Supplemental materials

Van Grootven B, *et al. BMJ Open* 2021; 11:e047576. doi: 10.1136/bmjopen-2020-047576

Supplemental Text 1. Search string

Ovid MEDLINE(R) ALL 1946 to November 21, 2019
Search date: 25 August 2020

#	Searches	Results
1	exp "predictive value of tests"/ or roc curve/ or exp Decision Support Techniques/	321482
2	("signal to noise" or roc curve or reiver operating or predict*).ab,kf,ti.	1644590
3	(decision adj2 (aid? or model* or clinical* or support or system? or tool?)).ab,kf,ti.	56262
4	decision?.ab,kf,ti.	381353
5	logistic models/	139814
6	(logistic model* or regression).ab,kf,ti.	758909
7	5 or 6	814876
8	4 and 7	23040
9	or/1-3,8	1861041
10	patient readmission/	17534
11	((readmission or readmitted or re-admission or re-admitted) and (hospital* or prehospital*)).ab,kf,ti.	20747
12	((readmission or readmitted or re-admission or re-admitted) adj2 (patient? or client)).ab,kf,ti.	4515
13	(rehospitali?ation? or re-hospitali?ation? or rehospitali?ed or re-hospitali?ed).ab,kf,ti.	7834
14	or/10-13	35723
15	exp cardiovascular system/ or exp cardiovascular diseases/	3001695
16	(cardiac* or cardio* or myocard* or coronary or heart).ab,jw,kf,ti.	2161260
17	(diastolic or systolic or edema or dyspnea or renocardiac or Stenocardia* or angor or angina* or atherioscleros* or atheroscleros* or arteroscleros* or Arterioscleros* or Kounis syndrome or ST elevation or STEMI or valve* or aortic or stenosis or Leopard Syndrome or Noonan Syndrome with Multiple Lentigines or Multiple Lentigines Syndrome or Obstructive Subaortic Conus or Absent Right Atrioventricular Connection or arrhythmia* or sinus or sinoatrial or atria* or auricular or atrioventricular or ventricular or bradycardia or Bradyarrhythmia* or tachycardia* or fibrillation* or flutter* or Right Bundle Branch Block or Brugada or extrasystole* or (commotion adj1 cordis) or Auriculo-Ventricular Dissociation or Auriculo Ventricular Dissociation or Atrioventricular Dissociation or A-V Dissociation or AV Dissociation or syncope or (Andersen adj2 Tawil) or QT Syndrome or (jervell adj2 lange) or Prolonged QT Interval or (romano adj1 ward) or parasystole or Pre-Excitation or Preexcitation or (Lown adj2 Ganong) or Short PR-Normal QRS Complex Syndrome or Short PR Normal QRS Complex Syndrome or Wolff-Parkinson-White or WPW Syndrome or Idioventricular Rhythm or Torsade de Pointes).ab,hw,kf,ti.	1642025
18	or/15-17	4136701
19	(predict* adj3 risk?).ab,kf,ti.	57669
20	retrospective.ab,hw,kf,ti.	1006259
21	(admission or hospitali?ation or discharge).ab,hw,kf,ti.	529444
22	and/18-21	692
23	and/9,14,18	3482
24	(ISRCTN96643197 or ChiCTR1900026250 or NCT04008914 or NCT03791541 or NCT03300791 or "CTRI/2016/10/007411" or "CTRI/2014/06/004690" or NCT03949439 or NCT03905226 or NCT00344513 or NCT01755052 or NCT02041585).ab,kf,ti.	9
25	((OPERA or REIC or FIgARO or PREDIC or optimize-hf or ten-hms or tele-hf or readmits or silver-ami or dc promis or KorAHF) adj3 (trial or study)).ab,kf,ti.	118
26	or/22-25	4209

Ovid Embase Classic+Embase <1947 to 2020 August 24>
Search date: 25 August 2020

#	Searches	Results
1	*predictive value/ or *receiver operating characteristic/ or exp *Decision Support system/	21786
2	("signal to noise" or roc curve or reiver operating or predict*).ab,kw,ti.	2224346
3	(decision adj2 (aid? or model* or clinical* or support or system? or tool?)).ab,kw,ti.	80866
4	decision?.ab,kw,ti.	531706
5	*logistic regression analysis/	1018
6	(logistic model* or regression).ab,kw,ti.	1107281
7	5 or 6	1107307
8	4 and 7	33059
9	or/1-3,8	2305864
10	*hospital readmission/	13570
11	((readmission or readmitted or re-admission or re-admitted) and (hospital* or prehospital*)).ab,kw,ti.	39681
12	((readmission or readmitted or re-admission or re-admitted) adj2 (patient? or client)).ab,kw,ti.	9596
13	(rehospitali?ation? or re-hospitali?ation? or rehospitali?ed or re-hospitali?ed).ab,kw,ti.	14392
14	or/10-13	56536
15	exp *cardiovascular system/	630584
16	(cardiac* or cardio* or myocard* or coronary or heart).ab,jw,kw,ti.	3123455
17	(diastolic or systolic or edema or dyspnea or renocardiac or Stenocardia* or angor or angina* or atherioscleros* or atheroscleros* or arteroscleros* or Arterioscleros* or Kounis syndrome or ST elevation or STEMI or valve* or aortic or stenosis or Leopard Syndrome or Noonan Syndrome with Multiple Lentigines or Multiple Lentigines Syndrome or Obstructive Subaortic Conus or Absent Right Atrioventricular Connection or arrhythmia* or sinus or sinoatrial or atria* or auricular or atrioventricular or ventricular or bradycardia or Bradyarrhythmia* or tachycardia* or fibrillation* or flutter* or Right Bundle Branch Block or Brugada or extrasystole* or (commotion adj1 cordis) or Auriculo-Ventricular Dissociation or Auriculo Ventricular Dissociation or Atrioventricular Dissociation or A-V Dissociation or AV Dissociation or syncope or (Andersen adj2 Tawil) or QT Syndrome or (jervell adj2 lange) or Prolonged QT Interval or (romano adj1 ward) or parasystole or Pre-Excitation or Preexcitation or (Lown adj2 Ganong) or Short PR-Normal QRS Complex Syndrome or Short PR Normal QRS Complex Syndrome or Wolff-Parkinson-White or WPW Syndrome or Idioventricular Rhythm or Torsade de Pointes).ab,hw,kw,ti.	2756334
18	or/15-17	4713190
19	(predict* adj3 risk?).ab,kw,ti.	90323
20	retrospective.ab,hw,kw,ti.	1280890
21	(admission or hospitali?ation or discharge).ab,hw,kw,ti.	1117031
22	and/18-21	991
23	and/9,14,18	6851
24	(ISRCTN96643197 or ChiCTR1900026250 or NCT04008914 or NCT03791541 or NCT03300791 or "CTRI/2016/10/007411" or "CTRI/2014/06/004690" or NCT03949439 or NCT03905226 or NCT00344513 or NCT01755052 or NCT02041585).ab,cn,kw,ti.	31
25	((OPERA or REIC or FIgARO or PREDIC or optimize-hf or ten-hms or tele-hf or readmits or silver-ami or dc promis or KorAHF) adj3 (trial or study)).ab,kw,ti.	285
26	or/22-25	8017

Supplemental Text 2. Data items

The following data was collected in accordance with the CHARMS checklist (Critical Appraisal and Data Extraction for Systematic Reviews): citation, source of data, country, study design, setting, participant description, sample characteristics, study dates, outcome definition, follow-up, number and type of predictors, definition and method for measurement of predictors, timing of predictor measurement, handling of predictors in the modelling, number of participants and number of outcomes/events, calibration, discrimination, classification, methods used for testing model performance, final multivariable model results (regression coefficients, intercept, baseline survival, model performance), and model presentation.

Supplemental Table 1A. Risk of Bias

Study	Model	Risk of bias				Overall	Applicability			Overall
		Participants	Predictors	Outcome	Analysis	Risk of bias	Participants	Predictors	Outcome	applicability
Barnett et al.	Model validation	-	?	+	-	-	+	+	+	+
	Model update	-	?	+	-	-	+	+	+	+
Sanchez et al.	NR	-	?	?	-	-	+	+	+	+
Deo et al.	30-days CABG Readmission Calculator	-	-	-	-	-	+	+	?	?
Tan et al.	NR	-	-	-	-	-	+	+	-	-
Wang et al.	NR	-	?	?	-	-	+	+	+	+
Rosenblum et al.	The STS PROM score	-	?	-	-	-	+	+	+	+
Dodson et al.	SILVER-AMI 30-day readmission calculator	+	+	+	+	+	+	+	+	+
Lim et al.	NR	+	?	-	-	-	+	+	-	-
Kini et al.	NR	-	-	-	?	-	+	+	+	+
Nguyen et al.	AMI READMITS score	-	-	+	-	-	+	+	+	+
	Full-stay AMI model	-	-	+	-	-	+	+	+	+
	CMS AMI administrative model	-	?	+	-	-	+	+	+	+
Cediel et al.	TARRACO Risk Score	-	-	-	-	-	+	+	-	-
Brown et al.	STS 30-day Readmission Model	+	?	?	-	-	+	+	?	?
	STS Augmented Clinical Model	-	?	+	-	-	+	+	?	?
Khera et al.	TAVR 30-Day Readmission Risk Model	-	-	?	-	-	+	+	?	?
Tam et al.	NR	-	-	?	-	-	+	+	?	?
Atzema et al.	AFTER Part 2 scoring system	-	-	-	-	-	+	+	-	-
Stuebe et al.	NR	-	+	-	-	-	+	+	+	+
Huynh et al.	NR	-	-	?	-	-	+	+	+	+
Zywot et al.	CABG Risk Scale	-	?	?	-	-	+	+	+	+

Supplemental Table 1. Risk of bias (continued)

Study	Model	Risk of bias				Overall Risk of bias	Applicability			Overall applicability
		Participants	Predictors	Outcome	Analysis		Participants	Predictors	Outcome	
Cox et al.	CMS HF medical model	-	+	+	-	-	+	+	+	+
	CMS HF administrative model	-	?	+	-	-	+	+	+	+
Zitser-Gurevich et al.	NR	?	+	+	-	-	+	+	+	+
Ahmad et al.	CMS HF administrative model	-	+	+	-	-	+	+	+	+
Minges et al.	NR	-	+	+	-	-	+	+	+	+
Pack et al.	NR	-	-	-	-	-	+	+	+	+
Benuzillo et al.	CRSS	-	-	+	-	-	+	+	+	+
Kitamura et al.	FIM	-	?	-	-	-	+	+	+	+
Lahewala et al.	CHADS2	-	?	+	-	-	+	+	+	+
	CHA2DS-VASc	-	?	+	-	-	+	+	+	+
Formiga et al.	CMS HF medical model	-	?	-	-	-	+	+	+	+
Leong et al.	30-day HF readmission risk score	-	+	-	-	-	+	+	-	-
Burke et al.	HOSPITAL score	-	-	-	-	-	+	+	+	+
Kilic et al.	NR	-	?	-	-	-	+	+	+	+
Moulder et al.	NR	+	+	-	-	-	+	+	+	+
Chotechuang et al.	GRACE	-	-	-	-	-	+	+	-	-
Yazdan-Ashoori et al.	LACE	?	?	+	-	-	+	+	+	+
	CMS HF administrative model	?	?	+	-	-	+	+	+	+
Oliver-McNeil et al.	ICD Readmission-Risk Score	-	?	-	-	-	+	+	+	+
Sudhakar et al.	CMS HF medical model	-	+	-	-	-	+	+	+	+
Raposeiras-Roubín et al.	GRACE	-	-	-	-	-	+	+	-	-
Betihavas et al.	NR	-	?	-	-	-	+	+	-	-
Lancey et al.	NR	-	?	-	-	-	+	+	+	+
Moretti et al.	EuroHeart PCI score	-	+	-	-	-	+	+	-	-
Hilbert et al.	HF decision tree	-	+	+	-	-	+	+	+	+
	AMI decision tree	-	+	+	-	-	+	+	+	+

Supplemental Table 1. Risk of bias (continued)

Study	Model	Risk of bias					Applicability			
		Participants	Predictors	Outcome	Analysis	Overall Risk of bias	Participants	Predictors	Outcome	Overall applicability
Wang et al.	LACE	-	?	-	-	-	+	+	+	+
Rana et al.	HOSPITAL score	-	?	-	-	-	+	+	-	-
	Elixhauser index	-	?	-	-	-	+	+	-	-
Hummel et al.	CMS HF medical model	?	+	+	-	-	+	+	+	+
Salah et al.	ELAN-HF score	-	?	-	-	-	+	+	-	-
Wasfy et al.	Pre-PCI model	-	+	?	-	-	+	+	+	+
Engoren et al.	NR	-	?	+	-	-	+	+	+	+
Au et al.	Administrative Claims Model: HF 30-day mortality	-	?	?	-	-	+	+	?	?
	Charlson Comorbidity Score	-	?	?	-	-	+	+	?	?
	CMS HF administrative model	-	?	?	-	-	+	+	?	?
	LACE	-	?	?	-	-	+	+	?	?
Krumholz et al.	CMS AMI medical model	+	-	+	-	-	+	+	+	+
	CMS AMI administrative model	-	-	+	-	-	+	+	+	+
Amarasingham et al.	Tabak mortality score	-	?	?	-	-	+	+	+	+
	CMS HF administrative model	-	?	?	-	-	+	+	+	+
	ADHERE	-	?	?	-	-	+	+	+	+
Keenan et al.	CMS HF administrative model	-	-	+	-	-	+	+	+	+
	CMS HF medical model	+	-	-	-	-	+	+	+	+
Ferraris et al.	READMIT	?	+	+	-	-	+	+	+	+
Delgado et al.	15-day CV readmission risk score	?	+	-	-	-	+	+	-	-
	30-day CV readmission risk score	?	+	-	-	-	+	+	-	-
Espinoza et al.	30-day readmission score after cardiac surgery	+	?	?	-	-	+	+	+	+

