Appendix 1: Journal selection criteria and search strategy

Thirty journals relevant to primary care listed below were purposively chosen through various methods, including:

(1) The ISI Web of Knowledge Journal Citation Reports, listed under the category ‘‘medicine, general, and internal’’ and mentioned primary care, family medicine, or family practice in their title

(2) The 15 highest-ranked journals according to impact factor ratings in this same category

(3) Specialist journals that are known to publish CPRs (based on type of journal/expert opinion)

(4) A list of recommendations generated by an information specialist

(5) An expert consensus meeting attended by primary care clinicians, academics, and information specialists. (T.F., B.D.D., S.M.S., K.K.O.B., P.J.M., and B.Mc.G.)

Journal titles

Academic Emergency Medicine

Family Medicine

American Family Physician

Family Practice

American Journal of Medicine

Journal of American Medical Association

Annals of Emergency Medicine

Journal of the American Board of Family Medicine

Annals of Family Medicine

Journal of Clinical Epidemiology

Annals of Internal Medicine

Journal of Family Practice

Annals of Medicine

Journal of Internal Medicine

Annual Review of Medicine

Lancet

Archives of Internal Medicine

Medical Care

BMC Family Practice

Medical Decision Making

British Medical Journal

Medicine

British Journal of General Practice

New England Journal of Medicine

Canadian Family Physician

Public Library of Science Medicine

Canadian Medical Association Journal

Primary Care

Cochrane Database Systematic Reviews

Scandinavian Journal of Primary Health Care

Search on MEDLINE (PubMed)

Search 1: 30 journals, no limits

("American family physician"[Jour] OR "Annals of family medicine"[Jour] OR "The British journal of general practice : the journal of the Royal College of General Practitioners"[Jour] OR "Canadian family physician Medecin de famille canadien"[Jour] OR "Family medicine"[Jour] OR "Family practice"[Jour] OR "Journal of the American Board of Family Medicine : JABFM"[Jour] OR "The Journal of family practice"[Jour] OR "Primary care"[Jour] OR "Scandinavian journal of primary health care"[Jour] OR "BMC family practice"[Jour] OR "The New England journal of medicine"[Jour] OR "Lancet"[Jour] OR "JAMA : the journal of the American Medical Association"[Jour] OR "Annals of internal medicine"[Jour] OR "Annual review of medicine"[Jour] OR "PLoS medicine"[Jour] OR "British medical journal"[Jour] OR "Archives of internal medicine"[Jour] OR "Canadian Medical Association journal"[Jour] OR "Annals of medicine"[Jour] OR "The American journal of medicine"[Jour] OR "Medicine (Baltimore)"[Journal] OR "Cochrane database of systematic reviews (Online)"[Jour] OR "Journal of clinical epidemiology"[Jour] OR "Medical decision making : an international journal of the Society for Medical Decision Making"[Jour] OR "Medical care"[Jour] OR

"Academic emergency medicine : official journal of the Society for Academic Emergency Medicine"[Jour] OR "Annals of emergency medicine"[Jour] OR "Journal of Internal Medicine"[Jour]) OR ("Br Med J"[Journal] OR "Br Med J (Clin Res Ed)"[Journal] OR "BMJ"[Journal] OR ("british"[All Fields] AND "medical"[All Fields] AND "journal"[All Fields]) OR "british medical journal"[All Fields]) OR ("Can Med Assoc J"[Journal] OR "CMAJ"[Journal] OR ("canadian"[All Fields] AND "medical"[All Fields] AND "association"[All Fields] AND "journal"[All Fields]) OR "canadian medical association journal"[All Fields])

