

Saskatchewan physicians' attitudes and knowledge regarding assessment of medical fitness to drive

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Abstract

Background: Although legislation has been introduced in Saskatchewan for mandatory reporting by physicians of patients considered medically unfit to drive, little is known about physicians' attitudes, knowledge or resources with regard to evaluating medical fitness to drive.

Methods: The objective of this study was to determine Saskatchewan physicians' attitudes, knowledge, training, resources and current educational needs with regard to evaluating medical fitness to drive. A questionnaire survey of all physicians in the province who were identified as likely to be involved in determining medical fitness to drive was conducted between October and December 1996.

Results: Of the 1102 physicians who received a questionnaire, 690 (62.6%) responded, of whom 167 were excluded because they were not involved in assessing fitness to drive. Thus, 523 (55.9%) of the 935 eligible physicians surveyed completed the questionnaire. Most (57.6% [298/517]) of the respondents indicated that they do not hesitate to report patients medically unfit to drive; however, 59.5% (307/516) felt that the physician-patient relationship is negatively affected by reporting. Overall, 85.5% (444/519) of the respondents felt that restricted licensing is a fair alternative for people who might otherwise be denied a full licence. The availability of restricted licensing positively influenced the decision to report for 60.3% (313/519) of the respondents. Significantly more rural physicians than urban physicians believed that the need to drive was greater for rural residents than for urban dwellers (81.2% [95/117] v. 64.2% [257/400], $p < 0.001$). Physician knowledge regarding specific medical conditions and fitness to drive was generally poor. The resource most commonly used in determining medical fitness to drive was the *Physicians' Guide to Driver Examination* (71.1% [361/508] of respondents). The most useful continuing medical education methods indicated by physicians for assessing medical fitness to drive included conference presentations, workshops and journal articles.

Interpretation: Most of the Saskatchewan physicians surveyed supported restricted licensing, and the availability of restricted licensing made them more likely to report patients considered medically unfit to drive. The physician-patient relationship was felt to be negatively affected by reporting.

Physicians and other health care professionals frequently care for patients with newly acquired impairments or diseases that may affect their ability to drive. Paradoxically, people with the greatest dependence on driving for community mobility, owing to physical or cognitive impairment, often end up being the most likely to be restricted from driving because of their disability.¹

Laws governing the physician's obligation to report patients medically unfit to drive vary between provinces in Canada.² As of Aug. 1, 1996, the reporting of medically unfit drivers by Saskatchewan physicians to the provincial government changed from a discretionary act to a mandatory one.³ Mandatory reporting has important implications for physicians in at least 2 ways. The first consideration is that physicians are often put in a role in which they must represent government interests, sometimes contrary to patient interests. Second, with the advent of mandatory reporting arises the issue of physician legal liability. For instance, in Ontario physicians have been found to be up to 60% liable for patients under their care who were involved in motor vehicle accidents.^{4,5}



Evidence

Études

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Although physicians may be obligated by law to report patients considered medically unfit to drive, barriers to fair and effective reporting do exist. Physicians often have had little or no formal training, and studies have confirmed poor physician knowledge in the areas of determining medical fitness to drive.^{6,7} Studies examining physician resources used to determine medical fitness to drive showed that most physicians had no standard manner of assessment.^{6,8,9}

Physicians have been shown to play an important role in dealing with disability and driving.^{10,11} Persson¹¹ found that 27% of elderly people who stopped driving did so based on the advice of a physician. Although laws calling for mandatory physician reporting remain controversial, they have been shown to be effective in decreasing accident rates.¹²

With the introduction in Saskatchewan of mandatory physician reporting of patients considered medically unfit to drive, we surveyed Saskatchewan physicians to determine their attitudes, training, current knowledge and future educational needs with regard to evaluating medical fitness to drive.

