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Emergency stroke care

The supplement article on emergency management of acute ischemic stroke in Canadian hospitals, by Corinne Hodgson,¹ contained some apparent discrepancies.

The article states that "For both the urban and rural hospitals, the median time [between admission to the emergency department and] examination was 9.7 hours." However, data presented in Table 2 of the article indicate the 56.4% of all patients were examined within 3 hours of arrival. This suggests that the category "< 3 hours" must contain the observation identified with the 50th percentile. It follows that the median time to evaluation must have been less than 3 hours.

I also have some concerns about this treatment of the data. It would be reasonable to calculate the proportion of patients seen within 3 hours on the basis of the patients whose time to examination was known (i.e., 303/312 or 97%). However, the method of analysis offered assumes

that every patient in the "unknown" group had examination times in excess of that for the patients for whom data were available.

Data for the interval between arrival at the emergency department and CT scanning indicate that the mean for urban patients was 4.5 hours and for rural patients 15.0 hours. One can infer that 165 (48.7% of 339) of the urban patients and 22 (11.1% of 198) of the rural patients underwent CT imaging, for a total of 187 patients. Combining these figures $[(165 \times 4.5) + [22 \times 15]/187]$ yields an average wait of 5.7 hours, which appears inconsistent with the average time of 15.1 hours reported in the article.

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[The author responds:]

Dr. Picard has uncovered 2 unfortunate errors in this article.

The numbers in Table 2 are correct, but there was an error in reporting the mean time from arrival at the hospital to examination. The mean (not median) time to examination for both urban and rural hospitals was 0.7 hours (not 9.7 hours).

The second error concerns the waiting times by type of hospital. What is given as the mean waiting time (15.0 hours for rural patients and 4.5 hours for urban patients) is in fact the median. Nearly half (43.6%) of the urban patients underwent CT scanning within 3 hours of arrival in the emergency department (Table 1).

Among rural patients, the proportion was 31.8%. Although 48.7% (165/339) of urban patients underwent CT scanning, for rural patients the proportion was much lower (22/198 or 11.1%).

There is also a typographic error in the paragraph on waiting times. The mean time between arrival and CT for ward patients should have been reported as 42.9 hours.

I apologize for the inconvenience caused by these errors.

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Psychobiology of stroke: a neglected area

The editorial by Antoine Hakim and colleagues¹ provides a comprehensive review of the human and financial burden of stroke on the Canadian health care system. The article also draws attention to the current state of disorganized stroke care in Canada and suggests remedies for this problem. However, we are concerned that both the editorial and the accompanying supplement² fail to address the psychological consequences of stroke and the importance of integrating psychiatric services into the treatment of stroke patients.

The prevalence of post-stroke depression in 2 rehabilitation hospitals in Canada was estimated at 36% to 50%.^{3,4} Given that at any given time approximately 300 000 Canadians are suffering the consequences of stroke, at least 100 000 of these may be disabled by depression. Furthermore, depression after acute stroke was the only treatable condition independently associated with limitations in physical functioning.⁵ This finding emphasizes that early recognition and effective treatment of depression after stroke may optimize rehabilitation potential and thereby reduce the hu-

Table 1: Time between arrival in emergency department and CT scanning

Hospital setting	Waiting time; no. (and %) of patients			Total
	< 3 hours	3-6 hours	> 6 hours	
Urban	72 (43.6)	38 (23.0)	55 (33.3)	165
Rural	7 (31.8)	0 (0)	15 (68.2)	22



man and financial costs associated with post-stroke functional impairment. Because depression after stroke increases the risk of death⁶ and diminishes intellectual functioning,⁷ early intervention in the treatment of depression would have a positive effect on outcome.

Recent studies have also suggested that selective serotonin reuptake inhibitors may have a role in augmenting functional recovery.^{8,9} Besides the causative relation between cerebrovascular disease and depression, there is indirect evidence that depression may increase the risk of cerebrovascular disease.

Understanding the cause-and-effect relation between psychological factors and cerebrovascular disease might be relevant to primary, secondary and tertiary prevention of stroke. From a research perspective, the interaction between psychological and biological mechanisms underlying causation of and recovery from stroke need to be explored. The psychological issues related to "brain attack" should be as important for health care providers as the psychological problems associated with heart attack. Enhancing awareness among neurologists, psychiatrists, granting agencies and policy-makers would benefit thousands of stroke patients in Canada and around the world.

