RESEARCH

Why we Need a Gender Advisor on SAGE

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The UK government has largely failed to consider gender in its COVID-19 response, despite the many and varied differential impacts of policy interventions on women and men. Since government policy is informed by the advice ministers receive, we sought to understand whether and how gender had been considered by the UK government’s COVID-19 Scientific Advisory Group on Emergencies (SAGE). This paper uses two forms of policy analysis to assess 73 SAGE meeting minutes and background documents for 1) the explicit references to sex and/or gender, and 2) references to issues evidenced in the literature to be gendered, to understand whether the gendered implications of policy were considered. We find that the acknowledgement of the gendered dynamics of particular issues, such as school closures and feminised (or masculinised) employment sectors, were largely absent in SAGE meeting minutes and that explicit references to women were largely of a biological (sex) nature, rather than social (gender). Over time we saw increased references to the gendered impacts of policy in meeting background documents, though these references largely reproduced gendered stereotypes and roles rather than actively engaging with the gender issues. However, not all blame can be put at the feet of SAGE members, who did show awareness of equity issues and were predominantly epidemiologists and behavioural scientists likely untrained in gender analysis. SAGE members are selected based on the government’s framing of the type of emergency at hand, and COVID-19 has been treated by the government as an epidemiological emergency, rather than a social, political and economic one. We argue that reframing emergencies like the COVID-19 pandemic in a more holistic way enables us to redefine the scientific advice deemed necessary for SAGE membership, and facilitates the inclusion of gender advisors to mitigate the downstream gendered impacts of non-pharmaceutical interventions associated with the government’s COVID-19 response.

Keywords: Scientific advisory group on emergencies; COVID-19; gender; expert advice; emergencies

Introduction

The UK government has consistently failed to consider gender in its response to Covid-19, despite the fact men and women have been affected in distinct ways. Men have been disproportionately infected with the virus [1], while women have been disproportionately affected by the policies introduced to inhibit disease transmission [2]. As has been the case in previous outbreaks [3–5], women have suffered from the consequent effects of epidemics.

During COVID-19, women have disproportionately performed paid work on the frontlines of the pandemic. Of the NHS workforce, 77% are women [6], a number that increases to 90% if including the social care workforce. Working on the Covid-19 frontlines has required long, gruelling work conditions in full PPE (assuming it is even available) and has imposed a mental toll through working with infected and dying patients. The challenge has been exacerbated further by the fact that many have changed their domestic arrangements to reduce the risk of exposing their families to infection [7, 8]. Women have also absorbed the unpaid work associated with COVID-19 social changes: as schools and offices have closed, there has been an increased domestic workload within households. This includes, but is not limited to, home-schooling, additional cooking, and additional cleaning, alongside the mental load of it all. Numerous data sources have demonstrated that while men’s unpaid labour has increased compared to their baseline during the pandemic, women’s unpaid labour has grown significantly more [9, 10]. What’s more, women also appear to have absorbed much of the non-developmental work in the household (what needs to happen to keep everyone alive—cooking, cleaning, washing), compared to the developmental care (such as playing games or learning with children), compounding household bargaining disparities [11]. Women tend to assume these social roles for three main reasons: firstly, social gender norms that continue to prevail in UK society mean women typically assume more domestic labour within dual parent households; secondly, the gender pay-gap dictates that when parents are making decisions as to which parent remains working in paid employment and which parent reduces paid employment to assist with their children’s care,
it tends to be the higher earner—most often the man—who continues to work [12]; and finally, women have disproportionately been furloughed or made redundant during the pandemic [9], meaning that they are available to take on the additional unpaid labour. This latter instance is due to the interaction between the sectors of the economy that have been shut down by government order and highly feminised employment patterns [13].

Beyond changes to labour, women have been affected by increasing rates of domestic violence, with proxy indicators suggesting soaring rates of violence and femicide [15]; women have also suffered from the need to redirect health service resources towards COVID-19. As NHS services have been rationed, moved online, or been cancelled, maternity and sexual reproductive health services have been acutely affected [16]. This has left women feeling less confident throughout the course of their pregnancies and has seen concerning trends of poorer birth outcomes start to emerge [17].

Given that government policy reflects what information ministers are given, we sought to understand whether and how the government had taken gender into account. The Scientific Advisory Group for Emergencies (SAGE) is the group of experts that advise the government on scientific and technical aspects of emergency response and recovery [18]. Selected by the SAGE Secretariat, led by the chief medical officer (CMO) and chief scientific officer (CSO), participants are chosen based on their expertise in areas the Secretariat deems to be necessary for mounting a robust response to a crisis, such as the COVID-19 pandemic; what is necessary typically depends on how the government defines the crisis. The government’s definition of the COVID-19 crisis focused on its epidemiological nature and the need to move towards ‘herd immunity’ through vaccinations while also finding ‘some way to shield the most vulnerable’ [19]. This narrow epidemiological approach, by definition, excluded broader social considerations, including gender, from SAGE’s ambit, despite recognition of the need for social science to be engaged in any epidemic response, as shown during the Ebola outbreak in West Africa [20].

