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Lesson-drawing for the UK Government during the COVID-19 Pandemic: a comparison of political, scientific and media lenses

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Introduction

This chapter brings together the literatures on policy learning and lesson-drawing on the one hand, and intra-crisis learning on the other, in order to examine the UK's response to the COVID-19 pandemic. The policy learning literature explores issues such as what lessons were learned by whom. The lesson-drawing literature examines the content and process of policy transfer, focusing on the 'fungibility' or 'transferability' of lessons. However, most existing work is based on 'ordinary' policy making rather than 'extraordinary' or 'crisis' policy making characterised by elements of threat, urgency and uncertainty such as that during the pandemic.

We critically examine three different 'real time' lenses, drawing on three main sources: 'political' (Government documents, and Hansard Debates); 'scientific' (Minutes of Advisory groups such as SAGE) and 'media' (national news media). These three sources provide different perspectives on the rapidly evolving government agenda. 'Political' sources come provide a record of what was being discussed by policymakers, who often claimed that they were 'following the science', as well as in debates between the government and opposition, providing an insight into the scientific sources they were make using of in their deliberations. The 'scientific' sources explore the extent to which the advisory bodies were looking at

emergent research from their own countries, from the past or from abroad. The news media provides a rapid (daily) commentary on issues, giving a contemporary record of what was happening in other countries and material from the past which could inform learning about the virus. As Wolfe et al (2013) suggest, which issues are on the agenda, which ones are not, when and why, are the central questions that drive agenda-setting in communications and policy studies, and become even more important during a period of extraordinary policy making. Our study cannot trace the links between policymaking and media reporting, but it can throw light on how the media aims to influence the public and policymaking. In particular, we focus on the lessons that the media suggest the pandemic offers to policy makers.

The paper focuses in particular on the early stages of the pandemic, especially during January to April 2020 when key decisions were being made about policy in respect of testing, lockdown and border controls – the three elements highlighted by prominent public health advisors such as Edinburgh University’s Chair in Global Public Health, Devi Sridhar (see eg Appendix 2: articles on 15 March and 4 May) as being crucial to pandemic response. The end point is provided by the UK government’s ‘exit plan’ document published in early May (HMG 2020b) as that is the logical end point of the first stage of pandemic response.

We place the government’s response within the wider context by comparing it with lessons available from the past and from other nations. To achieve this, we compare the results of these separate data explorations using the Dolowitz and Marsh (1996, 2000) framework of policy transfer. In particular, we compare the sources, type and content of (positive and negative) lessons.

The paper therefore seeks to understand what could have been reasonably known by the government and at what time, according to our three different lenses. This will provide important information for the debate (and future Public Inquiry) that the UK was ‘following the science’ and was slow to react to events.

Lesson Drawing and Policy Transfer

Before we can proceed in outlining the specific UK context, or conduct our analysis, we explore lesson-drawing and policy transfer research to create a framework for the paper. Richard Rose (1991, 1993) is known as the author who coined the concept ‘lesson-drawing’ for public policy. Rose (1991) suggests the critical analytic question is: under what circumstances and to what extent would a programme now in effect elsewhere also work here?

Two of the leading authors in the field of policy transfer stress ‘learning’ and ‘lessons’ in their titles: ‘Who learns what from whom’ (Dolowitz and Marsh 1996) and ‘Learning from abroad’ (Dolowitz and Marsh 2000), but arguably say little about actual learning itself (below). Dolowitz and Marsh (1996) suggested a series of questions that might be addressed when studying transfer: Who transfers policy? Why engage in policy transfer? What is transferred? Are there different degrees of transfer? From where are lessons drawn? What factors constrain policy transfer? They later added a further question about how the process of policy transfer related to policy “success” or “failure.” (Dolowitz and Marsh 2000), but with the development of the framework leading to slight differences in terminology and different levels of attention being given to the questions.

A recurring critique of the lesson-drawing and policy transfer literature is that it does not consider the actual process of learning, or who is doing that learning, in much detail (eg James and Lodge 2003; Wolf and Baehler 2018). Similarly, although the Evidence Based Policy Making (EBPM) and policy transfer/ translation literatures are concerned with similar themes, they have largely emerged separately (but see eg Legrand 2012; Ingold and Monagan 2016). The few studies that link learning and transfer tend to be theoretical in nature and contain an implicit belief in policy making as a rational process (eg Rose, 1993). There are still few studies that examine the ‘type of learning’ involved, what processes are involved in this learning and whether different learning processes are involved in the transfer of different types of information. While the policy transfer literature covers a large range of fields (eg Legrand 2012; Vagionaki and Trein 2020), there are few studies on crises, and perhaps due to their relative infrequency, almost nothing on lesson-drawing or policy transfer during pandemics.

Learning and Crisis

The cross-national lesson drawing and policy transfer literatures (above) operates in ‘normal’ times, which may be very different from learning in a crisis, with its constituent elements of threat, uncertainty, and urgency (eg Moynihan 2008, 2009). According to Boin et al (2018), crises create almost impossible conditions for those who seek to manage a response operation, forcing them to make urgent decisions while essential information about causes and consequences remains unavailable, unreliable or incomplete.

