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The Independent Scientific Advisory Group for Emergencies (SAGE)

The Independent SAGE Report 12

Independent SAGE response to SAGE “Principles for Managing SARS-CoV-2 Transmission Associated with Higher Education”

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Submitted to The UK Government and the People of Great Britain
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Independent SAGE response to SAGE “Principles for Managing SARS-CoV-2 Transmission Associated with Higher Education”

On 21.8.20, alongside a live eventⁱ, the Independent SAGE published its “Consultation Statement on Universities in the context of SARS-CoV-2”. The post-consultation statement was published on the same day that SAGE endorsed a related document: “Principles for Managing SARS-CoV-2 Transmission Associated with Higher Education”. Overall, we welcome SAGE’s document and, while the documents vary in emphasis and provision of detail, they reinforce each other’s messages and call for caution. SAGE notes that “there is a significant risk that Higher Education (HE) could amplify local and national transmission and this requires national oversight”. It continues by stating: “It is highly likely that there will be significant outbreaks associated with HE, and asymptomatic transmission may make these harder to detect”.

In this brief response, we compare SAGE’s summary recommendations to those of Independent SAGE. There is one core area of difference, related to the **purpose, extent, and duration** of an online **teaching and learning** strategy. Both documents are clear that reducing in-person interaction is a key mitigation against Covid-19 transmission. However, the relationship of teaching and learning to other strategies (e.g., residential segmentation, contact tracing and testing) and the consequences of adopting one strategy for other strategies differs between the documents. Furthermore, SAGE’s prediction of outbreaks towards the end of term/winter is disconnected from recommendations about residential segments or in-person teaching. We note evolving international evidence that the return of Universities has led to many outbreaks. In the US, since the pandemic began, there have been over 50K cases in over 1K colleges. Since mid-August, there have been 7K cases involving college age people in Missouri alone, and in US counties where students comprise more than 10% of the population there has been a rise in cases from 11 to over 20 cases per 100K residents. In the same period, other counties have seen a fall from 15 to 12 cases per 100K .

Thus, Independent SAGE maintains its recommendation to **minimize in-person teaching and learning from the start of term, except for lab- and practice-based programmes, with regular review points**, for the following reasons:

1. Minimized in-person teaching will **maximize the effectiveness of creating residential segments** given their lack of overlap with course groupings.
2. Because **residential segments are highly unlikely to overlap with multiple teaching group segments**, the effectiveness of testing and tracing strategies is increased.
3. SAGE recommends that “Staff (academic and non-academic) should also be included in segments where possible rather than bridging groups”. Like residential segments versus course groups, Independent SAGE believes this is **impractical / largely unachievable**.
 - a. SAGE also recommends that “Particular attention should be paid to courses and settings that connect up staff and students across the institution or between organisations. Courses that involve work placements should consider the potential to transfer infection between organisations and need specific risk assessments that consider both environments”, and “Staff who have contact with many students or other staff, or work across multiple locations, will need to take particular care and be offered greater protection by their employers and colleagues.... This emphasises the need for people to avoid close, prolonged indoor contact with anyone as far as possible (at work, when travelling and in social contexts) and for people with different social networks to avoid meeting or sharing the same spaces.”
Independent SAGE agrees with these recommendations.
4. For new students who move to campus, **creating residential segments will be important for the creation of social relationships** and for reducing isolation and the associated risks to wellbeing. SAGE notes that “Second- and third-year undergraduates may be less affected

given their smaller households and as their term-time residence contacts are highly assortative (i.e. they tend to live with others in the same year and department).”

5. We also recommend that the first two weeks of term should be online for ALL courses, including lab- and practice-based programmes, as well as an online welcome week and restrictions on social activities among students where feasible. This is because if students bring the infection from their home city (including from higher incidence areas), we will know within two weeks. This will also enable the communication and implementation of rules, mitigations, engagement, norm construction, testing, collective behaviours – that is, all of the strategies recommended in both documents – needed to **keep campuses open** and Covid-safe.

