

Appendix 2 Summary of characteristics of the included studies

Study	Participants	Intervention Group	Control group	Outcome measures
Croteau et al. (2004)	<p>N: 15</p> <p>Mean age (SD) control group: 83 (7)</p> <p>Mean age (SD) intervention group: 78 (8)</p> <p>Inclusion criteria:</p> <ul style="list-style-type: none"> -Age: \geq 68 years of age -Health Condition: Healthy -Source of recruitment: assisted living facilities -Mobility status: Able to ambulate independently -Physical activity status: Not currently enrolled in a structured exercise program 	<p>Intervention:</p> <p>Life Steps program: a 4- week physical activity intervention including a counselling session followed by pedometer usage and weekly follow-up.</p> <p>Type of pedometer: Yamax Digi-Walker SW-200</p> <p>Goal: Weekly increase of daily steps by 5%</p> <p>Intervention duration (weeks): 4</p>	No intervention	<p>Physical activity: Steps/day, measured with a pedometer (Yamax Digi-Walker SW-200) worn on waist</p> <p>Mobility: SPPB</p>
Croteau et al. (2007)	<p>N: 147</p> <p>Mean age (SD) control group: 74 (9)</p> <p>Mean age (SD) intervention group: 71 (8)</p> <p>Inclusion criteria:</p> <ul style="list-style-type: none"> -Age: > 55 years of age -Health Condition: Healthy -Source of recruitment: Community -Mobility status: Able to ambulate independently -Physical activity status: No contraindications to exercise 	<p>Intervention:</p> <p>A 12-week physical activity intervention including counselling and self-monitoring via pedometer usage and step calendars.</p> <p>Type of pedometer: Yamax Digi-Walker SW-200</p> <p>Goal: Weekly increase of daily steps by 5%</p> <p>Intervention duration (weeks): 12</p>	Waiting list	<p>Physical activity: Steps/day, measured with a pedometer (Yamax Digi-Walker SW-200) worn on waist</p>
Cruz et al. (2016)	<p>N: 27</p> <p>Mean age (SD) control group: 64 (8)</p> <p>Mean age (SD) intervention group: 69 (8)</p> <p>Inclusion criteria:</p>	<p>Intervention:</p> <p>Usual care (pulmonary rehabilitation); physical activity behavioural intervention; pedometer; daily steps diary; education session; and telephone support</p>	Usual care (pulmonary rehabilitation)	<p>Physical activity: Steps/day, measured with an accelerometer (GT3X+) worn on waist</p> <p>Quality of life: St. George's respiratory questionnaire</p>

	<p>-Age: ≥18 years -Health Condition: COPD -Source of recruitment: Primary care and hospital -Mobility status: Not reported -Physical activity status: Not reported</p>	<p>Type of pedometer: Yamax Power Walker EX-510 Goal: Weekly increase of 800 steps/day to reach recommendations of 7000 to 10,000 steps/day Intervention duration (weeks):12</p>		
Dasgupta et al. (2017)	<p>N: 347 Mean age (SD) control group: 59 (11) Mean age (SD) intervention group: 60.0 (11) Inclusion criteria: -Age: ≥18 years -Health Condition: Type 2 diabetes and hypertension -Source of recruitment: Primary care -Mobility status: Absence of gait impairment. -Physical activity status: Not reported</p>	<p>Intervention: Given a pedometer; daily steps diary; and step count prescription Type of pedometer: Yamax Digi-Walker SW-701 Goal: Increase over baseline by 3000 steps/day over 1 year Intervention duration (weeks):52</p>	Usual care (physical activity advice)	<p>Physical activity: Steps/day, measured with a pedometer (Yamax Digi-Walker SW-701) worn on waist.</p>
De Greef et al. (2011)	<p>N: 92 Mean age (SD): 62 (9) Inclusion criteria: -Age: 35-75 years -Health Condition: Type 2 diabetes -Source of recruitment: Hospital -Mobility status: No documented physical limitations -Physical activity status: Not reported</p>	<p>Intervention: A 30 min face-to-face session; pedometer; daily steps diary; telephone support Type of pedometer: Yamax Digi-Walker SW-200 Goal: Patient-tailored goals Intervention duration (weeks):24</p>	No intervention	<p>Physical activity: Steps/day, measured with a pedometer (Yamax Digi-Walker SW-200). Pedometer placement was not reported</p>
Demeyer et al. (2017)	<p>N: 280 Mean age (SD) control group: 67 (8) Mean age (SD) intervention group: 66 (8) Inclusion criteria: -Age: ≥40 years -Health Condition: COPD -Source of recruitment: Hospital -Mobility status: Not reported</p>	<p>Intervention: A one-to-one interview; pedometer; smartphone with two complementing applications; a booklet of home exercises, weekly group text message with physical activity proposals Type of pedometer: Yamax Digi-Walker SW-200 Goal: Patient-tailored goals Intervention duration (weeks):24</p>	Standard leaflet explaining the importance of physical activity in COPD	<p>Physical activity: Steps/day, measured with an accelerometer (Actigraph GT3x) worn on waist Quality of life: COPD assessment test (CAT)</p>

