

# Perspectives in Public Health

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# RSPH

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## Public health in an unequal world

Theo Stickley  
Joanna Saunders  
Joint Editors

Welcome to this new year issue of *Perspectives in Public Health*. Astute readers and followers of the journal may have noticed on our website that we have included the following descriptions:

*Promoting practice-based research and addressing inequalities in public health*

*It is an aim of the journal to publish quality articles that identify and address local, national and global inequalities and inequities.*

*Priority is given to articles that address economic, social or health inequalities and inequities that affect the health of the public. We are also committed to promoting the public health and voice of the global majority and diverse communities.*

This followed various discussions of the Editorial Board, who agreed that the primary aim of the journal should be publishing articles that address inequalities and inequities. *Perspectives* is a values-based publication that wholly subscribes to the values of the RSPH. These are reflected in the RSPH's vision that through addressing health inequalities, championing and building skills within the wider public health workforce, and ensuring the public's health is everyone's responsibility, people can live healthier lives and for longer. The hope for a healthier and longer life however is often determined by where we were born, our education, our social position, upbringing, our employment, wealth or poverty. Because the world is not equal, bringing a public health message must take into account the limitations of those messages unless inequalities are addressed. It is our intention therefore to increasingly publish research and practice articles that address inequalities and inequities in these areas:

- The effects of the climate emergency
- Unfair political and economic factors
- Life expectancy
- Access to healthcare
- What keeps disadvantaged people well
- Reducing infectious diseases
- Maternal and child health
- Gender disparities in poorer countries
- Mental health and resilience
- Geographic disparities

The list is not exhaustive, but we hope it clearly demonstrates the direction in which the editorial team wishes to take the journal. It is advisable that when preparing your article for submission that you firstly read the updated submission guidelines and any articles previously published by RSPH journals on your chosen topic to help inform the content of your submission.

In this current issue we are pleased to include an article authored by one of our Editorial Board members, Professor Jim McManus who until recently was president of the Association of Directors of Public Health. Since he wrote the article, he has been appointed as National Director of Health and Wellbeing for Wales. We wish him the very best in his new role. Jim's article critiques the UK government's Public Health Grant allocation. Other topics in this issue include: food insecurity (Choi and Kim) and Owens, hot food take-away planning (Moore et al.), war and hunger (Tayebi et al.), loneliness prevention (Crowe et al.), workplace health promotion (Blake et al.), 'studentification' and student wellbeing (Revington and Wray) and mental ill-health and the digital divide (Spanakis et al.).

As we begin this new year, we would like to express our thanks to Matt Hobbs who steps down as Deputy Editor and give a warm welcome to Duncan Radley of Leeds Beckett University and Catherine Homer of Sheffield Hallam University who have both been appointed as Joint Deputy Editors.

# In Practice

## 'Project period': a workplace health promotion innovation in a higher education setting

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### MENSTRUAL HEALTH IS ON THE GLOBAL AGENDA

In recent years, The World Health Organization has placed menstrual health on the global agenda.<sup>1</sup> Around 1.8 billion people, 26% of the global population, menstruate every month. The physical and mental health impacts of menstruation associated with hormone fluctuations and blood loss are well documented.<sup>2,3</sup> This 'mental burden' of menstruation has detrimental effects on participation in work and leisure activities.<sup>2</sup> In the workplace, management of menstruation accrues 'additional labour' in managing pain and symptoms, dealing with social stigma and accessing necessary facilities.<sup>3</sup> Resource limitations, particularly a lack of access to menstrual materials and facilities, have been recognised as a problem, even in high-income countries (104 studies; 16 countries).<sup>2</sup> In addition,

'period poverty' (i.e. a lack of access to sanitary products due to financial constraints) is becoming a growing issue for those from low-income households,<sup>4</sup> and this is likely to increase given the rising cost of living in the UK.

### A GAP IN POLICY AND PRACTICE FOR WORKPLACES AND UNIVERSITIES

In 2019, Scotland made public health history, by legally protecting the right to access free period products, under the Period Products Act.<sup>5</sup> In England, free period products are available to hospital patients (via NHS England offer) and those in custody (following changes in legislation by the Home Office). The government 'period product scheme' provides free period products to girls, women and non-binary or transgender learners who menstruate, in state-maintained schools and colleges, who need them in their place of study.<sup>6</sup> This scheme does not currently include universities or workplaces.

While menstruation and gynaecological health are becoming part of discussions around gender inequity at work (e.g. via the debate relating to menstrual leave policies),<sup>7</sup> workplace occupational health promotion interventions rarely include gynaecological health awareness or free sanitary products.<sup>8</sup> Yet, menstruation is associated with sickness absence (time away from work) and presenteeism (productivity loss while at work),<sup>9</sup> so there



are economic implications for employers.

**'Period poverty' (i.e. a lack of access to sanitary products due to financial constraints) is becoming a growing issue for those from low-income households, and this is likely to increase given the rising cost of living in the UK**

Furthermore, menstruation impacts negatively on students' academic performance.<sup>10</sup> There is a need for universities to include menstruation and gynaecological health in staff and student health promotion programmes and engage with initiatives that support

menstruation management in the workplace. This will contribute to increasing inclusion and reducing stigma and gendered inequalities and help to address period poverty.

### 'PROJECT PERIOD': A STEP-CHANGE IN WORKPLACE HEALTH PROMOTION

In February 2020, Project Period was initiated, an innovation involving the provision of free period products to students and employees on a university campus. The aim was to address four issues: (1) being 'caught short' (in urgent need of sanitary products), (2) period poverty, (3) cultural differences in a university setting with diverse

demographics, (4) education, including promoting open and inclusive conversations around menstruation and menopause.

Following a six month pilot test in a single area, the innovation was rolled out across an academic institute in September 2020. Disposable sanitary pads and tampons were made available in female-labelled, gender neutral and accessible bathrooms (Figure 1). Stocks were replenished monthly, and a concurrent menstrual awareness campaign was launched. This included educational leaflets, information in newsletters and workshops and events that educate and raise awareness about the challenges faced by those who menstruate and go through menopause.

After 12 months, we undertook an online survey with 154 staff and students based onsite to explore their views towards the innovation. The survey was hosted on Jisc online surveys, and data were analysed using IBM SPSS Version 27.0.1 (IBM, Armonk, NY, USA). There were 94 employees (61%: 50% full-time, 11% part-time; aged 24–61 years) and 60 students (39%: aged 22–55 years). Respondents identified as female (79.9%,  $n = 123$ ), male (17.9%,  $n = 26$ ), non-binary (2.6%,  $n = 4$ ) or preferred not to say (0.6%,  $n = 1$ ). Of the 154 respondents, 63.6% ( $n = 98/154$ ) reported that they were currently menstruating, of which 86.7% ( $n = 85/98$ ) were worried about their periods while at work, primarily associated with managing symptoms in the workplace and/or being 'caught short'. Reported menstrual symptoms were diverse, impacting physical (e.g. fatigue, pain), psychological (e.g. mood) and social (e.g. participation) wellbeing.

Of 126 respondents to items on absenteeism/presenteeism (28 non-responders/154), 19% ( $n = 24/126$ )

reported having been absent from work during the past 12 months due to menstrual complaints, including menstrual, perimenopausal or menopausal symptoms ('absenteeism'). 81% of respondents ( $n = 102/126$ ) reported having attended work despite being hindered by menstrual complaints during the past 12 months ('presenteeism'). Of these, 65.6% ( $n = 67/102$ ) reported presenteeism on more than five occasions during the year.

Awareness of Project Period was high (92.2%,  $n = 142/154$ ), and more than half of those who responded to an item relating to accessibility had accessed the free sanitary products (52.4%,  $n = 66/126$ ); reasons for access were being 'caught short' or financial reasons. On a Likert-type scale (0 = not important to 10 = very important), the ongoing availability and sustainability of the products were viewed to be very important ( $n = 154$ : mean 8.53, SD 2.1; and mean 7.95, SD 2.3, respectively). Perceptions of stigma in the workplace were prevalent. Of 34 individuals (34.6% of 98 menstruators) who indicated they would leave work if they needed to due to menstrual symptoms or the need to access products, only nine of these felt able to discuss menstruation openly with their line manager.

### CONCLUSION

To our knowledge, this was the first implementation and evaluation of free sanitary products in a university setting, which has now been upscaled across a multisite university. By April 2023, 100,000 products had been distributed across seven campus sites. Research is needed to explore the cost implications of this provision, the views of employees and students (including the experiences of non-binary, transgender and culturally diverse menstruating students), any

impacts on perceived stigma and inequalities and any challenges to implementation of Project Period across different sites and settings. This represents an important step towards normalising conversations about menstruation and gynaecological health and influencing policy and practice on the provision of free sanitary products in universities and other workplace settings.

### ACKNOWLEDGEMENTS

The authors write on behalf of a large team at the University of Nottingham who advocate and deliver Project Period. Particular thanks to Katherine Linehan for embedding the Project Period website within the participating institution's Equality, Diversity and Inclusion (EDI) agenda (<https://www.nottingham.ac.uk/edi/project-period/project-period.aspx>). While this innovation is spearheaded by the authorship team, the concept of Project Period was initially proposed by Ikra Mahmood in March 2019, with UoNSU Welfare Officer Alice Kosse and Women's Officer Emily Garton who incorporated it within Students Union Policy.

### CONFLICT OF INTEREST

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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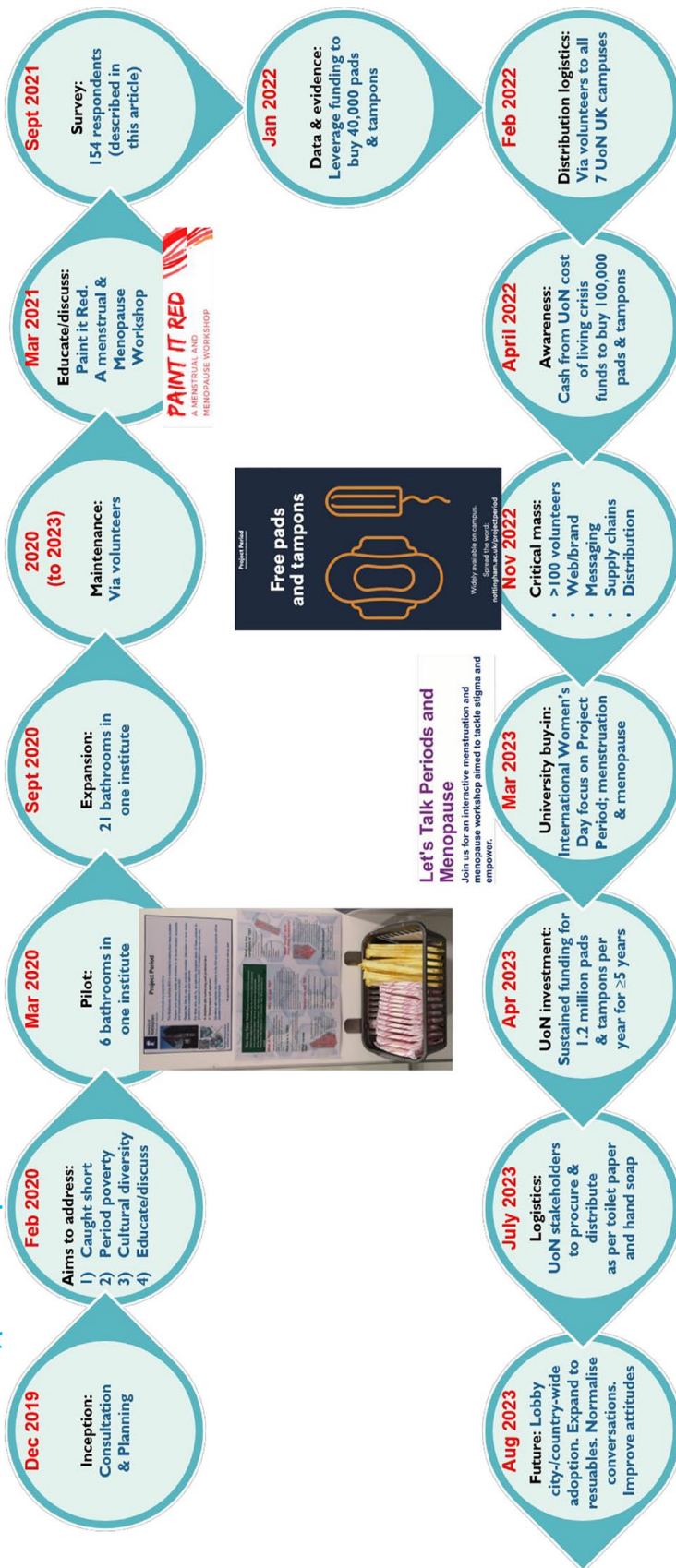
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Figure 1

Evolution of Project Period: free sanitary products at the University of Nottingham (UoN). The initiative was run for over 3 years by volunteers, who self-funded the project from March 2020 until seed funding was won in January 2022. The survey described in this article was pivotal in securing funding and providing the credibility and critical mass required to scale the project during 2022. By April 2023, 100,000 pads and tampons had been distributed across all seven of UoN's UK campuses, leading to the university committing to procure and centrally distribute 1.2 million pads and tampons annually, with emphasis on sustainable, plastic-free products



## References

- World Health Organization. WHO statement on menstrual health and rights, 22 June 2022. Available at: <https://www.who.int/news/item/22-06-2022-who-statement-on-menstrual-health-and-rights> (last accessed 23 May 2023).
- Barrington DJ, Robinson HJ, Wilson E *et al*. Experiences of menstruation in high income countries: a systematic review, qualitative evidence synthesis and comparison to low- and middle-income countries. *PLoS ONE* 2021;**16**(7):e0255001.
- Sang K, Remnant J, Calvard T, Myhill K. Blood work: managing menstruation, menopause and gynaecological health conditions in the workplace. *Int J Environ Res Public Health* 2021;**20**(1):181951.
- Briggs A. 'Period poverty' in stoke-on-trent, UK: new insights into gendered poverty and the lived experiences of austerity. *J Poverty Soc Justice* 2021;**29**(1):85–102.
- The Scottish Parliament. The Period Products (Free Provision) (Scotland) Bill, 23 April 2019. Available at: <https://www.parliament.scot/-/media/files/legislation/bills/current-bills/period-products-free-provision-scotland-bill/introduced/explanatory-notes-period-products-scotland-bill.pdf>
- Department for Education. Period product scheme for schools and colleges in England, 8 September 2022. Available at: <https://www.gov.uk/government/publications/period-products-in-schools-and-colleges/period-product-scheme-for-schools-and-colleges-in-england#:~:text=The%20period%20product%20scheme%20is,in%20their%20place%20of%20study>
- Levitt RB, Barnack-Tavlaris JL. Addressing menstruation in the workplace: the menstrual leave debate. In: C Bobel, IT Winkler, B Fahs, KA Hasson, EA Kissling, TA Roberts (eds) *The Palgrave handbook of critical menstruation studies*. London: Palgrave Macmillan; 2020, pp. 1–17.
- Jiménez-Mérida MR, Romero-Saldaña M, Molina-Luque R *et al*. Women-centred workplace health promotion interventions: a systematic review. *Int Nurs Rev* 2021;**68**(1):90–8.
- Schoep ME, Adang EMM, Maas JWM *et al*. Productivity loss due to menstruation-related symptoms: a nationwide cross-sectional survey among 32 748 women. *BMJ Open* 2019;**9**:e026186.
- Munro AK, Hunter EC, Hossain SZ *et al*. A systematic review of the menstrual experiences of university students and the impacts on their education: a global perspective. *PLoS ONE* 2021;**16**(9):e0257333.

