Attitude of Swiss general practitioners to mandatory training in assessing fitness to drive of older drivers

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Summary

AIMS OF THE STUDY: In Switzerland, drivers over the age of 75 must undergo a medical assessment of their fitness to drive every 2 years. This assessment is usually carried out by a general practitioner (GP). Since 2016, physicians require official accreditation (so-called level 1 competence) to perform these examinations. This can be obtained either by self-declaration of competence or by attending an accredited training course. Little is known about the Swiss GPs’ views on this regulation. In this study, we investigated the attitude of GPs towards these modalities.

METHODS: A questionnaire was mailed to 2372 GPs in a large part of German-speaking Switzerland, 1198 of whom completed and returned the questionnaire. The anonymised data were analysed by descriptive statistics (frequencies, percentages) to summarise participant demographics and agreement with attitudinal statements.

RESULTS: The response rate was 50.5%. Sociodemographic data (age, gender, settlement area) of the participating GPs corresponded to those of the Swiss medical statistics. The majority (93.1%) of respondents worked in an outpatient setting, 6.9% in the inpatient sector. Overall, 34.4% of the GPs completed a training course and 47.7% submitted a self-declaration in order to acquire level 1 competence. Older and more experienced physicians had made more use of the self-declaration option. 58.1% of the respondents would like to retain the existing regulations. Of the respondents who had attended a training course, 51.7% considered themselves more competent in the assessment of older drivers after the training, and 76.1% would like to maintain the course duration of 1 day. Of the physicians surveyed, 70.8% were of the opinion that level 1 examinations are a useful screening tool for older drivers who are unfit to drive, and 78.4% agreed that MFTD (medical fitness to drive) examinations of older drivers should be performed by GPs.

CONCLUSIONS: In Switzerland, the currently existing regulation for acquiring level 1 competence is widely accepted by GPs. Almost all respondents considered that they have sufficient knowledge to assess MFTD. However, the majority of GPs who had attended the training course indicated they have benefited from it. Periodic assessment of MFTD of older drivers was considered useful and should preferably be performed by GPs. These results show that the periodic assessment of older drivers’ MFTD practiced in Switzerland is well accepted.

Introduction

In industrialised countries, the proportion of the older population is continuously growing as a result of increased life expectancy and low birth rates. For example, by 2035 there will be more senior citizens than children in the United States of America [1]. Thus, an increase of older drivers can be expected. For the majority of today’s older population, a private vehicle is essential for their mobility needs and to continue their accustomed lifestyle [2]. The proportion of individuals over the age of 65 holding a Swiss drivers license increased from around 40% to 70% between 1994 and 2015 [3]. Driving exposure is also projected to increase, with the vehicle-miles driven by the baby boomer population projected to more than double compared with that of the current cohort of older drivers [2]. A reduction in mobility due to the loss of a driver’s licence is often associated with a decrease in quality of life [4]. The ageing population is increasingly affected by chronic illnesses, which can have an adverse effect on MFTD (medical fitness to drive). Chronic diseases such as diabetes mellitus, cognitive impairment and cardiovascular diseases, as well as psychomotor slowing, are prevalent in this population [5]. Vernon et al. [6] reported in their study that people with self-declared medical problems had significantly more road traffic incidents than a control group. Therefore, in many countries the licensing of older drivers is regulated.

The fitness to drive regulations for older driver varies widely between countries [7]. Screening policies based on chronological age are widely used in European countries and many US and Australian states [8]. Whether screening of older drivers is appropriate and which examinations may identify license holders who are unfit for driving is the subject of lively discussion. So far, there is no test that
can reliably predict fitness to drive [8]. In most EU mem-
ber states, the fitness to drive examination is carried out by
GPs, whereas in the UK, for instance, a self-declaration is
sufficient.

