Supplementary table 2: Intervention components and behaviour change techniques employed.

Study (Year)	Study groups	Who delivered it	BCTs ¹	Mode of delivery	No. of sessions	Duration of sessions (in mins)
Kranjčević,	Intervention	GPs	1.3, 2.1, 9.1	Face to face and written materials	5	Unclear
et al. 1	Control	_	Unclear	Unclear	Unclear	Unclear
Vetter, et al.	Intervention 1	PCP and lifestyle coach.	1.1, 1.5, 2.3, 8.7, 9.1	Face to face and written materials	32	Visits: 5-7 mins, counselling: 10-15 mins.
	Intervention 2	-	1.1, 1.5, 2.3, 8.7, 9.1, 11.1	Face to face and written materials	32	Visits: 5-7 mins, counselling: 10-15 mins.
	Control	_	1.7	Face to face	8	Visits: 5-7 mins.
Lakerveld, et al. ³	Intervention	Nurse	1.2, 1.6	Face to face and phone sessions.	9	Face to face sessions: 30 mins.
	Control		4.1, 5.1	Written materials.	Unclear	Unclear
Hardcastle,	Intervention	PA specialist	1.1, 1.5, 9.2	Face to face.	5	20-30 mins.
et al. 4	Control	and dietician	5.1	Written materials.	Unclear	Unclear
Tiessen, et al. ⁵	Intervention	Practice nurses.	2.2, 2.3, 2.4, 5.1	Face to face.	7	First session: 20 min, other sessions based on patient preference.
	Control		5.1	Face to face and written materials.	One	Unclear.
Parra- Medina, et	Intervention	PCP, health educators and	1.1, 1.2.	Face to face and telephone sessions and written materials.	Up to 15	First session: 60 mins. Following sessions: 20 mins.
al. ⁶	Control	nurses	1.1	Face to face and written materials.	One	5-10 mins.
Drevenhorn,	Intervention	Nurses	1.1, 1.5, 5.3, 9.2, 10.4, 11.2	Face to face	Unclear	Unclear
et al. 7	Control		Unclear	Unclear	Unclear	Unclear
Brett, et al. 8	Intervention	_	1.1, 1.3, 2.7	Face to face	5	Unclear
	Control	GPs	1.1, 1.3, 2.7	Face to face	2	Unclear
Harris, et al.	Intervention	Health	1.1, 1.2, 2.3, 4.1, 6.1, 9.1	Face to face	6	90 mins/ session.
9	Control	practitioner, dietitian or PT	Unclear	Unclear	Unclear	Unclear
Mendis, et	Intervention	Health-care	2.6, 4.1	Face to face and written materials	4	Unclear
al. ¹⁰	Control	workers	Unclear	Unclear	Unclear	Unclear
Koelewijn- van Loon, et	Intervention	Nurses	1.1, 1.2, 1.4, 1.5, 5.1, 9.2	Face to face and telephone sessions	3	Face to face: 10-20 mins, telephone: 10 mins.
al. ¹¹	Control	<u> </u>	5.1	Face to face	One	Unclear
Eriksson, et al. ¹²	Intervention	Dietician, PT and assistants.	1.1, 1.2, 1.3, 1.4, 4.1, 5.1, 8.1, 8.7, 9.1, 9.2	Face to face	56	Unclear.
	Control		9.1	Face to face and written materials.	One	Unclear

