Can using administrative data produce impactful research for practice and inform healthcare planning?

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Feidhmeannacht na Seirbhíse Sláinte Health Service Executive

Overview

Rational for using administrative data

- Understanding the context of the service you are researching
- Frail older adults who require support at home (home support)
- Overview of two published studies
- Local and national impact
- Implication for future work
- Some key messages on stakeholder engagement

Utility and Pitfalls in the Use of Administrative Databases for Outcomes Assessment

Emilie K. Johnson and Caleb P. Nelson

J Urol. 2013 July ; 190(1): 17–18.

Value of Administrative Data



An EU initiative has made significant progress towards developing an observational research ecosystem for better healthcare decisions and outcomes.

Administrative databases can facilitate research into clinical or health services questions that would be impractical or impossible to study with conventional techniques.

Impact of social disadvantage and the role of administrative data – GMS/PCRS Versus TILDA



"The SES status of the GMS eligible population is lower than the those in the TILDA cohort, and thus, will have contributed to the higher level of polypharmacy observed for women and men."



Home » News

Demand for healthcare projected to increase substantially with rapid growth and ageing of population

🛗 October 26, 2017



News

Health and Quality of Life

ESRI Population Projections and impact on healthcare system 2030



Increase of 94% in the over 85's



Outpatient attendance – increase by 69.3%



Inpatient bed days – increase by 23.6-29.0%



Public Health Nursing home visits increase from 158,000 to 309,000



Physiotherapy -42,000 to 84,900



Occupational Therapy – 53,900 to 100,100

STATE-FUNDED Home Care Package Growth



ESRI National estimate of HCP users (2015): 15,300 (8.4% DNC)

Where is the data!





Frailty in older population receiving home support (DNC/DNW) n=1312

Kelly et al. BMC Geriatrics (2017) 17:121 DOI 10.1186/s12877-017-0508-2

BMC Geriatrics

Open Access

RESEARCH ARTICLE

Prevalence of frailty among community dwelling older adults in receipt of low level home support: a cross-sectional analysis of the North Dublin Cohort

Sara Kelly¹, Irene O'Brien¹, Karla Smuts^{1,2}, Maria O'Sullivan² and Austin Warters^{3*}

Abstract

Background: There is increasing demand for formal government funded home help services to support community-dwelling older people in Ireland, yet limited information exists on the health profiles of this group, especially regarding frailty. Our aim was to profile a large cohort of adults in receipt of low level home help and to determine the prevalence of frailty.

Methods: A total 1312 older adults, (≥ 65 years) in receipt of low level home help (< 5 h per week) were reviewed by community nurses and frailty was assessed using the Clinical Frailty Scale (CFS) in this cross-sectional study. Characteristics of the group were compared between males and females and prevalence of frailty was reported according to gender and principal care. Associations between frailty and a number of variables were explored using bivariate and regression analysis.

Results: The cohort of low level home-help users was a mean age of 82.1 (SD 7.3) years, predominantly female (70.6%) and over half (69.2%) lived alone. The prevalence of frailty in this population was 41.5%, with subjects primarily considered mildly (23.2%) or moderately frail (14.5%) by the CFS. A further 38.4% were classed as vulnerable. The degree of frailty did not differ significantly across the younger categories aged 65–84 years. However, in the oldest age groups, namely 90–94 and >95 years, moderate frailty was significantly higher relative to the younger groups (21% and 34%, p < 0.05, p < 0.01 respectively). Home help hours significantly correlated with frailty (rs = 0.371, p < 0.001) and functional dependency (rs = 0.609, p < 0.001), but only weakly with age (rs = 0.101, p = 0.034), Based on regression analysis, determinants of frailty included greater dependency (Barthel score), higher home help hours, non-self-caring and communication difficulty, all of which significantly contributed to the model, with a r squared value of 0.508.

Physical domain

understanding frailty in Home Care users

Vulnerable Hard to Reach older adults

Results – Characteristics of the cohort

Service user characteristics	Overall (1312)
Female, n (%)	926 (70.6%)
Age (y), mean (SD)	82 (7.3)
Lives alone %	887 (69.2%)
Self-caring %	1119 (85.9%)
Barthel Scale, n (%) - Independent-low dependency	1039 (79.3%)

Prevalence of Frailty by Age in community-dwelling older adults receiving low level home Support (n 1312)

Outcome: frailty identified - 41.5%

- No significant differences in prevalence up to 90 yrs
- Moderate frailty was significantly higher in the
 >90s v younger age groups.
- Suggests chronological age
 not significantly associated with frailty, until much later in life in this cohort. (Biological Age?)