In Switzerland, individuals aged 75 and older holding a
driver’s license for private cars have to undergo periodic
medical examinations (so-called level 1 examination). The
periodicity is by default 2 years, but can be shortened
by the authorities if necessary. The task of the evaluating
physician is to assess whether the person examined meets
the legal minimum requirements, if necessary under cer-
tain conditions (e.g., wearing a visual aid). Minimum re-
quirements include vision and hearing, use of alcohol, nar-
cotics and psychotropic medications, mental disorders,
level of cognitive functioning, neurological, cardiovascu-
lar and metabolic diseases, diseases of the respiratory and
abdominal organs and pathologies of the spine and muscu-
loskeletal system [9]. The focus is not on the actual med-
ical diagnosis, but on the level of function. Visual acu-
ity and all traffic relevant diseases and conditions must be
recorded by the examining physician on a form defined by
the legislature [9]. The result of this examination is the ba-
sis for the driver’s licence authority decision whether to
keep or revoke the driver’s licence. Depending on the case
 constellation – for example, in the case of unclear results –
the authority may also order a more extensive examination.

Before 2016, any physician was allowed to perform this bi-
ennial mandatory examination; proof of qualification was
not required. Since 2016, these level 1 examinations have
to be carried out by a physician with a so-called level 1
qualification. Physicians can acquire accreditation either
by self-declaration or by attending a course. Self-decla-
ration is performed via an online form on the website of
the Association of the Swiss Road Traffic Offices [10]. Cours-
es are offered several times a year in different Swiss re-
 gions and their duration is 1 day. The organisation of the
courses has been delegated to the Traffic Medicine Section
of the Swiss Society for Forensic Medicine. The course
teaches the legal and medical requirements for assessing
the fitness to drive of drivers aged 75 years and older.

Little is known about the Swiss GPs’ opinion on the new
regulation. The aim of this study was to find out how
physicians achieved their level 1 competence. Further-
more, the study investigated the acceptance of the modal-
ities for achieving this accreditation (course, self-decla-
ration) and how doctors who have attended a course assess
this form of qualification. Finally, the study surveyed
whether a GP’s screening of senior drivers is accepted.

Materials and methods

The study was carried out by the Department of Traffic
Sciences of the Institute of Forensic Medicine at the Uni-
versity of Bern, Switzerland, in 2018. Due to the study
design as a written survey and in accordance with legal
requirements, no approval of the responsible ethics com-
mittee (Cantonal Ethics Committee Bern) had to be ob-
tained. A questionnaire was mailed to all board certified
specialists in general internal medicine practising in the
Swiss cantons of Basel-Stadt, Basel-Land, Berne (Ger-
man-speaking part), Solothurn and Lucerne (n = 2372).
The physicians contacted represent 28% of all specialists
in general internal medicine in Switzerland (n = 8308).

Their addresses were acquired by a marketing com-
pany (Künzler Bachmann AG, St Gallen, Switzerland) and
randomly verified using the official medical register of the
Swiss Medical Association [12].

The questionnaire comprised of 20 questions divided into
3 groups: 13 questions on level 1 training, 3 general ques-
tions on the fitness to drive assessment, and 4 sociode-
mographic questions. This publication was based on the
data of answers to 12 of those questions (all sociodemo-
graphic questions and 8 questions concerning level 1 train-
ing). Each question could be answered by checking the
box next to the matching statement, i.e. “yes/agreement”,
“no/rejection” and for some questions also “partial agree”.
The questionnaire (in German) can be requested from the
responding author. The questionnaire was subjected to
a pre-test with physicians experienced in assessing fitness
to drive. After implementing modifications based on this
pre-test, the questionnaire was printed and mailed together
with a cover letter.

In order to increase the response rate, a prepaid return en-
velope and personalisation via the cover letter using the
GPs name was enclosed with the questionnaire. The survey
was carried out anonymously. Participation in the study
was not compensated financially. The questionnaires and
evelopes were not tagged. Upon arrival, the return en-
velopes were opened and only the questionnaires were for-
warded to the data analyst. The questionnaires were then
numbered consecutively and the data entered into a statis-
tics programme. Empty questionnaires were sorted out.

Statistical analysis

The statistical analysis was performed using SPSS Statis-
tics 26 for Windows (SPSS Inc., Chicago, USA).