This speaks to a broader issue within the politics of evidence, which is whose voices matter and what is considered to be necessary evidence [21, 22], as well as the politicisation of the expert selection process, with experts selected because their views accord with the government’s desires, rather than because of the rigour of their analysis [23]. Compounding this was the fact that those invited into the room were circumscribed in what advice they could provide. It was assumed by members of the SAGE that issues beyond their remit concerning ‘operational matters such as testing, protective equipment, and respirators, or the need to check on care homes… were being addressed’ elsewhere by government [24]. Thus, in analysing the content of SAGE advice and its interrelation with the gendered effects being experienced, we also need to consider the limits of SAGE’s mandate and what should be occurring elsewhere in the government response, such as through the Minister for Women and Equalities or the Government Equalities Office. However, given the prominent role that SAGE has played in producing evidence on which the government bases its policy decisions, and the repeated claims that the government is ‘following the science’, we sought to understand whether gender had ever been a feature of this advice and if not, whether this contributes to No 10’s failure to consider gender within its policy response.

Methods
We analysed SAGE minutes related to the COVID-19 crisis from 22 January to 22 December 2020. We conducted two forms of policy analysis to understand the gender considerations within these SAGE documents. The first was to search for explicit reference to sex and/or gender. This comprised searching for the following express mentions: women; woman; man; men; male; female; gender; pregnant, and sex. The second step was to look for gendered issues and where the implications for gender had not been acknowledged or considered as such, arising through a gender-blind advisory process. This involved a careful reading of all minutes, looking for issues that we know to be inherently gendered within UK society and those which have been already identified as gendered by the growing literature on gender and COVID-19. This includes, but is not limited to, issues relating to care, healthcare workers, schools, childcare, education, sex-disaggregated data, domestic violence, care homes, social care, and other sectors of the economy that are heavily feminised (or indeed masculinised). To ensure that we didn’t miss other contributions to SAGE analysis, for those SAGE meetings in which we found explicit and/or unacknowledged gender considerations, we also included in our analysis all the meeting documents provided for that session. This was to allow us to understand whether gender issues had been raised but not carried through into the consolidated advice given to government. Finally, we categorised each of these appearances into gendered themes: education, sexual and reproductive health, labour, healthcare workforce, childcare, domestic violence, sex disaggregated data, and feminised sectors of the economy.

Given the increasing noise surrounding the role of women’s participation in leadership and COVID-19 advisory groups [25], we also analysed the composition of SAGE meetings, where publicly available, to understand the gender parity of these meetings. We did this by calculating the proportion of women from the total number of scientific expert attendees reported for each SAGE meeting. A minority of experts chose to have their names redacted, although this was limited to 0, 1, or 2 redactions per meeting.

Results
The summary findings from the analysis are in Table 1. Below, square brackets relate to the SAGE meeting where this content was considered. Where similar findings were found in supporting papers to minutes, only the minutes are recorded.
Table 1: 2020 SAGE meetings and references to gender.

