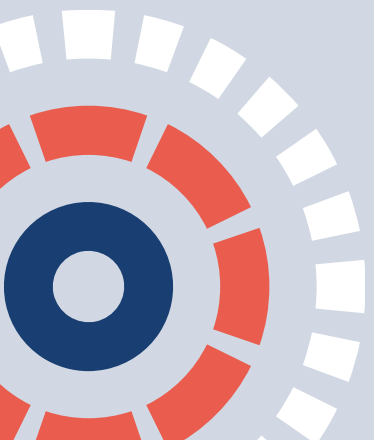




Wages and labour supply in the Adult Social Care sector

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Disclaimer

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Background

Increase in demand for ASC services and workforce

- people with dementia: 750k in 2019; predicted 1.35 million by 2040 (Wittenberg et al., 2019)
- no. of ASC jobs: 1.39 million in 2010; 1.79 million in 2023; (expected) 2.23 million by 2035 (Skills for Care, 2023)

Supply of ASC workforce (Skills for Care, 2023)

- high vacancies: 152k (10%) in 2022/23; mainly filled by overseas recruitment
- high turnover: ~29%; higher in the independent sector (>30%) and among care workers (36%)

Concerns about sector sustainability and capacity to meet demand

- Limited quantitative evidence on drivers of labour supply in ASC:
 - impact of pay and employment conditions (e.g., training provision, ZHC) on ASC staff retention (Vadean & Saloniki, 2023; Forth & Bryson, 2022)
 - limited wage competition between ASC providers (Vadean & Allan, 2023)



Aims

- Relationship between wages and labour supply (i.e., recruitment and retention) in ASC
 - Extensive margin (i.e., additional people employed)
- Wage elasticity – if ASC wages increase by 1% (and everything else is kept unchanged) how many more people would we expect to see employed in the sector?
 - Are wages a feasible lever to increase employment in ASC?



Methods: Conceptual framework

Wage elasticity of labour supply to the sector:

- Derived as a weighted average of the *overall elasticity of separation* (ε_{SW}) and the *elasticity of switching* between ASC employers (ε_{SW}^I), where the weights depend on the share of recruitment from within the sector (θ_R^I)
- Steady state assumptions:
 - overall flows of staff separation and recruitment are equal: $\theta_R = \theta_S$; recruitment from jobs inside the sector equals separation to jobs inside the sector: $\theta_R^I = \theta_S^I$
 - wages have the same effect on recruitment and retention: $\varepsilon_{RW}^I = -\varepsilon_{SW}^I$ and $\varepsilon_{RW} = -\varepsilon_{SW}$



Methods: Estimation strategy

Use of worker-level panel data to estimate ε_{SW} , ε_{SW}^I , θ_R^I

- θ_R^I from sample statistics
- ε_{SW} , ε_{SW}^I from duration model of worker job spells
 - Accounts for right censoring (i.e., job separation of a dissatisfied worker that will leave in the future not observed)
 - ‘Within’ (i.e., fixed) effects – account for unobserved time-invariant worker and employer characteristics, known to bias wage elasticities towards zero



Data

Adult Social Care Workforce Data Set (ASC-WDS) at Oct 2016 to 2022

- Unique/permanent IDs for both establishments and workers
 - Traced over time to identify of job separations
- Inclusion criteria
 - Establishments – all sectors (public, for-profit, and voluntary); care homes with and without nursing, home care
 - Workers – permanent or temporary contract; aged 16 to 59; direct care role (i.e., 85% care workers, 11% senior care workers, 4% other care providing)

Final sample (2016 to 2021)

- Residential care: ~308k obs.; ~154k job-spells; ~147k workers; ~6.4k care homes
- Home care: ~237k obs.; ~121k job-spells; ~116k workers; ~2.8k home care establishments
- Slightly overrepresented: public owned establishments, larger care homes, and establishments with better CQC ratings; use of post-sampling weights



