



WELCOME TO THE AUTUMN 2015 NEWSLETTER FOR THE EU PROJECT IN-MINDD



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IN-MINDD

**Innovative
Midlife
Intervention for
Dementia
Deterrence**

For further information on the project please visit the

Project website

www.inmindd.eu

or

Twitter

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In-MINDD Quick Guide

In-MINDD (Innovative, Midlife Intervention for Dementia Deterrence) is an EU-funded project that has identified and validated modifiable risk factors for dementia.

The project is focused on lifestyle assessment, promotion of long-term brain health and dementia prevention/delay.

During In-MINDD we have developed online tools to:

1. assess if a user's lifestyle supports long term brain health;
2. devise a personalised strategy for a brain healthy lifestyle and
3. help the user implement their programme for change.

We are testing the **In-MINDD** system in a feasibility study across Ireland, the UK, the Netherlands and France.

In-MINDD aims to spread the message that action can be taken in midlife to prevent and/or delay dementia onset in future years.

The Project commenced in November 2012 and is led by Dr Kate Irving of DCU.



Members of the In-MINDD team at the Plenary Meeting in Maastricht, April 2015.

Lifestyle for Long-term Brain Health – The Way Forward

As we approach the end of the project, Coordinator Dr Kate Irving reflects on project highlights and the future for dementia prevention

Dear colleagues and friends of In-MINDD,

It is unquestionable that lifestyle factors play a large part in both the time of onset, and the incidence of, dementia. There has been significant movement towards a prevention approach in recent position statements, strategies and even clinical guidelines. The World Alzheimer Report 2015 (ADI) has identified prevention as a specific priority. Some national dementia strategies also have a strong preventive focus (e.g. in Finland and Ireland). However, in an economic world, there will always be questions about the distribution of spending in research and services between care, cure and prevention. As the evidence mounts in the case for prevention or delay of dementia, and the search for cure gets ever more complex and illusive, it is timely to reappraise the evidence base and adjust spending ratios accordingly.



Dementia prevention and delay are at the heart of the In-MINDD project. As prevention becomes increasingly important, it is worthwhile reflecting on what we have learned in In-MINDD, and what it means for dementia prevention strategies in the future.

Nearing the completion of In-MINDD, we can confidently say we know more about translating strategies for preventing dementia into a viable system. The unique contribution that In-MINDD makes is the algorithm, which focuses on modifiable risk factors in midlife (40-60 years). This algorithm is based on a systematic review (with the latest data meeting stringent thresholds for inclusion) and a Delphi expert study. We have translated this science into a system that will generate a LIBRA (Lifestyle for BRAin health) score and then provide the user with online supports to help them effect positive change. Our target population has been integral to the design of the system and its outputs and we will soon have feasibility data on the use of the system in general practice.

In our work we have found that it is unwise to make assumptions about who will and won't be receptive to health messages in an e-health package. While general levels of health literacy on the surface may predict low uptake of health promotion, technology isn't always the barrier anticipated. A blended strategy (combining e-health with face to face interaction) is the most sustainable approach for scalable and equitable uptake. Further research needs to address what is required to ensure that at-risk groups are reached and e-health systems overcome health inequalities.

Finally, from our research, it is clear to us that integration of dementia prevention into mainstream chronic disease prevention is essential if society and individuals are to benefit from a decrease in the prevalence of dementia. This will require skill and effort from a wide range of stakeholders: researchers, general practitioners, policy makers, community nurses, health promoters and experts from other chronic disease areas, where prevention strategies have already achieved large scale success. Woodrow Wilson said we should not only use the brains that we have, but all the brains that we can borrow. This was never so true as in the case of dementia prevention.

Yours Sincerely,

A handwritten signature in black ink, appearing to read 'Kate Irving', written over a light blue horizontal line.

**Dr Kate Irving,
Coordinator of In-MINDD**

School of Nursing and Human Sciences,
Dublin City University.

The IN-MINDD Feasibility Study – The Final Straight

In the last In-MINDD Newsletter (Autumn 2014) we described the In-MINDD feasibility study, which was just commencing. Here we provide an update, as the study nears completion.

BACKGROUND

THE In-MINDD SYSTEM is an online tool that can be used to:

- (i) assess if a user's lifestyle supports long term brain health;
- (ii) devise a personalised strategy for a brain healthy lifestyle and
- (iii) help the user implement their programme for change.

The In-MINDD feasibility study is designed to test the In-MINDD system by comparing the experience of people who are given access to the In-MINDD information/intervention against people who are not.

The trial is based in primary care and tests the effectiveness of the In-MINDD system in supporting individuals to make changes in mid-life, to mitigate their risk of developing dementia in older age. For each participant the trial lasts six months. Participants were eligible to enter the study if aged 40 to 60 with one or more dementia risk factors (e.g. hypertension; high cholesterol; obesity; current smoker; diabetes and coronary heart disease).

