SARS Control and Psychological Effects of Quarantine, Toronto, Canada

To the Editor: Hawryluck et al. (1) have published an interesting study that found that some persons subject to quarantine for severe acute respiratory distress syndrome (SARS) displayed symptoms of posttraumatic stress disorder and depression. They conclude that the psychological symptoms result from quarantine. I believe the study has serious flaws and that their conclusion is premature.

First, their study sampled 129 volunteers among the >15,000 persons subject to quarantine. As acknowledged by the authors, persons with the most severe symptoms may be more likely to volunteer for the study, resulting in an overestimation of the frequency and severity of the symptoms. Second, more than two thirds of the participants were healthcare workers. Healthcare workers in Toronto who cared for SARS patients but were not subject to quarantine were experiencing extreme stress because they were working with a poorly understood infectious disease, wearing protective equipment for extended periods, and watching colleagues become ill and die while wondering if they themselves were the next victims. Most healthcare workers subject to quarantine in Toronto (including 34% of persons on work quarantine) likely cared for SARS patients and would have experienced stresses similar to those not quarantined. Third, 85% of the study participants wore masks at home, indicating that they were likely to have been symptomatic and subject to isolation rather than quarantine. Certainly symptomatic persons would be undergoing stress because of their concerns about SARS developing, the possibility of dying, and the potential for exposing others. Increasing levels of stress with increasing length of isolation found in the study may be due to more severe or prolonged symptoms rather than to isolation or quarantine per se.

Measuring the psychological effects of isolation and quarantine will require studies comparing psychological symptoms of healthcare workers subjected to quarantine with those who continued working, as well as studies comparing randomly selected persons subject to isolation with the general population living in the city during the outbreak.

In the final analysis, although isolation and quarantine are stressful, that is an insufficient reason to hesitate when these measures are indicated. One might wonder how stressed the participants would have been if SARS had developed and they infected their family members or friends. Regardless of whether isolation and quarantine induce posttraumatic stress disorder, public health officials must be cognizant of and prepared to supply appropriate emotional and social support to persons subject to isolation or quarantine.

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Reference
1. Hawryluck L, Gold WL, Robinson S, Pogorski S, Galea S, Styra R. SARS control and psychological effects of quarantine, Toronto, Canada. Emerg Infect Dis. 2004;10:1206–12.

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In Response: Dr. Hull correctly writes that more than two thirds of the respondents to our survey were healthcare workers and assumes that healthcare workers in Toronto who cared for patients with severe acute respiratory syndrome (SARS) were extremely stressed. We agree with this statement not on the basis of data presented in this study, but rather on additional references.
work that we have conducted on non-
quarantined, uninfected healthcare
workers treating patients with SARS
in a hospital in Toronto (2). The
implication of Dr. Hull’s statement,
however, is that being a healthcare
worker in Toronto at the time of
SARS, rather than being placed into
quarantine, was responsible for the
psychological distress that we meas-
ured. To dispute this, we found that
healthcare worker status was not cor-
related with PTSD or depression
symptoms, which indicates that
respondents who were nonhealthcare
workers experienced similar levels of
distress as healthcare workers who
responded. Furthermore, we found
that longer durations of quarantine
were associated with increased symp-
toms of PTSD, which indicates that
respondents who were nonhealthcare
workers experienced similar levels of
distress as healthcare workers who
responded.

Finally, Dr. Hull states that 85% of
the study participants wore masks at
home, which indicates that they were
likely to have been symptomatic and
subject to isolation rather than quar-
antine. This statement is incorrect.
The respondents to this survey were
asymptomatic, exposed persons who
were placed into quarantine. Instruc-
tions to all quarantined per-
sons, per public health guidelines (3),
were to wear masks while in the pres-
ence of other household members, not
sharing utensils, and sleeping in sepa-
rate quarters (3).

We agree with Dr. Hull’s final
statement that the psychological dis-

tress experienced by persons in quar-
antine is not a sufficient reason to
refrain from invoking these
measures when they are needed to control
an outbreak. We did not arrive at
this conclusion in our article. The goal of
the study was to develop a benchmark
for the possible distress associated
with quarantine. While we felt that
documenting the possible distress that
may result from quarantine was
important, it was not intended to
negate the need to impose quarantine
should it be required, but rather to
determine the support measures that
may be needed by quarantined per-
sons. Public health officials must be
cognizant of these needs and prepared
to supply appropriate emotional and
social support to persons in quaran-
tine for such measures to succeed in
halting the spread of disease.

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In "Severe Acute Respiratory Syndrome Epidemic
in Asia," by G. Zhou and G. Yan, an error occurred in
the Table. Under the table heading "Parameter estima-
tion," the third subheading should be "1/α." The cor-
rected table appears online at http://www.cdc.gov/nci-
dod/EID/vol9no12/03-0382.htm#table

We regret any confusion this error may have caused.