Nominal- and ordinal-scaled variables were compared us-
ing the chi-square test. The three not normally distributed
independent samples of the interval scaled variable “num-
ber of MFTD tests per year” in table 3 were compared us-
ing Kruskal–Wallis H test. Normal distribution was tested
by using Kolmogorov-Smirnov test. The significance level
was set at p <0.05.

Results

Of the 2372 questionnaires mailed to GPs in the German-
speaking part of Switzerland, 1249 were returned. Fifty-
one of them were empty. The remaining 1198 question-
naires were included in this study resulting in a response
rate of 50.5% and represents approximately 14% of Swiss
physicians with the specialist title in general internal med-
icine. The questionnaire was completed by 63.9% male
and 36.1% female GPs, with male physicians being some-
what overrepresented compared with their proportion in
the population of Swiss GPs (58.6% male, 41.4% female,
p = 0.002). The age structure of the sample corresponds
to that of the Swiss GP [13]. The survey covered physi-
cians in both rural and urban regions, with 60.5% of the re-
spondents reporting practising in urban areas. The socio-
demographic characteristics of the respondents are shown in
table 1.

Table 2 shows how the surveyed GPs had acquired their
level 1 competence. Level 1 competence was achieved by
34.4% through completing a training course and by 47.7%
through self-declaration. Almost 1/5 had no level 1 competence. There are statistically relevant differences in gender, age and experience: female doctors more often attended the training course (35.3\%, p <0.001) and more often had no level 1 competence (23.1\%, p <0.001). Participants who worked in urban areas (22.0\%, p<0.001) were more often not trained to carry out the mandatory check-up for older drivers than physicians in rural areas (8.7\%, p <0.001). The majority of the surveyed physicians were in favour of maintaining the current regulation for acquiring level 1 competence (58.1\%). Only 15.4\% were in favour of abolishing the regulation; 22.1\% would like to make taking a course compulsory, whereas only 4.4\% were in favour of self-declaration without a course at all.

Data on the learning effect are presented in table 3. About half of the respondents who completed a training course stated they were more competent in assessing MFTD after completing a course; 41\% only partially agreed. Self-assessed competence for MFTD examinations after attending a level 1 course did not differ statistically significantly between genders, age groups, location of practice and working sector (outpatient/inpatient). It was also not dependent on prior experience in MFTD assessment. Approximately three quarters of the surveyed course participants (76.1\%) did not wish to change the duration of the course; 21.9\% would like to see the course shortened.

The participants were asked if GPs should perform level 1 examinations on their own patients and whether a screening examination for MFTD is considered useful. The results of these questions are shown in tables 4 and 5. More than three quarters of all respondents (78.4\%) believed that GPs should be allowed to perform level 1 examinations on their own patients. Significantly more male (82.9\%) than female (70.0\%) physicians agreed with this statement (p <0.001). However, there was no significant difference between physicians working in rural areas and those working in urban areas. Overall, 828 (70.8\%) study participants considered the mandatory MFTD test for older drivers to be a useful screening tool to identify unsuitable drivers (table 5). Agreement with this point increased with the age of the respondents. A statistically significant higher fraction of physicians working in an outpatient setting con-

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Table 1:
Sociodemographic characteristics of respondents.

| Total, n   | 1198 |
|-----------|------|
| Response rate, % | 50.5 |
| Sex, % (n) |      |
| Male | 63.9 (763) |
| Female | 36.1 (431) |
| Age, in years, % (n) |      |
| <35 | 4.9 (58) |
| 35–45 | 21.9 (262) |
| 46–55 | 29.3 (350) |
| 56–65 | 31.3 (374) |
| >65 | 12.6 (151) |
| Location of practice, % (n) |      |
| Rural area | 39.5 (461) |
| Urban area | 60.5 (706) |
| Experience in FTD tests, in years, % (n) |      |
| <10 | 37.5 (368) |
| 11–20 | 26.4 (259) |
| 21–30 | 25.4 (249) |
| >30 | 10.7 (105) |
| Working sector, % (n) |      |
| Outpatient | 93.1 (1105) |
| Inpatient | 6.9 (82) |

Table 2:
How did the general practitioners acquire their level 1 competence?