Phelan, et	Intervention 1	PCP	2.3, 11.1.	Face to face and written materials.	8	5-10 mins.
al. ¹³	Intervention 2	Psychologist	1.5, 2.3, 9.1	Group sessions.	29	90 mins
	Intervention 3	Psychologist, PCP	1.5, 2.3, 9.1, 11.1	Face to face, group sessions and written material.	37	Face to face: 5-10 mins, group sessions: 90 mins.
	Intervention 4	PCP	1.5, 2.3, 9.1, 11.1	Face to face and written materials.	8	5-10 mins.
Harting, et al. ¹⁴	Intervention	Practice assistant and	1.1, 1.4, 9.1, 11.1	Face to face, telephone sessions and written materials.	Unclear	Unclear
	Control	_ dietician.	Unclear	Unclear	Unclear	Unclear
Korhonen,	Intervention	Healthcare	1.1, 1.3, 1.4, 2.3, 2.5,4.1,	Face to face.	7	Unclear
et al. ¹⁵		centre	9.1		•	
	Control	personnel.	Unclear	Unclear	Unclear	Unclear
Baron, et al.	Intervention	Nurse	5.1, 9.1	Face to face, group sessions and written material.	Unclear	30 mins.
	Control	_	Unclear	Unclear	Unclear	Unclear
Knutsen	Intervention	Physicians and	1.1, 4.1, 5.1, 6.1, 9.1	Face to face and telephone sessions.	8	Unclear
and Knutsen ¹⁷	Control	dieticians	Unclear	Unclear	Unclear	Unclear
Nilsson, et al. ¹⁸	Intervention	Nurse, dietician or PT.	1.1, 2.2, 3.1, 4.1, 6.1, 9.1, 12.5	Face to face, group sessions and videotapes.	Unclear	Unclear
	Control		2.2, 5.1	Face to face	One	Unclear
Wood, et al.	Intervention	Nurses	1.1, 2.7, 5.1, 6.2, 9.1	Face to face and written materials	Unclear	First session: 90 mins.
	Control		9.1	Face to face	One	45 mins
OXCHECK Study	Intervention	Nurses	1.3, 2.7, 9.1,	Face to face	Unclear	Initial session: 45-60 mins, following sessions:10-20 mins
Group ²⁰	Control	_	Unclear	None	None	None
Lindholm, et al. ²¹	Intervention	Doctors and nurses	2.3, 4.1, 5.1, 6.2, 9.1	Face to face, group sessions and written materials	11	Five group sessions: 90 mins, one group session: all day.
	Control		9.1	Face to face and written materials	5	Unclear
Meland, et al. ²²	Intervention	GPs	1.8, 2.3, 8.7, 9.1, 11.2	Face to face and written materials	4	Unclear
	Control		9.1	Face to face and written materials	4	Unclear
Avram, et al.	Intervention	_ GPs	1.1, 9.1	Face to face and telephone sessions	21	Face to face sessions:30 mins
	Control		Unclear	Written materials	None	None
Steptoe, et al. ²⁴	Intervention	Nurses	1.1, 1.4, 9.1, 11.1	Face to face and telephone sessions	2-3	Face to face sessions:20 mins
	Control		Unclear	Unclear	Unclear	Unclear
Sartorelli, et al. ²⁵	Intervention	Nutritionist	1.1, 1.4, 9.1	Face to face and group sessions and written materials.	4	Unclear
	Control	_	Unclear	Group session and written materials	1	Unclear

Ma, et al. 26	Intervention	Nurses and	1.1, 1.2, 1.7, 9.1, 11.1, 11.2	Face to face	8-10	30-60 mins
	Control	dietitians	Unclear	Unclear	Unclear	Unclear
Tibblin and	Intervention	Nurses and	2.5, 6.1, 9.1	Face to face, group sessions and	15	Unclear
Åberg ²⁷		physicians		videotapes and audiotapes.		
	Control		2.5, 9.1	Face to face	15	Unclear
Gomez-	Intervention	Nurses and	1.3, 1.4, 2.5, 4.1, 9.1	Face to face, group sessions and written	27	Health assessment: 15 mins,
Huelgas et		_ physicians		materials.		nursing visits: 30 mins.
al. ²⁸	Control		2.5, 9.1	Face to face and written materials	24	10 mins.
Wennehorst et al. ²⁹	Intervention	Physician and nutritionist	1.4, 3.1, 4.1, 9.1, 11.2.	Face to face, group sessions and written materials.	16	2.5 hrs/ session.
	Control	_	Unclear	Unclear	Unclear	Unclear
Salisbury et	Intervention	Health advisors	1.1, 1.6, 2.4, 5.1, 9.1, 11.1.	Computerised behavioural management	12	Telephone sessions: an
al. ³⁰				programme and telephone sessions.		average of 18 mins/session.
	Control		Unclear	Unclear	Unclear	Unclear
Duncan et	Intervention	Trained health	1.1, 1.4, 1.5, 2.3, 2.6, 3.1,	Face to face group sessions and written	5	60mins/ session.
al. ³¹		promoter	8.7.	materials.		
	Control	_	2.6	Face to face	unclear	Unclear
4						