It is broadly argued that lesson-drawing is one of the most underdeveloped aspects of crisis management (eg Boin et al 2018). The literature distinguishes learning across crises and learning within a crisis, or inter-crisis and intra-crisis management (Moynihan 2009). Brändström et al (2004) explore cases where decision-makers draw on history in managing a current crisis or ‘coping with crisis by searching the past’. They differentiate learning in crises (the use of historical analogies during crisis decision-making) and learning from crises (the extent to which crises provide opportunities for policy-oriented learning).

Moynihan (2008, 2009) also differentiates between ‘routine’ and ‘non-routine’ or ‘less routine’ crises. In routine crises, standard procedures that work well in one setting can usually be applied to another, such as in forest fires or earthquakes, meaning that successful inter-crisis learning reduces the need for intra-crisis learning. However, less familiar crises with non-routine tasks are more difficult to manage, and an emerging pandemic with a novel virus clearly falls into this category.

COVID-19 Pandemic in the UK: a comparison of political, scientific, and media lenses

As noted above, the policy learning perspective focuses on the object of learning (what was learned?) and results of learning (to what effect?) (Bennett and Howlett 1992), or content (what do political actors in policy learn about e.g. ideas or policy instruments?) and direction (who learns from whom?) (Vagionaki and Trein 2020). The lesson-drawing (Rose 1991, 1993) and policy transfer perspective (Dolowitz and Marsh 1996, 2000) focus on a wide range of questions, but here we reduce these to core issues which relate to the policy learning perspective: where lessons are drawn from (the past or other nations), the content of what is

transferred, and whether lessons are positive or negative. This is because the intra-crisis learning literature, characterised by elements of threat, urgency and uncertainty, shows the importance of ‘real time’ and urgent decision making, based on imperfect information, and so to a simpler heuristic being available to policymakers.

This study uses Interpretive Content Analysis (Drisko and Maschi 2016) to attempt to capture both manifest and latent content. The data was explored for both manifest (what is overtly, literally, present in a communication) and latent (implicit or implied by a communication, often across several sentences or paragraphs) content associated with COVID, with coding and interpretation being cross-checked by those in the research team. Summaries of the data were produced in tables, and the interpretations that follow interpret and narrate those summaries to outline the situation as it unfolded during the pandemic.

Scientific Perspective

The Scientific Advisory Group for Emergencies (SAGE) provides advice to the UK government on complex areas. SAGE is comprised of a range of scientists and experts from a wide range of fields. It is the main venue to coordinate science advice to the UK government on COVID-19, including from the New and Emerging Respiratory Virus Threats Advisory Group (NERVTAG) (which reports to Public Health England), and sub groups on modelling (SPI-M) and behavioural public policy (SPI-B). The advice provided by SAGE is then considered by the Government and contributes to the subsequent decisions that are made (see Cairney 2020; HMG 2020a). Thirty-six SAGE documents were produced between 22nd January and 11th May (see also Cairney 2020). We focus on the main SAGE committee rather than the sub-committees as the latter often examine issues which are then discussed at the

main committee. We exclude Meetings that did not discuss any learning from the past or from abroad (Numbers 7, 13, 16, 21-24), while Meeting 12 on the 3rd March has been omitted as this was a preparatory meeting. The coding of those meetings in terms of their date, the predominant sources of learning, and what was learned, is reproduced as appendix one.

There were only three references to inter-crisis learning (22nd January; 28th January; 11th February). Two related to Pandemic flu and one relating to MERS, and broadly argued that as there was insufficient data on Covid, it was necessary to draw on planning assumptions related to Pandemic flu on an interim basis.

The intra-crisis perspective was mainly concerned with Wuhan and China more generally, with a roughly even split between positive and negative lessons. The leading 'positive' nation was Hong Kong, and the leading 'negative' nation was Italy. In total, there were six positive lessons and eight negative lessons. It is striking that there was little discussion of nations that were doing well in terms of infection and death rates (see eg Worldometers). For example, there was no mention of Denmark, Finland, Iceland, New Zealand, and Norway.

The most striking finding seems to be the lack of focus on learning from the past or from abroad, suggesting a rather insular approach to the crisis. Part of this may be related to the geographical diffusion of the virus and the time lag in establishing 'what works' (eg Gibney 2020). However, it was clear at a fairly early stage that the 'hard lockdown' in Wuhan had suppressed the virus (WHO-China Joint Mission 2020) and that a number of East Asian nations seemed to containing the virus relatively well. This was especially clear in South Korea which was lauded for its 'agile' response, based on a massive expansion of easily-

accessible testing and with its ‘transparent’ approach leading to large-scale public engagement with the virus reduction programme (Moon 2020).

Compiling this data by topic and source resulted in table one:

Table one – learning from scientific data by topic, frequency and direction

Topic	Mentions	Direction
Wuhan	6	(3+)(3-)
China	5	(3+)(2-)
Hong Kong	2	(2+)
Italy	2	(2-)
Singapore	1	(2+)
Malaysia	1	(1+)
Macau	1	(1+)
Taiwan	1	(1+)
Other countries (generic)	1	(1+)

The table above, based on SAGE minutes, suggests the UK’s ‘scientific perspective’ offered a very partial understanding of the unfolding pandemic. There was very little learning from abroad except from a very limited group of countries, when there was emerging evidence of a successful approach to the pandemic being taken in East Asia from which it could have usefully drawn.

