Audit in occupational medicine: an audit of fitness to drive among voluntary drivers in an NHS trust

N. A. L. Smith

Background
A health surveillance programme, to assess fitness to drive, was initiated for voluntary drivers in an NHS Trust because of reports of increasing frailty and slow reactions among some drivers. After discussion between the occupational health department, voluntary services manager and personnel department it was considered appropriate to apply Driver and Vehicle Licensing Authority (DVLA) Group 2 fitness to drive standards to those voluntary drivers who drove the Trusts minibuses.

Results
An audit of the initial health surveillance of 47 drivers is presented. The mean age of the voluntary drivers was 66.4 years. A large number of medical problems with the potential to affect driving were discovered (average of 1.9 medical problems per driver). The outcome was that five voluntary drivers were found unfit to drive the hospital minibus and one voluntary driver was found unfit for car driving.

Conclusions
A fitness assessment form for drivers is presented. This form is primarily for the use of occupational health nurses, to help them to decide when referral to an occupational health physician is indicated.

Key words
Driving; fitness to drive; health services; health surveillance; medical audit.

Introduction
A number of employees of an NHS Trust are involved in driving duties as part of their employment. There are also a number of voluntary workers who transport patients to hospital or between hospitals in either their own cars or the hospital minibus. A lot of these volunteers are retired people who have performed this invaluable free service for many years and are often over 60 years of age.

Concerns were expressed to the occupational health department that some voluntary drivers were not as fit as they used to be and appeared frail or slow to react when driving. Most of these voluntary drivers had not had their fitness to drive assessed since prior to starting their voluntary work, when they had been assessed by a standard Health Service pre-employment questionnaire and Keystone assessment of vision.

Accident statistics for the Trust were checked for the years 1997–2000 inclusive. One road traffic accident involving a voluntary minibus driver was recorded in 1998.

Discussions took place between the occupational health department, voluntary services manager and personnel department. It was decided that there was a need to reassess the fitness to drive of the voluntary minibus and car drivers and that this may need to be an ongoing programme.

The Trust had three minibuses of 12 seats. It was decided that UK Driver and Vehicle Licensing Authority (DVLA) Group 2 fitness to drive standards should apply to those volunteers driving the minibuses. DVLA Group 2 fitness standards were considered appropriate for minibus drivers because in January 1997 the law in the...
UK had changed in relation to Category D1 minibuses of 9–16 seats. After January 1997 new drivers and drivers renewing licences were given no entitlement to drive Category D1 and could only drive such vehicles if they met DVLA Group 2, Public Service Vehicle (PSV), fitness standards [1].

The Medical Commission on Accident Prevention had also recommended that DVLA Group 2 fitness standards be applied as an occupational health policy to drivers of ambulances, emergency service vehicles and taxis [2]. It was considered impractical to assess all Trust employees who drove a car whilst undertaking Trust work as the numbers involved were too large. These employees had their current driving licences checked regularly by the personnel department as this was a requirement of the Trust’s insurers. They were also instructed to inform their manager of any circumstances or health problems that may affect their driving.

Methods

Setting up the health surveillance programme

All voluntary drivers were invited, without compulsion, for a specific assessment of their fitness to drive, to be conducted by an occupational health nurse. Any problems detected with direct implications on fitness to drive were to be referred to an occupational health physician.

The occupational health department designed a specific fitness assessment form for voluntary drivers, to cover the major medical problems that may present a problem for driving (see Appendix).

One occupational health nurse was given a lead role in the health surveillance programme. All occupational health nurses were encouraged to read the At a Glance Guide to Current Medical Standards of Fitness to Drive published by the UK DVLA [1].

The number of voluntary drivers was obtained from occupational health files, which was relatively simple as volunteers’ files were kept separately. This list was cross-checked with the voluntary services manager for current voluntary driver status.

It was envisaged that fitness to drive assessments would take place every 3–5 years for voluntary car drivers (three yearly over 70 and five yearly under 70 years of age). For minibus drivers, assessment would be five yearly under 65 years of age and yearly over 65 years of age, in line with DVLA guidance [1].

Discussion of problem cases takes place on a regular basis.

Auditing the health surveillance programme

When all the current voluntary car and minibus drivers had been seen and assessed for fitness to drive, an audit of the results was performed. The occupational health records for the voluntary drivers were examined and the results collated. Medical problems were ascertained by questionnaire and examination. No specialist reports were obtained.

Results

The mean age of the voluntary drivers was 66.4 years (range 48–79).

Tables 1 and 2 outline the results of the health surveillance undertaken on the voluntary drivers.

Five (25%) of the voluntary minibus drivers were found unfit to drive. Two drivers had ischaemic heart disease, two had cerebrovascular disease and one driver had an arrhythmia. One voluntary car driver (4%) was unfit to drive due to transient ischaemic attacks.