¹ as coded in Michie, Richardson et al.³² taxonomy of behaviour change technique

Note: 1.1 Goal setting (behaviour); 1.2 Problem solving; 1.3 Goal setting (outcome); 1.4 Action planning; 1.5 Review behaviour goals(s); 1.6 Discrepancy between current behaviour and goal; 1.7 Review outcome goal(s); 1.8 Behavioural contract; 2.1 Monitoring of behaviour by others without feedback; 2.2 Feedback on behaviour; 2.3 self-monitoring of behaviour; 2.4 Self-monitoring of outcome(s) of behaviour; 2.5 Monitoring of outcomes of behaviour without feedback; 2.6 Biofeedback; 2.7 Feedback on outcome(s) of behaviour; 3.1 Social support (unspecified); 4.1 Instructions on how to perform a behaviour; 5.1 Information about health consequences; 5.3 Information about social and environmental consequences; 6.1 Demonstration of the behaviour; 6.2 Social comparison; 8.1 Behavioural practice/rehearsal; 8.7 Graded tasks; 9.1 Credible source; 9.2 Pros and cons; 10.4 Social reward; 11.1 Pharmacological support; 11.2 Reduce negative emotions; 12.5 Adding objects to the environment; PT Physiotherapist, PA Physical activity

References:

- 1. Kranjčević K, Marković BB, Lalić DI, et al. Is a targeted and planned GP intervention effective in cardiovascular disease prevention? A randomized controlled trial. Medical science monitor: international medical journal of experimental and clinical research 2014;**20**:1180.
- 2. Vetter ML, Wadden TA, Chittams J, et al. Effect of lifestyle intervention on cardiometabolic risk factors: results of the POWER-UP trial. International Journal of Obesity 2013;37:S19-S24.
- 3. Lakerveld J, Bot SD, Chinapaw MJ, et al. Motivational interviewing and problem solving treatment to reduce type 2 diabetes and cardiovascular disease risk in real life: a randomized controlled trial. Int J Behav Nutr Phys Act 2013;**10**(47):10.1186.
- 4. Hardcastle SJ, Taylor AH, Bailey MP, et al. Effectiveness of a motivational interviewing intervention on weight loss, physical activity and cardiovascular disease risk factors: a randomised controlled trial with a 12-month post-intervention follow-up. Int J Behav Nutr Phys Act 2013;**10**(40):1-16.
- 5. Tiessen AH, Smit AJ, Broer J, et al. Randomized controlled trial on cardiovascular risk management by practice nurses supported by self-monitoring in primary care. BMC family practice 2012;13(1):1.
- 6. Parra-Medina D, Wilcox S, Salinas J, et al. Results of the Heart Healthy and Ethnically Relevant Lifestyle trial: a cardiovascular risk reduction intervention for African American women attending community health centers. American journal of public health 2011;**101**(10):1914-21.
- 7. Drevenhorn E, Bengtson A, Nilsson PM, et al. Consultation training of nurses for cardiovascular prevention—a randomized study of 2 years duration. Blood pressure 2012;**21**(5):293-99.
- 8. Brett T, Arnold-Reed D, Phan C, et al. The Fremantle Primary Prevention Study: a multicentre randomised trial of absolute cardiovascular risk reduction. Br J Gen Pract 2012;62(594):e22-e28.
- 9. Harris MF, Fanaian M, Jayasinghe UW, et al. A cluster randomised controlled trial of vascular risk factor management in general practice. Med J Aust 2012;197(7):387-93.
- 10. Mendis S, Johnston SC, Fan W, et al. Cardiovascular risk management and its impact on hypertension control in primary care in low-resource settings: a cluster-randomized trial. Bulletin of the World Health Organization 2010;88(6):412-19.
- 11. Koelewijn-van Loon MS, van der Weijden T, van Steenkiste B, et al. Involving patients in cardiovascular risk management with nurse-led clinics: a cluster randomized controlled trial. Canadian Medical Association Journal 2009;**181**(12):E267-E74.
- 12. Eriksson MK, Franks PW, Eliasson M. A 3-year randomized trial of lifestyle intervention for cardiovascular risk reduction in the primary care setting: the Swedish Björknäs study. PloS one 2009;**4**(4):e5195.
- 13. Phelan S, Wadden T, Berkowitz R, et al. Impact of weight loss on the metabolic syndrome. International journal of obesity 2007;31(9):1442-48.
- 14. Harting J, van Assema P, van Limpt P, et al. Cardiovascular prevention in the Hartslag Limburg project: effects of a high-risk approach on behavioral risk factors in a general practice population. Preventive medicine 2006;**43**(5):372-78.
- 15. Korhonen M, Kastarinen M, Uusitupa M, et al. The effect of intensified diet counseling on the diet of hypertensive subjects in primary health care: a 2-year open randomized controlled trial of lifestyle intervention against hypertension in eastern Finland. Preventive medicine 2003;**36**(1):8-16.
- 16. Baron JA, Gleason R, Crowe B, et al. Preliminary trial of the effect of general practice based nutritional advice. Br J Gen Pract 1990;40(333):137-41.

