Community-based self-screening and non-physician screening of hypertension in adults: systematic review

Supplementary information

Appendix A: Medline Search Strategy

Search terms
1 Blood Pressure Determination/
2 exp sphygmomanometers/ or blood pressure monitors/
3 exp Hypertension/di [Diagnosis]
4 (sphygmomanometer? or manometer?).ti,ab.
5 ((blood pressure or bp or hypertens*) adj3 monitor?).ti,ab.
6 [(blood pressure or bp or hypertens*) adj3 machine?).ti,ab.
7 [(blood pressure or bp or hypertens*) adj3 measure*).ti,ab.
8 [(blood pressure or bp or hypertens*) adj3 device?).ti,ab.
9 [(blood pressure or bp or hypertens*) adj3 screen*).ti,ab.
10 ((blood pressure or bp or hypertens*) adj3 diagnos*).ti,ab.
[11] ((blood pressure or bp or hypertens*) adj3 detect*).ti,ab.
12 or/1-11
13 Mass Screening/
14 Public Facilities/
15 Restaurants/
16 fitness centers/
17 pharmacies/ or community pharmacy services/ or pharmacists/
18 exp dental facilities/ or exp dental staff/ or exp dentists/ or dental care/
19 community health services/
20 Student Health Services/
21 Health Fairs/ or Mobile Health Units/
22 Social Work/
23 screen*.ti.
24 ((community* or mobile or target* or public health) adj5 screen*).ti,ab.
25 (community* adj3 (based or service?)).ti,ab.
26 community?.ti.
27 social worker?.ti,ab.
28 ((dental adj (staff or personnel or worker? or care)) or dentist?).ti,ab.
[29] (pharmacy* or pharmacies or pharmacist? or drugstore? or drug store?).ti,ab.
30 (public adj3 (place? or space? or location?)).ti,ab.
31 (supermarket? or grocery store? or food store? or convenience store? or retail store? or retail environment or food store? or shop? or restaurant? or food outlet?).ti,ab.
32 ((leisure or fitness or sport?) adj3 (centre? or center? or facility or facilities)).ti,ab.
[mobile unit? or mobile service? or mobile clinic? or mobile van? or door-to-door).ti,ab.

	h
34	kiosk?.ti,ab.
	waiting room?.ti,ab.
36	"out of office".ti,ab.
37	or/13-36
38	12 and 37
	[(automatic or automated) adj2 (blood pressure or bp)).ti,ab.
	((automatic or automated) adj5 (measure* or diagnos* or test* or screen* or detect*) adj10 (blood pressure or bp or hypertens*)).ti,ab.
41	((automatic or automated) and (measure* or diagnos* or test* or screen* or detect*) and (blood pressure or bp or hypertens*)).ti.
	((automatic or automated) adj2 (sphygmomanometer? or manometer?)).ti,ab.
	(self* adj5 (measure* or diagnos* or test* or screen* or detect*) adj10 (blood pressure or bp or hypertens*)).ti,ab.
44	(self* and (measure* or diagnos* or test* or screen* or detect*) and (blood pressure or bp or hypertens*)).ti.
45	((((self-measure* or selfmeasure* or self-test* or selftest* or self-screen* or selfscreen*) adj3 (blood pressure or bp)) or SBPM).ti,ab.
	(self-blood pressure measure* or self-blood pressure test* or self-blood pressure screen*).ti,ab.
	[Blood Pressure Determination/ or exp sphygmomanometers/ or blood pressure monitors/ or exp Hypertension/di) and (Telemedicine/ or (telemedicine or telecare or tele-medicine or tele-care).ti.)
48	38 or 39 or 40 or 41 or 42 or 43 or 44 or 45 or 46 or 47
49	exp animals/ not human/
50	48 not 49

Appendix B: Quality assessment checklist

Question	Poss	ible	answers
Could the patient selection method have introduced bias?*	Yes	No	Unclear
Are the patients and setting appropriate to the review?	Yes	No	Unclear
Was the blood pressure measured in a standardised manner?	Yes	No	Unclear
Was a pre-specified, appropriate, hypertension threshold used?	Yes	No	Unclear
Was there blinding to existing hypertension status?	Yes	No	Unclear

^{*} For visualisation of quality assessment, this question was changed to "Did the patient selection method avoid introducing bias?", with the numbers reporting "yes" and "no" switched, so that all "yes" answers would correspond to higher quality.

