

Inequality in Utilization and Incidence of Benefits of Free Personal care in Scotland (A 074)

by

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Abstract:

Background: The Scottish Government introduced a free personal care (FPC) policy in July 2002, where personal care services are provided free of charge to people aged 65 years or over. One of the aims of the policy is to ensure greater socio-economic equity in personal care provision. Only a very limited amount of research has been conducted to examine the effectiveness of the policy in meeting this aim.

Aims: This study aims to examine: i) whether there has been any change in socio-economic inequalities in utilisation of personal care at home over the period 1999-2010, and iii) the major determinants of utilization of personal care at home.

Methods and Data: Data from the Scottish Household Surveys (SHS) for the years 1999-2000 (pre-FPC policy period) and 2003-04, 2005-06, 2007-08, 2009-10 (after-FPC policy period) are used. Concentration Curve and Indices are used to present the trend in inequalities in utilisation of personal care over the period. Logistic regressions were used to examine the determinants of utilisation of personal care.

Results and Conclusion: There was no statistically significant change in inequalities in use of personal care according to household income after the implementation of the free personal care policy in Scotland. However, the use of privately provided formal care has become less concentrated in richer households over time. Regression analyses showed that health factors were more important determinants of receipt than household income in later years of the policy than in earlier years.

Background and Introduction

Scotland is the only country in the UK which adopted one of the main recommendations of the Royal Commission (Royal Commission on Long Term Care 1999) to split the costs of long-term care between living costs, housing costs and personal care costs. The Commission recommended that personal care should be available free at the point of delivery and should be paid out of general taxation, not by private and compulsory insurance (BMJ 29 June 2002). The Scottish Government introduced the free personal care (FPC) policy in July 2002 via the Community Care and Health Scotland Act 2002. According to the Act, personal care is “*care including help with personal hygiene, continence management, assistance with eating and mobility, counselling and support services, and assistance such as help getting up and going to bed*” (Bowes and Bell 2007). With the implementation of the FPC policy, personal care services are provided free of charge to people aged 65 years and over, but charges for domestic services, such as help with shopping or housework, based on financial assessment are still made. In care homes, people aged 65 years or over and are assessed as “self-funders” are entitled a weekly payment of £156¹ towards personal care if needed but paying for “hotel costs” themselves (Scottish Executive 2012). Before the implementation of the policy, provision of personal care at home and in care homes was means tested, with charges applicable for those whose savings or assets were worth more than £23,500, while it was free for those whose savings or assets were below the lower threshold of £15,500.

The aims of the policy are: “to ensure equity in personal and nursing care provision; remove discrimination against older people who have chronic or degenerative illness and need personal care by bringing their care into line of free medical and nursing care in the NHS (Scottish Executive 2007, Bell and Bowes 2006); improve the availability of personal care services to older people at home with consistent range and quality of personal care services (Scottish Executive 2005) and to make the older people better off by reducing their burden of payment for long term care”.

In 2003-4, after implementation of free personal care, the total expenditure on personal care services at home in Scotland was £133 million, which increased to £342 million in 2010-11. Free personal care as percentage of total net expenditure on community care was 59% in 2003-04, and stood at 84% in 2010-11 (Scottish Executive 2012). The funds for FPC are not “ring-fenced”, and there are difficulties to claim that all the funds that are allocated for the purpose are spent accordingly (Dickinson *et al* 2007).

A considerable increase (74%) in the number of older people receiving FPC was observed during 2002-2006 (Scottish Executive 2007). The proportion of clients receiving FPC continued to increase

¹ This is the rate has been in place since 2010/11. This rate was £145 during 2003-04 to 2007-08, and was increased to £149 in in 2008-09, and to £153 in 2009-10.

(Bowes and Bell 2012) in spite of the fact that public awareness and understanding of FPC was low (Scottish Executive 2007, Audit Scotland 2008). Increase in demand for the personal care may be due to identification of un-met need for such care. It has been argued that the local authorities responsible for arranging funding may have been unaware of the extent of the level of unmet need, with the need previously met by unpaid (or ‘informal’) carers (Scottish Executive 2007). Variations in the percentage of older people receiving the funding for personal care among councils were observed during a review conducted by Audit Scotland (Audit Scotland 2008). This may be due to differences in the care packages (Dickinson *et al* 2007) and in socio-demographic characteristics of the population served.