Media Perspective

The 47 newspaper articles were from the following sources with the majority being broadsheet rather than tabloid and consisted of the following sources Guardian (12), Observer (1), Independent (9), Daily Express (10) Daily Telegraph (8), Times/Sunday Times (3), Daily Mail (2), Daily Mirror (2). The articles are from the 23rd January to the 10th May. The full coding for this data is reproduced as appendix two.

Amongst the media data there were 17 sources for inter-crisis learning, with SARS and ‘Spanish flu’ being the main focus. The positive/negative lessons were relatively evenly split with 10 positive lessons and 7 negative lessons being taken from the past, with the majority coming from recent outbreaks such as SARS and Ebola. The media data is summarised by topic, frequency and direction in table two below.

Table two – summary of media perspective inter-crisis data by topic, frequency and direction

Topic	Mentions	Direction
SARS	7	(4+)(3-)
‘Spanish Flu’	5	(3+)(2-)
Ebola	2	(1+)(1-)
MERS	1	(1+)
Plagues (generic)	1	(1+)
Smallpox (Montreal)	1	(1-)

There were more sources from the intra-crisis perspective (30 positive and 14 negative learning points), with a main focus upon China (mixed), Italy (negative) and Germany (positive) and Korea (positive). However, there was only one mention of New Zealand, and none on nations such as Denmark, Finland, Iceland, and Norway.

Table three – summary of media perspective intra-crisis data by topic, frequency and direction

Topic	Mentions	Direction
China	13	(7+) (6-)
Italy	9	(3+) (7-)
Germany	7	(7+)
South Korea	4	(4+)
Hong Kong	2	(2+)
Taiwan	2	(2+)
California	1	(1+)
East Asia (generic)	1	(1+)
India	1	(1+)
Iran	1	(1-)
Japan	1	(1+)
Liberia	1	(1+)
New Zealand	1	(1+)
Spain	1	(1+)
Singapore	1	(1+)
USA (generic)	1	(1+)

As such, the media perspective on the crisis was somewhat broader than the scientific one, with a wider range of countries being considered, as well as more historical explorations of pandemic response which often have a close fit with those being advocated by prominent public health experts, especially that of Professor Devi Sridhar, who has extensively in national newspapers about the pandemic response¹, and of Professor Linda Bauld, who has had a strong presence in television reporting during this period.

¹ Her articles for The Guardian newspaper are available at <https://www.theguardian.com/profile/devi-sridhar>

Political Perspective

The political perspective examined two main sources: Hansard (House of Commons) Debates and the government's 'Coronavirus Action Plan' (HMG 2020a) using the terms 'Covid' or 'Coronavirus'. Appendix Table 1 shows that there were 10 Hansard Debates before the end point for the analysis of the government's 'Exit Plan' (HMG 2020b). The first mention of the virus was by Secretary of State for Health and Social Care, Matt Hancock on 23rd January.

Exploring the political data allowed the separation of inter-crisis (learning from the past) from intra-crisis (learning from abroad) learning. At the beginning of a novel pandemic, when knowledge of virus characteristics and the effectiveness of interventions abroad is limited, it might be expected that much stress would be placed on learning from the past. That appears to be the case, with a focus on learning from a wide range of previous Pandemics (Pandemic flu; Ebola; SARS; 'Spanish flu'; and Monkeypox (Appendix Table 2). Chronologically, the intra-crisis learning was concentrated early on in the pandemic with the majority of this being between 23rd January and 6th March.

However, while there seems to be a greater focus on past pandemics earlier in the period, the transition from 'past' to 'abroad' was not as clear as might have been expected. Both (10) positive and (3) negative lessons were suggested. This data is summarised in table four.

Table four – political perspective by topic, frequency and direction

Topic	Mention	Direction
Pandemic Flu	3	(2+)(1-)
Ebola	3	(3+)
Past pandemics (generic)	3	(3+)
SARS	2	(1+) (1-)
‘Spanish Flu ‘	1	(1-)
Monkeypox	1	(1+)

Interestingly, there was no mention of MERS, which is often seen as a major factor in East Asian nations being better prepared for future Pandemics (eg Moon 2020), and may be related to the parallel lack of scientific references to East Asia. Moreover, one of the most recent Pandemics in the UK, ‘Swine Flu’ (Hine 2010) did not feature within the discussions. Previous Pandemics may have led to East Asian nations being better prepared, but may have had the opposite effect in nations such as the UK. The government Action Plan (HMG 2020a) listed ‘some of the major respiratory virus pandemics and epidemics in the last 100 years’, beginning with ‘Spanish flu’ of 1918-19 (Table 3.1), and then asserted that the ‘UK is well prepared for disease outbreaks, having responded to a wide range of infectious disease outbreaks in the recent past’ (p. 8). Moreover, the impact of ‘Swine flu’ of 2009-2010 turned out to be much less than predicted, leading to accusations of the ‘false alarm’, ‘overreaction’ and ‘crying wolf’ for some governments and the WHO (eg Salajan et al 2020). In the UK, a ‘reasonable worst case’ of nearly 70,000 ended with under 500 deaths (Hine 2010), which may have led to a sense of complacency which allowed stockpiles of PPE to dwindle in a period of austerity.