| Total, % (n) |      |
| Training course | Self-declaration | No level 1 competence | p-value |
|----------------|------------------|------------------------|---------|
| Male | 34.1 (259) | 51.1 (388) | 14.8 (112) | --- |
| Female | 35.3 (150) | 41.6 (177) | 23.1 (98) | --- |
| Age, in years, % (n) |      |
| <35 | 20.7 (12) | 31.0 (18) | 48.3 (28) | p <0.001 |
| 36–45 | 33.2 (86) | 40.9 (106) | 25.9 (67) | p <0.001 |
| 46–55 | 40.2 (139) | 46.8 (162) | 13.0 (45) | --- |
| 56–65 | 36.1 (134) | 53.1 (197) | 10.8 (40) | --- |
| >65 | 25.1 (38) | 55.0 (83) | 19.9 (30) | --- |
| Experience in FTD tests, in years, % (n) |      |
| <10 | 47.7 (174) | 52.0 (190) | 0.3 (1) | p = 0.001 |
| 11–20 | 43.4 (112) | 56.6 (146) | 0.0 (0) | --- |
| 21–30 | 38.5 (95) | 60.7 (150) | 0.8 (2) | --- |
| >30 | 24.0 (25) | 76.0 (79) | 0.0 (0) | --- |
| Location of practice, % (n) |      |
| Rural area | 38.1 (175) | 53.2 (244) | 8.7 (40) | p <0.001 |
| Urban area | 33.0 (230) | 45.0 (314) | 22.0 (154) | --- |
| Working sector, % (n) |      |
| Outpatient | 37.0 (405) | 51.0 (559) | 12.0 (132) | p <0.001 |
| Inpatient | 4.9 (4) | 7.4 (6) | 87.7 (71) | --- |

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sider the MFTD test as a useful tool compared as with those working in an inpatient setting (73.4% vs 35.4%, p <0.001). The vast majority of the respondents (98.3%) felt technically competent to carry out the level 1 examinations.

Discussion

The aim of the study was to obtain objective data on the acceptance of the new regulation for assessing MFTD of older drivers introduced in 2016. The study included the data from approximately 1/6 of the Swiss GPs.

Most GPs from our study felt sufficiently qualified to assess the driving fitness of older drivers. Obviously, there was a great interest of the GPs in carrying out this task and receiving further training in the field of MFTD assessment. In a Canadian study, the rate of GPs assessing MFTD was about 75% [14]. Here we found a similar value for a representative sample of the GPs in the German-speaking part of Switzerland. In our survey, GPs practising in rural areas more frequently trained to perform MFTD assessments than physicians in urban areas. The rural population is more likely to rely on a motor vehicle to meet their mobility needs than individuals living in urban areas. Marshall and Gilbert [14] concluded that significantly more rural physicians than urban physicians believe the need to drive was greater for rural than for urban residents. A survey among seniors living in rural areas of Canada showed that finding an alternative mode of transportation other than a car for medical travel and shopping is most difficult [15]. Consequently, our results could be explained by the fact that the rural population is more dependent on a car. The discrepancy between the genders in terms of level 1 qualification and participation in a course was possibly due to the fact that women deal with the field less often.

The regulation in use since 2016 was widely accepted by Swiss GPs. For instance, only about 15% were against proof of competence for MFTD assessment of senior drivers and 22% were even in favour of the course attendance.

Table 3:

