Module 2 of the UK Covid-19 Public Inquiry
Request for Evidence under Rule 9 of the Inquiry Rules 2006
Reference for Request - M2/SAGE/01/BXG

1. A brief overview of your qualifications, career history, professional expertise and major publications.

Bruce Guthrie BA MB BChir MSc PhD FRCGP FRSE FMedSci
Professor of General Practice, University of Edinburgh
https://www.ed.ac.uk/profile/bruce-guthrie
Advanced Care Research Centre www.edin.care
Primary Care and Multimorbidity Research Group https://www.ed.ac.uk/usher/primary-care-multimorbidity
e-mail bruce.guthrie@e Irrelevant

I am Professor of General Practice at University of Edinburgh, working part-time clinically in a general practice in Edinburgh and part-time in a research post at University of Edinburgh where I am Director of the Advanced Care Research Centre which researches care in later life. I am a health services researcher using mixed quantitative and qualitative methods to understand and improve the quality and safety of healthcare. My research is focused on prescribing quality and safety, polypharmacy and multimorbidity, and care in later life. I lead a number of projects in this field, and additionally collaborate with colleagues in the UK and internationally. To ensure implementation of research findings in the NHS, I serve or have served on a number of national committees, for example chairing the Guideline Development Group for the NICE Multimorbidity clinical guideline. During the pandemic I was a member of the SAGE Social Care Working Group throughout its existence.

My research spans the range from basic epidemiology and qualitative research to understand, through pragmatic randomised trials of organisational interventions, to applied work with the NHS to translate research findings into real-world improvements in the quality and safety of healthcare. Examples of significant non-COVID publications are work relating to multimorbidity (1, 2, 3), prescribing safety (4, 5), quality of primary healthcare (6), and prediction in the context of multimorbidity and older age (7). COVID publications are listed in a later section.

1. Barnett K, Mercer S, Norbury M, Watt G, Wyke S, **Guthrie B.** The epidemiology of multimorbidity in a large cross-sectional dataset: implications for health care, research and medical education. The Lancet 2012: 380; 37-43

2. Salisbury S, Man MS, Bower P, **Guthrie B**, Chaplin K, Gaunt D, Brookes S, Fitzpatrick B, Gardner C, Hollinghurst S, Lee V, McLeod J, Mann C, Moffat K, Mercer SW. Improving the management of multimorbidity using a patient-centered care model: pragmatic cluster randomized trial of the 3D approach. The Lancet 2018:392(10141):41-50.

3. Farmer C, Fenu E, O'Flynn N, **Guthrie B.** Multimorbidity: clinical assessment and management: summary of updated NICE guidance. BMJ 2016; 354:i4843

4. Dreischulte T, Donnan P, Hapca A, Grant A, McCowan C, **Guthrie B.** Safer prescribing: a trial of incentives, informatics and education. New England Journal of Medicine 2016:374 1053-1064.

5. Grill P, Marwick C, De Souza N, Burton J, Hughes C, **Guthrie B.** The burden of psychotropic and anticholinergic medicines use in care homes: population-based analysis in 147 care homes. Age and Ageing May 2021;50:183-9.

6. Minchin M, Roland M, Richardson J, Rowark S, **Guthrie B**. Quality of care in the UK after removing pay for performance incentives. New England Journal of Medicine 2018:379(1);948-957.

7. **Guthrie B**, Rogers G, Livingstone S, Morales D, Donnan P, Davis S, Youn JH, Hainsworth R, Thompson A, Payne K. 15/12/22 Competing risks and direct treatment disutility: implications for risk prediction and cost-effectiveness analyses in cardiovascular disease and osteoporotic fracture prevention. In press NIHR HSDR Journals Library 2022.

2. A list of the groups (i.e. SAGE and/or any of its sub-groups) in which you have been a participant, and the relevant time periods.

SAGE Social Care Working Group from its inception in late April 2020 till its winding up in 2022.

3. An overview of your involvement with those groups between January 2020 and February 2022, including:

a. When and how you came to be a participant;

I was a member of the SCWG from its inception. To my knowledge, I was proposed as a member by Health Data Research UK because I had done work on identifying care home residents in routine data (https://academic.oup.com/ageing/article/48/1/114/5075436), and because of my interest in multimorbidity and polypharmacy which is ubiquitous in care home residents.

b. The number of meetings you attended, and your contributions to those meetings;

Meetings were weekly for approximately the first 12 months and then approximately fortnightly for 12 months, with additional subgroup meetings on occasion. I estimate that I attended 70-80% of all meetings, but the SCWG Secretariat should have an accurate attendance list.

c. Your role in providing research, information and advice.