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The "call to arms" issued by Antoine Hakim and colleagues¹ regarding the poor state of Canadian standards for stroke care is wholly warranted. However, we wish to draw attention to an area not covered in the stroke supplement:² the role of psychosocial, especially emotional, distress in recovery from "brain attack."

One possible reason for this omission from the supplement may be a

major limitation of the stroke and depression data from the National Population Health Survey (NPHS), that is, sampling variability. This is emphasized by the fact that most of the psychiatric data are contained in the Health Data File, which covers 17 626 people, rather than the General Data File of 58 439 people. Although the Health Data File is large, only 180 of these subjects reported the effects of stroke in the preceding year. Estimates of the prevalence of major depression within the group are too imprecise to be released under Statistics Canada's NPHS release guidelines.³ This may explain the lack of emphasis on depressive disorders in the reported analysis. However, this should not be misconstrued as evidence that psychiatric morbidity in stroke survivors is not important.

In other countries, especially the UK and the Scandinavian nations, researchers seem to have grasped the significance of the psychosocial aspects of rehabilitation and have moved more aggressively to include psychiatric input in stroke research. There

CMAJ index • L'index du JAMC

The index for volume 159 (July–December 1998) of *CMAJ* will be mailed with the **Apr. 20** issue to paid subscribers and to CMA members who have requested it from the CMA Member Service Centre. Others may order single copies for \$15 (within Canada; add 7% GST/15% HST as applicable) or US\$15 (outside Canada).

Les abonnés en règle et les membres qui en ont fait la demande auprès du Centre des services aux membres recevront l'index du volume 159 (juillet à décembre 1998) du *JAMC* en même temps que leur numéro du **20 avril**. Pour les personnes intéressées à commander l'index, il en coûte 15 \$ (au Canada; ajouter la TPS de 7 % ou la TVH de 15 %, selon le cas) ou 15 \$US (à l'extérieur du Canada).

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are also some good Canadian studies. A literature search for the past 2 years in the MEDLINE database, with the search terms "depression" and "stroke" and "rehabilitation," yielded 241 articles. Of these, some examined patients' access to effective services,⁴ and others showed clear correlations between functional impairment and depressive symptoms.^{5,6} Many presented in more detail the impact of depression on recovery,^{7,8} and others showed that depressive symptoms and illness behaviour can assist in predicting response to rehabilitation.^{9,10} There is clear evidence that active interventions reduce the incidence of depression among stroke survivors.⁸

This wealth of information indicates that this topic deserves our attention, especially given that we Canadian physicians already know how to treat depression. A single reference to the psychosocial impact of stroke on caregivers in the *CMAJ* editorial¹ seems inadequate to capture the breadth and depth of this area.

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Does the CMA's privacy code go too far? Or far enough?

As an observational researcher, I am disturbed by the CMA's Health Information Privacy Code¹ and fear that it will unduly constrain legitimate research. It appears that the developers of the code failed to distinguish 2 very different uses of patient information. With the first, a third party, such as an insurer, is interested in the patient as an individual, and its use of medical information could have a direct impact on the social and economic life of that patient. With the second, a third-party researcher is interested in the patient as a member of the human species. This observational researcher hopes that the patient is representative of other humans with similar characteristics, such as age, blood pressure or blood-sugar level, and hopes to generalize data from that individual to the species. For most observational research, individual identifiers are irrelevant and could be stripped from the record after all relevant information has been gathered. I firmly believe that the potential benefits to society of observational research greatly outweigh any hypothetical harm that access to personal information might entail.

I am currently trying to link an occupational cohort of some 21 000 people with records from the Ontario Cancer Registry to search for associa-

tions with exposure to a putative carcinogen. Research of this kind has been responsible for the identification of most known human carcinogens.

Now, a member of the university ethics board has asked me to obtain individual consent from all 21 000 members of the cohort and to offer each one the chance to have his or her name removed. Tracing and contacting each subject would be prohibitively expensive, and allowing individuals to withdraw would render the study results uninterpretable because of the possibility that the decision not to participate was correlated with the outcome of interest.

I urge the CMA to reconsider the implications of its Health Information Privacy Code and to recognize the difference between these 2 uses of patient information.

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A patient of mine suffered soft-tissue injury to her neck and back in a motor-vehicle accident. She signed the consent for release of medical information at the Insurance Corporation of British Columbia (ICBC). When I received the request for photocopies of clinical records and a medicolegal letter outlining her injuries and treatment, I called her. When she realized that information about her abortions was included in her medical records, she refused permission for me to forward this information, despite having signed the ICBC release. But when