Appendix C: Characteristics of Included Studies

Study (Author, date)	Setting	Population	Age range	Number screened	Screeners	Measurement method	Hypertension cut-off	Recruitment method	Presentation of results	Other screening offered
Abbott, 1989 ¹	Shopping centre, Calgary, Canada	General population	Mostly aged 25- 44	639	Nurses	Manual BP following 3-5 minute rest period	140/95 if <45y, 160/95 if ≥45y	Mass media and paper advertising	Nurse discussed reading and provided health counselling as necessary	None
Agarwal, 2013 ²	Housing complex and apartment building, Hamilton, Canada	Residents	Not specified	240	Trained paramedics	Not specified	Not specified	Drop-in sessions	Not specified	Diabetes, cardiovascular risk status, lifestyle
Ailinger, 1984 ³	Participants' homes, Arlington county, Virginia, USA	Hispanic adults	Not specified	330	3 bilingual assistants	Single manual BP reading	140/90	Telephone invitation	BP result given in writing with leaflet. Participants with elevated BP advised to see physician	None
Artz, 1981 ⁴	Apartment complexes, Memphis, USA	Residents of apartment complexes	Not specified	298	Community volunteers (door-to-door screening), and students (central site screening)	3 BP measurements	140/90	Door-to-door and by written invitation	Participants with elevated BP were offered rescreening or advised to seek treatment	None
Banack, 2012 ⁵	Community pharmacies, Montreal, Canada	Pharmacy clients	20-89	238	Graduate students from health-related backgrounds trained as health coaches	Automated BP using arm cuff	140/90 if not diabetic, 130/80 if diabetic	Bilingual posters and fliers, and direct invitation from pharmacists and pharmacy assistants	Participants given copy of risk profile, and access to information on a bilingual website	Weight, height, waist circumference, cardiovascular risk
Bandl, 1990 ⁶	Dental surgery, Szeged, Hungary	Patients attending dental surgery	Not specified	1004	Dentist	2 manual BP measurements after 10 minute rest period, before any dental interventions or treatment	160/95	Patients attending for dental appointments	Advised to seek specialist advice	None
Berkson, 1980 ⁷	Mobile screening unit, Chicago, USA	General population	18-65	295646	Nurses, paramedics and hypertension	2 BP measurements	-/95	Mass media and paper advertising	Participants with intermediate BP offered rescreening.	None

					technicians				Participants with elevated BP referred.	
Berwick, 1985 ⁸	Health fairs, USA	Attendees at health fairs	Not specified	116447	Volunteer screeners	Not specified	160/90	Not specified	Telephone follow- up (recommended)	Multiple, including height, weight, visions, anaemia, hearing, cancer screens, blood chemistry, and faecal occult blood
Bodden, 1980 ⁹	Dental clinics, Birmingham, USA	Patients attending the Oral Diagnosis Clinic at the School of Dentistry	18-74	2006	3 rd and 4 th year dental students	Manual BP	160/95	Patients attending for dental appointments	Not specified	None
Bray, 1991 ¹⁰	Door-to-door, Chicago, USA	Hispanic adults	>18 years	3399	Bilingual outreach workers	1 BP measurement	140/85	Paper advertising	Participants with elevated BP were rescreened immediately, and referred to a nurse if still elevated.	None
Brunt, 1992 ¹¹	Hutterite colony, Alberta, Canada	Hutterites from Dariusleut colonies	30-74 years	811	Registered nurses	2 manual BP readings after 5 minutes rest period	-/90	Not specified	BP result given in writing with leaflet. Recommendations for rescreening with physician based on BP reading.	Cholesterol, postprandial blood glucose, height, and weight
Campbell, 2001 ¹²	Fire stations, Calgary, Canada	General population	Not stated	3477	Fire fighters	2 manual BP readings	140/90	Mass media and paper advertising	BP result given in writing with instructions regarding follow- up with physician.	None
Carrington, 2008 ¹³	High traffic public areas, Australia	General population	18-96 years	13687	Nurses	Not specified	140/90	Not specified	Not specified	Waist and hip circumference, BMI, cardiovascular risk factors
Carrington, 2009a ¹⁴	Public areas, Australia	General population	Not stated	13825	Nurses	Automated BP measurement	140/90	Not specified	Not specified	Cardiovascular risk factors
Carrington, 2009b ¹⁵	Mobile cardiovascular screening unit, Australia	Residents in regional communities with medium-high CV	57years (±15 years)	221	Nurses and trained study personnel	Automated BP measurement	Not specified	Not specified	Not specified	Cardiovascular risk factors, edinburgh claudication