I specifically provided research and information about:

- Care home COVID outbreaks in Scotland (references 3, 4, and 10 in section 5)
- The impact of hospital discharge into care homes in Scotland (reference 5)

I provided advice about:

- The problems of poor data about care home residents (reference 9) and people receiving social care at home (we still have virtually no data about this group)
- How social care is organised and delivered, and primary medical care for care home residents and people receiving social care at home (from the perspective of an academic GP)

I contributed to discussion of other topics based on my experience as a research-active academic GP with skills in epidemiology and health services research, and experience of delivery of primary care as a GP.

4. A summary of any documents to which you contributed for the purpose of advising SAGE and/or its related subgroups on the Covid-19 pandemic. Please include links to those documents where possible.

I contributed to varying degrees to:

- https://www.gov.uk/government/publications/care-homes-analysis-12-may-2020
- https://www.gov.uk/government/publications/scwg-covid-19-and-care-homes-update-paper-23-september-2020
- https://www.gov.uk/government/publications/scwg-consensus-statement-on-family-or-friend-visitor-policy-into-care-home-settings-2-november-2020
- https://www.gov.uk/government/publications/scwg-estimating-the-minimum-level-of-vaccine-coverage-in-care-home-settings-march-2021
- https://www.gov.uk/government/publications/scwg-what-are-the-appropriate-mitigations-to-deploy-in-care-homes-in-the-context-of-the-post-vaccination-risk-landscape-26-may-2021
- https://www.gov.uk/government/publications/scwg-chairs-summary-of-role-of-shielding-20-december-2021
  https://www.gov.uk/government/publications/the-association-between-the-discharge-of-patients-from-hospitals-and-covid-in-care-homes/consensus-statement-on-the-association-between-the-discharge-of-patients-from-hospitals-and-covid-in-care-homes

5. A summary of any articles you have written, interviews and/or evidence you have given regarding the work of the above-mentioned groups and/or the UK's response to the Covid-19 pandemic. Please include links to those documents where possible.

These are papers and reports I have published related to COVID (although not all relate to social care).

1. Gordon AL, Rick C, Juszczak E, Montgomery A, Howard R, **Guthrie B**, Lim WS, Shenkin S, Leighton P, Bath PM, Protect- CH triallists. The COVID-19 pandemic has highlighted the need to invest in care home research infrastructure. Age and Ageing 2022:afac052. https://academic.oup.com/ageing/article/51/3/afac052/6529173

2. Zhang H, Thygesen, JH, Shi, T, Gkoutos G, Hemingway H, **Guthrie B**, Wu H. Increased COVID-19 mortality rate in rare disease patients: a retrospective cohort study in participants of the Genomics England 100,000 Genomes project. Orphanet Journal of Rare Diseases 2022;17:166 https://ojrd.biomedcentral.com/articles/10.1186/s13023-022-02312-x

3. Burton JK, McMinn M, Vaughan J, Fleuriot J, **Guthrie B.** Care-home outbreaks of COVID-19 in Scotland March to May 2020: national linked data cohort analysis. Age and Ageing 2021:50(5);1482–1492 https://academic.oup.com/ageing/article/50/5/1482/6272437

4. Burton JK, Reid M, Gribben C, Caldwell D, Clark DN, Hanlon P, Quinn TJ, Fischbacher C, Knight P, **Guthrie B,** McAllister D. Impact of COVID-19 on Care-Home Mortality and Life Expectancy in Scotland. Age and Ageing 2021:50(4);1029–1037 https://academic.oup.com/ageing/article/50/4/1029/6258994

5. Public Health Scotland, University of Edinburgh, University of Glasgow. Discharges from NHSScotland hospitals to care homes between 1 March and 31 May 2020: A Management

Information Statistics publication for Scotland. Edinburgh: Public Health Scotland; 2021 (updated)

PHS statistics publications do not name authors, but I was the academic lead for this analysis, seconded to PHS.

