QUALITY INITIATIVE TO IMPROVE SERVICES FOR OLDER DRIVERS IN UK FOLLOWING A HEALTH NEEDS ASSESSMENT

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SUMMARY:

There is evidence to suggest that driving cessation has a negative impact on the health and well-being of older people. This paper builds on the health needs assessment undertaken to explore the needs of older drivers in Kent, who give up driving due to ill health. The needs assessment highlighted issues faced by older drivers who have to cease driving and find themselves in difficult situations to access useful and accurate information on good alternative transportation infrastructures. Particular attention was drawn to the lack of joined up working between various service providers and the driving needs of older drivers (post driving cessation), whose needs are not consistently being met.

In essence, it was therefore recommended that there should be more joined up working between organisations who provide services for older people and their carers. This service improvement initiative explores a pre driving assessment screening to assess the functional abilities of older clients, and to follow on with an early referral to mobility advice services. Furthermore, both statutory and non-statutory organisations should work collaboratively to improve current services and support older clients in developing a driving retirement plan in order for them to improve their quality of life post driving cessation.

Key Words:
Older people, Driving, Pre-Driving Assessment, Screening

PURPOSE OF STUDY:

In the UK a license for driving is issued by the Driving Vehicle and Licensing Authority (DVLA), which is a regulatory body for assessing the driving eligibility of drivers. To maintain safety on the road for both the driver and for the wider society, changes in driving practice have been warranted over the years, such as the use of seat belts and the non-use of mobile phones whilst driving (ROSPA 2010). The need for changing driving practice has been further accentuated by the increase in life expectancy and increased prevalence of long-term conditions. Over the last decade life expectancy in the UK has steadily increased as well as an increase in non-communicable diseases such as Diabetes, Chronic Obstructive Pulmonary Disease and mental health conditions such as Dementia. Additionally, with the advancement in medical technologies, individuals with disabilities resulting from episodes such as strokes are living longer. Over the last 10 years there has also been a shift in social policy giving people more control of their lives by assisting individuals with limiting long-term conditions and disabilities in order for them to live their lives more independently. Amongst other skills the ability to drive is one of many life skills which supports human occupation and assists an individual in maintaining their independent mobility. However, the ability to drive independently requires a combination of physical, sensory and cognitive skills, and these physical and neuropsychological skills could be affected by any medical condition. Consequently, it has required driving regulators and the motor industry to work collaboratively in meeting the needs of drivers with medical conditions (DVLA 2010). One such initiative is that of providing adaptations in motor vehicles for affected individuals through nationally accredited mobility centres.
A local health needs assessment (Varshney 2011) highlighted gap in service provision for the 70+ population in assessing their fitness to drive, and in particular those clients with emerging health needs mainly as a result of Dementia. The health needs assessment also identified a service gap in supporting individuals who are no longer fit to drive as a result of their medical condition. This paper presents a quality improvement initiative undertaken to improve services for older drivers and addresses the gaps highlighted in the health needs assessment.

1. Rationale for change

1.1 Changing Population Needs

The Kent Annual Public Health Report for Older People (Annual Public Health Report 2006) highlighted that in the period 2007-2026 the population in the South East of England will grow faster than the UK average. Over the next 25 years the projected increase in this region will be around 12%, taking the population from 8.1 million to 9.2 million (Annual Public Health Report 2006). As illustrated in Figure 1 the projected population growth is expected to be in the over 65 age group. Such projected demographic changes warrant a need for older people to maintain their independence and also be in control of their lives, if affected by a chronic long term condition.

The key long-term conditions that affect older people are Dementia, Arthritis, Stroke and Coronary Heart Disease and the number of over 65 years affected by these conditions is projected to increase over the next ten years, (Annual Public Health Report 2006). As illustrated in Figure 1 and Figure 2 the largest increase is to be expected in people with Arthritis followed by Dementia. In fact, it is estimated that the risk of developing Dementia doubles every five years, with a 65 year old having a 1.3 per cent chance of having Dementia and a 95 year old having 32.5 per cent (Dementia UK 2007).