				-Physical activity status: Not reported
Hornikx et al. (2015)	<p>N: 27 Mean age (SD) control group: 68 (6) Mean age (SD) intervention group: 66 (7) Inclusion criteria: -Age: ≥40 years -Health Condition: COPD -Source of recruitment: Hospital -Mobility status: Not reported -Physical activity status: Not reported</p>	<p>Intervention: Given a pedometer; three telephone physical activity counselling sessions per week Type of pedometer: Fitbit Ultra Goal: Individualised goals with the aim of maximising physical activity levels Intervention duration (weeks): 4</p>	Physical activity advice	<p>Physical activity: Steps/day, measured with an accelerometer (Dynaport Move Monitor) worn on waist Quality of life: COPD assessment test (CAT)</p>
Kirk et al. (2009)	<p>N: 73 Mean age (SD) control group: 59 (10) Mean age (SD) intervention group: 63 (11) Inclusion criteria: -Age: Not reported -Health Condition: Type 2 diabetes -Source of recruitment: Primary care -Mobility status: Not reported -Physical activity status: Not reported</p>	<p>Intervention: A written self-instructional workbook based on the transtheoretical model; a pedometer; a 12-week walking plan and guide to local physical activity opportunities; telephone calls. Type of pedometer: Not reported Goal: To increase physical activity to meet ACSM health recommendations Intervention duration (weeks): 24</p>	Exercise and diabetes leaflet	<p>Physical activity: Steps/day, measured with an accelerometer (Actigraph GT1M) worn on waist</p>
Lara et al. (2009)	<p>N: 70 Mean age (SD) control group: 62 (4) Mean age (SD) intervention group: 61 (3) Inclusion criteria: -Age: Not reported -Health Condition: Healthy -Source of recruitment: Workplace -Mobility status: Not reported</p>	<p>Intervention: Given a pedometer and web-based physical activity module Type of pedometer: Omron HJ203 Goal: Patient-tailored goals Intervention duration (weeks): 8</p>	Usual care	<p>Physical activity: Steps/day, measured with an accelerometer (Axivity AX3) worn on waist</p>