| Competence in assessing driving ability after attending the level 1 course. | Full agreement | Partial agreement | No agreement | p-value |
|---|---|---|---|---|
| Total, % (n) | 51.7 (211) | 41.4 (169) | 6.9 (28) | --- |
| Sex, % (n) | Male | 49.0 (127) | 43.3 (112) | 7.7 (20) | p = 0.314 |
| | Female | 56.4 (84) | 38.2 (57) | 5.4 (8) | --- |
| Age, in years, % (n) | <35 | 81.8 (9) | 18.2 (2) | 0.0 (0) | p = 0.128 |
| | 36–45 | 60.7 (51) | 35.7 (30) | 3.6 (3) | --- |
| | 46–55 | 53.5 (76) | 40.2 (57) | 6.3 (9) | --- |
| | 56–65 | 44.0 (59) | 47.0 (63) | 9.0 (12) | --- |
| | >65 | 43.2 (16) | 46.0 (17) | 10.8 (4) | --- |
| Number of FTD tests per year Mean (95% CI) | 54.7 (46.4–61.0) | 54.5 (47.6–61.4) | 60.4 (41.3–79.4) | p = 0.927 |
| Experience in FTD tests, in years, % (n) | <10 | 58.6 (102) | 35.6 (62) | 5.8 (10) | p = 0.244 |
| | 11–20 | 48.3 (56) | 42.2 (49) | 9.5 (11) | --- |
| | 21–30 | 45.1 (42) | 48.4 (45) | 6.5 (6) | --- |
| | >30 | 44.0 (11) | 52.0 (13) | 4.0 (1) | --- |
| Location of practice, % (n) | Rural area | 51.1 (60) | 39.2 (69) | 9.7 (17) | p = 0.064 |
| | Urban area | 52.6 (120) | 43.4 (86) | 4.0 (9) | --- |
| Working sector, % (n) | Outpatient | 52.0 (210) | 41.3 (167) | 6.7 (27) | p = 0.277 |
| | Inpatient | 25.0 (1) | 50.0 (2) | 25.0 (1) | --- |

CI: confidence interval; FTD: fitness to drive

Table 4:

| Should family doctors perform level 1 examinations on their own patients? | Yes | No | No opinion | p-value |
|---|---|---|---|---|
| Total, % (n) | 78.4 (927) | 15.9 (189) | 5.7 (67) | --- |
| Sex, % (n) | Male | 82.9 (631) | 12.6 (96) | 4.5 (34) | p <0.001 |
| | Female | 70.0 (294) | 22.1 (93) | 7.9 (33) | --- |
| Age, in years, % (n) | <35 | 55.2 (32) | 27.6 (16) | 17.2 (10) | p <0.001 |
| | 36–45 | 64.7 (167) | 27.5 (71) | 7.8 (20) | --- |
| | 46–55 | 81.1 (279) | 15.4 (53) | 3.5 (12) | --- |
| | 56–65 | 84.9 (316) | 10.0 (37) | 5.1 (19) | --- |
| | >65 | 88.0 (132) | 8.0 (12) | 4.0 (6) | --- |
| Experience in FTD tests, in years, % (n) | <10 | 76.4 (279) | 17.8 (65) | 5.8 (21) | p <0.001 |
| | 11–20 | 88.7 (227) | 9.8 (25) | 1.5 (4) | --- |
| | 21–30 | 91.2 (227) | 6.0 (15) | 2.8 (7) | --- |
| | >30 | 92.2 (96) | 3.8 (4) | 3.8 (4) | --- |
| Location of practice, % (n) | Rural area | 81.9 (376) | 14.0 (64) | 4.1 (19) | p = 0.066 |
| | Urban area | 76.5 (533) | 17.1 (119) | 6.4 (45) | --- |
| Working sector, % (n) | Outpatient | 81.2 (888) | 14.1 (154) | 4.7 (51) | p <0.001 |
| | Inpatient | 43.8 (35) | 36.2 (29) | 20.0 (16) | --- |

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being mandatory. Obviously, there is a need for further training on this subject. In contrast, Kahvedzic et al. [16] found that just under half of the Irish GPs considered a degree in traffic medicine useful in practice. However, they rated continuing education with CME Small Group Learning and online courses as helpful.

Of the course participants in our data set, more than 90% thought they had at least partially benefited from the course and more than three quarters were satisfied with the course duration. In one study [17], 80% of Irish GPs interviewed stated that they would benefit from further education on the evaluation of patients’ MFTD and only 16% considered the received training to be adequate. In a study following the introduction of MFTD guidelines in Ireland in 2014, over 50% of the respondents said they had benefited from these new guidelines [16]. If physicians generally want information on MFTD issues, how is MFTD training taught in medical school? A study at medical universities in the United Kingdom on the subject of MFTD showed that a large proportion of the institutions provided knowledge on this subject in one way or another, but only 4 of the 32 participating universities were able to submit information on the scope of the courses offered. And only one university taught MFTD in the field of gerontology [18]. A qualification in traffic medicine can help to ensure the application of uniform standards in the examinations.