It may be expected that the introduction of FPC with the removal of means-tested charges would lead to an increase in number of people using care at -home services. In particular, the change of policy of means-tested provision of personal care to “free for all who need them” may be expected to affect the size of inequalities in utilisation across income groups. An important aspect of the policy is the extent to which it may affect the supply of unpaid care; if unpaid care from relatives and friends is a substitute for “formal” professional care, a reduction in the price of formal care may well lead to a reduction in the supply of unpaid care. However, a study using the Scottish Household Survey between 2001 and 2004 showed that there was not any significant change in provision of unpaid or informal care, or the demand for formal care (McNamee 2006). Nevertheless, the data also indicated that poorer households were less likely to receive unpaid care from households and non-household members after FPC was introduced, suggesting that formal care substituted for unpaid care amongst those households. This may be expected as FPC is in effect designed to provide some carers with greater choice over how care is organised and financed (Bell and Bowes 2006).

Only a very limited number of studies and reports have gone beyond the attempt to examine differences in utilisation to study whether greater equity has been achieved. An evaluation report (Scottish Executive 2007) and a further research study (Bowes and Bell 2010) both suggest that discrimination against older people with chronic or degenerative illness who need personal care was successfully removed by FPC and “diagnostic equity” between conditions that require long-term health care and others needing long-term care (e.g. cancer on one hand and dementia on the other) was promoted. However, there has no systematic attempt to quantify the extent of differences in equity between different income groups over time; that is, for the same degree of need, are individuals from poorer households more or less likely to receive personal care, relative to those from richer households? A long-term perspective is important as it is likely that the way local authorities have implemented the FPC policy has evolved over the years, and also other changes in the sector will have occurred, such as closure of care homes and long-stay beds.

This paper aims to answer the following research questions:

1. Has there been any change in the socio-economic inequalities in utilisation of formal care at home before and after the introduction of FPC, over the period between 1999/2000 and 2009/2010?
2. What are the major factors that determine the use of personal care?

Data Sources and Methods:

Data from the Scottish Household Survey (SHS) are used for the analyses. The SHS is a cross-sectional survey of a sample of the population residing in Scotland. The survey was first conducted in 1999-2000, and has been carried out since then at regular intervals. Each round of data collection takes two years to complete. After the first survey in 1999/2000, data were collected for the years 2001-02, 2003-04, 2005-06, 2007-08, 2009-10, and 2011-12.

Data on expenditure on personal care at home by the local authority are also used. These data were obtained from the Scottish Community Care Statistics of the Scottish Government.

Data for the years 1999-2000 (the base year, the period prior to the introduction of the policy of free personal care), and 2003-04, 2005-06, 2007-08, and 2009-10 are used. The data for the period 2001-02 has been excluded, as this was the implementation period of the policy.

Methods and Analysis

In order to address the first research question, changes in utilisation of free personal care over the period have been examined by calculation of concentration indices of the utilisation of any source of formal personal care.

Concentration Index (CI)

A concentration index (CI) is used so as to provide a measure of socio-economic inequality in use of FPC. Its value varies from -1 to +1: a value close to zero indicates near equality, a value declining towards -1 indicates greater utilization among the poor (pro-poor) while a value increasing to +1 indicates greater utilization amongst wealthier groups (pro-rich). Household socio-economic status is classified according to income quintiles, constructed by ranking the households using households' reported income from different sources. Five groups (Q1, Q2, Q3, Q4 and Q5) were derived, where Q1 are the poorest households with least household income and Q5 are the wealthiest households

The Regression Model

Logistic regressions were used to estimate the probability of obtaining any type of personal care at home amongst those who reported that they had difficulties in selected activities (to be consistent with the FPC definition in the Act) and disabilities and long term illness and were over 65 years of age. The regression analyses were conducted using the data for the years 1999-00, 2003-04, 2005-06, 2007-08 and 2009-10.

