

Evidence to Decision Table

Problem Is the problem a priority?		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <input type="radio"/> No <input type="radio"/> Probably no <input type="radio"/> Probably yes <input checked="" type="radio"/> Yes <input type="radio"/> Varies <input type="radio"/> Don't know 	Worldwide ageing of populations is strongly associated with dementia, causing major health, economic and social burdens. In 2015, it has been estimated that there were 50 million people with dementia in the world, and the number is predicted to double every 20 years, reaching 82 million in 2030 and 152 million in 2050. ¹ Since no cure is available for Alzheimer's disease, the main cause of dementia, prevention could be crucial in halting the rapid increase in the prevalence of this condition and international experts have called upon world-wide governments to make prevention of dementia one of their key health priorities.	
Desirable Effects How substantial are the desirable anticipated effects?		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <input type="radio"/> Trivial <input checked="" type="radio"/> Small <input type="radio"/> Moderate <input type="radio"/> Large <input type="radio"/> Varies <input type="radio"/> Don't know 	There is low to moderate evidence that lifestyle interventions aimed at weight reduction in both overweight and obese people could improve cognitive function in the attention, memory and language domains. No evidence was found related to the dementia and MCI outcomes nor to pharmacologic interventions. Interventions that are based on both diet and physical activity strategy showed better results.	
Undesirable Effects How substantial are the undesirable anticipated effects?		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> <input type="radio"/> Large <input type="radio"/> Moderate <input type="radio"/> Small <input checked="" type="radio"/> Trivial <input type="radio"/> Varies <input type="radio"/> Don't know 	Concerning lifestyle intervention no evidence of adverse events was identified. Very rare adverse events have been reported for pharmacological treatment with Orlistat mostly to the liver and kidney. ³⁴	

Certainty of evidence What is the overall certainty of the evidence of effects?		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Very low ● Low ○ Moderate ○ High ○ No included studies 	The quality of the evidence ranges from low to moderate. Studies of various level of quality were included although no serious risk of bias was identified. However, publication bias was suspected for two of the outcomes that showed improvement upon intervention, mean duration of the intervention was relatively short, and heterogeneity among the studies was moderate/high.	
Values Is there important uncertainty about or variability in how much people value the main outcomes?		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Important uncertainty or variability ○ Possibly important uncertainty or variability ○ Probably no important uncertainty or variability ● No important uncertainty or variability 	Cognitive impairment and dementia can have a major impact in the life not only of the person affected but also of the close network of family and friends, as well as caregivers and health professional in general. ^{35,36} Functional ability and dependency are playing are the major component of this effect. Furthermore, dementia, the main cause of disability and institutionalization among older adults ¹ , therefore reducing or delaying the onset of dementia could results in lower costs for public healthcare services. Patients, caregivers, and policy makers are likely to be the people who will value the most these recommendation.	
Balance of effects Does the balance between desirable and undesirable effects favour the intervention or the comparison?		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Favors the comparison ○ Probably favors the comparison ○ Does not favor either the intervention or the comparison ● Probably favors the intervention ○ Favors the intervention ○ Varies ○ Don't know 	No evidence was identified related to adverse events of the intervention. However the evidence include RCTs where intentional weigh loss programmes were conducted under professional supervision. Therefore, it is plausible to suppose that undesirable effect would be negligible and in any case out-weighted by the benefits. Rare but serious adverse events have been reported for treatment with orlistat, therefore the balance probably favours the comparison specifically for lifestyle interventions.	
Resources required How large are the resource requirements (costs)?		

