SUPPLEMENTARY FILE 3

Details on the size of available linked data set and anticipated number of target events

Twelve-months of Yorkshire Ambulance Service (YAS) data should be sufficient to satisfy the requirements. It should permit a linked data-set to be formed for 13,980 index events [1, 2]. This is after excluding ~15% of cases that might have unlinkable records, ~3% who have 'opted-out' of research use of their data,[3] and the 0.02% of cases where the person died 'on-scene'.[2]

Of the index events, 5,720 index events should have been conveyed of whom 229 (4%) will have experienced death/UEC recontact within 3 days and 1,201 (21%) could have experienced an AA. The remaining 2,451 index events should have been managed by non-conveyance, of whom 343 (14%) will have experienced death/ recontact with the urgent and emergency care system (UEC).[4-6]

The estimate that 14% of events not conveyed to ED will lead to death and/or recontact with the UEC within 3 days is based on O'Cathian et al.'s UK study.[4] We estimated that 4% of cases conveyed to ED will result in death and/or UEC contact. This estimate was generated differently since there is no UK evidence on this. Specifically, we considered Tohira et al.'s[5] US study. It reported adverse event rates within 24 hours in all persons who had attended ED for any reason were 2-4 times lower than for those not conveyed. It was also necessary to factor in individuals accounting for several types of events. Based on evidence from Coster et al.[7] we divided O'Cathian's[4] estimates by 2 to account for this possibility and then applied Tohira et al. ratios to O'Cathian's figures.

The estimate that 21% of seizure cases attending ED would satisfy the AA definition is informed by Miles et al.[6].

Key information factored into sample size calculation using Riley et al.'s formulae for each of the models

1.	Permit testing of ≥40 candidate predictor parameters
2.	Assume 0.05 acceptable difference in apparent and adjusted R-squared
3.	Assume 0.05 margin of error in estimation of intercept
4.	In the absence of other information, conservatively assumed that R^2_{CS} for each model would
	correspond to an R ² _{Nagelkerke} of 0.15. [8]

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