APPENDIX 1: Resources For Clinicians

General References

The most useful document by far in the UK is the "Assessing fitness to drive: a guide for medical professionals" which can be easily downloaded onto your PC. As it is updated so often a new version for each patient contact/query is sensible, rather than relying on an older version. The web address is https://www.gov.uk/government/publications/assessing-fitness-to-drive-a-guide-for-medical-professionals

In Scotland the regional assessment centre is in Edinburgh... Scottish Driving Assessment Service Astley Ainslie Hospital 133 Grange Loan Edinburgh EH9 2HL. Tel: 01315 379192 Fax: 0131 537 9193 Marlene.Mackenzie@nhslothian.scot.nhs.uk

Determining medical fitness to operate motor vehicles: CMA driver's guide. 7th ed. Ottawa, ON: Canadian Medical Association (CMA); 2007. Available via the CMA website http://www.cma.ca/index.cfm/ci_id/18223/la_id/1.htm

This guide helps GPs determine whether their patients are medically fit to drive a motor vehicle safely. It includes sections on various medical conditions, as well as sections on driving cessation and functional assessment. The appendices contain a section from CMPA and tools for evaluating alcohol and dementia. Although a Canadian document, some of the resources are relevant to the UK.

Obtaining advice from the DVLA on fitness to drive and contacting the DVLA's medical advisers

Doctors and other healthcare professionals are always welcome to write, fax, email or speak (by telephone between 10.30am and 1pm from Monday to Friday) to one of the DVLA's medical advisers.

Advice may be sought about a particular driver identified by a unique reference number, or about fitness to drive in general. If the telephone service is busy, you will be able to leave a message for one of the medical advisers to call back.

The contact details for such enquiries in England, Scotland and Wales are: medadviser@dvla.gsi.gov.uk Telephone: 01792 782337 Fax: 01792 761124, The Medical Adviser Drivers Medical Group DVLA Swansea SA99 1DA

For Patients

Age UK has a useful leaflet "In the driving seat" for patients who are getting older: http://www.ageuk.org.uk/documents/en-gb/information-guides/ageukig44_in_the_driving_seat_inf.pdf?dtrk=true

APPENDIX 2. Tests that can be easily performed in Primary Care

Function	Manoeuvre	Interpretation
Visual acuity	Snellen E chart. Patient stands 6 m away wearing usual glasses or contact lenses. Patient is asked to read the smallest line possible with both eyes open. Acuity is the lowest full row successfully read.	Patients must be advised not to drive if VA is <6/12, and that they cannot recommence driving until this can be confirmed.
Visual fields	Tested on each eye by confrontation. In relation to driving fields should be assessed binocularly. If deficit is found then monocular assessment may be useful in relation to considering underlying aetiology, but only ***binocular*** assessment is important for driving	Further assessment required if any defects detected.
Cognition	Trail-Making Test, Part B. Numerous studies have shown an association between poor performance on this test and poor driving performance.[28-30] The test is done with a standard form that has numbers and letters randomly arranged on a page. A pencil is used to draw a line connecting the numbers and letters in alternating order. Clock-drawing test: Examiner asks patient to draw a clock showing all the numbers with the time set at 10 minutes after 11 o'clock. Has been shown to correlate with traditional cognitive measures and to discriminate healthy older patients from those with dementia.[31] The Montreal Cognitive Assessment Battery (MOCA) has replaced the MMSE. It is more sensitive in relation to detecting executive dysfunction and therefore a more appropriate screening tool in relation to driving and dementia.	Test is scored by overall time needed to complete connections accurately. Further assessment required if more than 3 minutes (180 seconds) needed for completion and/or more than 1 error made. Further assessment required if any incorrect elements. It is generally accepted that if the MMSE is less than 14, the patient cannot pass as a safe driver. A score below 23 indicates cognitive deficits and the need for more in- depth testing.In many regions the GPCOG has replaced the MMSE, and the former uses the clock-drawing test
Motor function	Rapid pace walking. Data shows a connection between the time taken to complete the test and problems driving.[16;28] (Level II-2) Used to assess lower limb mobility, trunk stability and balance. Patient is asked to walk 3m, turn, and come back as quickly as possible. Patient may use walking aid if one is normally used. Range of motion: Examiner tests active range of motion of selected joints (neck, fingers, shoulder, elbow, ankles.) Strength: Examiner manually tests strength by asking patient to resist movements. Reaction time: Few office-based tests have been adequately studied, so reliability and validity of simpler tests are uncertain. Ruler drop test (currently being examined in CanDRIVE project): Done by dropping a 12-18 inch ruler straight down and asking patient to catch it.	Further assessment required if more than 9 seconds are required for completion. Further assessment needed if there is excessive pain, hesitation, or a very limited range of motion. Further assessment needed if strength is less than 4/5 in either arm or right lower leg. If the patient drives a vehicle with manual transmission (clutch), strength less than 4/5 in left lower leg also applies. Abnormal if ruler falls straight through patient's hand and hits floor. Can be falsely positive due to other factors (poor coordination, failure to grip tightly enough, examiner fails to drop ruler correctly).