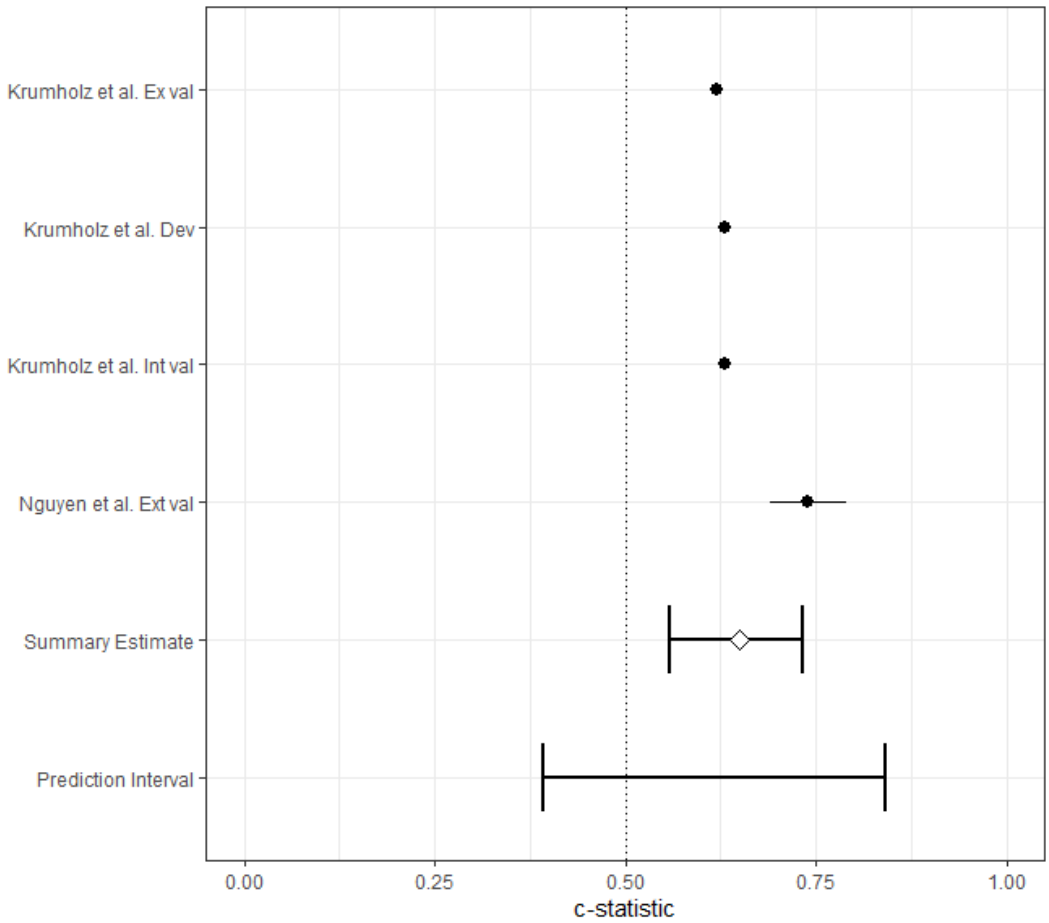
Supplemental Table 1. Risk of bias (continued)

Study	Model	Risk of bias				Overall Risk of bias	Applicability			Overall applicability
		Participants	Predictors	Outcome	Analysis		Participants	Predictors	Outcome	
Reed et al.	CMS HF administrative model	-	?	?	-	-	+	+	+	+
	PARR-30	-	?	?	-	-	+	+	+	+
	LACE	-	?	?	-	-	+	+	+	+
	Hasan	-	?	?	-	-	+	+	+	+
	AH model	-	?	?	-	-	+	+	+	+
Ibrahim et al.	HOSPITAL score	-	+	-	-	-	+	+	+	+
	LACE	-	+	-	-	-	+	+	+	+
	LACE+ index	-	+	-	-	-	+	+	+	+
Bardhan et al.	NR	-	-	-	-	-	+	+	-	-
Asche et al.	NR	-	?	-	-	-	+	+	?	?
Li et al.	NR	-	?	+	-	-	+	+	+	+
Hammill et al.	CMS HF administrative model	-	-	+	?	-	+	+	+	+
Frizzell et al.	CMS HF administrative model	-	-	+	-	-	+	+	+	+

Legend: the overall risk of bias assessment is located in the main paper.

Abbreviations: AH: Adventist hositals, CABG: coronary artery bypass grafting, CMS=centers for Medicare and Medicaid services, CRSS: CABG Readmission Risk Score, Fim: motor and cognitive Functional Independence Measure, HF: heart failure, ICD: implantable cardioverter defibrillator, NR: not reported, PARR-30: Patients at Risk of Re-admission within 30-days, PCI: percutaneous coronary intervention, TAVR: transcatheter aortic valve replacement

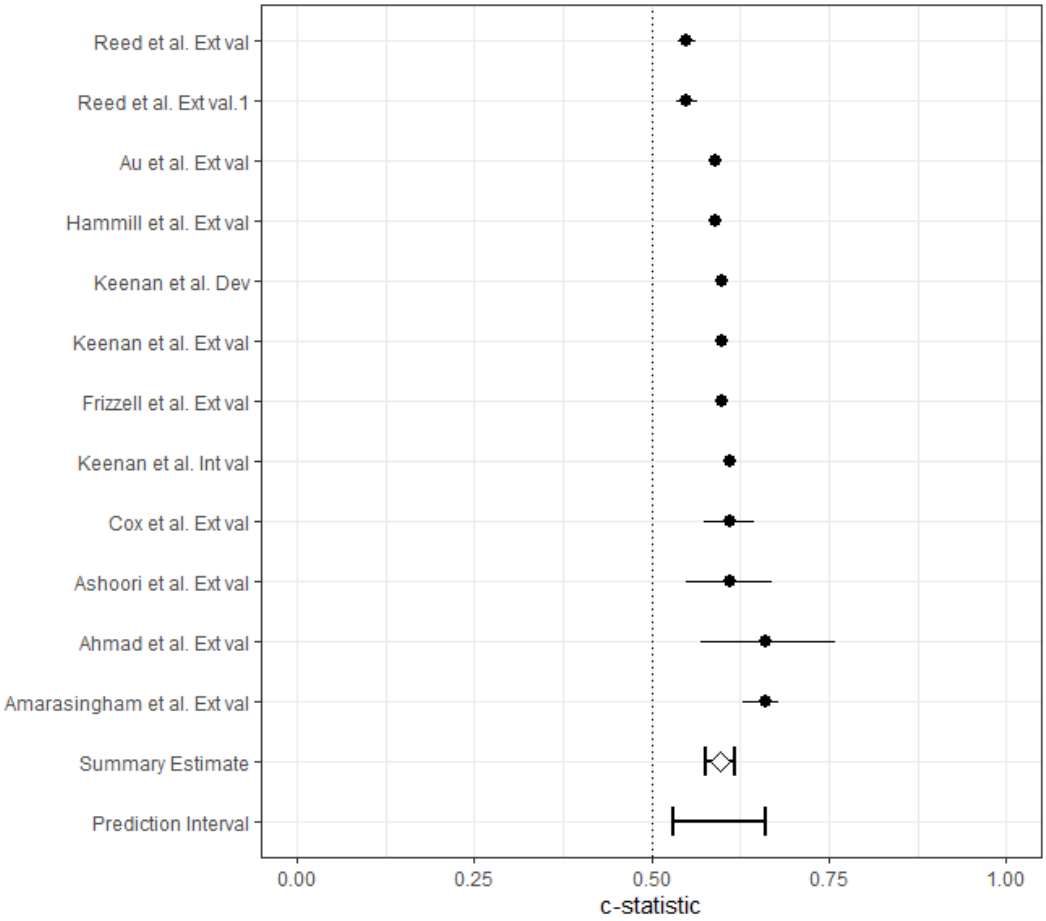
Supplemental Figure 1. Meta-analysis of CMS AMI administrative model



Legend: The CMS acute myocardial infarction (AMI) administrative model was evaluated in four independent cohorts in two studies: 0.65, 95% CI 0.56 to 0.73, 95% prediction interval 0.39 to 0.84. Standard errors were derived from the reported c-statistics, sample size and observed events. The readmission rate was missing for the internal validation cohort in the Krumholz et al. study, and this data was needed to derive the observed events. The development and validation cohort in the Krumholz et al. study were similar samples and we used the average readmission rate from these two cohorts to impute the missing readmission rate for the internal validation.

Abbreviations: Ext val: external validation, Int val: internval validation, Dev: Development

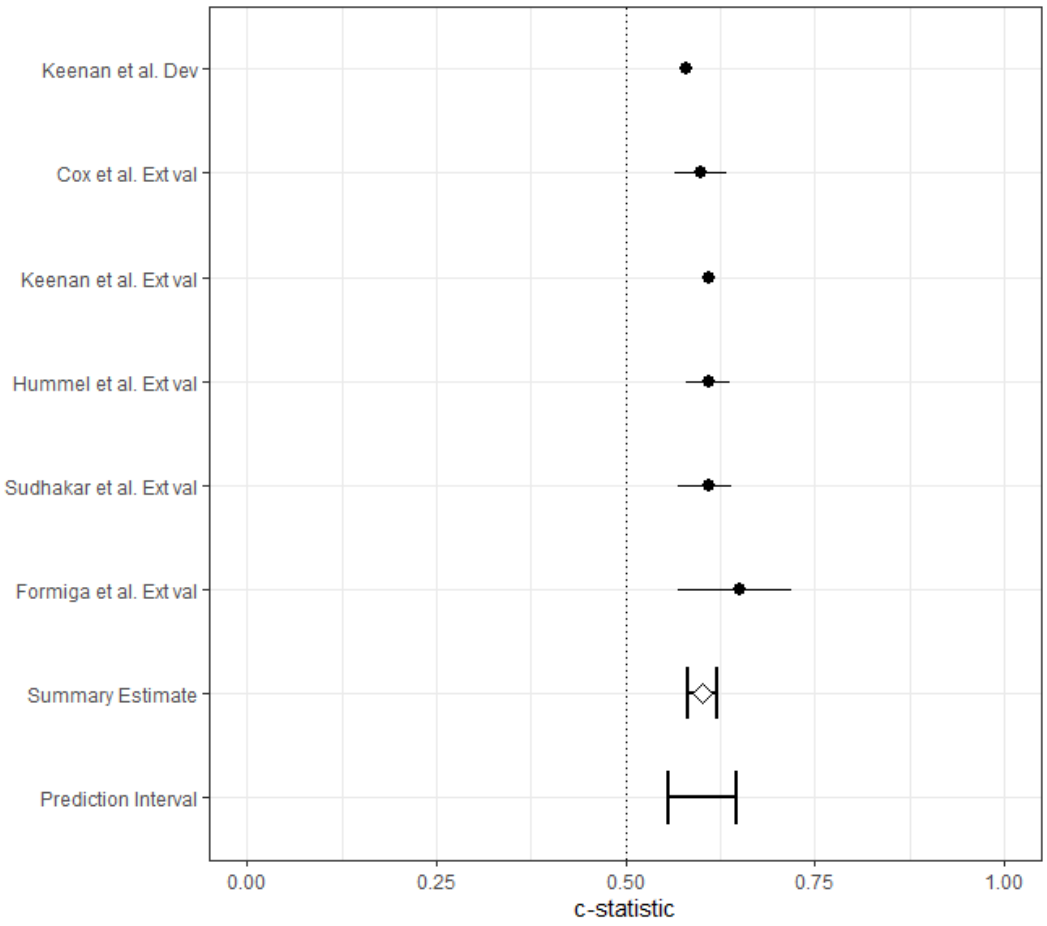
Supplemental Figure 2. Meta-analysis of CMS HF administrative model



Legend: The CMS heart failure (HF) administrative model was evaluated in twelve independent cohorts in nine studies: 0.60, 95% CI 0.58 to 0.62, 95% prediction interval 0.53 to 0.66. Standard errors were derived from the reported c-statistics, sample size and observed events. The readmission rate was missing for the internal validation cohort in the Keenan et al. study, and this data was needed to derive the observed events. The development and validation cohort in the Keenan et al. study were similar samples and we used the average readmission rate from these two cohorts to impute the missing readmission rate for the internal validation.

