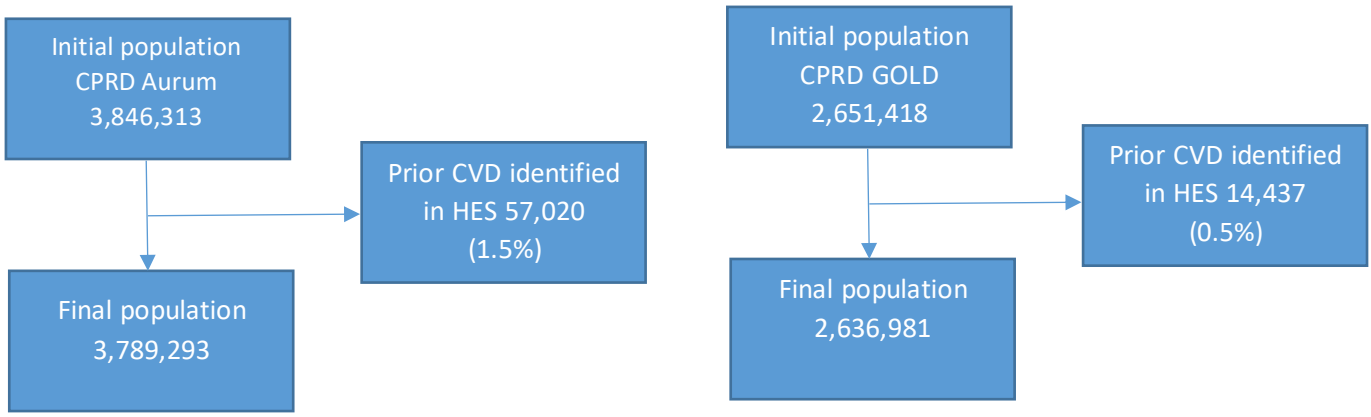
Supplementary Appendix: 1

Figure S1: Flow chart of patient numbers and exclusion following linkage to HES



ICD codes used to identify CVD deaths in ONS data:

Cerebrovascular: I63 I636 I634 I631 I633 I630 I635 I632 I639 I61 I613 I614 I611 I610 I612 I615 I616 I619 I629 I676 I621 I661 I651 I652 I663 I66 I660 I664 I653 I668 I658 I662 I65 I669 I659 I650 I638 I618 I62 I608 I693 I69 I691 I692 I694 I690 I64 I60 I602 I604 I600 I607 I601 I606 I603 I605 I609

Cardiac: I46 I460 I469 I516 I249I21 I219 I214 I210 I211 I212 I213 I201 I209 I250 I251 I231 I23 I25 I259 I254 I240 I241 I230 I255 I24 I238 I248 I208 I258 I233 I234 I235 I256 I22 I220 I221 I228 I229 I461 I200 I232

NHS 'opcs' procedure codes used in HES data to identify CVD events

K424 K412 K454 K431 K442 K458 K499 K402 K758 K429 K432 K434 K498 K483 K451 K754 K45 K40 K503 K43 K459 K455 K456 K433 K493 K414 K46 K41 K404 K759 K501 K453 K438 K42 K409 K491 K403 K423 K44 K468 K408 K509 K494 K751 K421 K452 K449 K75 K419 K418 K422 K469 K428 K401 K49 K413 K753 K411 K492 K508 K50 K441 K439 K482 K448 K504 K752 L372 K471 L318 L303 L314 L31 K502 L311 L319

Supplementary results:

Model specification

Model one

Variable transformations:

IAge__1 = Age-56.70140054.

