Appendix 5 (as supplied by the authors): Supplemental tables

Supplemental Table S1: Patient characteristics for the matched and unmatched hospitalised Emergency Department patients with syncope

Patient Characteristics	**Matched (N=658) No. (%)**	**Unmatched (N=75) No. (%)**	**Standardised Difference (%)**
Age in years (SD)	69.4 (17.9)	80.15	76.4
Sex (female)	278 (42.3)	17 (22.7)	42.6
Arrival by Ambulance	480 (73.0)	64 (85.3)	30.7
Vitals			
Mean ED-SBP (<90 mmHg or >180 mmHg)	179 (27.2)	36 (48.0)	43.8
Mean ED-DBP (<50 mmHg or >110 mmHg)	160 (24.3)	26 (34.7)	22.8
Prodrome (e.g. dizziness, light-headedness, vision changes, nausea or vomiting)	342 (52.0)	23 (30.7)	44.2
Vasovagal predisposition (e.g. warm-crowded place, prolonged standing, fear, emotion or pain)	118 (17.9)	2 (2.67)	51.8
Final ED Syncope diagnosis			
Vasovagal Syncope	107 (16.3)	0 (0)	62.3
Cardiac Syncope	146 (22.2)	69 (92.0)	198.4
Age Related Comorbidities			
Past history of hypertension	361 (54.7)	59 (78.7)	52.1
Past history of diabetes	146 (22.2)	29 (38.7)	36.2
History of Heart Disease[†]	296 (45.0)	52 (69.3)	50.6
Elevated Troponin, (>99th percentile of population)	100 (15.2)	52 (69.33)	130.4
ECG Characteristics			
QRS duration ≥ 130ms	100 (15.2)	28 (37.3)	51.7
QRS axis <30° or >110°	115 (17.5)	28 (37.3)	45.5
Corrected QT interval >480ms	125 (19.0)	24 (34.7)	35.8
Syncope Risk category (CSRS)*			
Very Low	51 (7.75)	0	41.0
Low	132 (20.1)	0	70.8
Medium	317 (48.2)	3 (4.0)	116.2
High	119 (18.1)	28 (37.3)	43.8
Very High	39 (5.93)	44 (58.7)	135.8

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SD = Standard Deviation; Mean ED- SBP and ED-DBP = Systolic and Diastolic blood pressures during the emergency department stay; ED = Emergency Department; ECG = electrocardiogram; CSRS = Canadian Syncope Risk Score; SAE=Serious Adverse Event

Variables in **bold** are CSRS predictors used for deriving the propensity score

† Documented past medical history of any one of the following: coronary or valvular heart disease, cardiomyopathy, congestive heart failure and non-sinus rhythm (ECG evidence during index visit or documented history of ventricular or atrial arrhythmias, or device implantation)

*Was not included when generating propensity scores for hospitalization

Note: Hospital site was also included as a predictor when estimating propensity scores for ED disposition. Patients were prospectively enrolled across 11 centers in Canada

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Supplemental Table S2: The distribution of non-lethal arrythmia between hospitalised and discharged patients over 30days following ED disposition in the matched cohort

Outcomes (N)	**Hospitalized Patients (N =658)**		Discharged (N=658) SAE No (%) *
	During Index Hospitalization No (%) *	After Index Hospitalization No (%) *	
Sinus Dysfunction (N=33)	22 (67)	6 (18)	5 (15)
Atrial Fibrillation/Flutter (N=17)	9 (53)	1 (6)	7 (41)
Supraventricular Tachycardia (N=2)	1(50)	1(50)	0
AV Block (N=17)	12 (70)	1 (6)	4 (24)
Pacemaker Insertion (N=43)	41 (95)	0	2 (5)

Note: Patients can have more than one outcome

*Percentage relative to the total number of hospitalized and discharged patients

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Supplemental Table S3: Sensitivity analysis to violations of conditional independence using Mantel-Haenszel bounds for the primary outcome in the matched cohort

Gamma	Mantel-Haenszel Statistic	P-value
1	8.32115	0
1.05	8.0329	4.40E-16
1.1	7.75803	4.30E-15
1.15	7.49802	3.20E-14
1.2	7.25142	2.10E-13
1.25	7.01696	1.10E-12
1.3	6.79356	5.50E-12
1.35	6.58027	2.30E-11
1.4	6.37624	9.10E-11
1.45	6.18073	3.20E-10
1.5	5.99308	1.00E-09
1.55	5.81272	3.10E-09
1.6	5.6391	8.50E-09
1.65	5.47177	2.20E-08
1.7	5.31029	5.50E-08
1.75	5.15428	1.30E-07
1.8	5.00339	2.80E-07
1.85	4.8573	5.90E-07
1.9	4.71573	1.20E-06
1.95	4.5784	2.30E-06
2	4.44508	4.40E-06
2.05	4.31554	8.00E-06
2.1	4.18957	0.000014
2.15	4.067	0.000024
2.2	3.94763	0.000039
2.25	3.83131	0.000064
2.3	3.71788	0.0001
2.35	3.60722	0.000155
2.4	3.49917	0.000233
2.45	3.39364	0.000345
2.5	3.29049	0.0005
2.55	3.18963	0.000712
2.6	3.09095	0.000998
2.65	2.99436	0.001375