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# Sudan conflicts (2012–2023): how does it prolong and intensify hunger?

*In this article, Tayebi et al. examine the effects of conflicts in Sudan. This paper measures the relationship between the hunger index and the number and intensity of conflicts, as well as some economic indicators.*

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Since 1946, there has been a decrease in the worldwide fatality rate resulting from warfare.<sup>1</sup> While research suggests a decline in immediate casualties resulting from wars and conflicts, there are still significant, long-lasting effects on public health and societies.<sup>2</sup>

These effects encompass various social and economic consequences, including family disruption, famine, and children's hunger.<sup>3</sup> Likewise, the experiences of both interstate wars and internal conflicts have resulted in a substantial decline in environmental quality, consequently leading to long-term implications for public health.

One of the significant consequences of conflicts is the loss of food security

and resulting hunger. In 2005, the Food and Agriculture Organization (FAO) declared that armed conflicts are the primary causes of global hunger, with 45 countries identified as suffering from food insecurity due to conflicts at the time. Globally, most of the population, including 75% of chronically malnourished children below the age of five years, reside in countries affected by armed conflict and violence.<sup>4</sup> Conflict remains the primary driver of food insecurity on a global scale.<sup>5</sup> The war in Ukraine has caused many humanitarian crises and the destruction of healthcare facilities and disrupted

delivery of healthcare and supplies;<sup>6</sup> in another region of the world, the Sudanese population are suffering from the complex effects of the war on food security. Some resources have pointed out the indirect effects of the destruction of agricultural infrastructures and international transport in Ukraine on the aggravation of the food security problem in Sudan.<sup>7</sup>

## CONFLICT AND FOOD SECURITY IN SUDAN

Sudan has experienced multiple civil wars, which spanned several decades. According to the World Food Program, 3.7 million people of the 46.7 million



Sudanese population were displaced, and over 19 million were food insecure before the conflicts of 2023.<sup>4</sup> Factors such as ongoing conflicts, the

**According to the World Food Program, 3.7 million people of the 46.7 million Sudanese population were displaced, and over 19 million were food insecure before the conflicts of 2023**

proximity of conflict sites to major transportation networks, abandonment of agricultural lands, deteriorating political-economic conditions, declining gross domestic product

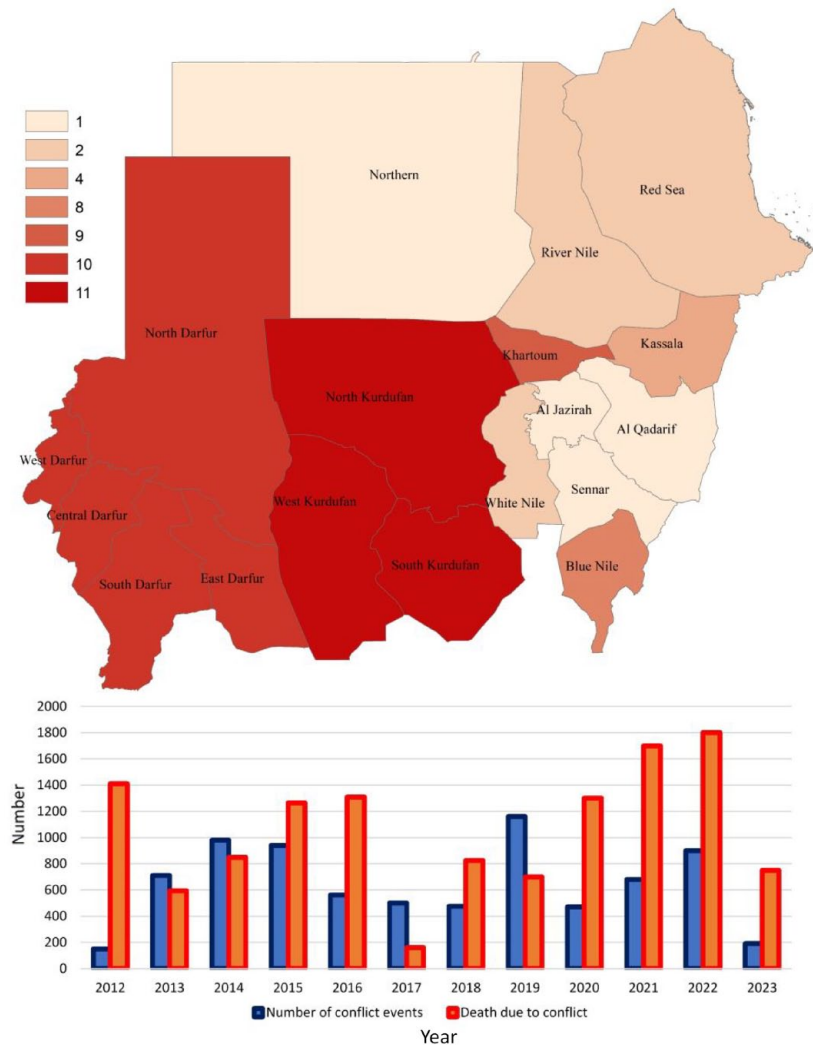
(GDP), and a diminishing share of agriculture in the GDP are frequently identified as significant contributors to Sudan's food security challenges. Placing emphasis on the impact of internal conflicts on the food security of populations, this study aims to examine how conflicts influence societal food security and the changes observed in the Integrated Food Security Phase Classification (IPC) from 2012 to 2023.<sup>8</sup>

Statistical data reveal that, on average, there have been 643 violent conflicts in Sudan since 2012, resulting in an average of 1055 fatalities per year. According to Figure 1, the regions of

## Sudan conflicts (2012–2023): how does it prolong and intensify hunger?

Figure 1.

Conflict numbers in Sudan<sup>9,10,11,12</sup> (In the map legend, the number represents the number of conflicts).



Kordofan, Darfur, Blue Nile, and Khartoum experienced the highest levels of conflict between 2012 and 2023.

In 2023, IPC Global Partners reported, the majority of Sudan has been classified as being in Alert, Serious, and Critical nutritional status since 2020. This implies that the entire country is facing significant challenges in terms of food security and malnutrition (Figure 2).

When comparing the regions with the highest conflicts to the IPC food security index shown in Figure 3, a significant co-occurrence can be observed. The

regions with the highest conflicts and prolonged periods of tension also exhibit the highest levels of food insecurity. This indicates that the intensity and duration of conflicts have a direct impact on the food security situation in these regions. From 2012 to 2023, the area of the country classified as IPC1 (least severe) has decreased, while the areas categorized as IPC2 and IPC3 (more severe) have increased. The results of the correlation test indicate that there is no significant relationship between the number of conflicts and the IPC phases (Table 1). However, it is worth noting that the number of casualties, which can be

seen as an indicator of conflict intensity, shows a significant relationship with the first and second phases of IPC. In addition, economic indicators such as GDP, the share of agriculture in GDP, and the inflation rate, also exhibit significant relationships, particularly with the first and second phases of IPC. The changing correlations observed from phase 1 to subsequent phases highlight the impact of these factors on food insecurity levels.

The analysis of Sudan's economic situation reveals a concerning trend of deteriorating economic conditions for the population (Figure 3). There has been a decline in the GDP, and the



Sudan conflicts (2012–2023): how does it prolong and intensify hunger?

Figure 2.

IPC in Sudan states and its trend (2012–2023).<sup>8,13,14</sup>

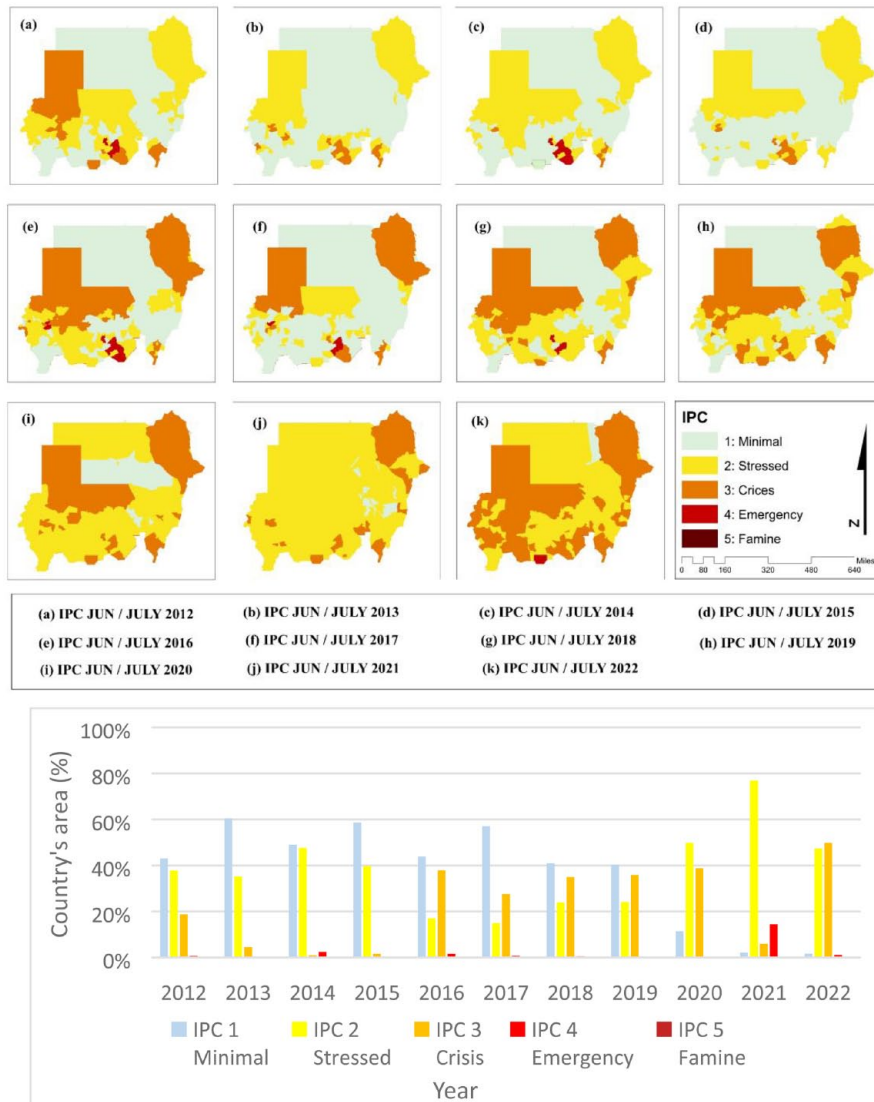
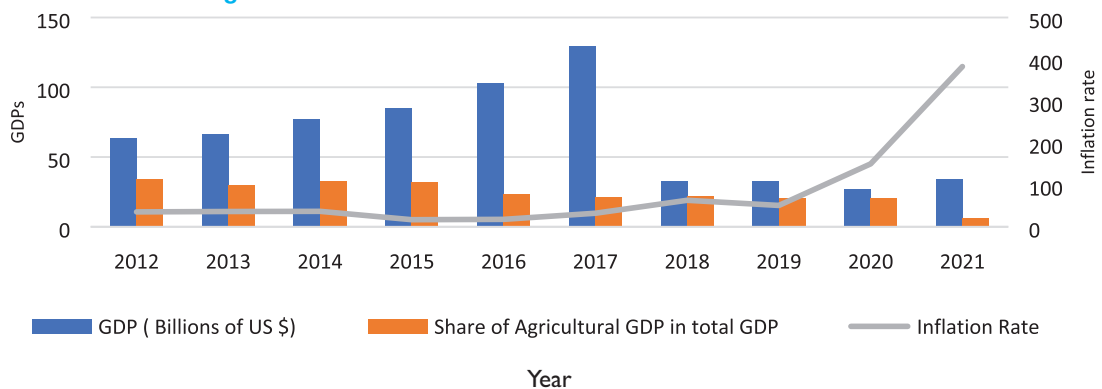


Figure 3.

Sudan's GDP and the share of agricultural GDP in total GDP.<sup>15</sup>



## Sudan conflicts (2012–2023): how does it prolong and intensify hunger?

Table 1.

**Correlation between conflicts and economic indexes.**

Variables	IPC1	IPC2	IPC3	IPC4
GDP (billions of US\$)	.655	-.499	-.145	-.239
Share of agricultural GDP in total GDP	.750	-.351	-.296	-.713
Inflation rate	-.872	.815	-.148	.906
No. of conflict events	.010	.111	-.134	.006
Casualties due to conflict	-.731	.651	.140	.424

IPC: Integrated Food Security Phase Classification; GDP: gross domestic product.

share of agricultural products in the GDP is decreasing. This decline in the agricultural sector's contribution to the overall economy has significant implications for food security, particularly considering that more than 65% of Sudan's population relies on agriculture for their livelihoods.

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level of food security. Over the period from 2012 to 2023, there has been a

**CONCLUSION**


The findings reveal the intricate effects of the number and intensity of conflicts on Sudan's food security situation. Despite the impact of conflicts and internal instability on economic indicators, these indicators exhibit a significant relationship with the

negative trend in the IPC phase, indicating a deterioration in food security across Sudan. Regions experiencing higher levels of conflict tend to exhibit worse IPC phases, indicating a more severe food security situation.

