of sale, how likely is it that they reflect the larger drug environment in the region under study?

Most important, we would like to better understand the decision to lengthen the observation time for patients with presumed fentanyl exposures compared with the authors' heroin observation protocol. The rationale was that fentanyl has a longer half-life than heroin. Although this may be true when terminal elimination is compared

and after long-term fentanyl dosing, the duration of action of an acute bolus of fentanyl is significantly shorter than that of heroin. Moreover, the length of observation could be most optimally based not on the half-life of the responsible opioid compound but on the half-life and duration of action of naloxone. Although we agree that the risk of death for patients discharged shortly after naloxone administration is as low as 0% to 0.13%,[2] this likely reflects that the majority of patients with apparent opioid overdose would survive without any treatment. Given the low incidence of death after naloxone administration,[3,4] the medical value of any period of observation for patients exposed to short-acting opioids remains uncertain.

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In reply:

Our team thanks Santos et al[1] for their commentary in regard to the management of emergency department patients with presumed fentanyl overdose. They raise the important point that, because of the low postoverdose mortality risk, any observation window for such patients may be questionable. Boyer[2] suggested a 4- to 6-hour observation period after naloxone resuscitation, but this is not supported by clear evidence in patients with fentanyl overdose. In therapeutic doses, fentanyl has a short duration of action because it is quickly redistributed out of the central nervous system into peripheral tissues before being quickly eliminated. However, in large doses—as in illicit overdose—fentanyl in peripheral tissues can be remobilized into central circulation and resedate patients, a phenomenon described in the surgical literature.[3] Although the traditional duration of action of 0.4-mg intravenous naloxone is 45 minutes, it can vary, depending on dose and route of exposure.[4] Our patients had variable naloxone dosing, including bystander administration. Given these substantial uncertainties in this previously undescribed population, we felt justified in extending our observation protocol from 1 to 2 hours. Furthermore, this additional period gave our staff time to ensure that there was no potential underlying medical or psychiatric issue and gave patients an opportunity to access critical resources such as opioid agonist therapy, take-home naloxone, food, shelter, and detoxification opportunities.

With respect to drug testing in Vancouver, clients at the local nurse-supervised safe injection site volunteer to self-analyze their illicit drugs for fentanyl, using rapid testing strips. From July 3 to August 7, 2016, 173 clients checked their opioid samples, with 90% positive for fentanyl.[5] We acknowledge that injection-site clients may not be representative of all patients at risk of opioid overdose, but given that 84% of local overdose deaths involved fentanyl,[6] it is probable that a similar proportion of our patients had fentanyl as a cause of their opioid overdose.

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