Table 1: Knowledge of Saskatchewan physicians regarding medical conditions and fitness to drive

Question (correct answer†)	No. (and %) of physicians*		
	Answered correctly	Answered incorrectly	Not sure
Which medical conditions could prevent an individual from obtaining a class 5 (general) licence?			
Peripheral vision (< 120°)	88 (19.2)	137 (29.8)	234 (51.0)
Visual field defect (homonymous hemianopsia)	192 (45.8)	39 (9.3)	188 (44.9)
Congestive heart failure (class IV)	149 (34.5)	81 (18.8)	202 (46.8)
Would the following conditions prevent a person from driving with a class 5 (general) licence?			
Temporary eye patch (Yes)	174 (36.3)	231 (48.1)	75 (15.6)
Impaired night vision (No)	99 (20.3)	287 (58.9)	101 (20.7)
Deafness (No)	262 (53.9)	121 (24.9)	103 (21.2)
Aortic aneurysm > 5 cm (Yes)	154 (31.9)	166 (34.4)	163 (33.7)
Acute deep vein thrombosis (Yes)	205 (43.0)	157 (32.9)	115 (24.1)
Stable angina (No)	440 (89.8)	9 (1.8)	41 (8.4)
Premature ventricular contractions (No)	412 (85.7)	9 (1.9)	60 (12.5)
Controlled atrial fibrillation (No)	438 (89.8)	6 (1.2)	44 (9.0)
Third-degree atrioventricular block (Yes)	261 (54.9)	99 (20.8)	115 (24.2)
Tracheostomy (No)	373 (75.8)	33 (6.7)	86 (17.5)
Requirement of continuous oxygen supplement (No)	249 (51.6)	123 (25.5)	111 (23.0)
Right leg amputee (No)	300 (62.0)	69 (14.3)	115 (23.8)
Severe restriction in range of motion of cervical spine (No)	256 (52.4)	96 (19.6)	137 (28.0)
Diplopia (No)	405 (82.3)	18 (3.7)	69 (14.0)
Following each event, how long is it recommended for a person to wait before resuming driving with a class 5 (general) licence?			
Single transient ischemic attack (1 mo)	138 (28.6)	183 (37.9)	162 (33.5)
Completed cerebrovascular accident (1 mo)	55 (11.6)	240 (50.7)	178 (37.6)
Persistent unstable angina (Never)	173 (37.1)	120 (25.8)	173 (37.1)
Myocardial infarction (1 mo)	145 (30.4)	217 (45.5)	115 (24.1)
Hypoglycemic reaction in diabetic patient (1 mo)	73 (15.2)	241 (50.2)	166 (34.6)

*Number of physicians responding to each item varied from 419 to 492.

†Referenced from *Physicians' Guide to Driver Examination*.¹⁴

Methods

We sent a self-administered questionnaire to all Saskatchewan physicians likely to be involved in determining medical fitness to drive. Physician addresses were obtained from the *Canadian Medical Directory* for 1996.¹³ Physicians not likely to be involved with disability and driving (retired physicians, physicians on long-term sick leave and specialists in pathology, pediatrics, obstetrics and gynecology, urology, radiology, microbiology and dermatology) were screened from the survey sample. We mailed 1182 questionnaires, coded to ensure anonymity. The survey was conducted between October and December 1996.

The questionnaire was based on a review of the literature. It was first tested for face validity with 10 specialists; a pilot study was then conducted involving 20 physicians, including specialists and family physicians, for test-retest reliability. Following modifications to the questionnaire, it was approved by the University of Saskatchewan Advisory Committee on Ethics in Human Experimentation (Behavioural Sciences). The questionnaire consisted of 4 sections containing 21 questions eliciting information about demographic features, physician attitudes, physician knowledge and physician future educational requirements.

Descriptive statistics were used to describe the data, and the Mann-Whitney test was used to analyse differences between groups.

Results

Of the 1182 physicians surveyed, 80 could not be located. Of the 1102 physicians who received a questionnaire, 690 (62.6%) responded; 167 were excluded because they were not involved in assessing fitness to drive. Thus, 523 (55.9%) of the 935 eligible physicians surveyed completed the questionnaire.

University of Saskatchewan graduates accounted for 39.9% (206/516) of the respondents, and graduates of other Canadian universities and foreign medical school graduates accounted for 11.2% (58/516) and 48.8% (252/516) respectively. A total of 40.2% (202/503) of the respondents had completed postgraduate training in a medical or surgical residency program. Overall, 77.4% (400/517) of the respondents practised in a community with a population greater than 10 000.

