

# **Costs and cost-effectiveness of housing with long-term care in England**

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# Acknowledgements

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## Papers:

Bäumker, T., Callaghan, L., Darton, R., Holder, J., Netten, A. and Towers, A. (2011) Deciding to move into extra care housing: residents' views, *Ageing and Society*.

Bäumker, T. and Netten, A. (2011) Evaluating extra care housing for older people in England: a comparative cost and outcome analysis with residential care. *Journal of Service Science and Management*, 4, No. 4

Bäumker, T., Darton, R., Netten, A. and Holder, J. (2011) Development costs and funding of extra care housing, *Public Money & Management*, 31 (6)

# Background

- Extra care

  - To meet housing care and support needs while maintaining independence in private accommodation

- Extra Care Housing Funding Initiative (ECHFI)

  - £227million capital funding 2004 – 2010

- Longstanding policy commitments

  - Independence

  - 'Own home' rather than residential care

  - Personalisation

## Key aims

- Short and long-term outcomes
  - What happens to people
  - Well-being and quality of life
- Costs
  - Comparative (different models of extra care housing)
  - Sources of variation
  - Cost-effectiveness
- Comparison with care homes
  - Difficulties with imbalance in observed characteristics

# The evaluation

- Context: (2009): 276k ch, 179 nursing, 43k ech  
Sources: Elderly Accommodation Counsel 2009, Laing and Buisson 2009
- Cuts in public funding: should we invest?
- 5 year study during 2006-2010
- 19 ECHFI schemes:
  - new build, opened 2006-2008
  - 1468 dwellings: 3 villages, 770 dwellings (240-270)
  - 16 smaller schemes, 716 dwellings (35-75)
  - People with care needs (909)

# Data collection

## ■ ECH resident data

ADLs, services, expectations & well-being  
Moving in, and 6, 12 & 18 months later

## ■ Scheme-level data

Contextual information on opening  
Costs and context a year after opening  
Fieldworker questionnaire at end of data collection

## ■ Care home residents data

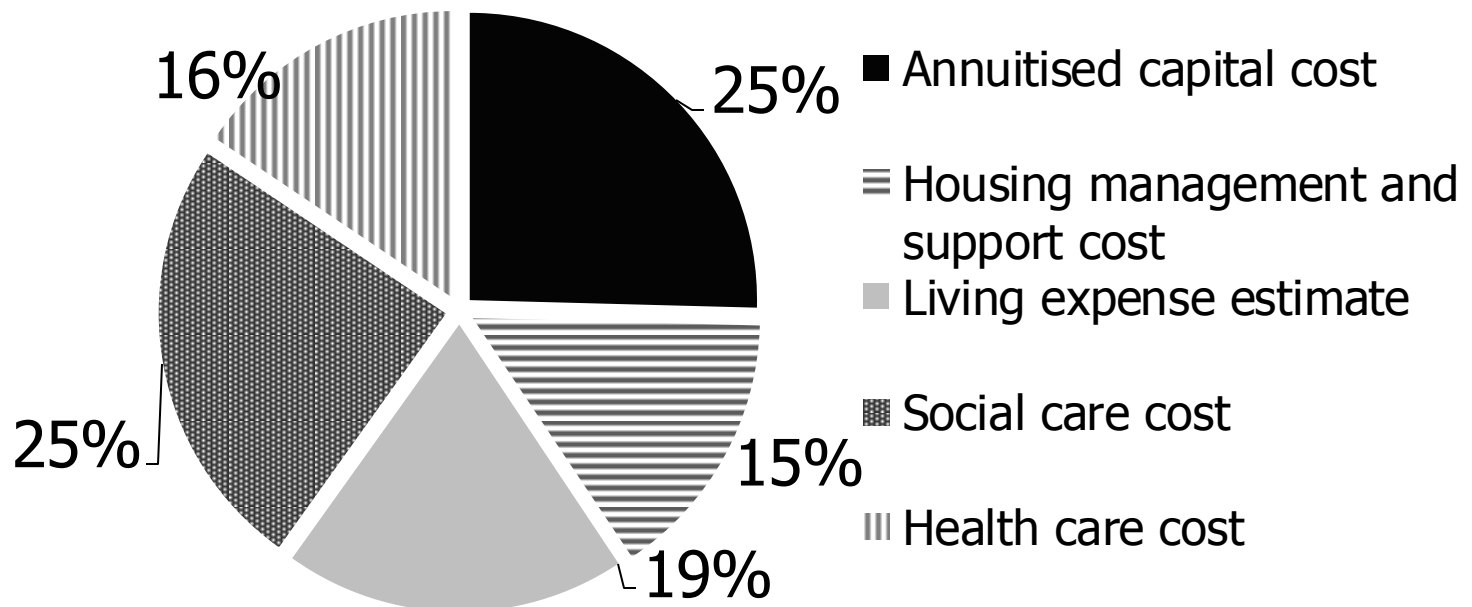
1995 longitudinal follow up of admissions  
2005 survey of admissions

