Instruments for investigating fitness to drive – needs and expectations in primary care; a qualitative study

Paul Vaucher[1], Isabel Cardoso[2], Patrice Mangin[2], Lilli Herzig[3], Bernard Favrat[2]

1. Institute of Legal Medicine, Faculty of Medicine, University of Geneva, Switzerland
2. University Center of Legal Medicine, University of Lausanne (CHUV), Switzerland
3. Institute of General Medicine, University of Lausanne, Switzerland

Abstract

Background
Primary care physicians are often requested to assess their patients' fitness to drive. Little is however known on their needs to help them in this task.

Aims
The aim of this study is to develop theories on needs, expectations, and barriers for clinical instruments helping physicians assess fitness to drive in primary care.

Methods
This qualitative study used semi-structured interviews to investigate needs and expectations for instruments used to assess fitness to drive. From August 2011 to April 2013, we recorded opinions from five experts in traffic medicine, five primary care physicians, and five senior drivers. All interviews were integrally transcribed. Two independent researchers extracted, coded, and stratified categories relying on multi-grounded theory. All participants validated the final scheme.

Results
Our theory suggests that for an instruments assessing fitness to drive to be implemented in primary care, it need to contribute to the decisional process. This requires at least five conditions: 1) it needs to reduce the range of uncertainty, 2) it needs to be adapted to local resources and possibilities, 3) it needs to be accepted by patients, 4) choices of tasks need to adaptable to clinical conditions, 5) and interpretation of results need to remain dependant of each patient's context.

Discussion and conclusions
Most existing instruments assessing fitness to drive are not designed for primary care settings. Future instruments should also aim to support patient-centred dialogue, help anticipate driving cessation, and offer patients the opportunity to freely take their own decision on driving cessation as often as possible.

Introduction

On-road test is considered as a reference standard for assessing risks that drivers are taking when driving (Keall & Frith, 2004; Levy, Vernick, & Howard, 1995). For patients, such an assessment is often hard to accept. Physicians are therefore often solicited by patients, family, healthcare workers, or authorities to assess fitness to drive relying on medical status alone (Odenheimer, 2006). Furthermore, by moral and legal obligation, physicians are requested to inform their patients on consequences of their health condition on their fitness to drive. This requires them to be aware of potential effects of medication, aging, or other conditions on their driving performance. In day-to-day practice this can be difficult to achieve. Systematic reviews have shown the interest of neuropsychological tests in predicting driving difficulties (Carr & Ott, 2010; Martin, Marottoli, & O'Neill, 2009; Mathias & Lucas, 2009). Nevertheless, each task taken alone, these tests are not sufficiently valid to serve for screening proposes (Johansson et al., 1996). Combining tasks into a battery of tests seems promising to improve predictions for driving difficulties (Bedard, Weaver, Darzins, & Porter, 2008; Eby, Molnar, Nation, Shope, & Kostyniuk, 2006; Marottoli et al., 1998; McKenna, Jefferies, Dobson, & Frude, 2004). These are however often time consuming and are developed uniquely for dedicated centres. Actual guidelines therefore underline the lack of adapted instruments in primary care (Iverson et al., 2010) and the need to develop such instruments (Martin, et al., 2009). As a first step, it seems important to study needs, expectations and barriers for such instruments to be implemented in primary care.

Aims

The aim of this study is to develop theories on needs, expectations, and barriers for clinical instruments helping physicians assess fitness to drive in primary care.

Methods

Participants

We relied on data triangulation involving different sources of information to increase our study's validity (Creswell & Miller, 2000). Even if saturation was to be observed earlier, at least 15 interviews were planned. A first group of five experts in traffic medicine, one psychologist, one neuropsychologist and three physicians were questioned. A second group of five primary care physicians were then interviewed individually. Finally, we collected the five senior drivers' opinion. Each participant provided informed consent to participate. The study was approved by the official state ethical committee for biomedical studies (CE 157/11).

Data collection and transcription

Participants received oral and written information on the aims and objective of the study. At least 24 hours prior to the interview, they were told they would be questioned on their expectations regarding primary care assessment of fitness to drive, expectations from instruments used during this assessment, and the usefulness of collecting information on compensation strategies, driving history and cognitive state. We used 30 minutes semi-structured interviews to collect data. Questions were reformulated after each interview but before the next one. During the interview, participants were challenged to explain their position and opinions. Questions and directives helped them speak as much as possible of their own experience, and remain focused on the topic of interest. The audio files were made

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anonymous and were entirely transcribed to text by the second researcher. All analysis was done using Atelas.ti 7.