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Large costs ○ Moderate costs ○ Negligible costs and savings ○ Moderate savings ○ Large savings ●Varies ○ Don't know 	<p>Resources will depend of the type of intervention (diet, physical exercise, pharmacological, multicomponent) and by the degree of supervision and support that should be provided by the healthcare professionals.</p> <p>A meta- and cost- effective analysis of commercial weight loss strategies estimated that the average cost per kilogram of weight lost ranged from \$155 (95% CI: \$110-\$218) for lifestyle counselling-supported intervention to \$546 (95% CI: \$390-\$736) for Orlistat.³⁷</p>	<p>For more information: ‘Best buys’ and other recommended interventions to address noncommunicable diseases (NCDs)</p> <p>http://apps.who.int/iris/bitstream/handle/10665/259232/WHO-NMH-NVI-17.9-eng.pdf?sequence=1</p>
<p>Certainty of evidence of required resources What is the certainty of the evidence of resource requirements (costs)?</p>		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Very low ○ Low ○ Moderate ● High ○ No included studies 	<p>Interventions for weight-loss can be extremely variable, include several component such as: diet, physical activity, counselling and the costs will vary depending on the actual design.</p>	
<p>Cost effectiveness Does the cost-effectiveness of the intervention favour the intervention or the comparison?</p>		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Favors the comparison ○ Probably favors the comparison ○ Does not favor either the intervention or the comparison ○ Probably favors the intervention ○ Favors the intervention ○ Varies ●No included studies 	<p>Obesity has been steadily raising in the last few decades and in particular among older adults¹². Although the evidence is not of high quality, if such intervention on a large scale had similar effects to that shown by the evidence it is plausible to suppose that dementia could be prevented or at least postponed in a certain percentage of the population. Furthermore weight loss could reduce indirectly the risk of dementia by improving a variety of metabolic factors linked with the pathogenesis of cognitive impairment and dementia (i.e. glucose tolerance, insulin sensitivity, blood pressure, oxidative stress, and inflammation).¹⁶</p> <p>In general interventions for weight reduction are resource-intensive as they do in most cases require professional guidance and supervision. Group-based guidance and e-interventions are probably a way to reduce costs. REF maybe we can use this: A study by Leahey et al. 2016³⁸ showed that internet delivered approach to weight loss maintenance seems to be effective for long-term weight control. Using peer coaches to provide reinforcement may be a particularly economic alternative to professionals.</p>	

	<p>The general extent of indirect costs of overweight and obesity is substantial due to lost productivity among workers with obesity (Goettler et al 2017).³⁹</p> <p>Finkelstein et al. (2014)³² conducted a systematic review of RCTs estimating the incremental cost-effectiveness of clinically proven nonsurgical commercial weight loss strategies for those with BMIs between 25 and 40. Lifestyle programs (Weight Watchers and Vtrim), one meal replacement program (Jenny Craig), and three pharmaceutical products (Qsymia, Lorcaserin, and Orlistat) were included in the analysis. Average cost per kilogram of weight lost ranged from \$155 (95% CI: \$110-\$218) for Weight Watchers to \$546 (95% CI: \$390-\$736) for Orlistat. The incremental cost per QALY gained for Weight Watchers and Qsymia was \$34,630 and \$54,130, respectively. All other commercial interventions were prohibitively expensive or inferior in that weight loss could be achieved at a lower cost through one or a combination of the other strategies.</p> <p>Group-based guidance and e-interventions are probably a way to reduce costs.</p>	
Equity What would be the impact on health equity?		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
<ul style="list-style-type: none"> ○ Reduced ○ Probably reduced ○ Probably no impact ● Probably increased ○ Increased ○ Varies ○ Don't know 	<p>Lower socioeconomic groups are more likely to have earlier onset of dementia than higher socioeconomic groups. Older people from lower socioeconomic backgrounds are also more likely to experience cognitive dysfunction at earlier stages of cognitive decline and cognitive impairment, and will have fewer resources to cope with the symptoms than their counterparts from higher socioeconomic groups</p> <p>People from lower socioeconomic groups are more likely to live, work and age in physical and economic environments that do not support social connectedness, physical activity or mental stimulation. this can increase the risk of cognitive impairment and dementia in later life.⁴⁰</p> <p>Based on this it is believed that interventions to reduce risk of cognitive decline and dementia will increase equity in health.</p> <p>Furthermore, women are disproportionately affected with AD. The larger proportion of older women who have AD and other dementias is explained primarily by the fact that women live longer, on average, than men.⁴¹</p>	
Acceptability Is the intervention acceptable to key stakeholders?		
JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS

<ul style="list-style-type: none"> <input type="radio"/> No <input type="radio"/> Probably no <input type="radio"/> Probably yes <input type="radio"/> Yes <input checked="" type="radio"/> Varies <input type="radio"/> Don't know 	<p>Moderate quality evidence suggest that weight-loss through lifestyle interventions improve cognitive performance at least in some domains. A survey on 300 participants showed that behavioural program are rated the more acceptable than pharmacological. ⁴²</p>	
<p>Feasibility Is the intervention feasible to implement?</p>		
<p>JUDGEMENT</p>	<p>RESEARCH EVIDENCE</p>	<p>ADDITIONAL CONSIDERATIONS</p>
<ul style="list-style-type: none"> <input type="radio"/> No <input type="radio"/> Probably no <input type="radio"/> Probably yes <input type="radio"/> Yes <input checked="" type="radio"/> Varies <input type="radio"/> Don't know 	<p>The interventions presented in the reported evidence are relatively short and mainly based on supporting lifestyle and behavioural (diet and physical activity) changes. Apart from the involvement of the stakeholders requires the support and supervision of healthcare professionals. The main barriers are costs, lack of motivation, lack of time, and physical limitations.</p>	