# Cost sample

	<i>Mean or Per cent (SD)</i>	
<i>Age (mean)</i>	76.31	(10.70)
<i>Female</i>	66.00%	(2.24)
<i>Previous accommodation</i>		
Ordinary housing	63.37%	(2.29)
<i>Previous tenure</i>		
Owner Occupier	30.52%	(2.20)
Rented (LA/HA)	49.89%	(2.39)
<i>Previous informal care</i>	62.85%	(2.34)
<i>Living alone</i>	76.74%	(1.97)
<i>Longstanding Medical Condition</i>	75.91%	(1.99)
No. of conditions, range 1 - 6 (mean)	1.36	(1.10)
<i>Nursing Need</i>	27.96%	(1.66)
No. of types of nursing need, range 1 - 5 (mean)	0.28	(0.63)
<i>Infrequent problem behaviour</i>	94.34%	(0.01)
<i>Barthel Index of ADL, range 0 - 20 (mean)</i>	14.73	(4.75)
Score 17 - 20 (Very low dependency)	43.09%	(2.40)
<i>Confusion (MDS CPS), range 1 - 3 (mean)</i>	1.34	(1.10)
Intact	68.51%	(2.23)
<i>Quality of Life (CASP 19), range 0 - 57 (mean)</i>	36.08	(10.30)
<b>Scheme/ Facility characteristics (18 schemes)</b>		
Separate housing and care service delivery	55.05%	(2.31)
High staff turnover	63.44%	(2.24)
London location	28.17%	(2.09)

# Costs

- 2008 prices: £416 per resident p/w (s.d. £180, £175-£1,240), median £326
- Health & social care: 40%



