

Table A: Dietary advisory committee review of data on saturated fats 2010-14

Type of Data	Study name	Study Description	Conclusion	Study appropriately included?	If not, why?	Does this data support the hypothesis?	Limitations of the data
7 Meta-analyses and Systematic Reviews							No methodology for this section of the report: no reason given for why certain studies were selected for review and others were not, nor how they were evaluated relative to each other.
Systematic Review and Meta-analysis of 8 observational studies	Farvid et al, 2014		Diets high in vegetable oils reduce CVD risk	No	This is not a meta-analysis of saturated fats; studies are selected based only on polyunsaturated content, not the ratio of polyunsaturated-to-saturated fats	No	
Meta-analysis of 11 observational studies and 2 RCTs	Jakobsen et al, 2009		"the associations found in this study suggest that replacing SFA intake with PUFA intake rather than MUFA or carbohydrate intake prevents CHD over a wide range of intakes and among all middle-aged and older women and men." Actual findings: a marginal increase in risk from saturated fats, but only when compared to polyunsaturated vegetable oils. Risk	No	This study is already included in the 2010 NEL review on saturated fats, so including it again here amounts to double counting.	No	

			<p>increased or remained constant when saturated fats were replaced by carbohydrates or monounsaturated fats. Results were not consistent: they varied depending on age and gender, as well as on the statistical model used. All the effects observed were quite small by usual standards in the field (Hazard ratios close to 1)</p>				
<p>Systematic Review of 48 RCTs</p>	<p><u>Hooper et al 2012</u></p>	<p>27 RCTs totaling 18,196 subjects</p>	<p>“There were no clear effects of dietary fat changes on total mortality (RR 0.98, 95% CI 0.93 to 1.04, 71,790 participants) or cardiovascular mortality.” However, the abstract of the paper does not include this finding. It instead highlights this “reducing saturated fat by reducing and/or modifying dietary fat reduced the risk of cardiovascular events by 14% (RR 0.86, 95% CI 0.77 to 0.96, 24 comparisons, 65,508 participants of whom 7% had a cardiovascular</p>	<p>Yes</p>		<p>No</p>	<p>Study analysis of data shows that saturated fats do not increase risk of cardiovascular or total mortality.</p>

			<p>event, I(2) 50%)." The overall conclusion is therefore that while saturated-fat restriction appears to reduce heart-attack risk, it does not reduce overall or cardiovascular mortality (death), which is arguably the more important endpoint.</p>				
<p>Meta-analysis of 20 observational studies and RCTs</p>	<p>Chowdhury et al, 2014</p>	<p>45 observational cohorts (n = 512,420), 27 RCTs (n = 105,0885)</p>	<p>"Current evidence does not clearly support cardiovascular guidelines that encourage high consumption of polyunsaturated fatty acids and low consumption of total saturated fats"</p>	<p>Yes</p>		<p>No</p>	<p>This study concludes that diets high in saturated fats do not contribute to heart disease.. They compared relative risk for upper and lower tertiles for consumption of each FA class and CVD and found they were all very close to 1. They don't do any analysis regarding replacement of one fat for another. "Our findings do not clearly support cardiovascular guidelines that promote high consumption of omega-6 PUFA and suggest reduced consumption of total SFAs"</p>

Meta-analysis of 21 observational studies	Siri-Tarino et al 1, 2010,		"A meta-analysis of prospective epidemiologic studies showed that there is no significant evidence for concluding that dietary saturated fat is associated with an increased risk of CHD or CVD. More data are needed to elucidate whether CVD risks are likely to be influenced by the specific nutrients used to replace saturated fat."	Yes		No	Conclusion is that saturated fats cannot be said to cause heart disease.
Meta-analysis of 28 observational studies	Skeaf et al. 2009		"Intake of SFA was not significantly associated with CHD mortality;" "...high P/S diets reduced the risk of CHD events"	Yes		Yes for polys over sat fats	Found high P/S clinical trials reduced the rate of CVD events. Effect was not seen in observational trials, although these provide weaker evidence. "The main finding was a significantly decreased risk of CHD death and CHD events when PUFA replaces SFA. The multivariate-adjusted hazard ratio for CHD death per 5% TE incremental substitution of PUFA for SFA was 0.87"
Meta-analysis of 8 RCTS	D. Mozaffarian et al 2010		...increasing PUFA consumption as a replacement for SFA reduced the occurrence of CHD events by 19%;	Yes		Yes, for polys over sat fats	Replacing sat fat with PUFA was found to reduce CVD mortality. This is a review of the more rigorous kind of evidence but only 8 RCTs are included