More than three quarters of the interviewees are in favour of GPs being allowed to assess MFTD of their own patients. Apparently, GPs consider this task to be part of the basic care they provide to their patients. In an Irish study, the majority agreed (55% strongly and 19% agreed) that a GP should be the initial person to assess MFTD [16]. A similar result in Ireland was obtained by Omer et al. [17]. In New South Wales (Australia), 98% of the GPs conduct driving fitness tests and 59% of them believe it is their duty [19]. In Switzerland, physicians are allowed to report to the licensing authority drivers who are no longer fit to drive [10]. In Ireland, the policy of mandatory MFTD screening system regarding possible impairment of their patients’ fitness to drive (raising the issue, reporting to the authorities). Furthermore, there is no scientifically accepted investigation procedure that can reliably determine MFTD. And even the recommended tests for assessing MFTD are not always consistently implemented [22].

In our study, almost all respondents (98.3%) stated that they have sufficient specialist knowledge to assess MFTD of senior citizens. In other studies, the reported confidence was lower. In the Australian survey mentioned above, only 41% of the participants reported feeling confident in assessing seniors’ MFTD [19], whereas in Ireland 71% felt confident [16]. Age-related check-ups have been mandatory in Switzerland for many years. Hakamies-Blomqvist et al. [23] showed that the existence of an obligatory screening system contributed to an unrealistic confidence in GPs’ own assessment skills. The study showed that Finnish physicians (with a mandatory MFTD screening system) believed that in the context of a medical assessment they can adequately assess MFTD. However, outside the mandatory assessment, they showed less activity in the field of MFTD than Swedish physicians (without mandatory MFTD screening system) regarding possible impairment of their patients’ fitness to drive (raising the issue, reporting to the authorities). Furthermore, the study showed that doctors with a long-standing doctor-patient relationship address the sensitive issue at an early stage.

**Limitations**

There are some limitations to the present study. For example, we surveyed only 28% of all Swiss specialists in traffic medicine useful in practice. However, they rated continuing education with CME Small Group Learning and online courses as helpful.

## Table 5:

| Acceptance of level 1 examination as screening instrument for unsuitable drivers. |
|---------------------------------------------------------------|
| **Suitable** | **Not suitable** | **No opinion** | **p-value** |
| Total, % (n) | 70.8 (828) | 13.3 (155) | 15.9 (186) |
| **Sex, % (n)** | | | |
| Male | 75.7 (570) | 12.5 (94) | 11.8 (89) | p < 0.001 |
| Female | 62.1 (257) | 14.5 (60) | 23.4 (97) |
| **Age, in years, % (n)** | | | |
| <35 | 47.4 (27) | 8.8 (5) | 43.8 (25) | p < 0.001 |
| 36–45 | 65.1 (166) | 14.1 (36) | 20.8 (53) |
| 46–55 | 71.9 (246) | 14.6 (50) | 13.5 (46) |
| 56–65 | 75.4 (276) | 12.6 (46) | 12.0 (44) |
| >65 | 75.6 (112) | 12.2 (18) | 12.2 (18) |
| **Experience in FTD tests, in years, % (n)** | | | |
| <10 | 75.6 (272) | 15.0 (54) | 9.4 (34) | p = 0.148 |
| 11–20 | 77.1 (196) | 14.6 (37) | 8.3 (21) |
| 21–30 | 77.8 (189) | 14.8 (36) | 7.4 (18) |
| >30 | 89.2 (91) | 7.9 (8) | 2.9 (3) |
| **Location of practice, % (n)** | | | |
| Rural area | 77.1 (350) | 14.3 (65) | 8.6 (39) | p < 0.001 |
| Urban area | 68.1 (496) | 12.5 (86) | 19.4 (134) |
| **Working sector, % (n)** | | | |
| Outpatient | 73.4 (793) | 14.3 (154) | 12.3 (133) | p < 0.001 |
| Inpatient | 35.4 (28) | 1.3 (1) | 63.3 (50) |

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