Figure 1: Forecast of conditions for population aged 65+
1.2 Legislative framework
According to the UK legislation driving entitlement expires when an individual reaches the age of 70 years. If an individual wishes to continue driving they must declare, every three years, their fitness to continue driving to the DVLA, who will authorise a driving license (ROSPA 2010). Following self-declaration, the DVLA may or may not request further medical information in order to assess a driver’s fitness to drive. This potentially allows many unfit drivers to continue driving with a medical condition, who could benefit from remedial support through car adaptations. Alternatively, there could be unfit drivers who should discontinue driving and would benefit from advice on supportive services such as information on public transport.

In the near future, the licence renewal arrangements could potentially change and may require an enhanced level of screening prior to license renewal as illustrated in Figure 3. The changes could come into force following recommendations from an internal study which was commissioned by the Licensing Authority (Risk Solutions 2006). No decision had been made at the time of writing this paper.

Figure 3: Current and proposed changes to the driving renewal arrangements

Source: Risk Solutions- 2006
1.3 Effect of Medical Conditions on Driving
Arthritis is one of the most common conditions affecting older people. It refers to a group of diseases that affects joints, leading to pain and disability. For people over 65 years old, GP consultations related to Arthritis increase with age (RCGP 2006). Arthritis can affect an individual’s ability to drive in a number of ways, for instance their ability to undertake maneuvers due to stiff joints. Some individuals may have difficulty in gripping the steering-wheel as a result of having painful hands alongside their ability to get in and out of the driving seat. Driving ability in an older person could be affected due to physical limitations such as, stiff muscles and shoulders, limited neck and upper body rotation and loss of upper limb strength (Robertson & Vanlaar 2008).

Another common condition that affects older people is Dementia. The Alzheimer’s Society defines the term ‘Dementia’ as a syndrome, which may be caused by a number of illnesses, in which there is progressive decline in multiple areas of human functionality (Dementia UK 2007). These functions include, decline in memory, reasoning, communication skills and the ability to carry out daily activities. Alongside this decline, individuals may experience behavioural and psychological symptoms such as depression, psychosis and aggression. Consequently, Dementia is one of the main causes of disability in later life and has a huge impact on the ability to undertake functional activities; such as the ability to drive independently. It could be that an individual along with physical limitations may also have a decline in cognitive abilities such as, memory, concentration and reduced capability to process information (Dobbs 2005). Therefore, this could affect the ability to carry out complex tasks such as driving which requires multiple processing of information, e.g. understanding road signs and undertaking associated physical tasks.

Additionally, the functional decline in older people can also be a result of other medical conditions such as a Stroke, Heart Disease or medications prescribed to treat a specific ailment or other illness (Dobb 2005, Musselwhite & Haddad 2007). Stroke is one of the diseases of the arteries caused by delay in or reduced blood supply to a particular area of the brain, resulting in neurological dysfunction. Stroke is the third biggest cause of death in England (11%) and the largest single cause of severe disability (DH, 2007). There are an estimated 111,000 first strokes in the UK every year (BHF 2009) and 300,000 people in England live with moderate to severe disability as result of stroke. In Kent & Medway 25,889 people (1.7% prevalence) were recorded as having a Stroke or TIA (JSNA 2011). The effects of stroke can include physical disability, loss of cognitive and communication skills, and depression (DH 2007), thus affecting the ability to drive independently.

1.4 Driving Cessation and its Effect on the Older Person
Driving cessation may be as a result of individual not meeting medical guidelines in conditions such as, Dementia when the risk to drivers and other road users increases significantly due to cognitive impairments (DVLA 2010). There is evidence to suggest that retired drivers face many challenges such as access to essential healthcare services, leisure facilities, paid or voluntary work (ruralcommunities.gov.uk). As a consequence, this may have a negative impact on their physical, mental health & wellbeing as a result of increased social isolation (Liddle & McKenna, 2003, Carr.D, Ott.B, 2010, Fonda et al 2001, Liddle et al 2008).
2.0 Identifying Local Gaps in Service Provision for Older Drivers