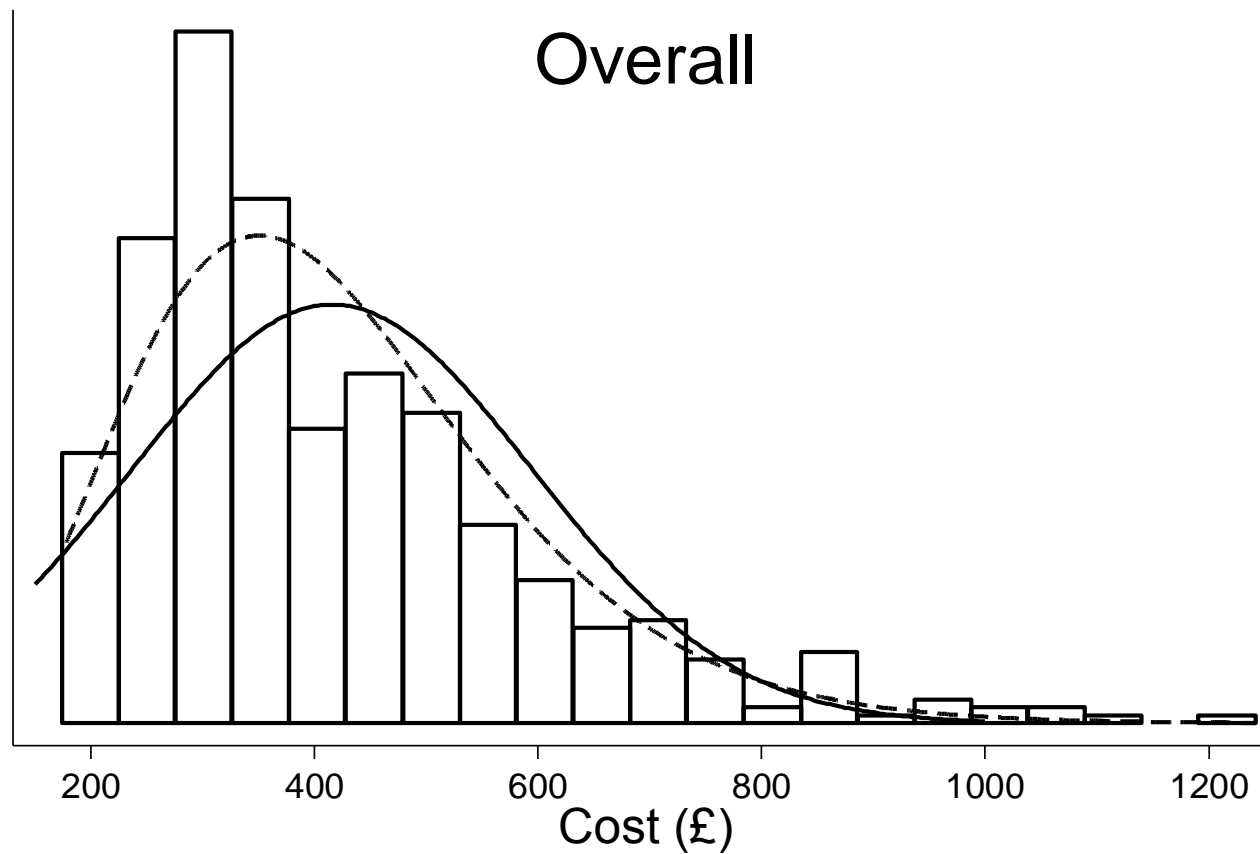


# Sources of cost variation

- n=465, skewed distribution
- Clustering effects (19 schemes): ICC = 0.11
- Multi-level model
  - As expected: higher cost with higher needs (nursing needs, cognitive impairment, living alone)
  - Interestingly *combined* service delivery cost 13 % less
  - Problematic staff turnover predicted higher costs

