



Department
for Education

**Details on DfE data sources referenced
in SAGE paper: *SPI-M: The role of
children in transmission (16 April 2020)***

Ad hoc notice

June 2020

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Introduction and rationale

For the 26th meeting of the Scientific Advisory Group for Emergencies (SAGE) on COVID-19, held on 16 April 2020, the Scientific Pandemic Influenza Group on Modelling (SPI-M) produced a paper entitled *SPI-M: The role of children in transmission (16 April 2020)*.¹

This paper outlined the clinical evidence on the susceptibility, infectiousness and presentation of SARS-CoV-2 (the virus which causes COVID-19) in children; the evidence on transmission in schools, households, and other settings; and the wider impacts of current and possible interventions on children.

On 22 May 2020, SAGE published this paper among others relating to the scientific evidence on reopening education settings.

SPI-M: The role of children in transmission (16 April 2020) includes several references to data and statistics provided to SAGE by DfE on the wider impacts of educational closures. For the purposes of transparency, this ad hoc notice outlines how those statistics have been calculated and the data sources that have been used.²

In particular, this ad hoc notice reports two pieces of data in support of two statistical claims from the SAGE paper:

- (i) Data on serious incident notifications on child deaths and serious harm to support the assertion that “National Panel Notifications for Serious incidents are not increasing”.³
- (ii) DfE estimates of the proportion of children most likely to require childcare in the event of school closures, showing that around 24% of children of critical workers live in households where all adults are critical workers.⁴

¹ The [SAGE paper](#) is available to download from the Government Office for Science [website](#), where a range of evidence relating to the government’s response to COVID-19 is published.

² *SPI-M: The role of children in transmission (16 April 2020)* includes a range of references to an internal DfE report. Only references to data which are from DfE sources, and are not otherwise available in the public domain, are included in this ad hoc statistical release. Some references in the SAGE paper to the DfE internal report reflect anecdotal evidence and the best expert judgement available at the time – consequently those references are not included in this publication.

³ See Annex A (§12) of the SAGE paper.

⁴ See Annex A (§39) of the SAGE paper.