Abbreviations: Ext val: external validation, Int val: internval validation, Dev: Development

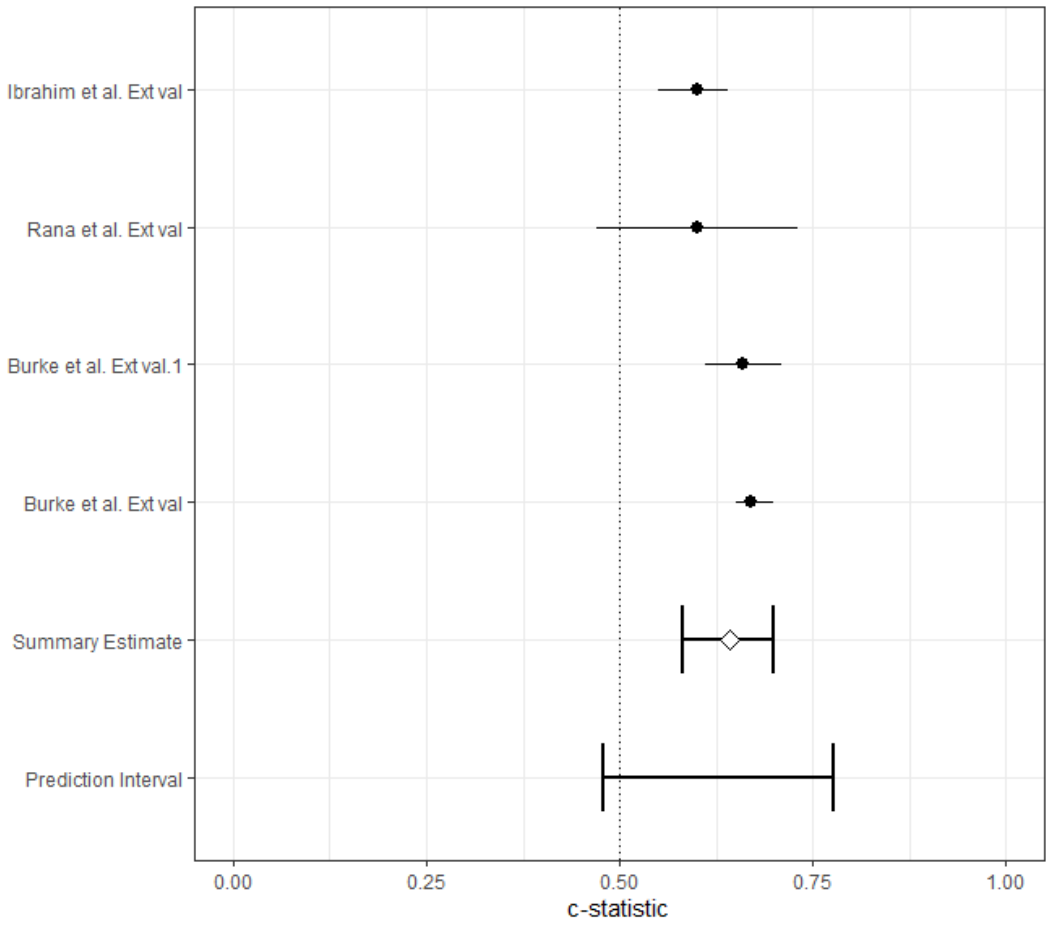
Supplemental Figure 3. Meta-analysis of CMS medical model



Legend: The CMS medical model was evaluated in six independent cohorts in five studies: 0.60, 95% CI 0.58 to 0.62, 95% prediction interval 0.56 to 0.65. Standard errors were derived from the reported c-statistics, sample size and observed events.

Abbreviations: Ext val: external validation, Int val: internval validation, Dev: Development

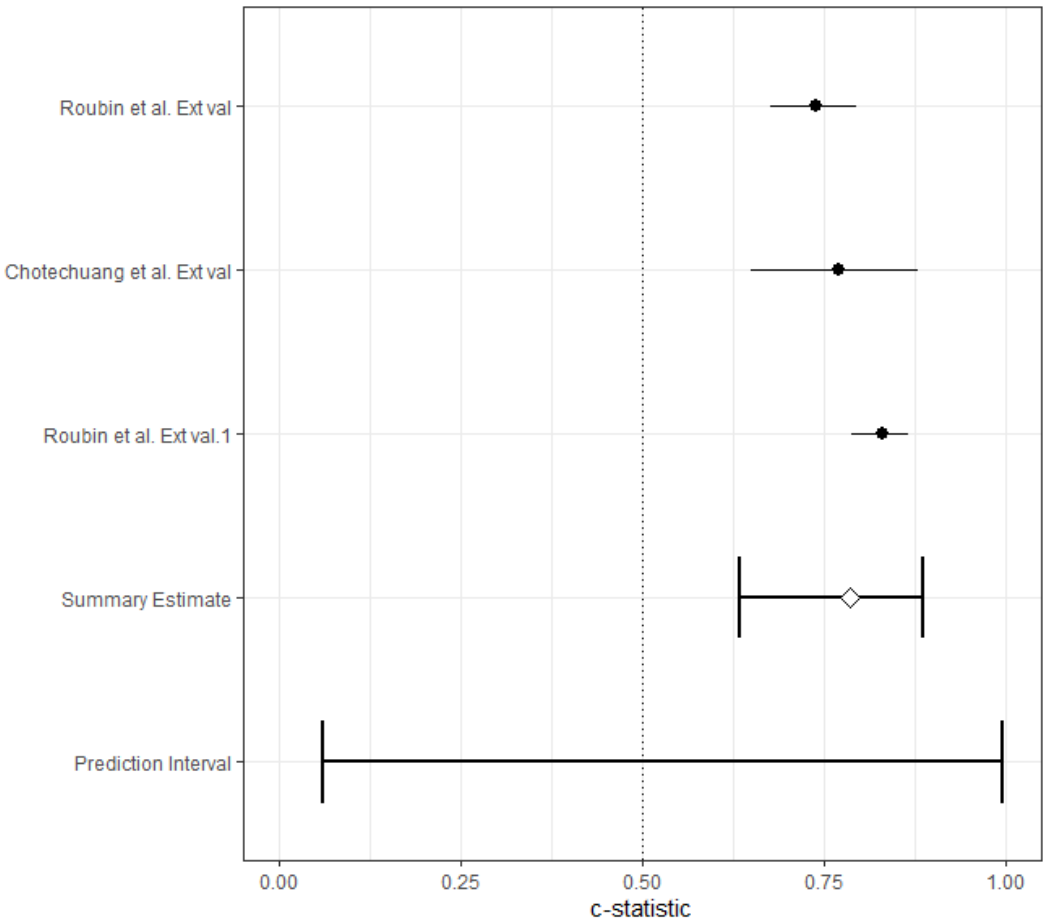
Supplemental Figure 4. Meta-analysis of HOSPITAL score



Legend: The HOSPITAL score was evaluated in four independent cohorts in three studies: 0.64, 95% CI 0.58 to 0.70, 95% prediction interval 0.48 to 0.78. Standard errors were derived from the reported c-statistics, sample size and observed events.

Abbreviations: Ext val: external validation, Int val: internval validation, Dev: Development

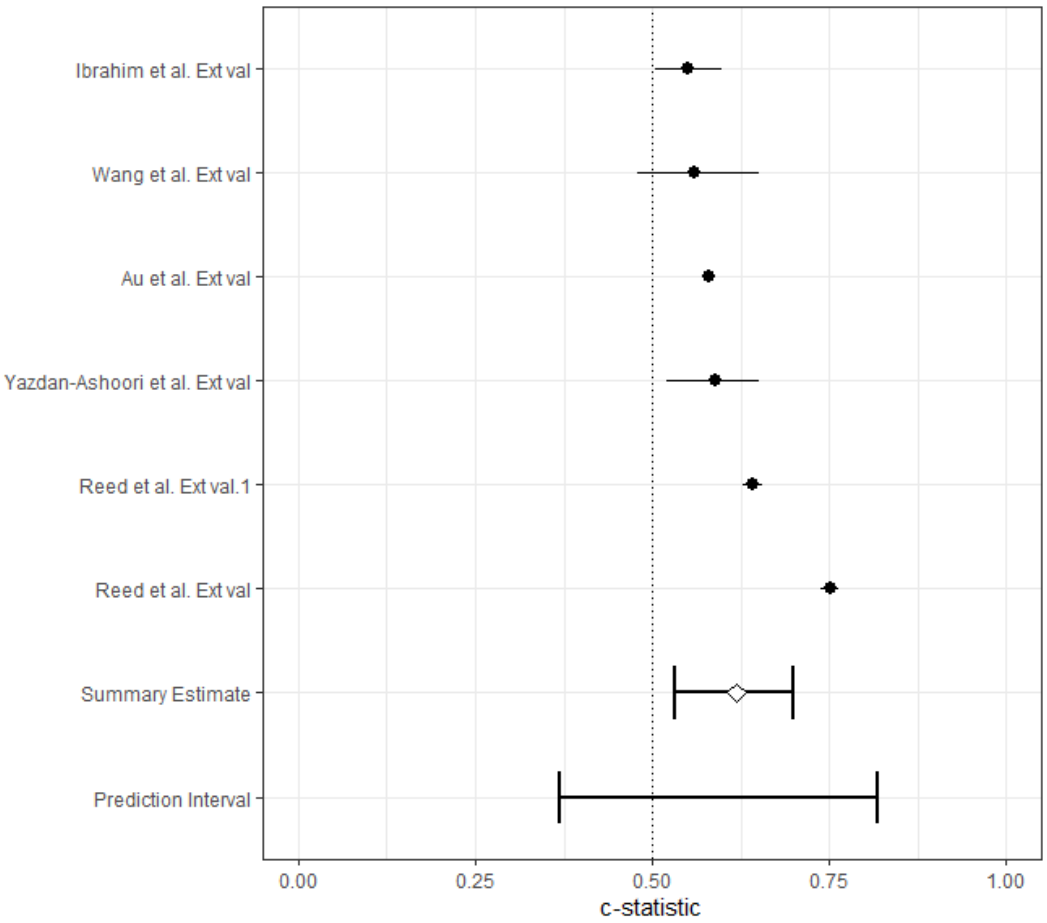
Supplemental Figure 5. Meta-analysis of GRACE



Legend: GRACE was evaluated in four independent cohorts in three studies: 0.79, 95% CI 0.63 to 0.86, 95% prediction interval 0.06 to 1.00. Standard errors were derived from the reported c-statistics, sample size and observed events.

Abbreviations: Ext val: external validation, Int val: internval validation, Dev: Development

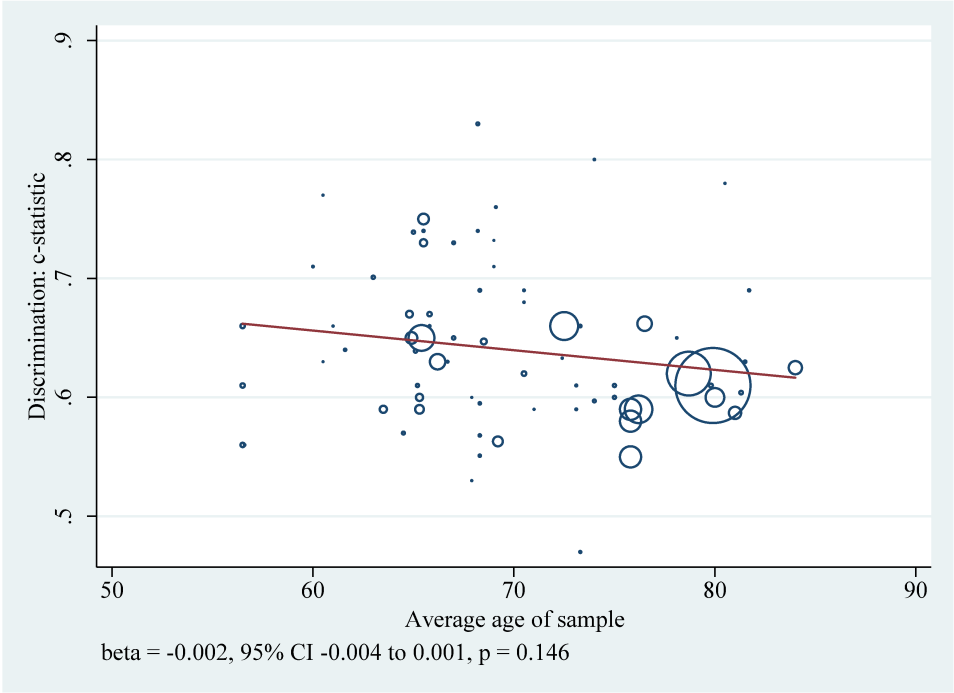
Supplemental Figure 6. Meta-analysis of LACE



Legend: LACE was evaluated in six independent cohorts in five studies: 0.62, 95% CI 0.53 to 0.70, 95% prediction interval 0.37 to 0.82. Standard errors were derived from the reported c-statistics, sample size and observed events.

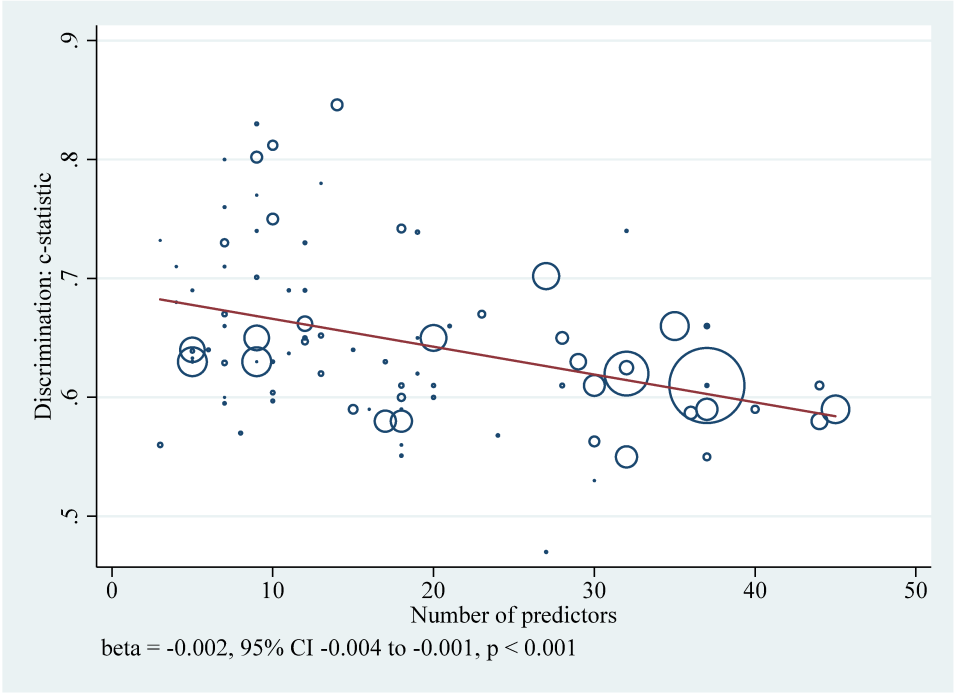
Abbreviations: Ext val: external validation, Int val: internval validation, Dev: Development

Supplemental Figure 7. Age as moderator



Legend: A meta-regression with average sample age as covariate was performed. The outcome was the discrimination (c-statistic). There is no association between the sample age and the discrimination.

Supplemental Figure 8. Number of predictors as moderator



Legend: A meta-regression with the number of predictors as covariate was performed. The outcome was the discrimination (c-statistic). The discrimination increases with the number of predictors decreases. This association is significant.