AND

Search 2: CPR search terms

"clinical prediction"[All Fields] OR "clinical model*"[All Fields] OR "clinical score*"[All Fields] OR "decision rule*"[All Fields] OR "diagnostic accuracy"[All Fields] OR "diagnostic rule*"[All Fields] OR "diagnostic score*"[All Fields] OR "diagnostic value"[All Fields] OR "predictive outcome*"[All Fields] OR "predictive rule*"[All Fields] OR "predictive score*"[All Fields] OR "predictive value"[All Fields] OR "predictive risk*"[All Fields] OR "prediction outcome*"[All Fields] OR "prediction rule*"[All Fields] OR "prediction score*"[All Fields] OR "prediction value*"[All Fields] OR "prediction risk*"[All Fields] OR "risk assessment"[All Fields] OR "risk score*"[All Fields] OR (validation[All Fields] AND decision[All Fields]) OR (validation[All Fields] AND rule[All Fields]) OR "validation score*"[All Fields] OR (derivation[All Fields] AND validation[All Fields]) OR (("sensitivity and specificity"[MeSH Terms] OR ("sensitivity"[All Fields] AND "specificity"[All Fields]) OR "sensitivity and specificity"[All Fields] OR "sensitivity"[All Fields]) AND ("sensitivity and specificity"[MeSH Terms] OR ("sensitivity"[All Fields] AND "specificity"[All Fields]) OR "sensitivity and specificity"[All Fields] OR "specificity"[All Fields])) OR (("diagnosis"[Subheading] OR "diagnosis"[All Fields] OR "symptoms"[All Fields] OR "diagnosis"[MeSH Terms] OR "symptoms"[All Fields]) AND ("diagnosis"[Subheading] OR "diagnosis"[All Fields] OR "signs"[All Fields] OR "diagnosis"[MeSH Terms] OR "signs"[All Fields]))

AND

Search 3: limit to humans

NOT

Search 4: Publication type

(News[ptyp] OR Comment[ptyp] OR Editorial[ptyp] OR Case Reports[ptyp] OR Dictionary[ptyp])

AND

Search 5: Limit to year. Searches were run by year from 1980 to 2013

Appendix 2: Detailed summary of impact analysis studies of CPRs relevant to primary care

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
Musculoskeletal							
Auleley, 1997, France (15)	Ottawa ankle rule Sensitivity 100% (95-100%), Specificity 50% (46-55%), LR+=2.0 (1.8-2.2) Cluster RCT	4980, ≥ 18 years, emergency departments of 5 Paris university teaching hospitals Preintervention:2218, (male 620, female 1086), mean age 35 (18-92) Intervention: 1911, (male 546, female 463), mean age 34 (18-94) Post-intervention: 851, other	**Intervention:** educational intervention to encourage CPR use (i.e. posters, pocket cards, and data forms) **Post-intervention:** only posters alone used to sustain the intervention effect. **Comparison:** Usual care	**Physician behaviour:** Referral for radiography (ankle/foot)	Relative reduction intervention site: 22.4% (95% CI 19.8-24.9), control group increase of 0.5% (95% CI 0-1.4). Post-intervention x-ray requests (83.1% vs. 98%). Fracture prevalence rate: 12.4% control, 12.3% intervention	1. Missed fractures 2. Patient satisfaction	1. More missed fractures in intervention (n=3) than control (n=0) 2. Greater patient satisfaction in control (98%) than intervention (96%)

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
		demographics not presented					
Cameron, 1999, Canada, (19)	Ottawa Ankle Rule Sensitivity 100% (95-100), Specificity 50% (46-55%), LR=2.0 (1.8-2.2) Controlled before-after	1648, ≥18 years, Male 885, Female 763, Mean age 38 (18-91), emergency departments in 10 hospitals Group A: 516 Group B: 567 Group C: 565	**Group A:** little or no prior use of the CPR and educational intervention (educational meeting, posters, pocket cards and patient information leaflets) **Group B:** some prior use of the CPR and educational intervention **Group C:** active local implementation of the CPR and no educational intervention.	**Physician behaviour:** Referral for ankle X-ray	No reduction referral for ankle X-rays: intervention before 73%, after 78%, p=0.11, control: before 75%, after 65%, p=0.022 Fracture prevalence rate 11.7%	NA	NA
Stiell, 1994, Canada, ER(16)	Ottawa ankle rule Controlled before-after	2342, ≥ 18 years, emergency departments of 2 hospitals Intervention	**Intervention:** educational intervention to encourage CPR use (i.e. lecture, pocket cards, and posters)	**Physician behaviour:** Referral for radiography (ankle/foot)	*Ankle x-ray:* Relative reduction 28% in intervention group, increase of 2% in control	Difference in intervention between patients with X-ray vs non X-ray 1. Time spent in ER	1. Less time in ED for non-X-ray: 80 vs. 116 minutes. 2. More subsequent visits for X-ray: 20% vs 7%,