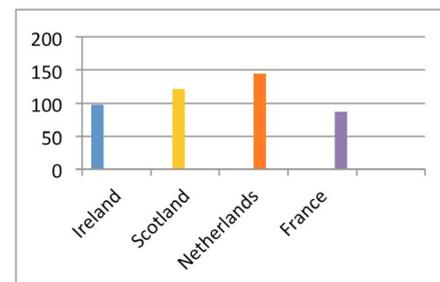
The trial is on-going and is taking place in four European primary care settings, in Ireland, Scotland, France and the Netherlands. Data generated is being transferred to the Robertson Centre for Biostatistics at the University of Glasgow, where the data will be analysed. A qualitative process evaluation is taking

place alongside the trial, using in-depth interviews with health professionals and patients.

STUDY NUMBERS

As at 1 September 2015, the numbers participating in the study were as follows:

	Number of GP practices	Number of patients
Ireland	8	98
Scotland	7	121
France	16	87
Netherlands	5	144
Total	36	450



Patient Numbers

PRELIMINARY RESULTS

It's not possible to set out any quantitative results at this stage of the trial, as data is still being collected. However, our qualitative work is well underway. It will be some time before we can provide a proper overview of feedback from interviews and focus groups, but some interesting preliminary findings are emerging.

Overall it appears that understanding of modifiable risk factors for dementia was low

among both health professionals and participants. Non-modifiable factors such as genetics were thought to be more significant factors than an individual's lifestyle and actions. Some participants described their own fear of developing dementia, particularly those who had personal experience of dementia through family and friends.

Many participants indicated that their participation in the In-MINDD study was not solely motivated by reducing their risk of dementia. Rather, they saw the study as an opportunity to make changes to their lifestyle in general and to reduce their risk of developing other illnesses such as cancer, or improving their management of chronic conditions such as diabetes. These were often changes that participants had attempted to make in the past.

THE FINISH LINE

The In-MINDD project ends on 31 October 2015. Initial results from the In-MINDD study will be discussed at the In-MINDD Policy Symposium to be held in Dublin on 1st and 2nd October. Comprehensive results and analysis will also be included in the team's academic publications and in the project's final reports.

Dementia Risk Factors in the Spotlight

Dr Sebastian Köhler from Maastricht University summarises recent work on individual risk factors.

BACKGROUND

In-MINDD aims to lower dementia risk and promote long-term brain health through lifestyle assessment and tailored health and lifestyle advice. As part of our research, we have also been exploring the effects of individual risk factors, particularly those where there is a lack of published research e.g. renal dysfunction, coronary heart disease, hypertension and obesity.

INDIVIDUAL RISK FACTORS

For hypertension, we succeeded in replicating previous findings of a higher risk for cognitive decline in people with midlife hypertension in data from the Maastricht Ageing Study (Köhler *et al.*, 2014). Subtle decline was already visible in people with a recent diagnosis of hypertension, highlighting the need for early intervention. Importantly, people whose blood pressure was well controlled with medication showed less cognitive decline over 12 years than people

with poor blood pressure control. These findings support the In-MINDD strategy that adequate risk management (Keep it Up!) is important for a brain-healthy lifestyle.

Depression is another modifiable risk factor, and was even considered one of the most important by a group of international experts in our Delphi study (Deckers *et al.*, 2014). However, there is limited knowledge about its relationship with other risk factors. In a study of 35,791 primary care patients, we found that the effect of depression on dementia risk is higher in people with existing hypertension or in people with a history of stroke. However, even in the absence of these and other risk factors, (e.g. diabetes or myocardial infarction), depression was a substantive risk factor for dementia in later life (Köhler *et al.*, 2015).

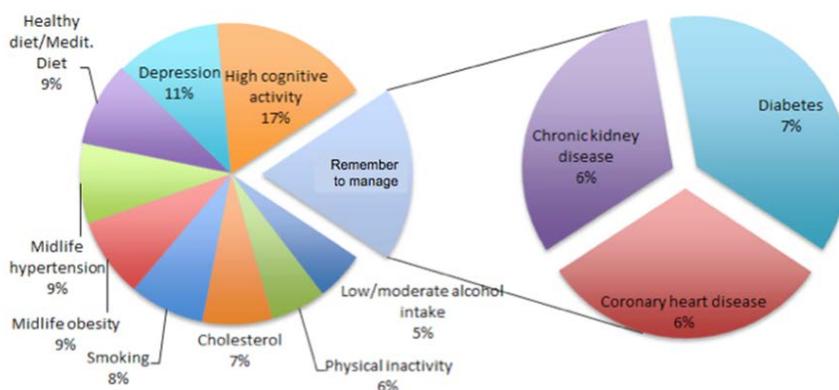
Recent studies did not confirm that obesity is a risk factor for dementia (de Bruijn *et al.*, 2015; Qizilbash *et al.*, 2015), or sug-



gested that underweight might be more relevant (Qizilbash *et al.*, 2015). Since the current evidence from available studies still favors the idea that obesity contributes to poor brain health, it remains included in the LIBRA index. We are currently analyzing data from the Maastricht Ageing Study to explore the relationship between obesity and cognitive decline, with a special interest in the impact that methodological choices have on study outcomes. Another upcoming paper looks into the effect of cardiovascular disease on cognitive decline.

