

**Mental Health Proof of Concept:
Summary of evidence to support pilot preventing dementia**

September 2009

Introduction

This document summarises the findings of a rapid review of the evidence relating to the prevalence, risk factors, and cost of vascular dementia. It has been developed in response to a request from the Adults and Communities Transformation Team, as part of a one-to-one support programme provided by **research in practice for adults** (ripfa). It addresses the questions below that have been highlighted in bold, which were provided by the team¹:

1. Identify communities at risk of vascular dementia within Birmingham
- 2. Identify what are the main risk factors of vascular dementia**
- 3. Breakdown prevalence of those by age, gender, other**
- 4. Incidents of vascular dementia/data available**
- 5. Evidence costs to Social Care and NHS**
- 6. Evidence cost to families**
7. What factors are the ones we need to seek to change?
8. High risk areas in Birmingham by age, ethnic group etc

The rapid review included examination of key documents and websites relating to dementia in general, as well as a literature search focusing specifically on vascular dementia.

¹ Please note that questions not highlighted have not been addressed for this version of the document

Vascular dementia – rates and prevalence: overview (Q4)

- Of a total of approximately 700,000 cases of dementia in the UK, vascular dementia and mixed dementia account for between 27% and 50% (Dementia UK 2007, DH 2009)
- In England and Wales, 21 000 (95% CI=20 800-21 300) new cases of vascular dementia can be expected each year (Copeland et al 1999)

Vascular dementia – rates and prevalence: breakdown by demographic groups (Q3)

Findings

Age The incidence and prevalence of dementia increases with age (Copeland et al 1999, NICE 2006).

Prevalence rates for vascular dementia double every 5.3 years after the age of 65 leading to a steady increase with advancing age (NICE 2006).

In a Study in the Netherlands, for example, prevalence ranged from 0.4% (5/1181 subjects) at age 55-59 years to 43.2% (19/44) at 95 years and over (Ott 1995).

Gender Several sources cite male gender as a risk factor for vascular dementia (Boston et al 1999, Skoog 1994, Gorelick 2004). The NICE Dementia Guideline suggests that rates for vascular dementia are higher in men, though women tend to catch up at older ages (NICE 2006). Dementia UK tell us that the distribution of subtypes of dementia is different in men and women; Alzheimer's disease is more common in women (67% in women compared with 55% in men), while vascular dementia and mixed dementias account for 31% of all cases in men and just 25% in women (Dementia UK 2007).

A couple of larger studies suggest that there are no gender differences in risk (Andersen et al 1999, Copeland et al 1999).

Ethnic group Multiple sources suggest that certain ethnic groups have a higher risk of developing vascular dementia: African, Caribbean, Indian, Bangladeshi, Pakistani and Sri Lankan groups in particular. The increased risk seems to be linked to heightened exposure of these groups to specific risk factors for developing vascular dementia:

Increased incidence of hypertension and diabetes among African, Caribbean and Asian people (NICE 2006, Alzheimer's Society).

Indian, Bangladeshi, Pakistani and Sri Lankan people have higher rates of coronary heart disease than other populations (Alzheimer's Society).

In support of this suggestion, prevalence has been found to be higher in Asiatic than Western countries (Lopez 2007), while in a US study Japanese people were at greater risk (potentially related to high salt in diet); as were African-Americans (potentially linked to high levels of untreated hypertension and diabetes) (Shadlen 2000).

Vascular dementia – risk factors (Q2)

Risk factors for vascular dementia are very similar to risk factors for stroke.