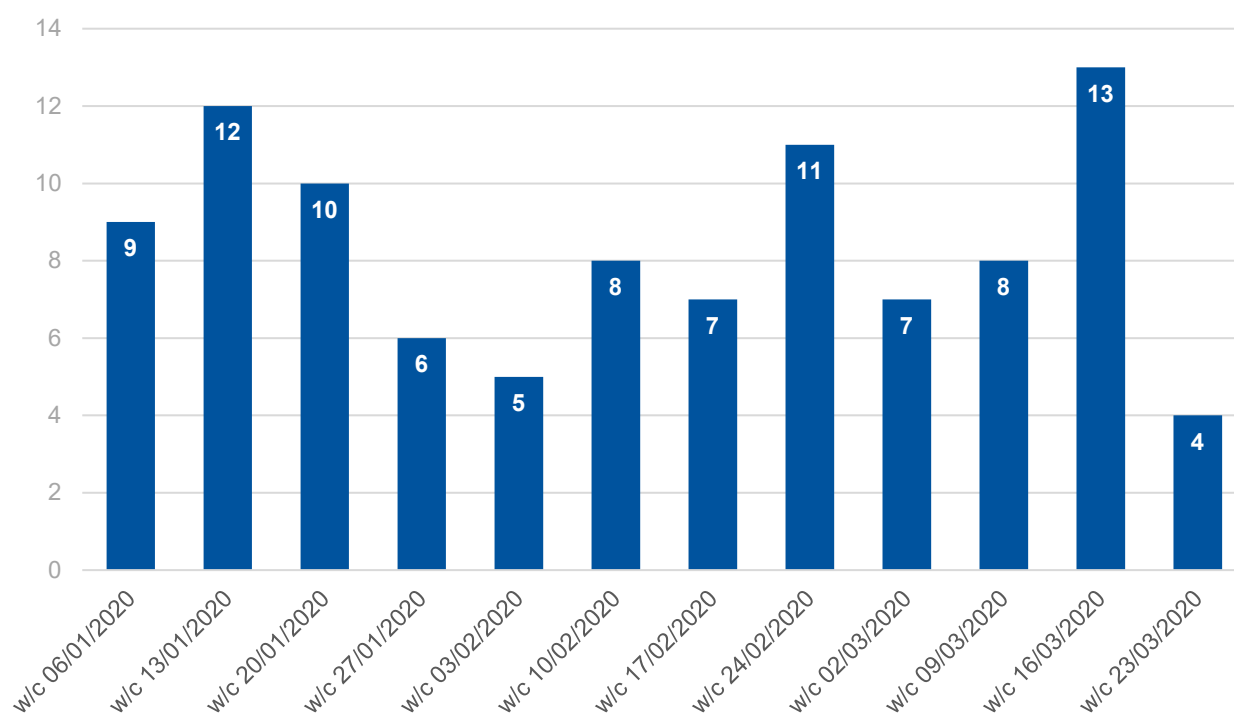
Data on serious incident notifications

SPI-M: The role of children in transmission (16 April 2020) reports a range of evidence, available at the time of writing, on the possible impacts of school closures on different groups of children. This includes analysis of more vulnerable groups of children and an assessment of risks to their health and wellbeing. The SAGE paper presents a variety of data including statistics on serious incident notifications (SINs) (see Annex A, §12).

A serious incident notification is a specific statutory duty on local authorities to inform the Child Safeguarding Practice Review Panel of any incident where a child dies or is seriously harmed, and abuse or neglect is known or suspected.⁵

The SAGE paper states that serious incident notifications, at the time, were ‘not increasing’. This ad hoc notice reports the data available to SAGE during the first week of full school closures, which began on Friday 20 March 2020, showing that serious incident notifications remained in line with expected natural variations. However, given the context and timing of the SAGE paper, this clearly only presented a very initial estimate of the impact of school closures.

Figure 1: Serious incident notifications in England (week commencing 6 January 2020 to week commencing 23 March 2020)⁶



⁵ Local authorities notify incidents to the Child Safeguarding Practice Review Panel using an online notification system called CSINS. This is a shared system and the data is available to the Department for Education, the Panel and Ofsted. The data is collated centrally in DfE and cleaned to enable aggregation and categorisation. Records are not modified, however, through the data cleaning process fields may be interpreted so that they can be included in the aggregation (eg if the local authority records ‘Other – suicide’ when it should have been recorded as ‘Child Death’). The data is then used to draw comparisons over time and update a fortnightly internal dashboard.

⁶ Small numbers have not been suppressed in this chart. These are national figures and due to the time lag between incidents occurring and being reported, as well as no contextual information being provided alongside the figures, the risk of identifying individual vulnerable children is considered minimal.

The number of notifications made each week vary but are often very low. This means changes to the numbers week-on-week are likely to reflect natural variation, rather than being indicative of substantive trends, or any underlying increase or decrease in the rate of SInS. Equally, the numbers presented here reflect when incidents were reported, rather than when they happened. Although local authorities are under a statutory duty to report incidents within five days, this is not always achieved, for example eight of the SInS reported in the week commencing 16 March 2020 were incidents that took place between four months and twenty months prior to the date of reporting.

Estimates of the proportion of children who are most likely to require childcare

SPI-M: The role of children in transmission (16 April 2020) (Annex A, §39) references a DfE estimate that around 24% of children of critical workers live in households where all adults are critical workers (and are therefore more likely to require childcare in order to allow those workers to remain in the workforce).⁷

This figure is calculated using data from Labour Force Survey (LFS) and proportions of the workforce in different occupation classifications assumed to be critical workers. This is used to estimate the proportion of children of whose parents are critical workers, and the proportion of children of critical workers who live in households where *all* adults are critical workers.⁸

The LFS disaggregates employment into Standard Occupational Classification (SOC) codes.⁹ Across each SOC, the proportion of the workforce who are critical workers is approximated. This represents an initial and indicative assessment used to calculate the percentage of children who may need childcare in a plausible scenario. It does not represent an official estimate of childcare need.