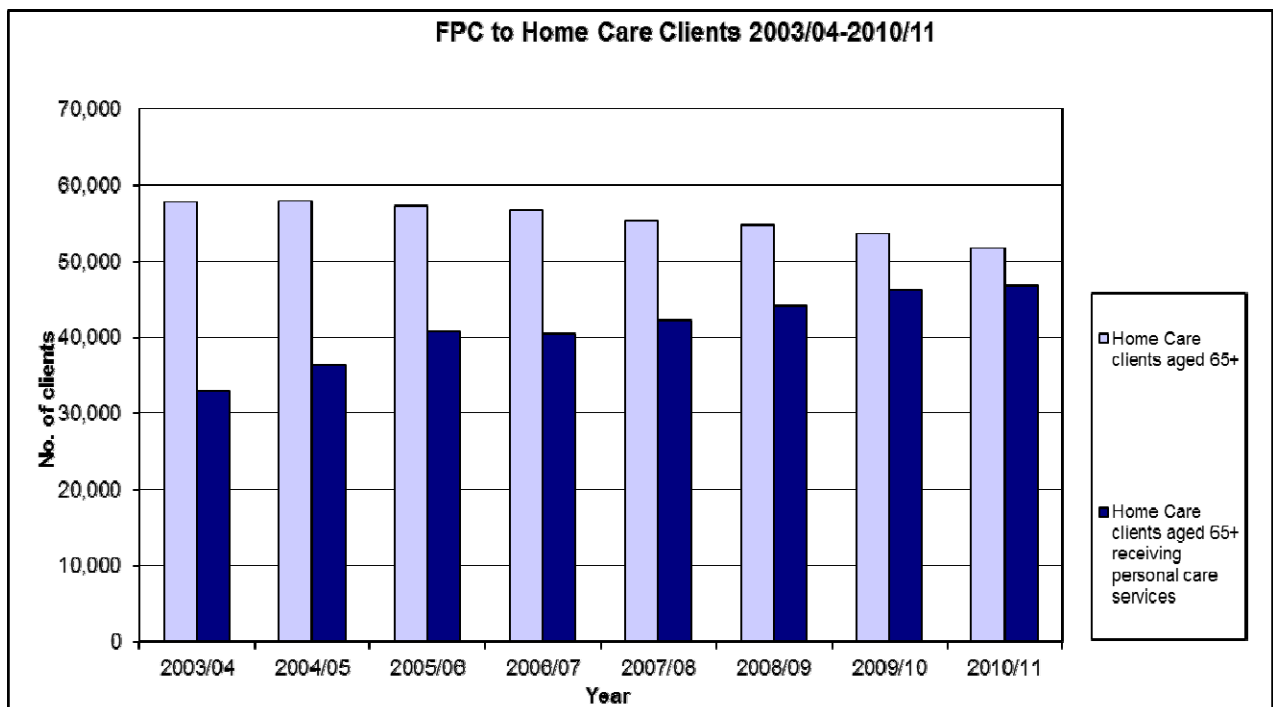
Findings

Prior to estimation, and consistent with the definition of equity as “equal utilisation for equal need”, need for personal care was defined according to whether anyone in the household had an illness, health problem or disability, and whether anyone in the household needed regular help or care.

The Community Care and Health (Scotland) Act 2002 sets out a detailed list of personal care tasks that cannot be charged for. This includes: assistance with personal hygiene, eating and drinking, immobility problems, management of medication and personal safety. In addition to the above services, various aids may be supplied free of charge by the local authority, if deemed necessary, to support a person’s health and well-being. These include: specialist equipment such as bath hoists, shower seats, hand rails and other items (The Scottish Government: www.scotland.gov.uk/Resource/Doc/305166).

Looking at the trend of the number of clients using free personal care at home after the introduction of policy, there has been an increase in the proportion clients aged 65+ receiving personal care (Figure 1).

Figure: 1- Trend in use of free personal care among home care clients aged 65+



In the Scottish Household Surveys, all eligible individuals (adult aged 65 years or above) were asked whether they have any long standing illness or disability. This question however may not accurately reflect the need for personal care or home care. To measure such need, we use the response from questions that were asked on the difficulties in carrying out a set of usual daily activities amongst those individuals with longstanding illness or disability. These included whether an individual has difficulty with housework, climbing stairs, dressing, walking, standing, using different modes of transport, and preparing meals. In order to be consistent with the Act that allows the provision of free personal care for those who need it, a respondent was classified as having a need for personal care if they reported that they needed help with one or more of the following three activities: dressing, washing, and preparing a main meal..