A recent local study (Varshney 2011) highlighted a need for joint working between statutory and non-statutory organisations to address the needs of older drivers who no longer drive. The study recommended that health care professionals should undertake a pre-driving assessment screening of functional abilities of the older driver and to do an early referral to mobility advice services. To test this proposal South East DriveAbility undertook market research involving presentations to wider stakeholders and conducted face to face interviews when possible. Stakeholders included charitable organisations such as: The Stroke Association, The MS Society, General Practitioners, Hospital Consultants and other Allied Health Professionals. Results from their market research identified that one of the main issues that prevented individuals from attending their driving assessment appointments, was anxiety and the possibility of losing their licence. Additionally, many patients do not access the service due to chargeable assessment fees. This was evident across a range of patients with a diagnosis of Dementia, Stroke and other neurological conditions along with younger patients with mild learning difficulties and ADHD.

3.0 Proposed Plan

This paper presents the business plan proposal which led to the introduction of a service redesign initiative to undertake ‘Pre-Driving Assessment Screening’. The main purpose of the project is to support individuals through appropriate counselling, information provision about other services and providing a supportive environment in case of driving cessation. This screening programme aims to detect early signs of any potential negative impact of a medical condition on the driving ability of an individual. The intended outcome of the screening is to provide timely support to individuals who may be at risk of driving cessation. Additionally, the screening programme also aims to identify individuals who are fit to drive, but would benefit by early intervention of car adaptations without which, they could be at risk of manifesting problems with driving as a result of their medical situation. The paper also provides interim evaluation of the initiative.

The project currently is a cost neutral programme and is based on recently carried out capacity planning review undertaken by South East DriveAbility (SED) service. However, further investment may be required should the demand exceed capacity of service provision.

3.1. Aim

The aim of the project is to provide early intervention and advice for older drivers in order to maintain their fitness to drive and provide support in case of driving cessation.

3.2. Objectives

- To reach out to the vulnerable populations such as patients with a diagnosis of Dementia, Stroke, etc. who are not accessing the driving assessment service.
- To identify individual health care needs such as, vision, mental health, physical health and to refer on to appropriate services.
• To provide advice and information on adaptations and driving refresher skills, e.g. tuition.
• To provide tailored support to those individuals who may be assessed as being unsafe to drive.
• To develop an integrated pathway for individuals who will need to cease driving and provide information on a range of services across statutory and voluntary sectors.

3.3. Target Population
The target population for this project continues to be all 70+ drivers residing in the Kent and East Sussex area, who are registered with a General Practitioner and have a long term medical condition such as Dementia, Arthritis and other neurological conditions.

3.4. Project Team
This project is being delivered by South East DriveAbility (SED). The Project team consists of Consultant Occupational Therapist (OT) Practitioner, Senior OT Practitioner, Senior Driving Assessors and Administration team of SED.

3.5 Workforce Considerations for implementation of this project during 2011-2012
South East Drivability has a multidisciplinary team providing a variety of essential functions required for assessing a client’s fitness to drive. The centre has a total of 9 staff (7.4 whole time equivalents)

Table 1: Service Workforce

<table>
<thead>
<tr>
<th>Staff Role</th>
<th>Whole Time Equivalent (wte)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Consultant Practitioner</td>
<td>1.00 wte</td>
</tr>
<tr>
<td>Qualified Occupational Therapists</td>
<td>1.8 wte</td>
</tr>
<tr>
<td>Administrative staff</td>
<td>2.0 wte</td>
</tr>
<tr>
<td>Approved Driving Instructors (ADI)</td>
<td>2.0 wte</td>
</tr>
<tr>
<td>Driver and Vehicle Maintenance support staff</td>
<td>0.60 wte</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7.4 wte</strong></td>
</tr>
</tbody>
</table>

As illustrated in Table 2 the service undertook a capacity and demand analysis to identify any potential constraints arising from the proposed screening plan.