		risk								score, ankle- brachial index, depression
Carrington, 2010 ¹⁶	Public areas, Australia	General population	48.4 years (±16.0 years)	13825	300 registered nurses	2 automated BP measurements after 5 minute rest period	140/90	Paper advertising and verbal invitation	BP result given in writing with leaflet. Participants with elevated BP advised to contact GP.	Waist-hip circumference, height, weight
Carter, 1997 ¹⁷	Dental practice and oral surgery department, Newcastle and South Shields, UK	Dental patients scheduled for treatment under local anaesthesia	Not specified	399	Dentists	Not specified	-/95	Not specified	Not specified	None
Cavaco, 2010 ¹⁸	Pharmacy, Almada, Portugal	Pharmacy Customers	Median Age 66	51	Pharmacists	Automated BP measurement	139/89	Verbal Invitation	Pharmacist presented results	
Chiolero, 2008 ¹⁹	Mobile Unit, Ligues Canton de Vaud, Switzerland	General Population	56.7	1598	2 Health Educators	Automated BP measurement after 5 minutes rest repeated if high	140/90	Advertisements in mass media	Counselling and card with risk level.	BMI, Blood Glucose, Cholesterol
Clark, 2000 ²⁰	Community Outreach Partnership Centre, USA	Targetted population including 'breadline' and 'seniors'	Not specified	343	Community Nurses	Not specified	-/90	Not specified	Unspecified Referral	
Cooke, 1983 ²¹	3 apartment complexes, USA	Residents of apartments	Not specified	265	Volunteer Residents	Not specified	-/95	Door to door visits	Not specified	
Datri, 1980 ²²	Mutiple sites including hospitals, supermarkes, town halls.	General Population	19-70	189006	Trained personnel	Single manual measurement	140/90 if <40y, 160/95 if ≥40y	Advertisements in newspapers, on TV, radio and posters	Referral to clinic if hypertensive	
Davidson, 2004 ²³	3 island communities off Maryland coast, USA	Island population	Not specified	273	Nurse and nursing students	Not specified	Not specified	Advertisements in church and community buildings	Directly to patient	CVD screening including hba1c
Diaz-Perez, 2004 ²⁴	Mobile Unit visting 5 towns in 3 counties, Colorado, USA	Rural Mexican immigrants	Not specified	1098	Medical assistants	Not specified	140/90	Via bus	Not specified	
Earle, 2001 ²⁵	Six community pharmacies, London UK.	General population attending pharmacy	54.6	263	Pharmacists	Automated BP	160/95	Advertisements in newspapers and leaflets in pharmacy	Letters to patients +/- GP	
Eason, 2012 ²⁶	Mobile blood donation sites,	Volunteer blood donors	>18	58530	Phlebotomists	Automated BP	140/90	Not specified	Not specified	None

	USA									
Edwards, 1981 ²⁷	Nine Pharmacies, UK	General population attending pharmacy	Not specified	215	Pharmacists	Two seated readings with automated BP 5 minutes apart	160/100 if ≤50y, 160/105 if 51- 60y, -/110 if >60y	Via pharmacy.	Written record	
Elder, 1986 ²⁸	Community Festival and door to door, Pawtcuket, USA	General Population	18-65	372	Volunteers	Manual BP measurement	141/90	Press release	Referral if high	Weight, % body fat, choleseterol, smoking status
Engstrom, 2011 ²⁹	Dental Clinics, Gavleborg, Sweden	Patients attending denal clinics	20-65	1149	Dental Hygienist	Automated sitting BP, two readings if high.	160/90	By letter	Referral if high	
Frank, 2008 ³⁰	Churches, North Florida, USA	African American Parishoners	18-83	55	Nursing students and nurse researchers	Not specified	140/90		Card with results	Height, weight, blood sugar.
Gany, 2012 ³¹	Community- based health camps, New York, USA	South Asian immigrants	18-65	265	Trained non- medical staff and nurses	Not specified	140/90	Not specified	Physicians or nurses provided counselling on implications and information or referral to area health services	Glucose, HDL, LDL
Ghouri, 2005 ³²	Health Fair at Central Mosque, Edinburgh, UK	Muslims attending health fair	Not specified	99	Nurses	Not specified	Not specified	From those attending Friday Prayer	Written record	Blood Glucose
Greenburg, 2007 ³³	Oral Health Clinics, New Jersey, USA	Patients at oral health clinic	40-69	Not specified	Oral healthcare parctitioners	Not specified	140/-	When attending clinic	Referral	
Guay, 2011 ³⁴	Pharmacies, Albony, USA	Male patients attending pharmacy	50.2	388	Student Pharmacists	Not specified	Not specified	Not specified	Not specified	Pulse, BMI
Hamilton, 2003 ³⁵	Multiple open access sites, Exeter, UK	Deprived populations targetted with site locations	0-100	769	Self	Automated BP machine with arm or wrist cuff.	135/85	Posters at screening sites	Print out from machine	None
Hampton, 1990 ³⁶	Pharmacy, Nottingham, UK	Patients attending pharmacy.	17-74	70	Pharmacist	Automated BP machine	-/90	Invited by pharmacist	Letter for GP given to patient or sent directly to GP if BP >100 mmhg	None
Harris, 2011 ³⁷	Mobile Unit at community and workplace events, Maine, USA	Population attending events	Not specified	2420	Nurses and Nursing students	Automated BP machine	140/90	People approached mobile unit	Written on card and advised to take to next primary care visit	Blood glucose
Hill, 2012 ³⁸	Family Van in commnity sites,	Underserved/low income	Not specified	2834	Health Educators	Manual sphygmanometer	140/90	Knowledgable neighbour	Written card with results. Referred to	BMI, Blood glucose,