In sum, maximizing remote learning at the start of term enables subsequent pivots TO in-person depending on infections rather than AWAY from it if there are cases, and may **mitigate against the late Autumn outbreaks predicted by SAGE**. This is because, quite simply, remote learning will reduce the number of people, in myriad combinations, occupying and travelling between multiple spaces and places – including from residential segments to classrooms and other locations on campus and in the local area, and while travelling to and from campus to other towns and cities.

Appendix A: Summary of key overlaps and points of difference between Independent SAGE and SAGE

	Independent SAGE	SAGE	Areas of difference?
Context	<i>Both documents begin by setting out the fact that Autumn 2020 will involve the movement of millions of people and notes the situation in the US regarding campus outbreaks and subsequent closures.</i>		No substantial differences.
	<ul style="list-style-type: none"> “This autumn will see the mass movement and migration of millions of people (around the world, at multiple points of the year (at least the start and end of every term, if not more frequently) to university campuses and towns. This will affect not just university employees and students but also the communities within the towns and cities and hosting these universities”. “The risks are tangible. Over recent weeks, US universities (e.g., University of North Carolina and University of Notre Dame) have had to shut down on-campus teaching soon after the start of the academic year due to COVID outbreaks. In at least one case, this was due to lack of infection control at social events.” 	<ul style="list-style-type: none"> “From September 2020 onwards, new Higher Education (HE) terms will see the return of a large number of students and staff to these settings across the country. [The paper] specifically considers how to manage transmission in the wider context of local and national interactions.” “Emerging evidence from the USA suggests that universities are very likely to experience outbreaks. Many colleges have already seen outbreaks as students have returned to campus, with one survey identifying over 26,000 cases across over 750 colleges.” 	
General risk in HE	<i>SAGE states explicitly what is tacit in the Independent SAGE statement.</i>		No substantial differences.
	<ul style="list-style-type: none"> “We believe that these measures are essential to deliver the best education to students, while also preventing clusters of infection and transmission to local communities of Covid-19”. 	<ul style="list-style-type: none"> “Outbreaks in HE are very likely”, with “significant risk” posed by universities that “could amplify local and national transmission.” 	
Timeline of likely increases in infections	<i>SAGE sets out a possible timeline leading to peaking infections towards the end of term. Independent SAGE does not model a timeline.</i>		There is an inconsistency between the claim in the executive summary, and the modellers in the Appendix, that return to campus poses low risk at the start of term. In short, if UK students were online from the start of term there would be no risk of the large-scale

			transmission predicted for November/December.
		<p>“With current virus prevalence and spatial heterogeneity there is a small risk of this at the beginning of term. However, if there is substantial amplification of infection in HE settings there is a more substantial risk at the end of term. Epidemic modelling within HE institutions suggests that large outbreaks are possible over a time period of weeks, so could peak towards the end of the term. Peak health impacts of these new infections and outbreaks they spark would coincide with the Christmas and New Year period posing a significant risk to both extended families and local communities (high confidence).”</p>	
Segmentation	<i>Both documents recommend accommodation segments. SAGE sets out its modelling in detail.</i>		Independent SAGE believes that in-person teaching reduces the effectiveness of residential segments; indeed, it most likely breaches them entirely. The segmenting recommended by SAGE is highly unlikely to be achievable.
	<ul style="list-style-type: none"> • “Residential ‘bubbles’ and segmenting will be more effective if not breached via constantly changing in-person class compositions.” • “What counts as a household, a bubble, and a gathering, is complex and variedⁱⁱ. For instance, a ‘hall’ or ‘household’ bubble is unlikely to overlap with multiple seminar or tutorial group bubbles.” • “Segmentation is not possible as in schools as students take courses in different departments and any such division would require a drastic change in course requirements and structure that cannot be made at short notice.” 	<ul style="list-style-type: none"> • “Modelling insights at the level of HE settings suggest that infection dynamics are dependent on the complex interactions between study years, courses, accommodation and social networks. Segmentation of student/staff populations (e.g. by course, year group, accommodation, site etc) should be designed to support easier detection of linked cases and, if necessary, enable more targeted closure / quarantine. Segmenting will be more effective if there are fewer contacts outside the group. It is important to consider that staff may inadvertently connect up segments (high confidence).” • “There is clear evidence of outbreaks in HE settings in other countries, linked to accommodation and social activities and settings such as bars. Students who are residents in university accommodation should be segmented as far as possible to co-locate courses or year groups, to minimise networks between different parts of an institution which could drive transmission (medium confidence).” 	