# Costs

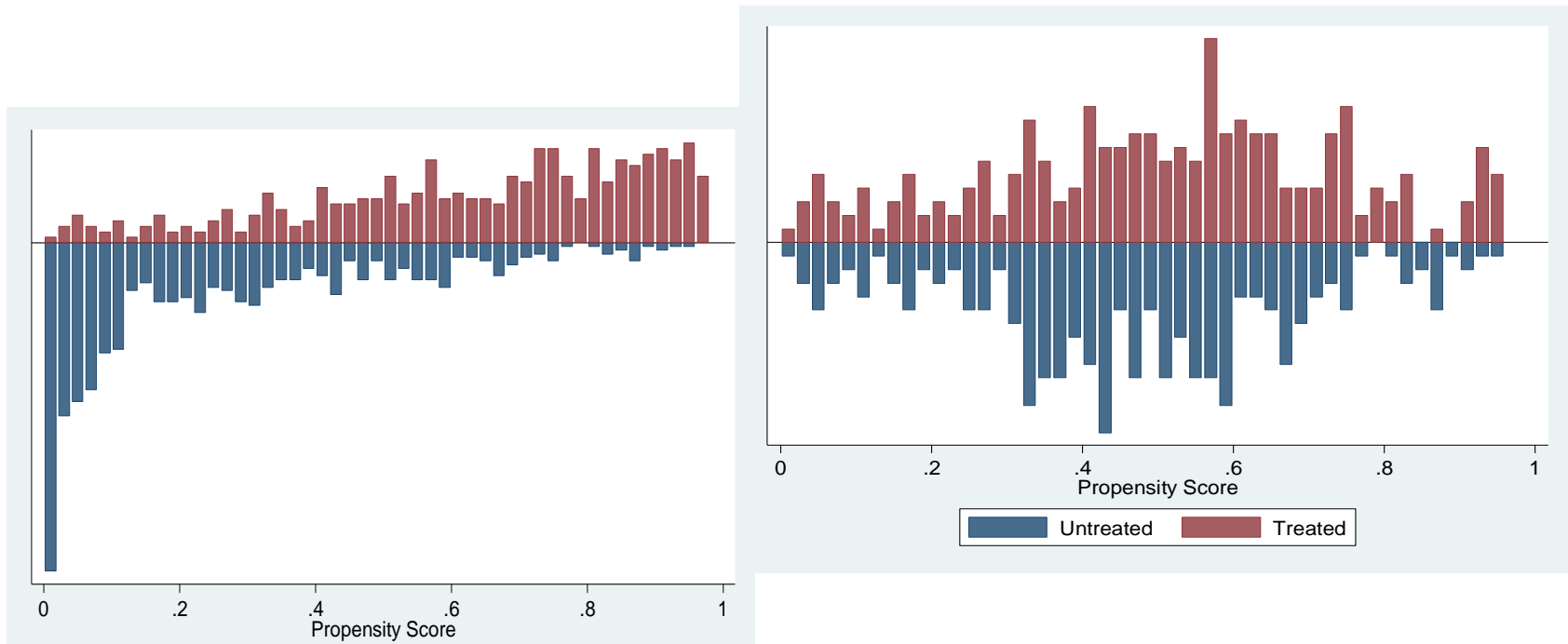
- Distribution at the aggregate level (n=465)