However, discussions turned to intra- crisis learning, or learning from abroad, where there were 35 positive lessons and 10 negative lessons. The most mentioned nations were China and Italy, where the proportion of negative lessons was higher. Korea was the leading ‘positive’ nation, but there were surprisingly few mentions of other nations that were doing well (eg in Worldometers infection and mortality data) such as Germany (one mention), and New Zealand, Finland, Norway and Denmark (no mentions). It is also surprising that the only (early) mention of the USA was positive. This lack of international perspective again has strong parallels in the scientific perspective data, and is summarised in table five.

Table five – media perspective summarised by country, frequency and direction

Topic	Mentions	Direction
China	10	(7+)(3-)
Italy	7	(3+)(4-)
Abroad (generic)	7	(5+)(2-)
South Korea	4	(4+)
Europe (generic)	3	(2+) (1-)
Spain	3	(3+)
Australia	2	(2+)
Taiwan	2	(2+)
Austria	1	(1+)
France	1	(1+)
Germany	1	(1+)
Hong Kong	1	(1+)
Ireland	1	(1+)
Singapore	1	(1+)
USA	1	(1+)

Comparing the Perspectives

Having compiled the three data sources separately, we can now compare the three perspectives or lenses. In sum, there were 32 mentions of inter-crisis learning, made up of media (17), political (13) and scientific (2). Political perspectives tended to provide the highest proportion of positive lessons (77%).

Table six: Comparing the perspectives from the past: positive and negative lessons

	Positive	Negative
Scientific	2	1
Media	10	7
Political	10	3
Total	21	11

The most mentioned lessons from the past were in relation to SARS, followed by ‘Spanish flu’, Pandemic flu and Ebola. However, apart from Pandemic flu, the bulk of these tended to come from the media, suggesting that both scientific and political actors were focused on interpreting the present rather than learning from the past.

Table seven: Comparing perspectives from the past

Item	Scientific	Media	Political	Total
SARS		7	2	9
Spanish Flu		5	2	7
Pandemic Flu	2		4	6

Ebola		2	3	5
Pandemics (generic)			3	3
Plagues Generic		1		1
MERS	1	1		1
Monkeypox			1	1
Smallpox		1		1

There were many more references to intra-crisis learning, with 114 in total, composed of political (45), media (48) and scientific (21). It is notable that the scientific perspective seems to stress learning from abroad significantly less than the other perspectives, and tends to ‘accentuate the negative’ in terms of the balance between positive and negative lessons. The proportion of positive lessons from abroad in scientific discussions suggest a danger of insularity of view, especially where positive lessons were available from East Asia.

Table eight: Comparing perspectives from abroad: positive and negative lessons

	Positive	Negative
Scientific	14	7
Media	34	14
Political	35	10
Total	83	31

The leading sources of learning from abroad were China (generally) and Italy, followed by Germany, Korea, Wuhan (specifically), Hong Kong, and Taiwan. It is noticeable that, apart from Germany (mainly via the media), most of the positive lessons are from East Asia, but were spread across several countries rather than coming from a single place from which the UK might have learned, perhaps diluting the strong regional message coming from there.

China featured heavily in all of the sources, however, in much of the coverage China was being used for case information data and comparisons rather than as a potential source of robust and clear lessons to be learned and adapted for the UK.

Table nine: Comparing perspectives from abroad

Item	Politics	Science	Media	Total
China	10	5	13	28
Italy	9	2	9	18
Germany	1		7	9
South Korea	4		3	7
Wuhan (China)		6		6
Hong Kong	1	2	2	5
Taiwan	2	1	2	5
Spain	3		1	4

Singapore	1	2	1	3
Abroad (generic)	1	1		2
France	1			2
USA	1		1	2
Australia	1			1
Austria	1			1
California (USA)			1	1
Europe (generic)	2			1
East Asia (generic)			1	1
India			1	1
Ireland	1			1
Iran			1	1
Japan			1	1
Liberia			1	1
Malaysia		1		1
Macau		1		1
New Zealand			1	1
West Africa			1	1

Putting all these perspectives together suggests that not a great deal of learning seems to have taken place either from the past or from abroad. In particular, the scientific perspective appears very insular. Just over a third of all lessons are negative, suggesting what *not* to do. While this is valuable learning, in a pandemic it is also crucial for governments to be given clear and timely advice on what they *should* be doing. Similarly, pointing out that UK death rates are high compared to other nations (in, for example, Worldometers) is simply the first stage in lesson-drawing, demonstrating the knowledge that an inferior situation exists which is a pre-requisite for policy learning (eg Rose 1991). However, this does not easily lead to actions unless lessons are being learned from more successful countries.

It is more difficult to detect much of a clear picture for positive lessons. This is for three main reasons. First, some of the 'lessons' largely consist of data about the virus, such as case fatality ratios and the proportion of infected people who may need hospitalization or care in ICUs, which comes either from Wuhan or from Pandemic flu, which was used in the early period as default planning figures. While this is useful data, it does not bring much in the way of lessons or learning for a broader pandemic strategy. It may also have led to an over-reliance on modelling which led to overplanning around the need for equipment such as ventilators, and the testing and tracing programme not being given sufficient attention. Countries such as Germany and South Korea drew very different lessons from this early data, and formed a strong response.