Table 2: Demand /Capacity Analysis

<table>
<thead>
<tr>
<th>Service Demand and Capacity</th>
<th>Number of Days per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working days p.a / wte</td>
<td>243</td>
</tr>
<tr>
<td>Less annual leave of 27 days</td>
<td>216</td>
</tr>
<tr>
<td>Less sick leave (5 days)</td>
<td>211</td>
</tr>
<tr>
<td>Less Training days(5days)</td>
<td>206</td>
</tr>
<tr>
<td>Less 12 days meeting(1/2 per fortnight)</td>
<td>194</td>
</tr>
<tr>
<td>Available working days per full time staff</td>
<td>194</td>
</tr>
</tbody>
</table>

The analysis found that individual staff with assessment responsibility has 7.5 available working hours, with each clinical assessment, on an average, taking 3
hours per assessment. Therefore, 2 full assessments are completed, leaving an additional 1.5 hours per day to undertake additional tasks.

It was proposed that an additional screening task would be undertaken by a Senior Occupational Therapist each day and, in order to manage time effectively, the ADI undertakes an additional driving lesson per day (Table 3 and Table 4). Referrals to the screening service would be made by a Health Care Professional, i.e. a General Practitioner, Occupational Therapist or a Practice Nurse.

### Table 3: Work Plan for Approved Driving Instructor (ADI)

<table>
<thead>
<tr>
<th>Number of Contacts/Days/wte</th>
<th>Assessment</th>
<th>Lessons</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total contacts/wte/per annum</td>
<td>388</td>
<td>194</td>
<td>582</td>
</tr>
<tr>
<td>Total contacts for 2 wte ADI per annum</td>
<td>776</td>
<td>388</td>
<td>1164</td>
</tr>
<tr>
<td>Total Contact capacity for 2 wte ADI per quarter</td>
<td>144</td>
<td>97</td>
<td>241</td>
</tr>
</tbody>
</table>

### Table 4: Work Plan for Clinician staff

<table>
<thead>
<tr>
<th>Number of Contacts/days/wte</th>
<th>Assessment</th>
<th>Screening</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total contacts/wte/per annum for Senior Clinician</td>
<td>388</td>
<td>194</td>
<td>582</td>
</tr>
</tbody>
</table>

Target activity for SED for financial year 2011-12(April 2011-March 2012): 608 Full Driving Assessments

### 3.5.1 Proposed Clinical Components of Pre-Assessment Screening;

It was agreed that the screening would be carried out by an experienced senior clinician who has experience in driving assessment and rehabilitation. Consent would be an integral part of the screening and it was anticipated that the assessment would take approximately one hour. The screening would consist of a range of components and a combined outcome of these would be applied to make a clinical judgement around fitness to drive.

#### 3.5.1.1 Vision Screening

The UK law requires that a licence holder or applicant should be able to read a registration mark containing letters and figures at a distance of 20.5 metres in good light, using corrective lenses if required. In addition, the minimum field of vision for safe driving is defined as “a field of at least 120° on the horizontal measured using a target equivalent to the White Goldmann III4e settings. In addition, there should be no significant defect in the binocular field which encroaches within 20° of fixation above or below the horizontal meridian.” (DVLA - 2011). Staff was trained for undertaking this task and during the assessment process the client is asked to read a number plate at the required distance and carry out a short visual field test using the Keystone View equipment to ascertain whether the client’s vision has met the minimum legal requirement to drive. If any issues are identified with either the visual acuity or visual field, then the client is advised to undertake an eye test with a qualified professional.

#### 3.5.1.2 Physical Ability

The assessor carries out a series of tests to ascertain whether the client has the physical ability to drive a standard production vehicle and if not, advise on whether adaptations would assist. If adaptations are required, then the client is required to
undertake an on-road practical drive followed by a course of familiarisation training to become accustomed to driving with adaptations.

3.5.1.3 Cognitive Ability
The assessor is also trained to use a valid tool (Rookwood Driving Battery) to assess brain function relevant for safe driving. These include Visual Perception, Attention, Praxis Skills, Executive Functions and Comprehension.

On completion of the screening, the assessor compiles a report and this is forwarded to the referring agent, giving the results of the tests and recommending one of the following:

- That the client appears to have no visual, physical or cognitive issues that could adversely affect their ability to drive.
- That the client is advised to undertake further visual testing from an Optician or Ophthalmologist before they drive.
- That the client is advised to seek a referral to another healthcare professional for further help.
- That the client is strongly advised to undertake a practical on-road driving assessment and a fee will be applicable.