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**References**

- Roser M, Hasell J, Herre B *et al.* *War and Peace*. Our World in Data, 2016. Available online at: <https://ourworldindata.org/war-and-peace#>
- Anderson W, Taylor C, McDermid S *et al.* Violent conflict exacerbated drought-related food insecurity between 2009 and 2019 in sub-Saharan Africa. *Nat Food* 2021;**2**(8):603–15.
- Messer E, Cohen MJ. *Conflict, Food Insecurity and Globalization*, 2016. Available online at: <https://ageconsearch.umn.edu/record/55898/files/fcndp206.pdf>
- Food and Agriculture Organization. *Special Report–2022 FAO Crop and Food Supply Assessment Mission (CFSAM) to the Republic of the Sudan*, 20 March 2023. Available online at: <https://www.fao.org/publications/card/fr/c/CC5009EN>
- Action Against Hunger. *Outbreak of Conflict Deepens Food Insecurity in Sudan*, 2023. Available online at: <https://actionagainsthunger.ca/south-sudan-clash/>
- Haque U, Naeem A, Wang S *et al.* The human toll and humanitarian crisis of the Russia-Ukraine war: the first 162 days. *BMJ Glob Health* 2022;**7**(9): e009550.
- OCHA. *Save the Children*, 2022. Available online at: <https://www.savethechildren.net/news/war-ukraine-threatens-increase-hunger-sudan>
- IPC Global Partners. Sudan, 2023. Available online at: <https://www.ipcinfo.org/ipc-country-analysis/en/?country=SDN>
- ACLED. *The Geographic Profile of Violence against Civilians during Peacekeeping Deployment – Containment and Diffusion*, 2015. Available online at: <https://acleddata.com/2015/09/04/the-geographic-profile-of-violence-against-civilians-during-peacekeeping-deployment-containment-and-diffusion/>
- ACLED. *Sudan – June 2016 Update*, 2016. Available online at: <https://acleddata.com/2016/06/10/sudan-june-2016-update/>
- The Guardian*. Sudan Protesters Reject Army Takeover after Removal of President, 11 April 2019. Available online at: <https://www.theguardian.com/world/2019/apr/11/sudan-army-ousts-bashir-after-30-years-in-power>
- ACLED. *Fact Sheet, Conflict Surges in Sudan*, 2023. Available online at: <https://acleddata.com/>
- Backer D, Billing T. Visualizing trends in food security across Africa, 2009–2020: data and animations at a grid-cell level. *Data Brief* 2021;**36**:106999.
- Food Security Cluster. Sudan, 2022. Available online at: <https://fscluster.org/sudan/document/sudan-ipc-2022-acute-food-insecurity>
- Macrotrends. Sudan Economy, 2021. Available online at: <https://www.macrotrends.net/countries/SDN/sudan/gdp-gross-domestic-product>

# Studentification and student wellbeing in the private rented sector: further reflections on Lynch *et al.*

*In this response to Lynch et al.'s article on Studentification, Revington and Wray look into the implications of students in the private rented sector and how this affects their health and wellbeing*

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We thank Lynch *et al.*<sup>1</sup> for their excellent essay that ascribes importance to postsecondary student perspectives in scholarship on housing and health. We found their critique of the common framings of students as the ‘problem’ with studentification to be a position of strength in their reflections. They raise numerous challenges associated with this stage of the life course, proposing several lines of inquiry about housing conditions, physical health, mental wellbeing, social connectedness, and place attachment. We concur that postsecondary students are often exposed to considerable risk that is directly related to the inadequacy of their accommodations in the private rental sector as well as the poor condition of the built environments surrounding these housing units. In short, they have identified a critical research gap.

We aim to provide further reflections on Lynch *et al.*'s<sup>1</sup> essay that will clarify

the potential lines of inquiry to address the individual and socio-environmental determinants of student health as it relates to housing and the built environment. Student housing forms one axis of town-gown praxis, or the interactions between postsecondary institutions and their host communities in theory and practice. Other axes include transportation, servicing, social capital, and economic development. Geographic, political science, and public health scholarship and practice predominantly feature in this area. As an urban geographer (Revington) and health geographer (Wray) working in town-gown praxis, we are distinctively positioned to provide these reflections.

*Studentification* is a process of urban change resulting in the concentration of postsecondary students, predominantly in shared private rentals, in particular neighbourhoods that are usually in proximity to higher education institutions,<sup>2</sup> along with the specialisation



of retail and services to cater to this demographic.<sup>3</sup> This process may be related to, but is not always found with, the poor housing conditions and neighbourhood socioeconomic deprivation that students may encounter during their studies.

**Studentification is a process of urban change resulting in the concentration of postsecondary students, predominantly in shared private rentals, in particular neighbourhoods that are usually in proximity to higher education institutions, along with the specialisation of retail and services to cater to this demographic**

Studentification is not caused solely by increases in enrolment in higher education in the absence of adequate provision of residence halls by universities. It is also shaped by landlords and property developers, letting agents, institutions, and urban planning regulations deliberately or inadvertently directing students to certain segments of the housing market

for various reasons. These range from perceptions that students may cause property damage or engage in antisocial

## Studentification and student wellbeing in the private rented sector: further reflections on Lynch et al.

behaviours, to unintended consequences of institutional practices.<sup>4-7</sup> How students experience this steering process could impact their health or wellbeing and is clearly a product of studentification. So, too, is the ontological security of living among other students – as Lynch *et al.*<sup>1</sup> mention – that could be supported by residing in a studentified neighbourhood. It is less obvious that other housing-related health risks facing students (such as overcrowding, dampness, or under-maintenance) are directly related to studentification. Poor housing conditions can occur anywhere, and the quality of housing available to students varies tremendously.

Indeed, some of the greatest housing challenges may face students *outside* of studentified areas. Students who cannot afford to live close to campus have been shown to have lengthier commutes than other demographics, impacting the time they are able to dedicate to study and participation in on-campus social activities.<sup>8</sup> The studentification process may even drive increases in overall neighbourhood rent through the creation of desirable luxury purpose-built student accommodation that in turn contribute to driving poorer students out of these neighbourhoods.<sup>9</sup> The most cost-sensitive students are also the most likely to both broaden their housing search beyond studentified areas in search of cheaper accommodations and to accept poorer conditions that may impact their mental and physical health.<sup>10</sup> These other neighbourhoods may have cheaper housing but may also have fewer amenities and worse multiple deprivation scores.<sup>11</sup> We can reasonably hypothesise that this disparity may affect student health and wellbeing. These students may also develop 'less extended interest in the area'<sup>1</sup> from their poor experiences living in these neighbourhoods, with long-term health implications and

spillover effects to broader measures of neighbourhood social capital. Another widespread but often hidden issue with important ramifications for health and wellbeing is student homelessness.<sup>12</sup>

Health and wellbeing impacts of studentification on students may also extend beyond questions of housing and home. Commercial changes due to studentification may alter the availability of healthy food and recreational substances such as alcohol, cannabis, and tobacco, for instance. A critical mass of students living close to campus may favour active mobility such as walking or cycling, and the provision of supporting infrastructure, which may also influence overall population health and wellbeing. A public health lens is essential to investigating these questions.

We strongly believe that multidisciplinary and transdisciplinary perspectives are required to better understand how student health is affected by (1) *the process of studentification*, (2) *experiences of (poor) housing conditions*, and (3) *the quality of the neighbourhood-scale built environment*. These elements should not be conflated, although there may be causal links between them. We propose that future investigations of student experiences while in their host postsecondary communities should consider the following:

- What proportion of students live in studentified versus non-studentified neighbourhoods? How do these students' experiences differ from each other, and from other types of tenants?

- What amenities, services, and transportation connections are available in neighbourhoods where students choose to live? How does the process of studentification support or undermine the locating of

amenities and services necessary to support positive health and wellbeing for students? To what extent are student perspectives accounted for in planning and development decisions within their host communities?

- What are the individual sociodemographic features of students who live in the poorest housing, or in the neighbourhoods with the worst multiple deprivation scores? What structural factors constrain them to these segments of the housing market?
- How do poor housing conditions and poor built environment quality during a student's studies affect academic performance, postgraduation placement success and location, and long-term health and wellbeing measures?

The research outlined above would provide crucial evidence to inform the design of interventions, policies, and practices that can address the socio-ecological determinants of health for postsecondary students.

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**Commercial changes due to studentification may alter the availability of healthy food and recreational substances such as alcohol, cannabis, and tobacco, for instance**

## References

1. Lynch Z, Page RK, Dhesi S *et al.* Studentification: shining a light on students' experiences of living among the private rented sector: impacts on wellbeing and study. *Perspect Public Heal*. Epub ahead of print 2023 June 29. DOI: 10.1177/17579139231180808.
2. Smith DP. 'Studentification': the gentrification factory? In: R Atkinson, G Bridge (eds). *Gentrification in a global context: the new urban colonialism*. New York: Routledge; 2005. pp. 72-89.
3. Zasina J. The student urban leisure sector: towards commercial studentification? *Local Econ* 2021;**36**(5):374-90.
4. Fincher R, Shaw K. The unintended segregation of transnational students in central Melbourne. *Environ Plan A* 2009;**41**:1884-902.

## Studentification and student wellbeing in the private rented sector: further reflections on Lynch et al.

5. Miessner M. Studentification in Germany: how investors generate profits from student tenants in Goettingen and the impacts on urban segregation. *Eur Urban Reg Stud* 2021;**28**(2):133–54.
6. Revington N. Age segregation, intergenerationality, and class monopoly rent in the student housing submarket. *Antipode* 2021;**53**(4):1228–50.
7. Revington N, Wray AJD. Land-use planning approaches to near-campus neighborhoods and student housing development patterns in Ontario, Canada. *Hous Policy Debate*. Epub ahead of print 2022 July 27. DOI: 10.1080/10511482.2022.2093939.
8. Allen J, Farber S. How time-use and transportation barriers limit on-campus participation of university students. *Travel Behav Soc* 2018;**13**:174–82.
9. Revington N, August M. Making a market for itself: the emergent financialization of student housing in Canada. *Environ Plan A* 2020;**52**(5):856–77.
10. Sotomayor L, Tarhan D, Vieta M *et al*. When students are house-poor: urban universities, student marginality, and the hidden curriculum of student housing. *Cities* 2022;**124**:103572.
11. Fisher LM, Pollakowski HO, Zabel J. Amenity-based housing affordability indexes. *Real Estate Econ* 2009;**37**(4):705–46.
12. Weissman E, Waegemakers J, Schiff R. Post-secondary student homelessness (PSSH) and Canadian youth: stigma and institutional responses to student homelessness. *Parity* 2019;**32**(8): 32–4.

# Measuring the digital divide among people with severe mental ill health using the essential digital skills framework

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## Keywords

digital skills; digital divide; Internet; severe mental ill health; psychosis; bipolar

## Abstract

**Aims:** Amid the vast digitalisation of health and other services during the pandemic, people with no digital skills are at risk of digital exclusion. This risk might not abate by the end of the pandemic. This article seeks to understand whether people with severe mental ill health (SMI) have the necessary digital skills to adapt to these changes and avoid digital exclusion.

**Methods:** Two hundred and forty-nine adults with SMI across England completed a survey online or offline. They provided information on their digital skills based on the Essential Digital Skills (EDS) framework, sociodemographic information, and digital access. This is the first time that the EDS is benchmarked in people with SMI.

**Results:** 42.2% had no Foundation Skills, and 46.2% lacked skills for daily life (lacking Foundation or Life Skills). 23.0% of those working lacked skills for professional life (lacking Foundation or Work Skills). The most commonly missing skills were handling passwords and using the device settings (Foundation Skills) and online problem solving (Skills for Life). People were interested in learning more about approximately half of the skills they did not have. People were more likely to lack Foundation Skills if they were older, not in employment, had a psychosis-spectrum disorder, or had no Internet access at home.

**Conclusion:** A significant portion of people with SMI lacked Foundation Skills in this objective and benchmarked survey. This points to a high risk for digital exclusion and the need for focused policy and tailored health sector support to ensure people retain access to key services and develop digital skills and confidence. To our knowledge, this is the first time this has been described using the EDS framework. Services, including the National Health Service (NHS), need to be aware of and mitigate the risks.

## INTRODUCTION

During the COVID-19 pandemic, restrictions were applied to movement and social contact, to contain the spread of the virus.<sup>1,2</sup> Many daily activities (e.g. shopping, entertainment, and contacting friends and family) shifted from face-to-face to remote delivery, often via the Internet. The UK NHS experienced a similar shift, both in mental<sup>3-5</sup> and in general healthcare.<sup>6-8</sup>

These changes increased the demand for digital skills and led to more people using the Internet for longer, leading to estimations that in one year the UK made five years' worth of progress in digital engagement.<sup>9</sup> However, this

situation also highlighted the pre-existing digital divide (i.e. inequalities in digital access and engagement in the population) and the health inequalities that may derive from it.<sup>10</sup> People lacking digital skills might experience negative outcomes in relation to health, wellbeing, and social support, as they might struggle to access health services, Government and local authority services, and support network activities that are online.<sup>11</sup>

It remains unknown whether people with SMI (e.g. a diagnosis of bipolar or psychosis-spectrum disorder) have the digital skills to adapt to this new digitalisation of services.<sup>12</sup> Finding the

## Measuring the digital divide among people with severe mental ill health using the essential digital skills framework

Internet too difficult or too complex to understand has been commonly reported among people with SMI as a barrier to using the Internet, both before<sup>13–15</sup> and during the pandemic.<sup>16</sup> It is important to gain a deeper understanding of this issue, as digital exclusion in people with SMI might widen existing health and social inequalities. For example, people with SMI are at greater risk for long-term physical health conditions<sup>17</sup> and at greater need for regular healthcare appointments to monitor their conditions (e.g. the annual physical health check).<sup>18</sup> They might also be more likely to experience feelings of loneliness.<sup>19</sup> Lack of skills to use the Internet might obstruct access to important sources of support (e.g. video-calls with health professionals or friends and family, accessing health and community-related information online, and participating in online community activities). It is important to note that the risk of exclusion due to lack of skill will probably not abate at the end of the pandemic, considering that the pandemic accelerated plans for digital healthcare to become a mainstream option in the NHS.<sup>20</sup>

The EDS framework which has been adopted by the UK Department of Education defines the skills that people would need to have to fully benefit from using the Internet and digital devices,<sup>9</sup> and sets the standards for all formal digital skills training programmes in the country. The framework includes three domains: Foundation Skills, Skills for Life, and Skills for Work. The Foundation Skills domain concerns basic prerequisite knowledge (e.g. knowing how to use the settings in a device or how to connect to a secure Wi-Fi network), while the other two domains concern five skill types in everyday life and in work environments, respectively: (1) Being safe, legal and confident online; (2) Communicating; (3) Problem solving; (4) Transacting; and (5) Handling information and content. Although EDS is mapped with the general UK population annually through the Lloyds Bank UK Consumer Digital Index, it has never been benchmarked in people with SMI specifically.