Model:

logit (p) = intercept + (IAge__1 * .065120631558634) + (Ex-smoker * .216435085481023) + (Smoking <10 per day * .521069474752047) + (Smoking 11 to <20 per day * .6212762224915964) + (Smoking 20 or more per day * .6402038495993185) + (Smoker unknown amount * .479095173673624) + (Heart failure * .6504444223129626) + (Diabetes * .4020472246812231) + (Peripheral vascular disease/erectile dysfunction/CKD * .1866634297003109) + (Lower respiratory tract infection * .9504990322745389) + (Influenza * -.1766913795845679) + (Pneumonia * 2.360004208451382)

Model two

Variable transformations:

IAge__1 = Age-56.4915727

IBMI__1 = X^.5-1.660968746 (where: X = BMI/10)

IBMI__2 = X^2-7.611072204 (where: X = BMI/10)

ISyst__1 = X^.5-1.143992165 (where: X = Systolic blood pressure/100)

ISyst__2 = X^.5*ln(X)-.3077889054 (where: X = Systolic blood pressure /100)

Ichol__1 = choloverHDL-3.928200556

Model:

logit (p) = intercept + (IAge__1 * .0624268656055371) + (Male * .3602814828580722) + (IBMI__1 * -2.1182195160137 6) + (IBMI__2 * .079928616816893) + (ISyst__1 * -12.51473706712241) +

(ISyst__2 * 6.00780703111644) + (Ichol__1 * .0994292795556542) + (Ex-smoker * .1285313176342534) + (Smoking <10 per day * .3903047381201049) + (Smoking 11 to <20 per day * .4053342599263999) + (Smoking 20 or more per day * .4722622955322949) + (Smoker unknown amount * .3665724928985887) + (Heart failure * .5156211258528431) + (Diabetes * .277791542462455) + (Peripheral vascular disease/erectile dysfunction/CKD * .0402272711850079) + (Lower respiratory tract infection * .9163506575774839) + (Influenza * -.1650086994783002) + (Pneumonia * 2.284118276574413) + (Chronic heart disease * .2620935008602651) + (Atrial arrhythmias * .1777328854785878) + (Anticoagulated * .1194084995233393) + (Antihypertensives * .2593188135199826) + (Antiplatelets * .7495876582572326) + (Rheumatoid Arthritis * .1847157658361301) + (Statins * .1440367605302275) + (Family history of CVD * .2495579573416379) + (Cancer * -.0752826901643886) + (IMD_decile2 * .0854324013423883) + (IMD_decile3 * .0499679427695114) + (IMD_decile4 * .0824179242752817) + (IMD_decile5 * .1562734961824674) + (IMD_decile6 * .178860458895174) + (IMD_decile7 * .1919099331725266) + (IMD_decile8 * .3073143511672598) + (IMD_decile9 * .3131420516485625) + (IMD_decile10 * .4202440161178939) + (CRP<5 * -.1564572668463038) + (CRP>=5 & CRP<20 * .0243215508572336) + (CRP >=20 * .2480620256490901) + (Platelets <150 * .2041245574197942) + (Platelets >=150 & <450 * .0998278924632811) + (Platelets >=450 * .2784685782020367)

We presented the equations for the models without the intercepts. This is to retain the intellectual property, to allow potential future implementation by clinical software.

DASHI score:

Table S1: DASHI Points Allocation

Variable		Points
Diabetes	No	0
	Yes	1
Age (years)	40-59	0
	60-79	2
	80+	4
Smoker	Never, or ex-smoker	0
	Current smoker	1
Heart failure	No	0
	Yes	1
Infection	Upper tract	0
	Lower tract	1
	Pneumonia	4