Supplemental Table 1B. Subgroup analyses

Moderators	N	C-statistic	95% CI	Test for subgroup difference
Population				p = 0.835
- Surgical	17	0.627	0.605 – 0.649	
- TAVR	2	0.645	0.560 – 0.729	
- Heart failure	45	0.641	0.623 – 0.658	
- Acute myocardial infarction	16	0.671	0.644 – 0.697	
- Arrhythmias	5	0.640	0.630 – 0.649	
- Valve disease	1	0.650	0.641 – 0.659	
- ICD implantation	1	0.710	0.605 – 0.815	
- Reinfarction	1	0.740	0.681 – 0.799	
- Acute coronary syndrome	1	0.590	0.475 – 0.705	
- Mixed	3	0.660	0.656 – 0.664	
Data source				p = 0.014
- Registry	17	0.613	0.602 – 0.624	
- Administrative database	17	0.664	0.635 – 0.693	
- Hospital database	18	0.612	0.593 – 0.632	
- Prospective cohort	16	0.640	0.613 – 0.667	
- Retrospective cohort	23	0.682	0.653 – 0.710	
- Secondary analysis	2	0.695	0.497 – 0.894	
Endpoint				p = 0.589
- 15 days	1	0.633	0.539 – 0.727	
- 28 days	1	0.800	0.720 – 0.880	
- 30 days	78	0.642	0.631 – 0.654	
- 90 days	8	0.645	0.632 – 0.657	
- 100 days	1	0.652	0.626 – 0.678	
- 180 days	4	0.656	0.591 – 0.721	
Outcome definition				p = 0.144
- All cause	65	0.644	0.633 – 0.656	
- Cardiac related	18	0.676	0.628 – 0.723	

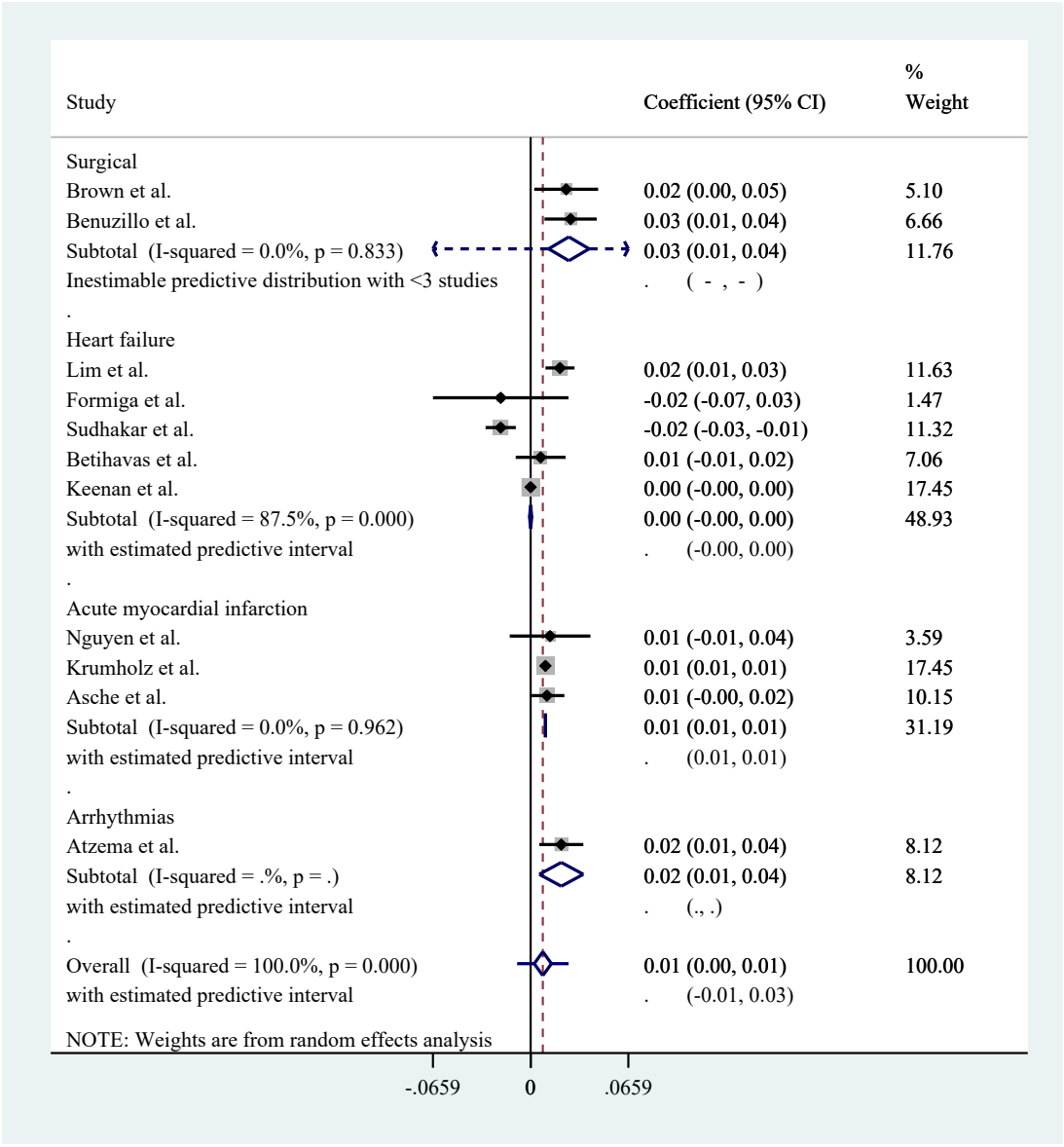
Legend: Subgroup analyses were performed. The outcome was the discrimination (c-statistic). The discrimination is moderator by the data source that was used in the study, but not by the population, outcome definition and endpoint.

Supplemental Table 2A. Summary of meta-analyses predictors

Predictor	Coefficient, 95% CI	Prediction interval
Age (years)	0.01, 0.00 - 0.01	-0.01 - 0.03
Female	0.10, 0.03 - 0.17	-0.17 - 0.38
Arrhythmias	0.20, 0.12 - 0.28	-0.04 - 0.43
Chronic lung disease	0.23, 0.05 - 0.40	-0.35 - 0.80
Chronic obstructive pumonary disease	0.18, 0.15 - 0.22	0.08 - 0.29
Artherosclerose	0.01, -0.13 - 0.15	-0.38 - 0.41
Diabetes mellitus	0.16, 0.11 - 0.22	-0.04 - 0.37
Current heart failure	0.27, 0.20 - 0.34	0.04 - 0.50
Hypertension	0.05, -0.02 - 0.12	-0.16 - 0.25
Valve disease	0.10, 0.06 - 0.13	0.01 - 0.19
Prior percutaneous coronary intervention	0.01, -0.07 - 0.09	-0.27 - 0.29
History of heart failure	0.38, 0.25 - 0.51	0.01 - 0.75
Cerebrovascular disease	0.08, 0.03 - 0.13	-0.05 - 0.22
Anemia	0.10, 0.06 - 0.14	-0.01 - 0.22
Stroke	0.07, 0.01 - 0.13	-0.11 - 0.25
Peripheral vascular disease	0.15, 0.09 - 0.21	-0.03 - 0.34
Dementia	-0.04, -0.10 - 0.02	-0.21 - 0.12
Prior Coronary Artery Bypass Graft	0.04, -0.06 - 0.14	-0.30 - 0.39

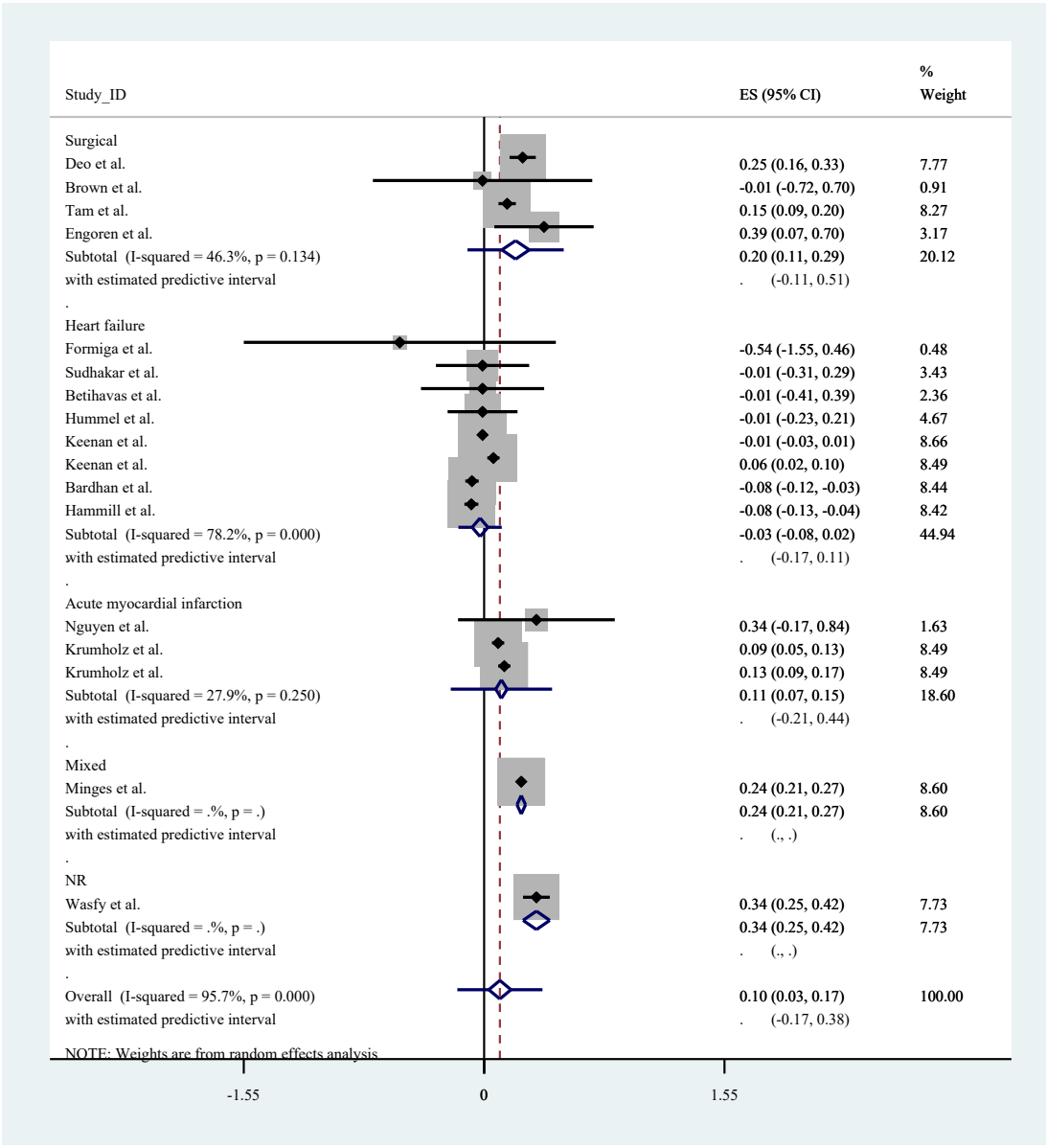
Legend: A meta-analyses was performed with the outcome 30 day unplanned hospital readmissions. The forest plots are detailed below. Please note that there are some small differences with the data reported in Figure 4 in the main manuscript. This is because of a difference in rounding the decimal points by the software.

Supplemental Figure 9. Age as predictor



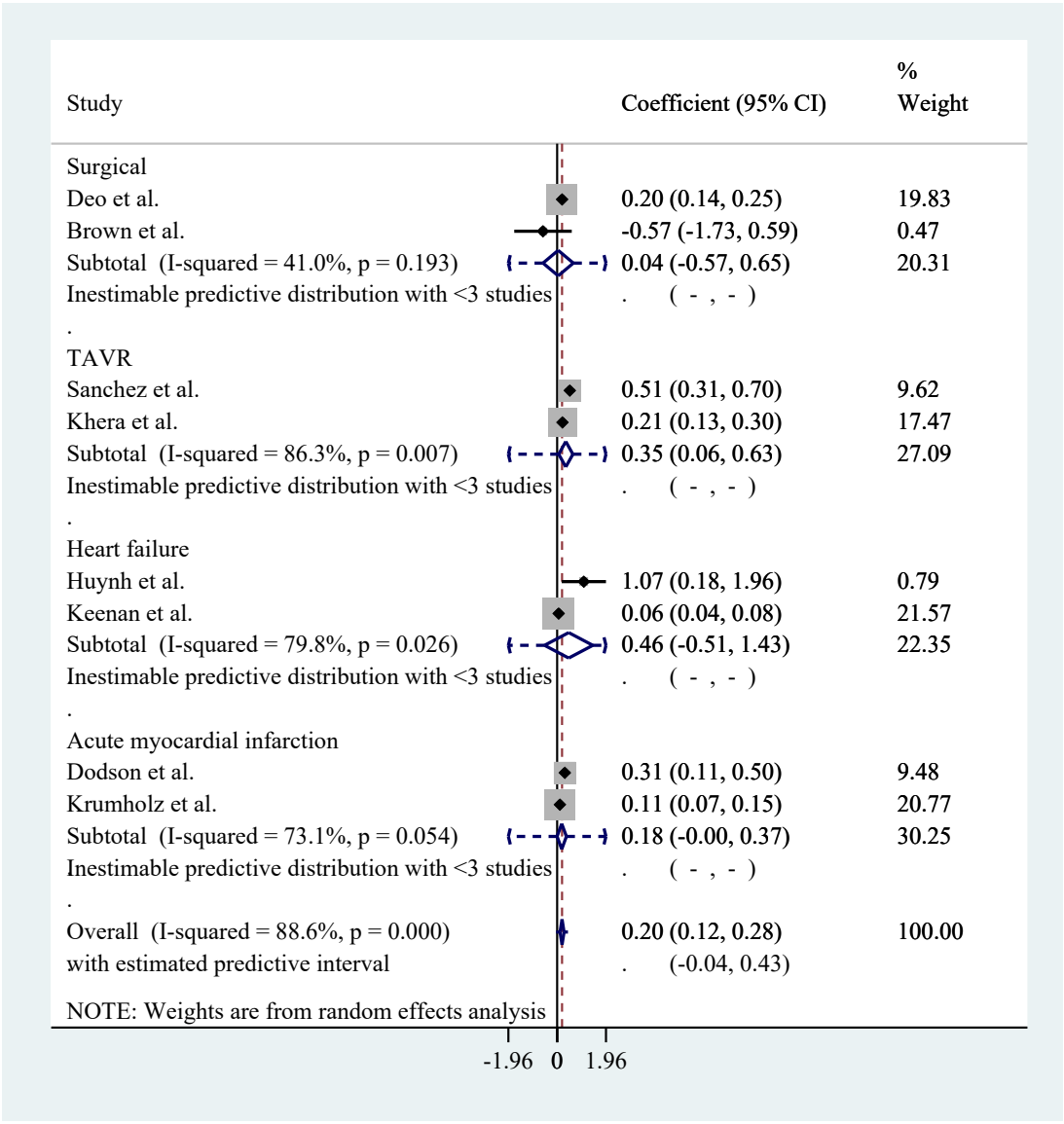
Legend: Two studies were not included in the analysis. One study had a missing standard error and one study reported transformed values. The values of their coefficients were: -0.001, and log(0,502).