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
	Sensitivity 100% (95-100), Specificity 50% (46-55%), LR=2.0 (1.8-2.2)	Before: 657 After: 551 Male 51% Mean age 37 (18-92) Control Before:541 After:593 Male 54% Mean age 36 (18-86)	**Post-intervention:** posters remained in ER **Comparison:** Usual care		group (p<0.001). *Foot X-ray:* Relative reduction of 14 % intervention group, increase of 13% in control group (p<0.05). Fracture prevalence: Before 14.7% After: 17.1%	(minutes) 2. Subsequent physician visits 3. Subsequent ankle x-ray 4. Mean days off work 5. Mean cost ($) 6. Patient satisfaction	p<0.001 3. Subsequent X-ray: same 5% 4. More days off in X-ray group: 5 vs 3, p<0.001 5. Lower costs for non-X-ray: $62 vs. $173. p<0.0001 6. Satisfaction similar: 95% vs. 96%.
Boutis, 2013, Canada, ER(20)	Low Risk Ankle Rule Sensitivity 100% [93.3-100)	2151, children aged 3-16, emergency departments of six hospitals	**Phase 1:** no intervention **Phase 2:** educational interventions to encourage CPR use (i.e. physician education, pocket cards, posters)	**Physician behaviour:** Referral for ankle X-ray	Relative reduction in ankle x-rays in intervention sites compared to control sites.	1. Significant missed fractures 2. Length of stay (hours) 3. Physician satisfaction	1. RR: 0.008 (-0.004 – 0.02) 2. RR: 0.4 (-0.2 – 0.9) 3. RR: 8.3 (-16.9 –

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
	Specificity NR ITS	Intervention: 1055, Male 46%, Mean age 12.3 Control: 1096, Male 49%, Mean age 13.4	and CDSS **Phase 3:** CDSS only **Comparison:** Usual care		RR: 21.9% (95% CI 15.2-28.6) Fracture prevalence rate: NR	4. Patient satisfaction	0.4) 4. RR: -11.5 (-23.4 – 0.5)
Stiell, 1997, Canada, ER(17)	Ottawa Knee Rule Sensitivity 100% (94-100), Specificity 49% (46-52%), LR+=2.0 (1.7-2.1) Controlled before-after	3907, ≥ 18 years, emergency departments of 4 hospitals (2 community and 2 teaching) Intervention before: 982 after: 1063 Male: 54% Mean age: 39 (18-101) Control	**Intervention:** educational interventions to encourage CPR use (i.e. lecture, pocket cards and posters). **Comparison:** Usual care	**Physician behaviour:** Referral for knee radiography	Relative reduction of 26.4% of patients referred for knee x-ray in intervention group (77.6% vs. 57.1% (p<0.001), vs. relative reduction of 1.3% in control group (76.9% vs. 75.9%, p=0.6)	Difference in intervention between patients with X-ray vs non X-ray 1. Time spent in ER (minutes) 2. Subsequent physician visits 3. Subsequent ankle x-ray 4. Mean days off work 5. Mean cost ($) 6. Patient	1. Less time in ED for non-X-ray: 86 vs. 119 minutes. 2. More subsequent visits for X-ray: 52.4% vs. 38.3% 3. More subsequent X-ray in non X-ray group: 6.9% vs. 1.7% 4. More days off in X-ray group: 6 vs. 3 5. Lower costs for non-X-ray: $80 vs.