| Meeting | Date   | Women scientific experts (%) | Explicit Sex or Gender Mention | Gendered Issue Mention | Gendered Theme |
|---------|--------|------------------------------|--------------------------------|------------------------|----------------|
| 1       | Jan 22 | 27.8                         | –                              | Yes                    | HCW            |
| 2       | Jan 28 | 29.4                         | –                              | –                      |                |
| 3       | Feb 3  | 11.1                         | –                              | –                      |                |
| 4       | Feb 4  | 29.4                         | –                              | Yes                    | schools; HCW; SDD |
| 5       | Feb 6  | 25.0                         | –                              | –                      |                |
| 6       | Feb 11 | 35.7                         | Yes                            | –                      | schools; HCW   |
| 7       | Feb 13 | 30.8                         | –                              | Yes                    | schools; prisons |
| 8       | Feb 18 | 37.5                         | Yes                            | Yes                    | cleaning       |
| 9       | Feb 20 | 43.8                         | –                              | Yes                    | schools        |
| 10      | Feb 25 | 26.7                         | –                              | Yes                    | schools        |
| 11      | Feb 27 | 28.6                         | –                              | Yes                    | sectors; SDD  |
| 12      | Mar 3  | 29.4                         | –                              | Yes                    | care homes; mental health |
| 13      | Mar 5  | 28.6                         | –                              | Yes                    | schools        |
| 14      | Mar 10 | 28.6                         | Yes                            | Yes                    | care homes; childcare |
| 15      | Mar 13 | 30.4                         | –                              | –                      |                |
| 16      | Mar 16 | 30.4                         | –                              | Yes                    | schools        |
| 17      | Mar 18 | 26.1                         | –                              | Yes                    | schools        |
| 18      | Mar 23 | 33.3                         | –                              | Yes                    | HCW            |
| 19      | Mar 26 | 27.3                         | Yes                            | Yes                    | SDD; mental health |
| 20      | Mar 29 | 25.0                         | Yes                            | –                      | SDD            |
| 21      | Mar 31 | 29.2                         | –                              | –                      |                |
| 22      | Apr 2  | 33.3                         | –                              | Yes                    | sectors        |
| 23      | Apr 7  | 22.7                         | –                              | Yes                    | schools        |
| 24      | Apr 9  | 26.1                         | –                              | –                      |                |
| 25      | Apr 14 | 35.3                         | –                              | –                      |                |
| 26      | Apr 16 | 34.4                         | –                              | Yes                    | schools        |
| 27      | Apr 21 | 36.1                         | –                              | –                      |                |
| 28      | Apr 23 | 36.4                         | –                              | Yes                    | HCW            |
| 29      | Apr 28 | 35.3                         | Yes                            | –                      | SDD            |
| 30      | Apr 30 | 39.5                         | –                              | Yes                    | care homes; childcare |
| 31      | May 1  | 33.3                         | –                              | Yes                    | schools        |
| 32      | May 1  | 26.3                         | –                              | –                      |                |
| 33      | May 5  | 35.5                         | –                              | Yes                    | sectors; care homes; HCW; childcare |
| 34      | May 7  | 33.3                         | –                              | Yes                    | HCW; childcare |
| 35      | May 12 | 37.5                         | –                              | Yes                    | HCW; key workers; care homes; |
| 36      | May 14 | 34.4                         | –                              | Yes                    | childcare; HCW |
| 37      | May 19 | 34.3                         | –                              | –                      |                |
| 38      | May 21 | 37.8                         | –                              | Yes                    | schools        |
| 39      | May 28 | 29.7                         | –                              | Yes                    |                |
| 40      | June 4 | 33.3                         | Yes                            | Yes                    | HCW            |

(Contd.)
Table:

| Meeting | Date   | Women scientific experts (%) | Explicit Sex or Gender Mention | Gendered Issue Mention | Gendered Theme                      |
|---------|--------|-------------------------------|--------------------------------|------------------------|-------------------------------------|
| 41      | Jun 11 | 37.8                          | –                              | –                      | –                                   |
| 42      | Jun 18 | 31.4                          | –                              | Yes                    | migrant workers                     |
| 43      | Jun 23 | 32.4                          | Yes                            | Yes                    | –                                   |
| 44      | Jun 25 | 14.3                          | –                              | –                      | –                                   |
| 45      | Jul 2  | 35.1                          | –                              | –                      | –                                   |
| 46      | Jul 9  | 30.0                          | –                              | Yes                    | sectors; schools                    |
| 47      | Jul 16 | 31.0                          | –                              | Yes                    | childcare                           |
| 48      | Jul 23 | 33.3                          | –                              | Yes                    | childcare; sectors; domestic violence|
| 49      | Jul 30 | 27.6                          | Yes                            | Yes                    | care                                |
| 50      | Aug 6  | 37.0                          | –                              | –                      | –                                   |
| 51      | Aug 13 | 29.4                          | –                              | –                      | –                                   |
| 52      | Aug 20 | 37.5                          | Yes                            | Yes                    | SDD; sectors                        |
| 53      | Aug 27 | 36.7                          | Yes                            | Yes                    | SDD; care homes; sectors            |
| 54      | Sep 1  | 36.4                          | –                              | Yes                    | sectors                            |
| 55      | Sep 3  | 33.3                          | –                              | Yes                    | sectors                            |
| 56      | Sep 10 | 33.3                          | –                              | Yes                    | sectors; homelessness              |
| 57      | Sep 17 | 38.2                          | –                              | Yes                    | sectors; healthcare workers         |
| 58      | Sep 21 | 44.4                          | –                              | Yes                    | sectors; NPIs                       |
| 59      | Sep 24 | 36.4                          | –                              | Yes                    | sectors; care homes                |
| 60      | Oct 1  | 29.7                          | Yes                            | Yes                    | SDD; healthcare workers            |
| 61      | Oct 8  | 32.3                          | –                              | Yes                    | NPIs                               |
| 62      | Oct 15 | 37.5                          | –                              | Yes                    | schools; sectors                   |
| 63      | Oct 22 | 40.6                          | –                              | Yes                    | mental health; sectors             |
| 64      | Oct 29 | 32.1                          | Yes                            | Yes                    | SDD; school                        |
| 65      | Nov 4  | 36.4                          | –                              | Yes                    | schools                            |
| 66      | Nov 5  | 39.4                          | –                              | –                      | –                                   |
| 67      | Nov 12 | 36.4                          | –                              | –                      | –                                   |
| 68      | Nov 16 | 35.7                          | –                              | –                      | –                                   |
| 69      | Nov 19 | 36.1                          | –                              | Yes                    | HCW; sectors                       |
| 70      | Nov 26 | 40.0                          | –                              | –                      | –                                   |
| 71      | Dec 3  | 40.5                          | –                              | –                      | –                                   |
| 72      | Dec 10 | Minutes not available at time of writing (26 Jan 2021) | | | |
| 73      | Dec 17 | 38.5                          | –                              | Yes                    | schools                            |
| 74      | Dec 22 | 36.7                          | –                              | Yes                    | schools                            |