Table 3 outlines the percentage of workers in each SOC code assumed to be critical workers.¹⁰ SOC codes which are not included in this table are assumed, for purposes of the calculation, to be 0% critical workers. Where a SOC code is assumed to be less than 100% critical workers, but greater than 0%, an appropriate random sample of individuals within those SOC codes is used in this analysis.¹¹ These percentages are then used to calculate, using LFS data, the proportion of children in households where at least one adult is a critical worker, and where *all* adults are critical workers. These figures are shown in Table 1 and Table 2, respectively. Finally, the percentage of children living in households where *all* adults are critical workers (8.3%) is divided by the percentage of children living in households where *any* adults are critical workers (35.0%) to estimate the percentage as quoted in the SAGE paper:

$$8.3\% / 35.0\% = 23.7\% \approx 24\%.$$

⁷ There are multiple different possible approaches to estimate the numbers of critical workers. The Office for National Statistics (ONS) have, more recently, released estimates of the numbers and characteristics of those who could be considered as potential critical workers. Details are available [online](#).

⁸ The Labour Force Survey is a study of the employment circumstances of the UK population which includes details on the number of children per household for a sample of the UK. For more details, see the [ONS website](#). This analysis uses Q3 2019 data.

⁹ For more details on Standard Occupation Classifications, see the [ONS website](#). In this analysis, SOC 2010 codes are used.

¹⁰ The assumptions on occupational classifications listed in Table 3 have been made by DfE and are intended to be used heuristically to provide a plausible estimate of the demand for places in education settings. They do not represent a definitive list of critical workers, nor do they represent a definitive list of workers who are eligible for childcare. The latest guidance on eligibility for childcare for critical workers, which applies to education settings, can be found on the [government website](#).

¹¹ For example, for this analysis a random sample of 50% veterinarians (SOC 2010: 2216) is taken to reflect the assumption that 50% of those workers are critical workers. The overall headline findings are not sensitive to this random sampling approach.

Annex: supporting tables

Table 1: Estimates of the proportion of children in households where one or more adult is a critical worker

	Proportion of all children
Children in households where at least one adult is a critical worker	35.0%
Children in households where no adults are critical workers	65.0%
Total	100.0%

Source: DfE analysis using LFS and assumptions listed in Table 3

Table 2: Estimates of the proportion of children in households where all adults are critical workers

	Proportion of all children
Children in households where all adults are critical workers	8.3%
Children in households where not all adults are critical workers	91.7%
Total	100.0%

Source: DfE analysis using LFS and assumptions listed in Table 3

Table 3: Proportion of the workforce assumed to be critical workers, by 2010 Standard Occupational Classification

Standard Occupational Classification 2010	Percentage assumed to be critical workers
1150 Financial institution managers and directors	100%
1161 Managers and directors in transport and distribution	100%
1162 Managers and directors in storage and warehousing	100%
1171 Officers in armed forces	100%
1172 Senior police officers	100%