-Physical activity status: Not reported

Mendoza et al. (2015)	<p>N: 102 Mean age (SD) control group: 68 (8) Mean age (SD) intervention group: 70 (10) Inclusion criteria: -Age: ≥ 40 years -Health Condition: COPD -Source of recruitment: Hospital -Mobility status: Not reported -Physical activity status: Not reported</p>	<p>Intervention: Monthly physical activity counselling; given a pedometer; daily steps diary Type of pedometer: Tanita PD724 Triaxial pedometer Goal: Patients had to increase between 3000 to 9000 steps/day following a specific protocol based on their average step count for the preceding week Intervention duration (weeks): 12</p>	<p>Monthly physical activity counselling</p>	<p>Physical activity: Steps/day, measured with a pedometer (Tanita PD724). Pedometer placement was not reported. Quality of life: St. George's respiratory questionnaire</p>
Mutrie et al. (2012)	<p>N: 39 Mean age (SD) control group: 70 (4) Mean age (SD) intervention group: 72 (6) Inclusion criteria: -Age: ≥ 40 years -Health Condition: Healthy -Source of recruitment: Primary care -Mobility status: Able to walk outside independently -Physical activity status: Not meeting current PA recommendations.</p>	<p>Intervention: Two 30 minute physical activity counselling sessions; a walking program including a pedometer and a daily steps diary. Type of pedometer: New Lifestyles NL-1000 Goal: Encouraged steps to be added to each participant's own baseline Intervention duration (weeks): 12</p>	<p>No intervention</p>	<p>Physical activity: Steps/day, measured with a pedometer (New Lifestyles NL-1000). Pedometer placement was not reported</p>

Nolan et al. (2017)	<p>N: 122 Mean age (SD) control group: 68 (8) Mean age (SD) intervention group: 69 (9) Inclusion criteria: -<i>Age:</i> ≥35years -<i>Health Condition:</i> COPD -<i>Source of recruitment:</i> Hospital -<i>Mobility status:</i> Not reported -<i>Physical activity status:</i> No contraindications to exercise</p>	<p>Intervention: Pulmonary rehabilitation; given a pedometer; step-count diary Type of pedometer: Yamax Digi-walker CW700 Goal: daily pedometer step-count target (with weekly review). Intervention duration (weeks): 8</p>	Usual care (Pulmonary rehabilitation)	<p>Physical activity: Steps/day, measured with a pedometer (Yamax Digi-walker CW700) worn on waist Quality of life: Health status assessed with the Chronic Respiratory Questionnaire (CRQ)</p>
Okamoto et al. (2007)	<p>N: 179 Mean age (SD) men control group: 66 (7) Mean age (SD) women control group: 64 (6) Mean age (SD) men intervention group: 67 (4) Mean age (SD) men intervention group: 64 (6) Inclusion criteria: -<i>Age:</i> ≥40years -<i>Health Condition:</i> Health -<i>Source of recruitment:</i> Community -<i>Mobility status:</i> Not reported -<i>Physical activity status:</i> No contraindications to exercise</p>	<p>Intervention: Given a pedometer. Participants were instructed to increase daily steps, to perform aerobic walking and to participate in a regular exercise class once per month. Type of pedometer: E-style Goal: Patients were instructed to exceed the mean daily number of steps walked (men: 8200 steps/day; women: 7800 steps/day) Intervention duration (weeks): 32</p>	No intervention	<p>Physical activity: Steps/day, measured with a pedometer (E-style) worn on wrist Mobility: Chair and stand test Quality of life: General health assessed with SF-36</p>
Rowley et al. (2017)	<p>N: 83 Mean age (SD) control group: 66 (5) Mean age (SD) intervention group: 68 (7) Inclusion criteria: -<i>Age:</i> ≥40years -<i>Health Condition:</i> Health -<i>Source of recruitment:</i> Community</p>	<p>Intervention: Given a pedometer and a paper log to record daily steps count. Type of pedometer: Omron HJ-720ITC Goal: To increase daily step count by 10% each week until participants met 10,000 steps per day. Intervention duration (weeks): 12</p>	No intervention	<p>Physical activity: Steps/day, measured with a pedometer (Omron HJ-720ITC. Pedometer placement was not reported.</p>