Clinical Frailty Scale – Rockwood

S Kelly, I O'Brien, K Smuts, M O'Sullivan, A Warters.

Prevalence of Frailty at Population Level in Europe – National Data - Ireland

Ireland	Frailty%	n	Setting	Measure	Age	Female%
O'Halloran et al., 2013 [19]	2.0	4858	Community	FI	≥ 50	52
Ntlholang et al., 2014 [59]	32.0	257	Hospital - Geriatric Clinic/Day Hospita	SHARE FI	NA	64.8
O'Caoimh <i>et al.</i> , 2014 [60]	54.3	784	Public Health Centres	CFS	≥ 65	64.0
Kelly et al., 2016 [61]	41.5	1312	Community	CFS	≥ 65	70.6
Theou <i>et al.</i> , 2013 [40]	15.0	1107	Community	SHARE FI	≥ 50	53.7

Vulnerable older adults - home support- age 80+

Europe:	12%	Community		45%	non-community
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Prevalence_of_frailty_at_population_level_in_European_ADVANTAGE_Joint_Action_Mem ber_States_a_systematic_review_and_meta-analysis O'Caoimh et al, 2018

RESEARCH ARTICLE

Predicting admission to long-term care and mortality among community-based, dependent older people in Ireland

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A. Warters, PhD, Community Healthcare Organisation, Ballymun Healthcare Facility, Dublin, Ireland. Email: wartersa@tcd.ie **Objective:** To identify factors that predict admission to long-term care (LTC) and mortality among community-based, dependent older people in Ireland, who were in receipt of formal home support.

Methods: An audit was conducted of all community-dwelling older adults receiving government funded home support during 2017 in the Dublin North Central, Health Service Executive administrative area. Data were extracted from the Common Summary Assessment Report (CSAR), a mandatory form used in the provision of home support. Multiple logistic regression analysis was used to examine the factors associated with admission to LTC and mortality, with the results presented as odds ratios (OR) and 95% confidence intervals.

Results: The audit comprised 1597 community-dwelling older adults with a mean age of 83.3 (SD: 7.2) years. The prevalence of transition to LTC and mortality was 8% and 9%, respectively, during the 12-month period. Factors significantly associated with admission to LTC were "cognitive dysfunction" [OR 2.10 (1.41-3.14), P < .001] and the intensity of home support [OR 1.05 (1.01-1.06), P < .003], as measured by weekly formal care hours. Physical dependency and advanced age (aged 95 years +) were significantly associated with mortality in this population (P < .001).

Predicting admission to long-term care and mortality among community-based, dependent older people in Ireland



Characteristics of older adults receiving Home Support, overall and by gender (n=1597)

	Overall	Female	Male	p-value
Gender, n (%)		1016 (63.6)	581 (36.4)	<0.001*
Age in years, mean ± SD	83.3 ± 7.2	83.8 ± 7.2	83.8 ± 7.2	<0.001*
Personal circumstances, n (%)				
Lives alone	864 (55.4)	600 (60.5)	264 (46.4)	<0.001*
Widowed	680 (44.2)	509 (52.3)	171 (30.4)	<0.001*
Married	477 (31.0)	226 (23.2)	251 (44.6)	<0.001*
Weekly care hours, mean ± SD	11.1 ± 7.2	11.1 ± 7.2	11.2 ± 7.2	0.8892
Hospital	848 (53.1)	522 (51.4)	326 (56.1)	0.068
Length of service use (months)	19.9 ± 18.3	20.3 ± 18.0	19.2 ± 18.7	0.255
Barthel Index Score ^a , mean ± SD	13.1 ± 3.9	13.1 ± 3.9	13.1 ± 3.9	0.9152
Dementia	277 (17.4)	178 (17.5)	99 (17.0)	0.397
Cognitive impairment	415 (25.9)	282 (27.8)	133 (22.9)	0.022*
Mental status	314 (19.7)	220 (21.7)	94 (16.2)	0.008*
Polypharmacy (\geq 5 medications)	1078 (67.5)	683 (67.2)	395 (67.9)	0.754

Determinants of Transition to Long Term Care

N=304 (19.0%) older adults ceased Home Support by year end Of those, 122 (7.6%) transitioned to Long Term Care



Multivariable logistic regression model for determinants' of long-term care

Key Findings Mortality ;148 (9.3%) older adults died by year end 2017



Adjusted logistic regression for End of Life

Why are the results of this study important?

