Long-term health conditions and labour market outcomes during the COVID-19 pandemic

Health Studies User Conference 2022

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Acknowledgements

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- Possibly negative impact - adapting more difficult

- Or positive impact - benefit more from working from home

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(4) Analyse some outcomes in waves 7-9 of the main survey (i.e. $\sim$2 years between first & last observation)

Compare as "counterfactual" - how do outcomes evolve without COVID-19

Identifying participants with long-term conditions

Participant has condition if <u>ever</u> give positive response <u>before March 2020</u> to:-

Variable	Survey question	Waves
hcondX	*Has a doctor or other health professional ever told you that you have any of these conditions?*	1,3-10*
hcondnX	*Since [last survey date] has a doctor or other health professional newly diagnosed you as having any of the following conditions?*	2-9†
hcondeverX	*Has a doctor or other health professional ever told you that you have any of these conditions?*	10

* only new entrants; † not new entrants

From wave 10, survey distinguishes between different arthritis types, cancers, etc.

We don't look at these

Long-term conditions to analysed

Asthma, Arthritis, Cancer, Diabetes Liver condition, Epilepsy

Emotional, nervous or psychiatric problem (asked wave 10 onwards)

+ clinical depression (asked waves 1-9)

Heart disease	Angina	Heart failure	} Grouped as vascular condition
Heart attack	Stroke	High blood pressure	
Emphysema	COPD	Bronchitis	} Grouped as pulmonary condition

Not chosen: Hyperthyroidism, hypothyroidism

Matching variables

Variable	Definition	Waves
Baseline age	Age in years in W1 of COVID-19 survey	1
Sex	1 if female, 0 otherwise	1-9
Ethnicity	1 if white, 0 otherwise	1-9
Baseline hours worked	Number of hours usually worked (including self-employed) in January/February 2020	1-5*
Baseline earnings	Annualised take-home pay (including self-employed) in January/February 2020 in £1,000s	1-5*
Baseline household income	Annualised take-home household pay in January/February 2020 in £1,000s	1-5*

* Only asked if no response in previous waves

Matching variables

Variable	Definition	Waves
Baseline work from home	How often worked from home in January/February 2020 1=always, 2=often, 3=sometimes, 4=never; re-coded as 1=always, 2=hybrid, 3=never for analysis	1-5*
Baseline universal credit	1 if receiving universal credit in January/February 2020, 0 otherwise	1-5*
Key-worker	Whether classed as key-worker	1-2
Baseline location	Location in W1 of COVID-19 survey	1
Baseline household size	Number of people in household in W2 of COVID-19 survey	2
Baseline job type	Three category NS-SEC job type (management and professional, intermediate, routine)	Main survey 10
Number of comorbidities	Number of long-term conditions participants reported having, excluding condition being analysed	Main survey 1-11

* Only asked if no response in previous waves

Matching process

For each condition:

(1) Impute missing baseline variables using missForest package for R

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(3) Matching ratios:

Number of people with condition	Matching ratio
<150	4:1
150-500	3:1
500-1000	2:1
>1000	1:1

Outcome variables

Outcome	Definition	Waves
Employed	1 if employed (including self-employed), 0 otherwise	1-9
Hours worked	Number of hours worked (including self-employed) in previous week conditional on employment	1-9
Working from home	How often worked from home during previous 4 weeks 1=always, 2=often, 3=sometimes, 4=never; re-coded as 1=always, 2=hybrid, 3=never for analysis	1-9
Furlough	Whether individual reports being furloughed in any COVID-19 survey wave	1-8
Earnings	Annualised take-home pay (including self-employed) in £1,000s conditional on employment	1-9
Household income	Annualised take-home household income in £1,000s	2-9
Universal credit	Whether received universal credit at any point in the pandemic (participants under 65 & not receiving universal credit at baseline)	1,2,4,6,8,9

Modeling

Use mixture of cross-sectional models and random effects (RE) panel models as appropriate

Panel models have time trend interacted with long-term condition

Outcome	Model
Employed	RE panel linear probability model
Hours worked	RE panel Tobit
Working from home	RE panel ordered logit
Furlough	Cross-sectional logit
Earnings	RE panel Tobit
Household income	RE panel Tobit
Universal credit	Cross-sectional logit

Results summary

Condition	N
Asthma	5,104
Arthritis	2,304
Cancer	553
Diabetes	604
Emotional/nervous/psychiatric	1,517
Vascular	2,214
Pulmonary	199
Liver condition	251
Epilepsy	130

	Employed		Hours worked		Work from home		Furlough	Earnings		Household income		Universal credit
	M	T	M	T	M	T		M	T	M	T	
Asthma		↓										
Arthritis		↓			↑				↑	↑		
Cancer		↓	↓						↑			
Diabetes		↓	↓									
Emotional/nervous/psychiatric	↓								↑		↓	
Vascular	↑	↓								↓		↑
Pulmonary				↓			↑					
Liver condition												↑
Epilepsy		↓										

Note. M=main effect; T=interaction of condition & time trend;
↑=significantly +ve; ↓=significantly -ve

"Counterfactual" COVID-19 analysis from main survey waves 7-9

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So (almost) no effect of long-term conditions over 2 year period without COVID-19

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Employers see them as most at risk? Or most cautious?

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Need to look in future at longer term adjustments in working patterns

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Are changes necessarily worse for well-being?

Maybe (some) people who have left the labour market are better off?

Thanks for listening!