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2.7	2.89978	0.001867
2.75	2.80711	0.002499
2.8	2.71629	0.003301
2.85	2.62724	0.004304
2.9	2.53989	0.005544
2.95	2.45418	0.00706
3	2.37004	0.008893
3.05	2.28742	0.011086
3.1	2.20626	0.013683
3.15	2.1265	0.016731
3.2	2.04811	0.020275
3.25	1.97102	0.024361
3.3	1.89521	0.029033
3.35	1.82061	0.034333
3.4	1.74721	0.040301
3.45	1.67494	0.046973
3.5	**1.60379**	**0.05438**
Gamma: Odds of differential treatment assignment		

Supplemental Table S4: Odds ratios for 30-Day Serious Adverse Event detection for Hospitalized and Discharged Patients using propensity score weighting with inverse probability treatment weights (N=8,096)

Outcome	Odds Ratio* (OR)	(95% CI)	p-value
Serious Adverse Events	5.26	3.27 to 8.45	<**0.001**
Death (due to unknown and known cause)	1.38	0.45 to 4.25	0.57
Ventricular Arrhythmia	2.85	0.80 to 10.21	0.11
Death or Ventricular Arrhythmia	2.03	0.87 to 4.72	0.10
Non-lethal arrhythmia	4.13	2.43 to 7.01	<**0.001**
Non-arrhythmic serious conditions	9.02	4.20 to 19.39	<**0.001**

*Calculated by logistic regression analysis using propensity score weighting with inverse probability treatment weights

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Supplemental Table S5: Estimation of serious adverse events based on the Canadian Syncope Risk Score among discharged patients lost to 30-day follow-up (N=271)

Canadian Syncope Risk Score (CSRS)	**Risk Category**	**Estimated probability of serious adverse events (%)**	**Discharged No. (%)**	**Estimated SAE No. (%) ***
-3	Very Low	0.4	102 (37.6)	1
-2	Very Low	0.7	50 (18.5)	1
-1	Low	1.2	42 (15.5)	1
0	Low	1.9	48 (17.7)	1
1	Intermediate	3.1	15 (5.5)	1
2	Intermediate	5.1	8 (3.0)	1
3	Intermediate	8.1	2 (0.7)	1
4	High	12.9	1 (0.4)	1
5	High	19.7	2 (0.7)	1
6	Very High	28.9	1 (0.4)	1
7	Very High	40.3	-	
8	Very High	52.8	-	
9	Very High	65.0	-	
10	Very High	75.5	-	
*Values were rounded up to the nearest whole number				

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Supplemental Table S6: Predicted probabilities for 30-day Serious Adverse Events based on the Canadian Syncope Risk Score among the 8096 Emergency Department Patients Hospitalized and Discharged

Canadian Syncope Risk Score	Risk Category	Predicted probability to detect SAE (%) by Disposition		
		Hospitalized	Discharged	Difference (95% CI)
-3	Very Low	3.41	0.28	3.13 (1.34 to 4.92)
-2	Very Low	4.65	0.43	4.21 (2.11 to 6.32)
-1	Low	6.30	0.67	5.63 (3.22 to 8.04)
0	Low	8.48	1.04	7.44 (4.74 to 10.2)
1	Intermediate	11.3	1.61	9.71 (6.72 to 12.7)
2	Intermediate	14.9	2.47	12.5 (9.11 to 15.8)
3	Intermediate	19.4	3.78	15.6 (11.7 to 19.5)
4	High	24.8	5.74	19.1 (14.2 to 23.9)
5	High	31.1	8.61	22.5 (16.2 to 28.8)
6	Very High	38.1	12.7	25.5 (17.2 to 33.7)
7	Very High	45.7	18.3	27.4 (16.7 to 38.2)
8	Very High	53.5	25.5	27.9 (14.3 to 41.6)
9	Very High	61.0	34.4	26.7 (10.0 to 43.3)
10	Very High	68.1	44.4	23.7 (4.47 to 43.0)

Predicted probabilities were computed from a multivariable logistic model for the primary outcome with an interaction between emergency department disposition and Canadian Syncope Risk Score (CSRS) controlling for age, sex, hypertension, diabetes, diastolic blood pressure, arrival by ambulance, prodrome symptoms, and hospital site (Area under the curve: 0.91; Hosmer-Lemeshow goodness-of-fit p-value:0.84). The interaction term between emergency department disposition and CSRS was significant in the multivariable logistic model (p=0.04). Eighty-Seven patients were excluded from the multivariable logistic regression analysis due to missing predictor information.

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