		<ul style="list-style-type: none"> • “Specific communications on managing risk should include commuter students and students with part time jobs, who are a point of contact between the university and social networks in other communities.” 	
Teaching and learning strategy	<p><i>While both documents emphasize the risks of in-person teaching, and recommend remote learning, they differ with regards to the extent and purpose. Both recommend the same mitigations for any in-person indoors social interactions (e.g., practice-based courses) and both include practice-based courses as requiring in-person provision.</i></p>		<p>Independent SAGE maintains its recommendations about minimizing in-person teaching for the reasons set out at the start of the document and suggests that its strategy flows logically from many of SAGE’s observations below.</p>
	<ul style="list-style-type: none"> • “We recommend that to protect the safety of students and staff, and prevent community infections, all University courses should be offered remotely and online, unless they are practice or laboratory based, with termly review points.” • “Also core to University operations is a particular intensity, variety, number, and duration of (teaching) interactions, with constantly changing populations, in enclosed indoor spaces, increasing the likelihood of ‘superspreader events’.” • “A planned, stepwise pivot TO in-person delivery, underpinned by, for example, national and local data regarding transmission and cases rates, is more practical and safer than a rapid pivot AWAY from hybrid/dual modes.” • “Where sustained contact between staff and students is essential, including student support provision, Provide information (per-room risk assessments) about safe ventilation, equipment (e.g. PPE), and so on, to staff and students to ensure that key health and safety measures are not left to individual interpretation, assessment, or choice; Publish thresholds of infection within certain subjects/labs which would require closing of that facility, or a stop to in-person teaching and moving online; Mitigations in classrooms and other spaces 	<ul style="list-style-type: none"> • “There is strong evidence that reducing in-person interaction is an effective way to limit transmission and so delivery of activities online, especially for larger groups is a key mitigation (high confidence).” • “Social interactions are likely to be a high-risk environment”. • “Many elements of HE can successfully be delivered remotely, however there are risks to some sectors that require face-to-face elements, particularly research and healthcare where delaying qualification could have significant consequences” • “Some HE courses including vocational elements with close personal contact, healthcare related courses, and performing arts may pose additional risks (medium confidence) and increased consideration of PPE/face coverings, ventilation or cleaning is needed.” • “Students or staff may live in a different geographic region to their university, which may have different restrictions depending on prevalence. Flexibility will be required to enable such staff and students to engage remotely if they are unable or unwilling to travel due to restrictions, and staff and students must not feel under actual or perceived pressure to continue to attend campus if this contravenes restrictions.” 	

	<p>(e.g., corridors where social distancing is reduced) including face coverings, social distancing of two meters as the norm, ventilation, PPE provision, and regular cleaning.”</p>	<ul style="list-style-type: none"> • “ Infection dynamics within a university are likely to be highly dependent on the interplay of different layers of networks across years of study, courses/modules, accommodation and wider social networks.” • “Staff (academic and non-academic) should also be included in segments where possible rather than bridging groups. Particular attention will need to be given to settings such as libraries and professional service staff.” • “Particular attention should be paid to courses and settings that connect up staff and students across the institution or between organisations. Courses that involve work placements should consider the potential to transfer infection between organisations and need specific risk assessments that consider both environments.” • “Staff who have contact with many students or other staff, or work across multiple locations, will need to take particular care and be offered greater protection by their employers and colleagues. ... This emphasises the need for people to avoid close, prolonged indoor contact with anyone as far as possible (at work, when travelling and in social contexts) and for people with different social networks to avoid meeting or sharing the same spaces.” 	
<p>National coordination</p>	<p><i>Both documents emphasise the need for national coordination across core areas of planning and management.</i></p>		<p>No substantial differences.</p>
	<ul style="list-style-type: none"> • “We recommend that national coordinated steps are taken by universities and maintained as the pandemic evolves. While universities vary greatly in terms of geography, student body, facilities, etc., they should work together to develop guidance, policy, and practice, rather than ‘compete’ in their offers to students.” • “Any testing strategy needs to be nationally coordinated, in partnership with appropriate national public health bodies. This will also help universities make the case for infrastructure and testing capacity across all communities.” 	<ul style="list-style-type: none"> • Mitigating risk “requires national oversight” • “Strategies to mitigate amplified transmission risk should have national coordination.” • “As well as linking between HE institutions and local public health teams, it is essential that outbreak response plans are linked into the national NIHP C-19 strategy to enable national level monitoring and decision making. NIHP should put this into place as soon as possible in consultation with DfE, local public health teams and HE institutions.” 	