Supplemental Figure 10. Female as predictor



Legend: Two studies were not included in the analysis because the standard errors were missing. The values of their coefficients were: -0.28 and 0.206.

Supplemental Figure 1. Arrhythmias as predictor

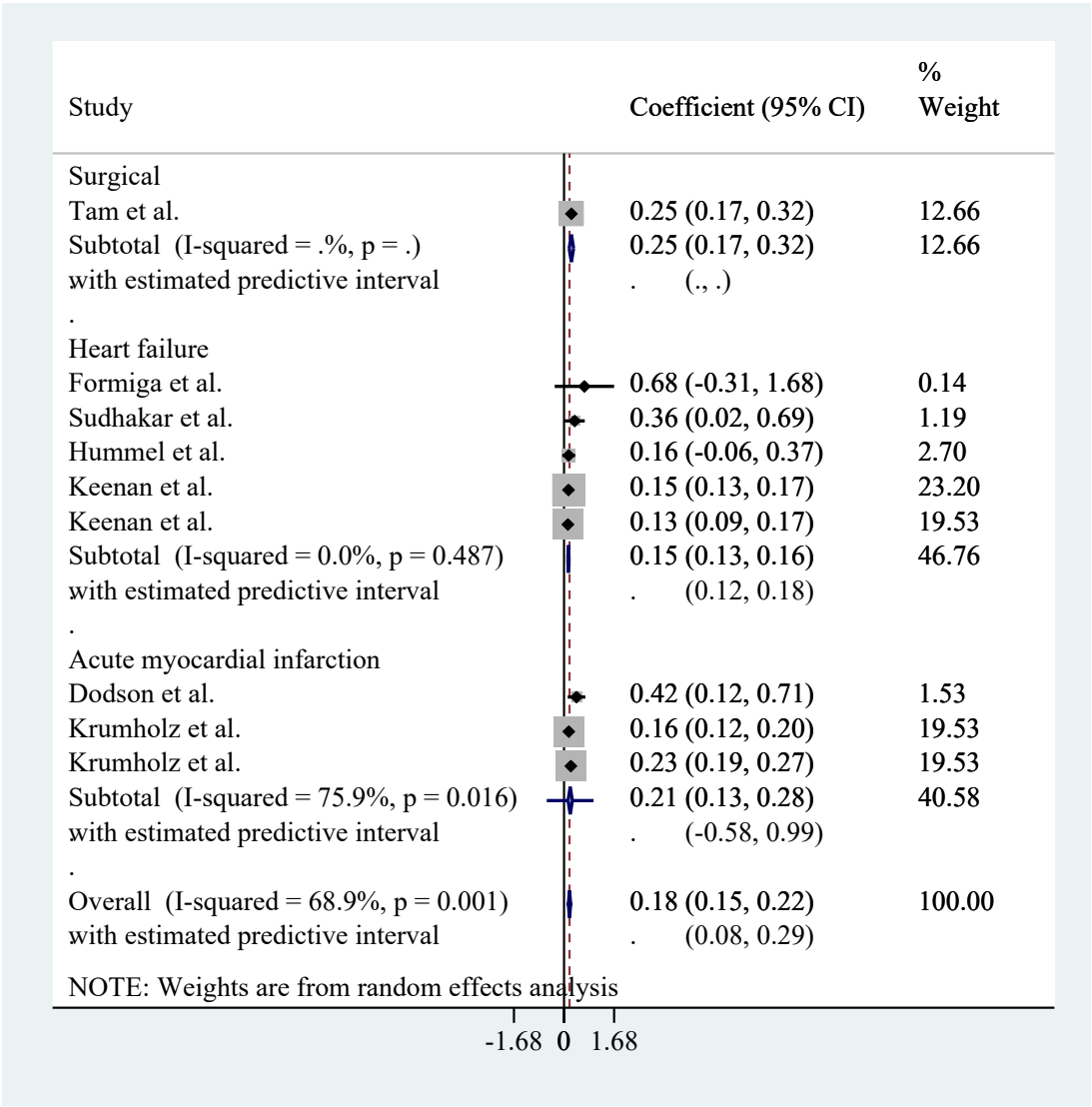


Legend: There was no missing data in the analysis.

Supplemental Figure 12. Chronic lung disease as predictor

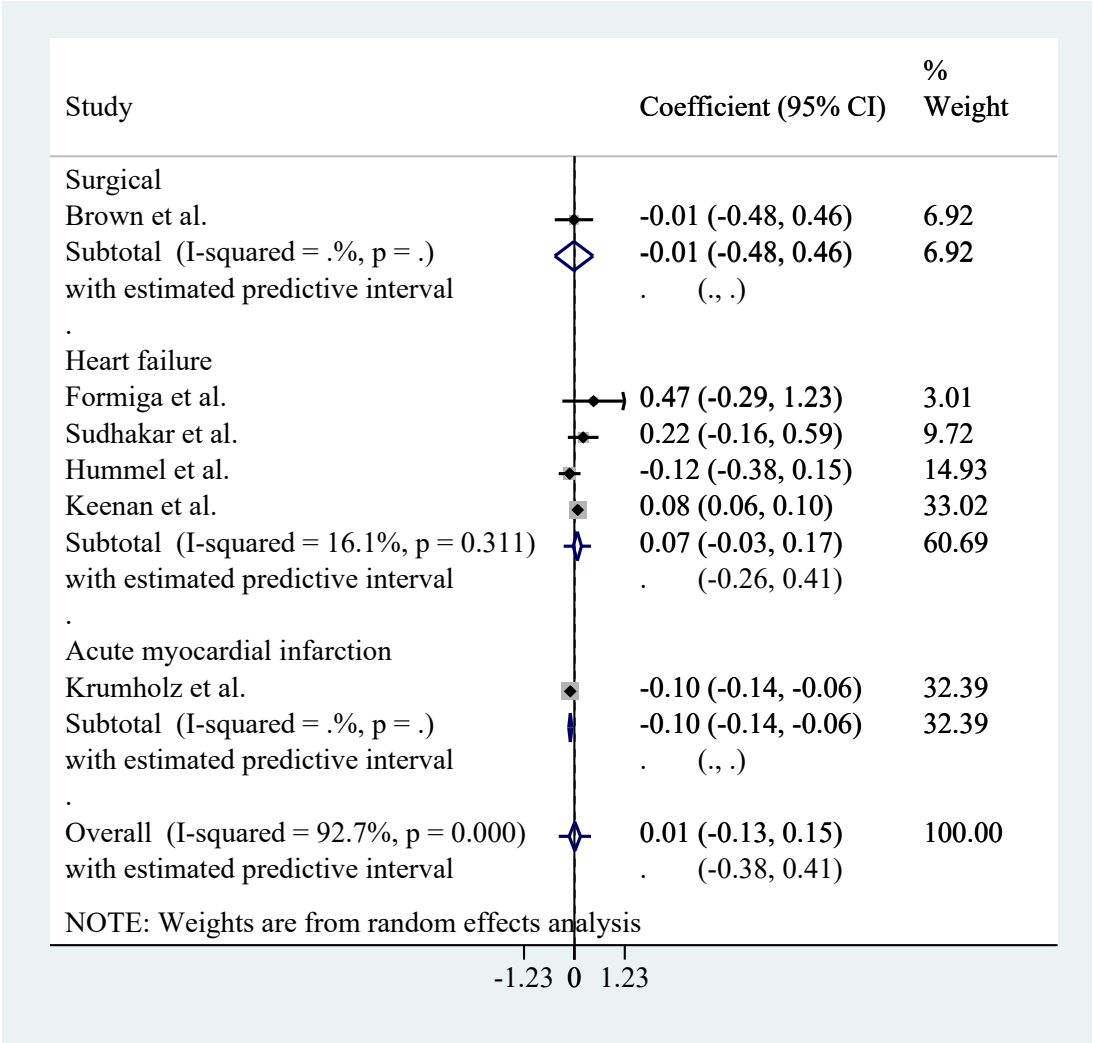
Legend: There was no missing data in the analysis.

Supplemental Figure 13. Chronic Obstructive Pulmonary Disease as predictor



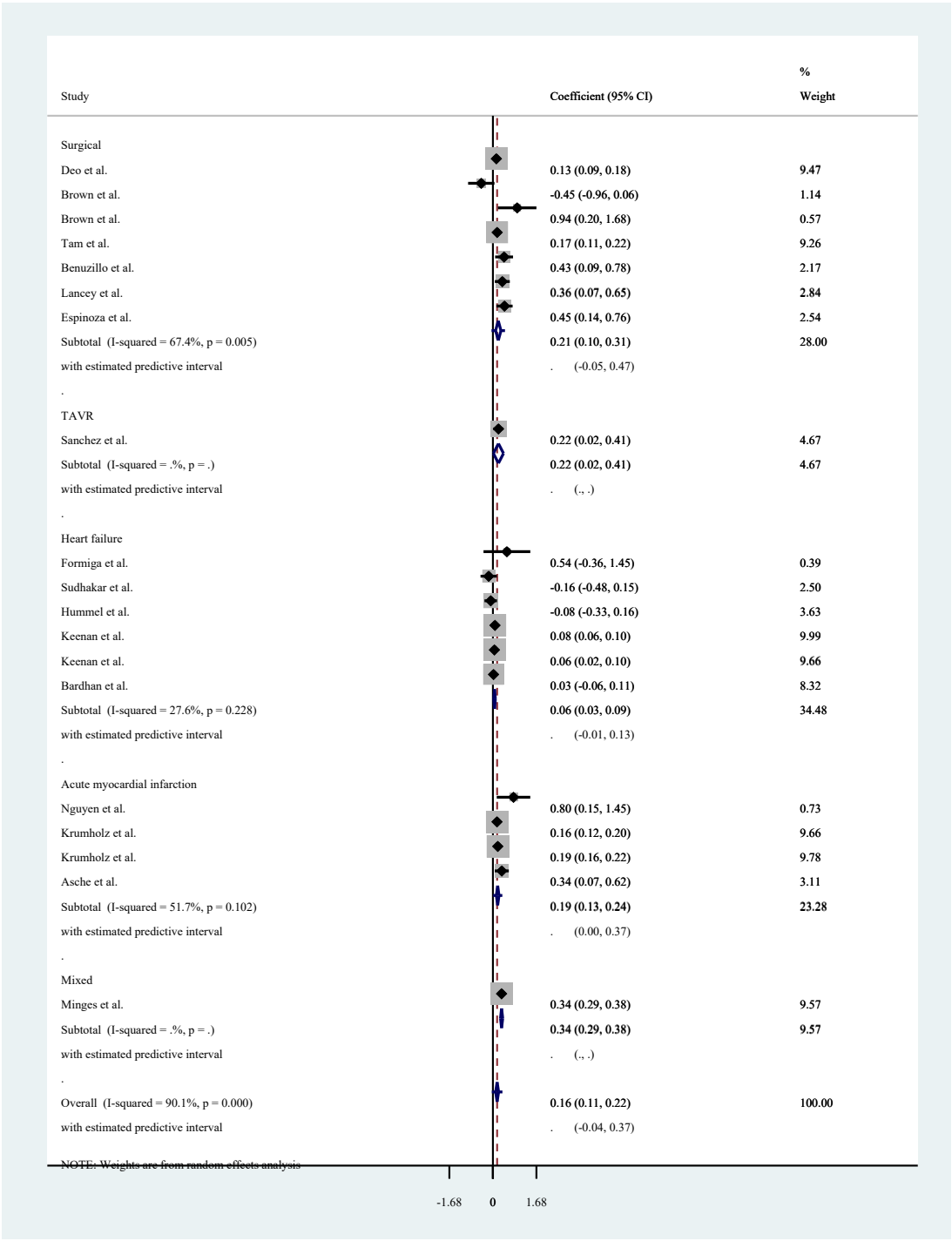
Legend: Two studies were not included in the analysis because the standard errors were missing. The values of their coefficients were: 0.053 and 0.677.

