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BUDGET IMPACT OF CHANGING ORAL ANTICOAGULANT PRESCRIBING TO PREVENT ATRIAL-FIBRILLATION-RELATED STROKE IN ENGLAND

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OBJECTIVES: A difference-in differences (DiD) showed that prescription of direct oral anticoagulants (DOACs) increased substantially from 2011–2017, while stroke incidence decreased. A budget impact analysis to assess whether these changes affected costs associated with AF-related stroke prevention and care. **METHODS:** Data on AF-related stroke cases (stroke as primary diagnosis, AF as secondary diagnosis) for all clinical commissioning groups in England were obtained from Hospital Episode Statistics data (copyright NHS Digital 2018), prescribing data from the electronic Prescribing and Costing Tool, and AF detection and treatment data from the Quality and Outcomes Framework data, in the periods 2011–2013 and 2015–2017. The per-patient health-care cost for the first year after a stroke (transport, scans, treatment, care, and rehabilitation) was set at £13,452. The estimated mean drug price for warfarin was £41.32 (excluding the costs of monitoring international normalisation ratio, as these data are not available in England), and for DOACs was £49.00–53.20 per pack. **RESULTS:** The volume of DOACs prescribed increased substantially between the two treatment periods and, accordingly, the total drug prescription costs for oral anticoagulants overall increased by £683,946,537 (983%). The total number of AF-adjusted strokes was reduced by 9,737 (13%) in 2015–2017 versus 2011–2013, which led to a reduction in stroke-associated health-care costs of £130,982,124 (13%). Thus, overall the cost for oral anticoagulant prescribing and care after incident stroke increased by £552,964,413 (151%). **CONCLUSIONS:** The demonstrated Improvement in stroke prevention with increased DOAC prescribing, although being associated with 13% decrease in stroke incidence, led to nearly a tenfold rise in oral anticoagulant prescribing expenditure. With the likely rise in incidence of AF and AF-related stroke among England's ageing population, these budget impact findings suggest that action is needed to achieve the most efficient use of NHS resources.

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