Ventilation	<i>Both documents, with differing levels of detail, emphasise the risks associated with complex and highly varied facilities and infrastructure.</i>		No substantial differences, although Independent SAGE maintains that, given “The environment in many HE buildings is conducive to aerosol transmission with poorly ventilated classroom and staff office spaces (where tutorials are held) posing a particular risk”, its emphasis on remote learning for small groups is implicitly supported by SAGE.
	<ul style="list-style-type: none"> “Universities often comprise tens or hundreds of separate buildings which vary enormously in their affordances or constraints for physical distancing and reducing aerosol transmission via inconsistent ventilation abilities.” “Also core to University operations is a particular intensity, variety, number, and duration of (teaching) interactions, with constantly changing populations, in enclosed indoor spaces, increasing the likelihood of ‘superspreader events’.” 	<ul style="list-style-type: none"> “Super spreading outbreaks are associated with crowded indoor spaces (high confidence) and there is growing evidence that aerosol transmission may be an important transmission route (medium confidence). Particular attention should be given to ventilation provision alongside plans for managing social distancing; together these are likely to constrain the occupancy of physical spaces for educational activities.” “Aerosol transmission may be a significant mode of transmission especially for super spreading events which lead to multiple secondary cases. The environment in many HE buildings is conducive to aerosol transmission with poorly ventilated classroom and staff office spaces (where tutorials are held) posing a particular risk.” 	
Communication & behaviour	<i>Both documents emphasise the importance of clear communication strategies, consistent messaging, and collective norms for safe behaviours.</i>		No substantial differences. We note that Independent SAGE provides detailed ways to achieve many of these recommendations through its Appended exemplar communication strategy and collaborative social agreement.
	<p>“The effectiveness of all strategies aimed at establishing these new behavioural norms crucially depends upon messaging that is strong, clear, and unambiguous”.</p> <ul style="list-style-type: none"> We recommend “A collaboratively designed social agreement of Covid-safe behaviours on campus for 	<ul style="list-style-type: none"> “Communication strategies are a critical part of minimising transmission risks associated with HE. Guidance on how to behave is more likely to be adhered to if people understand the reasons they are asked to take certain actions, and if it is co-produced with the staff and students who will be affected by it.” 	Plus social agreement

	<p>students and university staff” and “Full consultation with University staff, rigorous health and safety procedures, attention to equality and diversity issues, and an overarching communication strategy.”</p> <ul style="list-style-type: none"> • “Implement an explicit Covid-19 social agreement in the campus community, which makes everyone responsible for each other’s health but at the same time counteracts blame narratives. There may also need to be targeted communications led by University communications teams to prevent and counteract any blame narratives that emerge.” • “The aims of the measures suggested below are to mitigate risk and create strong social norms; that is, a collective sense of responsibility and personal agency to avoid university closures. It is crucial to have clear and consistent messaging about policies, practices, and procedures, across all channels (see Appendix A for an exemplar strategy). There must also be clear procedures for implementation in behaviourally specific terms – who needs to do what, where, and when, rather than agentless information ‘dumps’ or emails.” • “Clear policies and practices will make it easier for students from different countries to come to the UK knowing that these are in place to protect them both from Covid-19 (and other SARS) and from attacks by those who blame them if there is a spike due to a lack of planning and implementation.” 	<ul style="list-style-type: none"> • “A communication strategy should help to prepare staff and students for new behaviours that are required of them, as well as provide an accurate account of the level of risk involved and the processes that are in place to mitigate risk. ... The communication itself should be done by a range of people – including students and student unions. It is essential that messages reach everyone, including those who may not read emails or attend particular meetings.” • “Involve staff and students in co-producing guidance, messages and interventions.” • “Guidance differs across the four nations of the UK, and overseas students are likely to have experienced very different sets of rules and social norms. As education providers, HE institutions are in a good position to help staff and students understand not just what ‘the rules’ are that apply to their own institution, but, more importantly, the principles that underlie these rules. This will provide better motivation for people to adhere to them, and enable them to adapt their behaviour to HE settings (medium confidence). Providing education as to how COVID-19 spreads, and how to reduce the risk, should underpin guidance and be an important induction activity.” • “Consistency in messaging and guidance should be sought across departments and faculties, and partner organisations, in order to reduce confusion and promote confidence. Where different rules are in place in different settings, this should ideally be explained. Apparent inconsistencies between institutions may also be problematic in reducing trust – there should be communication between neighbouring institutions or institutions that share courses or facilities.” 	
Asymptomatic population	<i>Both documents attend to the risks associated with young people being likely asymptomatic, and thus undetected / hard to detect, carriers of Covid-19.</i>		No substantial differences.
	<ul style="list-style-type: none"> • “Most students in the UK are under 25 and therefore more likely to be asymptomatic carriers of Covid-19, 	<ul style="list-style-type: none"> • “It is highly likely that there will be significant outbreaks associated with HE, and asymptomatic transmission may 	