https://publichealthscotland.scot/media/7313/2021-04-21-discharges-from-nhsscotland-hospitals-to-care-homes-between-1-march-and-31-may-2020.pdf

https://publichealthscotland.scot/media/7250/2021-04-21-discharges-from-nhs-hospitals-to-care-homes-validated-register-methodology.pdf

6. McKeigue PM, Kennedy S, Weir A, Bishop J, McGurnaghan SJ, McAllister D, Robertson C, Wood R, Lone N, Murray J, Caparrotta TM, Smith-Palmer A, Goldberg D, McMenamin J, **Guthrie B**, Hutchinson S, Colhoun HM on behalf of Public Health Scotland COVID-19 Health Protection Study Group. Relation of severe COVID-19 to polypharmacy and prescribing of psychotropic drugs: the REACT-SCOT case-control study. BMC Medicine 2021;19:51. https://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-021-01907-8

7. Williams TC, Macrae C, Swann O, Haseeb H, Cunningham S, Davies P, Gibson N, Lamb C, Levin R, McDougall C, McFadzean J, Piper I, Turner A, Turner S, Urquhart D, Van Dijke M, **Guthrie B**, Langley RJ. Indirect effects of the COVID-19 pandemic on paediatric health-care use and severe disease: a retrospective national cohort study. Archives of Disease in Childhood 2021: 106(9):911-917 https://adc.bmj.com/content/106/9/911

8. Carr E, Bendayan R, Bean D, Stammers M, Wang W, Zhang H, Searle T, Kraljevic Z, Shek A, Phan H, Muruet W, Shinton A, Shi T, Zhang X, Pickles A, Stahl D, Zakeri R, O'Gallagher K, Folarin A, Roguski L, Borca F, Batchelor J, Wu X, Sun J, Pinto A, **Guthrie B**, Breen C, Douiri A, Wu H, Curcin V, Teo J, Shah A, Dobson R. Evaluation and Improvement of the National Early Warning Score (NEWS2) for COVID-19: a multi-hospital study. BMC Medicine 2021;19:23 https://bmcmedicine.biomedcentral.com/articles/10.1186/s12916-020-01893-3

9. Burton JK, Goodman C, **Guthrie B**, Gordon AL, Hanratty B, Quinn TJ. Closing the UK care home data gap – methodological challenges and solutions. International Journal of Population Data Science October 2020:5(4); https://doi.org/10.23889/ijpds.v5i4.1391

10. Burton JK, Bayne G, Evans C, Garbe F, Gorman D, Honhold N, McCormick D, Othieno R, Stevenson J, Swietlik S, Templeton KE, Tranter M, Willocks L, **Guthrie B**. Evolution and impact of COVID-19 outbreaks in care-homes: population analysis in 189 care-homes in one geographic region. Lancet Healthy Longevity 2020:1(1):E21-E31 https://www.thelancet.com/journals/lanhl/article/PIIS2666-7568(20)30012-X/fulltext

11. Clark A, Jit M, Warren-Gash C, **Guthrie B**, Wang S, Mercer SW, Sanderson C, McKee M, Troeger C, Ong KI, Checchi F, Perel P, Joseph S, Gibbs H, Banerjeee A, Eggo R. How many are at increased risk of severe COVID-19 disease? Rapid global, regional and national estimates for 2020. Lancet Global Health 2020.8(8); e1003-e1017 https://www.thelancet.com/journals/langlo/article/PIIS2214-109X(20)30264-3/fulltext

6. Your views as to whether the work of the above-mentioned groups in responding to the Covid-19 pandemic (or the UK's response more generally) succeeded in its aims. This may include, but is not limited to, your views on:

a. The composition of the groups and/or their diversity of expertise;

My impression was that the professional stakeholder group least represented in SCWG was social care providers, with only Liz Jones from National Care Forum consistently contributing from that perspective.

b. The way in which the groups were commissioned to work on the relevant issues;

The commissioning process was largely invisible to me, so I can't comment.

c. The resources and support that were available;

The group was effectively convened and organised. There was reliance on academic and other professional contributions which was unfunded.

d. The advice given and/or recommendations that were made;

I only have direct knowledge of SCWG advice, which is listed above.

e. The extent to which the groups worked effectively together;

Liaison with other groups was done by the convenors, secretariat and DHSC or similar attendees, so I can't meaningfully comment.

f. The extent to which applicable structures and policies were utilised and/or complied with and their effectiveness.