Finally, we are in the process of summarizing the evidence for renal dysfunction and for coronary heart disease (including myocardial infarction and angina pectoris) in two meta-analyses. The aim is to provide a more accurate account of their risk for dementia than individual studies can do.

The findings of our work combined show that more research is needed to fully understand the complex *contd...*



In-MINDD risk/lifestyle model used to generate LIBRA profile - the percentages indicate the relative weight given to each factor

Dementia Risk Factors in the Spotlight

Continued from page 5

action, and interaction, of dementia risk factors. It will be important to review the LIBRA index on a regular basis as new knowledge is generated, to ensure that (as now) the In-MINDD model continues to reflect the best evidence available. The In-MINDD researchers will continue to contribute to this knowledge base, even beyond the duration of the project itself.

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ESSENTIAL READING

Although the work of the project is still underway and important results are still being generated, we have already achieved a number of significant publications. Some of the key In-MINDD articles published to date are described below.

“Target risk factors for dementia prevention: a systematic review and Delphi consensus study on the evidence from observational studies” (Kay Deckers et al.) *International Journal of Geriatric Psychiatry* 2015 Mar; 30(3):234-46. DOI 10.1002/gps.4245.

This paper describes the identification of major modifiable risk factors for dementia as part of the In-MINDD project. The research used a mixed-method approach and combined findings from a systematic literature review and a Delphi consensus study. The team found good agreement between the modifiable risk factors that emerged from the literature review and risk factors named by the Delphi experts. Following analysis the final list of risk factors included depression, (midlife) hypertension, physical inactivity, diabetes, (midlife) obesity, hyperlipidemia, and smoking. The paper concludes that some risk factors warranted further research e.g. coronary heart disease, renal dysfunction, diet, and cognitive activity.

“Mapping longitudinal studies to risk factors in an ontology for dementia” (M. Roantree et al.) *Health Informatics Journal* January 6, 2015, doi:10.1177/1460458214564092.

This article describes how the mapping of modifiable risk factors against a longitudinal dataset might be automated, with the aim of using information technology to provide more powerful query interfaces.

“Temporal Evolution of Cognitive Changes in Incident Hypertension: Prospective Cohort Study Across the Adult Age Span” (S. Kohler et al.) *Hypertension* 2014; 63: 245-251 DOI 10.1161/HYPERTENSIONAHA.113.02096

This paper describes a study into the cognitive trajectories of individuals with incident hypertension. The research tracks cognitive function in prevalent and incident hypertension for 12 years and in relation to age and treatment status. 1,805 cognitively intact participants (25 to 84 years old)



were assessed at baseline, 6 years, and 12 years. The association between hypertension and cognitive decline was tested in random-effects models. The study concluded that incident hypertension is predictive of cognitive decline in middle-aged individuals. The highest risk is associated with people whose blood pressure is poorly controlled. The paper makes a case for early intervention, as cognitive decline evolves over time.

“Depression, Vascular Factors, and Risk of Dementia in Primary Care: A Retrospective Cohort Study” S. Kohler et al *Journal of the American Geriatrics Society Vol 63, Issue 4, pages 692–698, DOI 10.1111/jgs.13357.*

This paper deals with the relationship between depression, vascular disorders and dementia risk and concludes that depression in later life increases the

risk of dementia. The effect is particularly high in individuals with depression and vascular disorders.

“Promoting modifiable risk factors for dementia: is there a role for general practice?” (K. O’Donnell et al.) *British Journal of General Practice (Accepted for Publication).*

This article considers health care policy and dementia prevention. There is evidence that the public need to be more aware of the association between modifiable risk factors and later dementia risk. The level of awareness among health professionals is also uncertain. This piece explains the contribution In-MINDD is making and explores how general practice and primary care might contribute to dementia prevention/delay in the future.

SPREAD THE WORD!

Dissemination of the In-MINDD message is important. There are a number of ways you can help:

- Make sure you are on the project mailing list and recommend colleagues also add their name to the list (use the contact form on the project website www.inmindd.eu).
- Contact us to arrange hosting a link to the In-MINDD website on your webpage.
- Contact us to arrange free delivery of our public awareness brochure and/or poster for your reception area or waiting room.

Join us online:

www.inmindd.eu

and follow us on Twitter

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MEET THE IN-MINDD TEAM

In-MINDD brings together partners from across Europe, with the specific mix of expertise essential for delivering the project:



THE IN-MINDD POLICY SYMPOSIUM

The In-MINDD Policy Symposium will be held in Dublin on 1/2 October 2015.

The symposium will focus on the theme of dementia risk reduction and will:

- provide an opportunity for researchers to present preliminary results from the In-MINDD project;
- include insights from In-MINDD and related dementia prevention projects;
- create a dialogue between researchers and policymakers in the area of dementia risk reduction and
- explore the policy implications of In-MINDD and related projects and how policy can be developed.

The event is aimed at policymakers and key stakeholders. Attendance is by invitation.



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