	Harvard, USA	population						model	community health centre if elevated.	cholesterol
Holmen, 1991 ³⁹	Mobile screening unit, Nord- Trondelag, Norway	Aged over 20	20-101	74977	Nurses	Manual sphymanometer after sitting for two minutes. Repeated again after two minutes	Linear formula dependent on age and sex	Personal invitation via letter	Not specified	Height, weight, Pulse, Chest Xray.
Houle, 2013 ⁴⁰⁻⁴²	Pharmacies, Canada	Casual kiosk users and those enrolled in "Smart card" program	Not specified	8457552	Self screening	Not specified	140/90	Not specified	Not specified	Not specified
Huckerby, 2006 ⁴³	Pharmacies, Dudley Beacon and Castle PCT, UK	Black and ethnic minority communities	Not specified	70	Pharmacists	Not specified	150/90	Community groups contacted	Advice given	None
Jacobsen, 1992 ⁴⁴	Multiple community sites, Nordland, Norway.	All residents aged 40-42	40-42	8612	Nurses	Autmoated BP machine, mean of 2 nd and 3 rd readings	Not specified	Personal invitation by letter	Not specified	Choldesterold and trigylerides.
Johnson 1984 ⁴⁵	Community based, Memphis, USA	Adults from low income families, predominantly black	18+	151	High school students, health aides and nurses	Manual device, 3 seated measurements	160/90	Letters to household followed by door-to-door approach. Additional invites to neighbourhood health centre	Referred to community health centre or private physician	None
Jones 2008 ⁴⁶	Community pharmacy, Alberta, Canada	Patients attending pharmacy	65+	403	Volunteer peer health educators aged 55+	Automated device, 6 measurements at 1 minute intervals	140/80 if not diabetic, 130/80 if diabetic	Personalised invitation from family physician, notices in pharmacies, community wide advertisements	Referral based on protocol	None
Kaczorowski 2011 ⁴⁷	Community based, Ontario, Canada	Community dwelling adults (65+)	Mean 74.82	15899	Trained volunteers	Automated device, validated	Not specified	Invitation letter from family physican, hand delivered referral letters, encouragement from pharmacist	Results sent to family physicians, self-management support provided	Cardiovascular risk factors
Karwalajtys, 2013 ⁴⁸	Community pharmacies,	General population >65	>65	2350	Volunteer peer educators	Bptru automated device, 6	140/90 if no diabetes, 130/80	Posters, flyers, mass media,	Data sent to physician,	CVD risk

	Ontario, Canada	years			aged >55	measurements taken, average of last 5 used	if diabetic	advertising, direct letters	participant given appropriate educational materials by youlnteers	
Kling, 2013 ⁴⁹	Community health event, Rochester, Minnesota, USA	General female population	15-93	294	Nurses	Seated	Not specified	Not specified	Results given on a card. Participants encouraged to talk with hcps who were present at the screening site	Glucose, lipid panel, BMI
Latiff, 2012 ⁵⁰	Housing estate, Singapore	Housing estate residents	Mean 60.5	174	Trained nursing students	Not specified	130/80	Not specified	Not specified	BMI, waist circumference
Lucky 2011 ⁵¹	Shopping centre, California, USA	Adult shoppers	18+	958	Trained volunteers	Manual	140/90	Health fair at shopping centre	Preprinted screening forms. Where hypertensive given literature and written and verbal instructions to follow up with primary care provider	None
Mangum 2003 ⁵²	Pharmacy, Iowa, USA	Adults visiting pharmacy	19-94	351	Pharmacists, pharmacy students, community pharmacy practice resident	Automated device, if high second measurement taken using manual device	140/90	Offered screening as entering pharmacy	Referral to physician if high	None
Manry, 2013 ⁵³	Courthouse, Western Kansas, USA	Residents of rural midwestern community	Not specified	189	Nurses and student nurses	Not specified	Not specified	Local newspaper and facebook	Not specified	Weight, height, BMI, blood glucose, waist circumference
Marshall, 2013 ⁵⁴	Senior centres, New York, USA	Participants in eldersmile programme	>=50	580	Dental assistants	Not specified	140/90	Not specified	Not specified	Hba1c
McConaha, 2013 ⁵⁵	Grocery store pharmacies, Pennsylvania, USA	People attending 3 pharmacies	22-86	43	Pharmacy students	Not specified	140/90	Flyers in pharmacy and nearby community health centres	Counselled on results by screener	Non-fasting cholesterol, blood glucose, BMI
Nugent 1980 ⁵⁶	Parking lot, grocery store, Arizona, USA	People attending grocery store and	17+	2726	Heart association employees and volunteers	Manual, seated for 2-5 min, right arm	159/94	Publications on TV, radio and in Newspapers	High BP then told to see physician	Rescreening at 1 year