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
		before:962 after: 900 Male: 54% Mean age: 41 (18-97)			Fracture prevalence rate: Intervention: 5.8% Control: 10.3%	satisfaction	$183 6. Satisfaction similar: 96% vs. 98%.
Stiell, 2009, Canada, ER(18)	Canadian C-spine Rule Sensitivity 99% (96-100%), Specificity 45% (44-46%), LR+=1.8 (1.7-1.9) Cluster RCT	11824, ≥ 16 years, emergency departments of 6 hospitals Intervention Before: 3267 After: 3628 Male: 50%, Mean age 39 (16-100) Control Before: 2413 After: 2516 Male: 48% Mean age: 38	**Intervention:** educational interventions to encourage CPR use (i.e. lecture, pocket cards and posters) and CDSS at point of requesting imaging **Comparison:** Usual care	**Physician behaviour:** Diagnostic imaging rate of cervical spine	Relative reduction of 12.8% for cervical spine imaging (95% CI 9-16%) intervention group. Control group showed a relative increase of 12.5% (95% CI 7-18%) Prevalence rate clinically important	1. Serious adverse outcomes 2. Physician accuracy in using the rule 3. Sensitivity of rule	1. No serious adverse outcomes 2. 82.9% accurate interpretation rule 3. Se: 100% [85-100]

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
		(16-102) Postintervention: 5800			cervical spine injury (fracture/dislocation/ligamentous instability): Before: 1.6% After: 0.8%		
Respiratory							
McIsaac, 2002, Canada, Primary care(29)	McIsaac Sensitivity 83% (no CIs), Specificity 94% (no CIs) LR+=13.8 RCT	621, ≥ 3 years, general practice, 97 participating GPs, Intervention: 304 Mean age: 27.5 Female: 65.4% Control: 317 Mean age: 28.1, Female: 69.1%	**Intervention:** mailed educational intervention (published score with summary explanation with pocket card). Physicians were provided with a sticker to apply to the encounter form that listed the score and management approach.	**Physician behaviour:** Unnecessary antibiotic prescriptions (negative throat swab)	Non-significant difference intervention vs. control groups in unnecessary antibiotic prescription (20.4% vs. 16.1%, p=0.29) Prevalence of swab confirmed diagnosis streptococcal	Overall antibiotic use	No difference between groups in overall antibiotic use (28.1% vs. 27.9%, p=0.97)

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
			Comparison: Physicians only received the education material.		throat infection: Control 12.6%, Intervention: 7.9%		
McIsaac, 1998, Canada, Primary care(28)	Centor score Sensitivity 90% (no CIs), Specificity 92% (no CIs) LR+=11.3 RCT	396, ≥ 15 years, general practice, 450 participating GPs Intervention: 184 Mean age: 31.6 Male: 41.2% Control: 212 Mean age: 31.5 Male 40.1%	**Intervention:** mailed educational intervention (published score with summary explanation and patient information). Physicians asked to complete an encounter form with symptom check list, CPR score and management actions. **Comparison:** mailed educational	**Physician behaviour**: Antibiotic prescription	Non-significant reduction in antibiotic prescription in intervention group (27.8%) vs. control (35.7%) (p=0.09)	Antibiotic prescribing per estimated Group A streptococcal prevalence calculation	In score category 1 the antibiotic prescription rates were statistically significant. 16.2% in control vs. 3.6% in intervention.