Meetings that referred to either gender/sex explicitly or discussed (unacknowledged) gendered issues are highlighted with a Yes in the table, – means no mention. SDD – sex-disaggregated data; HCW – healthcare workers; NPIs – a broad category that included general discussion on the potential unequal impacts of NPIs and the need for further analysis.

**Explicit Mention**

Out of 73, 13 (17.8%) SAGE minutes had explicit gendered terminology, with further analysis showing that these mentions were all sex-related issues: for example, this included reference to more men being admitted to hospital and more men dying [19, 20], and young males of Pakistani heritage disproportionately contracting COVID-19 [52]. Twice there...

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1 Sex denotes biological markers and attributes of men and women in terms of reproductive organs and functions based on chromosomes and physiology. Gender reflects socio-cultural norms, identities, and relations that are deemed ‘masculine’ and ‘feminine’ behaviours. We acknowledge that as a socio-cultural norm gender exists as a spectrum rather than a binary.
were calls for more research into sex/gender as demographic variables, alongside ethnicity [29, 40]. Sex-disaggregated outcome data was presented in supplementary papers in almost all SAGE meetings from the 19th meeting in March 2020. There were also concerns related to the risks posed by COVID-19 for pregnant women and the potential for transmission to foetuses in utero [8, 14, 19].

The only time we see an explicit inclusion of a gender-related concern within the minutes is in relation to men and vaccines. The 49th meeting of SAGE noted that ‘young males currently have the poorest adherence with [non-pharmaceutical interventions] NPIs’ and from the 40th ‘different demographic groups ... may have different responses to vaccines and there are research gaps around gender and ethnicity’. In supplementary material to SAGE minutes, we see a similar recognition of gender in regard to adherence to health messaging: “gender and traditional family structures with women that are less acculturated to the West are less likely to engage with risk communication messages’ [26] and ‘the factors most strongly associated with not identifying COVID-19 symptoms were: male gender; younger age; not identifying as White British; thinking you have had COVID-19; and not knowing that you can spread COVID-19 to others if you are asymptomatic’ [27].

Unacknowledged gendered implications
The unacknowledged gendered implications of SAGE advice fell into four main categories: schools and childcare, sectors of the economy, health and social care workers, and secondary health effects of NPIs.

Schools and childcare
Schools, particularly what role they play in disease transmission, and whether interventions like school closures significantly affect the R number have been a key concern throughout SAGE discussions. Most detail of school closures within SAGE minutes focuses narrowly on its epidemiological aspect and the impact this would have on reducing NHS capacity, or on analysing the risks of severe coronavirus infection amongst children. When considering the unintended effects of school closures, SAGE minutes reflect a concern limited to children: the social, developmental, cognitive, educational, emotional, health, and psychological impacts [23, 46, 62, 65] and how they vary by socio-economic or demographic groups, entrenching inequalities. The extent to which these effects would also be felt by parents, and in particular mothers, was not considered, with there being limited discussion on the effects of school closures on women generally.

However, at multiple times SAGE noted the impact of school closures on parental behaviours. This included the risk that parents would take their children out of school anyway, fearing the risks of COVID-19 [4] and the indirect effects of schools being open or shut, including work related changes [31]. The latter entailed the assumption that parents could only work if schools were open or would adjust their working patterns to respond to when schools were open or closed, rather than attempt home-schooling and working simultaneously [28]. SAGE also minuted increased pressure on households as a result of school closures (e.g. parents working from home, financial pressures) [65], and indeed that any policy intervention related to schools would result in ‘reduced or changed adult oversight of children’ [29]. A review document that fed into SAGE noted that in previous outbreaks ‘parents reported various difficulties associated with school closures, primarily lost income, the effort of arranging alternate childcare, and uncertainty about the duration of the closure’ [30], but as with almost all other considerations of schools, ‘parents’ was used instead of mothers, masking the reality of gendered divisions of household labour. Only in supplementary documents do we see this distinction made: ‘those with children may find it difficult to work from home, especially if schools are closed. This has the potential to exacerbate gendered workplace inequalities’ [31].