Nunan, 2012 ⁵⁷	Red Cross tents in public locations, Vienna, Austria	General public	14-99	1793	Trained paramedics	Automated BP monitor. Uncrossed legs, arm at heart level, after 5 minutes rest	140/90	Direct approach	Not specified	Augmentation index and pressure
Nykamp 1992 ⁵⁸	Grocery stores and pharmacies, Atlanta, USA	Adults attending pharmacy and grocery stores	Not specified	154	Self-screening	Stationary monitors	Not specified	Observed whilst using monitors and approached	Not specified	None
Olenak 2010 ⁵⁹	Pharmacy, Dallas, USA	Adult residents	>18 years	239	Pharmacist and pharmacy students	Manual	130/85	Newspaper adverts, TV interview, brochures in pharmacy and physician offices	Copy of results to patient, letter mailed to physician	CVD risk scores, waist measurement, glucose, cholesterol
Oster, 2013 ^{60,61}	Mobile clinics, Northern Alberta, Canada	Canadians from off-reserve Aboriginal communities or rural towns	5-90	1439	Nurses and dieticians	1 reading, seated after 5 minutes rest	On antihypertensive medication, 140/90 if not diabetic, 130/80 if diabetic, >90th percentile in children	Local advertising	Counselled on site and encouraged to follow up with physician	Waist circumference, BMI, blood glucose, hba1c, total cholesterol, HDL, urine dip, ACR
Pepe 1989 ⁶²	Barbershops, Akron Ohio, USA	Adult males attending the barbershops (predominantly black)	Not specified	550	Barbers	Automated	Not specified	Posters, supplement in local paper	Written record provided	Not specified
Rorie 2011 ⁶³	Mobile health van, Boston, USA	Residents of areas where van parked (within 1 mile)	18+	217	Nurse	Not specified	140/90	Peer discussion, flyers, door to door invites	Offered help making an appointment if screened positive	Cholesterol, glucose, diabetes, dental disease
Schlundt 2006 ⁶⁴	Churches, Universities, Clinics, Businesses and Community events, Nashville, USA	Adults attending the specified settings, predominantly African American area.	Not specified	878	Volunteers	Not specified	140/90	Not specified	Not specified	Glucose, cholesterol
Shapiro 1982 ⁶⁵	Shopping centres, Montreal, Canada	Shopping members of public	Mean 44.1	1019	Students	Seated, 2 measurements taken	Not specified	Use of sign 'Free blood pressure screening here'	Not specified	None
Shellman 2000 ⁶⁶	Community elder centre, USA	Older adults attending the centre	Not specified	168	Nurses	Not specified	Not specified	Approached at centre	Detailed consultation with the nurse	Yes but not specified
Silva 2008 ⁶⁷	Portugal	On street screening in	Mean 62 years	293	Pharmacy students	Digital wrist device	Not specified	Approached on street	Not specified	Blood glucose, BMI

		unspecified area of Portugal								
Speechley 1995 ⁶⁸	Oral surgery clinic, Warrington, UK	Adults attending oral surgery clinic	21-57	Not specified	Dentists	Automated, no not specified	Not specified	Attendees at clinic offered screening	Not specified	None
Sproat 2009 ⁶⁹	Dental practice, London, UK	Attendees at dental practice	18+	114	Dentist	Automated, one measurement	140/90	On attendance offered screening	Measured >140/90 then advised to contact doctor	Chron's dental anxiety scale
Strogatz 1985 ⁷⁰	Churches, Edgecombe County, North Carolina	Church attendees in two rural townships, one with black ethnicity, one with white.	18-60	751	Educated volunteers	Seated, 3 measurements	-/90 or current use of anti- hypertensives	Congregation screened plus outreach into community	Not specified	History of BP diagnosis and/or treatment
Taylor 2011 ⁷¹	Community centres and Churches, USA	General population (targeting underserved populations)	Not specified	378	Student pharmacists	Not specified	Not specified	Not specified	Result discussed with patient	Lipids, CHD risk.
Thornley 2009 ⁷²	Large pharmacy chain, UK	Pharmacy clients	Not specified	393	Pharmacy staff	Not specified	140/90	Health heart screen offered, tier 1 offering free BP screen, tiers 2 & 3 associated with charge	Not specified	BMI, waist circumference, cholesterol, glucose, HDL, CVD risk
Ursua, 2013 ⁷³	Faith-based and community organisations, local businesses, government groups, apartment complexes, schools and parks, New York and New Jersey, USA	Filipino population	>=18	1028	Community health workers or nurses	3 readings from automated BP monitor in seated position, mean of 2nd and 3rd readings used	140/90	Mailed invitations, with follow-up by phone or in person by community partners	Exit interview	Glucose, cholesterol, BMI
Victor 2011 ⁷⁴	Barbershops, Dallas County, USA	Barbershop attendees (>95% black males)	Mean 59.5	4676	Barbers and field interviewers	Automated, 6 reading over 2 days, average of 4 used	135/85	Posters in barbershop, verbal offers and word of mouth	Written results, referral cards for physician/nurse follow up	Smoking status
Westerman 1990 ⁷⁵	GP office, West Holland, Netherlands	Patient population for GP office	30-69	1571	Volunteers, nurses and lab technicians	Manual, no not specified	-/90	Invitation via post	Referred if diastolic >115	CVD risk factors via questionnaire
Willis	Participants'	General	18+	80	Student	Seated, no other	140/90	Door to door	BP >140 >90 told	Heart rate

201276	homes, Illnois,	population (which	volunteers	detail	invites	to see a healthcare	respiration
	USA	includes high				professional as	
		African American				soon as possible	
		population)					