Empirical and theory driven analysis

We analysed interviews using multi-grounded theory. This approach made it possible to ground theories on empirical, theoretical, and internal grounding (Goldkuhl & Cronholm, 2010). Two independent researchers extracted fractions of text that appeared in relation to the studied theme. Inductive coding was then used to label each extracted item. Following each series of five interviews, both researchers combined their findings and discussed categorical structures until a consensus was met. This was done using conceptual refinement (critical reflexion, ontological determination, and linguistic determination). Evaluation of theoretical cohesion and theoretical matching were then used to validate categorical structures. After saturation was achieved, empirical validation was sought by having all participants give their approbation on the final categorical structure. We then constructed a table of frequency to describe origin of sources of empirical data and examine wether these were consistent across different sources of data.

Results

Interviews took place from August 2011 to April 2013. Saturation was achieved after the second interview in the third group (senior drivers). Results were sent to participants and their opinion regarding categorical structure was collected over the phone in Mai 2013.

Our theory suggests that for an instruments assessing fitness to drive to be implemented in primary care, it need to contribute to the decisional process. This requires at least five conditions: 1) it needs to reduce the range of uncertainty, 2) it needs to be adapted to local resources and possibilities, 3) it needs to be accepted by patients, 4) choices of tasks need to adaptable to clinical conditions, 5) and interpretation of results need to remain dependant of each patient's context.

Reduce the range of uncertainty

An instrument is only useful for patients for which their fitness to drive is uncertain. In other words, physicians do not want to have to undergo batteries of task for those clearly unfit to drive, or for those for which their health condition clearly does not affect fitness to drive. Instruments should also help make sure all drivers respond to the same criteria and serve as a form of standardisation. As such, instruments can also serve to compensate lack of expertise or serve as a checklist. Experts, physicians, and patients to a lesser regard, considered important that the instrument included components that were validated and clearly related to driving performances. To help them in their decisional process, instrument should provide quantitative measures of abilities and make it possible for physician to classify patients in risk categories.

Local resources and possibilities

An instrument has more chance of been purchased by primary care physicians if it is easy to obtain, is adapted to local hardware without having to add too many accessories (limitation in space), and is reasonably cheap. Physicians are also more attracted by instruments that help them spare time. Finally, instruments need to conform to legal constraints regarding data protection.

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Patient acceptance

Relying on instruments to assess fitness to drive makes it possible to depersonalise the decision regarding driving cessation. This offers the possibility to discuss the consequences of health conditions on driving performances rather than argue on the medical reasons why such a decision is to be taken. Overall, patients tend to trust their physician's opinion on their interpretation of clinical measures. However, when these are related to their driving performance, for which they have their own opinion, it seems important that they can understand and accept the link between these measures and their driving capacities.

Adaptability to clinical conditions

Physicians need an instrument they can adapt to their needs. Instruments can either be used for screening, to assess fitness related to a given medical condition, or can be used to monitor evolution towards remission or severity. In any case, physicians want to be able to limit their investigations to the fields were they are uncertain. In other words, it is important for operators to be able to decide which component of an instrument to use depending of the given context.

Contextualisation of results

When assessing fitness to drive, both primary care physicians and experts consider that interpretation of measures from an instrument need to be contextualised for each situation before providing a clear answer on driving cessation. Unplanned difficulties occurring during the measures, medical history, medication, addictions, driving history, physical condition, cognitive state, risks of loss of consciousness, family or friend's concern for driving difficulties, patient's capacity to recognise difficulties in specific circumstances and efficiently compensate them (e.g. stops driving at night, never drive under medication, uses public transports when feeling weary, etc.) are some examples that physicians need to account for. To form their opinion, they might also request complementary exams, or send patients to specialists for further investigations on their medical condition. As a last resource, they might also consider needing a psycho-medical expertise on fitness to drive or request the patient to undergo an official on-road test before forcing patient to hand their driver's license back.

Discussion and conclusion

Given the potential implication of driving cessation on their patients' quality of life, physicians need to feel certain of their decision before recommending driving cessation. This process is facilitated if patients understand and support such a decision. Instruments should therefore support patient-centred dialogue, help anticipate driving cessation, and offer patients the opportunity to freely take their own decision on driving cessation as often as possible.

Acknowledgements

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