This article reports on the Skills and Proficiency in Digital Essential

Requirements study (SPIDER) which assesses the digital skills of a sample of people with SMI amid the COVID-19 pandemic, based on the EDS framework. The primary objectives were to understand the extent to which people with SMI have EDS and how they compare to the general population, as well as to identify the areas of greatest deficit in skills and their association with key sociodemographic and health factors.

### METHODS

#### Design and procedures

The SPIDER study recruited participants from a clinical cohort that participated in the Optimising Wellbeing in Self Isolation (OWLS) study. The cohort included people that were 18 years old or over and had a documented diagnosis of schizophrenia or delusional/psychotic illness (ICD 10 F20.X & F22.X or DSM equivalent) or bipolar disorder (ICD F31.X or DSM equivalent). The methods of recruitment to the OWLS study are outlined in the supplementary material (S1). To be eligible for SPIDER, participants had to have consented during OWLS to be contacted about future surveys. Participants were recruited to SPIDER from January 2021 to March 2021.

Interested participants were provided with an information sheet (read over the phone, or send by email, text message, or post), and those consenting to participate were given the option to complete the survey online via a link, or offline (over the phone with a researcher or in a hard copy survey sent by post.) Offline options were provided to ensure the inclusion of people that were not digitally engaged.

#### Measures

All variables and analyses reported here have been preregistered<sup>21</sup> in Open Science Framework (OSF).

#### Essential digital skills

Participants were asked whether they could complete a series of tasks related to using the Internet and digital devices, on their own if they ever need to (responses were yes or no). For those

answering 'no', they were asked if they would be interested in learning more about them (yes/no). The tasks were derived from the Lloyds UK Consumer Digital Index 2020<sup>22</sup> and the Scottish Council for Voluntary Organisations (SCVO) Essential Digital Skills Toolkit.<sup>23</sup> The complete list of tasks used in SPIDER is available at <https://mfr.osf.io/render?url=https://osf.io/keumd/?direct%26mode=render%26action=download%26mode=render>.

Participants were considered as having or not having a given skills domain according to the EDS framework.<sup>22</sup> For Foundation Skills, participants would need to report they could complete all tasks from a list of eight basic tasks (e.g. using a device setting to make its use easier, or connecting to a secure and safe Wi-Fi network).

For Skills for Life, we used a list of 30 tasks, grouped into five skill types: Communicating (e.g. I can set up an email account), Handling information (e.g. I can use search engines to find information and make use of search terms to generate better results), Transacting (e.g. I can safely buy things online), Problem solving (e.g. I can use the Internet to find how to do something online), and Being safe and legal online (I am careful with what I share online as I realise that the information I put online stays there and could be accessed in the future by other people). To be considered as having Skills for Life, participants should be able to complete at least one task from each skill type. Only participants who had Foundation Skills were assessed for Skills for Life.

For Skills for Work, we used a list of 14 tasks, grouped in the same skill types as in Skills for Life. The difference was that the tasks in each skill type were more relevant to a working environment (e.g. I can set up and manage an account on a professional online network/community, or I can organise, store and share work-related information on different computers, tablets or phones). To be considered as having Skills for Work participants should be able to complete at least one task in each skill type. Only participants who had Skills for Life and were in employment were assessed for Skills for Work.

## Measuring the digital divide among people with severe mental ill health using the essential digital skills framework

### Digital access

In the initial OWLS survey, participants were asked if they owned a digital device (smartphones, computers, laptops, or tablets – yes/no), and whether they could access the Internet from home (yes/no). In the SPIDER study, we also asked whether people have used the Internet in the last 12 months (yes a lot, yes a little, or not at all) and if in the last 12 months they ever experienced not having enough data available to access the Internet as much as they would need (data poverty – yes/no).

### Sociodemographic and health variables

Using data that were available in the initial OWLS dataset, we derived participants' age (grouped as 18–30, 31–45, 46–65, and 66+), gender (female, male or transgender), ethnicity (grouped as White background or Other than White), employment (grouped as being in paid employment or not) and care setting (grouped as primary or secondary mental healthcare). We also derived participants' socioeconomic deprivation index<sup>24</sup> according to their area of residency using their postcodes. Index scores range from 1 to 10 with higher scores indicating less deprivation and were grouped into very high deprivation (1–2), high deprivation (3–4), medium deprivation (5–6), low deprivation (7–8) and very low deprivation (9–10).

Participants' health records were inspected for consenting participants to obtain their SMI diagnosis, which was then categorised into psychosis-spectrum disorders (including schizophrenia, schizoaffective, or any other psychotic disorder), bipolar disorder, or other SMI (including participants who were eligible for OWLS on the basis of a psychosis or bipolar disorder diagnosis which was later changed in their health records to something different, as for example severe depressive disorder with psychotic features). For those not providing consent to access their records or insufficient identifiable information (e.g. name and date of birth), the diagnosis was coded as 'not recorded'. The 'not recorded' category is not reported in our preregistered plan but was added to retain in the analysis the 48 participants falling in this group.

### Analysis

Descriptive statistics are provided for each skills domain (Foundation, Skills for Life, or Skills for Work). For participants lacking a skills domain, we present descriptive statistics for the most commonly missing skill types and for interest in learning more about these skill types.

Association of sociodemographic, health, and digital access variables (independent variables) with having Foundation Skills were examined with a univariable binary logistic regression model before adding these variables into a hierarchical multivariable binary logistic regression. In the multivariable model, all independent variables were inserted at once, with sociodemographic and health variables inserted in the first block and digital access variables in the second block. Statistical significance was set a  $p < .05$ , and analysis was conducted with IBM SPSS 26.

Some of the preregistered analysis was not possible due to very low counts in the sample. Among people with Foundation Skills, only nine people reported having no Skills for Life (93.0%) and four working people reported having no Skills for Work (92.0%). As a result, we do not present any descriptive statistics for missing skill domains and interest in learning more among those who reported having no Skills for Work. We also did not explore which factors are associated with having Skills for Life or Work.

To test for response bias, we examined whether participants who accepted or declined our invitation to the SPIDER study differed in age, gender, ethnicity, socioeconomic deprivation, care setting, and diagnosis. Differences were examined with a chi-square test (or the likelihood ratio if test assumptions were violated), apart from age where we used an independent samples t-test instead.

## RESULTS

### Sample

We invited 315 adults with SMI to the SPIDER study and 249 (67.8%) participated. Those who accepted or declined the invitation did not differ in

terms of any of the examined sociodemographic characteristics (age:  $t(365) = -0.45$ ,  $p = .650$ ; gender: Likelihood Ratio (2) = 4.77,  $p = .092$ ; ethnicity:  $\chi^2(1) = 1.44$ ,  $p = .230$ ; deprivation:  $\chi^2(4) = 6.47$ ,  $p = .167$ ; care setting:  $\chi^2(1) = 0.63$ ,  $p = .429$ ; and diagnosis:  $\chi^2(3) = 6.07$ ,  $p = .108$ ).

Table 1 provides the sample characteristics. Participants had a mean age of 51.7 years old (range: 21–84), and the sample included 51.4% men, 46.6% women, 2% transgender, 15.6% people from other than White ethnic backgrounds and 44.6% who resided in high/very high deprivation areas. The primary diagnosis was psychosis-spectrum disorder (48.2%). The survey was completed online by 93 (37.3%) participants and over the phone or via the post by 156 (62.7%). Regarding digital access, 21.3% of the sample were non-users of the Internet, 12.4% did not own a digital device, 15.3% had no access to the Internet at home, and 11.2% had experienced data poverty.

### Essential digital skills

Table 2 presents the EDS framework descriptive results. Out of the total sample ( $n = 249$ ), 105 participants (42.2%) reported no Foundation Skills. They were unable to complete on average 3.64 ( $\pm 2.50$ ) tasks out of eight in total but were interested in learning more about on average 2.22 ( $\pm 2.80$ ) of them. The tasks that people who reported no Foundation Skills were most often unable to perform were updating and changing passwords (68.6%) and using the device settings to improve its usability (e.g. changing font sizes, screen brightness, and screen contrasts) (61.9%). The least frequent skill deficit was not knowing how to turn on a device (17.1%) (Figure 1).

Among those who reported having Foundation Skills ( $n = 142$ , 57.0%), almost everyone ( $n = 132$ , 93.0%) reported having Skills for Life. Among the few people that reported not having Skills for Life ( $n = 9$ ), five (55.6%) reported having no problem-solving skills, and four (44.4%) no Transacting Skills. No deficiency was reported in Communication, Handling Information,



## Measuring the digital divide among people with severe mental ill health using the essential digital skills framework

Table 1	
Sample characteristics (n = 249)	
Variable (valid N)	N (%)
Age (249)	
18–30	28 (11.2)
31–45	64 (25.7)
46–65	100 (40.2)
66+	57 (22.9)
Gender (249)	
Female	116 (46.6)
Male	128 (51.4)
Transgender	5 (2.0)
Ethnicity (249)	
Asian	14 (5.6)
Black	4 (1.6)
Mixed	11 (4.4)
White British	200 (80.3)
White (other)	10 (4.0)
Other	10 (4.0)
Socioeconomic deprivation (241)	
Very high	60 (24.1)
High	51 (20.5)
Medium	49 (19.7)
Low	43 (17.3)
Very low	38 (15.3)
In paid employed (248)	
Yes	61 (24.5)
No	187 (75.1)
Diagnosis (249)	
Bipolar disorder	83 (33.3)
Psychosis-spectrum disorder	120 (48.2)

*(Continued)*

and Being safe and legal online (0% were missing these skill types). Participants that reported not having Skills for Life were unable to complete on average 14.6 ( $\pm$  6.5) tasks out of 30 overall but were interested in learning more about 7.7 ( $\pm$  7.4) on average. Among those who reported having Skills for Life and were in paid employment (n = 50), almost everyone (n = 46, 92.0%) reported having Skills for Work.

Overall, 114 participants from the total sample (45.7%) did not have the EDS for daily life, lacking either Foundation Skills or Skills for Life. Among the working population in our sample (n = 61), 14 participants (23.0%) did not have the EDS for professional life, lacking either Foundation Skills, Skills for Life, or Skills for Work.

### Sociodemographic associations with foundation skills

A multivariable binary logistic regression model (Table 3) demonstrated that reporting having Foundation Skills was eight and four times more likely among the 18–30 and 31–45 age groups, respectively (compared to 66+), three times more likely among those in paid employment and four times more likely in those with a bipolar disorder diagnosis (compared to psychosis-spectrum). It was also found that participants with no Internet access at home were seven times less likely to report they had Foundation Skills.

### DISCUSSION

We assessed digital skills in a sample of people with SMI using the EDS framework. To our knowledge, this is the first time this benchmark measure of knowledge and skills has been applied to a sample of people who use mental health services. It is concerning that 42% (n = 105) had no Foundation Skills, lacking prerequisite knowledge to interact with digital technologies and benefit from their use. The most problematic areas were handling passwords and using device settings to improve usability. Older people, those not currently in work, those with a psychosis-spectrum disorder, and those with no Internet access at home were at greater

## Measuring the digital divide among people with severe mental ill health using the essential digital skills framework

Table 1 (Continued)

Sample characteristics (n = 249)	
Variable (valid N)	N (%)
Other SMI	16 (6.4)
Not recorded	30 (12.0)
Care setting (247)	
Primary care	95 (38.2)
Secondary care	152 (61.0)
Using the Internet	
A lot	137 (55.0)
Just a little	58 (23.3)
Not at all	53 (21.3)
Owning any digital device (245)	
Yes	214 (85.9)
No	31 (12.4)
Access to the Internet at home (246)	
Yes	208 (83.5)
No	38 (15.3)
Ever felt not having enough data? (248)	
Yes	28 (11.2)
No	177 (71.1)
N/A (Not using the Internet)	43 (17.3)

SMI: severe mental ill health.

risk of lacking Foundation Skills. More positively, among people who had Foundation skills, almost everyone had Skills for Life and Skills for Work.

Our results reveal a digital divide between our SMI sample and the general population. People with SMI in this study were twice as likely to experience a deficit in either Foundation or Life Skills (n = 114, 46.2%) compared to the general population (22%).<sup>22</sup> During the pandemic, this might contribute to inequalities of access to digital services, including but not limited to healthcare services, due to a lack of familiarity or confidence with technology.<sup>25</sup> More worryingly, these

inequalities might remain beyond the pandemic,<sup>26</sup> given that transition to digital healthcare might become a more mainstream option.<sup>20,27</sup> Combined with the fact that most people in our study owned a digital device (n = 214, 85.9%), this implies that access to digital devices on its own may do not mitigate digital exclusion and that many people may use their devices only for very basic things. This suggests that digital skills training programmes are needed, that will be tailored to the needs of people with SMI, to help close this gap (see, for example, Recovery Colleges at <https://imroc.org/resources/1-recovery-colleges/>).

It was interesting that fewer of the working people in this study experienced a deficit in skills necessary for work, lacking either Foundation or Work Skills (n = 14, 23%), compared to the general population (52%).<sup>22</sup> This could be a sampling issue in our study and might not be representative of the total SMI population. However, it may also be explained by the fact that employment is less common in people with SMI,<sup>28–30</sup> as shown by the 75.1% (n = 187) rate of unemployment in this study, and has been associated with younger age and higher educational attainment,<sup>29,31,32</sup> as well as less severe SMI symptoms.<sup>29,32</sup> All of these might help people to acquire good digital skills, and this may be directly linked with this study's finding that employed participants were more likely to have Foundation Skills compared to those not in employment. Future studies should explore Skills for Work among people with SMI who are unemployed, as an indicative factor of their employment prospects and potential learning needs. Researchers should also seek to understand the contribution of digital skills deficits to the high unemployment rates in people with SMI (e.g. most jobs advertised online), especially in relation to other employment barriers related to SMI (e.g. ill health or stigma).