SAGE appears to be aware of the informal care economy, as there was consideration of the knock-on effects of school closures on alternative childcare provision. It noted that public compliance with school closures would be harder for those relying on grandparents for childcare [14, 16, 17]. SAGE also recognised that single parents, whom the Independent Scientific Pandemic Insights Group on Behaviours (SPI-B) state make up 14.9% of UK households [32], may rely more on care from grandparents, or for whom isolation may be impossible [29]. Alarming, the assumption within SAGE here was that ‘single parents often have younger parents, and so the grandparents are often in their 50s’ [17] (with the assumption that they would not be a high-risk group for COVID-19 infection), although it is unclear where such information came from. Indeed, this was negated by a supplementary document that stated ‘around 90% of single parents are women, of an average age of 39’ [33].

The secondary impacts on formal and informal care arrangements were considered by SAGE in an analysis of bubbles and how they could play a role in sharing care responsibilities between households [34]. While consideration of gender never made it into SAGE minutes explicitly, a supplementary paper from SPI-B considering bubbles did acknowledge the gendered care burden within households. They noted: ‘gendered differences in care work mean that women bear the greatest burden for provision of care both paid and unpaid, a burden that is reported to be increasing in the COVID-19 pandemic especially for BAME women...’ and ‘the extension of networks might bring even more work of this kind to women as they care for elderly relatives or other people’s children’, recognising that the care burden women perform is not limited to childcare [32]. Here, SPI-B recognised that it was those in the lower socio-economic groups and within the BAME community that were likely to take on a disproportionate share of the care burden, while ‘upper-middle class families that employ nannies are now permitted to bring them into their household’ [32]. SPI-B supplementary material also recognised the unpaid work women do elsewhere in society: ‘volunteers are also composed of more women than
men...and may also represent an extra caring responsibility at a time when women are already shouldering the burden of increased domestic labour’ [34].

Moreover, in background papers provided to SAGE, it was stated that ‘within households, people (usually women or paid domestic workers) who carry out the majority of exposing work [cleaning and laundry] are most at risk of transmission’ [35]. This would have knock-on effects within households:

the loss of their labour due to social isolation if they become unwell with COVID-19 could lead to unfamiliar new responsibilities for the rest of the household, which could cause tension and prevent mitigating practices. While we would not want to reinforce the burden of domestic work on women, it may well be important to communicate safer COVID-19 practices to them [33].

Yet again these gender stereotypes were reinforced:

women carry the burden of creating and maintaining family traditions and activities at Christmas. Messaging should be supportive of women adapting traditions and encouraging those around them to share the burden and to be supportive of any alterations to adapt for COVID-19 restrictions [36].

Thus, where the gendered division of labour is recognised, there are not meaningful gender transformative steps to avoid reproducing already existing gender norms.

Employment sectors

The effects on feminised sectors were also considered, though not explicitly discussed as a gendered issue. For teachers, it was minuted that there is a ‘relatively young age profile for parents and teachers which means that [sic] a lower level of risk in general’ [38]. On 15 October, approximately six months after the start of the UK government’s response to the crisis, it was reported that ‘there was some evidence that those working in education, health and social care may have greater exposure to infection’ [62]. However, SAGE later stated ‘ONS data ... show no difference between the positivity rates of ... teachers and staff, relative to other worker groups of a similar age’ [64].

While being inconsistent in regard to the risk of COVID-19 infections to the professions discussed above, SAGE has consistently acknowledged that some sectors pose a greater risk of COVID-19 infection. These are meat packing, fish processing, supermarkets [48], events and hospitality [52], recreation and arts [53], close personal services [57], health and social care [59], and transport and emergency services [69]. Alongside this, SAGE also identified other characteristics of employment that may expose individuals to greater risk: inability to work at home, self-employed, on zero-hours contracts, high contact occupations, low pay, and ineligibility for statutory sick pay [37, 38, 39, 57]. Despite the fact that women disproportionately fill jobs in these sectors and with these characteristics, this was only noted in the personal care sector [31]. Supplementary material provided to SAGE revealed further at-risk roles that are disproportionately fulfilled by women, including cleaners, nannies, and domestic workers, noting that such employees often have a blurred status as employees and/or kin or “part of the family” which makes it difficult to request safe working conditions [33].

Health and social care workers

SAGE were clear from March 2020 that school closures would particularly affect key workers and NHS staff, particularly those working in respiratory health [16, 17]. Other mentions of healthcare workers (n = 16, 21.9%) focus predominantly on their role as potential vectors—care workers were repeatedly criticised—for being a source of transmission into care homes [33, 35, 59], with analysis suggesting 5% of healthcare staff are potentially COVID-19 positive whilst at work [40] [39]. Thus, SAGE identified the need to prioritise healthcare workers for PPE and testing and to improve knowledge on processes and behaviours as to better understand routes of COVID-19 transmission. One supplementary paper considered the introduction of mandatory PPE for healthcare workers, demonstrating that the adherence of such workers to such requests was high in Japan and Hong Kong, but ‘there is currently no evidence that a similar level of compliance will translate to the UK setting’ [40]. Again, the focus was primarily epidemiological here, and there is no mention or awareness of the human, labour, or gendered costs associated with healthcare workers’ experience of the pandemic. However, there was concern over the fact that there could be severe levels of absence in the healthcare workforce if schools were shut [41], with SAGE therefore seemingly implicitly aware of these other costs.