- 17. Knutsen SF, Knutsen R. The Tromsø Survey: the Family Intervention study—the effect of intervention on some coronary risk factors and dietary habits, a 6-year follow-up. Preventive medicine 1991;**20**(2):197-212.
- 18. Nilsson PM, Lindholm LH, Scherstén BF. Life style changes improve insulin resistance in hyperinsulinaemic subjects: a one-year intervention study of hypertensives and normotensives in Dalby. Journal of hypertension 1992;**10**(9):1071-78.
- 19. Wood D, Kinmonth A, Davies G, et al. Randomised controlled trial evaluating cardiovascular screening and intervention in general practice: principal results of British family heart study. Bmj 1994;**308**(6924):313-20.
- 20. OXCHECK. Effectiveness of health checks conducted by nurses in primary care: final results of the OXCHECK study. BMJ: British Medical Journal 1995:1099-104.
- 21. Lindholm LH, Ekbom T, Dash C, et al. The impact of health care advice given in primary care on cardiovascular risk. BMJ 1995;310(6987):1105-09.
- 22. Meland E, Lærum E, Ulvik RJ. Effectiveness of two preventive interventions for coronary heart disease in primary care. Scandinavian journal of primary health care 1997;15(1):57-63.
- 23. Avram C, Iurciuc M, Craciun L, et al. Dietary and physical activity counseling in high-risk asymptomatic patients with metabolic syndrome—A primary care intervention. Journal of Food, Agriculture & Environment 2011;9(3&4):16-19.
- 24. Steptoe A, Day S, Doherty S, et al. Behavioural counselling in general practice for the promotion of healthy behaviour among adults at increased risk of coronary heart disease: randomised trialCommentary: Treatment allocation by the method of minimisation. Bmj 1999;**319**(7215):943-48.
- 25. Sartorelli DS, Sciarra EC, Franco LJ, et al. Beneficial effects of short-term nutritional counselling at the primary health-care level among Brazilian adults. Public health nutrition 2005;8(07):820-25.
- 26. Ma J, Berra K, Haskell WL, et al. Case management to reduce risk of cardiovascular disease in a county health care system. Archives of internal medicine 2009;**169**(21):1988-95.
- 27. Tibblin G, Åberg H. NON-PHARMACOLOGICAL TREATMENT OF HYPERTENSION IN TWO STEPS-1 YEAR REPORT FROM EIGHT HEALTH CENTRES. Acta Medica Scandinavica 1986;**220**(S714):105-12.
- 28. Gomez-Huelgas R, Jansen-Chaparro S, Baca-Osorio AJ, et al. Effects of a long-term lifestyle intervention program with Mediterranean diet and exercise for the management of patients with metabolic syndrome in a primary care setting. European Journal of Internal Medicine 2015;**26**(5):317-23.
- 29. Wennehorst K, Mildenstein K, Saliger B, et al. A comprehensive lifestyle intervention to prevent type 2 diabetes and cardiovascular diseases: The german chip trial. Prevention Science 2016:No Pagination Specified.
- 30. Salisbury C, O'Cathain A, Thomas C, et al. Telehealth for patients at high risk of cardiovascular disease: Pragmatic randomised controlled trial. BMJ (Online) 2016;**353 (no pagination)**(i2647).
- 31. Duncan S, Goodyear-Smith F, McPhee J, et al. Family-centered brief intervention for reducing obesity and cardiovascular disease risk: A randomized controlled trial. Obesity 2016;**24**(11):2311-18.
- 32. Michie S, Richardson M, Johnston M, et al. The behavior change technique taxonomy (v1) of 93 hierarchically clustered techniques: building an international consensus for the reporting of behavior change interventions. Annals of behavioral medicine 2013;46(1):81-95.