Second, the level of detail or granularity of the suggested 'lesson' is often at a very low level. For example, arguing that the UK should move to 'lockdown' ignores the fact that the term covers a huge range of possibilities. 'Lockdowns' come in all shapes and sizes, in terms of timing, stringency, length (and compliance) (see eg Hale et al 2020). Similarly, the mantra of 'test, test, test' suggests that it is simply the number of tests carried out which is important. However, other factors such as the speed of testing, the effectiveness of contact tracing, and the arrangements which support isolation (eg financial support) are also vital. Again, these lessons are tactical rather than strategic, and required substantial interpretation and integration before they could be combined into a higher level approach for dealing with the pandemic. The pandemic response required an agile (Moon, 2020) approach, adapting lessons from other countries, but also learning from those that were successful, and the UK's response, in contrast to Germany, South Korea and Australia, appears to be fragmented and more concerned with hitting targets for test numbers than having an overall strategy for suppressing the virus.

Third, knowing that an intervention worked in the past or in another nation does not necessarily mean that it would work in the UK. This relates to the ‘fungibility’ of transfer (Rose 1991). Constraints may be technological. For example, Korea built up an infrastructure after MERS, and was much more prepared for their next pandemic (Moon 2020). On the other hand, there may be problems of perceived acceptability. For example, Korea used ATM bank details or mobile phones to detect if people were breaching quarantine (eg Moon 2020), which may not be deemed acceptable in nations such as the UK. However, what we have seen through the pandemic is a process of adaptation in which interventions, such as lockdowns, which would have been regarded as unimaginable in January, were put in place in March, where delays to the launch of mobile phone tracing applications appear to be due to poor planning, and with confused communications about restrictions leading to declining public understanding and trust (Sridhar, 2020). Lessons are fungible, but the general principles of dealing with a pandemic are far more universal.

The problems identified are exacerbated by the problems of intra-crisis learning with the urgency, threat and uncertainty of a crisis situation (Moynihan 2008, 2009; Boin et al 2018). While accepting that policymakers needed to learn quickly, the evidence from SAGE shows an unwillingness to consider positive lessons from abroad in the minutes of that committee. This, in turn, shows of a lack of integration of the both lessons from the past (in terms of what works in pandemic responses) and present (in terms of the more successful responses of countries like South Korea especially) into a strong strategy which left the UK lagging behind more successful nations in respect of its approach to border controls, COVID testing, tracing application development, and in the clarity of its messages to the public.

Conclusions

COVID-19 represents perhaps the clearest example in a generation of the need for policymakers to quickly learn, in real time, lessons about responding effectively. This paper used interpretive content analysis to explore scientific, media and political perspectives on the UK government's 'first-wave' response to present a transparent and systematic analysis of what was discussed as the pandemic unfolded in each source.

It is striking how partial the understanding of the pandemic was in terms of its discussion, at least as it was represented in SAGE minutes, and which suggested a very insular approach to the crisis which appeared to overlook the response in Asian countries – and with those countries appearing to have been far more successful than the UK in their response to the virus. At best 'historical' (Brändström et al 2004) or 'geographical' analogies appeared. The media response, in contrast, was somewhat wider in drawing from a range of different country's responses to the pandemic as well as summarising learning from the past. There appears to have been a disconnect then, between the wider societal discussions (led by the media), and that which was taking place in SAGE – perhaps because of the more prominent role from public health experts in the former. The focus of the SAGE committees were steered by the often speculative and complex parameters of the various models that were being produced. This epidemiological underpinning resulted in SAGE suggesting often complex interventions which resulting in complex outcomes that were difficult to measure and in interventions that were based in insular modelling suggestions rather than looking to the past or to other countries for policy learning (Pawson, 2020).

The Political perspective, similarly to the media analysis, presented clear positive lessons from the handling of past pandemics which appear not have been learned in policy, but also put a strong emphasis on negative lessons from China and Italy. There was some mention of South Korea (which would have increased the potential for positive lessons to be learned). However, it is striking the extent to which while the range of countries explored in Parliament was somewhat broader than that in SAGE, it does not appear to have been incorporated into policy.

There are clearly some limitations in this study. In particular, the Sage minutes are highly summarised and even have some members' names redacted. However, they do form a crucial

contemporary record of what was discussed and when, and are the best source we have. Perhaps in the future, those who participated will provide further details, but these too, will be partial, especially should there be a public inquiry into the pandemic.

In all then, the UK government appear to taken a rather piecemeal and unstrategic response to COVID-19. Scientific advice appears to have been rather insular, not making clear the crucial public health lessons from previous pandemics, and not paying attention to the lessons that could be learned from Asian countries. Policymaking appears disjointed, with messages about lockdown and testing not being formed into a coherent approach which could be linked to fast and effective infrastructural investment to deal with the pandemic rather than the delays in track-and-trace applications, the fragmented approach taken to contact tracing, the emphasis on numbers of tests rather than making sure the right people were tested, and the lack of strong quarantine and border controls. All of these factors were available as lessons from other countries which have been more successful in dealing with the pandemic than the UK. That our policymakers appeared unable to learn from them suggests the UK's state capacity to deal with a complex strategic issue is weak, and that its lack of investment in the public infrastructure necessary to successfully respond to an emergency has had deleterious effects.