Health impacts

The secondary health effects of the UK policy interventions for COVID-19 were also considered by SAGE. SAGE 48 noted ‘increased domestic abuse, mental health and cardiovascular problems’, and this was expanded upon in supplementary material considering the link between school closures and domestic violence [31]. Despite the fact that domestic abuse disproportionately affects women, there has been no explicit consideration of the differential effects between genders. Mental health was mentioned as early as SAGE 12 (March 2020), where concern about the potential impact of lockdown on it was minuted, while mental health was again considered when imposing the second lockdown in October, with concerns as to how it may affect some people’s adherence [63]. As a consequence, they suggested that efforts may be
needed to ‘enable members of the public to engage sustainably with infection control behaviour’. There was no analysis, once again, as to whom was most affected by mental health concerns during lockdown (women) or for what reasons (typically the paid and unpaid care burden) [12]. The impact on health workers was noted, however: ‘previous pandemics and early signals from COVID-19 indicate significant increases in burnout and distress among front line staff’ [42].

**Gender parity in SAGE**

The average proportion of women amongst experts invited to participate in SAGE was 32.8%, with the highest participation being 44% [58]. The average proportion of women participating did gradually increase over the course of 2020.

For the SAGE meetings where women’s participation was over 40% (only five meetings (6.8%)), two did not explicitly or implicitly mention women, gender, or sex. The other three considered school closures (but did not consider increased domestic activity for women); the imposition of a circuit-breaker quarantine or lockdown (but not the increased risk of domestic violence); the closure of bars, cafes, and personal services (e.g. hairdressers) (all of which are feminised industries); and mental health (but without considering the disproportionate burden on women during the pandemic).

**Limitations**

Firstly, we have only been able to analyse minutes of meetings and the published reports that fed into them. We do not know what was said if it was not minuted or what was said off the record. We also do not know what other forms of communication may have occurred between SAGE members, such as by email, where gender issues may have been discussed. Secondly, when assessing gender balance in SAGE expert committees, we based our assumptions on the names of participants, ascribing them as either man or woman, but we do not assume this is how they all identify.

**Discussion**

Ongoing research continues to highlight the many gendered effects and consequences of the COVID-19 pandemic, and whilst topics that have significant effects on women are discussed at length during SAGE meetings, acknowledgement of the relationship that issues such as schools, care, healthcare workers, and particular employment sectors have with gender is frequently absent. When women are expressly considered, it is predominantly linked to sex (biological) rather than gender (social), such as considering the risks COVID-19 may pose to pregnancy and analysis of sex-disaggregated data (case data that is broken down by male and female). Where social behaviours are included and gender is considered, the evidence from the meetings suggests that this concern only extends to men, most particularly young men who are thought to be the least likely to adhere to lockdown restrictions [43, 44]. It should be acknowledged that there has been some shift, however, and that as the pandemic has progressed, there has been explicit consideration of the downstream effects of government policy on women. Nonetheless, this has remained in supplementary documentation, suggesting that gendered concerns never featured within discussions of SAGE, while much of the content in the supplementary papers verges on reproducing gendered stereotypes and roles, rather than engaging substantively with the gender issues.

SAGE do appear to be acutely aware of the equity aspects of their recommendations, as well as the broader consequences of policy advice [43] stating ‘it is vital to measure the impacts of these interventions (beyond disease surveillance) where possible’ [12]. Yet this has predominantly referred to ethnic or socio-economic inequalities, for example: ‘there is some evidence that poorer people are engaging in more social contacts outside the home’ [28] and ‘there is likely to be an interplay of social, economic, biological, and pre-pandemic health risk that vary across [ethnic] groups’ [59]. It therefore appears that gender considerations have been missing. Given that there is growing evidence attesting to the fact that COVID-19 has a disproportionate effect on women, this is a significant concern [12, 45, 46].