Interim Evaluation
South East DriveAbility (SED) launched this project in September 2011 and to date (February 2012), a total of 28 Pre-Driving Assessments on the Pre-Assessment Screening Programme have been carried out and the results are as follows:

Drivers Assessed as Safe to Drive:
- in total **14** (50%) clients (out of 28) were found to be safe to drive and the results are as follows:
  - **3** clients out of 14 (21%) clients undertook the Pre-Driving Screening Assessment only and were found to be cognitively & physically safe to drive.
  - **11** clients out of 14 (79%) clients undertook the Pre-Driving Screening Assessment plus, an on-road practical drive and were found safe to drive.

Drivers Assessed as Unsafe to Drive:
- **4** (14%) clients (Out of 28) undertook both the Pre-Driving Screening Assessment plus an on-road practical drive but were found to be unsafe to drive.

Drivers required to return for an On-road Practical Drive:
- **8** (29%) clients (out of 28) undertook the Pre-Driving Screening Assessment who were required to return for the “On-road Practical Drive” at a later date. There were various factors for this and these are as follows:
  - **4** (50%) clients had their licences revoked previously by the DVLA and were now applying for their Provisional Disability Assessment Licences in order for them to undertake an on-road practical drive.
  - **1** (12%) client to return for the On-road Practical drive after an assessment with his Consultant Endocrinologist
  - **2** (25%) clients have booked their On-road Practical drives in March 2012.
  - **1** (12%) client to return for drive only assessment after recently completing a course of driving tuition. The client scored as border line on his On-road
Practical drive, and was given the option of undertaking driving tuition in order to improve his driving skills & demonstrate his fitness to drive.

Drivers who decided to surrender their Licences:
- 2 (7%) clients (out of 28) undertook the Pre-Driving Screening Assessment and both required an On-Road Practical Drive. However, based on our clinical information, both clients decided to surrender their licences by their own volition.

Discussion:
The author acknowledges that the interim evaluation relates to a small number of referrals but this has been achieved in a relatively short time scale (5 months), and is therefore very encouraging. At the time of writing this paper there is steady increase in referrals to this service, indicating that this initiative has huge potential to be successful.
If such initiatives are not attempted then the older drivers who are unfit to drive will not be proactively identified. Consequently, they will continue to struggle and/or potentially drive unsafely on the roads posing risk to themselves and to the general public. There is also a possibility that the Drivers will not be supported and prepared for driving cessation and the agencies providing support services for older people will continue to function in isolation and not providing full benefit to the service users.
Since the launch of the project SED has held several meetings with a large number of stakeholders such as: Road Safety Officers, Traffic Police, Medical Consultants, Health Care Professionals, e.g. Occupational Therapists, Physiotherapists, Neuropsychologists and Community Mental Health Nurses. SED continues to work towards developing a close working relationship with all stakeholders for improving access to services for older and disabled drivers.
This initiative is already demonstrating improvements in:
- Preparing drivers for cessation of driving.
- The provision of support and information to drivers, carers and spouses when the driver is no longer safe to drive, by directing them to appropriate services within their local area.
- Recognition and Expertise: The Consultant Practitioner has been invited to join the South East Dementia Strategic Group at Canterbury Christchurch University regarding issues related to dementia and driving.

Conclusion
The Pre-Driving Assessment Screening initiative has proved to be a cutting edge project and is already demonstrating that Pre-Driving Screening is a cost effective way of improving services for Older and Disabled Drivers. As this is a service redesign project, it will directly benefit older drivers through improved efficiency and effectiveness. Additional benefits will also include improved collaborative working across organisations. The Forum of Mobility Centres (FoMC) and the Department for Transport (DfT) are very keen for this project to succeed as the outcome from this initiative may contribute towards a proposal for national policy change. Therefore, if the scheme is recommended and adopted nationally then additional funding from the Department for Transport will be required. This would financially assist all Mobility Centres within the UK to implement the scheme in a standardised manner.
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