Amongst those aged 65 years, the following table (Table 1) suggest that need for personal care slightly increased until 2005-06 and then fell back again.

Table 1 : Need for Personal Care

	Years				
Need for Personal Care	1999-00	2003-04	2005-06	2007-08	2009-10
No					
Frequency	6586	6955	6907	6238	6287
Col %	89.23	88.66	88.65	89.59	89.38
Yes					
Frequency	795	890	884	725	747
Col %	10.77	11.34	11.35	10.41	10.62
Total					
Frequency	7379	7845	7791	6238	6287
Col %	100	100	100	100	100

The socio-economic characteristics of those individuals reporting need for personal care are described in Table 2. The proportion of the population reporting a need for personal care remained similar over time in terms of gender and age-group. In addition, the distribution across income quintiles remained similar, although there appears a trend for a greater proportion of those with income above £30,000 to report need for care following policy implementation in 2002. A greater proportion of the respondents who reported the need for personal care are either single, widowed, or divorced (Table2).

Table 2: Socio-economic characteristics of those needing care

	Years				
	1999-00	2003-04	2005-06	2007-08	2009-10
Need Personal Care	795	890	884	725	747
	n(%)	n(%)	n(%)	n(%)	n(%)
Gender					
Male	273 (34.34)	295(33.15)	321(36.31)	284(39.17)	207(35.74)
Female	22 (65.66)	595(66.85)	563(63.69)	441(60.33)	480(64.26)
Total	795	890	884	725	747
age65to70	182(22.89)	190(21.35)	228(25.79)	157(21.66)	181(24.23)
age71to76	236(26.69)	271(30.45)	233(26.36)	218(30.09)	218(29.98)
age77to80	66(8.3)	69(7.75)	67(7.58)	53 (7.31)	62(8.30)
age80plus	311(39.12)	360 (40.45)	356(40.27)	297(40.7)	286 (39.24)
Yearly Income Group					
<£30,000	779(97.99)	826(92.81)	798(90.27)	661(91.12)	677(90.63)
>£30,000	16(2.01)	64(7.91)	86(9.37)	64(8.83)	70(9.37)
Income Quintile					
Q1	127 (19.05)	152 (18.16)	160(19.70)	124(18.13)	123(17.57)
Q2	176 (22.51)	179 (21.39)	136(16.75)	128(18.71)	171(24.39)
Q3	210(26.85)	191 (22.82)	183(22.54)	164(23.98)	172(24.59)
Q4	164 (20.97)	204 (24.37)	208(25.62)	164(23.98)	143(20.4)
Q5	120 (15.35)	111 (13.26)	125(15.39)	104(15.20)	92(13.12)
Outright ownership	278(34.97)	353(34.66)	373(42.19)	336(46.39)	323(43.24)
Mortgage/rent/other	517 (65.03)	537 (60.03)	511(57.81)	389(53.66)	424(56.76)
Urban/ Rural					
Large Urban	298(37.58)	348(39.1)	313(35.41)	260(35.86)	272(36.41)
Other urban, accessible	325(40.98)	325 (36.52)	364(41.18)	304(41.93)	284(38.02)
Remote rural & small town	170(21.44)	217(24.38)	207(23.42)	161(22.61)	191(25.57)
Marital Status					
Married/Cohabiting	235(29.56)	259(29.10)	288(32.58)	255(35.17)	248(33.20)
Other/single/widowed/div	560(70.44)	631(70.90)	596(67.42)	470(64.83)	499(66.80)

Those who need home help for personal care are able to seek care from three main sources: the local authority, from private sources, and from other organisations. The types of help received by those who need personal care are presented in Table 4. Not all of those who needed personal care were receiving formal personal care, i.e. care provided at home by carer from local authority (LA), or

obtained from private providers paid privately. There was an initial increase in the proportion of formal personal care after the introduction of free personal care in 2003-04. Most care was provided by the local authority; at its height, almost 70% of personal care was obtained from the LA free of charge during 2005-06. Then it started to decline and in 2009/10 the proportion of people using local authority care reduced to the level that was seen during 1999-00, prior to the introduction of free personal care. Similarly, the proportion of people receiving personal care from private providers or paid from their own funds gradually fell from 28.63% to 16.16%. However, the proportion of people using other, non-private non-public sources increased from 16.5 % to 29% (Table 4).

