Atrial fibrillation and stroke in older adults living in care homes

Analysis of prevalence, treatment and outcomes using the SAIL Databank

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SAIL DATABANK

HDRUK

Health Data Research UK

Data linkage for care home research

- Older people living in care homes are likely to:
 - have multiple long-term health conditions
 - have high levels of disability
 - have high levels of unmet needs
 - be excluded from research studies
- Use of linked routinely collected data is highly valuable to answer research questions for this population



Data for care home residents in the SAIL Databank

- Welsh Demographic Service Dataset
- Patient Episode Database for Wales (100% of population)
- Welsh Longitudinal General Practice data (~80%)

Health & admin data

Care homes and address data

- Residential Anonymised Linkage Fields
- Care home index based on Care Inspectorate Wales registry of care homes

• Anonymised data on older people including care home residents

•Anonymous individuallevel residency: determine when individuals move to and from care homes

> Care home research



Lyons et al., 2009 BMC Med Inform Decis Mak, 9 (3). Rodgers et al., 2009 J Public Health, 31(4), 582-588.

Stroke and care homes

- Residents with stroke may have higher levels of need
- In South London, a decline in the proportion of older people discharged from hospital to a care home was reported
- Gaps in epidemiological knowledge about stroke in older care home residents



Clery et al. Long-Term Trends in Stroke Survivors Discharged to Care Homes: The South London Stroke Register. *Stroke*. 2020;51(1):179-185.

Cohort definition and statistical analysis

- Age and sex-adjusted prevalence and incidence of stroke
- Generalised linear models to determine change over time
- Competing risk models to examine associations between prior stroke, incident stroke and mortality



Stroke in older adults living in care homes in Wales



7.0% stroke in the previous 12 months

- 4.8% ischaemic stroke
- 1.1% haemorrhagic stroke
- 1.4% unspecified stroke
- 1.9% (n=1,653) experienced an incident stroke within 12-months after care home entry

30-day mortality after stroke was 49.3%

Harrison et al. Stroke in Older Adults Living in Care Homes: Results From a National Data Linkage Study in Wales Journal of the American Medical Directors Association <u>doi.org/10.1016/j.jamda.2022.05.003</u>

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Time between stroke and care home entry



Incident stroke one-year after care home entry

- Incidence per 1000 person-years:
- recurrent stroke: 47.1 (95% CI: 41.1, 54.0)
- first-time stroke: 24.6 (95% CI: 23.4, 25.9)
- Prior stroke associated with a higher risk of:
 - incident stroke adjusted sHR 1.83 (95% CI: 1.57, 2.13)
 - 30-day mortality after incident stroke adjusted OR 2.18 (95% CI: 1.59, 2.98)



Secondary stroke medicines in care home residents



Atrial fibrillation (AF) in older adults living in care homes

- Care home residents are a growing group of people with AF
- Previous estimates of AF prevalence have ranged from 7-38% (*Ritchie et al, 2021*)
- Risk of adverse health outcomes of care home residents with AF is unclear (*Ritchie et al, 2021*)
- Evidence of under-prescription of anticoagulation for stroke prevention (*Rojas-Fernandez et al, 2017*)



Prevalence of atrial fibrillation in older care home residents

- Overall prevalence of AF was 17.44% (95% CI 17.11 to 17.78) between 2010-2018
- Non-significant increase in ageand sex-standardised prevalence of AF from 16.79% (15.85 to 17.94) in 2010 to 17.02% (16.05 to 17.98) in 2018 (absolute change 2010-2018: 0.061, 95% CI -1.380 to 1.501, p=0.93)



Risk of adverse health outcomes in older care home residents with atrial fibrillation



Trends in anticoagulant prescribing

 Prescription of anticoagulant therapy has increased over time from 32.7% in 2003 to 72.7% in 2018



Factors associated with prescribing anticoagulation

		Adjusted OR (95% CI)
Age (per one year increase)	•	0.96 (0.95-0.96)
Prescription of antiplatelet(s)	-#-	0.91 (0.84-0.98)
Severe frailty		- 8.42 (7.16-9.90)
Moderate frailty		6.69 (5.74-7.80)
Mild frailty		4.61 (3.95-5.38)
Venous thromboembolism	_ _	4.06 (3.17-5.20)
Year of care home entry ≥ 2011	-	1.91 (1.76-2.06)
Prescription of NSAID(s)	_ —	1.75 (1.51-2.02)
Ischaemic stroke		1.51 (1.37-1.67)
Heart failure	-	1.46 (1.35-1.58)
Major bleeding		1.35 (1.23-1.48)
Stroke of unknown origin	— —	1.32 (1.10-1.58)
Transient ischaemic attack		1.22 (1.04-1.43)
Smoking history		1.16 (1.06-1.26)
Dyslipidaemia		1.13 (1.02-1.27)
Male sex	-	1.09 (1.01-1.18)
Haemorrhagic stroke		1.18 (0.93-1.50)
Peripheral vascular disease		1.09 (0.93-1.26)
Hypertension		1.05 (0.98-1.13)
Diabetes	_	1.05 (0.88-1.24)
Cancer		1.04 (0.94-1.15)
Harmful alcohol use	_ + _	1.00 (0.88-1.14)
Renal disease		0.96 (0.84-1.11)
Pulmonary disease		0.94 (0.85-1.03)
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Favours OAC non-prescription Favours OAC prescription		

Key points

Prevalence of AF remained stable in older care home residents from 2010-2018 Residents with AF had a higher risk of adverse health events, even when mortality was adjusted for as a competing risk

Prescription of anticoagulant therapy has increased over time, but rates are still sub-optimal Treatment of AF in accordance with guidelines is critical in this population to reduce adverse health outcomes

Thank you.