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COVID-19 and domiciliary care utilisation: evidence from the English Longitudinal Study of Ageing

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Disclaimer

This study is funded by the National Institute for Health and Care Research (NIHR) Policy Research Programme, conducted through the NIHR Policy Research Unit in Economics of Health Systems and Interface with Social Care, PR-PRU-1217-20301. The views expressed are those of the author(s) and not necessarily those of the NIHR or the Department of Health and Social Care.

Acknowledgements

This work uses English Longitudinal Study of Ageing (ELSA) data. ELSA is funded by the National Institute on Ageing (R01AG017644), and by UK Government Departments coordinated by the National Institute for Health and Care Research (NIHR).

Introduction

- Social care is vital for the ageing population to ensure individuals live as independently as possible, with high levels of well-being and life satisfaction
- Domiciliary care (home care) is an important element of social care
  - Formal and informal
  - Use determined by individuals' clinical and socio-demographic characteristics, social and institutional environment, welfare provisions
- COVID-19 had a significant impact on how care was delivered
- It is important to ensure that the most vulnerable groups have timely access to alternative forms of care where there are disruptions to informal care provision, as switching to formal care might not be a feasible option for these individuals

Research questions and contribution

Broad question: how did the pandemic affect domiciliary care use of different groups of home-dwelling adults aged 50 and above?

- How much did domiciliary care use change at the extensive margin?
- How much did domiciliary care use change at the intensive margin?
- How well the care received met respondents' needs before and during the pandemic?
- Was displacement of domiciliary care use substituted by healthcare use?

Main findings

- The majority of groups: decrease of home care use at the extensive margin, but increase at the intensive margin
- The most affected groups in terms of unmet need:
  - Ethnic minorities
  - Unemployed/permanently disabled/looking after home or family
  - Those with musculoskeletal and mental health conditions
  - Individuals living alone and the youngest age group (50-59) were also at considerably higher risk of having unmet need for home care, but did not experience similar falls in primary care access
- Little evidence of the substitution effect between health care and home care

Data

- English Longitudinal Study of Ageing (ELSA): Wave 9, COVID W1, W2
- Outcome variables:
  - Domiciliary care utilisation (categorical)
    - Extensive margin: no care, informal only, formal only, both
    - Intensive margin: conditional on having received some home care: more than before, about the same, less than before
    - Care needs met: all the time/usually, sometimes/hardly ever, no care needs
  - Health care utilisation (binary)
    - Acute care: had a cancellation of treatment/procedure
    - Primary care: have accessed GP services recently
- Control variables: age (in bands), sex, health conditions, job classification, employment status, number of household members, equalised income quintile, ethnic group, region
- Use longitudinal weights as appropriate

Descriptive statistics: outcome variables

Domiciliary care use	Pre-pandemic N=5,062	COVID W1 N=5,061	COVID W2 N=5,062	Total N=15,185
Informal care only	0.115	0.068	0.067	0.083
Formal care only	0.016	0.013	0.018	0.016
Both	0.022	0.002	0.006	0.010
Change in the amount of care received (care recipients only)		COVID W1 N=412	COVID W2 N=460	Total N=872
Less care than before		0.166	0.150	0.157
No change		0.555	0.639	0.599
More care than before		0.280	0.212	0.244
Whether care needs are met	Pre-pandemic N=5,062	COVID W1 N=5,060	COVID W2 N=5,060	Total N=15,183
All the time or usually	0.142	0.172	0.194	0.170
Sometimes or hardly ever	0.017	0.042	0.037	0.032
No needs	0.841	0.785	0.769	0.798
		COVID W1 N=5,059	COVID W2 N=5,059	Total N=10,118
Operation/treatment cancelled		0.171	0.115	0.143
	Pre-pandemic N=4,921	COVID W1 N=5,062		Total N=9,983
GP access	0.283	0.082		0.181

Descriptive statistics: respondents' characteristics

Variable	mean	Variable	mean
Age: 50-59	0.357	Ethnic minority	0.072
Age: 60-69	0.300	*Health conditions*	
Age: 70-79	0.221	Ophthalmic condition	0.268
Age: 80+	0.122	Respiratory condition	0.148
Job class.: Routine/manual	0.290	Musculoskeletal condition	0.365
Job class.: Intermediate	0.193	Cancer	0.041
Job class.: Managerial/admin	0.248	Blood disease	0.010
Job class.: Unknown	0.269	Nervous system condition	0.008
Employment status: Employee	0.346	Mental/behavioural disorder	0.085
Employment status: Self-employed	0.088	*Region*	
Employment status: Retired	0.473	North East	0.051
Employment status: Other/unknown	0.093	North West	0.134
Number of HH members: 1	0.225	Yorkshire and The Humber	0.100
Number of HH members: 2	0.519	East Midlands	0.090
Number of HH members: 3+	0.256	West Midlands	0.104
Female	0.528	East of England	0.117
Rural	0.231	London	0.121
Income	636.6	South East	0.171
Equalised income	446.0	South West	0.114