	- <i>Mobility status</i> : No limitations to walking - <i>Physical activity status</i> : No contraindications to exercise			
Skrepnik et al. (2017)	N : 208 Mean age (SD) control group : 64 (9) Mean age (SD) intervention group : 62 (10) Inclusion criteria : - <i>Age</i> : 30-80 years - <i>Health Condition</i> : Knee Osteoarthritis - <i>Source of recruitment</i> : Primary care - <i>Mobility status</i> : Not reported - <i>Physical activity status</i> : Averaged 500 to 8000 steps/day during baseline measurement	Intervention : Education; given an unblinded pedometer and a mobile app (OA GO) provided daily motivational messages and requested daily pain and mood data from patients Type of pedometer : Jawbone UP 24 Goal : Patient-tailored goals based on the participant's baseline steps/day Intervention duration (weeks) : 12	Education and given a blinded pedometer	Physical activity : Steps/day, measured with a pedometer (Jawbone UP 24) worn on wrist
Strath et al. (2011)	N : 36 Mean age (SD) control group : 65 (7) Mean age (SD) intervention group : 64 (6) Inclusion criteria : - <i>Age</i> : 55-80 years - <i>Health Condition</i> : Health - <i>Source of recruitment</i> : Community - <i>Mobility status</i> : Not reported - <i>Physical activity status</i> : Inactive or insufficient inactive	Intervention : Individualised physical activity education; given a pedometer; daily steps diary Type of pedometer : Yamax Digi-Walker SW-200 Goal : Weekly increase of daily steps by 10% Intervention duration (weeks) : 12	Standard physical activity education	Physical activity : Steps/day, measured with a pedometer (Yamax Digi-Walker SW-200) worn on waist Quality of life : General health assessed with SF-36
Suboc et al. (2014)	N : 77 Mean age (SD) control group : 62 (7) Mean age (SD) intervention group : 64 (7) Inclusion criteria : - <i>Age</i> : ≥50years - <i>Health Condition</i> : Health - <i>Source of recruitment</i> : Community - <i>Mobility status</i> : Not reported	Intervention : Given a pedometer; daily steps dairy Type of pedometer : Omron HJ-720ITC Goal : Weekly increase of daily steps by 10% to reach an average of 10,000 steps/day Intervention duration (weeks) : 12	No intervention	Physical activity : Steps/day, measured with a pedometer (Omron HJ-720ITC) worn on waist

					-Physical activity status: Averaged \leq 8000 steps/day during baseline measurement
Talbot et al. (2003)	<p>N: 34</p> <p>Mean age (SD) control group: 71 (5)</p> <p>Mean age (SD) intervention group: 70 (7)</p> <p>Inclusion criteria:</p> <p>-Age: \geq60years</p> <p>-Health Condition: Osteoarthritis</p> <p>-Source of recruitment: Community</p> <p>-Mobility status: Not reported</p> <p>-Physical activity status: No contraindications to exercise</p>	<p>Intervention: Given a pedometer; a daily steps diary; an educational physical activity booklet; arthritis self-management program</p> <p>Type of pedometer: Yamax Digi-walker SW-200</p> <p>Goal: Monthly increase of daily steps by 10%</p> <p>Intervention duration (weeks): 12</p>	Education (arthritis self-management program)	self-	<p>Physical activity: Steps/day, measured with a pedometer (Yamax Digi-Walker SW-200) worn on waist</p> <p>Mobility: Chair and stand test</p>
Tew et al. (2015)	<p>N:16</p> <p>Mean age (SD) control group: 68 (14)</p> <p>Mean age (SD) intervention group: 69 (8)</p> <p>Inclusion criteria:</p> <p>-Age: \geq18 years</p> <p>-Health Condition: Intermittent claudication</p> <p>-Source of recruitment: Hospital</p> <p>-Mobility status: No limited walking</p> <p>-Physical activity status: No contraindications to exercise</p>	<p>Intervention: Given a pedometer, educational session promoting self-managed walking and self-regulatory skills such as goal setting</p> <p>Type of pedometer: Yamax Digi-Walker SW-200</p> <p>Goal: Gradual increase of daily steps to more than 7500.</p> <p>Intervention duration (weeks): 6</p>	Usual care (educational leaflet)		<p>Physical activity: Steps/day, measured with an accelerometer (ActiGraph GT3X+). Accelerometer placement not reported</p> <p>Quality of life: EQ-5D utility score</p>
Van Dyck et al. (2013)	<p>N: 92</p> <p>Mean age (SD): 62 (9)</p> <p>Inclusion criteria:</p> <p>-Age: 35-75 years</p> <p>-Health Condition: Type 2 diabetes</p> <p>-Source of recruitment: Hospital</p> <p>-Mobility status: Not reported</p> <p>-Physical activity status: No physical activity limitations</p>	<p>Intervention: Given a pedometer, a face-to-face physical activity counselling followed by telephone contacts, daily steps diary</p> <p>Type of pedometer: Omron M6</p> <p>Goal: Gradual progression starting from patient's baseline levels.</p> <p>Intervention duration (weeks): 24</p>	No intervention		<p>Physical activity: Steps/day, measured with a pedometer (Omron M6) worn on waist</p>