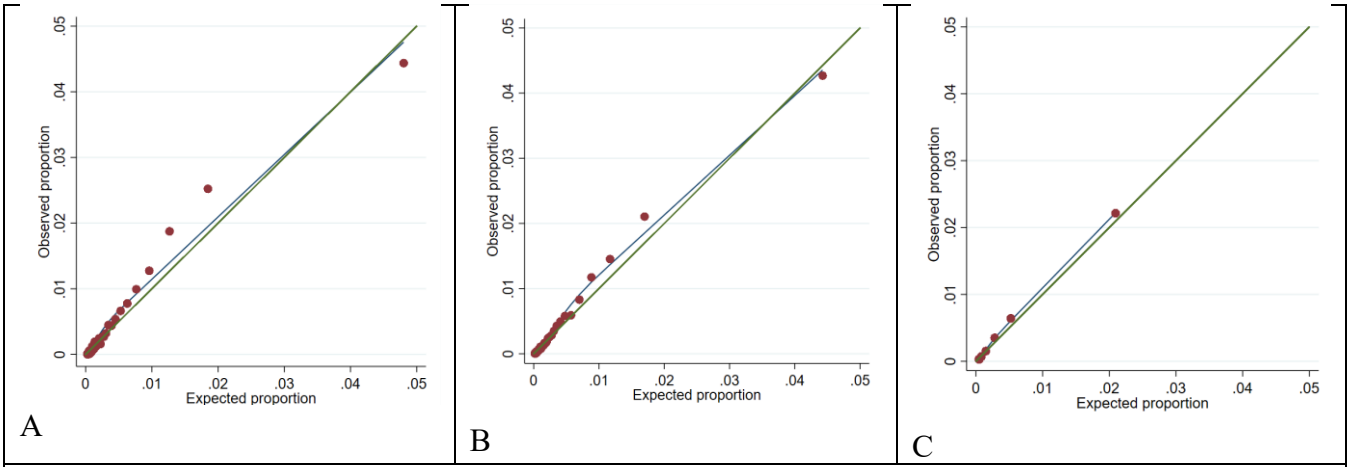
Table S2: DASHI predicted risks

Points scored	Predicted CVD within 28 days (%)	10-year risk required to give equivalent monthly risk (%)
0	0.04	5.42
1	0.08	10.14
2	0.16	18.53
3	0.30	32.48
4	0.58	52.86
5	1.10	76.28
6	2.09	93.58
7	3.93	99.46
8	7.28	99.99
9	13.09	99.99
10	22.40	99.99
11	35.64	99.99
Ten year risk calculated as 130 independent 28 day periods using formula 10 year risk = 1-(1-28 day predicted probability)[130]		

Apparent calibration

As part of the model development process, we internally validated the models. We did not apply methods to adjust for optimism, such as shrinkage factors, as we planned to calibrate externally.

Figure S2: apparent calibration plots



Internal calibration plots: proportions expected and observed in groups of predicted risk (red markers). Green line – expected equals observed. Blue line – Cubic spline based on red markers. A) Model one, groups are 50ths of expected risk B) Model two, groups are 50ths of expected risk C) DASHI score, groups are deciles of expected risk.

Apparent performance

Table S3: Apparent discrimination and calibration

Model	C statistic Median (IQR)	Observed to Expected ratio Median (IQR)
Model One	0.88 (0.8782 to 0.8774)	0.98 (0.9784 to 0.9799)
Model Two	0.88 (0.8842 to 0.8847)	1.09 (1.0893 to 1.0898)
DASHI score	0.84 (0.8390 to 0.8393)	1.07 (1.0669 to 1.0668)

Table S4: External performance: discrimination at thresholds of predicted probability

	Per 100,000 patients				Ratios	
Model, predicted probability or points	**True positives**	**False Positives**	**False Negatives**	**True negatives**	**Ratio of false positives to true positives**	**Ratio of true negatives to false negatives**
Prevalence of outcome 260/100K (0.26%)						
Model 1						
0.1%	246	51796	15	47944	211	3258
0.2%	222	31222	39	68518	141	1768
1%	127	6023	133	93717	47	703
2%	75	2143	186	97596	29	526
3%	53	1143	207	98597	22	474
Model 2						
0.1%	241	48703	19	51037	202	2681
0.2%	218	30109	42	69631	138	1656
1%	127	6595	133	93144	52	700
2%	77	2608	184	97132	34	529
3%	53	1390	207	98349	26	476
Pneumonia	62	1764	198	97976	28	494
DASHI points						
1	254	70598	6	29142	278	4686
2	240	47280	20	52460	197	2605
3	213	27190	48	72549	128	1528
4	172	14025	88	85714	81	972
5	132	6761	129	92979	51	721
6	84	2651	177	97089	32	549
7	51	1053	209	98686	20	473
8	37	647	223	99093	17	444
9	14	204	247	99356	15	403
10	2	27	259	99712	14	386
11	<1	1	260	99738	17	383

Table S5: Diagnostic performance measures for DASHI score over the range of possible points

