

Background

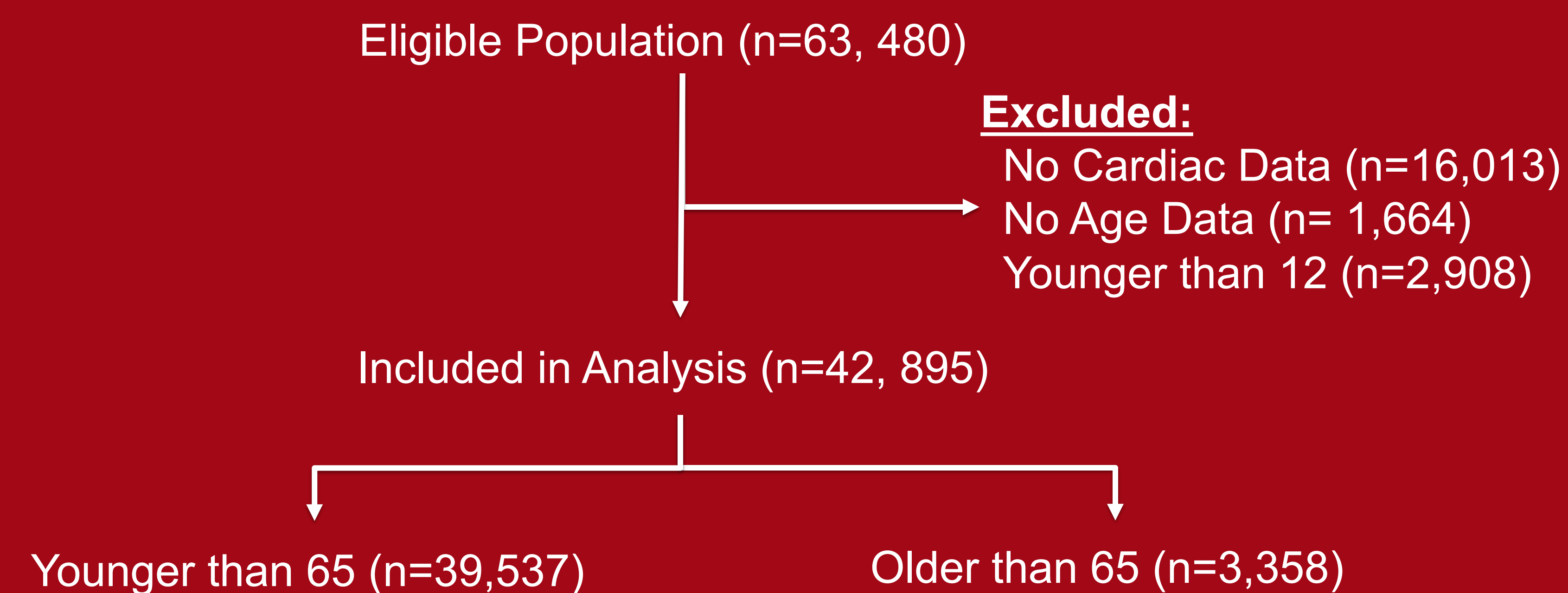
- Prior studies demonstrated that ECG changes identify poisoned patients at risk for cardiovascular collapse
- These studies excluded patients older than 65.

Objective

- Determine the predictive value of a QRS wider than 0.1s or corrected QT longer than 0.5s in all-cause mortality in poisoned patients older than 65

Methods

- Secondary analysis of cases reported to the Toxicology Investigator's Consortium between 2010 and 2024 using ToxIC, a multisite registry of poisoned patients.
- Cases were assessed for age, death, QRS and QTc duration. All cases involving at least one reported xenobiotic in patients older than 12 were included. Patients excluded from the study include those under the age of 12, those that had no reported age data, or no cardiac data.



Do Abnormal Electrocardiographic Intervals Predict Death in Poisoned Patients Older Than 65 Years? NACCT 2024

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Age	Total	Fatalities	QRS > 0.1s	QTc > 0.5s	Ischemia
18-65	38,822	621 (1.6%)	858 (2.2%)	2,242 (5.8%)	359 (0.9%)
>65	3,908	164 (4.2%)	136 (3.5%)	257 (6.6%)	62 (1.6%)

	For those over 65	Died	Did Not Die	Totals
QRS > 100 ms	Yes	19 (14%)	117 (86%)	136
	No	145 (4%)	3,627 (96%)	3,772
QTc > 500 ms	Yes	18 (7%)	239 (93%)	257
	No	146 (4%)	3,505 (96%)	3,651
Totals (by condition)		164 (4%)	3,744 (96%)	3,908

		Under 65	Over 65
Odds Ratio for Death	QRS > 100 ms	6.05 [4.9 – 7.5]	4.12 [2.5-7]
	QTc > 500 ms	<u>2.93</u> [2.4 – 3.5]	<u>1.93</u> [1.16-3.2]

Prolonged QRS or QTc interval

↓

Higher odds of death in those under 65 compared to those over 65.

Results

Abnormal EKG intervals may be a less useful predictor of all-cause mortality in poisoned patients older than 65 years than those under 65. This differential may reflect increasing prevalence of ischemic heart disease and bundle branch blocks with age, effects of prescribed medications, or transfer to cardiology without involvement of toxicology.

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