Risk factor	Findings
Alcohol consumption	Regularly drinking more than the recommended levels of alcohol (up to 14 units per week for women and up to 21 units for men) increases risk (Alzheimer's Society, NICE 2006, Yoshitake 1995).
Smoking	Smoking is a major risk factor for cardiovascular and cerebrovascular disease, and as such increases the risk of stroke and vascular dementia (Alzheimer's Society, NICE 2006, Gorelick 2004, Roman 2003)
Obesity	Raised body mass index in mid life is a risk factor for dementia in general; obesity also puts individuals at increased risk of developing type 2 diabetes, which is itself a risk factor for cerebrovascular disease and subsequent development of dementia BUT No prospective studies have been undertaken to examine whether reducing obesity lowers risk of dementia (NICE 2006).
Medical history	Existing conditions, particularly untreated, such as diabetes and hypertension increase the likelihood of vascular dementia. Hypertension in particular is a major risk factor for stroke and subsequently the development of vascular dementia (Gorelick 2004, Alzheimer's Society, Alzheimer Scotland 2006, NICE 2006, Lopez 2007, Roman 2003)
High cholesterol	Raised cholesterol level is a recognised risk factor for stroke, itself a major risk factor for vascular dementia (NICE 2006, Roman 2003).
Exercise	People who are not very physically active are at heightened risk. Engagement in physical activity lasting 20–30 minutes at least twice a week in mid life has been associated with decreased subsequent risk of dementia. There is insufficient evidence to recommend physical activity specifically as a preventive measure for dementia (Alzheimer's Society, NICE 2006).
Unhealthy diet	<p>People who eat a high-fat diet are at increased risk. A healthy diet can help reduce the risk of high blood pressure, heart disease, high cholesterol and diabetes, all risk factors for vascular dementia (Alzheimer's Society, Alzheimer Scotland 2006).</p> <p>One study suggested that attitudinal barriers to healthy lifestyle were a contributing factor to developing vascular dementia (Coulson et al 2001).</p>
Low educational attainment	Low educational attainment is associated with subsequent development of dementia (Gorelick 2004, Di Carlo et al 2002, Skoog 1994). In one Dutch study the least educated were at significantly increased risk (Ott 1995). Mentally stimulating activities, such as cognitive training, reading, playing board games, playing musical instruments and dancing have been linked to a reduced risk of vascular dementia. Further studies are needed (NICE 2006).

Cost of vascular dementia to Social Care, the NHS and families (Q5, Q6)

All types of dementia: The annual economic burden of late-onset dementia [i.e. aged 65 years and over] in England is £14.3 billion, or £25,391 per head, broken down as follows:

- £3.3b - costs to taxpayer of direct health and social care services for people with dementia
- £5.2b - informal care costs to families
- £5.8b - care home costs shared between families (30%) and public funding (70%)

Costs to Social Care include:

- Supporting two thirds of people with dementia to live in the community
- One third in care homes
- As the disease progresses, providing domiciliary care, subject to eligibility criteria
- Later stages of disease, providing residential/nursing home care (30% of people fund their own care)

Costs to NHS include:

- GPs
- Mental Health Trusts
- Memory services
- Community Mental Health Teams

(NAO 2007)

Three studies that were identified found that the costs of care for vascular dementia are greater than those for Alzheimer's disease, mostly due to cardiovascular comorbidities:

- In one US study, patients with vascular dementia had substantially higher prevalence rates for 10 cardiovascular conditions compared with Alzheimer's Disease patients and controls. Annual costs for vascular dementia patients were \$6797 greater than AD patients (Fillit and Hill 2002).
- Vascular dementia patients in another US study had the highest annual costs of \$14,387, compared to \$7,839 for Alzheimer's Disease ($p < 0.0001$). Despite higher total direct costs, vascular dementia patients had lower costs for physician visits and prescription drugs (Hill et al 2005).
- The authors of a Swedish study highlighted that the impact of cardiovascular comorbidities must be taken into consideration when resource utilization and costs in patients with vascular dementia are analyzed. The cost from a societal perspective (i.e. including the cost of informal care) was 23% higher for patients with vascular dementia compared with patients with Alzheimer's disease ($p = .02$). In severe dementia, the costs are high in both vascular dementia and AD, as many patients are institutionalized (Wimo and Winblad 2003).

It is important to highlight the important contribution of informal carers. It was reported in one study that there were no significant differences between Alzheimer's disease and vascular dementia in the amount of informal care provided (6.3 hours per day for AD, and 5.6 hours for vascular dementia) (Wimo and Winblad 2003).

The systematic review undertaken to inform the development of the NICE-SCIE Dementia Guideline found no evidence of the cost effectiveness of interventions that can prevent or delay the onset of dementia (NICE 2006).

Further information

For further information about the content of this summary and how it was developed, please contact:

Naomi Blundell, Research and Development Officer

research in practice for adults

Blacklers
Park Road
Dartington
Devon
TQ9 6EQ

01803 860097

naomi@ripfa.org.uk

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