Policymaking in real time, confronted by a pandemic is hugely difficult. But what is most concerning is whether UK policymakers have learned the lessons available even months after May 2020, when this paper's data ends (in October 2020, where a second wave of the virus is very apparent). There still appears to be a lack of a comprehensive testing regime, and contact tracing appears hugely variable. There are still no robust border controls in place, or systematic follow-ups for those travelling into the country. Until the UK puts in place the right infrastructural investment, it is hard to see how it can bring the virus under control.

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Document (SAGE Meeting)	Where?	What?
(1) 22.1.20	Abroad (Wuhan) (-)	Problems getting information from Wuhan. Minimal change to travel advice. Port entry screening low impact unless rapid test available
(1) 22.1.20	Abroad (Wuhan) (-)	Problems getting information from Wuhan. Test if symptomatic/been to Wuhan in past 14 days.
(1) 22.1.20	Past (MERS) (+)	Notes high uncertainty on how to identify cases, rates of infection, infectiousness in the absence of symptoms, and which previous experience (such as MERS) offers the most useful guidance.
(2) 28.1.20	Abroad (Wuhan) (+)	Spread of new cases: China. Update travel advice for China. No new infection measures for port entry.
(2) 28.1.20	Past (Pandemic Influenza) (+)	UK 4500 daily test rate by next week. R rate 2-3. Adapt Pandemic Flu Infection control guidance. Promote self isolation. Use behavioural science to steer actions.
(3) 3.2.20	Abroad (China) (-)	Consideration of estimated. 200-300k cases in China. Discusses impact of travel restrictions.
(4) 4.2.20	Abroad (Wuhan/Hubei) (-)	Restrictions deemed ineffective for delay. No lessons taken –advice to modellers to look at impact of lockdown measures and when peak will happen. Estimates of peak infection and when this will reach UK. Limited testing capacity in the UK.
(5) 6.2.20	Abroad (Wuhan/China/Thailand/Japan/Korea/Hong Kong/Taiwan/Singapore/Malaysia/ Macau) (+)	Update of case definition based on spread and air travel. All those with symptoms travelling from the countries listed should be included on the case definition.
(6) 11.2.20	Past (influenza) (+)	Use influenza pandemic assumptions (despite limited data). Gather data from those infected. Develop criteria when contact tracing no longer worthwhile. 8 UK cases. Low swab testing capacity.
(6) 11.2.20	Abroad (China) (-)	More international data to be sought. Limited data from China.
(8) 18.2.20	Abroad China (+)	Seek data from China. China cases decreasing.
(9) 20.2.20	Abroad (China and Hong Kong) (+)	Need to understand surveillance and evidence. Impacts of social distancing in China and Hong Kong.
(10) 25.2.20	Abroad (Wuhan/Singapore) (+)	Surveillance measures begin. Advise intervention measures need to be for significant duration as in Wuhan and Singapore.
(11) 27.2.20	Abroad (Generic). Narrative requested from SPI-M for effects of interventions in other countries). (+)	Priority areas agreed. Relating to monitoring, containing, modelling, behavioural science, risk factors. Estimates of death rates.

(14) 10.3.20	Abroad (Italy) (-)	Issue public message on symptoms. Revisit other measures in 1-2 weeks. Similar curve to Italy, 4-5 weeks behind. No measure in place. Estimated UK had 5-10000 cases.
(15) 13.3.20	Abroad ('other countries') (+)	Isolation of vulnerable should be implemented 'soon'. Public messages and impact upon behaviour of measures.
(17) 18.3.20	Abroad (Italy) (-)	Close schools. Unsure of impact of other measures. Increase testing. 2-4 weeks behind Italy. London could reach ICU capacity by April.

Appendix two – coding for media perspective

Document	Where?	What?
Abraham, Guardian, 23.01	Abroad and Past: China and Past (SARS) (+)	Greater openness; Lockdown
Peckham, Independent 30.1	Abroad and Past: China and Past (SARS) (-)	Greater transparency now, limited in the past.
Rohn, Guardian, 4.2	Abroad and Past: China (-) and Past (SARS) (+)	Initial cover-up then rapid response
Yu, Guardian 8.2	Abroad and Past: China and Past (SARS) (-)	Lack of free speech
Llewelyn, Express 17.2	Abroad and Past: West Africa and Past (Ebola) (+)	Knowledge; infrastructure; behaviour change; trust; surveillance and tracking.
Times (17.2)	Abroad and Past: China and Past (SARS) (-)	Openness
Hague, Telegraph 2.3	Abroad: China and Iran (-)	Honesty and openness
Rosenberg, Telegraph, 6.3	Abroad and Past: China (-) and Past (Plagues) (+)	False information; disinformation, but quarantine