1173 Senior officers in fire, ambulance, prison and related services	100%
1181 Health services and public health managers and directors	100%
1184 Social services managers and directors	100%
1211 Managers and proprietors in agriculture and horticulture	100%
1213 Managers and proprietors in forestry, fishing, and related services	20%
1255 Waste disposal and environmental services managers	100%
1259 Managers and proprietors in other services (nec)	20%
213 Information Technology and Telecommunications Professionals	20%
2211 Medical practitioners	100%
2212 Psychologists	100%
2213 Pharmacists	100%
2214 Ophthalmic opticians	100%
2215 Dental practitioners	100%
2216 Veterinarians	50%
2217 Medical radiographers	100%
2221 Physiotherapists	100%
2223 Speech and language therapists	100%
2231 Nurses	100%
2232 Midwives	100%
2312 Further education teaching professionals	50%
2314 Secondary education teaching professionals	50%
2315 Primary and nursery education teaching professionals	50%
2316 Special needs education teaching professionals	50%
2317 Senior professionals of educational establishments	50%
2319 Teaching and other educational professionals (nec)	50%
2412 Barristers and judges	100%
2413 Solicitors	100%
2419 Legal professionals (nec)	100%
2442 Social workers	100%
2443 Probation officers	100%
2444 Clergy	50%
2471 Journalists, newspaper and periodical editors	100%
3111 Laboratory technicians	100%
3213 Paramedics	100%
3216 Dispensing opticians	100%
3217 Pharmaceutical technicians	100%
3218 Medical and dental technicians	100%

3219 Health associate professionals (nec)	100%
3311 NCOs and other ranks	100%
3312 Police officers (sergeant and below)	100%
3313 Fire service officers (watch manager and below)	100%
3314 Prison service officers (below principal officer)	100%
3315 Police community support officers	100%
3319 Protective service associate professionals (nec)	50%
3511 Air traffic controllers	100%
3512 Aircraft pilots and flight engineers	100%
3513 Ship and hovercraft officers	100%
3520 Legal associate professionals	100%
3561 Public services associate professionals	100%
4112 National government administrative occupations	100%
4113 Local government administrative occupations	100%
4114 Officers of non-governmental organisations	100%
4123 Bank and post office clerks	100%
4133 Stock control clerks and assistants	50%
4134 Transport and distribution clerks and assistants	50%
4211 Medical secretaries	100%
5111 Farmers	100%
5119 Agricultural and fishing trades (nec)	100%
5242 Telecommunications engineers	100%
5431 Butchers	100%
5432 Bakers and flour confectioners	100%
5433 Fishmongers and poultry dressers	100%
6121 Nursery nurses and assistants	100%
6122 Childminders and related occupations	100%
6123 Playworkers	100%
6125 Teaching assistants	100%
6126 Educational support assistants	100%
6141 Nursing auxiliaries and assistants	100%
6142 Ambulance staff (excluding paramedics)	100%
6143 Dental nurses	100%
6145 Care workers and home carers	100%
6146 Senior care workers	100%
6147 Care escorts	100%
6148 Undertakers, mortuary and crematorium assistants	100%

7112 Retail cashiers and check-out operators	100%
8111 Food, drink and tobacco process operatives	100%
8121 Paper and wood machine operatives	100%
8122 Coal mine operatives	100%
8123 Quarry workers and related operatives	100%
8124 Energy plant operatives	100%
8125 Metal working machine operatives	100%
8126 Water and sewerage plant operatives	100%
8127 Printing machine assistants	100%
8129 Plant and machine operatives (nec)	100%
8143 Rail construction and maintenance operatives	100%
8211 Large goods vehicle drivers	100%
8212 Van drivers	100%
8213 Bus and coach drivers	100%
8222 Fork-lift truck drivers	100%
8223 Agricultural machinery drivers	100%
8229 Mobile machine drivers and operatives (nec)	100%
8231 Train and tram drivers	100%
8232 Marine and waterways transport operatives	100%
8233 Air transport operatives	100%
8234 Rail transport operatives	100%
8239 Other drivers and transport operatives (nec)	50%
9111 Farm workers	100%
9119 Fishing and other elementary agriculture occupations (nec)	100%
9134 Packers, bottlers, canners and fillers	100%
9211 Postal workers, mail sorters, messengers, and couriers	50%
9232 Street cleaners	50%
9235 Refuse and salvage occupations	100%
9241 Security guards and related occupations	100%
9251 Shelf fillers	100%
9260 Elementary storage occupations	100%
9271 Hospital porters	100%
All other Standard Occupational Classifications	0%

Note: (nec) = not elsewhere classified



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