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Personal Social Services Research Unit

CARE TRANSITIONS IN LATE OLD AGE

Factors Associated with Changes in Receipt of Care in Newcastle at Age 85+

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The work was funded by a grant from the Department of Health to the Policy Research Unit in the Economics of Health and Social Care Research Unit (ESHCRU) (Ref 103/0001)

Outline

- Introduction
- Literature
- Methods
- Findings
- Conclusion

Introduction

- Policy background
  - Care Act 2014
  - A capped system
  - Lifted means-tested threshold
- Research objectives
  - Patterns of social care transitions
  - Factors associated with social care transitions

Existing literature

Factors associated with receipt of social care

- **Physical disability and cognitive impairment** (Greene, 1983; Houde, 1998; Woo et al., 2000; Yaffe et al., 2002; Bharucha et al., 2004; Harris, 2007; Paraponaris et al., 2012)
- **Age** (Wang et al., 2001; Akamigbo and Wolinsky, 2006; Avlund et al., 2008)
- **Gender** (Foley et al., 1992; Mustard et al., 1999)
- **Income** (Kersting, 2001)
- **Educational achievement** (Mustard et al., 1999)
- **Marital status** (Klein and Salaske, 1994; Freeman, 1996; Andel et al., 2007; Litwin and Attias-Donfut, 2009)

Focus of the Research

- Multiple transitions
- People aged 85 and over (“oldest” old population)
  - Fastest growing group
  - Intensive users of social care (3.8% vs 15.5%, care home, England, 2010)
- Formal social care (community care and care home)

Newcastle 85+ Survey

- Cohort of 849 people living in Newcastle upon Tyne aged 85 in 2006
- First round interviews in 2006, and two follow-up interviews 18 and 36 months later
- Social care status: residential care user and community care (day care and home care) user, non-user of formal care
- Social care transitions: (1) moving to care homes from the community, (2) staying in care homes, (3) returning to the community from care homes, (4) starting to use community care, (5) stopping using community care, (6) continuing to use community care, (7) remaining a non-user, (8) mortality and survey withdrawal

Data Analysis

- Logistic regression analysis with panel data

  Dependent variables (between two waves)

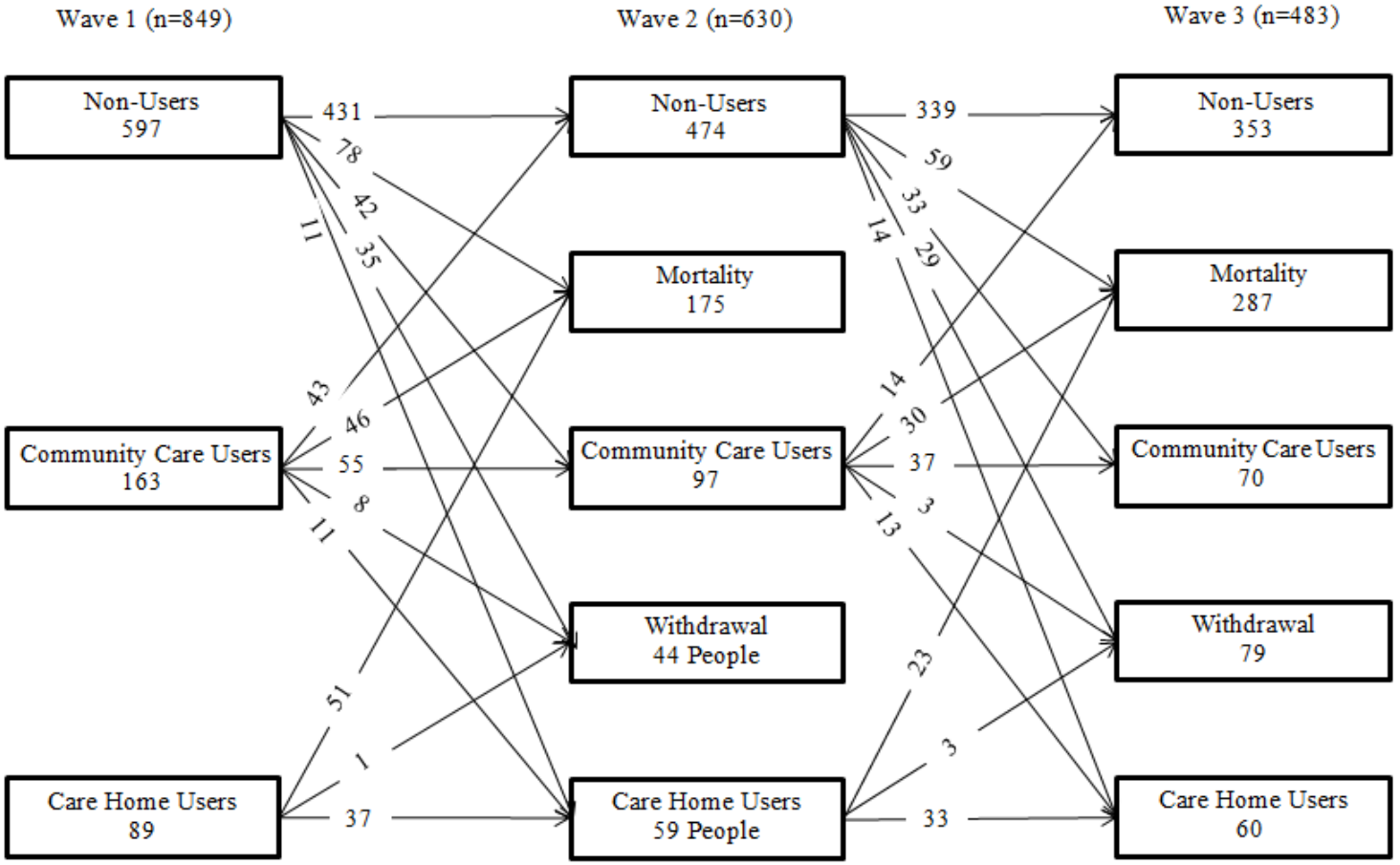
  - Mortality and attrition
  - Transitions from the community to care homes
  - Transitions of non-users to social care
  - Transitions of community care users

