

Online table 1. Coding framework as applied to included interventions.

Domain	Intervention features	Highly effective interventions										Less effective interventions										Total highly effective (n=10)	Total less effective (n=10)
		Bertz 2012	DPP 2002	Foster-Schubert 2012	Kuller 2012	Rejeski 2011	Rock 2010 (CB)	Rock 2010 (TB)	Villareal 2011	Visser 2010 (fitness)	Visser 2010 (vibration)	Eriksson 2009	Hersey 2012 (2)	Hersey 2012 (3)	Jolly 2011 (GP)	Jolly 2011 (pharmacist)	Jolly 2011 (SW)	Munsch 2003 (clinic)	Nanchahal 2011	Patrick 2011	Vermunt 2011	Total highly effective (n=10)	Total less effective (n=10)
1. Provider support	Provider-user relationship emphasised	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	0	1	10	6
	Provider role: interaction for individualised support	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	0	0	1	10	5
	Provider manner: encouraging/supportive	1	1	0	1	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	4	3
	Dietician	1	1	1	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	1	1	7	3
2. Addressing user needs and preferences	Risk group targeting	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	2
	Population group targeting	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	8	1
	Flexible programme	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
3. Monitoring	Weight monitoring	1	1	1	0	1	0	0	1	0	0	0	1	1	1	1	1	0	0	0	0	5	5
	Private weight monitoring	1	1	0	0	1	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	3	5
	Diet monitoring	1	0	1	1	1	0	0	1	0	0	0	1	1	1	1	1	1	1	0	1	5	8
	Diet monitoring made 'easy'	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
	Exercise monitoring	1	1	1	1	1	0	0	0	1	0	1	1	1	0	0	0	1	1	1	0	6	6
4. Delivery	Face-to-face	1	1	1	1	1	1	0	1	1	1	1	0	0	1	1	1	1	1	0	1	9	7
	Remote	1	0	1	0	0	1	1	0	0	0	0	1	1	0	0	1	0	0	1	0	4	4
	Group sessions	0	1	1	1	1	0	0	1	1	1	1	0	0	0	0	1	1	0	0	1	7	4
	Individual sessions	1	1	1	0	1	1	1	0	1	1	0	1	1	1	1	1	0	1	1	1	8	8
	High intensity	0	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	1	0	0	9	2
5. Diet	Practical diet information	1	1	0	1	1	1	1	0	0	0	1	0	0	1	1	1	0	1	1	1	6	7
	Visual demonstrations	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	0	2	3
	De-emphasise diet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6. Exercise	Supervised exercise provision	1	1	1	0	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	7	1
	Focus on fitness gains	1	1	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	1	0	4	2
	Tailored to fitness levels	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1	1	0	1	1	0	7	6
	Graduated intensity	1	0	1	1	1	0	0	1	1	1	1	0	0	1	1	1	1	0	1	0	7	6
	Highlight services available	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	0	3
7. Goals	Provider-set energy-intake goal	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	10	0
	User identified diet goal	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	1	0	0	5
	Provider-set weight goal	1	1	1	1	1	1	1	1	0	0	0	0	0	1	1	0	0	0	0	0	8	2
	User identified weight goal	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	0	1	0	0	4

	Provider-set exercise goal	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	10	1
	User identified exercise goal	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	1	1	0	1	0	0	6
8. External moderators	Problem solving, relapse prevention	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	1	7	9
	Individualised problem solving, relapse prevention	1	1	1	0	1	0	0	0	0	0	1	0	1	1	1	0	0	1	0	1	4	6
9. Follow-on	Graduated exit	0	1	1	1	1	1	1	0	1	1	1	0	0	0	0	0	0	1	0	0	8	2
10. Other	Competition emphasised	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Social benefits emphasised	0	0	1	1	1	0	0	0	0	0	1	1	1	0	0	1	0	0	1	1	3	6
	Mental-wellbeing emphasised	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	Fun emphasised	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1

Online table 2. Included interventions.