APPENDIX 3. The Glasgow bin lorry crash

On the 22nd of December 2014, the driver of a Glasgow City council bin lorry lost consciousness at the wheel. The lorry was out of control for 19 seconds resulting in the tragic death of 6 people and a further 15 people were injured, some seriously.

The resultant Fatal Accident Inquiry (FAI) was published in December 2015, and the driver faces both a private prosecution from the families of the deceased and a separate prosecution for a separate driving offense.

This appendix is an attempt to summarize the key learning for doctors from the FAI, but cannot cover all the intricacies of the inquiry itself. It should however be noted that the key medical experts, at times, disagreed … and the DVLA has subsequently made changes to the 'At a Glance' guidance. Some of the changes have been highlighted in the body of this module (info point 7, Box 2). The DVLA was also recommended to change its policy on notification of fitness to drive from 3rd parties such as the police, whether or not it comes in written form.

The GMC has completed a consultation into the 'Confidentiality' Advice to make reporting concerns to the DVLA clearer (Box 1). There were recommendations made to the Secretary of State for Transport to instigate a consultation on how best to ensure the completeness and accuracy of the information available to the DVLA in making fitness to drive decisions with a view to making legislative change.

Key Learning for Primary Care clinicians:

Medical record keeping.

During the case, the bin lorry driver's medical records were forensically examined. While most GPs have improved medical record keeping in recent years since computerized notes, there are unlikely to be many who would be prepared for the level of scrutiny that was undertaken. The case highlighted the following as areas for improvement:

a. Coding of occupational drivers – these are not usually coded at present by primary care
b. Recording of fitness to drive advice – this is seldom coded
c. Clinical entries such as "wry neck", "dizzy", "TATT" were thought to be lacking any recorded "fitness to drive" advice, which may have been relevant.
d. Vasovagal episodes and recurrent disabling dizziness (coded as priority Read codes) had problems when transferring from paper to computer records.

There was some disagreement between the medical professionals as to whether a simple faint should be coded in the medical records. However the recommendations from the enquiry state:

> "Doctors generally, and general practitioners in particular, should take steps to ensure that medical notes are made in such a way as to maximise their ability to identify repeated episodes of loss of consciousness, loss of or altered awareness, in patients who are (or may become) drivers."

D4 medical reports ("HGV medicals" for Group 2 licences)

The enquiry focused on an occupational health report and a GP report that had conflicting information regarding the circumstance of an episode of collapse. However it should be noted that the driver sought to conceal the evidence from the doctors in question and may have deliberately misled the GP. The recommendations for doctors were as follows:

a. Where possible, the doctor completing the D4 medical should have access to the medical records. This is not compulsory, but it may be a change suggested by the Secretary of State for Transport's review, which is yet to be published.
b. In this case, the paramedics attended the driver in a previous incident collapsed at the wheel of bus - but no records of their assessment had been sent to the GP. The patient lied and said he had fainted in a hot cafeteria. The GP passed him as fit to drive, and the occupational health department did not notice the discrepancy between the accounts.