Nanan-Sen, Express 7.3	Abroad: Singapore	Public health interventions, contact tracing, isolation and public engagement
McRae, Independent 8.3	Abroad: China and Italy (+)	Lockdown and restricting movement –we should look to learn from them – what works/what doesn't
Yang, Independent 11.3	Abroad and Past: Taiwan and SARS (+)	Preparedness; infrastructure; early travel ban; stopping export of PPE; public compliance
Spinney, Guardian 11.3	Past :('Spanish flu') (+)	Quarantine, isolation, masks and handwashing
Guerrera, Telegraph 12.3	Abroad: Italy (-)	Saving economy disastrous
Collcutt, Express, 14.3	Past :('Spanish flu') (+)	Quarantine, isolation, masks and hand-washing
Sridhar, Guardian 15.3	Abroad: Korea, Taiwan, China, Hong Kong,	Testing; contact tracing; [soft] social distancing; individual behaviour change
Daily Mail (17.3)	Abroad: China (+)	Early detection, quarantine and treatment
Marsi, Independent 20.3	Abroad: Italy (-)	Lockdown
Giuffrida, Guardian, 23.3	Abroad: Italy (-)	Lockdown
Samuel and Squires, Telegraph, 23.3	Abroad: Italy (-)	Lockdown
Saunders, Express 25.3.20	Past : 'Spanish Flu' (+)	Timing of and compliance with lockdown
Palmer, Mail 25.3	Abroad: China (+)	'Hard' Lockdown
Giordano, Independent, 26.3	Abroad: Italy (-)	High death rates of clinicians, linked to lack of PPE
Toynbee, Guardian, 26.3	Abroad: New Zealand (+)	Parliamentary Scrutiny Select Committee
Telegraph (28.3)	Abroad: China, Singapore, Korea, Japan (+)	Combination of: many ITU beds; affordable testing kits; TTT,enforcing social distancing; face masks; 'hard' lockdown surveillance through IT.
Squires, Telegraph, 29.3	Abroad: Italy (-)	Slow response; mixed messages; hospital-based care; lack of tresting
Nanan-Sen, Express, (1.4)	Abroad: Germany (+)	Extensive testing
Glaze and Bartlett, Mirror (1.4)	Abroad: Germany (+)	Extensive Testing

Hoare, Express (2.4)	Past :('Spanish flu') (-)	Need to study the virus and develop a vaccine; risk communication
Guardian (2.4)	Abroad: German, Korea (+)	Extensive testing
Nanan-sen, Express (7.4)	Abroad: Germany (+)	Extensive tresting.
Smith, Mirror (7.4)	Abroad: Germany (+)	Extensive testing
Stewart, Guardian (7.4.)	Abroad: Germany (+)	Extensive testing
Kaonga, Express (8.4)	Abroad: Spain (+)	Lockdown exit strategy: masks/disinfectant; testing; tracing technology
Gregory, Independent, (12.4)	Abroad: Germany (+)	Extensive testing
Observer (19.4)	Abroad: Hong Kong; China; Singapore (+)	Extensive contact tracing
McRae Independent (21.4)	Abroad: USA (+)	Early shut down; social distancing
Day, Express, (22.4)	Past and Abroad: Montreal 1885 Smallpox outbreak) (-)	Discharging patients from hospital to home; rejecting vaccination
Collyns, Guardian, (22.4)	Abroad: Ecuador (+)	Lockdown
Singh, Guardian, (22.4)	Abroad: Bolinas, California (+)	Universal testing (virus and antibody)
ALI, Telegraph (24.4)	Abroad: Kerala, India (+)	Rapid testing, early detection, rigorous contact tracing and strict 28-day home quarantine for suspected individuals
Linklater, Times (25.4)	Abroad: Germany (+)	TTI
Kaidan, Express (28.4)	Past: ('Spanish Flu') (-)	Lockdown lifted too soon
Marsi, Independent (2.5)	Abroad: Italy (+)(-)	Did not expand ITU capacity quickly enough. But universal testing in Vo
Brown, Telegraph, (4.5)	Abroad and Past: Liberia (+)and Past (Ebola) (-)	Some testing capacity following Ebola, but recruited new teams, and chaotic lockdown.
Sridhar, Guardian, (4.5)	Abroad and Past: East Asian nations and Past (SARS, MERS) (+)	TTI; appropriate PPE; 14 day international quarantines; clear communication
Marrick, Independent, (6.5)	Abroad: Korea (+)	TTI

Conradi, Sunday Times (10.5)	Abroad:Vo, Italy (+)	Quarantine of village and TTI
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Appendix three –coding for political perspective

Document	Speaker	Where?	What?
Hansard, 23.1	Hancock (Con)	Abroad (World) (+)	Cases in China, Thailand, Japan, South Korea, Taiwan and USA, none in UK
Hansard, 23.1	Hodgson (Lab)	Past (Ebola and Monkeypox). (+)	NHS has good record responding to Ebola and Monkeypox.
Hansard, 23.1	Hancock (Con)	Past (Pandemic flu) (+)	UK has well-established procedures for potential outbreak; be it of flu or a coronavirus.
Hansard, 23.1	Shannon (DUP)	Abroad (USA) (+)	USA has diverted flights to specific screening areas
Hansard, 3.2	Hancock (Con)	Past (SARS and Ebola) (+)	Virus characteristics, lower mortality than SARS/Ebola
Hansard, 3.2	Davies (Lab)	Abroad (China) (+)	Restricting movement;
Hansard, 11.2	Hunt (Con)	Abroad (China) (-)	Denial of hospital treatment;
Hansard, 26.2	Ashworth (Lab)	Abroad (-)	Number of cases
Hansard, 26.2	Whitford (SNP)	Past (SARS) (-)	Number of cases
Hansard, 26.2	Hancock (Con)	Abroad (Italy) (-)	Thermal detection at airports
Hansard, 26.2	Kendal (Labour)	Abroad (Italy) (-)	Lockdown
Hansard, 26.2	Sobel (Labour)	Abroad (China) (+)	Tracking App
HMG, 3.3		Past (Pandemics) (+)	UK coped well with previous Pandemics
Hansard, 3.3	Hancock (Con)	Past (Pandemics) (+)	UK coped well with previous Pandemics
Hansard, 3.3	Hunt (Con)	Abroad (China) (-)	Infection of healthcare workers
Hansard, 3.3	Hancock (Con)	Past (Pandemics) (+)	Timing
Hansard, 9.3	Hancock (Con)	Abroad (China) (+)	Slowing in rate of increase <i>may</i> be due to government measures
Hansard, 9.3	Benn (Lab)	Abroad (China) (+)	Need for hospital ventilators
Hansard, 9.3	Hancock (Con)	Past (Ebola) (+)	Different characteristics
Hansard, 9.3	Hancock (Con)	Abroad (-)	Temperate testing does not work