	<p>and thus undetected. There is a concern that the spread may be masked by so-called 'Freshers' flu'. Further, there is increasing evidence of a surge of infections in young people which has led to WHO issuing a specific warningⁱⁱⁱ “</p>	<p>make these harder to detect.” “Evidence suggests there are a higher proportion of asymptomatic cases among younger age groups, meaning that cases and outbreaks are likely to be harder to detect among student populations (high confidence). Outbreaks may therefore be large and widespread before they are effectively detected (medium confidence).”</p>	
Testing	<p><i>Both documents set out the need for a clear testing and tracing strategy, connected nationally and locally, and with an emphasis on support for those who are sick or self-isolating.</i></p>		No substantial differences.
	<p>“An overall mitigation plan that includes a clear public health strategy including a clear testing strategy for students and staff.”</p> <p>“Any testing strategy needs to be nationally coordinated, in partnership with appropriate national public health bodies. This will also help universities make the case for infrastructure and testing capacity across all communities.”</p> <p>“Contact testing must be readily available for anyone who believes they may have been in contact with someone who has Covid-19. Support needs to be provided for all those required to isolate, including support to enable them to self-isolate. Systems for contact tracing and testing within the University must be agreed with the local public health teams, with clarity about who is responsible for what.”</p> <p>“It is important to include University populations within government funded surveillance studies of SARS-CoV-2 to help inform national and regional pandemic response strategies. Universities are encouraged to participate in studies and pilot studies, provided that research protocols are well designed and there is appropriate ethical approval and governance and public health and clinical oversight.”</p>	<p>“It is essential to develop clear strategies for testing and tracing, with effective support to enable isolation. Universities are good locations to pilot approaches such as population case detection (PCD). Enhanced testing in response to suspected outbreaks is likely to be beneficial in detecting and preventing ongoing transmission.”</p> <p>“A critical control against transmission is that people with symptoms isolate, are tested and engage with contact tracing. As such a national strategy defining key principles for additional testing in HE should be developed that can be adapted and implemented locally.”</p> <p>“If staff or students feel that the result of a test may have a negative impact on their studies, pay, workload, peers or colleagues, this will be a disincentive to request a test or to reveal their symptoms.”</p> <p>“Universities should consider providing dedicated accommodation facilities to enable students who test positive to effectively isolate if they require it.”</p>	
Equalities	<p><i>Both documents draw attention to the need to ensure equal access to the resources needed to learn remotely.</i></p>		No substantial differences. Independent SAGE includes specific sections on <i>Equality and Diversity Impact Assessments</i> and <i>Ensuring an Equal Learning</i>