Discussion

A Medline search, 1966 to present, revealed no other studies of fitness to drive in NHS volunteer drivers.

Dellinger et al. [3] showed that fatal crash involvement rates increased with age and Massie et al. [4] showed elevated traffic accident rates for drivers aged 75 and over. Preusser et al. [5] also showed that drivers aged 65–69 were 2.26 times more at risk for multiple vehicle involvements at intersections. Rehm and Ross [6] looked at road crashes involving 67 drivers over the age of 60 and 130 drivers under 60 years of age. They found that 53 (79%) in the older group had significant medical problems compared with only 19 (14.6%) of the younger group.

Morgan and King [7] highlight the fact that the elderly are more likely to have cognitive and sensoriperceptual deficits affecting their driving performance, and more likely to have a chronic illness and to be on medication that might adversely affect driving. They suggest that doctors need to be more aware of current guidelines on driving and be prepared to offer advice.

Table 1. Results of health surveillance undertaken on voluntary drivers in an NHS Trust

<table>
<thead>
<tr>
<th>Health surveillance undertaken</th>
<th>No. of drivers (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voluntary drivers undergoing health surveillance</td>
<td>47 (100)</td>
</tr>
<tr>
<td>Voluntary drivers assessed for minibus driving</td>
<td>20 (43)</td>
</tr>
<tr>
<td>Voluntary drivers assessed for car driving</td>
<td>27 (58)</td>
</tr>
<tr>
<td>Voluntary drivers seen by occupational health nurse</td>
<td>47 (100)</td>
</tr>
<tr>
<td>Voluntary drivers referred to occupational health physician</td>
<td>26 (55)</td>
</tr>
<tr>
<td>Voluntary minibus drivers passed as fit to drive</td>
<td>15 (75)</td>
</tr>
<tr>
<td>Voluntary minibus drivers found unfit to drive</td>
<td>5 (25)</td>
</tr>
<tr>
<td>Voluntary car drivers passed as fit to drive</td>
<td>26 (96)</td>
</tr>
<tr>
<td>Voluntary car drivers found unfit to drive</td>
<td>1 (4)</td>
</tr>
</tbody>
</table>
In this study all the 47 voluntary drivers accepted the need for assessment of their fitness to drive from a safety point of view for patients.

The mean age (66.4 years) and age range (48–79 years) of the voluntary drivers in this Trust were such that some medical problems with the potential to affect driving must be expected. However, 89 medical problems with the potential to affect driving (mean 1.9 medical problems/driver) is a large number and highlights the need for health surveillance in this group.

Continued surveillance should be possible and not too onerous due to the small numbers involved. Even though the drivers are volunteers, health surveillance could be made part of a voluntary service contract and minibus driving suspended without compliance with surveillance.

Of the 47 fitness to drive assessments carried out by the occupational health nurses, 26 (55%) had to be referred to the occupational health physician for further assessment. This is a very high referral rate compared with standard NHS pre-employment medicals.

Twenty out of 47 drivers (43%) drove the hospital minibus in this Trust. When DVLA Group 2 fitness to drive standards were applied to the minibus drivers in this Trust, five out of 20 (25%) failed to meet the required standard for DVLA Group 2 fitness and were asked to stop driving the hospital minibus. All of these 20 were still eligible to drive cars. Of the 27 car drivers assessed, one (4%) was found to be unfit for car driving and was advised to stop driving his car and inform the DVLA [8].

### Conclusion

The results of this audit in this NHS Trust suggest that regular surveillance of volunteer drivers is appropriate and necessary and that regular audit of this surveillance should be undertaken. If DVLA Group 2 fitness standards are applied to volunteer minibus drivers, then this audit would suggest that a substantial proportion would not meet the relevant standard. However, I believe it is appropriate to apply DVLA Group 2 fitness to drive standards to Trust minibus drivers. Driving in hospital grounds can be more complex than ordinary roads, especially with the added responsibility of transporting sick and frail patients.

A quick health surveillance screen of volunteer drivers can be carried out by an occupational health nurse, using the form shown in Appendix 1, but it is likely that assessment by an occupational health physician will be required in a majority of cases.