Table 4: Type of Helps for Formal Personal Care at Home

	Year				
	1999-00	2003-04	2005-06	2007-08	2009-10
Need Personal Care	795	890	884	725	747
Yes	255	474	315	336	359
%	50.8	53.26	46.05	46.34	48.06
Total (N)	502	890	684	692	711
LA/Paid for Personal Care					
Frequency	140	280	220	204	198
%	54.9	59.07	69.84	60.71	55.15
Private/Paid for Personal					
Frequency	73	110	64	49	58
%	28.63	23.21	20.31	14.58	16.16
Other					
Frequency	42	84	55	83	103
%	16.47	17.72	17.46	24.37	28.69
Total	255	474	315	336	359

Inequality in Utilisation of Personal Care

The concentration index estimates suggest that more people in the upper income group reported a need for personal care. However, distribution of the need for personal care became more equitable over time, that is those reported to have a need for personal care at home in 2009/10 are less concentrated among the higher income groups than observed prior to the introduction of FPC (1999/00) and in 2007/08. The distribution of those having home help for personal care from any sources (LA/private/or other source) was pro-poor (CI= -0.05031736) before the introduction of FPC (1999-00). After the introduction of FPC, the distribution became more pro-poor. The CI was measured at -0.06154556 in 2003-04, and was more negative, i.e. -0.14493130 in 2005/06, before

declining again in absolute terms in 2009-10. Considering the use of public providers, before the introduction of free personal care, the distribution of the utilisation of personal care from LA was close to equality and was slightly pro-poor. After the introduction of FPC, it became more pro-poor in 2003-4, but gradually was found to be less pro-poor. Though private paid care remained pro-rich even after the introduction of FPC, it became less pro-rich in 2005-06 than it was in 1999-00 (Table 5).

Table 5 : Inequality Measures of Need for PC and Utilisation

Concentration Index (CI)	Years				
	1999-00	2003-04	2005-06	2007-08	2009-10
<i>Need for Personal</i>					
<i>Care</i>	0.11939659	0.07549905	0.07726212	0.08988679	0.03238509
SE	0.01856645	0.01759564	0.01836140	0.01963424	0.01900589
<i>Any Care</i>					
(LA/Other/Private)	-0.05031736	-0.06154556	-0.14493130	-0.12158485	-0.06396057
SE	0.02970619	0.01899108	0.05515386	0.02341756	0.02300189
<i>Local Authority</i>					
	-0.00737121	-0.05339042	-0.03043403	-0.0131617	-0.01643593
SE	0.03066206	0.02147405	0.02262303	0.02356057	0.02441020
<i>Private</i>					
	0.10892870	0.17765672	0.08609934	0.02189275	0.03047750
SE	0.03623226	0.05028848	0.06775723	0.07432380	0.04257755
<i>Other</i>					
	0.07563938	-0.00389140	0.08059561	0.01464345	0.08515311
SE	0.07798374	0.06217576	0.07001950	0.05668096	0.05030376

Determinants for the probability of utilisation of formal care at home: Results from Logistic Regression Analysis

Logistic regressions were used to estimate the probability of obtaining any type of personal care at home amongst those who reported they had difficulties in selected activities (to be consistent with the FPC Act) and experienced long term illness and were over 65 years of age. The dependent variable was the utilisation of care from any source (formal personal care from LA, private providers, other sources paid for by the local authority). The explanatory variables included were area level characteristics (residence, per capita expenditure on home care/formal care by the local authorities), household level characteristics (total number of members in the household, total number of adult

members in the household, ownership type, working status of the household members, and economic status in terms of income quintiles), individual characteristics (age, gender, difficulties with activities, and marital status), and whether the respondents needed personal care.

Four models were estimated. The first model pooled data across the years 1999-2010. Secondly, separate years models for 2003-04, 2007-08, and 2009-10 were also estimated.

Data for the year 2005-06 were excluded from the regression analysis as some of the variables used for the model were not available. Data on expenditure on personal care at home for the base year 1999-00 was unavailable, and data from the year 2002-2003 were used to impute the data for the base year.