DASHI Points Threshold	Sensitivity % (95% CI)	Specificity % (95% CI)	Positive likelihood ratio (95% CI)	Negative likelihood ratio (95% CI)	PPV % (95% CI)	NPV % (95% CI)
1	97.74 (96.08 to 99.39)	27.74 (27.64 to 27.85)	1.35 (1.35 to 1.36)	NC	0.35 (0.34 to 0.36)	99.98 (99.98 to 99.98)
2	92.33 (90.73 to 94.95)	52.16 (52.07 to 52.24)	1.93 (1.92 to 1.94)	0.15 (0.06 to 0.23)	0.50 (0.49 to 0.51)	99.96 (99.96 to 99.96)
3	82.21 (80.68 to 83.75)	72.12 (72.06 to 72.19)	2.95 (2.93 to 2.96)	0.25 (0.20 to 0.30)	0.76 (0.74 to 0.78)	99.94 (99.93 to 99.94)
4	66.54 (65.16 to 67.91)	85.54 (85.49 to 85.59)	4.60 (4.58 to 4.63)	0.39 (0.36 to 0.42)	1.19 (1.15 to 1.22)	99.90 (99.89 to 99.90)
5	50.80 (49.57 to 52.03)	93.10 (93.07 to 93.13)	7.36 (7.30 to 7.42)	0.53 (0.50 to 0.55)	1.89 (1.82 to 1.95)	99.86 (99.86 to 99.87)
6	33.01 (32.00 to 34.01)	97.18 (97.16 to 97.20)	11.71 (11.55 to 11.86)	0.68 (0.67 to 0.71)	2.97 (2.84 to 3.09)	99.82 (99.82 to 99.83)
7	20.08 (19.30 to 20.86)	98.90 (98.89 to 98.92)	18.33 (18.04 to 18.63)	0.80 (0.80 to 0.82)	4.57 (4.33 to 4.81)	99.79 (99.78 to 99.80)
8	14.32 (13.68 to 15.00)	99.35 (99.34 to 99.36)	22.00 (21.77 to 22.23)	0.86 (0.85 to 0.87)	5.43 (5.10 to 5.77)	99.78 (99.77 to 99.78)
9	5.81 (5.40 to 6.23)	99.77 (99.77 to 99.78)	25.66 (25.17 to 26.14)	0.94 (0.94 to 0.95)	6.28 (5.67 to 6.88)	99.75 (99.74 to 99.75)
10	0.84 (0.63 to 1.04)	99.97 (99.96 to 99.97)	26.83 (20.56 to 33.10)	0.99 (0.98 to 0.99)	6.55 (4.58 to 8.52)	99.74 (99.74 to 99.75)
11	0.03 (0.006 to 0.06)	99.99 (99.99 to 1.00)	19.19 (16.08 to 22.31)	0.99 (0.99 to 1.00)	NC	99.74 (99.73 to 99.75)

Diagnostic performance of DASHI score for primary CVD events in the 28 days following presentation with respiratory infection. Estimates derived in the external calibration dataset. DASHI points threshold = this number of points or more on the DASHI score. NC: estimates not calculable due to low numbers.

Supplementary discussion

Table S5 demonstrates the trade-off between true to false positives and negatives. To use a DASHI score of four as a threshold would mean treating 81 false positives to treat a single true positive, and not treating 972 patients would miss treating one who went on to have a CVD event. These numbers reflect the context. Low prevalence of serious disease is the general problem in primary care where outcomes are rare, but the sheer number of low-risk people means that in aggregate the outcomes are important.[14] Primary care mostly only has low probabilities of harm because almost everything serious is rare, from screening for cervical cancers (1:2000 plus) to identifying febrile children who go on to have sepsis (1:444).[14,15]

Tools are one strategy to help deal with risk, and it may be that they can never achieve flattering ratios of false positive to true positives.[14] However, we can see that this performance is still better than the status quo, which is to assume no-one has any risk of CVD events from their RTI as current primary care guidelines don't address this risk.[16]

Table S5 demonstrates the trade-off between sensitivity and specificity. Sensitivity is very high for one DASHI point (97.74%, 95% CI 96.08 to 99.39), but with very low specificity (27.74%, 95% CI 27.64 to 27.85). At ten DASHI points sensitivity reduces to less than one percent (0.84%, 95% CI 0.63 to 1.04) and specificity is very high at 99.97 (95% CI 99.96 to 99.97). Because the outcome is relatively rare negative likelihood ratios are all low and negative predictive values are very high (>99%) for all the possible scores. Positive predictive values range from 0.35% (95% 0.34% to 0.36%) for one point to 6.55% (95% CI 4.58% to 8.52%) for ten points.