Strategic Action

Expand community-based care to bring care closer to home.

Expanding community and primary care is at the heart of the Sláintecare vision. The relative under-development of primary and community-based care means that achieving a significant shift of care from the acute setting to the community will be particularly challenging and will require difficult choices in the first few years. In the context of the new citizen care masterplan, a new plan for the organisation and operation of community care services will be developed, building on work already underway to develop Community Healthcare Networks and primary care teams. This will entail an expansion of services provided in the community and a significant increase in workforce and infrastructure to enable this expansion.

The following six actions are key here:

Develop a plan for the organisation and operation of community-based services based on population need and size.



Long-term care services for older people

Embedding physical activity into home support





RESEARCH SERIES NUMBER 122 March 2021

DEMAND FOR THE STATUTORY HOME SUPPORT SCHEME

BRENDAN WALSH AND SEÁN LYONS



BMC Geriatrics

ESEARCH ARTIC

Open Access

Prevalence of frailty among community dwelling older adults in receipt of low level home support: a cross-sectional analysis of the North Dublin Cohort

Sara Kelly¹, Irene O'Brien¹, Karla Smuts^{1,2}, Maria O'Sullivan² and Austin Warters¹⁴

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Rialtas na hÉireann Government of Ireland

Spending Review 2021: Expanded Provision of Home Support and Total Costs of Long Term Care for Older Persons – A Scoping Review and Exploratory Analysis

PATRICK MORAN, DEPARTMENT OF PUBLIC EXPENDITURE AND REFORM

EOIN HALPIN, DEPARTMENT OF HEALTH

NOVEMBER 2021

Kally at all MME Samaneses sates in the set DOI: 10.1100/01.0877-0117-0208-0 **BMC** Geriatrics

RESEARCH ARTICLE

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BMC Geriatrics

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Health Information and Quality Authority

An tÚdarás Um Fhaisnéis agus Cáilíocht Sláinte

REGULATION OF HOMECARE: Research Report December 2021

Administrative Data

Highlighting the impact of deprivation on frail older adults

	2022 Over 65 Population data , n (%) Health Atlas/CSO	Service data Received Home Support, n (%)	% Population receiving home support
Total Area Population Over 65 population	150,715 20,195		
Age Category			
85+	2,920 (5.6)	1052 (48.4)	36.0%
80-84	2,821 (5.6)	468 (21.5)	16.6%
75-79	3,911 (7.6)	338 (15.5)	8.6%
70-74	4,881 (9.4)	226 (10.4)	4.6%
65-69	5,662 (10.8)	90 (4.1)	1.6%
Total ≥ 65	20,195 (39.0)	2,174	10.8%

Table 1: Demographics of home-support recipients in Dublin North Central in 2022

✓ 48.4% of all home-support commissioned in DNC in 2022 was to individuals aged 85 years and older.

✓ 36% of all individuals aged 85 years and older in DNC received formal home-support services in 2022.

✓ The age for those receiving home support ranged from **65-104 years** and the mean age was **83.4 years**.



PROJECTED HOME CARE DEMAND (DNC) 2016-2031, BASED ON CENTRAL POPULATION PREDICTIONS

Projected HCP demand (hrs) and Healthcare Costs



Study Population Characteristics (n= 1591)





Engaging frail older adults in research

- Most participants reported a positive experience of engaging in research
- Most 93% (26/28) willing to be contacted about future studies
- Perceived benefit
- "..You need to get across the long-term benefit of research participation to [older adults] if we want to improve care for people in the community" P003
- Swan at al 2022



A Practical Guide for Researchers





$H^{B}_{\rm head}^{\rm Heads}$	About 🗸 Strategy 2025 3 Panding 🗸 Data collections & evidence 🗸 Publications 3 Ne
All funding schemes	Public, patient and carer involvement
Before you apply	research
Funding updates	research
Public, patient and Public, patient and raw too Chain and and and too Chain and the second and the second Chain and the second	
PPt in your research -	
PPI stories	
Webinar about IMI	
Health research career paths	
EU funding support	
Manage a grant	
Approved awards	







Impact and translating knowledge into practice

- Research aware students involved, doctoral students and post doc
- Assisted us getting other grants
- HRB Study Applied Partnership Award
- Horizon 2020
- Post grad teaching
- Meeting with DOH
- Presentations at conferences
- Research focused staff improve the current service

It's a hard nut to crack but it's worth the effort!