Looking further into skills deficits, we found that people with no Foundation Skills struggled the most with handling passwords and using device settings. As such, as important as it is to provide people with digital devices to tackle access issues (as happened a lot during the pandemic),<sup>33</sup> this should be combined with training and support for using these devices. Moreover, creating and maintaining a password is imperative to access several online services (e.g. GP services, streaming platforms, online banking, and Government online services, to name a few), so that deficits in that area may adversely affect not only people's confidence in using these services but also to the security of their information. As these skills seem to be often missing in the general population as well,<sup>22</sup> it is important for future studies to explore the specific barriers the SMI population might face, and how to

## Measuring the digital divide among people with severe mental ill health using the essential digital skills framework

Table 2	
Essential digital skills framework	
	N (%)
Skills Domains	
Foundation Skills <sup>a</sup>	
Yes	142 (57.0)
No	105 (42.2)
Skills for Life <sup>b</sup>	
Yes	132 (93.0)
No	9 (6.3)
Skills for Work <sup>c</sup>	
Yes	46 (92.0)
No	4 (8.0)
Overall	
Essential skills for daily life <sup>a</sup>	
Yes (having Foundation AND Life Skills)	132 (53.4)
No (Lacking Foundation OR Life Skills)	114 (46.2)
Essential skills for professional life <sup>d</sup>	
Yes (Having Foundation AND Work Skills)	46 (75.4)
No (Lacking Foundation OR Work Skills)	14 (23.0)
<sup>a</sup> Out of total sample n=249. <sup>b</sup> Out of those having Foundation Skills, n=142. <sup>c</sup> Out of those being in paid employment and having Skills for Life, n=50. <sup>d</sup> Out of those being in paid employment, n=61.	

address these from a person-centered design perspective. Among the few people who had Foundation Skills but no Skills for Life, the greatest area of deficit was problem-solving skills. Evidence suggests that lack of problem-solving skills in general, not just digital, is a common cognitive deficit found in people with schizophrenia.<sup>34</sup>

We also found that people with no Foundation Skills were interested in learning more about half of the tasks they could not perform. Given that lack of interest is a commonly reported barrier to digital engagement,<sup>9</sup> this suggests that people with SMI might have the

motivation to learn new skills if appropriate support becomes available. Efforts to reduce the digital divide in the SMI population could include tailored training in digital skills along with confidence-building measures and measures to increase the motivation to address digital exclusion.<sup>13</sup> Reducing the digital divide has the potential to reduce health inequalities. Future studies should seek to consult with those with lived experience to explore motivation in beginning and sustaining digital skills training, preference for training mode and setting, as well as barriers to engaging with web-based resources specifically

related to SMI conditions (e.g. fluctuating levels of wellness, low energy and motivation, paranoid thoughts, suspiciousness and concerns about privacy and difficulty processing information;),<sup>35</sup> in order to develop accessible skills training programmes tailored to the needs of this population.

Older people in this study were less likely to have Foundation Skills, as also found in the general population.<sup>22</sup> This is unsurprising, as age is traditionally associated with less digital engagement in SMI<sup>14-16</sup> and the general population<sup>36,37</sup> alike. People with psychosis-spectrum disorders were at greater risk for not having Foundation Skills compared to those with bipolar disorder, after adjusting for people's age or employment status. This supports our previous findings that during the pandemic restrictions people with bipolar disorder were more likely to use the Internet a lot for their daily activities compared to people with psychosis.<sup>16</sup> Cognitive and occupational dysfunctions that are common in schizophrenia<sup>38</sup> might not facilitate the development of digital skills. It might also be that specific SMI-related barriers to digital engagement (e.g. reduced concentration, hallucinations, or paranoid ideas<sup>13,39</sup>) are more common in people with psychosis than bipolar disorder. Digital exclusion is becoming increasingly concentrated in vulnerable populations (including older people with SMI who are likely to be heavier users of healthcare services) leading to worse health outcomes through both direct and indirect routes.<sup>40</sup> The increasing use of digital technology in the delivery of health services will directly affect those who are digitally excluded as they will not be able to access services that could benefit them. This could range from accessing appointment booking systems to health-promoting services or applications, along with accessing video appointments. Given the current drive towards comprehensive digital healthcare within the NHS,<sup>20</sup> the importance of digital inclusion for health and social care should, and to some extent is, being acknowledged.<sup>41</sup> The particular needs and barriers experienced by people with SMI should inform this wider policy context.

## Measuring the digital divide among people with severe mental ill health using the essential digital skills framework

Figure 1

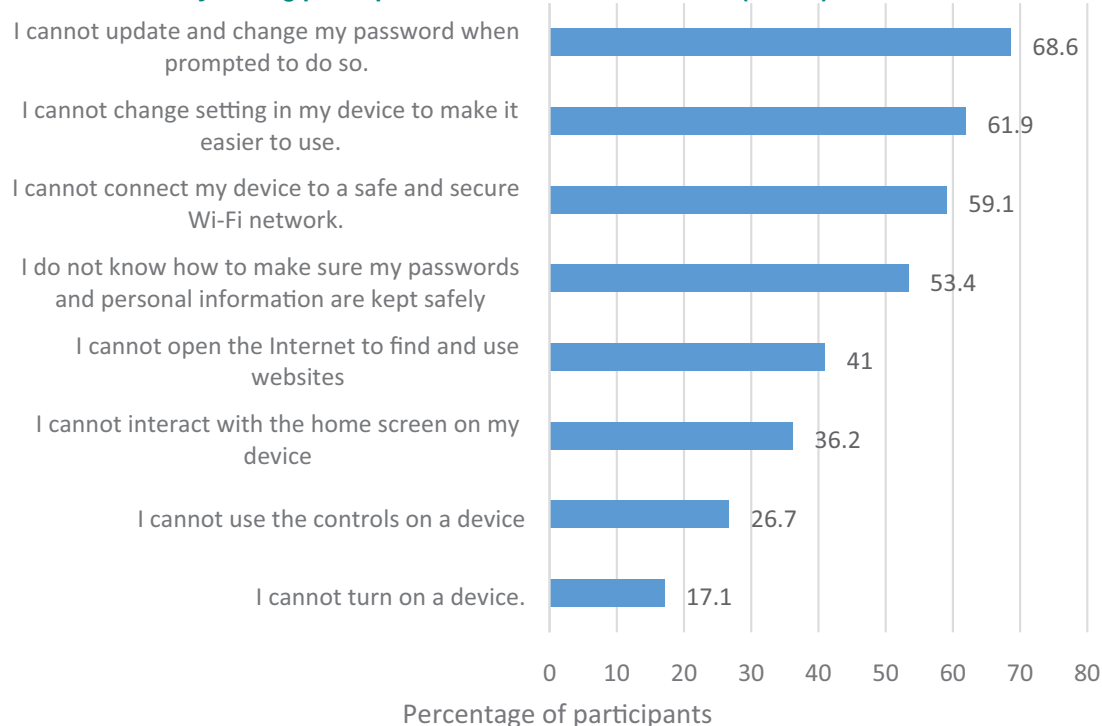
**Prevalence of skills deficiency among participants with no Foundation Skills (n = 105)**

Table 3

**Association of having foundation skills with sociodemographic and digital access variables**

Variables (Valid N)	Have foundation skills N (%)	Univariable model		Multivariable model (n = 229)	
		OR	95% CI	AdjOR	95% CI
Age (247)					
18–30	24 (85.7%)	10.29**	3.14–33.72	7.56*	1.75–32.66
31–45	45 (70.3%)	4.06**	1.90–8.68	3.60*	1.22–10.57
46–65	52 (53.1%)	1.94	0.99–3.78	1.93	0.75–4.97
66+	21 (36.8%)	1		1	
Gender (242)					
Male	74 (58.3%)	1.07	0.65–1.79	1.78	0.89–3.53
Female	65 (56.5%)	1		1	
Ethnicity (247)					
Other than White	22 (56.4%)	1.05	0.53–2.10	1.05	0.43–2.60
White	120 (57.7%)	1		1	

(Continued)

## Measuring the digital divide among people with severe mental ill health using the essential digital skills framework

Table 3 (Continued)

<b>Association of having foundation skills with sociodemographic and digital access variables</b>					
<b>Variables (Valid N)</b>	<b>Have foundation skills N (%)</b>	<b>Univariable model</b>		<b>Multivariable model (n=229)</b>	
		<b>OR</b>	<b>95% CI</b>	<b>AdjOR</b>	<b>95% CI</b>
Socioeconomic deprivation (239)					
Very high	29 (49.2%)	0.63	0.28–1.44	0.65	0.22–1.97
High	26 (52.0%)	0.71	0.30–1.66	0.44	0.14–1.36
Medium	34 (69.4%)	1.48	0.61–3.60	1.37	0.44–4.23
Low	24 (55.8%)	0.82	0.34–2.00	0.56	0.18–1.73
Very Low	23 (60.5%)	1		1	
In paid employment (247)					
Yes	50 (83.3%)	5.16**	2.47–10.79	2.67*	1.07–6.66
No	92 (49.2%)	1		1	
Diagnosis (247)					
Not recorded	19 (63.3%)	1.94	0.85–4.44	1.40	0.48–4.07
Other SMI	9 (60.0%)	1.69	0.57–5.04	1.43	0.40–5.17
Bipolar	58 (69.9%)	2.61*	1.45–4.71	3.67*	1.56–8.64
Psychosis spectrum	56 (47.1%)	1		1	
Care setting (245)					
Secondary care	86 (57%)	0.94	0.56–1.58	1.15	0.55–2.38
Primary care	55 (58.5%)	1		1	
Device ownership (243)					
No	2 (6.5%)	0.04**	0.01–0.16	0.26	0.04–1.70
Yes	138 (65.1%)	1		1	
Internet access at home (244)					
No	3 (7.9%)	0.04**	0.01–0.15	0.14*	0.03–0.70
Yes	137 (66.5%)	1		1	

OR: odds ratio; CI: confidence interval; SMI: severe mental ill health.  
\*p < .05, \*\*p < .001.

The SPIDER study is not free of limitations. The sample size may have been underpowered for the estimate of the logistic regression, but this analysis was exploratory. We used a non-random sample that might lead to respondent

biases and limited generalisability, although the use of a sampling framework increases our confidence that we were recruiting across a good spread of the SMI population. Skills were self-evaluated by participants rather than

completing objective tests. Self-evaluation might be susceptible to other fluctuating factors (e.g. current mood), as well as response and social desirability bias (e.g. n = 134, 53.8% of the sample completed the survey over the phone

## Measuring the digital divide among people with severe mental ill health using the essential digital skills framework

with a researcher). It should be noted though that organising objective tests, especially in the context of the pandemic restrictions, would present several practical challenges. Participants were also assessed on the basis of predetermined tasks, rather than personalised tasks related to the specific activities they want/need to complete in their everyday lives. However, that would affect the comparability of results across different populations and existing datasets. Regarding digital access, we did not examine whether the devices that people owned were current enough or had to be shared with other members of the household, as often happened during the pandemic.<sup>42</sup> Despite the high rates of device ownership in our sample, real unobstructed access might be undermined by obsolete technologies or multiusership. Finally, in this study, we examined generic digital skills rather than skills and factors that may be more pertinent to this population and their use of digital health services (e.g. e-health literacy, online help-seeking and service use), which should be considered in future research.

### CONCLUSION

This study highlighted deficits in digital skills in the SMI population that are worse than in the general population.

This might suggest that an already socially disadvantaged population is at risk for further exclusions due to digital skills deficits, as many health services and social connections have moved to digital platforms during 2020/2021. Importantly and worryingly, this includes vital health services many of which might continue to operate digitally into the future. Services including the NHS need to be aware and have a responsibility to actively and immediately accommodate those with SMI who would prefer face-to-face rather than online contact, and whose health will likely suffer through the digital divide. In addition, further funding is needed for research into a widely available, person-centred, accessible training programme, co-produced with end-users to identify and remove barriers related to lack of digital skills.

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Ethical approval for this study was granted by the Health Research Authority Northwest – Liverpool Central Research Ethics Committee (REC reference 20/NW/0276). Completing and returning the survey were considered implying consent to participate in the study.

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### SUPPLEMENTAL MATERIAL

Supplemental material for this article is available online.