# Like-with-like comparison

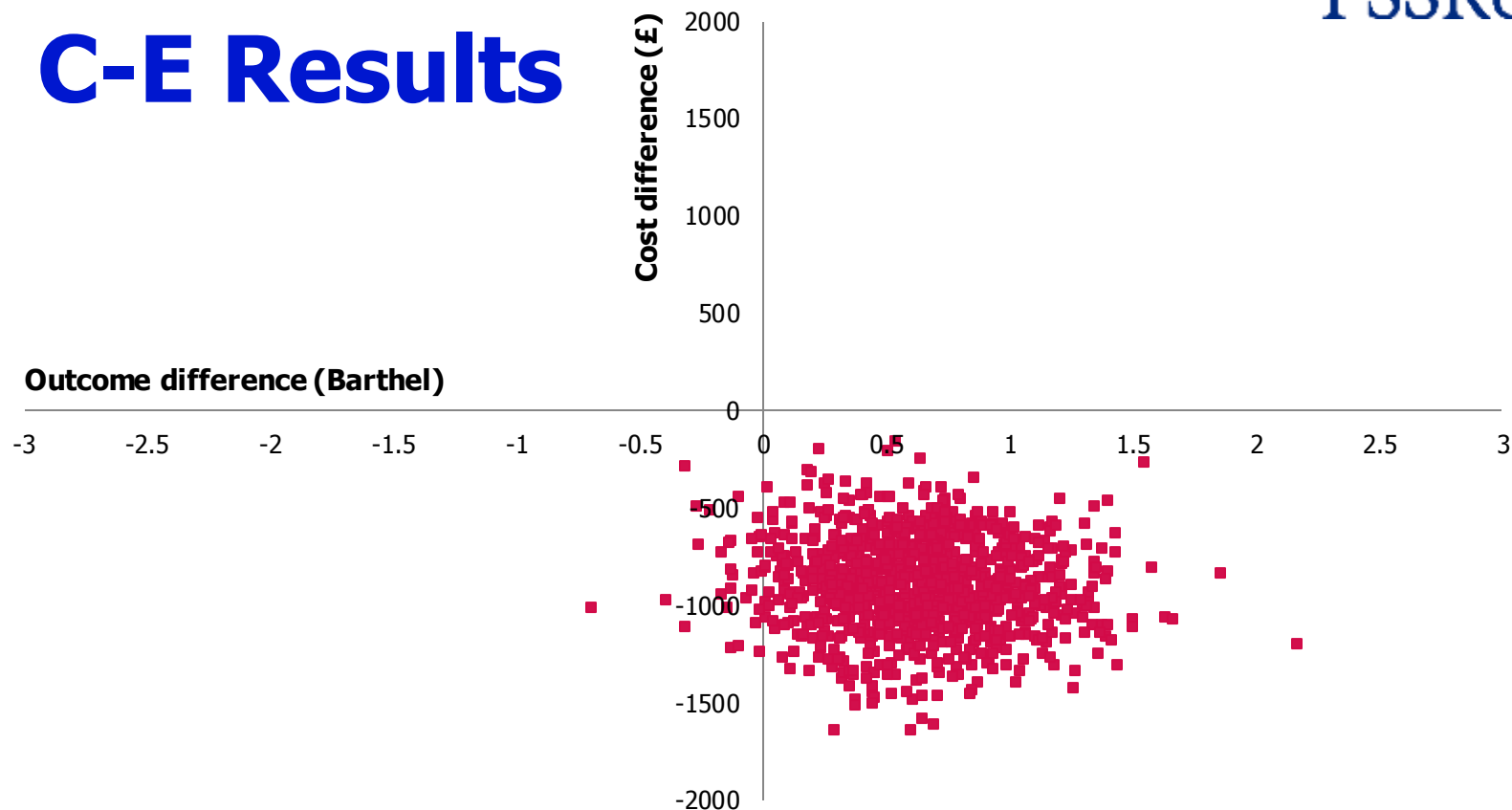
- In the absence of randomization
  - ECH younger, less likely lived alone, have longstanding condition or problem behaviour, and less dependent, less confused than 1995
- Both settings deal with broad range of care needs, which overlap
- Propensity score matching:
  - Reduce imbalance in observed characteristics between groups
    - 240 matched pairs with 1995 care homes group
    - In 2005, more dependent admissions, 30% matched (n=136)

# Propensity score overlap



- Test for significance (means), re-estimating the propensity score using logistic regression ( $R^2$  low)