Study ID (arm)	Study aim	Country	n (focal intervention and control)	Study recruitment	Comparator	Study population	Mean age of participants	% female	% ethnic minority	% Some college education	Difference (kg) at 12 mos [95% CI]
Most effective interventions											
Bertz 2012	Weight loss	Sweden	33*	PC	NI	Breastfeeding women	34	100%	3	69%	-6.00 [-8.05, -3.95]
DPP 2002	Diabetes prevention	USA	2161	MR	SSMO	US ethnic minority populations	51	68%	54	74%	-6.10 [-6.65, -5.55]
Foster-Schubert 2012	Weight loss	USA	204*	MR	NI	Post-menopausal women	58	100%	15	70%	-8.20 [-9.59, -6.81]
Kuller 2012	Slow subclinical atherosclerosis in women on HRT	USA	508	MR	SSOther	Post-menopausal women	57	100%	12	80%	-5.10 [-6.18, -4.02]
Rejeski 2011	Increased mobility	USA	191*	MR	SSOther	Older adults with poor cardiovascular health	67	67%	15	47%	-5.50 [-7.61, -3.39]
Rock 2010 (centre-based)	Weight loss	USA	278*	MR	SSMO	Women only	44	100%	32	74	-7.60 [-9.57, -5.63]
Rock 2010 (telephone-based)	Weight loss	USA	275*	MR	SSMO	Women only	44	100%	21	73	-6.00 [-8.05, -3.95]
Villareal 2011	Weight loss and improved physical function	USA	55*	MR	SSMO	Aged 65 years or older	70	63%	NR	68%	-7.80 [-9.84, -5.76]
Visser's 2010 (fitness)	Weight loss	Belgium	41*	PC	NI	Non-targeted	45	74.7	NR	NR	-7.40 [-10.85, -3.95]
Visser's 2010 (vibration)	Weight loss	Belgium	36*	PC	NI	Non-targeted	43	74.7	NR	NR	-8.30 [-11.99, -4.61]
Least effective interventions											
Eriksson 2009	CVD prevention	Sweden	151	PC	DAC	Cardiovascular risk	54	57%	NR	NR	-0.60 [-1.45, 0.25]
Hersey 2012 (2)	Weight loss	USA	1177*	MR	DAC	Non-targeted	47	71.8	5.5	NR	-0.70 [-1.37, -0.03]
Hersey 2012 (3)	Weight loss	USA	1176*	MR	DAC	Non-targeted	47	77	5.9	NR	-0.60 [-1.28, 0.08]

Jolly 2011 (GP)	Weight loss	UK	170*	PC	NI	Non-targeted	50	67%	10	NR	0.30 [-2.47, 3.07]
Jolly 2011 (pharmacist)	Weight loss	UK	170*	PC	NI	Non-targeted	49	73%	13	NR	0.40 [-2.31, 3.11]
Jolly 2011 (SW)	Weight loss	UK	200*	PC	NI	Non-targeted	49	65%	12	NR	-0.80 [-3.42, 1.82]
Munsch 2003 (clinic)	Weight loss	Switzerland	69*	PC	SSMO	Non-targeted	46	75%	NR	NR	-0.70 [-3.35, 1.95]
Nanchahal 2011	Weight loss	UK	381	PC	NI	Non-targeted	49	72%	29	NR	-0.30 [-1.18, 0.58]
Patrick 2011	Weight loss	USA	441	MR	NI	Men only	44	0%	29	69	-0.70 [-1.96, 0.56]
Vermunt 2011	Diabetes prevention	Netherlands	764*	PC	DAC	Risk of developing type 2 diabetes	58	60%	NR	NR	-0.20 [-0.82, 0.42]

* Study reports additional trial arms that were not included in the analysis

MR = Mass recruitment (direct mailing/advertisement); PC = Personalised contact via clinic/GP

NI = No intervention or leaflet(s) only; DAC = Discussion/advice/counselling in one-off session +/- leaflet; SSMO = Seeing someone more than once for weight management, provider untrained +/- leaflets; SSOther = Seeing someone more than once for discussion other than weight loss