Most (57.6% [298/517]) of the respondents stated that they do not hesitate to report patients whom they consider medically unfit to drive; however, a considerable proportion (27.3% [141/517]) said that they hesitate to report, and 15.1% (78/517) were noncommittal. Overall, 59.5% (307/516) felt that the physician-patient relationship is negatively affected by reporting. Most



(64.1% [334/521]) felt that physicians are the professionals most qualified to identify patients who are medically unfit to drive. The vast majority (92.5% [484/523]) indicated that the interests of the public should prevail over the needs of the individual driver. Over two-thirds (68.3% [357/523]) felt that the need to drive was greater for rural residents than for urban dwellers. The provincial use of restricted licensing (ability to drive only under specific conditions, such as daylight hours or within a certain radius of the driver's home) not only was felt to be a fair way of dealing with people who might otherwise be denied a full licence (85.5% [444/519] of respondents) but also positively influenced the decision to report for 60.3% (313/519) of the respondents.

When overall attitudes of family physicians and specialists were compared, no significant differences were found. However, attitudes differed between doctors practising in rural areas and those in urban areas. Significantly more rural physicians than urban physicians believed that the need to drive was greater for rural residents than for urban

dwellers (81.2% [95/117] v. 64.2% [257/400], $p < 0.001$). Also, significantly more rural physicians than urban physicians reported that the availability of restricted licensing made them more likely to report patients (70.1% [82/117] v. 56.5% [226/400], $p = 0.001$).

The results regarding physician knowledge are summarized in Table 1. Correct response rates ranged from 11.6% to 89.8%, and incorrect response rates ranged from 1.2% to 58.9%. The rate of the response "Not sure" was as high as 51.0% (mean 26.6%). No evident trend was noted in knowledge when we compared the responses of the primary care physicians with those of the specialists (Table 2).

Of the 516 respondents 189 (36.6%) reported that they had had no training with regard to determining medical fitness to drive; 201 (39.0%) indicated that they had received training during medical school, and 73 (14.1%) reported postgraduate training. By far the most common resource reported was the *Physicians' Guide to Driver Examination*,¹⁴ which was used by 71.1% (361/508) of the respondents. Almost all (97.0% [491/506]) of the respondents indicated

Table 2: Knowledge of family physicians and specialists regarding medical conditions and medical fitness to drive

Medical condition	No. (and %) of family physicians*			No. (and %) of specialists†		
	Answered correctly	Answered incorrectly	Not sure	Answered correctly	Answered incorrectly	Not sure
Peripheral vision < 120°	55 (20.0)	80 (29.1)	140 (50.9)	30 (17.9)	51 (30.4)	87 (51.8)
Homonymous hemianopsia	117 (48.1)	22 (9.1)	104 (42.8)	67 (42.1)	16 (10.1)	76 (47.8)
Congestive heart failure functional class IV	94 (36.0)	63 (24.1)	104 (39.8)	48 (30.8)	19 (12.2)	89 (57.1)
Temporary eye patch	120 (42.0)	134 (46.9)	32 (11.2)	50 (28.2)	85 (48.0)	42 (23.7)
Impaired night vision	66 (22.9)	164 (56.9)	58 (20.1)	31 (17.1)	107 (59.1)	43 (23.8)
Deafness	166 (58.0)	71 (24.8)	49 (17.1)	88 (48.1)	42 (23.0)	53 (29.0)
Aortic aneurysm > 5cm‡	106 (36.9)	95 (33.1)	86 (30.0)	37 (20.8)	70 (39.3)	71 (39.9)
Acute deep vein thrombosis	128 (45.1)	102 (35.9)	54 (19.0)	67 (38.3)	52 (29.7)	56 (32.0)
Stable angina	277 (93.9)	9 (3.1)	9 (3.1)	146 (82.0)	2 (1.1)	30 (16.9)
Premature ventricular contractions	274 (94.8)	3 (1.0)	12 (4.2)	128 (73.1)	3 (1.7)	44 (25.1)
Controlled atrial fibrillation	281 (95.9)	3 (1.0)	9 (3.1)	140 (79.1)	3 (1.7)	34 (19.2)
Third-degree atrioventricular block‡	176 (62.0)	57 (20.1)	51 (18.0)	78 (44.8)	38 (21.8)	58 (33.3)
Tracheostomy	235 (79.9)	18 (6.1)	41 (13.9)	124 (68.9)	13 (7.2)	43 (23.9)
Requirement of continuous supplement of oxygen‡	170 (58.8)	64 (22.1)	55 (19.0)	72 (40.9)	49 (27.8)	55 (31.2)
Right leg amputee	197 (68.2)	40 (13.8)	52 (18.0)	94 (53.1)	25 (14.1)	58 (32.8)
Severe restriction in range of motion of cervical spine	161 (54.9)	65 (22.2)	67 (22.9)	85 (47.8)	27 (15.2)	66 (37.1)
Diplopia	254 (87.0)	9 (3.1)	29 (9.9)	138 (75.8)	7 (3.8)	37 (20.3)
Single transient ischemic attack	92 (32.1)	109 (38.0)	86 (30.0)	43 (24.2)	66 (37.1)	69 (38.8)
Completed cerebrovascular accident	36 (12.9)	150 (54.0)	92 (33.1)	18 (10.2)	79 (44.9)	79 (44.9)
Persistent unstable angina	114 (41.0)	75 (27.0)	89 (32.0)	51 (30.2)	40 (23.7)	78 (46.2)
Myocardial infarction	97 (34.0)	134 (47.0)	54 (18.9)	43 (24.9)	73 (42.2)	57 (32.9)
Hypoglycemic reaction in diabetic patient	52 (18.1)	155 (53.8)	81 (28.1)	17 (9.8)	76 (43.9)	80 (46.2)