Job separation rate by hourly wage quantiles

Residential care - Statutory LA



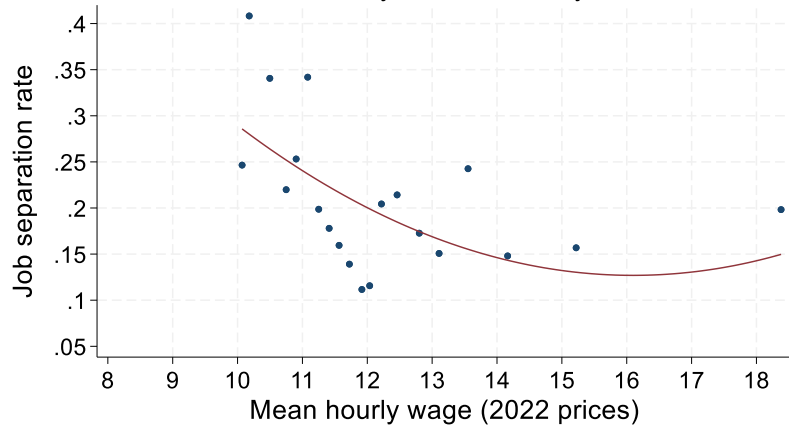
Residential care - Private



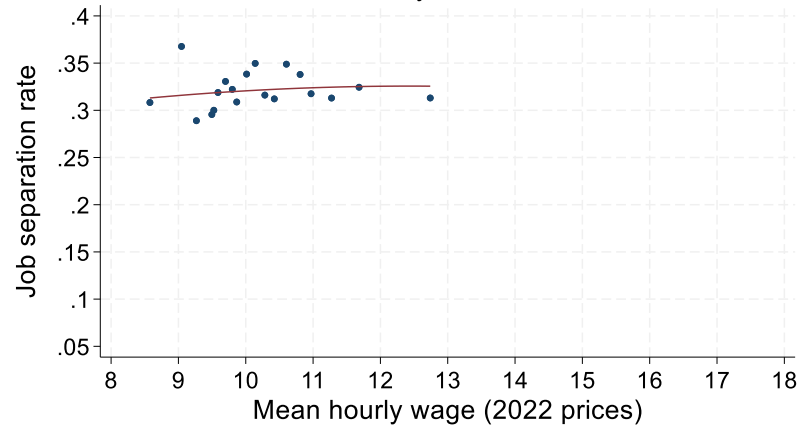
Residential care - Voluntary



Domiciliary care - Statutory LA



Domiciliary care - Private



Domiciliary care - Voluntary



Wage elasticities of labour supply to the sector by care setting

	cloglog	probit	CRE probit ('within' effects)		
				95% CI	
All care settings					
Elasticity job separation (overall)	-0.39***	-0.37***	-2.35***	-2.58	-2.13
Elasticity job separation (inside ASC)	-0.68***	-0.69***	-2.64***	-3.14	-2.14
Share of recruitment from ASC	0.60	0.60	0.60		
Elasticity labour supply to the sector	-0.07	-0.21	3.85***	2.92	4.78
Residential care					
Elasticity job separation (overall)	-0.76***	-0.70***	-2.18***	-2.48	-1.89
Elasticity job separation (inside ASC)	-0.86***	-0.84***	-2.95***	-3.62	-2.27
Share of recruitment from ASC	0.63	0.63	0.63		
Elasticity labour supply to the sector	1.20***	0.91***	1.80***	0.48	3.12
Domiciliary care					
Elasticity job separation (overall)	-0.18***	-0.17***	-2.54***	-2.87	-2.20
Elasticity job separation (inside ASC)	-0.57***	-0.55***	-2.44***	-3.16	-1.71
Share of recruitment from ASC	0.57	0.57	0.57		
Elasticity labour supply to the sector	-0.69***	-0.71***	5.35***	3.67	7.04



Heterogeneous effects – Subgroup analysis for residential care

By age group: Labour supply elastic for age 16-29 (3.35) and 30-44 (3.18) but inelastic for age 45-59 – non-pecuniary reasons (i.e., health, burnout, care commitments) more prevalent for workers closer to retirement