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
			intervention and a control form with no score or management actions.				
McGinn, 2013, USA, (32)	1) Walsh rule for streptococcal pharyngitis 2) Heckerling rule for pneumonia Walsh rule: c-statistic: 0.71 [95% CI, 0.67-0.74) Heckerling rule: c-statistic 0.82 (0.74-	168 Primary care providers, 2 large academic ambulatory care centres in New York 984 Patients **Intervention**:586 Mean age: 43 Female: 24% **Control:**398 Mean age: 49 Female: 23%	**Intervention:** education session and computerised CDSS with CPRs embedded promoting physician to calculate scores of both CPRs and receive management recommendations. **Comparison:** Usual care with background information on CPRs	**Physician behaviour**: Change in antibiotic prescription	Intervention group significantly less likely to order antibiotics than control (age-adjusted RR, 0.74; 95% CI, 0.60-0.92). Absolute risk difference 9.2%.	1. Rate of chest radiographs 2. Rate of rapid streptococcal tests 3. Number throat cultures ordered	1. Intervention less likely to order chest radiographs (RR 0.89; 95% CI, 0.55-1.46) 2. Intervention significantly less likely to order rapid streptococcal test (RR 0.75; 95% CI, 0.58-0.97) 3. Intervention significantly less likely to do throat cultures (RR 0.55; 95% CI, 0.35-0.86)

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
	0.9) RCT						
Worrall, 2007, Canada, (30)	Modified Centor score Sensitivity 90% (no CIs), Specificity 92% (no CIs), LR+=11.3 RCT	533, ≥ 19 years, 37 practices in eastern Newfoundland CPR:170 RADT: 120 RADT+CPR:102 Control:141 Gender and age patient demographics NR	**CPR group**: decision rules only **RADT group**: rapid antigen test only **RADT+CPR group**: decision rules and antigen test combined **Comparison:** Usual care	**Physician behaviour**: Prescribing rate of antibiotics	Prescription rates: CPR alone - 55% RADT - 27% (NS) RADT+CPR -38% (p<0.001) Control: 58%	Types of antibiotics prescribed	Amoxicillin most commonly prescribed (47%), followed by penicillin (20%)
Little, 2013, UK (31)	FeverPAIN c-statistic: 0.71	631, ≥ 3 years, general practice (48 UK practices)	**CPR group:** CPR was applied and antibiotic prescribed according to the score.	**Patient behaviour:** Patient reported symptom severity days 2-4 after consultation on a 7-	Greater improvements in symptom severity for CPR group compared	1. Antibiotic prescribing 2. Symptom duration 3. Medicalising	1. Lower use of antibiotics in CPR group than control (RR 0.71, 0.50 to 0.95)

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
	RCT	CPR group:211 Female: 60% Mean age: NR CPR+RADT group: 213 Female: 65% Mean age: NR Delayed prescribing: 207 Female:67% Mean age: NR	**CPR+RADT group:** CPR was applied and antibiotic prescribed or RADT carried out according to the score. **Comparison:** Delayed prescribing	point Likert scale	to control (−0.33, 95% CI −0.64 to −0.02)	beliefs 4. Return consultations 5. Suppurative complications	2. Symptom resolution was significantly faster in the CPR group (hazard ratio 1.30, 95% CI 1.03 to 1.63) 3. No significant difference in beliefs 4. No significant difference in return to GP 5. No suppurative complications.
Cardiovascular							
Pozen, 1984, USA, ER(21)	Pozen score for chest pain Sensitivity 94% (no CIs), Specificity 78% (no CIs) LR+=4.3	2320, aged ≥30 male and ≥40 female, emergency departments of 6 US hospitals Intervention:	**Intervention:** Research assistant presented physicians with the CPR probability score. **Comparison:** Usual care, the CPR	**Physician behaviour:** Appropriate admission/discharge	30% relative reduction in patients admitted to CCU who did not have acute coronary syndrome	Diagnostic accuracy of acute myocardial infarction	Overall diagnostic accuracy significantly higher in intervention group. Intervention: 83.4%, control 79.6% (p=0.002) There was no significant