			<i>Environment for Non-Campus Based Students.</i>
	<ul style="list-style-type: none"> • “Universities, with the support of government funding, must ensure that all students have the resources necessary to participate in online teaching and study.” • “For students, enabling remote learning requires extensive government support for digital accessibility and safe remote working. • “For the students who are not attending university there needs to be a joined-up policy initiative between government and educational institutions. This would assure access to technology, study materials and safe spaces for students not on campus. Lack of these will particularly affect the most disadvantaged students who may live in cramped homes, or areas that do not have access to fast broadband and cannot afford technologies.” • “The Government should immediately invest in and deliver on digital inclusion strategies and a nationally standard subsidised or free-to-students fast broadband service.” 	<ul style="list-style-type: none"> • “Alongside any adjustments to enable in-person provision, it is important that access to online learning is also considered, both in terms of accessibility of materials for different students and in their ability to engage effectively including whether they have appropriate equipment, working spaces and internet connections.” 	
Mental health and wellbeing	<i>The SAGE document includes a particular emphasis on “the wider physical and mental health of students and staff, beyond COVID-19”, which Independent SAGE welcomes.</i>		No substantial differences overall. Regarding SAGE’s claim that “survey evidence related to COVID-19 indicates disruption to research and learning, lower wellbeing and increased mental distress” – while noting that there is more evidence from schools and less from HE – Independent SAGE also notes that the evidence is mixed. For instance, another secondary-school based study found that “Compared to pre-pandemic, there was an overall

			<p>decrease in risk of anxiety, and an increase in wellbeing but no large change in risk of depression; The largest improvements in mental health and wellbeing were for students who had poor mental health and wellbeing before lockdown; There were no overall changes in peer connectedness or family connectedness.”^{iv}</p>
	<ul style="list-style-type: none"> • “Like elsewhere in the population, there is a need to balance the risk of student mental health linked to isolation versus risk of transmission.” • “There is a concern that the spread may be masked by so-called ‘Freshers’ flu’. Further, there is increasing evidence of a surge of infections in young people which has led to WHO issuing a specific warning.” 	<ul style="list-style-type: none"> • “There need to be specific strategies to consider the wider physical and mental health of students and staff, beyond COVID-19. This will include maximising the influenza vaccination programme to minimise co-infection risks and providing support to mental health programmes.” • “Whilst younger HE students are likely to have less severe COVID-19 (high confidence), this will not be true for all students and staff, and there is no strong evidence that those in HE demographics in general play a smaller role in transmission than adults in the general population (medium confidence). HE settings have a significant number of staff and students who may be more vulnerable to severe consequences of COVID-19, and this will vary between institutions.” • “There is likely to be co-infection with other viruses including influenza over autumn and winter³ (high confidence). Maximising the influenza vaccination programme to protect at-risk groups in HE settings will be important, as will approaches to distinguish between respiratory viruses (e.g. multiplex testing).” • “There is evidence of physical and mental health impacts from missing or limited access to education and from the reduced social interaction and support that can arise from remote learning. Although direct evidence in HE is more limited than in schools, survey evidence related to COVID-19 indicates disruption to research and learning, 	<p>“The Report effectively calls attention to the mental health issues that staff and students may face as a result of isolation (see pages 22-23). However, it fails to consider the mental health implications of forcing people into a face to face environment they don't trust.”</p> <p>New students without networks – campus residential segments to create relations.</p>

		lower wellbeing and increased mental distress (low confidence). Further restrictions and short-term actions such as isolation in response to test and trace may have additional impacts on wellbeing. It is important that provision is made to support mental and physical health of staff and students, beyond COVID-19. Additional support is likely to be needed in the HE sector to provide capacity beyond already stretched mental health services.”	
Mitigations	<i>Both documents emphasise the importance of all the key mitigations including face coverings, handwashing, social distancing, and regular cleaning.</i>		No substantial differences.

ⁱ https://www.youtube.com/watch?v=3t4MjpN2d_U

ⁱⁱ <https://wonkhe.com/blogs/universities-get-some-sage-advice-on-reopening-campus/>

ⁱⁱⁱ <https://www.youtube.com/watch?v=sdJu6k3u57Y>

^{iv} <https://sphr.nihr.ac.uk/wp-content/uploads/2020/08/Young-Peoples-Mental-Health-during-the-COVID-19-Pandemic-Report.pdf>

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Following the science