### References

- Alfano V, Ercolano S. The efficacy of lockdown against COVID-19: a cross-country panel analysis. *Appl Heal Econ Heal Pol* 2020;**18**:509–17.
- May T. Lockdown-type measures look effective against covid-19. *BMJ* 2020;**370**:m2809.
- Chen S, Jones PB, Underwood BR *et al.* The early impact of COVID-19 on mental health and community physical health services and their patients' mortality in Cambridgeshire and Peterborough, UK. *J Psychiatr Res* 2020;**131**:244–54.
- Johns G, Tan J, Burhouse A *et al.* A visual step-by-step guide for clinicians to use video consultations in mental health services: NHS examples of real-time practice in times of normal and pandemic healthcare delivery. *BJPsych Bull* 2020;**44**:277–84.
- Johnson S, Dalton-Locke C, Vera San Juan N *et al.* Impact on mental health care and on mental health service users of the COVID-19 pandemic: a mixed methods survey of UK mental health care staff. *Soc Psychiatry Psychiatr Epidemiol* 2020;**56**:25–37.
- Mehta J, Yates T, Smith P *et al.* Rapid implementation of Microsoft Teams in response to COVID-19: one acute healthcare organisation's experience. *BMJ Health Care Inform* 2020;**27**(3):e100209.
- Nune A, Iyengar K, Ahmed A *et al.* Challenges in delivering rheumatology care during COVID-19 pandemic. *Clin Rheumatol* 2020;**39**(9):2817–21.
- Shah N, Thakrar A, Visvanathan S *et al.* Virtual online consultation platforms for secondary care: a review of the options. *BMJ Innov* 2021;**7**:135–40.
- Lloyds Bank. UK consumer digital index 2021, 2021. Available online at: <https://www.lloydsbank.com/banking-with-us/whats-happening/consumer-digital-index.html>
- Watts G. COVID-19 and the digital divide in the UK. *Lancet Digit Health* 2020;**2**(8):e395–6.
- Parliament Office of Science and Technology (POST). Developing essential digital skills, 2021. Available online at: <https://post.parliament.uk/research-briefings/post-pn-0643/>
- Spanakis P, Peckham E, Mathers A *et al.* The digital divide: amplifying health inequalities for people with severe mental illness in the time of COVID-19. *Br J Psychiatry* 2021;**219**(4):529–31.
- Greer B, Robotham D, Simblett S *et al.* Digital exclusion among mental health service users: qualitative investigation. *J Med Internet Res* 2019;**21**:e11696.
- Robotham D, Satkunanathan S, Doughty L *et al.* Do we still have a digital divide in mental health? A five-year survey follow-up. *JMIR* 2016;**18**:e309.
- Tobitt S, Percival R. Switched on or switched off? A survey of mobile, computer and Internet use in a community mental health rehabilitation sample. *J Ment Heal* 2017;**28**:4–10.
- Spanakis P, Heron P, Walker L *et al.* Use of the Internet and digital devices among people with severe mental ill health during the COVID-19 pandemic restrictions (Pre-print). *Medrxiv*. Epub 2021 June 21. DOI: 10.1101/2021.06.17.21259095.
- Dickerson F, Origoni A, Rowe K *et al.* Risk factors for natural cause mortality in a cohort of 1494 persons with serious mental illness. *Psychiatry Res* 2021;**298**:113755.
- Armitage R. Physical health checks for people with severe mental illness during COVID-19. *British J Gen Pract* 2021;**71**:171.
- Badcock JC, Adery LH, Park S. Loneliness in psychosis: a practical review and critique for

## Measuring the digital divide among people with severe mental ill health using the essential digital skills framework

- clinicians. *Clin Psych Sci Pract* 2020;**27**:e12345.
20. National Health Service (NHS). The NHS long term plan, 2019. Available online at: <https://www.longtermplan.nhs.uk/>
  21. Spanakis P, Heron P, Walker L *et al*. Skills and Proficiency in Digital Essential Requirements (SPIDER) – pre-registered analysis plan, 2021. DOI: 10.17605/OSF.IO/BS9TE.
  22. Lloyds Bank. UK Consumer Digital Index 2020, 2020. Available online at: [https://www.lloydsbank.com/assets/media/pdfs/banking\\_with\\_us/whats-happening/lb-consumer-digital-index-2020-report.pdf](https://www.lloydsbank.com/assets/media/pdfs/banking_with_us/whats-happening/lb-consumer-digital-index-2020-report.pdf)
  23. The Scottish Council for Voluntary Organisations (SCVO). Understanding and measuring essential digital skills, 2018. Available online at: <https://storage.googleapis.com/scvo-assets/test/digitalparticipation/documents/eds-measuring-understanding.pdf?version=0.0.29>
  24. Ministry of Housing Communities & Local Government. *English indices of deprivation*. London: Ministry of Housing Communities; 2019.
  25. Liberati E, Richards N, Parker J *et al*. Remote care for mental health: qualitative study with service users, carers and staff during the COVID-19 pandemic. *BMJ Open* 2021;**11**:e049210.
  26. Healthwatch England. Locked out: digitally excluded people's experiences of remote GP appointments, 2021. Available online at: <https://www.healthwatch.co.uk/report/2021-06-16/locked-out-digitally-excluded-peoples-experiences-remote-gp-appointments>
  27. Inkster B, O'Brien R, Selby E *et al*. Digital health management during and beyond the COVID-19 pandemic: opportunities, barriers, and recommendations. *JMIR Mental Health* 2021;**7**:e19246.
  28. Ajnakina O, Stubbs B, Francis E *et al*. Employment and relationship outcomes in first-episode psychosis: a systematic review and meta-analysis of longitudinal studies. *Schizophrenia Res* 2021;**231**:122–33.
  29. Holm M, Taipale H, Tanskanen A *et al*. Employment among people with schizophrenia or bipolar disorder: a population-based study using nationwide registers. *Acta Psychiatrica Scandinavica* 2020;**143**:61–171.
  30. Marwaha S, Durrani A, Singh S. Employment outcomes in people with bipolar disorder: a systematic review. *Acta Psychiatrica Scandinavica* 2013;**128**:179–93.
  31. Burke-Miller JK, Cook JA, Grey DD *et al*. Demographic characteristics and employment among people with severe mental illness in a multisite study. *Community Ment Health J* 2006;**42**(2):143–59.
  32. Fundora C, Cruz M, Barone K *et al*. Lifetime employment in schizophrenia: correlates of developing long term unemployment after being employed before. *Cogn Neuropsychiatry* 2021;**26**(2):95–106.
  33. All Parliamentary Group on Social Integration (APPG). Social connection in the COVID-19 crisis, 2020. Available online at: <https://ec.europa.eu/migrant-integration/sites/default/files/2020-06/Social-Connection-in-the-COVID-19-Crisis.pdf>
  34. Xia J, Li C. Problem solving skills for schizophrenia. *Cochr Datab Syst Rev* 2007;**2007**:CD006365.
  35. Arnold C, Williams A, Thomas N. Engaging with a web-based psychosocial intervention for psychosis: qualitative study of user experiences. *JMIR Mental Health* 2020;**7**:e16730.
  36. The Office of Communications. Adult's media use and attitudes, 2020. Available online at: <https://www.ofcom.org.uk/research-and-data/media-literacy-research/adults/adults-media-use-and-attitudes>
  37. National Health Service Digital (NHS Digital). Digital inclusion guide for health and social care, 2019. Available online at: <https://digital.nhs.uk/about-nhs-digital/our-work/digital-inclusion>
  38. Cowman M, Holleran L, Lonergan E *et al*. Cognitive predictors of social and occupational functioning in early psychosis: a systematic review and meta-analysis of cross-sectional and longitudinal data. *Schizophrenia Bull* 2021;**47**:1243–53.
  39. Schrank B, Sibitz I, Unger A *et al*. How patients with schizophrenia use the internet: qualitative study. *J Med Internet Res* 2010;**12**:e70.
  40. Health Education England. The topol review. Preparing the healthcare workforce to deliver the digital future, 2019. Available online at: <https://societyandethicsresearch.wellcomeconnectingscience.org/catalogue/the-topol-review-preparing-the-healthcare-workforce-to-deliver-the-digital-future-final>
  41. NHS Digital. Why digital inclusion matters to health and social care, 2019. Available online at: <https://digital.nhs.uk/about-nhs-digital/our-work/digital-inclusion/digital-inclusion-in-health-and-social-care#:~:text=In%20an%20increasingly%20digital%20world,the%20skills%20to%20use%20it>
  42. Child Poverty Action Group. The cost of learning in lockdown, 2021. Available online at: <https://cpag.org.uk/policy-and-campaigns/report/cost-learning-lockdown-family-experiences-school-closures>

# The impact of COVID-19 on the hot food takeaway planning regulatory environment: perspectives of local authority professionals in the North East of England

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## Abstract

**Aims:** Planning regulations have been used to prevent the over-proliferation of hot food takeaways, minimising the impact of local obesogenic environments. To help mitigate the effects of lockdown, the UK government introduced temporary changes in March 2020 to Planning Regulations for England, allowing food retailers to open for takeaway services beyond 'ancillary' level without needing to apply for planning permission through permitted development rights (PDR). Businesses are required to notify their local authority (LA) when they implement PDRs. To better understand the impact of regulations on the policy and practice of key professional groups, Public Health England commissioned Teesside University to undertake scoping research in the North East of England.

**Methods:** A focus group and interviews were conducted with 15 professionals from 7 of 12 North East LAs. Professions included Planners, Public Health Leads, Environmental Health Officers and Town Centre Managers. Data were analysed using a codebook thematic analysis approach. An interpretation meeting with some participants was conducted.

**Results:** LAs were not aware of most businesses notifying them of new regulation adherence despite taking up PDRs, but were considered low-priority with many lacking formal recording procedures. There were concerns about health consequences of the changes, and consensus relating to ongoing issues with capacity across all professional groups, largely due to the continuing pandemic and absence of a strategy out of temporary measures. Concerns existed around ensuring cessation of restaurants trading as takeaways, and hygiene inspections backlog. Many (personally) saw new takeaways as a lifeline, offering broader menus and preserving local economies.

**Conclusion:** Lack of information around the number of restaurants/pubs using PDR to trade as takeaway services, ongoing capacity issues of LAs and, at the time, the absence of a strategy post regulation changes, meant there were high levels of uncertainty regarding the impacts of these temporary measures.



## INTRODUCTION

Due to COVID-19, on 16 March 2020, people within the UK were urged to refrain from all non-essential contact and travel as a means of prevention of disease spread. As death rates from the disease continued to rise, the country was placed in lockdown and on 23 March, people were allowed only to leave their homes for essential reasons such as shopping and (once a day) exercise.

In response to the outbreak, the Communities Secretary announced that the government would be introducing temporary measures to relax planning regulations; this would allow pubs and restaurants to operate as hot food takeaways in order to support people having to stay at home.<sup>1</sup>

Prior to this, in order for businesses to operate as a hot food takeaway, they were required to formally carry out a change of use (under the Use Classes Order 1987). Relaxing the use class restrictions facilitated the change of use without the need for a planning application. It was stipulated that businesses were *required* to inform their local planning authority of a start and end date to the change in use – however, the form of that notification lack detailed prescription.

Introduction of these permitted development rights meant that businesses were free to switch between classes in order to meet the needs of the public while remaining in operation, albeit in a different capacity, that is, a restaurant could operate as a takeaway without planning permission. These rights were initially introduced for a period of 12 months (until March 2021).

There is substantive evidence of the wider link between urban planning and health.<sup>2</sup> It is also widely acknowledged that the food environment has a role in influencing obesity levels. Internationally, planning regulations have been used to manage food outlets, with a particular focus on restricting the over-proliferation of hot food takeaways and encouraging healthier food environments.<sup>3</sup> There has been a particular focus on the ‘toxic high-street’ effect, especially in areas of deprivation with high numbers of hot food takeaways, increased litter and anti-social behaviour.<sup>4</sup> A recent study

reported that both Planners and Public Health professionals perceived that planning policies could be used to tackle this issue around the proliferation of hot food takeaways to improve the health of local populations.<sup>5</sup>

In England the National Planning Policy Framework (NPPF)<sup>6</sup> sets out the government’s planning policies and how they expect them to be applied. The NPPF makes a number of policy statements relating to health, and in particular food access. For example, paragraph 91c states that planning policies and decisions should ‘enable and support healthy lifestyles, especially where this would address identified local health and well-being needs – for example access to healthier food’. Permitted developments are a general planning permission granted by government – unlike most planning permissions which are issued by local authorities (LAs). The principles underpinning permitted development is enshrined in national legislation – The Town and Country Planning (General Permitted Development) (England) Order 2015. The order is a ‘statutory instrument’ therefore it may be amended without parliament having to pass a new Act; and the 2015 order has indeed had many amendments since it was first issued, including those in 2020 that are the subject of this article.

In 2018, approximately 50% of local government areas in England had planning policies in place specifically targeting takeaway food outlets, and 34% of these had a health focus.<sup>7</sup> The most frequent health-related method applied is exclusion zones around places children and families visit frequently, such as schools.<sup>7</sup> The other common method applied is to limit the opening of new takeaway food outlets where numbers exceed previously established acceptable thresholds.<sup>7</sup> These thresholds can take different forms, such as limiting the number of takeaway outlets in consecutive succession, capping the proportion of fast-food outlets within a recognised retail space or restricting additional outlets where local childhood obesity rates are above a predefined ceiling.<sup>7,8</sup> Despite some of these

measures having been in place for a decade along with other obesity prevention interventions, childhood obesity across England has continued to increase, with children living in the most deprived areas being more than twice as likely to be obese than those living in areas of least deprivation.<sup>9</sup>

One possible explanation for the lack of progress in obesity rates is the large reductions in Local Government funding since 2010, potentially leading to a reduced provision of health-promoting public services. Funding reductions have been the greatest in more deprived areas, with these areas seeing the worst changes in life expectancy, increasing the gap between the most and least deprived quintiles by 3% to 4%.<sup>10</sup>

## Deprivation and the North East of England

The North East of England has long-term socio-economic challenges that developed throughout the 20th century and worsened in the wake of the deindustrialisation of the 1970s and 1980s, making it among the poorest regions in the UK. Like other poorer regions, the North East has tended to recover slowly from economic downturns which in turn have tended to widen long-run socio-economic disparities.<sup>11</sup> In this context, geographic health disparities have worsened over the past decade and the region has, for example, the lowest life expectancy at birth in England.<sup>12</sup>

As well as being more likely to have a shorter lifespan, those based in the North East spend a greater proportion of their lives in poor health, and are more prone to dying prematurely through preventable diseases.<sup>13</sup> The North of England includes roughly 50% of the poorest neighbourhoods despite only representing 30% of the population,<sup>12</sup> with the gap continuing to widen throughout the past five governments.<sup>13,14</sup> This inequality has equated to an estimated 1.5 million additional premature deaths since 1965.<sup>15</sup>

These inequalities were driven further by COVID-19. During the first wave, mortality rates were significantly higher, with 12.4 more people per 100,000 dying in the Northern Powerhouse cities.<sup>16</sup> Mortality

rates in care homes that were attributable to COVID-19 were higher in the North than the rest of England over a 1-year period, and there were 10% more occupied hospital beds by COVID patients in the North compared with the rest of England.<sup>17</sup> The UK economy also lost up to £5 billion in reduced productivity due to reductions in mental wellbeing across the North.<sup>15</sup> This disparity in productivity is expected to worsen for successive generations unless an adequate COVID-19 recovery strategy is implemented,<sup>15</sup> leading to a consensus among practice professionals and academics that research concerning the structural determinants of poverty should be prioritised to reduce health inequalities.<sup>18</sup>

There has been well-documented pressure on LAs as a result of the COVID-19 pandemic. The central government has provided some support but has said there is no blanket guarantee, with the National Audit Office reporting that the large funding gaps and low levels of reserves mean some authorities are at risk of financial failure.<sup>19</sup>

### COVID-19 response and changes to planning

Although temporary changes introduced in March 2020 allowed businesses to trade beyond the 'ancillary' level,<sup>20</sup> there was still a requirement to notify LAs of such changes. However, despite these regulations, conversations nationally with LA colleagues suggested that, in practice, this did not occur.