Hansard, 9.3	O' Brien (Con)	Abroad (a number of European countries) (+)	Ban on large public events.
Hansard, 9.3	Hollobone (Con)	Abroad: Italy (+)	Flight bans
Hansard, 9.3	Hancock (Con)	Abroad (Italy) (-)	Flight bans do not work: Italy was the only country in Europe that banned flights from China
Hansard, 11.3	Ashworth (Lab)	Abroad (Spain) (+)	Ban on football matches
Hansard, 11.3	Hunt (Con)	Abroad (China) (+)	More cases in UK than in Wuhan when it went into lockdown.
Hansard, 11.3	Eagle (Lab)	Abroad (Spain) (+)	Ban on football matches; Schools and colleges closed, and ban on large public gatherings in Madrid
Hansard, 11.3	Clark (Con)	Abroad (WHO-China joint mission report) (+)	Importance of testing
Hansard, 11.3	Benn (Lab)	Abroad (Italy) (-)	Two weeks ago Italy had the same number of confirmed cases as we have, and Italian intensive care units and hospitals are under great pressure.
Hansard, 11.3	David (Lab)	Abroad (South Korea) (+)	A lot to learn from South Korea .
Hansard, 11.3	Shannon (DUP)	Past (Pandemic of 1919) (+)	Secondary schools and churches stayed open—it was normal life, with precautions in place for all
Hansard, 17.3	Slaughter (Lab0)	Abroad (Italy) (-)	There are towns in northern Italy, of a similar size to many of our constituencies, that have seen thousands of cases of the virus, and hundreds of deaths.
Hansard, 17.3	Betts (Lab)	Abroad (+)	Compared advice against going to pubs, restaurants and places of entertainment in UK with France and other countries, where such visits are banned completely
Hansard, 17.3	Brock (SNP)	Abroad (Australia and Ireland) (+)	Mandatory 14-day self-quarantine period for arrivals
Hansard, 23.3	Clark (Con)	Abroad (+)	More testing in other countries
Hansard, 23.3	Hancock (Con)	Past (Pandemic flu) (+)	Bill started on the basis of the pandemic flu plan
Hansard, 23.3	Ashworth (Labour)	Past (Spanish flu) (-)	This is a global health emergency the like of which the world has never seen since the Spanish flu outbreak over 100 years ago
Hansard, 23.3	Ashworth (Lab)	Abroad (Italy) (-)	Exponential growth in line with Italy, suggesting that UK was heading to an Italian-style situation. Where intensive care bed capacity & high-dependency unit capacity, could be overwhelmed

Hansard, 23.3	Ashworth (Lab)	Abroad (Spain, France) (+)	UK beyond the numbers of fatalities that existed in Spain and France when they announced their stricter enforcement measures and their lockdowns.
Hansard, 23.3	Doughty (Lab)	Abroad (Italy and elsewhere) (+)	Italy and elsewhere are aghast that we have not moved to tougher measures sooner
Hansard, 23.3	Ashworth (Lab)	Abroad (+)	Need compulsory social distancing, but different models in different countries
Hansard, 23.3	Ashworth (Lab)	Abroad (Ireland) (+)	More community testing facilities
Hansard, 23.3	Hunt (Con)	Abroad (Italy) (+)	Our mortality rates are just two weeks behind Italy, so must move to lockdown
Hansard, 23.3	Hunt (Con)	Abroad (South Korea, Taiwan, Hong Kong, Singapore and China) (+)	Successful suppression strategies that have both social distancing, and testing and contact tracing.
Hansard, 23.3	Hunt (Con)	Abroad (South Korea, Germany, Australia and Austria) (+)	All these nations testing more than us per head of population
Hansard, 23.3	Hunt (Con)	Abroad (South Korea, Taiwan) (+)	Use mobile phone data
Hansard, 23.3	Brine (Con)	Past (Pandemic flu) (-)	Coronavirus Bill is in large part the pandemic influenza Bill.
Hansard, 23.3	Aldous (Con)	Abroad (China) (-)	Significant increase in the number of victims of domestic abuse
Hansard, 22.4	Starmer (Lab)	Abroad (other European countries) (+)	Testing is way behind other European countries
Hansard, 29.4	Starmer (Lab)	Abroad (Europe) (-)	We are possibly on track to have one of the worst death rates in Europe
Hansard, 29.4	Starmer (Lab)	Abroad (+)	France, Germany, Spain, Belgium, New Zealand, Australia, Scotland and Wales have all published exit plans