RECORD Checklist

The RECORD statement – checklist of items, extended from the STROBE statement, that should be reported in observational studies using routinely collected health data.

	Item No.	STROBE items	Location in manuscript where items are reported	RECORD items	Location in manuscript where items are reported
Title and abstract					
	1	(a) Indicate the study's design with a commonly used term in the title or the abstract (b) Provide in the abstract an informative and balanced summary of what was done and what was found	Title and abstract	RECORD 1.1: The type of data used should be specified in the title or abstract. When possible, the name of the databases used should be included. RECORD 1.2: If applicable, the geographic region and timeframe within which the study took place should be reported in the title or abstract. RECORD 1.3: If linkage between databases was conducted for the study, this should be clearly stated in the title or abstract.	Title and abstract Abstract Abstract

Introduction					
Background rationale	2	Explain the scientific background and rationale for the investigation being reported	Introduction		
Objectives	3	State specific objectives, including any prespecified hypotheses	Methods: Objectives		
Methods					
Study Design	4	Present key elements of study design early in the paper	Methods, Study design and setting		
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	Methods, Study design and setting		
Participants	6	*(a) Cohort study* - Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up *Case-control study* - Give the eligibility criteria, and the sources and methods of case ascertainment and control selection. Give the rationale for the choice of cases and controls *Cross-sectional study* - Give the eligibility criteria, and the sources	Methods, Population paragraph	RECORD 6.1: The methods of study population selection (such as codes or algorithms used to identify subjects) should be listed in detail. If this is not possible, an explanation should be provided. RECORD 6.2: Any validation studies of the codes or algorithms used to select the population should be referenced. If validation was conducted for this study and not published elsewhere, detailed methods and results should be provided.	Supplementary materials, Github. n/a

		and methods of selection of participants *(b) Cohort study* - For matched studies, give matching criteria and number of exposed and unexposed *Case-control study* - For matched studies, give matching criteria and the number of controls per case	Neither matched, nor case-control	RECORD 6.3: If the study involved linkage of databases, consider use of a flow diagram or other graphical display to demonstrate the data linkage process, including the number of individuals with linked data at each stage.	Supplementary materials
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable.	Methods and Supplementary methods	RECORD 7.1: A complete list of codes and algorithms used to classify exposures, outcomes, confounders, and effect modifiers should be provided. If these cannot be reported, an explanation should be provided.	Supplementary materials for ICD codes, OPCS codes, and CPRD search strategy available from JJL
Data sources/ measurement	8	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	Methods (more detail given in supplementary methods)		
Bias	9	Describe any efforts to address potential sources of bias	Methods, population		

Study size	10	Explain how the study size was arrived at	Methods, sample size		
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen, and why	Methods, supplementary methods		
Statistical methods	12	(a) Describe all statistical methods, including those used to control for confounding (b) Describe any methods used to examine subgroups and interactions (c) Explain how missing data were addressed (d) *Cohort study* - If applicable, explain how loss to follow-up was addressed *Case-control study* - If applicable, explain how matching of cases and controls was addressed	Methods, supplementary methods		