This reflects a broader concern, which is what disciplines and types of evidence are deemed worthy of SAGE’s concern. Indeed, SAGE states ‘once policies are formulated, SAGE should review them through the lenses of epidemiological modelling and behavioural science’ [14], potentially excluding a raft of other academic perspectives. For example, even when considering school closures, a heavily gendered issue, the meeting minutes suggest that the focus was on the behavioural science and whether parents would keep their children out of school regardless or whether children might congregate in other areas, proving a risk for disease transmission [17]. There appears to have been limited consideration of these policies from a broader social science perspective, or any gender perspective, with such considerations only found in three background documents out of several hundred. We cannot say whether this is a chicken or an egg problem: those in the room were experts in epidemiology and behavioural science, and therefore it is unsurprising that these areas were the focal points of discussion. Yet it is also important to recognise the expertise missing from SAGE. This reflects the selection process, which in turn reflects the knowledge or information that the government deems valuable to responding to the crisis and what the CMO and CSO believe SAGE’s mandate is. On this occasion, as the above shows, the focus remained on epidemiological and behavioural considerations, to the detriment of the broader consequences on society. This reflects the UK government’s position that an effective response to COVID is reliant on individual responsibility, rather than social and structural barriers. What is so disappointing is that this narrow frame has already been shown to neglect the socio-economic consequences of outbreaks, particularly those affecting women [47, 48]. Indeed, a parliamentary review of SAGE convened for the 2014–16 West Africa Ebola outbreak reported that ‘many of our witnesses emphasised that ... ensuring that the membership of SAGE included social scientists, were [sic]
extremely important in controlling [the] outbreak' but did not mention their importance in understanding and mitigating the harmful downstream impacts of public health interventions [49].

Whilst the gender blindness across SAGE minutes is notable, it is not the fault of SAGE members per se, but rather the Secretariat that is responsible for selecting participants. Instead of looking at the approach taken by SAGE, we need to consider why a gender advisor did not have a seat at the table, perhaps in the same way we might question why an advisor in black, Asian and minority ethnic integration was only introduced to SAGE in June [40] despite decades of NHS work and policy on ethnic health inequalities [50]. We know that gender advisors participate in decision-making in other areas of emergency response, such as climate change and humanitarianism, and so the idea of a gender advisor is not entirely foreign to such environments [5].

We cannot expect experts in epidemiology to consider all potential impacts of the outbreak and response. For example, despite debate between public health and the economy during COVID-19, there are no economists on SAGE. This is left to government economists (and any other economic advisors that this government consults). It might that gender considerations are also left to governmental gender advisors and assessors. The UK government has the Government Equalities Office (GEO), tasked with understanding gendered (and indeed any) inequalities created or compounded by UK government policy, and they may be equipped to address this in the context of COVID-19. However, evidence would suggest they have not done so, with only three COVID-19 related publications published by the GEO over the course of 2020, a mere fraction of a percentage of the more than 2700 published documents from across Westminster departments. Further, the GEO would seem to not be a government priority, judging from our ongoing interview work, with Conservative governments stripping funds (and power) from the GEO (forthcoming).

The UK government is required by the Equality Act 2010 to undertake assessments of the potential impacts of its policies on people and groups with protected characteristics [51]. However, it is not known at what point the UK government undertook such an assessment of their COVID-19 policies. To date, only the Department of Health and Social Care has published one, on 28 July 2020, four months after the first lockdown was introduced, and the assessment focuses on the areas of the COVID-19 response related to the department itself, rather than on the wider social impacts that needed to be considered in order to assess the impacts of the government responses on gender, and women in particular. Our interview data from the aforementioned project anecdotally revealed that, when such assessment was proposed in Cabinet, the staff member who suggested it was mocked for suggesting it at a time of crisis, demonstrating a wider narrative within the government that gender doesn’t matter during the ‘tyranny of the urgent’ in health emergency management [52]. This is particularly concerning given the wider approach of the Johnson Government to issues of inequality: in her December 2020 speech, Minister for Women and Equalities, Liz Truss, claimed that issues of race, sexuality, and gender were ‘fashionable’ rather than factual and that they detracted from the more significant issues of poverty and geographical inequalities [53]. The government’s commitment to extend its equalities work beyond the nine protected characteristics of the Equality Act is commendable, particularly as sex and gender reassignment are included as protected characteristics whereas gender is not. However, as COVID-19 has shown, there is still plenty of work to be done across the issues of gender, sexuality, and race and the intersectional manner in which inequalities of geography, income, gender, race, sexuality, disability interact.

The UK government has recognised gender within its COVID-19 response, actively highlighting in the COVID-19 recovery plan that pandemics can have gendered effects [54]. However, they only acknowledge this within their discussion of the international arena, as though gender inequality only occurs overseas. Meanwhile, the UK government closed schools in March without considering the gendered effects of the domestic labour that it would transfer to the home. The government either ignored, or failed to recognise, the impact this was having on women for some time, with businesses only permitted to furlough parents on childcare grounds in July 2020, importantly, however, at the employer’s discretion. Data from the TUC on the third lockdown has shown that 73% of employers have refused such requests [55]. The government’s response with regard to pregnancy was even more delayed, with NHS guidance not permitting women to have a birth partner during labour until 14 December, nine months into the pandemic [56]. As well as failing to introduce policies to assist women, the government decided to suspend gender pay gap reporting in March 2020 [57], suggesting that companies didn’t need to do this whilst they were managing the changes as a consequence of COVID-19. We now know, however, that gender pay gaps were a key determinant of women absorbing the domestic costs associated with lockdown and school closures [12]. We also don’t know whether, were SAGE to include gender informed advice, the government would listen and engage with it. SAGE are advisors, while policy is made by the coronavirus strategy and operations committee, government ministers, and ultimately, the prime minister [58]. These individuals may decide to ignore gender sensitive advice. Indeed, the government’s disregard for gender issues is evident from the fact that the role of minister for women, rather than being held by a single individual with a clear mandate, has been amalgamated into Liz Truss’s Ministry of International Trade. Not only does she not sit on the coronavirus strategy and operations committee within Cabinet, but she holds a role particularly crucial and time-consuming when Britain is attempting to renegotiate global trade deals independent from the EU.