Appendix D: Quality Assessment of Included Studies

	Did the patient selection method avoid introducing bias?	Are patients and settings appropriate to review?	Was blood pressure measured in a standardised manner?	Was a pre-specified, appropriate hypertension threshold used?	Was there blinding to existing hypertension status?
Abbott, 19891	X	✓	✓	✓	?
Agarwal, 2013 ²	X	✓	?	?	X
Ailinger, 1984 ³	?	✓	✓	✓	X
Artz, 1981 ⁴	X	✓	✓	✓	?
Banack, 2012 ⁵	?	✓	✓	✓	X
Bandl, 1990 ⁶	✓	✓	✓	✓	?
Berkson, 1980 ⁷	X	✓	?	?	X
Berwick, 1985 ⁸	X	?	?	✓	?
Bodden, 1980 ⁹	>	✓	✓	✓	?
Bray, 1991 ¹⁰	X	✓	?	✓	?
Brunt, 1992 ¹¹	X	?	✓	✓	X
Campbell, 2001 ¹²	X	✓	>	✓	?
Carrington, 2008 ¹³	?	✓	?	?	?
Carrington, 2009a ¹⁴	?	✓	?	X	?
Carrington, 2009b15	X	?	✓	?	?
Carrington, 2010 ¹⁶	X	✓	✓	✓	X
Carter, 1997 ¹⁷	X	✓	?	✓	?
Cavaco, 201018	X	✓	✓	✓	X