		Cross-sectional study - If applicable, describe analytical methods taking account of sampling strategy (e) Describe any sensitivity analyses			
Data access and cleaning methods		..		RECORD 12.1: Authors should describe the extent to which the investigators had access to the database population used to create the study population. RECORD 12.2: Authors should provide information on the data cleaning methods used in the study.	Supplementary materials N/a
Linkage		..		RECORD 12.3: State whether the study included person-level, institutional-level, or other data linkage across two or more databases. The methods of linkage and methods of linkage quality evaluation should be provided.	Supplementary methods: data linkages
Results					
Participants	13	(a) Report the numbers of individuals at each stage of the study (*e.g.*, numbers potentially eligible, examined for eligibility, confirmed eligible, included in the	Results, table 1	RECORD 13.1: Describe in detail the selection of the persons included in the study (*i.e.,* study population selection) including filtering based on data quality, data availability and linkage. The selection of included persons can be described in the	Methods, sup methods and figure S1

		study, completing follow-up, and analysed) (b) Give reasons for non-participation at each stage. (c) Consider use of a flow diagram		text and/or by means of the study flow diagram.	
Descriptive data	14	(a) Give characteristics of study participants (*e.g.*, demographic, clinical, social) and information on exposures and potential confounders (b) Indicate the number of participants with missing data for each variable of interest (c) *Cohort study* - summarise follow-up time (*e.g.*, average and total amount)	Results, table 1 Results, table 1 Methods		
Outcome data	15	*Cohort study* - Report numbers of outcome events or summary measures over time *Case-control study* - Report numbers in each exposure category, or summary measures of exposure	Results, table 1		

		Cross-sectional study - Report numbers of outcome events or summary measures			
Main results	16	(a) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and why they were included (b) Report category boundaries when continuous variables were categorized (c) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	n/a - prediction Methods and sup methods n/a		
Other analyses	17	Report other analyses done—e.g., analyses of subgroups and interactions, and sensitivity analyses	Results, Supp results		
Discussion					
Key results	18	Summarise key results with reference to study objectives	Discussion, principle findings		
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision.	Discussion, Strengths and limitations	RECORD 19.1: Discuss the implications of using data that were not created or collected to answer the specific research	Discussion, Strengths and limitations

		Discuss both direction and magnitude of any potential bias		question(s). Include discussion of misclassification bias, unmeasured confounding, missing data, and changing eligibility over time, as they pertain to the study being reported.	
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	Discussion, Implications for practice and research		
Generalisability	21	Discuss the generalisability (external validity) of the study results	Discussion, Implications for practice and research		
Other Information					
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	Funding and rights retention		
Accessibility of protocol, raw data, and programming code		..	Methods, supplementary methods	RECORD 22.1: Authors should provide information on how to access any supplemental information such as the study protocol, raw data, or programming code.	Supplementary materials

*Reference: Benchimol EI, Smeeth L, Guttmann A, Harron K, Moher D, Petersen I, Sørensen HT, von Elm E, Langan SM, the RECORD Working Committee. The REporting of studies Conducted using Observational Routinely-collected health Data (RECORD) Statement. *PLoS Medicine* 2015; in press.

Tripod Checklist

Section/Topic			Checklist Item	Page
Title and abstract				
Title	1	D;V	Identify the study as developing and/or validating a multivariable prediction model, the target population, and the outcome to be predicted.	1
Abstract	2	D;V	Provide a summary of objectives, study design, setting, participants, sample size, predictors, outcome, statistical analysis, results, and conclusions.	4
Introduction				
Background and objectives	3a	D;V	Explain the medical context (including whether diagnostic or prognostic) and rationale for developing or validating the multivariable prediction model, including references to existing models.	6
	3b	D;V	Specify the objectives, including whether the study describes the development or validation of the model or both.	6
Methods				
Source of data	4a	D;V	Describe the study design or source of data (e.g., randomized trial, cohort, or registry data), separately for the development and validation data sets, if applicable.	7
	4b	D;V	Specify the key study dates, including start of accrual; end of accrual; and, if applicable, end of follow-up.	7
Participants	5a	D;V	Specify key elements of the study setting (e.g., primary care, secondary care, general population) including number and location of centres.	7
	5b	D;V	Describe eligibility criteria for participants.	7
	5c	D;V	Give details of treatments received, if relevant.	na
Outcome	6a	D;V	Clearly define the outcome that is predicted by the prediction model, including how and when assessed.	7
	6b	D;V	Report any actions to blind assessment of the outcome to be predicted.	na
Predictors	7a	D;V	Clearly define all predictors used in developing or validating the multivariable prediction model, including how and when they were measured.	7/supp /online
	7b	D;V	Report any actions to blind assessment of predictors for the outcome and other predictors.	na
Sample size	8	D;V	Explain how the study size was arrived at.	8
Missing data	9	D;V	Describe how missing data were handled (e.g., complete-case analysis, single imputation, multiple imputation) with details of any imputation method.	8
Statistical analysis methods	10a	D	Describe how predictors were handled in the analyses.	8
	10b	D	Specify type of model, all model-building procedures (including any predictor selection), and method for internal validation.	8/supp
	10c	V	For validation, describe how the predictions were calculated.	9
	10d	D;V	Specify all measures used to assess model performance and, if relevant, to compare multiple models.	8-9
	10e	V	Describe any model updating (e.g., recalibration) arising from the validation, if done.	na
Risk groups	11	D;V	Provide details on how risk groups were created, if done.	na
Development vs. validation	12	V	For validation, identify any differences from the development data in setting, eligibility criteria, outcome, and predictors.	8
Results				