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
	ITS	1288 Control: 1032 Overall mean age 62 Male: 62%	probability was calculated but not presented to the physicians.		Overall prevalence of cardiac ischaemia 32% intervention, 29% control		difference in sensitivity. (intervention: 94.5%, control 95.3, NS)
Kline, 2009, USA, ER(22)	Kline chest pain CPR c-statistic 0.74 (0.65-0.82) RCT	369 adults presenting with chest pain, one emergency room in an academic urban US hospital Intervention: 185 Female: 64% Mean age: 46 Control 184 Female: 61% Mean age: 46	**Intervention:** Clinicians and patients received a printout of CPR result displayed numerically and graphically. **Comparison:** Usual care, no printout was provided to clinicians or patients.	**Physician behaviour**: Hospital admission with no significant cardiovascular diagnosis	No significant decrease for patients admitted with no CVD diagnosis: 11% vs. 5% (95% CI -0.2%-11%), p=0.059 Prevalence of acute coronary syndrome (ACS): 2.1%	Delayed/missed diagnosis of ACS, thoracic imaging with a negative result, median length of stay, patient satisfaction, readmission	Significant decrease in thoracic imaging: 16/184 intervention vs. 36/185 control, (95% CI 3.8%-18%, p=0.004), higher patient satisfaction: (90/184 intervention rate vs. 70/185 control 'very satisfied' (95% CI 0.9%-21%), p=0.01, decreased readmission rate/return to ER: 4% intervention vs. 11% controls (95% CI 2.5%-13.2%), p=0.001, no

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
							difference in length of hospital stay: 11.4 hours control vs. 9.2 hours intervention, p=0.36.
Persell, 2012, primary care(27)	Framingham risk estimate and global cardiovascular risk score Cluster RCT	N=14 physicians, n=218 adult patients randomised to intervention, n=15 physicians, n=217 adults patients randomised to control, US primary care	**Intervention**: Individualised CVD risk estimate posted to high-risk patients and their physicians alerted by secure email Control: usual care	**Patient:** Reduction in LDL-cholesterol level by 30mg/dl	No difference in the primary outcome (11% vs. 11.1% OR 0.99, 95% CI 0.56, 1.74, p=0.96)	Receipt of a statin prescription	Intervention patients were more likely to receive a prescription for a statin (11.9% vs. 6%, OR 2.13, 95% CI 1.05, 4.32, p=0.038)
Grover 2007 and 2008, primary care(25, 26)	Framingham risk score RCT	N=3,053 adults mean age 56.4, male 66.9%, n=230 primary care physicians, 10 provinces in Canada primary	**Intervention:** Patients identified as high risk and randomised to intervention had their individualised coronary risk profile	**Patient outcomes:** 1. Reduction in LDL-cholesterol level	Statistically significant reduction in LDL and total cholesterol-HDL ratio in intervention vs.	Reduction in BP	Patients in intervention group were more likely to receive appropriate antihypertensive treatment and more likely to start or modify treatment

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
		care	discussed **Control:** usual care, coronary risk profile withheld		control and patients were more likely to reach lipid targets		
Hall, 2003, UK, (23)	New Zealand cardiovascular risk score NR Pilot RCT	323, aged 35-75 years, patients with no history of cardiovascular or renal disease, one UK hospital outpatient department (OPD) clinic Experimental: 162 Control:161 Age and gender demographics: NR	**Intervention:** Risk scores were clearly documented at the front of the notes of patients. **Comparison:** Usual care	**Physician behaviour:** 1. Prescription of risk modifying drugs 2. Management of CVD risk factors	1. No significant between group differences: change in diabetes treatment 42% (95% CI 34-50) vs. 58 (95 CI 29-45%), change in antihypertensive drugs 26 (95% CI 10-22%) vs.	Time to next OPD appointment	No difference in time to next OPD (24% in each group received OPD appointment in <6 months).