Chiolero, 2008 ¹⁹ X X X ?	a					
Cooke, 1983²¹ X X ? ? ? Pari, 1980²² Y ? Y Y Y Y Davidson, 2004²³ X X ?	Chiolero, 2008 ¹⁹	X	X	✓	✓	?
Datri, 1980²²² ✓ ? ✓ ✓ Davidson, 2004²³ X X ? ? ? Diaz-Perez, 2004²⁴ X X ? ? ? Earle, 2001²⁵ X ✓ ✓ X X ? ? Earle, 2001²⁵ X ✓ ✓ ? . X X ? ? ? . X X ? ? . X X ? . X X ? . . X X . <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td></td<>						
Davidson, 2004 ²³ X X ? ? ? ? ? Diaz-Perez, 2004 ²⁴ X X ? ?						
Diaz-Perez, 2004²⁴ X X ? ? Earle, 2001²⁵ X ✓ ✓ X Eason, 2012²⁶ X ✓ ? ? Edwards, 1981²¹ X ✓ ✓ ? Elder, 1986²²² ✓ ✓ ✓ X X Engstrom, 2011²² X ✓ ✓ X X Frank, 2008³³ ? ✓ X X X Gany, 2012³¹ X X ? X X Y X X Gany, 2012³¹ X X ? X X X ? X X ? X X X ? X X ? X X ? X X ? X X ? X X ? X X ? X X ? X X ? X X ? ? X ? X ? ? X <td>Datri, 1980²²</td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td>	Datri, 1980 ²²	✓				✓
Earle, 2001 ²⁵ X Y Y Y Y Z Eason, 2012 ²⁶ X Y Y Y Y Edwards, 1981 ²⁷ X Y Y Y Y Elder, 1986 ²⁸ Y Y Y Y Y Elder, 1986 ²⁸ Y Y Y Y Y Frank, 2008 ³⁰ Y Y Y X Frank, 2008 ³⁰ Y Y Y X Gany, 2012 ³¹ X X X Y Y Y Y Greenburg, 2007 ³³ Y Y Y Y Hamilton, 2003 ³⁵ X Y Y Y Y Hamilton, 2003 ³⁵ X Y Y Y Y Hamilton, 2003 ³⁵ X Y Y Y Y Harris, 2011 ³⁷ Y Y Y Y Y Hill, 2012 ³⁸ X Y Y Y Y Holmen, 1991 ³⁹ X Y Y Y Y Houle, 2013 ⁴⁰⁻⁴² Y Y Y Y Huckerby, 2006 ⁴³ X Y Y Y Y Jacobsen, 1992 ⁴⁴ X Y Y Y Y Johnson 1984 ⁴⁵ X Y Y Y Y Karwalajtys, 2013 ⁴⁸ Y Y Y Y Karwalajtys, 2013 ⁴⁸ Y Y Y Y Latiff, 2012 ⁵⁰ X Y Y Y Mangum 2003 ⁵² Y Y Y Mangum 2003 ⁵² Y Y Y Manry, 2013 ⁵³ X Y Y Y Y Y Mangum 2003 ⁵² Y Y Y Manry, 2013 ⁵³ X Y Y Y Y Y Edwards, 1981 ²⁷ X Y Y Y P Company Y Co		X	X			
Eason, 2012 ²⁶	Diaz-Perez, 2004 ²⁴	X				?
Edwards, 1981 ²⁷	Earle, 2001 ²⁵	X	✓	✓	✓	X
Elder, 1986 ²⁸ Engstrom, 2011 ²⁹ X Frank, 2008 ³⁰ ? Gany, 2012 ³¹ X X Chouri, 2005 ³² X Chay, 2011 ³⁴ Hamilton, 2003 ³⁵ Hampton, 1990 ³⁶ Harris, 2011 ³⁷ Pill, 2012 ³⁸ Holmen, 1991 ³⁹ Holmen, 1991 ³⁹ Houkerby, 2006 ⁴³ Jacobsen, 1992 ⁴⁴ Johnson 1984 ⁴⁵ Jones 2008 ⁴⁶ X Kaczorowski 2011 ⁴⁷ X Karwalajtys, 2013 ⁴⁹ Latiff, 2012 ⁵⁰ X Mangum 2003 ⁵² Mangum 2003 ⁵² Mangum 2003 ⁵² Mangum 2003 ⁵³ X X X X X X X X X X X X X	Eason, 2012 ²⁶	X			✓	?
Engstrom, 2011 ²⁹	Edwards, 1981 ²⁷	X				?
Frank, 2008 ³⁰ ?	Elder, 1986 ²⁸	✓				?
Gany, 2012 ³¹ X X ? ? X Ghouri, 2005 ³² X X ? ? X Greenburg, 2007 ³³ ✓ ? ? ? Y Guay, 2011 ³⁴ ? ? ? ? ? ? Hamilton, 2003 ³⁵ X ✓ X X ? Hampton, 1990 ³⁶ X ✓ X X ? Hill, 2012 ³⁸ X ✓ Y Y Y Holmen, 1991 ³⁹ X Y Y Y X Houle, 2013 ⁴⁰⁻⁴² ? Y Y Y Y Huckerby, 2006 ⁴³ X Y Y Y Y Y Johnson 1984 ⁴⁵ X Y Y Y Y Y Johnson 1984 ⁴⁵ X Y Y Y Y X Karwalajtys, 2013 ⁴⁸ ? X Y Y Y X Kling, 2013 ⁴⁹ X Y Y Y Y X Latiff, 2012 ⁵⁰ X Y Y Y Y Mangum 2003 ⁵² ? Y Y Y Manry, 2013 ⁵³ X Y Y ? ?	Engstrom, 2011 ²⁹	X		✓	✓	X
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Greenburg, 2007 ³³	Gany, 201231	X	X	?	✓	X
Guay, 2011 ³⁴ ? ? ? ? ? ? Hamilton, 2003 ³⁵ X	Ghouri, 2005 ³²	X	X	?	?	X
Hamilton, 2003³⁵ X ✓ ✓ X Hampton, 1990³⁶ X ✓ ? X ? Harris, 2011³⁻ ? ? ✓ ? H Hill, 2012³⁶ X ✓ ? ✓ ? Holmen, 1991³⁰ X ✓ ✓ X X Houle, 2013⁴⁰-⁴² ? ✓ ? ? Y Huckerby, 2006⁴³ X ✓ ? ? ? Johnson 1984⁴⁵ X ✓ ✓ ? ? Kaczorowski 2011⁴⁻ X ✓ ? X ? Karwalajtys, 2013⁴⁰ X ? ? ? ? Lucky 2011⁵¹ X ✓ ? ? X ? Mangum 2003⁵² ? ✓ ✓ X X ? ? X Manry, 2013⁵³ X ✓ ? ? ? ? ? ? ? X ? ? ? ? ? ? ? ? ?	Greenburg, 2007 ³³	✓	✓	?	✓	?
Hampton, 1990 ³⁶ X	Guay, 2011 ³⁴	?	?	?	?	?
Harris, 2011 ³⁷ ? ? ?	Hamilton, 200335	X	✓	✓	✓	X
Hill, 2012 ³⁸ X	Hampton, 1990 ³⁶	X	✓	?	X	?
Holmen, 1991 ³⁹ X	Harris, 2011 ³⁷	?	?	✓	✓	?
Houle, 2013 ⁴⁰⁻⁴² ?	Hill, 2012 ³⁸	X	✓	?	✓	?
Huckerby, 2006 ⁴³ X	Holmen, 1991 ³⁹	X	✓	✓	✓	X
Jacobsen, 1992 ⁴⁴ X	Houle, 2013 ⁴⁰⁻⁴²	?	✓	?	✓	?
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Jones 2008 ⁴⁶ X	Jacobsen, 199244	X	✓	✓	?	?
Kaczorowski 2011 ⁴⁷ X	Johnson 1984 ⁴⁵	X	✓	✓	✓	?
Karwalajtys, 2013 ⁴⁸ ? ✓ ✓ X Kling, 2013 ⁴⁹ X ? ? ? Latiff, 2012 ⁵⁰ X ? ? ? Lucky 2011 ⁵¹ X ✓ ? ? Mangum 2003 ⁵² ? ✓ X Manry, 2013 ⁵³ X ✓ ? ?	Jones 2008 ⁴⁶	X	✓	✓	✓	?
Kling, 2013 ⁴⁹ X ? ? ? ? Latiff, 2012 ⁵⁰ X ? ? . Lucky 2011 ⁵¹ X	Kaczorowski 2011 ⁴⁷	X	✓	?	X	?
Latiff, 2012^{50} X ? ? ? Lucky 2011^{51} X ✓ ? ✓ ? Mangum 2003^{52} ? ✓ ✓ X Manry, 2013^{53} X ✓ ? ?	Karwalajtys, 2013 ⁴⁸	?	✓	✓	✓	X
Lucky 2011 ⁵¹ X ✓ ? ✓ ? Mangum 2003 ⁵² ? ✓ ✓ X Manry, 2013 ⁵³ X ✓ ? ? ?	Kling, 2013 ⁴⁹	X	?	?	?	?
Mangum 2003 ⁵² ? ✓ ✓ X Manry, 2013 ⁵³ X ✓ ? ?	Latiff, 2012 ⁵⁰	X	?	?	✓	?
Manry, 2013 ⁵³ X ? ? ?	Lucky 2011 ⁵¹	X	✓	?	✓	?
Manry, 2013 ⁵³ X ? ? ?		?	✓	✓	✓	X
		Х	✓	?	?	?
		?	✓	?	✓	Х
McConaha, 2013 ⁵⁵ X ✓ ? X	McConaha, 2013 ⁵⁵	X	✓	?	✓	X