Warren et al. (2014)	<p>N: 73 Mean age (SD) opportunistic recruitment: 60 (10) Mean age (SD) systematic recruitment: 60 (9) Inclusion criteria: -<i>Age:</i> 40-74 years -<i>Health Condition:</i> Healthy -<i>Source of recruitment:</i> Primary care -<i>Mobility status:</i> Able to walk continuously for 5 minutes without fatigue or discomfort -<i>Physical activity status:</i> Inactive according to General Practice Physical Activity Questionnaire</p>	<p>Intervention: Given a pedometer, a written physical activity information, and a verbal advice to walk 15 to 20 min/day at a brisk to fast pace. Type of pedometer: New Lifestyles NL-800 Goal: Gradual progression towards the 10,000 steps per day target. Intervention duration (weeks): 12</p>	Usual care (written information on physical activity and its benefits)	<p>Physical activity: Steps/day, measured with a pedometer (New Lifestyles NL-800). Pedometer placement was not reported Quality of life: EQ-5D index</p>
Yates et al. (2009)	<p>N: 53 Mean age (SD) control group: 65 (10) Mean age (SD) intervention group: 66 (8) Inclusion criteria: -<i>Age:</i> Not reported -<i>Health Condition:</i> Impaired glucose tolerance -<i>Source of recruitment:</i> Primary care -<i>Mobility status:</i> Not reported -<i>Physical activity status:</i> Not reported</p>	<p>Intervention: A single-session group-based education program addressing impaired glucose tolerance and physical activity counselling; pedometer with step-based physical activity goals Type of pedometer: Yamax Digi-Walker SW-200 Goal: Sedentary: Increase by 3000 steps/day; ≥ 6000 steps/day; Reach 9000 steps/day; >9000 steps/day; Maintain or increase step Intervention duration (weeks): 52</p>	Usual care (education)	<p>Physical activity: Steps/day, measured with a pedometer (New Lifestyles NL-800). Pedometer placement was not reported</p>
Yates et al. (2017)	<p>N: 571 Mean age (SD) control group: 64 (8) Mean age (SD) intervention group: 63 (8) Inclusion criteria: -<i>Age:</i> 18-74 years -<i>Health Condition:</i> Type 2 diabetes -<i>Source of recruitment:</i> Primary care -<i>Mobility status:</i> Able to take part in walking activity</p>	<p>Intervention: Physical activity counselling; goal setting; pedometer usage and a daily step diary; one telephone call at six months providing further support Type of pedometer: Not specified Goal: Increase daily steps by up to 3000 steps over baseline. Intervention duration (weeks): 52</p>	Education (standardised booklet)	<p>Physical activity: Steps/day, measured with an accelerometer (Actigraph GT3X) worn on axillary line with a waistband Quality of life: the 15D instrument of health-related quality of life Mental health: The hospital anxiety and depression scale (HADS)</p>

-Physical activity status: Able to take part
in walking activity

Abbreviations: SD = standard deviation; COPD = chronic obstructive pulmonary disease; SPPB = Short Physical Performance Battery test; ACSM= American College of Sports Medicine; SF-36 = The Health Survey Short Form-36.