Participants	3a	D;V	Describe the flow of participants through the study, including the number of participants with and without the outcome and, if applicable, a summary of the follow-up time. A diagram may be helpful.	9/supp
	3b	D;V	Describe the characteristics of the participants (basic demographics, clinical features, available predictors), including the number of participants with missing data for predictors and outcome.	T1
	3c	V	For validation, show a comparison with the development data of the distribution of important variables (demographics, predictors and outcome).	T1
Model development	4a	D	Specify the number of participants and outcome events in each analysis.	T1
	4b	D	If done, report the unadjusted association between each candidate predictor and outcome.	Na
Model specification	5a	D	Present the full prediction model to allow predictions for individuals (i.e., all regression coefficients, and model intercept or baseline survival at a given time point).	Supp
	5b	D	Explain how to the use the prediction model.	12
Model performance	16	D;V	Report performance measures (with CIs) for the prediction model.	T3
Model-updating	17	V	If done, report the results from any model updating (i.e., model specification, model performance).	NA
Discussion				
Limitations	18	D;V	Discuss any limitations of the study (such as nonrepresentative sample, few events per predictor, missing data).	11
Interpretation	9a	V	For validation, discuss the results with reference to performance in the development data, and any other validation data.	10
	9b	D;V	Give an overall interpretation of the results, considering objectives, limitations, results from similar studies, and other relevant evidence.	10
Implications	20	D;V	Discuss the potential clinical use of the model and implications for future research.	12
Other information				
Supplementary information	21	D;V	Provide information about the availability of supplementary resources, such as study protocol, Web calculator, and data sets.	Supp/online
Funding	22	D;V	Give the source of funding and the role of the funders for the present study.	13

*Items relevant only to the development of a prediction model are denoted by D, items relating solely to a validation of a prediction model are denoted by V, and items relating to both are denoted D;V. We recommend using the TRIPOD Checklist in conjunction with the TRIPOD Explanation and Elaboration document.

Supplementary references

1 Wolf A, Dedman D, Campbell J, *et al.* Data resource profile: Clinical Practice Research Datalink (CPRD) Aurum. *Int J Epidemiol*. 2019;48:1740-1740G. doi: 10.1093/ije/dyz034

2 Herrett E, Gallagher AM, Bhaskaran K, *et al.* Data Resource Profile: Clinical Practice Research Datalink (CPRD). *Int J Epidemiol*. 2015;44:827–36. doi: 10.1093/ije/dyv098

3 GOV.UK. The English Indices of Deprivation 2019- Statistical Release. *Ministry of Housing, Communities and Local Government*. 2019;2019:1–12.

4 Hippisley-Cox J, Coupland C, Brindle P. Development and validation of QRISK3 risk prediction algorithms to estimate future risk of cardiovascular disease: Prospective cohort study. *BMJ (Online)*. 2017;357:1–21. doi: 10.1136/bmj.j2099

5 Smeeth L, Thomas SL, Hall AJ, *et al.* Risk of Myocardial Infarction and Stroke after Acute Infection or Vaccination. *New England Journal of Medicine*. 2004;351:2611–8. doi: 10.1056/NEJMoa041747

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