Technical Report

The Impact of the coronavirus pandemic on the interpretation of Health and Safety Statistics 2020/21

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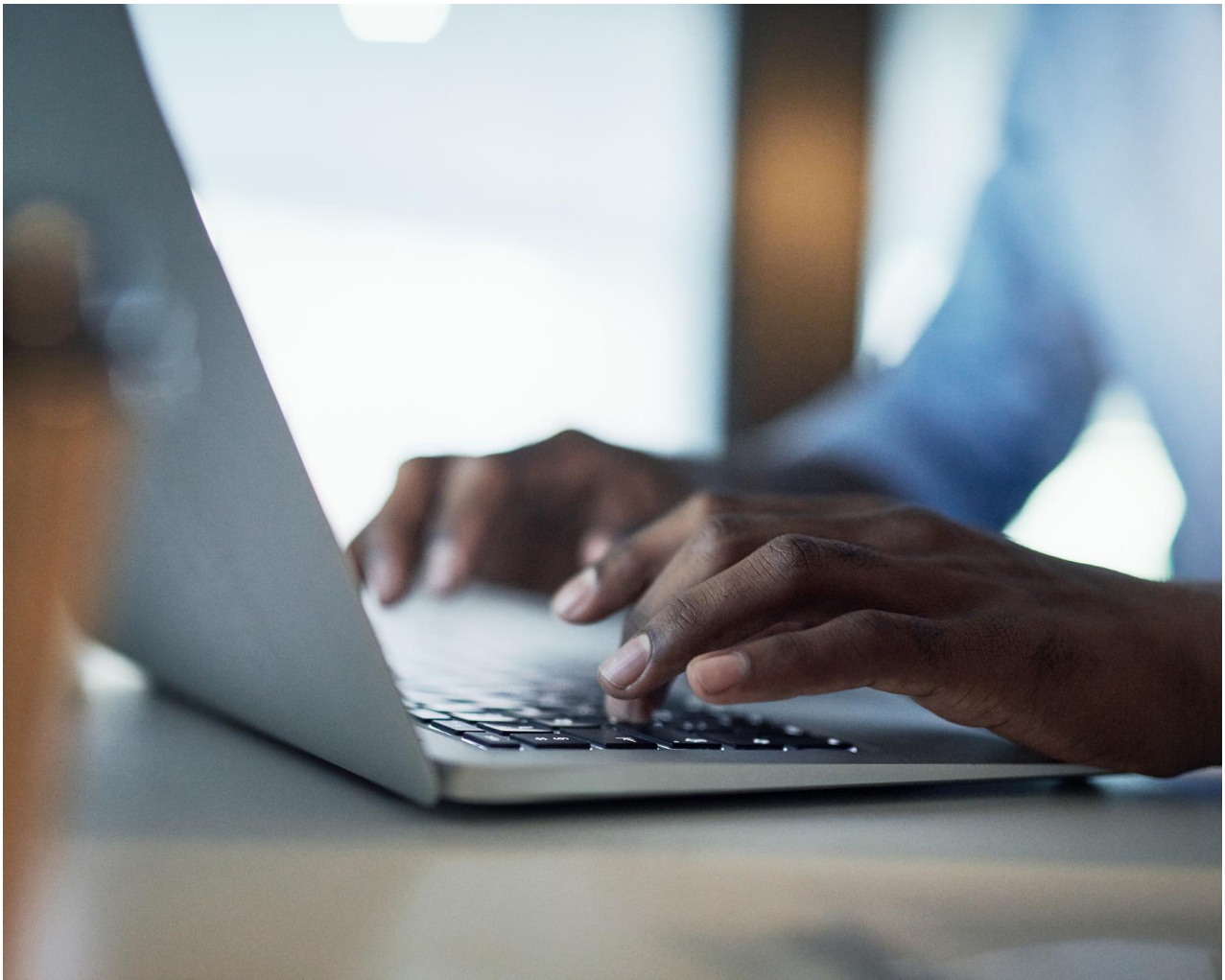

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1. Summary

1. Each year, HSE publishes the latest compendium set of national statistics on health and safety at work. The various statistics within the 2021 publication[1] have to a greater or lesser extent been impacted by the coronavirus pandemic. While every endeavour has been made during the pandemic to collect and update data on as complete and comparable basis as possible, important differences with earlier years' data remain. This report considers the different impacts of the pandemic on health and safety statistics and the approaches taken to ensure that data quality is maintained.