By experience in ASC: Labour supply elastic for 2-4 (2.93) and 4-9 years of experience (2.83) but inelastic for <2 and >10 years of experience – many ‘joiners’ only try out a caring job and leave if not good fit for them (irrespective of pay); workers with >10 years experience – either highly motivated or older (e.g., age group 45-59)

By region: Labour supply more responsive to wages in the South and North and inelastic in the Midlands – high growth in domiciliary care in the Midlands (Allan, 2021) likely related to more job transitions inside ASC and lower response of employment from outside the sector

By year: Wage elasticity of labour supply decreased substantially during the pandemic – less job opportunities outside ASC



Labour supply effects of % wage increase

	Log of wage			3-degree polynomial of wages		
	10.11	10.31	10.62	10.11	10.31	10.62
Wage (2022 £)	10.11	10.31	10.62	10.11	10.31	10.62
Wage elasticity job separation (overall)	-2.22***	-2.26***	-2.31***	-2.82***	-2.69***	-2.48***
Wage elasticity job separation (to jobs inside ASC)	-2.98***	-3.01***	-3.06***	-4.18***	-3.90***	-3.44***
Share of recruitment from inside ASC	0.60	0.60	0.60	0.60	0.60	0.60
Wage elasticity labour supply to the sector	2.19***	2.28***	2.40***	1.59***	1.80***	2.10***
Increase in real wage (%)		2.0%	5.0%		2.0%	5.0%
Predicted increase in employment (%)		4.5%	11.5%		3.4%	9.2%

- Functional form - log of wage vs. 3-degree polynomial; results rather similar
- A 2% increase in real wage across the sector increases labour supply by 3.4 to 4.5%
- A 5% increase in real wage across the sector increases labour supply by 9.2 to 11.5%



Labour supply effects of alternative policies

Introducing minimum wage to the ASC sector

- Considered incremental increases of 50p to the wage floor; only wages below new minimum are affected
- 50p increase (equiv. to 1.6% real payroll increase in 2022) -> labour supply increase by 2.2 to 3.5%
- £1 increase (equiv. to 4.5% real payroll increase in 2022) -> labour supply increases by 7.1 to 9.8%

Increasing ASC wages to NHS Agenda for Change Band 2 wages (2022: £10.37/h if <2years experience; £10.90 if 2+ years experience)

- Equivalent to 7% real payroll increase (in 2022) -> labour supply increases by 7.4 to 13.1%



Discussion

- Labour supply can be improved by increasing wages (i.e., elastic with respect to wages [>1])
 - Differences with respect to worker characteristics (e.g., age and experience), local market characteristics, and economic shocks.
- % increase in wages similar effect to increasing minimum wage floor (or aligning ASC pay to NHS Agenda for Change rates) – choosing right policy to take in consideration other aspects as well (e.g., impact on pay progression)
 - Workforce Strategy for ASC (Skills for Care)
 - Fair Pay Agreement
 - Employment Rights Bill – ASC Negotiating Body; Fair Work Agency
 - Increased costs to councils and central government



Limitations

- Predicted labour supply effects do not account for wage increases in other sectors -> *overstatement* of true effects
- Predicted effects of introducing sector specific minimum wage or NHS Agenda for Change pay assumed staff pay over new minimum not affected -> *understatement* of true effects
- Measurement issue re. hourly wages in domiciliary care (inclusion/exclusion of travel time from reported wages)
- Wage elasticities of separation sensitive to specification (i.e., functional form) – predicted labour supply effects rather stable due to the narrow wage distribution
- Steady state assumption of relative constant employment levels – broadly in line with observations for the period analysed
 - Slight deviations – increase in employment in 2020/21 (+3%) and drop in employment in 2021/22 (-4%) motivated by employment opportunities outside ASC and not ASC wages

Scope for future research – using different data (e.g., ASHE); other job roles (e.g., nurses, social workers); period of large immigration flows in 2022/23 and 2023/24



Thank you!

ASCRU Discussion Paper on [Wages and labour supply in the Adult Social Care sector](#)

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