Econometric models

- Multinomial logistic regressions
  - Domiciliary care use
    - Extensive margin

$$\mathbb{P}\{y_{it} = k\} = \Lambda(\alpha + \boldsymbol{x}_i'\boldsymbol{\beta}_k + \gamma pandemic_t + \boldsymbol{x}_i' \times \boldsymbol{pandemic}_t\boldsymbol{\delta}_k)$$

y_{it} is a categorical variable for home care use (no care, informal only, formal only, both), $\boldsymbol{x'}_i$ is a vector of respondent's characteristics, $pandemic_t$ is a dummy variable indicating if the survey wave belongs to the pandemic period

      - We are interested in the **difference** in predicted probabilities of using each type of care before and during the pandemic

    - Intensive margin

$$\mathbb{P}\{y_{it} = k\} = \Lambda(\alpha + \boldsymbol{x}_i'\boldsymbol{\beta}_k + \gamma wave_t)$$

y_{it} is a categorical variable representing the amount of care received (less than before, about the same, more than before)

      - We are interested in the **difference** between the likelihood of reporting receiving more care and less care

Econometric models

- Multinomial logistic regressions
  - Domiciliary care use
    - Unmet need

$$\mathbb{P}\{y_{it} = k\} = \Lambda(\alpha + \boldsymbol{x}_i'\boldsymbol{\beta}_k + \gamma pandemic_t + \boldsymbol{x}_i' \times \boldsymbol{pandemic}_t\boldsymbol{\delta}_k)$$

y_{it} is a categorical variable for unmet need (care needs met all the time/usually, sometimes/hardly ever [unmet need], no care needs)

- Relative risk of reporting unmet need is the ratio of the probability of reporting unmet need to the probability of having care needs
- We are interested in the **difference** in the relative risk of reporting unmet need during before and during the pandemic

Econometric models

- Binomial logistic regressions
  - Health care utilisation
    - Cancelled treatment/procedure

$$\mathbb{P}\{y_{it} = 1\} = \Lambda(\alpha + \boldsymbol{x}_i'\boldsymbol{\beta} + \gamma wave_t)$$

y_{it} equals 1 if a respondent reported treatment/procedure cancelled since the start of the pandemic and 0 otherwise

      - We are interested in the **magnitude** of the predicted probability of cancellation