Supplemental Figure 14. Atherosclerosis as predictor



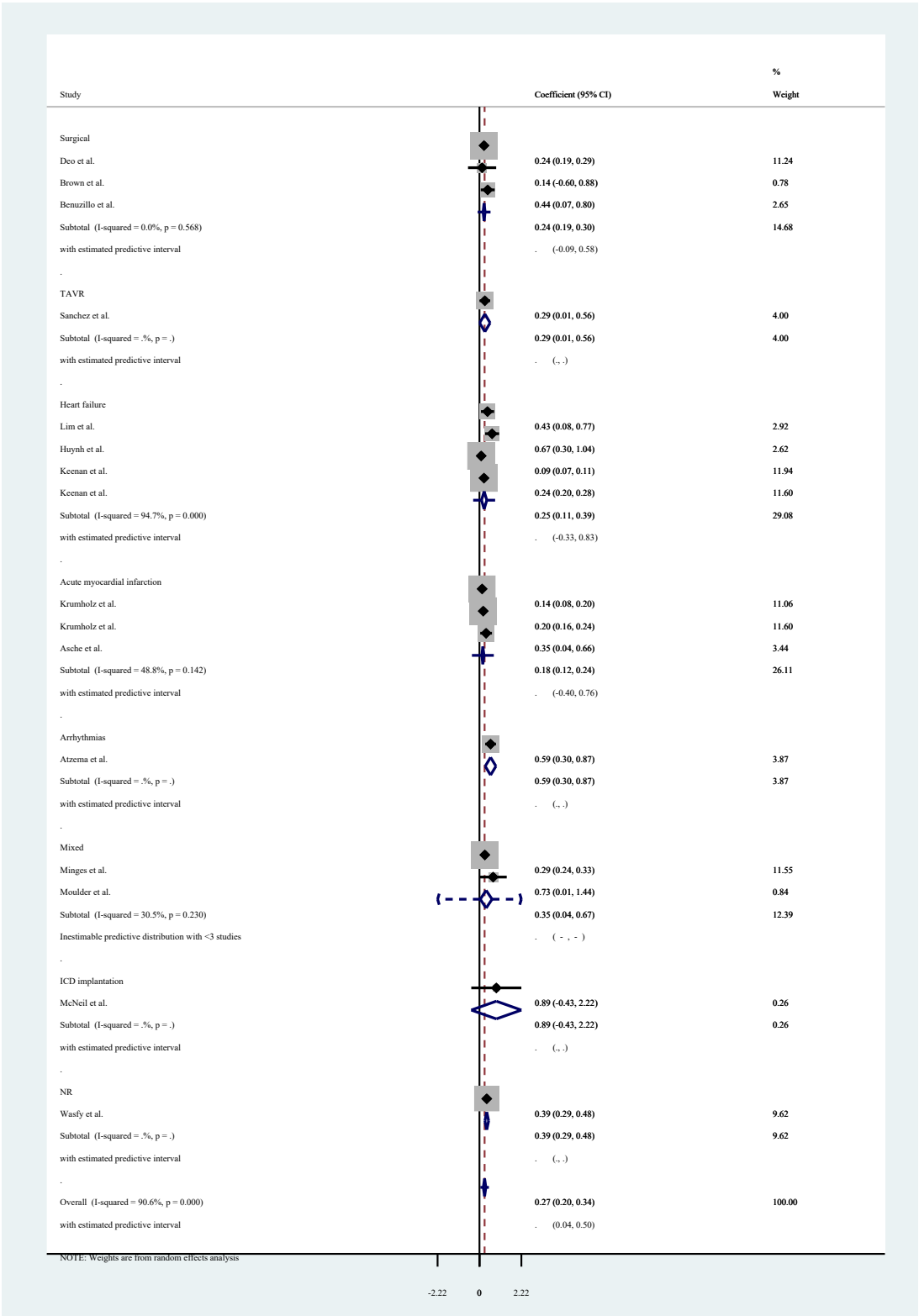
Legend: One study was not included in the analysis because the standard error were missing. The values of their coefficient was: 0.11.

Supplemental Figure 15. Diabetes Mellitus as predictor



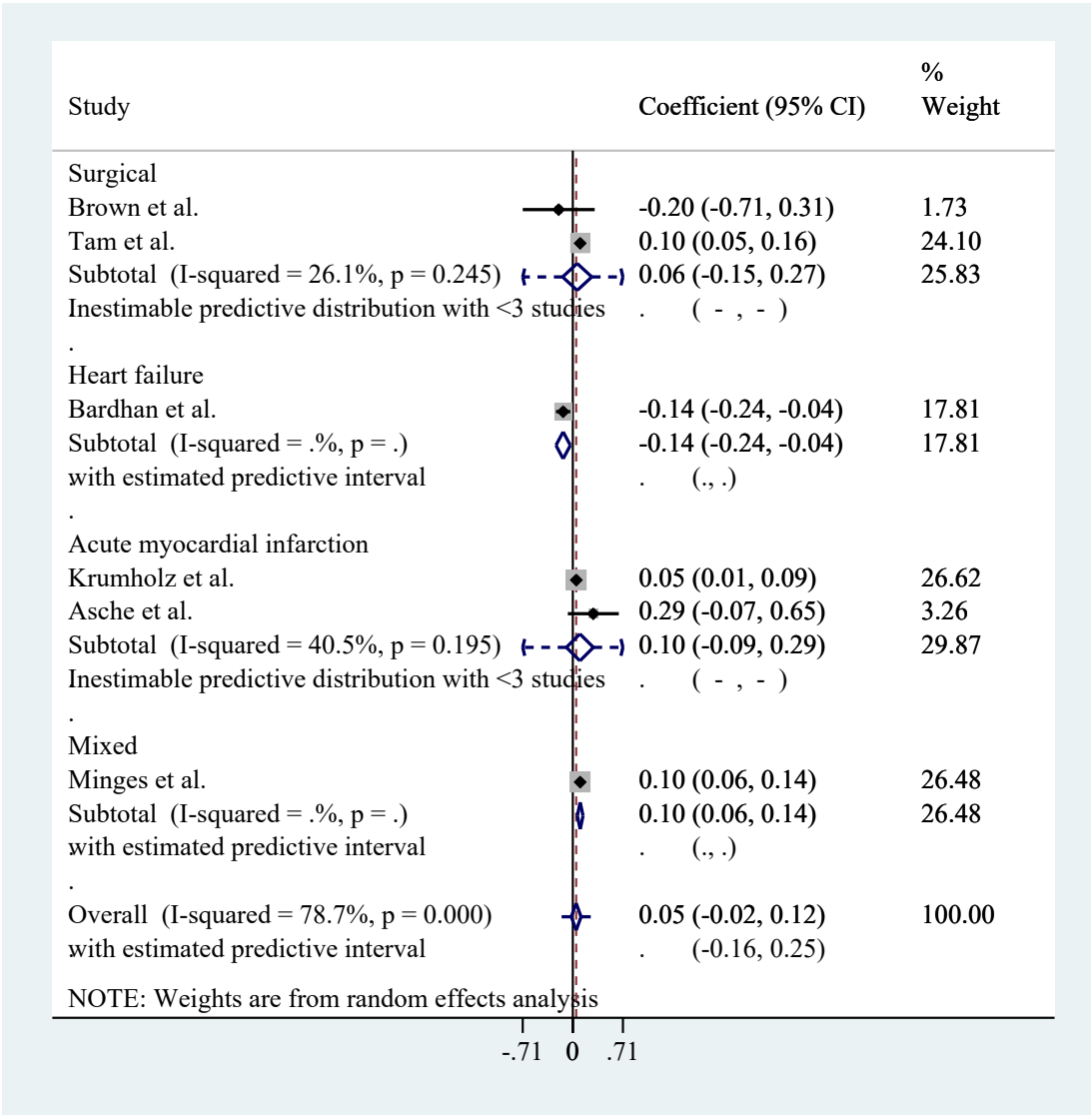
Legend: Two studies were not included in the analysis because the standard errors were missing. The values of their coefficients were: -0.068 and 0.639.

Supplemental Figure 16. Current heart failure as predictor



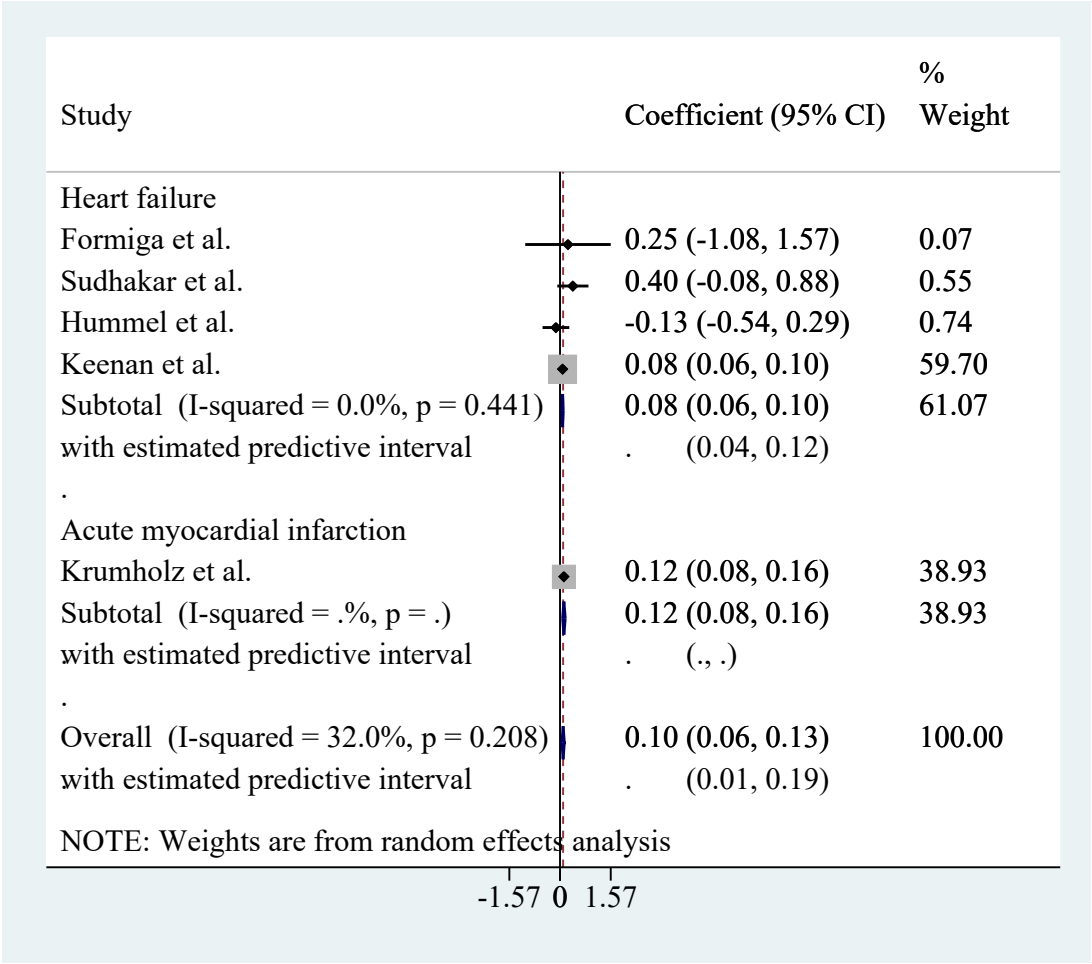
Legend: There was no missing data.

Supplemental Figure 17. Hypertension as predictor



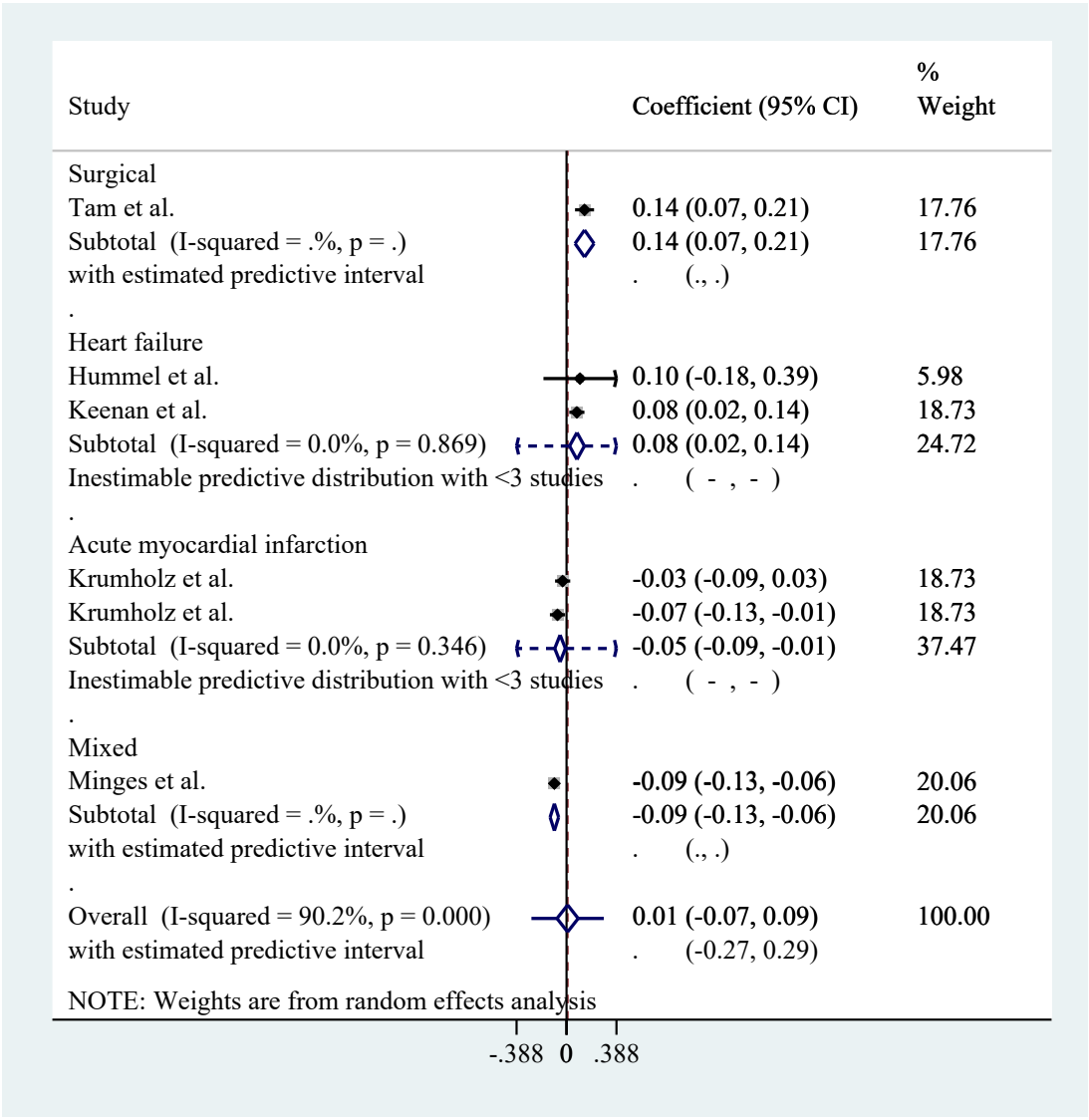
Legend: One study was not included in the analysis because the standard error were missing. The values of their coefficient was: -0.28.