Nugent 1980 ⁵⁶	X	?	✓	✓	✓
Nunan, 2012 ⁵⁷	?	✓	✓	✓	?
Nykamp 1992 ⁵⁸	?	✓	?	X	?
Olenak 2010 ⁵⁹	X	✓	✓	✓	?
Oster, 2013 ^{60,61}	X	✓	✓	✓	?
Pepe 1989 ⁶²	?	✓	?	?	?
Rorie 2011 ⁶³	X	✓	?	✓	X
Schlundt 2006 ⁶⁴	?	✓	?	✓	?
Shapiro 1982 ⁶⁵	?	✓	✓	?	X
Shellman 2000 ⁶⁶	X	?	?	?	?
Silva 2008 ⁶⁷	?	✓	?	?	?
Speechley 199568	?	✓	✓	?	?
Sproat 2009 ⁶⁹	?	✓	✓	✓	?
Strogatz 1985 ⁷⁰	?	✓	?	✓	?
Taylor 2011 ⁷¹	?	✓	?	?	?
Thornley 2009 ⁷²	X	?	?	✓	?
Ursua, 2013 ⁷³	?	✓	✓	✓	X
Victor 2011 ⁷⁴	✓	✓	✓	✓	?
Westerman 199075	X	?	?	✓	?
Willis 2012 ⁷⁶	X	✓	?	✓	?

Content of boxes indicate the answers to the questions in Appendix B – green + tick for "yes", yellow + question mark for "unclear", and red + X for "no"

Appendix E: Follow up of participants after screening

Paper	Site	Screener	Number screened	Number (%) found to be hypertensive at screening	N (% of hypertensives) referred	Number receiving a new diagnosis of hypertension after referral (% of referred)	Number receiving new or changed treatment for hypertension after referral (% of referred)	Number receiving a new hypertension diagnosis or treatment after referral (% of referred)
Bray, 1991 ¹⁰	participant homes	lay screeners	3399	203 (6.0%)	67 (33.0%)	17 (25.4)	13 (19.4)	30 (44.8)
Brunt, 1992 ¹¹	community centres	nurses	811	338 (41.7%)	not reported	not reported	61 (ns)	61 (ns)
Datri, 1980 ²²	public buildings	lay screeners	189,006	68,240 (36.1%)	not reported	not reported	53% of unaware or untreated hypertensives	53% of unaware or untreated hypertensives
Edwards,	pharmacies	pharmacists	215	13 (6.1%)	10 (76.9%)	10 (100)	5 (50.0)	10 (100)

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Engstrom, 2011 ²⁹	dental clinics	dental hygienists	1149	237 (20.6%)	237 (100%)	76 (32.1)	not reported	76 (32.1)
Hamilton, 2003 ³⁵	public buildings	self screening	769	221 (28.7%)	36 (16.3%) ^	11 (30.6)	10 (27.8)	16 (44.4)
Holmen, 1991 ³⁹	mobile stations	nurses	74,977	2399 (3.2%)	2399 (100%)	1413 (58.9)	406 (16.9)	1819 (75.8)
Jones 200846	pharmacies	lay screeners	403	148 (36.7%)	not reported	not reported	48 (ns)	48 (ns)
Lucky 2011 ⁵¹	shopping centre	lay screeners	958	170 (17.8%)	170 (100%)	not reported	29 (17.1)	29 (17.1)
Mangum 2003 ⁵²	pharmacy	pharmacists	351	216 (61.5%)	121 (56.0%)	6 (5.0)	49 (40.5)	49 (40.5)
Victor 2011 ⁷⁴	barbershops	lay screeners	2655	1055 (39.7%)	180 (17.1%) ^	not reported	not reported	not reported
Westerman 1990 ⁷⁵	health centre	nurses and lay screeners	1571	240 (15.3%)	63 (26.3)	29 (46.0)	18 (28.6)	29 (46.0)

[^] documented physician visit used as proxy for referral

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