  Independent variables (in waves one and two)

  - Anderson (1995)'s behavioural model: predisposing factors, enabling factors and need factors
  - 10 Need factors: disability, cognitive impairment, health, long-term illness, number of disease, hearing difficulties, visual impairment, incontinence, hip replacement and hospital admissions.
  - 4 Predisposing factors: gender, marital status, housing tenure, household composition and sense of loneliness
  - 3 Enabling factors: housing tenure , education and Index of Multiple Deprivation (IMD)

Research Findings (1)

Figure 1 Social Care Transitions across Three Waves of Newcastle 85+ Study



Research Findings (2)

Table 1 Key Factors Associated with Receipt of Care

Categories	Baseline	18 months	36 months
Gender			
Male	38.0%	37.1%	36.4%
Female	62.0%	62.9%	63.6%
Disability			
None	77.4%	73.8%	73.9%
Mild or Moderate	9.3%	12.1%	13.6%
Severe	13.3%	14.1%	13.5%
Cognitive impairment			
None	71.3%	n.a.	66.0%
Mild	16.0%	n.a.	18.3%
Moderate or Severe	12.7%	n.a.	15.7%
Marital Status			
Single Never Married	8.2%	8.6%	8.9%
Married	30.1%	25.5%	24.1%
Separated, Widowed or Divorced	61.8%	65.9%	66.9%
Long Standing Illness			
Yes	19.8%	15.3%	12.2%
No	80.2%	84.7%	87.8%
Hearing Impairment - Difficulty in Hearing Someone Talking in a Quiet Room			
Yes	19.1%	19.4%	70.0%
No	80.9%	80.6%	17.4%
Attended Hospital as an Inpatient in the Preceding Year			
Yes	22.1%	28.2%	26.1%
No	77.9%	71.8%	73.9%
Total Number of Participants	849	630	483

Notes on table 1:

1. This table only presents the key variables which demonstrate statistical significance in our regression analyses later. A full list of the variables and their frequency distributions are presented in the appendix to this paper.
2. The Newcastle 85+ survey did not collect data on cognitive impairment in wave 2.

Research Findings (3)

Table 2 Factors associated with mortality and study withdrawal
(Multinomial logistic regression models; base outcome: participation in the study)

Independent variable (Characteristics in the previous wave)	Wave 1 to 2 (n=849)		Wave 2 to 3 (n=630)	
	Mortality	Withdrawal	Mortality	Withdrawal
	Relative risk ratio (95% C.I.)	Relative risk ratio (95% C.I.)	Relative risk ratio (95% C.I.)	Relative risk ratio (95% C.I.)
Gender				
Male	1.00	1.00	1.00	1.00
Female	0.56** (0.38-0.84)	2.73* (1.23-6.04)	0.56* (0.35-0.88)	1.53 (0.66-3.57)
Disability				
No disability	1.00	1.00	1.00	1.00
Mild and moderate	0.87 (0.44-1.69)	1.40 (0.45-4.32)	1.92* (1.01-3.68)	0.67 (0.15-3.03)
Severe	1.91* (1.02-3.56)	4.44 (1.40-14.01)	2.48* (1.17-5.25)	2.79 (0.72-10.74)
Cognitive impairment				
Intact	1.00	1.00	1.00	1.00
Mild	1.75* (1.07-2.85)	1.34 (0.57-3.11)	0.69 (0.34-1.35)	0.54 (0.15-1.96)
Moderate and severe	2.23* (1.18-4.21)	0.25 (0.03-2.11)	2.38* (1.14-4.98)	0.29 (0.30-2.81)
Using care home				
No	1.00	1.00		
Yes	2.47* (1.21-5.03)	0.27 (0.03-2.47)		
Using Community care				
No	1.00	1.00	1.00	1.00
Yes	1.47** (1.15-1.86)	0.26 (0.03-2.47)	2.47** (1.35-4.51)	0.69 (0.17-2.81)
Inpatient				
No	1.00	1.00		
Yes	1.65* (1.12-2.43)	0.92 (0.48-1.73)		
Predicted probability	0.20	0.05	0.18	0.05
LR χ^2 Statistics	$\chi^2(16)=119.56$***		$\chi^2(12)=63.94$***	

Note on table 2:

1. *p<0.05, **p<0.01, ***p<0.001
2. It is assumed that the sample's cognitive functioning status in wave 2 were the same as in wave 1.
3. "Using care home" and "Inpatient" variables are not statistically significant in the second model.