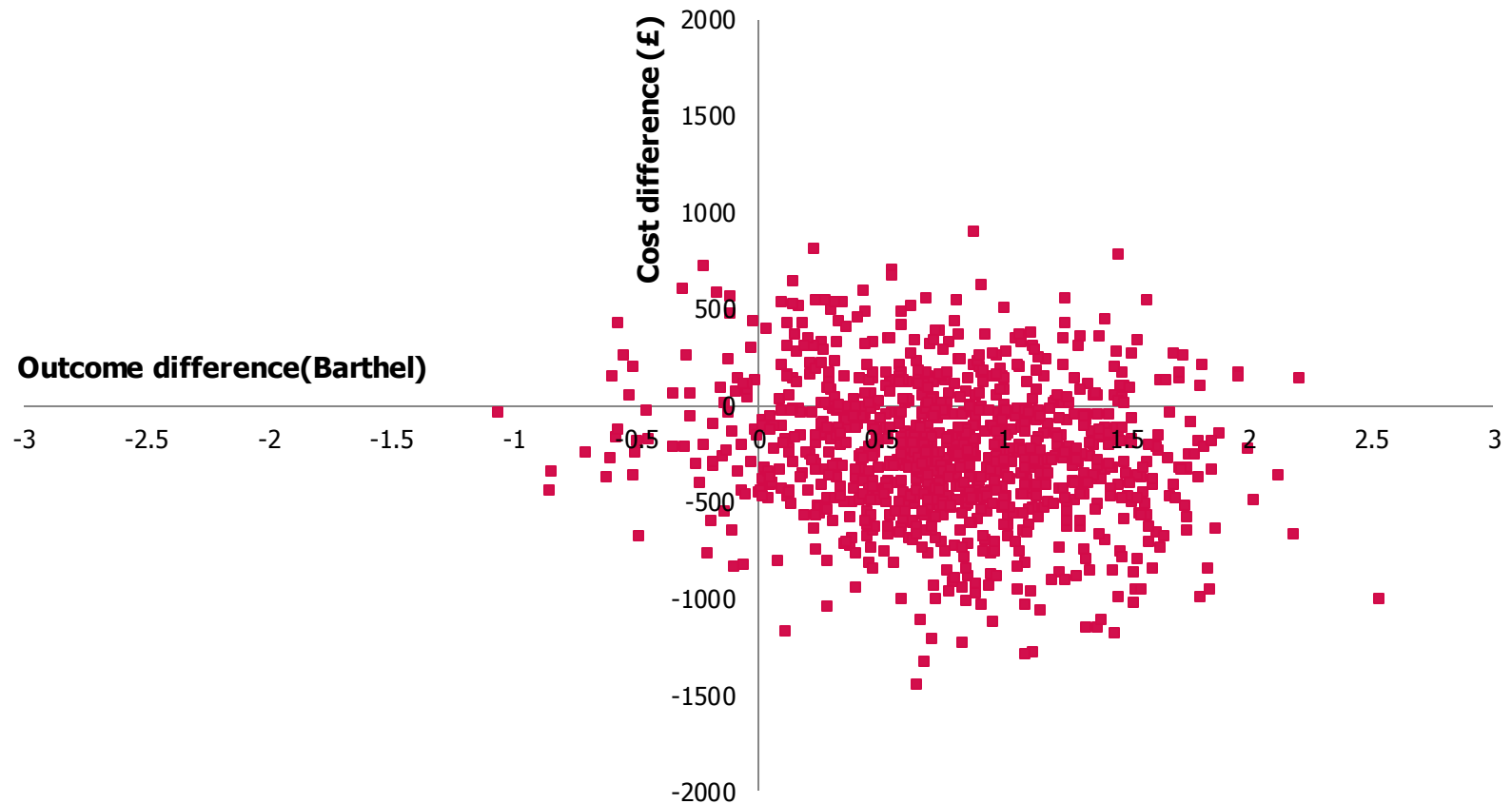
# C-E Results



		Mean	S.D.	Range (min, max)		Mean difference	Testing differences ( <i>p</i> -value)
Cost per week (£)	Extra Care	374	131	172	892	-£35	>0.001
	1995 CH	409	65	310	663		
Cost per 6-months (£)	Extra Care	9,722	3,397	4,480	23,179	-£902	>0.001
	1995 CH	10,624	1,685	8,059	17,239		
Effect over 6-months <sup>1</sup>	Extra Care	0.28	3.27			0.64	0.007
	1995 CH	-0.37	4.33				
ICER <sup>2</sup>		-1,406					

# C-E Results

## n=136 matched pairs



# Conclusion

- ECH promising type of provision
- This raises the issue of cost
  - ideally, both better outcomes and either the same or, preferably, lower costs.
- This study identified
  - Sources of cost variation at both level 1 and 2
  - costs were lower when compared to equivalent people who moved into publicly funded care homes in 1995
  - similar to more dependent type of person in 2005, with marginal improvement in Barthel over 6m

# Limitation

- Costs for both groups (unrealistically) homogenous?
  - Omission of health care and informal care costs in CE-analysis, extra care costs more flexible
- Outcome measure (Barthel)
  - Due to ensure comparability with care homes surveys
- Reliance on historical control sample
- For which groups can extra care substitute for care in a care home?
  - E.g. where counter-factual is care in the community, or high needs : costs & outcome implications?