Given my role, I can't meaningfully comment.

7. Your views as to any lessons that can be learned from the UK's response to the Covid-19 pandemic, in particular relating to the work of the above-mentioned groups. Please describe any changes that have already been made, and set out any recommendations for further changes that you think the Inquiry should consider making.

COVID-19 had a disastrous impact in the social care sector. There are reasonable quantifications of the direct impact in relation to care home resident COVID-19 cases and deaths, but limited or very limited information about indirect effects of the pandemic on residents (eg due to social isolation or workforce shortages) and families, and the direct and indirect impacts on social care staff. There is very little information about direct and indirect effects in people receiving social care at home, who are also highly vulnerable. There are a number of lessons.

First, social care was not given sufficient consideration in pandemic and emergency planning, as demonstrated by the following examples:

- Exercise Cygnus essentially refers to social care as a source of surge capacity for the NHS rather than a sector needing appropriately tailored support in its own right
- PPE provision and access to testing did not appear to prioritise social care even though the risks of transmission in care homes are at least as large as in hospitals.

Future pandemic planning should more actively include social care providers and users (care homes but also care-at-home).

Second, the same lessons apply to 'normal' policy and planning. Social care is essential to helping hundreds of thousands of our most vulnerable citizens to live in their own home or in a homely environment in residential care, but in public discourse is most commonly framed as primarily existing to support the NHS, for example by facilitating hospital discharge. Greater priority ought to be given to strengthening social care policy with recognition that it is a sector of equal important as the NHS.

Third, the social care workforce commonly experience poor terms and conditions of employment, including lack of access to sick pay which likely exacerbated COVID-19 impact because of effects on the ability to self-isolate. Social care cannot be effective and high quality without having a well-trained workforce with sufficient pay and opportunities for career progression to maintain recruitment and retention.

Fourth, research in COVID-19 was focused on hospitals and those admitted to hospital. A large proportion of COVID-19 deaths were in the community, and in particular in care homes. Similar to clinical research more widely, most research was done in younger people than those most at risk of severe disease and death. Even though we knew in wave 1 that age is the dominant risk factor for serious disease and infection, vaccine trials and anti-viral trials were largely done in the young and middle-aged. Latterly, there was funding to create an infrastructure for COVID-19 research in care homes, but ultimately this did not happen.

Fifth, the same research lessons apply to 'normal' times. There is a dearth of research in care home residents, in part because research in this context needs infrastructure that is not currently funded (https://academic.oup.com/ageing/article/51/3/afac052/6529173).

Finally, underpinning much of this is the invisibility of social care in routine data. For example:

- At the start of the pandemic, there was no reliable way to know who was resident in a care home. Although various workarounds were used during the pandemic, there is still no reliable way to know who is resident in a care home. This lack of information makes it difficult to properly understand residents' needs and patterns of care in both normal times and during pandemics or other times of system stress.
- At the start of the pandemic, there was limited information about who was in receipt of social care-at-home, and there is therefore limited evidence of the impact of COVID-19 on this physically and mentally vulnerable group. There are datasets in development that may address this, which is welcome, but their reliability and value remains to be established.

We need new datasets (eg "Care Episode Statistics" that parallel Hospital Episode Statistics in NHS England) that can be linked to other routine data sources. Improving data and therefore understanding of social care should be a priority, and is a critical underpinning of future pandemic planning and organisation of 'normal times' care for some of our most vulnerable citizens.

In summary, my perception of key priorities for change are:

- Integration of social care providers and users into future pandemic planning
- Parity of esteem between social care and the NHS in policy and planning
- Improving pay, training and career pathways for social care staff
- Developing a research infrastructure in social care that matches that available in health care, which will be of value in both pandemic and normal times

- Developing robust routine data about users of social care to better understand needs and patterns of care in both pandemic and normal times

8. A brief description of documentation relating to these matters that you hold (including soft copy material held electronically). Please retain all such material. I am not asking for you to provide us with this material at this stage, but I may request that you do so in due course.

I have a number of e-mails and documents (drafts, shared data) on my laptop, although these are not that systematically stored or indexed.

Bruce Guthrie
13/10/22