Supplemental Figure 18. Valve disease as predictor



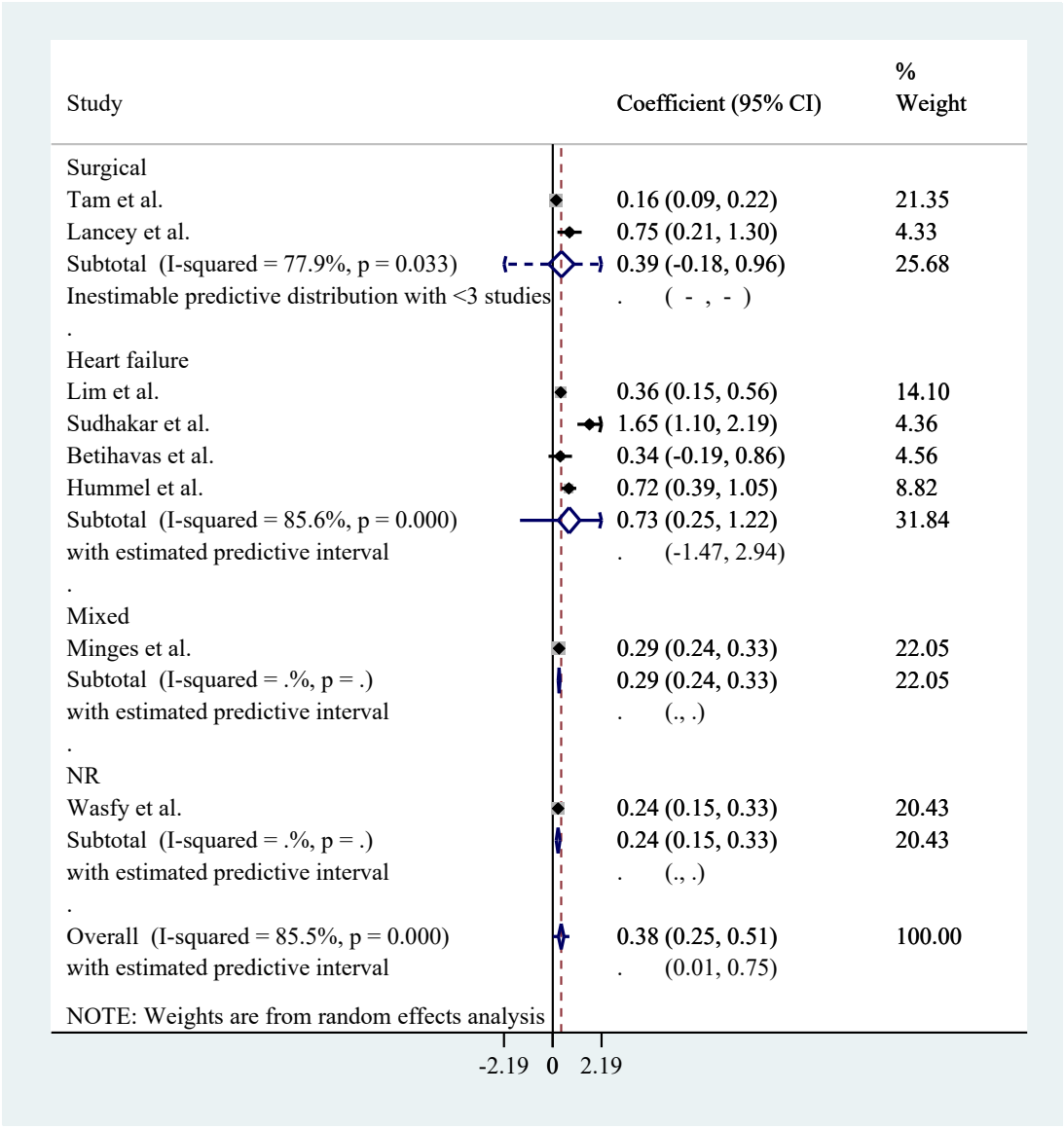
Legend: There was nog missing data.

Supplemental Figure 19. Prior percutaneous coronary intervention as predictor



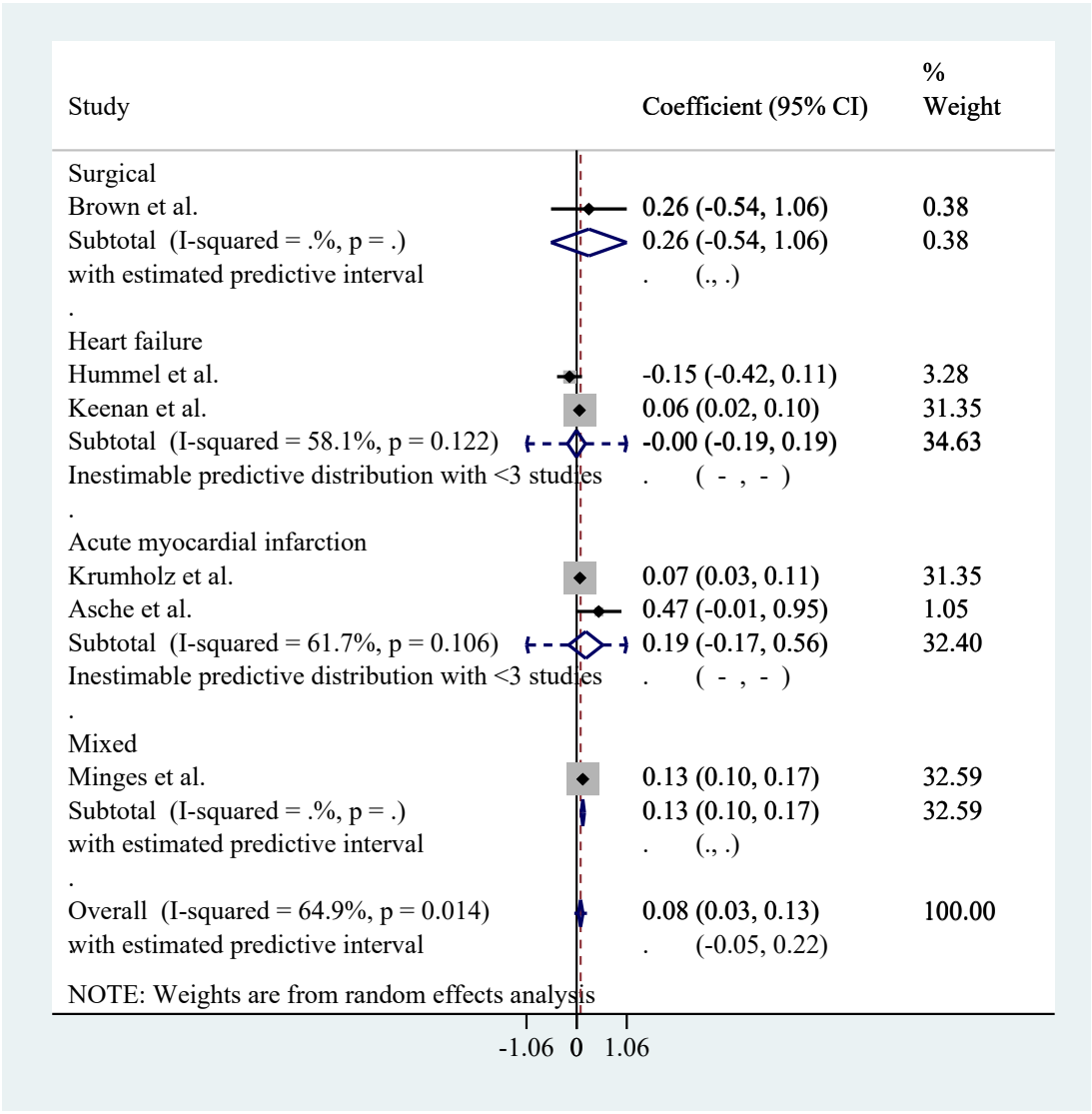
Legend: There was no missing data.

Supplemental Figure 20. History of heart failure as predictor



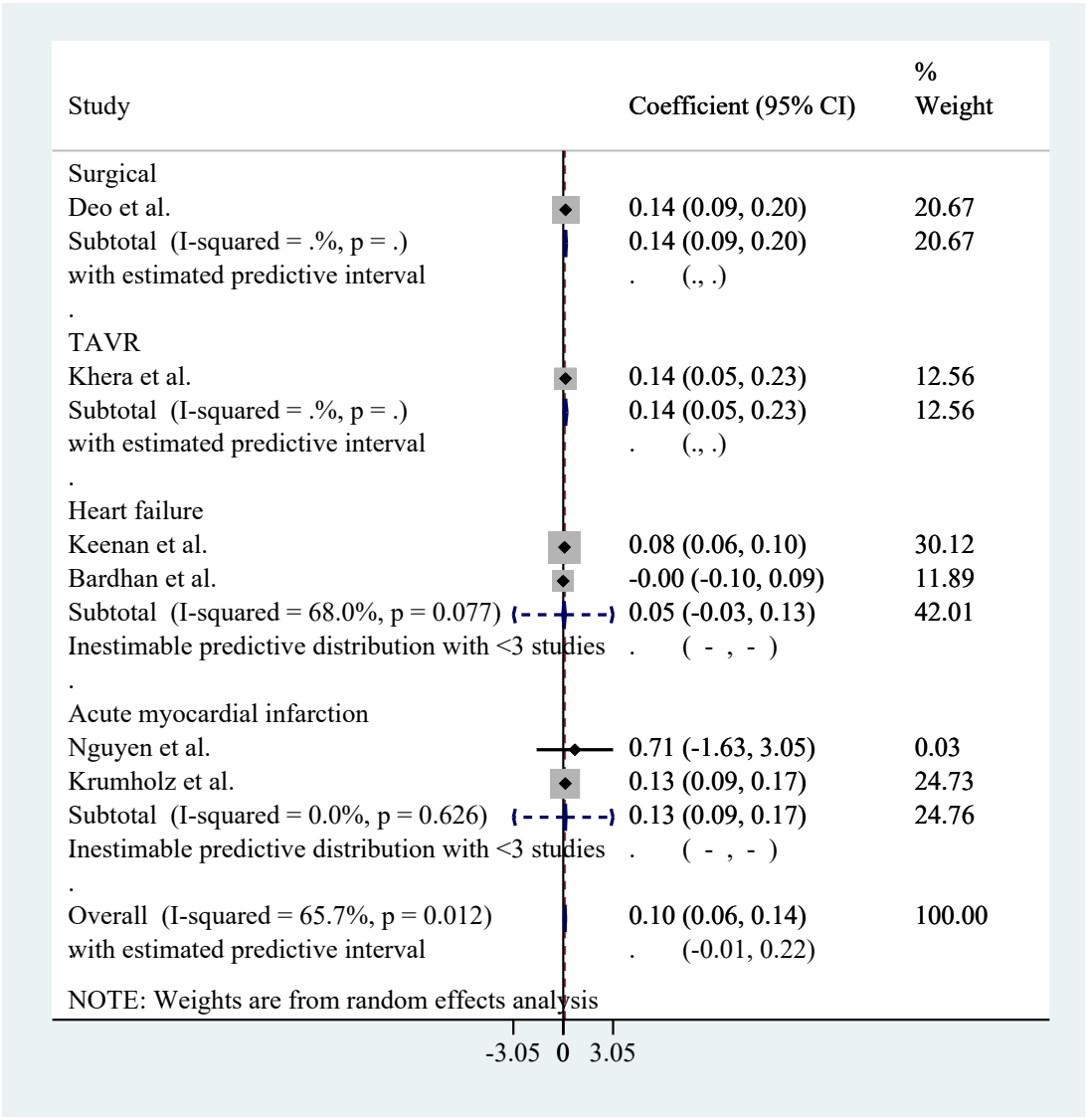
Legend: There was no missing data.