The results are presented in tables 6, 7, 8. For the full pooled data model, the probability of using any formal care was largely explained by per capita level of expenditures in the local authority, e.g. compared expenditures below £100 per head, expenditure of £100 or more, and £250 or more was associated with higher use of formal care at home. Respondents in the income quintiles Q2, Q4 and Q5 were more likely to obtain any type of formal care than the adult population in the lowest income quintile (Q1). Male respondents were less likely to obtain formal care than female respondents. Older age respondents were more likely to obtain formal care compared to the reference category of age-group 65-70 years. The households where no adult members were working were more likely to obtain formal care. Respondents having difficulties with higher number of activities were more likely to obtain formal care compared with the reference category of difficulty with 1-2 activities. (Table 6).

Table 6 : Regression Results for the probability of using any formal care - the full model with pooled data

Logistic regression		Number of obs =		2183		
		LR chi2(20) =		388.86		
		Prob > chi2 =		0		
Log likelihood = -1288.7253		Pseudo R2 =		0.1311		
any_care (Formal PC)	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
UrbanRural=Large City	-0.149	0.100	-1.49	0.136	-0.345	0.046
Number of HH member	-0.406	0.512	-0.79	0.427	-1.411	0.597
Total Adults in the HH	-0.512	0.537	-0.95	0.34	-1.565	0.540
Home -Outright owner=1	-0.102	0.100	-1.02	0.307	-0.300	0.094
Per Capita Exp. Group						
£100-250	0.351	0.116	3.01	0.003	0.122	0.579
£250+	0.282	0.145	1.94	0.052	-0.002	0.567
Income Quintile						
2 Quintile	0.374	0.150	2.48	0.013	0.079	0.670
3 Quintile	0.232	0.149	1.55	0.121	-0.061	0.525
4 Quintile	0.301	0.158	1.9	0.058	-0.009	0.612
5 Richest quintile	0.743	0.194	3.82	0.000	0.362	1.125
Married/Cohabiting=1	-0.484	0.174	-2.78	0.005	-0.825	-0.142
Gender of Respondents-M	-0.207	0.103	-2.01	0.045	-0.410	-0.004
Age- Group						
age71to76	0.268	0.137	1.95	0.051	-0.000	0.537
age77to80	0.337	0.196	1.72	0.086	-0.047	0.723
age80plus	0.922	0.131	6.99	0.000	0.663	1.180
HH working group						
non-working	0.517	0.307	1.68	0.092	-0.085	1.119
Difficulties with activities						
difficulty with 3-5 activities	0.228	0.220	1.04	0.299	-0.203	0.661
difficulty with 6+ activities	0.868	0.206	4.2	0.000	0.463	1.272
_cons	-0.963	0.444	-2.17	0.030	-1.834	-0.093

Analysis with 2003-04 data suggests the respondents living in a large city are less likely to obtain personal care than those living in rural and remote areas. Income quintiles, higher age groups, difficulties with increasing number of activities were again found to be the main factors associated with receipt of personal care. Per-capita expenditure on personal care at home by the local authority did not however appear associated with the probability of obtaining personal care during 2003-04. Respondents categorised as having a need for personal care were more likely to obtain personal care (Table 7).

Table 7 : Regression Results for the probability of using any formal care -2003-04

				Number of			
Logistic regression				obs	=	3409	
				LR			
				chi2(20)	=	1055.58	
				Prob > chi2	=	0	
Log likelihood = -1580.4885				Pseudo R2	=	0.2503	
any_care	Coef.	Std. Err.	Z	P>z	[95% Conf.	Interval]	
UrbanRural=Large City	-0.176	0.096	-1.83	0.067	-0.365	0.012	
Number of HH member	-0.659	0.870	-0.76	0.448	-2.365	1.046	
Total Adults inthe HH	-0.470	0.901	-0.52	0.602	-2.236	1.295	
Home -Outright owner=1	-0.045	0.092	-0.49	0.625	-0.226	0.136	
Per Capita Exp. Group							
£100-250	-0.002	0.116	-0.02	0.984	-0.229	0.225	
£250+	0.421	0.229	1.84	0.066	-0.027	0.869	
Income Quintile							
	2	0.321	0.127	2.53	0.012	0.072	0.570
	3	0.406	0.133	3.04	0.002	0.144	0.668
	4	0.392	0.144	2.71	0.007	0.109	0.675
	Richest	0.925	0.185	5	0.000	0.563	1.288
Married/Cohabiting=1	-0.374	0.219	-1.7	0.089	-0.804	0.056	
Gender of Respondents-M	0.072	0.098	0.74	0.462	-0.120	0.264	
Age- Group - Ref 65-70							
age71to76	0.513	0.132	3.88	0.000	0.254	0.772	
age77to80	0.781	0.178	4.39	0.000	0.432	1.128	
age80plus	1.490	0.128	11.59	0.000	1.238	1.742	
HH working group							
non-working	0.807	0.375	2.15	0.031	0.0722803	1.542	
Difficulties with activities							
difficulty with 3-5 activities	1.537	0.157	9.74	0.000	1.227477	1.845	
difficulty with 6+ activities	2.397	0.182	13.14	0.000	2.039766	2.754	
Need for Personal Care=1	0.403	0.118	3.41	0.001	0.171467	0.635	
_cons	-2.5929	0.500	-5.18	0.000	-3.573191	-1.612	