### References


### Table 2. Number of voluntary drivers and their specific medical problems detected

<table>
<thead>
<tr>
<th>Medical problem detected</th>
<th>No. of drivers with medical problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurological</td>
<td></td>
</tr>
<tr>
<td>Cerebrovascular disease</td>
<td>3</td>
</tr>
<tr>
<td>Vertigo</td>
<td>1</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td></td>
</tr>
<tr>
<td>Ischaemic heart disease</td>
<td>5</td>
</tr>
<tr>
<td>Arrhythmia</td>
<td>2</td>
</tr>
<tr>
<td>Peripheral vascular disease</td>
<td>1</td>
</tr>
<tr>
<td>Aortic aneurysm repair</td>
<td>1</td>
</tr>
<tr>
<td>Heart failure</td>
<td>1</td>
</tr>
<tr>
<td>Hypertension</td>
<td>10</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td></td>
</tr>
<tr>
<td>Tablet treatment</td>
<td>1</td>
</tr>
<tr>
<td>Psychiatric disorders</td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>4</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>1</td>
</tr>
<tr>
<td>Anxiety</td>
<td>1</td>
</tr>
<tr>
<td>Alcohol problems</td>
<td>3</td>
</tr>
<tr>
<td>Visual disorders</td>
<td></td>
</tr>
<tr>
<td>Visual acuity</td>
<td>30</td>
</tr>
<tr>
<td>Monocular vision</td>
<td>2</td>
</tr>
<tr>
<td>Respiratory disorders</td>
<td></td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease</td>
<td>4</td>
</tr>
<tr>
<td>Deafness</td>
<td>4</td>
</tr>
<tr>
<td>Musculoskeletal</td>
<td></td>
</tr>
<tr>
<td>Back problems</td>
<td>5</td>
</tr>
<tr>
<td>Osteoarthritis of knees</td>
<td>4</td>
</tr>
<tr>
<td>Osteoarthritis of hips</td>
<td>2</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
</tr>
<tr>
<td>History of carcinoma</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>89</td>
</tr>
</tbody>
</table>
### Appendix 1

**Occupational Health Department**  
**Airedale NHS Trust**

**Driver Assessment**

Company ___________________  Department ___________________

Surname ___________________  Forename(s) ___________________

**History**  
Date of Birth ___________________

<table>
<thead>
<tr>
<th>1. Vision</th>
<th>YES</th>
<th>NO</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Visual Problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visual Correction</td>
<td></td>
<td></td>
<td>Keystone Test:</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>2. Hearing</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing Problems</td>
<td></td>
</tr>
<tr>
<td>Hearing Correction</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Locomotor</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Neck/Back Problems</td>
<td></td>
</tr>
<tr>
<td>Joint/Limb Problems</td>
<td></td>
</tr>
<tr>
<td>Mobility Observed</td>
<td>Neck:</td>
</tr>
<tr>
<td></td>
<td>Upper Limbs:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Balance Observed</th>
<th></th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>4. Accident History</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Since Last Check/Last 2 Years</td>
<td>Home:</td>
</tr>
<tr>
<td></td>
<td>Work:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. Cardiovascular</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>B/P 1.</td>
</tr>
<tr>
<td></td>
<td>2. After 10 mins if &gt;140/90:</td>
</tr>
<tr>
<td>Pulse Irregular/Palpitations</td>
<td>Heart Rate:</td>
</tr>
<tr>
<td></td>
<td>Rhythm:</td>
</tr>
<tr>
<td>Angina</td>
<td></td>
</tr>
<tr>
<td>Infarct</td>
<td></td>
</tr>
<tr>
<td>Pacemaker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>YES</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----</td>
</tr>
<tr>
<td>CARDIAC SURGERY</td>
<td></td>
</tr>
<tr>
<td>ARTERIAL DISEASE</td>
<td></td>
</tr>
<tr>
<td>6. NERVOUS SYSTEM</td>
<td></td>
</tr>
<tr>
<td>EPILEPSY / FITS</td>
<td></td>
</tr>
<tr>
<td>TRAUMATIC BRAIN DAMAGE/LOSS OF CONSCIOUSNESS</td>
<td></td>
</tr>
<tr>
<td>STROKE</td>
<td></td>
</tr>
<tr>
<td>DIZZINESS</td>
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</tr>
<tr>
<td>BRAIN SURGERY</td>
<td></td>
</tr>
<tr>
<td>NEUROLOGICAL DISABILITY</td>
<td></td>
</tr>
<tr>
<td>7. DIABETES</td>
<td></td>
</tr>
<tr>
<td>PERSONAL HISTORY</td>
<td></td>
</tr>
<tr>
<td>FAMILY HISTORY</td>
<td></td>
</tr>
<tr>
<td>8. ALCOHOL INTAKE</td>
<td></td>
</tr>
<tr>
<td>9. PRESCRIBED MEDICATION</td>
<td></td>
</tr>
<tr>
<td>10. RECREATIONAL DRUGS</td>
<td></td>
</tr>
<tr>
<td>11. PSYCHIATRIC HISTORY</td>
<td></td>
</tr>
<tr>
<td>12. ANY OTHER SIGNIFICANT MEDICAL CONDITIONS</td>
<td></td>
</tr>
</tbody>
</table>

NURSE COMMENTS:

SUITABLE / UNSUITABLE FOR DRIVING (AS DEFINED AT TOP OF PAGE)

SIGNED (OCCUPATIONAL HEALTH NURSE) ________________________________

DATE ________________________________