*Number of physicians responding to each item varied from 243 to 295.

†Number of physicians responding to each item varied from 156 to 183.

‡ $p < 0.05$, for comparison between family physicians and specialists.



that some form of continuing medical education would be useful, the most frequent choices being conference presentations (49.4%), workshops (47.4%) and journal articles (46.4%). The most useful resources identified as an aid for physicians in determining medical fitness to drive were a comprehensive driving assessment program (71.6% [351/490] of respondents) and referral to another medical specialist (40.0% [196/490]).

Interpretation

Physicians may be delegated by law the responsibility of identifying patients who are medically unfit to drive. However, sufficient education and resources to aid physicians in this role have not necessarily been put into place. In our study, training for determining medical fitness to drive was never provided to 36.6% of the respondents. The respondents' overall knowledge regarding assessing medical fitness to drive was generally poor. This finding is not unique to Saskatchewan physicians.^{6,7} Apart from inadequate knowledge, probably the strongest indicator in support of more physician education is that 97.0% of the respondents indicated that some form of continuing medical education would be useful. This could come in the form of conferences, workshops or journal articles.

Another important factor affecting identification of patients who are medically unfit to drive is physician attitude. In our study most of the respondents felt that physicians are the professionals most qualified to identify patients who are medically unfit to drive. However, a minority indicated that they were hesitant to report such patients. This hesitation may stem from the belief, held by 58.6% of the respondents, that the physician-patient relationship is negatively affected by reporting.

The availability of restricted licensing appeared to positively influence the decision to report patients considered medically unfit to drive. This positive influence was likely due to the fact that although patients are reported, restricted licensing allows them to maintain community and social contact. As may have been expected, the availability of restricted licensing was more influential for physicians practising in rural areas than for those practising in urban areas, and the belief that the need to drive is greater for rural-dwelling patients than for urban-dwelling patients was more prevalent among rural physicians. The results suggest that, overall, restricted licensing is viewed as a practical and fair policy.

Although our response rate of 55.9% is a limiting factor, it is comparable to the rate reported in similar surveys of physicians.^{6-10,15,16} It is likely that the respondents may have had more of an interest in disability and driving than the nonrespondents, and therefore the estimates of physicians desiring further training for assessing medical fitness to drive may be high. In addition, our results may not be generalizable to other provinces and states that have different

licensing laws and reporting requirements for physicians, along with different demographic characteristics.

Our findings suggest that the act of reporting may negatively affect the physician-patient relationship. Further provisions are necessary to aid doctors to determine fairly which patients may be medically unfit to drive. Other authors have called for the development of instruments to help the primary care physician determine who is medically unfit to drive and who should be referred for more comprehensive screening.^{6,8,15} However, these tools have yet to be developed. Overall, it is evident that physicians need further training and resources to aid them in determining medical fitness to drive.

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