A regulatory impact assessment was not completed before the policy was implemented, and the explanatory memo accompanying the regulations stated that monitoring and evaluation would be unnecessary given the short-term nature of the regulations.<sup>21</sup> The explanatory memos both for the original temporary regulations and for when the policy was extended to 2022, do not identify the socio-economic and health impacts of the changes.<sup>21,22</sup> The only impact identified states 'The amendment in relation to the temporary provision of takeaway food will result in a benefit to owners of permitted venues as they will not need to apply to the local planning authority for this temporary use' with no mention of an

impact assessment apart from the procedurally related.<sup>22</sup>

Regulatory functions on the planning system are devolved to Scotland, Wales, and Northern Ireland. Although no new planning regulations were introduced, Scotland and Northern Ireland have taken similar stances to England via various letters to LAs encouraging them to take proportionate enforcement action given the exceptional circumstances of the pandemic. Wales did not state anything specific regarding pub/restaurants trading as takeaways, although they have granted greater flexibility regarding deliveries (see Table 1).

As recent as July 2021, it seemed that the Ministry of Housing Communities and Local Government (MHCLG)<sup>j</sup> was considering whether these changes should be permanent (see quote below), despite the incompatibility with public health NPPF objectives (as previously outlined) to promote healthier food consumption and a healthier weight. A recent speech by the then Secretary of State Robert Jenrick (Robert Jenrick – 6 July 2021 – Local Government Association's annual conference 2021) had hinted that these changes may be made permanent.<sup>26</sup> However, in an MHCLG and Ministry of Defence consultation document (5 September 2021), it was made clear that the temporary measures will not be extended.<sup>27</sup> Food outlets will be able to 'continue to operate a takeaway service as ancillary to their main business in the absence of this right'.

Surveys have indicated more people accessing takeaways during lockdowns, particularly as restaurants/pubs were not allowed to be open for on-site consumption throughout the changes in regulation.<sup>28</sup> There are concerns that this increased consumption in takeaway foods will become a habitual long-term shift in behaviour, especially if the temporary regulations are made permanent. These worries are exacerbated given the increased risk of complications from COVID-19 to people who are living with overweight and obesity.

Initially focusing on the North East of England (later aspects expanded to include all of England), the aims of this research were to explore the policy, practice and health implications of the

implementation of these measures with key professional groups within the context of Public Health England's (PHE's) recently updated childhood obesity plans (July 2020), where the environment and its impact on health has been recognised as complex and multifaceted.

### METHOD

Ethical approval was sought and granted from a Teesside University Ethics Committee (Ref: 2021 Feb 2740 Moore). Using a purposeful sampling strategy, we sought to recruit LA Public Health, Environmental Health, Planners and Town Centre Manager professionals from across the 12 North East LAs. Potential participants were contacted using professional networks (including RTPi and ATCM), word-of-mouth recruitment in authorities and direct emails sent using publicly available contact details. A focus group and six interviews were conducted between January and March 2021 (during the third National COVID-19 lockdown). The focus group with public health professionals was attached to the end of a standing meeting where all North East LAs are invited. All participants at the meeting were invited to attend the focus group. There was representation from 7 out of 12 LAs who were in attendance on that date.

In total we recruited 15 professionals including Planners, Public Health team members, Environmental Health Officers and Town Centre Managers, from across 7 of 12 North East LAs. Focus groups and interviews were undertaken by members of the research team (A.A.L., C.L.O.M., N.G., and C.B.), held online via Microsoft Teams, and lasted between 30–60 min. We tried several times to arrange additional focus groups, but it was understandably difficult due to these professionals being seconded to Covid-related work during the third national lockdown. Verbal consent was obtained, along with permission to record, prior to any conversations taking place.

Research questions used to direct conversation were co-developed with PHE colleagues (National and Regional)

Table 1

Responses across UK regions		
UK region	COVID-19 takeaway response	Date
England	'Restaurants and cafes, drinking establishments and drinking establishments with expanded food provision to temporarily provide takeaway food'. <sup>20</sup>	24/03/20
Scotland	'... Scottish Government consider that, as a matter of urgency, planning authorities should not seek to undertake planning enforcement action which would result in unnecessarily restricting public houses and restaurants providing takeaway services on a temporary basis during the current exceptional circumstances'. <sup>23</sup>	19/03/20
Northern Ireland	'provide vital flexibility to public houses, restaurants and cafes to keep operating and will ensure people are able to safely stay at home while still supporting local businesses'. <sup>24</sup>	19/03/20
Wales	'There are supermarkets, food retailers and distribution centres that are subject to planning conditions which restrict night-time and early morning deliveries . . . The likely pressures on driver capacity mean additional flexibility is needed so retailers can accept deliveries throughout the day and night where necessary'. <sup>25</sup>	13/03/20

to understand the wider health implications of the new amendment, including how and where the new regulations are being used, plus the number of pubs and restaurants now intending to operate as takeaways.

The questions (below) focused on the perceptions and scale of the temporary changes to planning regulations on the hot food takeaway environment in LA areas within the North East of England.

1. What are the perceived consequences of these temporary regulations on existing national and local planning approaches to managing the hot food takeaway environment?
2. What are the perceived consequences of these temporary regulations on existing national and local priorities on tackling obesity through managing the hot food takeaway environment?
3. What data exist on the take-up of the new regulations and are businesses reporting these changes to LAs?

A survey, using similar questions to those asked in both the focus group and interviews (hosted at [onlinesurveys.ac.uk](https://onlinesurveys.ac.uk)) was sent to all 12 LAs in the North East region and was then widened to all of England to maximise number of

respondents. All 12 North East LA websites were also searched systematically for any publicly available information regarding the temporary regulations. Data from the focus group, interviews and survey responses were analysed using a codebook thematic analysis approach.<sup>29</sup> Descriptive themes were constructed based on similarities identified within the data and refined by means of researcher discussion and consensus.

Following analysis, all participants were invited to an interpretation meeting. This was conducted via Microsoft Teams using Padlet (a digital tool), to present themes, to verify findings and identify any discrepancies or information that may have been overlooked. From here, data were reviewed, and a final set of themes offered, which provide meaning and represent participant experiences and perceptions surrounding the changes in regulations.

## RESULTS

A range of professionals were included in this research from Planners, Public Health team members, Environmental Health Officers and Town Centre Managers.

The perceived consequences of these temporary regulations on existing national and local planning approaches to managing the hot food takeaway

environment varied from it having a discernible impact to it having no impact once COVID-19 restrictions were lifted and the temporary measures removed. Regarding the consequences of this temporary measure on tackling obesity, the professionals were concerned that there would be a negative impact on the proliferation of hot food takeaways as a result of this temporary measure and an impact on population rates of obesity. In contrast, others did not perceive there would be an impact. Despite the requirement for businesses to register with LAs, there were little data available on numbers of businesses who had taken up these temporary measures and little evidence of a mechanism by which businesses could register. The results are synthesised around key themes emerging from all the data (focus group, interview, survey, and web-search).

### Professional capacity and notification of business change

There were concerns about the future implications of these measures, as (at the time of the data collection) there was no clear road map for LAs out of these temporary measures. In addition, there was general uncertainty about when professionals would be reverting to their original professional roles following COVID-19 measures (many

were working on Covid-related issues). There was concern about increased capacity and resources which would be required to monitor the changes to pre-pandemic trading operations. Responses suggested there were substantial ongoing issues with capacity across all professions in LAs, heightened by the pandemic. However, this is predominantly due to the response to COVID-19 more broadly, rather than these regulations. Alongside the new regulations were new food environment developments, for example, an increase in takeaways trading from home kitchens. There were concerns regarding the situation post regulations as to who (professional group) is responsible for ensuring restaurants stop their additional trade as takeaways as well as the backlog of food hygiene inspections, as illustrated by the quote below:

*I don't know who's going to go around determining all these businesses that didn't have takeaway permissions. And, I think the businesses will continue to do it, and I don't know how planning are going to have the resources to go around finding out who is and who isn't. It's very hard to prove 'cos they were always allowed to do a little bit of takeaway.*

There was consensus through the interviews and focus group that small businesses are benefitting significantly from the temporary changes, given many large businesses already had the capacity via delivery services.

The conditions of the Amendments to the Town and Country Planning (General Permitted Development) (England) Order 2020 included notifying the local planning authority.<sup>20</sup> Most businesses were not informing their LA of their uptake of the new regulations. There did not appear to be a formal consistent procedure for notifying LAs (e.g. there was a web-based form used by Plymouth LA). In relation to other Covid issues, the notification of uptake of the new regulations was considered a low-priority issue by most LAs and it was unclear who was responsible. Survey results demonstrated that there was no

consistency in awareness of whether LAs were recording businesses giving notifications regarding their intentions to operate as a takeaway in light of regulatory changes (2 LAs were aware of such intentions, 2 were not, and the remaining 3 were unsure) (see Figure 1).

Web-searches of the 12 North East LA websites did not indicate a clear procedure for businesses to notify planning departments. It was unclear and there were no clear records of how many LAs are recording the number of businesses who had taken up these temporary measure England wide (small sample) and across the 12 North East LAs.

### Procedural implications

There was a consensus that the COVID-19 pandemic had meant that staff were redeployed within LAs. This was perceived to have had an impact on usual operations, which combined with the absence of a strategy out of these temporary measures (at the time of data collection) led many to raise concerns. These included responsibility for ensuring restaurants stop trading predominantly as takeaways once the regulations revert (March 2022). There was a particular concern around dealing with the backlog of food hygiene inspections. The survey demonstrated that respondents, dependent upon their profession, had differing perspectives on impact of the regulatory changes depending on their role within the LA (Planning, Public Health and Environmental Health Officers). From the focus group, interviews and survey, most businesses across the North East were not informing their LA of their intentions to take up the temporary change in regulations. There were no procedural changes regarding applications for new hot food takeaways. See Figure 2 for further details around the temporary regulations and staff capacity.

### Professional perceptions of hot food takeaways

Professional perceptions of takeaways had not changed (perceived to offer unhealthy, high fat/high sugar/high salt foods). However, on a personal level some respondents described the new

takeaway option as a lifeline to local businesses. It was perceived that by offering broader menus and widening consumer choice, community needs could be met, the local economy protected, and the local high street preserved. However, there was an acknowledgement that the COVID-19 pandemic had highlighted changing consumer behaviours in terms of increased takeaway food consumption. There were concerns the increased and broader use of takeaways could become habitual. This could change the local food environment if hospitality businesses, including restaurants, closed as a result of COVID-19 impacts and there is an increased proportion of takeaways. This could to some effect 'undo' progress made in reducing hot food takeaways, as evidenced by the below quote:

*it goes against some of the progress we've made in terms of trying to reduce the proliferation, ...of the hot food takeaways, obviously a little bit different, but you know linking with the SPDs [Supplementary Planning Documents] and so much progress that we've made in that area.*

Figure 3 highlights other consequences highlighted by respondents, of the temporary measures such as concerns around food hygiene and waste.

Within the group of professionals there were mixed opinions regarding consequences on managing the takeaway food environment, health inequalities and obesity; some are concerned about the potential increased prevalence of takeaways, others are not convinced the new regulations will have made a significant difference to consumer behaviour, illustrated by the quote below and further described in Figure 4:

*... in terms of the increase in takeaways and availability, I don't know if it will ... exasperate that kind of health inequality and the divide already in terms of healthier choices in what is available.*

Figure 1

**Are local authorities collecting data on the take-up of new regulations?**

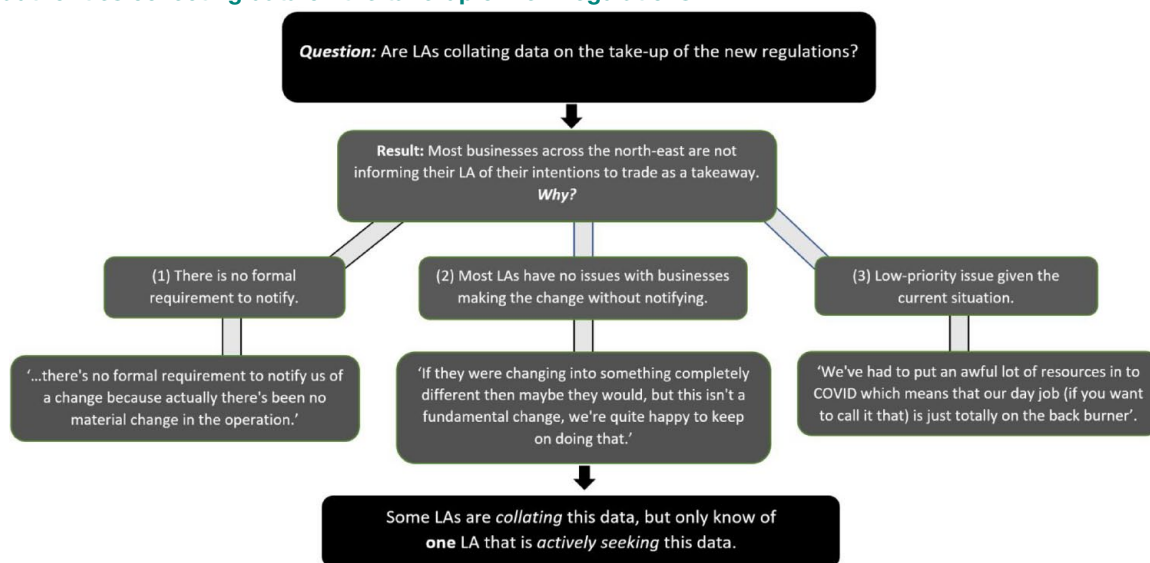
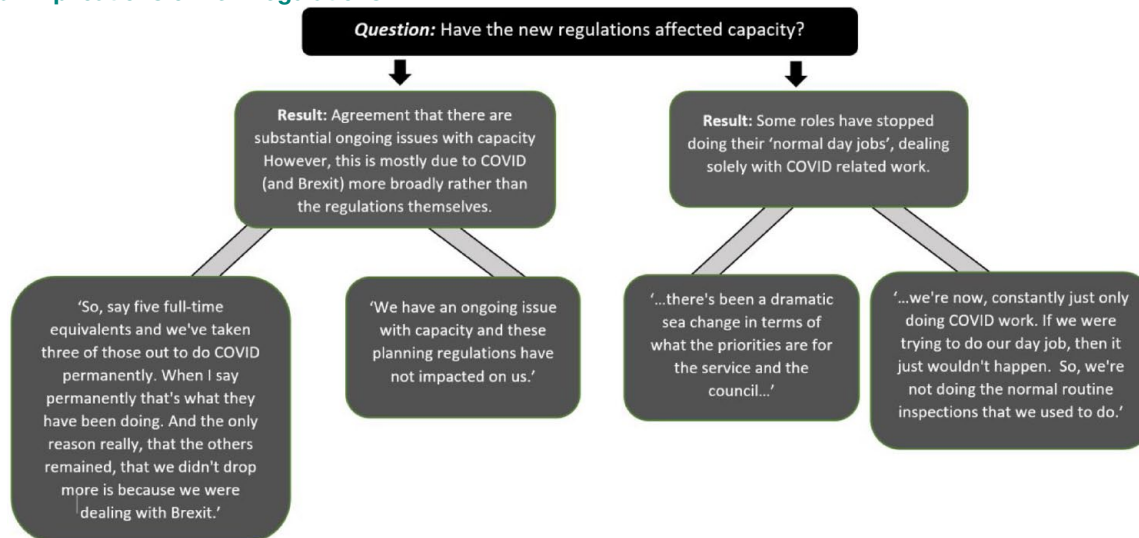


