

What is the day one cost of providing mechanical thrombectomy within the NHS in the United Kingdom?

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BACKGROUND

- The clinical and cost-effectiveness of mechanical thrombectomy (MT) for acute ischaemic stroke (AIS) is well established.
- However, uncertainty remains around the true costs of delivering this treatment in routine care.

AIM:

To establish the costs of providing MT within the first 24 hours of stroke care in routine clinical practice in the United Kingdom.

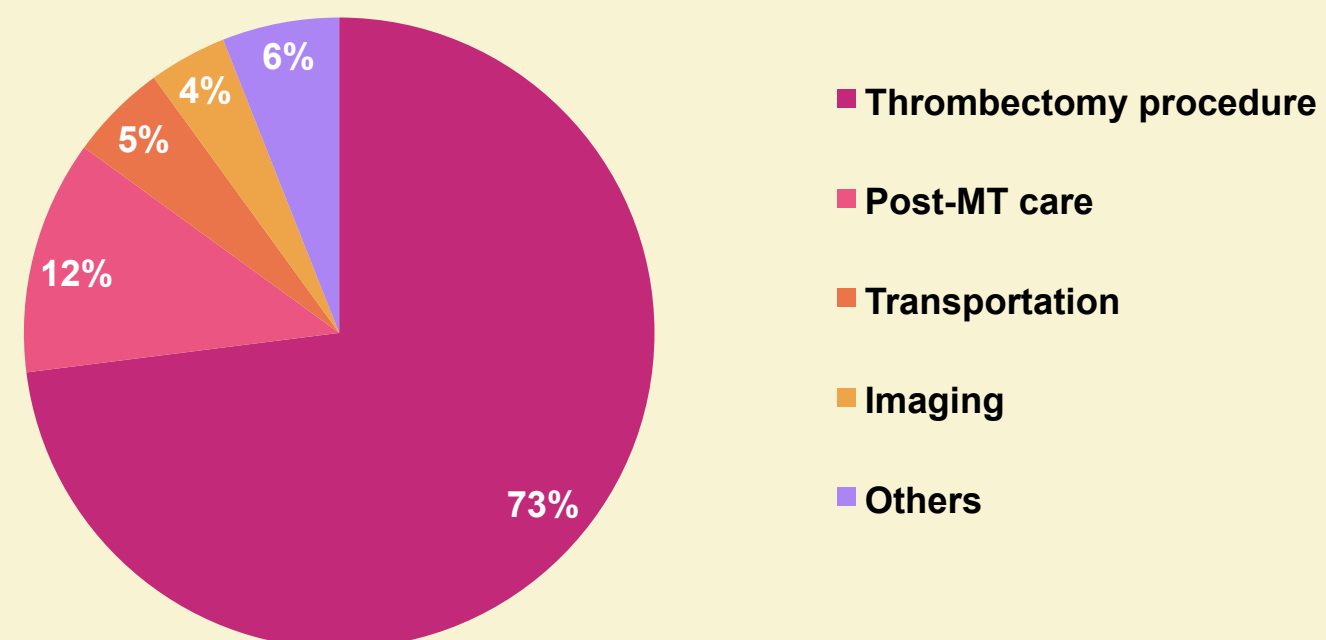
METHOD

- Micro-costing methods were used to determine MT costs from an NHS perspective.
- Data on resource utilisation and costs were collected from four UK neuroscience centres between 2015 and 2018 on stroke patients admitted directly to a thrombectomy centre or after secondary transfer from a non-thrombectomy centre.
- Resource use and unit costs on transportation (prehospital, inter-hospital and repatriation); emergency hospital attendance; imaging; thrombectomy procedure (devices, staffing, anaesthesia); hospital stay up to 24- hours (intensive care unit or stroke unit) and total (24 hours) costs were determined.
- A populated Excel spreadsheet was constructed and imported to Stata for analysis. Unit costs were obtained from NHS reference costs, participating centres and other national sources.
- A p-value of <0.05 was considered statistically significant.

RESULTS

- Individual cost data were collected on 225 patients who underwent MT from four UK neuroscience centres.
- The mean total cost of providing MT and subsequent inpatient care in the first 24 hours was £8,676 (£2,581). Thrombectomy procedure costs accounted for three quarters of the total.

Main cost categories



Costs by sub-group

Group	Drip-and-ship	Mother-ship	HDU/ICU admission	No HDU/ICU admission	Carotid stenting/angioplasty	No Carotid stent/angioplasty
Cost [Mean cost (SD)]	£9,196 (£2,695)	£8,541 (£2,467)	£9,626 (£2,788)	£8,618 (£2,4520)	£10,238 (£2,087)	£8,675 (£2,533)



Participating Neuroscience Centres and number of patients

CONCLUSION

- Our study established the true cost of providing MT with subsequent inpatient care within 24 hours in routine clinical setting in the UK.
- The major factors contributing to MT costs are: interventions; using ICU/HDU; inter-hospital transport and repatriation.
- These findings could be used to better estimate the cost of MT for strategic planning of stroke services.