Research Findings (4)

Table 3 Factors associated with transitions from the community to care homes (A Panel Data Logistic Regression Model, n=1043)

	Move to care homes=1, stay in the community=0
Independent Variables	Odds ratio (95% C.I.)
Gender	
Male	1.00
Female	0.65 (0.31-1.35)
Disability	
No disability	1.00
Mild and Moderate	1.60 (0.60-4.21)
Severe	3.02* (1.18-7.71)
Marital status	
Married	1.00
Single Never Married	3.75 * (1.05-13.34)
Separated, Divorced or Widowed	2.11 (0.75-5.95)
Using community care	
No	1.00
Yes	6.19*** (0.82-13.58)
Predicted Probability	0.04
Wald χ^2 Statistics	$\chi^2(6)=54.51$***

Note on table 3:

1. *p<0.05, **p<0.01, ***p<0.001

Research Findings (5)

Table 4 Factors associated with social care transitions of non-users across 3 waves (A panel data logistic regression model, n=870)

	Start to use social care=1, remain a non-user=0
Independent Variables	Odds ratio (95% C.I.)
Gender	
Male	1.00
Female	1.16 (0.72-1.87)
Disability	
No disability	1.00
Mild and Moderate	1.22 (0.52-2.87)
Severe	8.25* (1.67-40.73)
Cognitive impairment	
Intact	1.00
Mild	2.21* (1.10-4.46)
Moderate or Severe	3.53* (1.18-10.63)
Predicted Probability	0.12
Wald χ^2 Statistics	$\chi^2(5)=11.08$*

Note on table 4:

1. *p<0.05, **p<0.01, ***p<0.001
2. It is assumed that the sample's cognitive functioning status in wave 2 were the same as in wave 1.

Research Findings (6)

Table 5 Factors associated with social care transitions of people using community care
(Multinomial logistic regression models; base outcome: continue to use community care)

	Wave 1 to 2 (n=152)			Wave 2 to 3 (n=94)		
	Stop community care	Move to care homes	Mortality	Stop community care	Move to care homes	Mortality
Independent variables	Relative risk ratio (95% C.I.)	Relative risk ratio (95% C.I.)	Relative risk ratio (95% C.I.)	Relative risk ratio (95% C.I.)	Relative risk ratio (95% C.I.)	Relative risk ratio (95% C.I.)
Gender						
Male	1.00	1.00	1.00	1.00	1.00	1.00
Female	1.08 (0.38-3.01)	1.17 (0.26-5.19)	0.67 (0.28-1.57)	1.06 (0.25-0.48)	0.18* (0.04-078)	0.59 (0.20-1.71)
Disability						
No disability	1.00	1.00	1.00	1.00	1.00	1.00
Disability	0.05*** (0.01-0.18)	1.13 (0.28-4.52)	0.49 (0.22-1.12)	0.16* (0.03-0.87)	6.60* (1.10-39.60)	1.34 (0.48-3.73)
Cognitive impairment						
Intact	1.00	1.00	1.00			
Mild	0.10** (0.02-0.52)	1.05 (0.23-4.82)	1.02 (0.39-2.67)			
Mod./Severe	0.09* (0.01-0.85)	1.31 (0.21-8.08)	1.57 (0.52-4.82)			
Long-term illness						
No				1.00	1.00	1.00
Yes				0.37 (0.05-2.65)	0.05* (0.01-0.50)	0.42 (0.06-2.93)
Difficulty in hearing someone talking in a quiet room						
No	1.00	1.00	1.00			
Yes	0.56 (0.17-1.92)	0.21* (0.05-0.85)	0.40 (0.15-1.09)			
Predicted pr.	0.28	0.07	0.30	0.15	0.14	0.32
LR χ^2 Statistics		$\chi^2(15)=65.63$***			$\chi^2(9)=26.49$**	

Note on table 5:

1. *p<0.05, **p<0.01, ***p<0.001

2. 2. It is assumed that the sample's cognitive functioning status in wave 2 were the same as in wave 1.

3. "Long-term illness" is not significant in the first model; "cognitive impairment" and "hearing difficulties" are not significant in the second model.

Conclusion

- Patterns of transitions: no return to the community from care home; gradual progression
- Compared with predisposing and enabling factors, need factors, in particular physical disability and cognitive impairment, are the key predictors of social care transition.
- Use of community care intermittently: keep track of people's disability status and social care needs.

Limitations

- Generalisation
- Funding sources
- Informal care

Thank you for your attention