Figure 2

**Procedural implications of new regulations**



**DISCUSSION**

This research suggests that there was a significant impact of COVID-19 crisis on LAs and professionals' usual roles. This also impacted the professionals dealing with the new temporary changes to Planning Regulations for England allowing food retail (e.g. pubs/ restaurants) to be open for takeaway services beyond 'ancillary' level. Despite

legislation requiring certain hospitality businesses to register their intention to trade as providing additional takeaway services there was little evidence that authorities had set out formal procedures to receive such notifications or had plans to enforce the regulations. There was clear concern that these temporary measures and possible proliferation of hot foot takeaway outlets

could become permanent and in turn impact LA public health efforts through the planning systems at a time when LA capacity is clearly stretched.

The recent speech by the then Secretary of State Robert Jenrick (July 2021) clearly implied a move to extend this temporary regulation without any impact assessments being conducted.<sup>26</sup> However in September 2021, the

Figure 3

**Consequences of the new regulations**

**Question:** What are the consequences of the new regulations?

**Result:** Concern for the situation post regulations.

'...just in terms of monitoring from 2022, what are the expectations and working with all those businesses that haven't notified their local authority, we're not even aware of, and they'll be masses in terms of getting them in the right position going forwards.'

**Result:** Worries regarding food hygiene.

'...there's an awful lot of this going on that we don't know about...I think there's people diversifying who may well not have the skills that they should have to do these businesses...it's quite easy to set up a food business, you just fill a registration form in. Without any skills or training, competence in what you're actually making in terms of, it's all to do with public health aspects isn't it, make sure you don't food poison anybody.'

**Result:** Insurance Issues.

'...we know from our police colleagues that they're stopping lots of vehicles that don't have insurance, to do deliveries. Because.... a lot have been stopped for having no business insurance.'

**Result:** Waste Issues.

'There's a lot of businesses who have stopped having their waste collected, because they're struggling, and although they're operating as takeaways, waste services have gone along, and the bills haven't been paid 'cos they've stopped them. But they're still generating waste from the takeaways.'

Figure 4

**Changes in professional perceptions of takeaways**

**Question:** Have professional perceptions of takeaways changed during the pandemic?

**Result:** Overall consensus that professional perceptions have not changed.

'...in the main they're still the big bad food environment that we are fighting against.'

'To us we just, accept them as the same business which have slightly changed their method of operating.'

**Result:** Anticipate most businesses will return to normal post lockdown.

'Most restaurants did a takeaway service pre lockdown, it just wasn't used that much. We anticipate that after lockdown most will return to their previous way of working.'

'I'd imagine once things go back to normal that, they will go back to the normal function of just being a restaurant or a pub.'

**Result:** Biggest concerns are with new businesses trading as a takeaway from home.

'They're doing it from home that's another classic which is the new thing that kinda popped up, people deciding to do weird and wonderful things from home. Which obviously, that's where our risk is and that's where our attention has been during the pandemic is to look at the new stuff, anything that's really changed.'

On a *Personal* level, some see the new takeaways as a lifeline, offering a broader (sometimes healthier) menu, & valuable from an economic viewpoint.

Box 1.	
Key research and policy recommendations from this work	
1	Stakeholders considering the need to monitor the uptake of the new regulations versus the impact on the local economy.
2	Consideration of ongoing issues about the revitalisation and diversification of highstreets. This includes the supporting economic recovery which could potentially see an increase in takeaways filling vacant retail properties.
3	It is unclear how many businesses have taken up these new regulations. It would be useful to collate this information England-wide.
4	Propose a clear and transparent plan to move out of these temporary regulations which is driven by local resources, is achievable and aligns with the easing of COVID-19 restrictions.

Ministry of Housing, Communities and Local Government stated these regulations would not be extended beyond March 2022.<sup>27</sup>

This regional research illustrates an on-going tension between LAs’ commitment to health and their serious concerns about their local economies, heightened by the impact of COVID-19. Councils were stretched (financially and staffing capacity) going into the crisis and have not had the capacity to plan beyond it.<sup>19</sup> On one hand, professionals are concerned about statutory duties including public health and regulating a large backlog of hot food takeaway providers who have been operating for well over a year. On the other hand, simultaneously, Councils are fearful about the long-term impact of the crisis on employment and incomes and an acceleration of difficulties faced on their high streets.

Planning is a long-standing local government responsibility while public health is a relatively new (since 2013) addition to the portfolio. The relationship between Planning departments and Public Health teams differs across LAs and is not always clear. This was evident in the focus group and interviews as well as in previous research.<sup>5,30</sup> Within Local Government, Councils have discretion over their own internal structures but like many large organisations will usually be made up of several directorates that group together related public service areas. In this context, Planning typically sits alongside Housing, Environmental services, and Economic Development in ‘place’ focused directorates, while Public

Health is more likely to be aligned with ‘people’ services such social care.

**Limitations**

This research was conducted within a 3-month period (Jan–March 2021) while a third national lockdown was in place due to the COVID-19 pandemic. There are several limitations to the methods. Due to the added pandemic-related pressure, there were issues in liaising and contacting professionals working within LAs. The work was time limited and geographically limited to the North East of England (apart from the national survey). Some findings may not be nationally transferable. There was a low response rate to the national online survey (7 responses nationally) which may be attributed to survey fatigue during the COVID-19 pandemic and there being an ongoing pandemic situation. While this research focuses on professionals, there is ongoing research with consumers in the North East on their perceptions of these temporary changes and eating food prepared outside the home and during the pandemic.

**CONCLUSION**

To help combat the potential economic and social impacts of lockdown in March 2020, temporary regulations were introduced allowing pubs and restaurants to operate beyond ‘ancillary’ level without the need to apply for planning permission. Due to the uncertainty around the number of hot food outlets operating as takeaways, the ongoing LA capacity issues and, until recently, an

absence of a clear strategy to exit these temporary regulations, there were high levels of concern among LA professions in the North East. The impact these temporary measures will have on the food environment, influencing food access and population-level public health. There were apprehensions about the implication an increase in the availability of hot food takeaways could have for dietary intake and levels of obesity. There were concerns that these changes will have negative impacts on the work done over the last 10 years to reduce the proliferation of hot food takeaways within the food environment. However, acknowledgements have been made that these temporary measures have enabled small businesses (as well as larger ones) to continue trading under very difficult circumstances and have had a positive impact on local communities. See Box 1 for a summary of research and policy recommendations from this work.

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## NOTE

- i. As of September 2021, MHCLG has been renamed as the Department for Levelling Up, Housing and Communities (DLUHC).

## References

- Ministry of Housing, Communities & Local Government. *Government to Grant Permission for Pubs and Restaurants to Operate as Takeaways as Part of Coronavirus Response*. Available online at: <https://www.gov.uk/government/news/government-to-grant-permission-for-pubs-and-restaurants-to-operate-as-takeaways-as-part-of-coronavirus-response>
- McKinnon G, Pineo H, Chang M *et al*. Strengthening the links between planning and health in England. *BMJ* 2020;**369**:m795.
- Lake AA. Neighbourhood food environments: food choice, foodscapes and planning for health. *Proc Nutr Soc* 2018;**77**(3):239–46.
- Townshend TG. Toxic high streets. *J Urban Design* 2017;**22**(2):167–86.
- Keeble M, Burgoine T, White M *et al*. Planning and public health professionals' experiences of using the planning system to regulate hot food takeaway outlets in England: a qualitative study. *Health Place* 2021;**67**:102305.
- Ministry of Housing, Communities & Local Government. *National Planning Policy Framework (NPPF)*, 2019. Available online at: <https://www.gov.uk/government/publications/national-planning-policy-framework-2>
- Keeble M, Burgoine T, White M *et al*. How does local government use the planning system to regulate hot food takeaway outlets? A census of current practice in England using document review. *Health Place* 2019;**57**:171–8.
- Gateshead Council. *Hot Food Takeaway Supplementary Planning Document 2015*. Available online at: <https://www.gateshead.gov.uk/media/1910/Hot-Food-Takeaway-SPD-2015/pdf/Hot-Food-Takeaway-SPD-2015.pdf?m=637352529428730000>
- NHS. *National Child Measurement Programme, England 2019/20 School Year 2020*. Available online at: <https://digital.nhs.uk/data-and-information/publications/statistical/national-child-measurement-programme/2019-20-school-year>
- Alexiou A, Fahy K, Mason K *et al*. Local government funding and life expectancy in England: a longitudinal ecological study. *Lancet Public Health* 2021;**6**(9):e641–7.
- Gardiner B, Martin R, Sunley P *et al*. Spatially unbalanced growth in the British economy. *J Econ Geogr* 2013;**13**(6):889–928.
- Corris V, Dormer E, Brown A *et al*. Health inequalities are worsening in the North East of England. *Brit Med Bull* 2020;**134**(1):63–72.
- Bambra C. *Health divides: where you live can kill you*. Bristol: Policy Press; 2016.
- Bambra C, Barr B, Milne E. North and South: addressing the English health divide. *J Public Health* 2014;**36**(2):183–6.
- Whitehead M, Doran T. The North-South health divide. *BMJ* 2011;**342**:d584.
- Bambra C, Munford L, Alexandros A *et al*. *COVID-19 and the Northern Powerhouse: Tackling Inequalities for Health and Productivity*, 2020. Available online at: <https://eprints.ncl.ac.uk/271413>
- Munford L, Khavandi S, Bambra C *et al*. *A year of COVID-19 in the North: regional inequalities in health and economic outcomes*. Newcastle upon Tyne: Northern Health Science Alliance; 2021.
- Addison M, Kaner E, Johnstone P *et al*. Equal North: how can we reduce health inequalities in the North of England? A prioritization exercise with researchers, policymakers and practitioners. *J Publ Health* 2018;**41**(4):652–64.
- National Audit Office. *Local Government Finance in the Pandemic*, 2021. Available online at: <https://www.nao.org.uk/report/local-government-finance-in-the-pandemic/>
- Ministry of Housing, Communities and Local Government (MHCLG). *The Town and Country Planning (General Permitted Development) (England) (Amendment) Order 2020. No. 330*. Available online at: <https://www.legislation.gov.uk/ukksi/2020/330/made>
- Ministry of Housing, Communities and Local Government (MHCLG). *The Town and Country Planning (General Permitted Development) (England) (Amendment) Order 2020. No. 330 – Explanatory Memorandum*. Available online at: <https://www.legislation.gov.uk/ukksi/2020/330/memorandum/contents>
- Ministry of Housing, Communities and Local Government (MHCLG). *The Town and Country Planning (General Permitted Development) (England) (Amendment) Order 2020. No. 1243 – Explanatory Memorandum*. Available online at: <https://www.legislation.gov.uk/ukksi/2020/1243/memorandum/contents>
- Building, planning and design, Coronavirus in Scotland. *Coronavirus – Relaxation of Enforcement Where Public Houses and Restaurants Offer a Takeaway Service: Chief Planner Letter March 2020*. Available online at: <https://www.gov.scot/publications/coronavirus-covid-19-relaxation-of-enforcement-where-public-houses-and-restaurants-offer-a-takeaway-service-during-the-current-outbreak-chief-planner-letter-march-2020/>
- Department for Infrastructure. *Mallon Relaxes Drivers' Hour's Rules and Provides More Flexibility for Takeaway Services*. Available online at: <https://www.infrastructure-ni.gov.uk/news/mallon-relaxes-drivers-hours-rules-and-provides-more-flexibility-takeaway-services>
- Welsh Government. *Corona Virus COVID 19 – Relaxations of Enforcement of Conditions Relating to Retail Distribution*. Available online at: <https://gov.wales/sites/default/files/publications/2020-03/coronavirus-covid-19-planning-conditions.pdf>
- Ministry of Housing, Communities & Local Government. *Local Government Association Annual Conference 2021: Secretary of State's Speech*. Available online at: <https://www.gov.uk/government/speeches/local-government-association-annual-conference-2021-secretary-of-states-speech>
- Ministry of Housing, Communities & Local Government, Ministry of Defence. *Supporting Defence Infrastructure and the Future of Time-Limited Permitted Development Rights*. Available online at: <https://www.gov.uk/government/consultations/supporting-defence-infrastructure-and-the-future-of-time-limited-permitted-development-rights/supporting-defence-infrastructure-and-the-future-of-time-limited-permitted-development-rights#future-of-temporary-permitted-development-rights>
- O'Connell M, Smith K, Stroud R. *The Dietary Impact of the COVID-19 Pandemic*, 2021. Available online at: <https://ifs.org.uk/publications/15503>
- Braun V, Clarke V. One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qual Res Psychol* 2021;**18**(3):328–52.
- Lake AA, Henderson EJ, Townshend TG. Exploring planners' and public health practitioners' views on addressing obesity: lessons from local government in England. *Cities Health* 2017;**1**(2):185–93.