During 2007-08, the model estimates suggest that respondents who have outright ownership of the house they live in are less likely to obtain formal care, and may be using informal care more than those who are living in a mortgaged house or rented house. In terms of the influence of income, only the richest quintile group is more likely to obtain any formal care compared to the poorest quintile. Respondents who are married or co-habiting with their partners are less likely to obtain formal care than those who are single, widowed or divorced. The higher age-groups, household with no working members, and need for personal care continue to influence the probability of receiving any formal personal care at home (Table 8).

Table 8: Regression Results for the probability of using any formal care -2007-08

Log likelihood = -1229.8522							
				Number of			
				obs	=	3149	
				LR chi2(17)	=	695.15	
				Prob > chi2	=	0	
				Pseudo R2	=	0.2203	
any_care	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]	
Urban Rural=Large City	-0.022	0.109	-0.21	0.833	-0.236	0.191	
Number of HH member	-0.280	0.702	-0.4	0.689	-1.658	1.096	
Total Adults in the HH	-0.509	0.741	-0.69	0.492	-1.961	0.943	
Home -Outright owner=1	-0.363	0.105	-3.46	0.001	-0.569	-0.157	
Per Capita Exp. Group							
£100-250	1.125	0.638	1.76	0.078	-0.126	2.377	
£250+	1.162	0.639	1.82	0.069	-0.091	2.416	
Income Quintile							
	2	-0.094	0.144	-0.66	0.512	-0.376	0.187
	3	0.091	0.148	0.62	0.538	-0.200	0.383
	4	9.56E-05	0.167	0	1	-0.328	0.328
	Richest	0.579	0.210	2.76	0.006	0.167	0.991
Married/Cohabiting=1	-0.779	0.218	-3.56	0.000	-1.208	-0.350	
Gender of Respondent-M	-0.215	0.113	-1.91	0.056	-0.437	0.005	
Age- Group							
age71to76	0.400	0.159	2.51	0.012	0.087	0.714	
age77to80	1.128	0.196	5.75	0.000	0.743	1.513	
age80plus	1.249	0.150	8.33	0.000	0.955	1.543	
HH working group							
non-working	1.020	0.440	2.31	0.021	0.156	1.884	
_cons	-3.373	0.824	-4.09	0.000	-4.989	-1.757	

The model which used the latest available data (2009-10) suggest the probability of using formal personal care is no longer influenced by the income level of the households, home ownership, or the level of per capita expenditure by the local authority. This suggests that the policy of free personal care became most effective by this period in terms of meeting a key policy objective; that is, there was equal utilisation for equal need, irrespective of ability to pay. Respondents in older age groups, those who were not married or co-habiting, those who had difficulties with higher number of activities, and those needing personal care were more likely to obtain formal personal care at home (Table 9) .

