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# Take up and use of subsidised public transport: Evidence from the English Longitudinal Study of Ageing

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## A B S T R A C T

**Background:** Since 2006 England has had a bus pass scheme which provides free bus travel for older people. The scheme is universal but there are questions over whether take up is equitable.

**Methods:** Data come from waves 6 and 7 of the English Longitudinal Study of Ageing collected in 2012 and 2014. Logistic regression assessed factors associated with take up of a free bus pass by 2014 among eligible people without a pass in 2012, and associations of this with public transport use in 2014.

**Results:** Of those eligible for a free bus pass in 2012, 16.1% did not have one. 18.8% of these people had taken up a bus pass by 2014. Take up was equitable according to wealth and other individual characteristics but was more common among people retiring from paid work (AOR 2.33,  $p = 0.025$ ), and moving house (AOR 2.76,  $p = 0.014$ ). People who took up a free bus pass were more likely to use public transport in 2014 (AOR 3.23,  $p < 0.001$ ).

**Discussion:** Take up of the free bus pass is equitable across groups, and is strongly linked to public transport use among older people.

## 1. Introduction

In 2006 England introduced a free bus pass which enabled free travel for people over the age of 60, although this age of eligibility has since risen in line with the state pension age for women (Butcher, 2013). These gradual changes mean that the age of eligibility will be 62 years by 2020. The scheme was initially introduced to tackle social exclusion among older people, and costs approximately £1 billion a year (\$1.3 billion) (Butcher, 2013). In addition to potential reduced social exclusion, there has been interest in whether the scheme provides unintended benefits as older people walk to or from bus stops. As many older people may be unwilling or unable to walk or cycle whole journeys, this represents a potential mechanism for the incorporation of physical activity into the daily lives of a physically inactive group (Scholes and Mindell, 2012). Previous work has linked use of public transport among this age group to a reduced likelihood of developing obesity and increased walking (Coronini-Cronberg et al., 2012; Webb et al., 2012). However, limitations in the available data have, to date, meant that there have been no longitudinal assessments of characteristics of people taking up bus passes in order to investigate potential differences across social groups, and strengthen our understanding of whether possession of a bus pass stimulates use of public transport.

This paper uses longitudinal data from the English Longitudinal Study of Ageing (ELSA) to examine the following research questions. What individual level characteristics predict not having a bus pass despite being eligible? Amongst those eligible for, but

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without, a bus pass, what individual level characteristics predict short-term uptake of the older person's bus pass? And, amongst those who take up the bus pass what characteristics predict use of public transport?

## 2. Methods

Data come from waves 6 and 7 of ELSA, a nationally representative panel study of people aged 50+ in England, conducted in 2012 (baseline) and 2014 (follow up) (Banks et al., 2016). ELSA is designed to allow investigation of a rich set of individual circumstances of older people in England which began in 2002 and has collected data from participants every two years (Stephens et al., 2013). In wave 6 ELSA introduced an item asking participants “Do you have a concessionary travel bus pass issued by your local authority?” As exact dates of birth are removed from the dataset to preserve anonymity, we restricted our analytic sample to people aged 62 and older. Use of public transport was assessed with the question “How often do you use public transport?” with the responses recoded using a binary cut off to represent ever use of public transport.

We also included in our logistic regression analyses data on socio-demographics and factors linked to public transport use or bus passes in previous work. These were age, sex, retirement status, car access, quintiles of wealth, difficulties with activities of daily living, problems with mobility, moving house during the study period, and whether participants live in London (which operates a more generous scheme and has more comprehensive public transport provision than many other areas) (Flint et al., 2017; Mytton et al., 2016; Martin et al., 2015; Clark et al., 2016). We also included longitudinal measures to account for changes in circumstance and using complete data, had an analytic sample of 679 participants here.

We first investigated what factors were related to not having a free bus pass despite being eligible, and then associations with taking up a free bus pass during the two-year study period. We finally assessed associations with public transport use at follow up, both before and after controlling for public transport at baseline.

## 3. Results

Of those eligible for a free bus pass in 2012, 16.1% of participants did not have one (Table 1). In fully adjusted models women were more likely than men to have a free bus pass (Adjusted Odds Ratio (AOR) for not having a bus pass 0.67,  $p < 0.001$ ), as were retired people compared with those in paid work (AOR for not having a bus pass 0.36,  $p < 0.001$ ), and those with four or more mobility problems (AOR 1.75,  $p < 0.001$  for people with 4+ mobility problems for not having a bus pass compared with no mobility problems). People living outside of London were more likely to not have a free bus pass (AOR 4.06,  $p < 0.001$ ).

Short term take up of the free bus pass amongst eligible participants who had not previously held one was 18.8% between 2012 and 2014 (Table 2). This was similar across the majority of social groups included. Bus pass take up was more common among people retiring from paid work (AOR 2.33,  $p = 0.025$ ), and moving house (AOR 2.76,  $p = 0.014$ ). People who took up a free bus pass were

**Table 1**  
Predictors of not holding a bus pass among those eligible, 2012.

	%	AOR	P-value
N = 5289			
Overall	16.1	–	–
Men	19.1	ref	ref
Women	13.6	0.67	< 0.001
Age 62–69	18.5	ref	ref
Age 70–79	12.9	0.84	0.055
Age 80+	17.0	1.21	0.122
Wealth group 1 (lowest)	16.1	ref	ref
Wealth group 2	12.5	1.36	0.025
Wealth group 3	12.8	0.90	0.436
Wealth group 4	13.5	1.10	0.425
Wealth group 5 (highest)	21.0	2.02	< 0.001
Working	28.9	ref	ref
Retired	13.4	0.36	< 0.001
Other*	22.8	0.63	0.006
Access to a car	17.0	ref	ref
No access to a car	11.5	0.63	0.001
No ADLs	14.8	ref	ref
1+ ADL	19.4	1.32	0.011
No mobility problems	15.8	ref	ref
1 to 3 mobility problems	13.4	1.03	0.783
4+ mobility problems	20.6	1.75	< 0.001
London	5.0	ref	ref
Not London	17.1	4.06	< 0.001

AOR = Adjusted Odds Ratio

ADL = Activities of Daily Living

\* “Other” refers to participants who were are unemployed; permanently sick or disabled; or looking after home or family.

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