Whilst some point to the need for greater women’s participation to ensure a gendered perspective is taken, as our data have shown, and as has been evidenced in myriad other contexts, having more women at the table does not automatically equate to more gender consideration in policy [59, 60]. Increasing the number of women participants in SAGE did not lead to greater awareness of gender issues. Indeed, there was no increase of explicit considerations of gender
or women in meetings where more women were participating. Thus, whilst increasing the participation of women is important for the normative goal of gender parity in public life and leadership, this should not be seen as a synonym for gender advice. Being a woman doesn’t make you an expert in gender, no more than being French would make you an expert in French politics.

The lack of gender considerations will undoubtedly have long term effects. Whilst we have already seen more women furloughed than men, and women have lost their jobs 5% points more than men during 2020 [9], these numbers will likely only increase when the furlough scheme ends and widespread unemployment follows. Women who have been furloughed, including those on childcare grounds, have potentially demonstrated to their employers that they are non-essential for business continuity, particularly at a time of economic precarity. Moreover, if schools are not made safe to facilitate teaching, and if the precarious childcare sector fails and more facilities close, this will have long term effects on women’s labour force participation as women continue to absorb this unpaid care work. In the wake of the Ebola outbreak, 13 months after the start of the crisis, 63% of men had returned to work in Sierra Leone, compared to only 17% of women [14]. This is not only important for gender equality but also for the control of the pandemic in the UK, and health and livelihoods thereafter: people working on insecure or informal contracts, including 12.1% of Black and minority ethnic women, 6.4% of white women, and 5.5% of white men, have been less likely to stay home if required to self-isolate due to a lack of sick pay and the risk of job loss [61]. With an additional 2.7 million people applying for Universal Credit between 12 March and 8 October 2020 [62], food banks have reported record increases in need throughout the pandemic period while government ministers refused to give free school meals to 1.3 million vulnerable children during school holidays, until public outcry forced a reversal in their decision [63, 64]. A key determinant of healthy child development is family income, suggesting that the impacts of COVID-19 and government response and recovery decision-making will be multi-generational [65, 66].

There can be many ‘unknown unknowns’ when it comes to pandemic planning and response, and those trained as modellers and biomedical scientists cannot be expected to universally consider the many social facets of an epidemiological response to an outbreak. However, the gendered impacts of government decision-making and the gendered impacts of infectious disease outbreaks are now well evidenced, and UK policymakers have a statutory requirement to consider the inequality impacts of all policy. In order to effectively consider the likely epidemiological, social, and economic impacts of NPIs, pandemic planning and response firstly needs to be framed beyond the lens of the biomedical sciences and secondly needs to include the full breadth of expertise that the UK has to offer, including those social scientists, gender specialists, and representatives of civil society organisations that work at the coalface and see the reality of government policy and/or inaction every day. As the government’s chief emergency scientific advisory group, SAGE currently presents its consolidated advice to government in a gender-blind form. Paired with an apparent lack of gender specialists feeding into government policy otherwise, such policies will inevitably remain gender-blind, leading to the reinforcement and exacerbation of gender inequality and making the lives of women that much harder.

Whilst this paper has focused on the role of gender in the UK COVID-19 context, there are meaningful implications for other countries that might have similar emergency advisory groups and/or are considering more robust permanent institutions to mitigate against future crises. Gendered impacts of COVID-19 are global trends [5], despite the context specific gender norms within borders. Our ongoing global research project on gender and COVID-19 has demonstrated the extent of the gendered implications and downstream effects of the pandemic, which transcend languages, social groups, and cultural settings. More alarmingly, despite this universality of gendered effects, very few countries have taken a gender-sensitive approach to pandemic response, and where they have this has tended to have a narrow focus on gender-based violence. Thus, it is crucial that gender advisory is a key part of emergency preparedness and response expertise presented to governments, and global policy and norms should seek to encourage and perpetuate this. This is particularly important in settings where gender inequality is entrenched and where a gender-blind policy response may significantly reinforce inequalities across society. Simply, we want governments to ask ‘where are the women?’

Competing Interests
The authors have no competing interests to declare.

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