Table 9: Regression Results for the probability of using any formal care -2009-10

Logistic regression		Number of obs	=	3339		
		LR chi2(20)	=	806.1		
		Prob > chi2	=	0		
Log likelihood = -1262.5117		Pseudo R2	=	0.242		
any_care	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
Urban Rural=Large City	-0.073	0.108	-0.68	0.495	-0.286 0.138	
Number of HH member	-1.528	1.045	-1.46	0.144	-3.577 0.520	
Total Adults in the HH	1.187	1.083	1.1	0.273	-0.937 3.311	
Home -Outright owner=1	0.036	0.104	0.35	0.729	-0.168 0.240	
<i>Per Capita Exp. Group</i>						
£100-250	-0.121	0.186	-0.65	0.513	-0.487 0.243	
£250+	-0.205	0.175	-1.18	0.240	-0.548 0.137	
<i>Income Quintile</i>						
	2	0.069	0.143	0.48	0.629	-0.212 0.351
	3	0.088	0.148	0.6	0.551	-0.202 0.380
	4	0.256	0.164	1.56	0.118	-0.065 0.579
	Richest	0.265	0.208	1.27	0.204	-0.143 0.674
<i>Married/Cohabiting=1</i>		-0.892	0.214	-4.17	0.000	-1.311 -0.472
<i>Gender of Respondents-M</i>		-0.230	0.111	-2.07	0.039	-0.448 -0.012
<i>Age- Group</i>						
age71to76		0.343	0.152	2.25	0.024	0.044 0.643
age77to80		0.663	0.200	3.32	0.001	0.271 1.055
age80plus		1.045	0.144	7.22	0.000	0.761 1.330
<i>HH working group</i>						
non-working		0.198	0.322	0.61	0.539	-0.433 0.830
<i>Difficulties with activities</i>						
difficulty with 3-5 activities		1.706	0.179	9.51	0.000	1.355 2.058
difficulty with 6+ activities		2.393	0.207	11.53	0.000	1.986 2.800
<i>_cons</i>		-3.002	0.489	-6.13	0.000	-3.962 -2.042

Discussions

The preliminary results reported in this paper reveal a complex picture in terms of changes in the distribution of need for care and receipt of care. There was a change towards greater equality between income groups in reporting a need for care over time. It is somewhat surprising however that the distribution of need fell more upon richer households than on poorer households across all years. One explanation is a sample selection effect; those individuals from poorer households with similar needs as individuals from richer households were more likely to be resident in care homes, with individuals in richer households continuing to reside in their own home. Some further study is required to investigate this issue in more depth, perhaps using a model of determinants of care home entry. Less surprisingly perhaps, the distribution of privately provided care was concentrated amongst those from richer households, and this concentration fell over time, suggesting a substitution away from private provision to public provision.

In terms of determinants of use of formal care, household income was an important determinant of care use in all years except the final year, suggesting therefore that a policy aim of equal use for equal need has only recently been realised. However, the sample selection issue discussed above may be relevant here also. Other factors, such as older age, and greater difficulties with daily activities, were major determinants across all years.

The results reported here should be seen in the context of a number of changes in the mix of public-private organisation of care. The number of "self-funders" in care homes increased by 40% between 2002 and 2010 (Bowes and Bell 2012) and during the same period there was a remarkable increase of 93.9% in the number of self-funders receiving free personal care at home. There was a reduction in number of geriatric long stay beds in hospitals by 39% between 2003 and 2008, but this was not replaced by an increase in care home places. Also it has been argued that the policy of FPC helped to reduce the number of delayed discharges of older people from hospitals by 93% during 2001 and 2010 (Bowes and Bell 2012). This shifting of the balance of care released NHS resources used in hospital and was available for alternative uses. Further, the number of care home places in the private sector increased by 1.3% during 2001 and 2005, with some offset against the decrease in number of places in the public and voluntary sector. These changes mean that it is very challenging to attribute changes in the distribution of need and receipt of care to a policy change such as free personal care.

With the austerity measures that are in place due to the economic downturn, there is a concern that Scotland may not be able to sustain the free personal care policy in its present form.. The Scottish

government is still however committed to the policy (BBC News <http://www.bbc.co.uk/news/uk-scotland-19398213>). It has been argued that changing or removing the policy of free personal care cannot be justified, especially when closer integration between health and social care is being promoted and established (Scottish Government 2012). Moreover, it is estimated that a considerable proportion of those receiving free personal care at home, about 80% of all those receiving long-term care, would be unable to pay for care (Sutherland 2008).

The results reported herein are still at the preliminary stage and further work is being done to build on the analysis, including using different models that employ decomposition techniques such as the methods developed by Blinder –Oaxaca for the decomposition of linear regression models. Further, benefit incidence analyses are currently being undertaken and will illustrate the changes in the distribution of public spending on personal care across different income groups.

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