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
					10% (95% CI 5-16%), change in lipid lowering drugs: 12% (7-17%) vs. 9% (95% CI 4-14%) 2. Referral to dietician 10% (95% CI 6-15%) vs. 13% (95% CI 7-19%)		
Hanon, 2000, France (24)	Framingham risk score NR RCT	1243, aged 18 -75 years with hypertension attending a general physician Mean age: 60	**Intervention:** Physicians knowledge of the calculated risk score. **Comparison:** Usual care	**Patient and Physician behaviour:** Change in BP, patients prescribed dual therapy	No difference in BP (patients with BP <140/90 mmHg intervention: 64%, control 62%) or %	Physician estimation vs. Framingham risk equation calculated 10 year CVD risk	General physicians' calculation of CVD risk at 10 years has poor concordance with the Framingham risk model (35%).

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
		Male: 54%			patients on dual therapy (41% intervention vs. 46% control)		
Neurological							
Stiell, 2010, Canada, ER(33)	CT head rule Sensitivity 100% (96-100%), Specificity 51% (48-53%), LR+=2.0 (1.8-2.3) Cluster RCT	4531, alert and stable adults with minor head injury aged ≥ 16 years, 12 emergency departments in three provinces of Canada (6 teaching sites, 6 community sites) Intervention: Before: 1049 After:1531 Mean age: 37 (16-99) Male: 70%	**Intervention:** educational interventions to encourage CPR use (i.e. lecture, pocket cards and posters) and real-time reminder at point of requesting imaging **Comparison:** Usual care	**Physician behaviour:** Proportion of patients referred for CT imaging	Increased proportion of patients referred for CT imaging intervention: before: 62.8%, after: 76.2% (difference: 13.3% (95% CI 9.7%-17.0%) Control: before: 67.5%, after: 74.1% (difference: 6.7% (95% CI	1. Accuracy CPR 2. Number of clinically important brain injuries not identified at ER 3. Adverse outcomes	1. Sensitivity 100% [96-100%] 2. No missed brain injuries or adverse outcomes. 3. Deaths from brain injury: intervention: before: 0.1%, after: 0.1%, control: before 0.3%, after: 0.1%

Author, Year, Country	CPR name, predictive accuracy (95% CI), Positive likelihood ratio (LR+)[$], Study design	Population and study setting	Intervention and comparison	Primary outcome(s)	Results: primary outcome (CI)	Secondary outcome(s)	Results: secondary outcomes
		Control: Before: 876, After:1075 Mean age: 39 (16-97) Male: 71%			2.6-10.8)		

***NR=Not reported, **NA=Non-applicable, ***NS=Non-significant, [$] CPR predictive accuracy as referenced in the impact analysis study**

Appendix 3: Uncontrolled before-after impact analysis CPR studies excluded from data analysis due to study design

Author, Year	CPR name	Type of study	Implementation	Predictive accuracy (reported), level of evidence	Type of outcome
Bessen, 2009 (36)	Ottawa ankle rule	Before-after	CPR only	Sensitivity 100% (95-100%), Specificity 50% (46-55%), LR=2.0 (1.8-2.2)	Physician behaviour
Stiell, 1995 (35)	Ottawa ankle rule	Before-after	CPR only	Sensitivity 100% (95-100%), Specificity 50% (46-55%), LR=2.0 (1.8-2.2)	Physician behaviour
Kerr, 2005 (37)	Canadian C-spine rule	Before-after	CPR only	Sensitivity 99% (96-100%), Specificity 45% (44-46%), LR+=1.8 (1.7-1.9)	Physician behaviour
Stanley, 2009 (38)	Glasgow Blatchford bleeding score	Before-after	CPR only	Sensitivity 99% (no CIs), Specificity 32% (no CIs), LR+-1.5	Physician behaviour + patient
Sultan, 2004 (39)	CT head rule	Before-after	CPR only	Sensitivity 100% (96-100%), Specificity 51% (48-53%), LR+=2.0 (1.8-2.3)	Physician behaviour