Supplemental Figure 21. Cerebrovascular disease as predictor



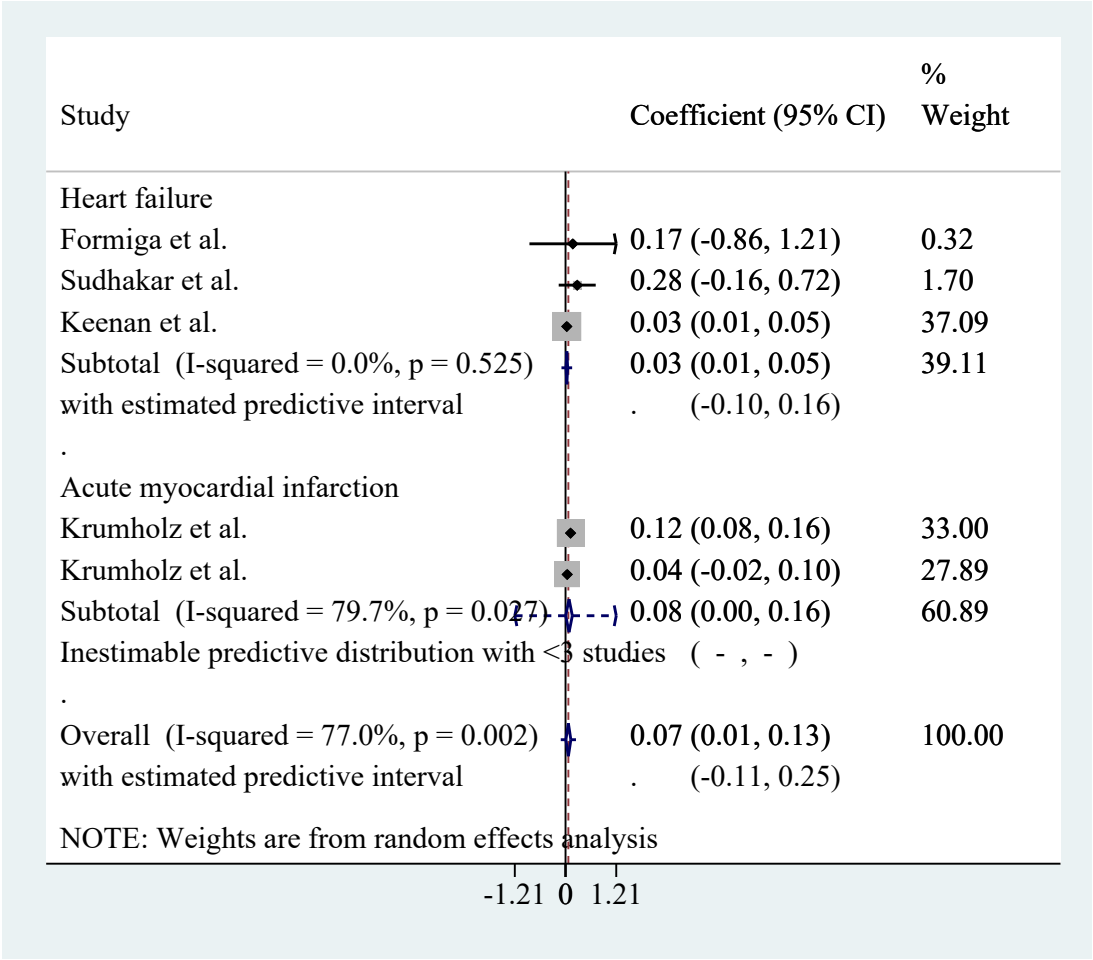
Legend: there was no missing data.

Supplemental Figure 22. Anemia as predictor



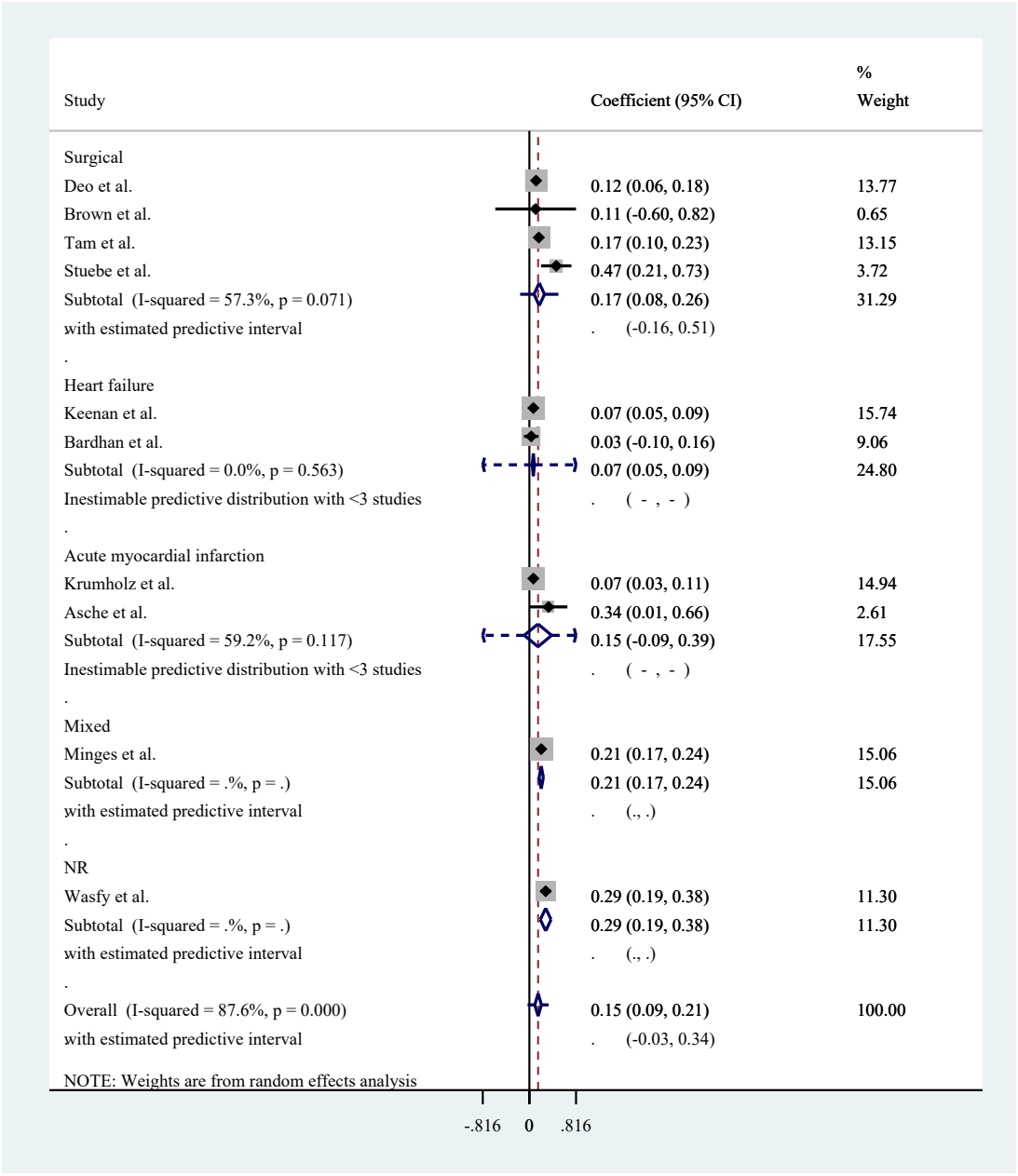
Legend: There was no missing data.

Supplemental Figure 23. Stroke as predictor



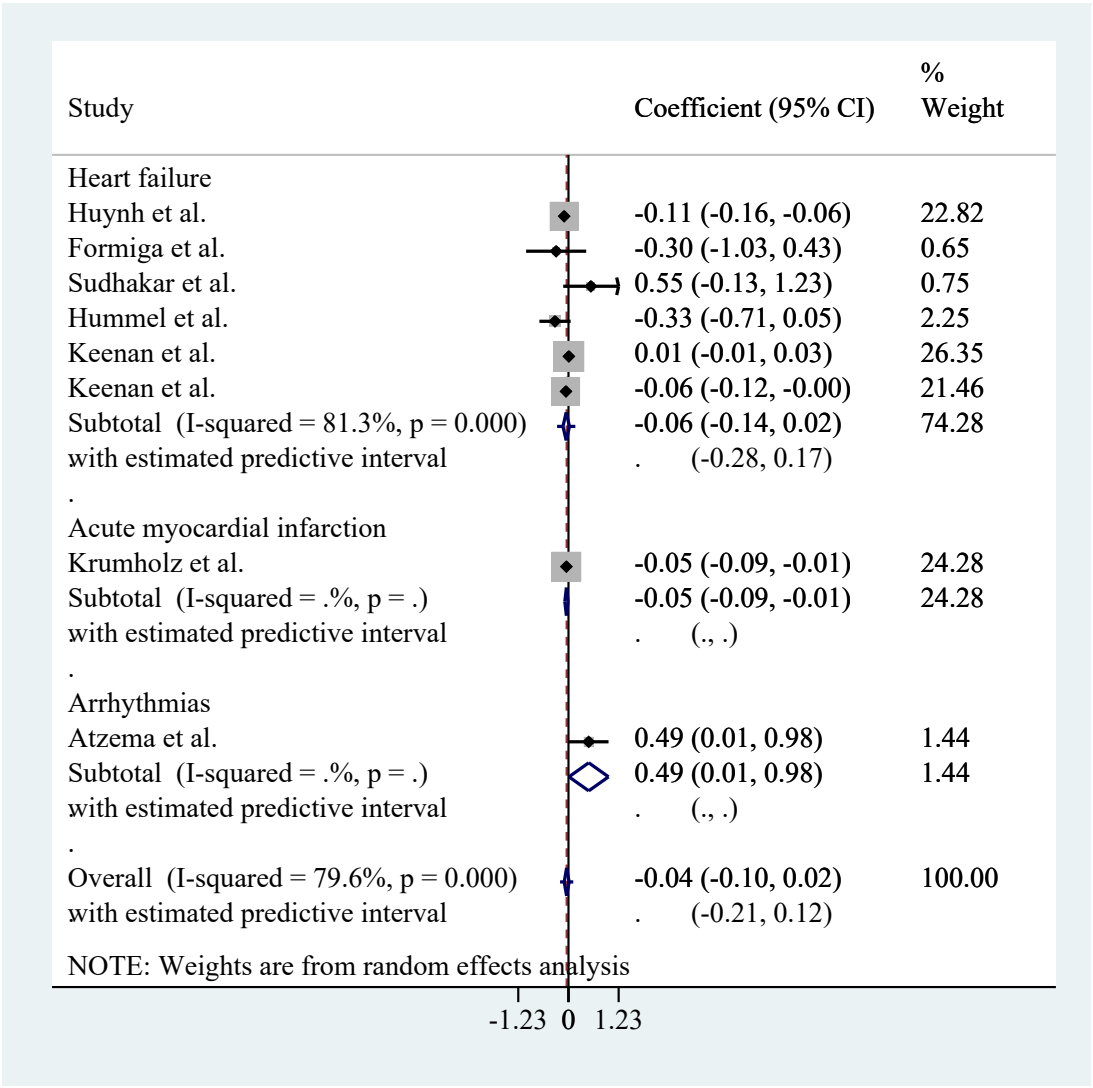
Legend: There was no missing data.

Supplemental Figure 24. Peripheral vascular disease as predictor



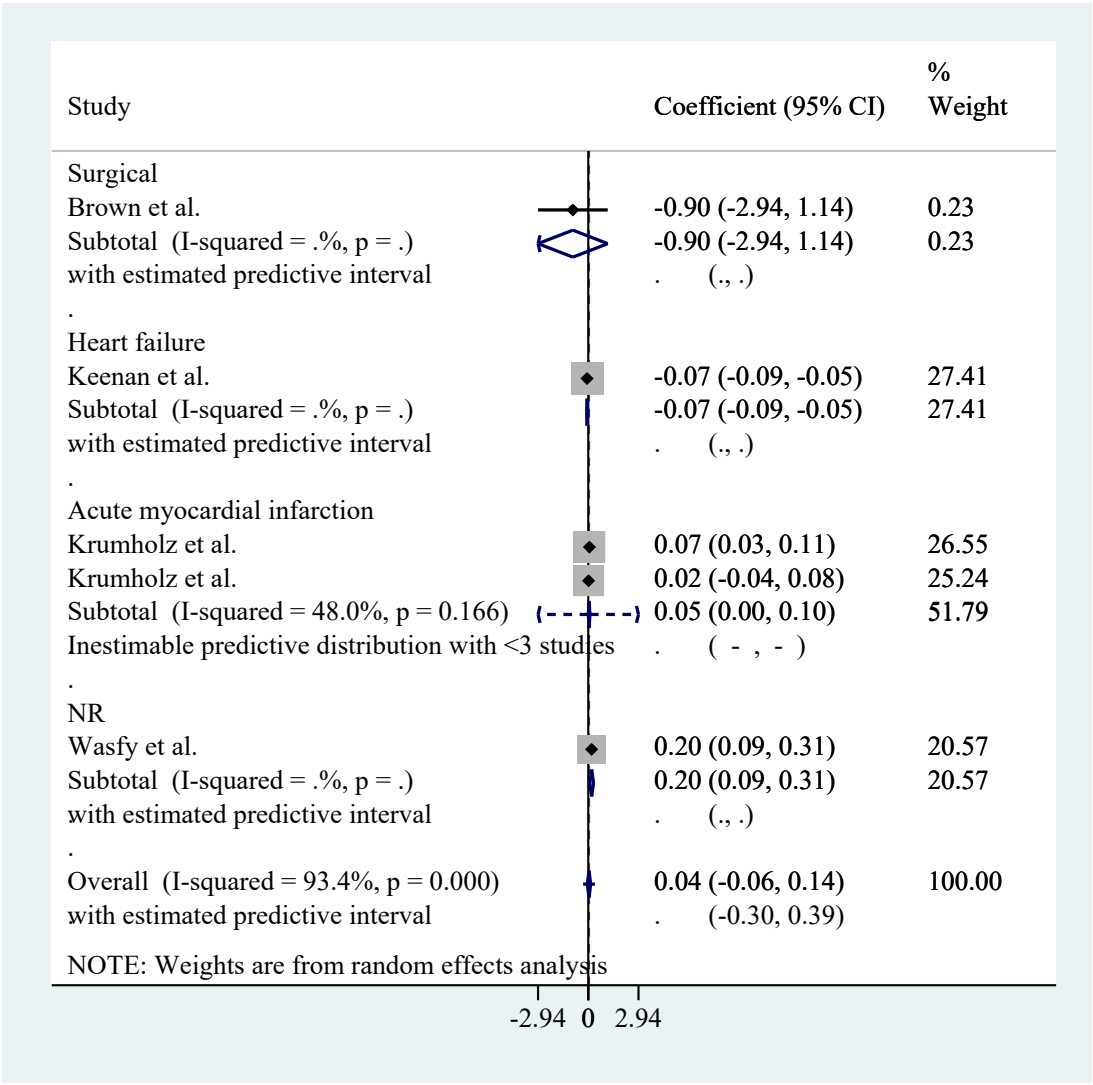
Legend: There was no missing data.

Supplemental Figure 25. Dementia as predictor



Legend: There was no missing data.

Supplemental Figure 26. Prior Coronary Artery Bypass Graft as predictor



Legend: There was no missing data.