    - Access to GP services

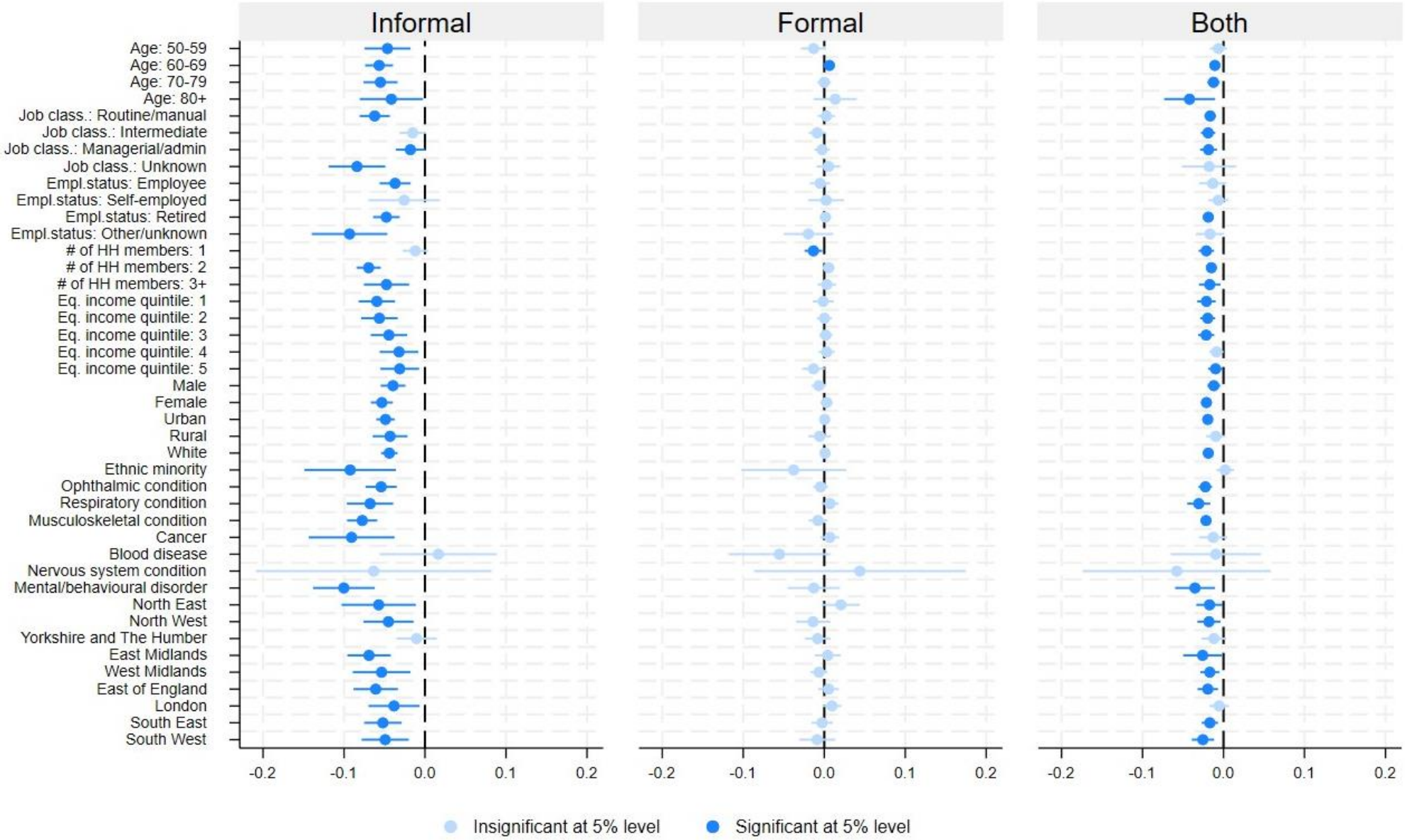
$$\mathbb{P}\{y_{it} = 1\} = \Lambda(\alpha + \boldsymbol{x}_i'\boldsymbol{\beta} + \gamma pandemic_t + \boldsymbol{x}_i' \times \boldsymbol{pandemic}_t\boldsymbol{\delta})$$

y_{it} equals 1 if a respondent reported having accessed GP services (either in the four weeks prior to the survey for the pre-pandemic period wave, or since the start of the pandemic for Wave 1 of the COVID ELSA survey) and 0 otherwise

      - We are interested in the **difference** in predicted probabilities of accessing primary care before and during the pandemic

Results: extensive margin

Differences in the likelihood of using domiciliary care use before and during the pandemic



- Substantial decrease at extensive margin driven by informal care or simultaneous use of both types of care
- Most affected: Ethnic minorities, ‘Other’ employments status (unemployed, looking after home or family, permanently sick or disabled), those with a mental health condition
- Least affected: self-employed

Results: intensive margin

- Conditional on having received some form of home care during the pandemic, the majority of respondents reported no change in the amount of care received (60% on average)
- Most groups were more likely to report an increase in the amount of care received since the start of the pandemic (24% on average)
  - Those with mental health condition or cancer
  - In such cases, *for a group as a whole*, intensive margin impact partially compensated for the negative extensive margin change
- For some groups the impacts of the pandemic at both margins were in the same direction
  - Ethnic minorities, those in work, those living alone
  - Self-employed – most likely to report and **increase** in care (57%)
- Age gradient: older cohorts more likely to report having received more care during the pandemic

Results: unmet need

- Having seen the impacts at extensive and intensive margins, one may guess the impact of the pandemic on how well home care met respondents' needs
- For the majority of patients characteristics, there has been an increase in the relative risk of reporting unmet need, although in many cases this change was not statistically significant
- Most affected: ethnic minorities (almost 30 pp. increase in the relative risk of reporting unmet need), aged 50-59, living in single-person households, individuals with 'other' employment status (unemployed, permanently disabled, looking after home or family), individuals with a routine/manual occupation, with a MH, ophthalmic or musculoskeletal condition
- Exception: employed individuals – no change in the relative risk of reporting unmet need despite negative impacts at both margins

Results: health care use

- Almost all groups reported a cancellation of a treatment or procedure since the start of the pandemic, especially older individuals and those with pre-existing health conditions
- Decrease in the likelihood of accessing GP services: ethnic minorities, older individuals (70+), those with a musculoskeletal or respiratory condition, employees, those living in multiple-persons households
- Some evidence of substitution between home care and health care along the age household arrangements domains

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Thank you! Questions?