Advice for doctors seems wordy, but is as follows:

> "When a doctor is advising an organization employing a driver as to that driver's fitness to drive following a medical incident whilst driving, that organsiation should provide all available information about the incident to the doctor, and the doctor should insist on having it prior to giving advice to the organization and the driver".

c. Whilst it is easy with hindsight to suggest that the GP who knows the patient best should be the one who completes the medicals, in this case the GP was on annual leave. Therefore the HGV medical was completed by another doctor who had not seen the patient before.

DVLA medicals

a. The enquiry focused heavily on an episode in 2010 when there had been a previous incident. At the time, the patient was driving a bus and he apparently collapsed at the wheel. The passengers got off the bus, paramedics attended, but he declined admission to hospital and went to see his GP.

   The suggestion is that the driver would ***not*** have received a Group 2 licence after his subsequent HGV medical if the collapse at the wheel of a bus been disclosed. During the enquiry there was much discussion about:
   - whether there was sufficient ***prodrome,*** as he had been able to stop the bus safely prior to the collapse. If it was considered that he had a reliable prodrome, he may have been allowed to continue driving (see Box 1).
   - ***posture -*** he was sitting down when he collapsed, and
   - ***provocation*** – he did in fact have previous dizziness and wry neck recorded in his notes.

b. The diagnosis was found to be neurocardiogenic syncope in this case. The driver of this vehicle applied and was granted his Class 2 license again four months after the tragic events in Dec 2014. This was revoked by the DVLA after evidence from the FAI highlighted that he had lied about the previous episode in 2010.

[Expert reviewer's comment: Note that the Driving Assessment Centre in Edinburgh (the SMART Centre - see info point 31) does not do assessments for Group 2 licences].

TIPS FOR SAFE DRIVING

Take Responsibility

- The application for a licence, renewal of that licence, and reporting to the DVLA of any medical conditions, is ***your*** responsibility. If you subsequently are involved in a collision and have ***not*** informed the DVLA about a medical condition, you may be prosecuted, and your insurance will not cover you.

Take care of your health

- Try not to have more than one drink that contains alcohol per day. Don't drink alcohol with your medicines.
- Eat a healthy diet that is varied, low in fat and high in fibre from foods such as vegetables, fruits, beans and whole grains.
- Get some exercise every day at your own level of comfort. This could include walking, dancing or swimming to improve your endurance, working out with weights to increase your strength and stretching to maintain your flexibility
- Don't use tobacco in any form.

Drive carefully

- Plan your trips ahead of time so that you can avoid heavy traffic and poor weather.
- It is unsafe to drive too quickly or too slowly. The safest speed is the speed limit.
- Be extra careful at junctions.
- Keep enough distance between you and the car in front of you.
- Wear your seatbelt.
- Some medicines may affect your driving even if you feel fine – ask your doctor or pharmacist about this. If your medicine makes you feel drowsy, ask your doctor.
- If you don't see well in the dark, try not to drive at night or during storms.
- If you have trouble making right turns, find a route that involves a series of left turns instead.
- Don't engage in distracting activities while driving, these are major factors in road collisions.
- Never drink and drive. Also do not drive when you feel angry or tired.
- Reduce distractions: Do not eat or drink while driving. Do not use a mobile phone while driving. Turn the phone off before you start driving.

Keep your car in top-notch condition

- Have your car maintained regularly.
- Make sure it is filled with plenty of fuel to get where you're going.
- Keep the windscreen, windows and mirrors clean. Replace windscreen wipers when they wear out and keep the washer fluid reservoir clean.
- A car with a power steering and automatic transmission may be easier to handle.

Take some extra driving lessons to brush up on your skills

Take charge of your future

- Know what medical conditions you have and what medicines you take.
- Draw up a plan for how to get around, when the time comes that you cannot drive. This might include asking family and friends for a lift, taking public transport, or asking for advice from an association such as Age Concern.
- Talk to your family and doctors about your healthcare wishes. Consider filling out an advance directive and giving a copy to your doctor and a family member. Also consider the potential benefit of a power of attorney – should you have an accident or illness that leaves you unable to make decisions for yourself, even if only temporarily.

Adapted from: Transport Canada's Safe Driving Tips, available at http://www.tc.gc.ca/mediaroom/backgrounders/b00-R001.htm, American Medical Association Physician's Guide to Assessing and Counseling Older Drivers, available at http://www.ama-assn.org/ama/pub/ category/10791.htm