2. The discontinuities introduced by the coronavirus pandemic mean that for many of our statistics (particularly those relating to injury and shorter latency ill health conditions), it is not possible to make meaningful statistical assessments of trend across the most recent years. In our 2021 statistical commentaries, we have instead presented trends prior to the pandemic period and commented on whether there has been any change in the most recent year compared to the pre-coronavirus level.

3. Injury incidence rates for 2020/21 have been produced on the same basis as in previous years, namely as rate of injury per 100,000 workers. However, in 2020/21 these rates will be an under-estimate relative to the population at risk. This is since the employment estimates include people who were on furlough, thus inflating the size of the at-risk population. As some industries were more affected by furlough than others, this impact is variable across different groups. Preliminary work exploring injury frequency rates at the all-industry level (which standardise numbers based on hours worked instead of numbers in employment) confirms this prior expectation. However, it also confirms that accounting for the impact of furlough, at the all-industry level at least, the overall direction of change is still downward, albeit at a dampened rate.

4. Estimates of the rate of self-reported work-related ill health in 2020/21 are more broadly comparable, methodologically speaking, with estimates from earlier years. As you don't need to be at work to suffer a work-related illness, the rate calculation assumes a slightly wider definition of number of workers, namely anyone who has worked in the last 12 months, regardless of whether for the full year. Furlough therefore doesn't impact on these rates in the same way as injury rates.

[1] Published 16 December 2021. See https://www.hse.gov.uk/statistics/assets/docs/hssh2021.pdf

5. The figure for the total number of self-reported ill health cases in 2020/21 is impacted by the coronavirus pandemic and two new estimates to help understand the contribution of the coronavirus pandemic to work-related ill health in 2020/21 have been produced:

    - COVID-19 which may have been due to exposure to coronavirus at work, as reported by workers.
    - Other work-related illness caused or made worse by the effects of the coronavirus pandemic, as reported by workers.

    The construction and statistical interpretation of these data are explored in section 4. An important limitation is that such estimates should not be simply subtracted from the overall work-related ill health estimates to assess the scale without the effects of the coronavirus pandemic. We do not know whether some of the people reporting a coronavirus-related ill health condition would have developed and reported an ill health condition if pre-pandemic working practices had continued.

6. A small number of data sources have been impacted by the coronavirus pandemic to such an extent that no new data is available in the 2021 statistics publication: namely both working days lost due to workplace injury or work-related ill health and costs to Britain of workplace injuries and new cases of work-related ill health. Issues with data collection also mean that there is no update for 2020/21 of violence at work from our headline data source Crime Survey for England and Wales, though limited information on violence at work in 2020/21 is available from secondary sources (Labour Force Survey and RIDDOR). Section 3.1 provides more details about the impact of coronavirus on all the main health and safety data sources.

2. Introduction

7. The coronavirus (COVID-19) pandemic and the government's response to its impact has had a significant effect on the labour market in 2020/21. Many new health and safety risks and challenges have arisen, including the direct effects of controlling exposure to coronavirus at work, as well as rapid changes in working circumstances and the consequent health and safety risks to workers that this may have introduced.

8. On the 23rd March 2020 the government introduced a national lockdown with various restrictions and a stay-at-home message to all but essential workers that extended into early July. The opening up of places of employment and types of work varied by sector and region with periods of subsequent restrictions on some work activities over the autumn and winter of 2020-2021. This also changed how and where people worked, contingent on the type of work, compliance with COVID secure workplace guidance, economic demand and subject to individual business policies and approaches.

9. The scale of the changes and disruption to the economy have been unprecedented. Around 11.5 million employee jobs at various times over the year were supported by the Coronavirus Job Retention Scheme for employees[2] (widely referred to as furlough). About 2.7 million of the self-employed claimed a grant via the Self-Employment Income Support Scheme[3]. Of those in employment, around a half reported doing some work from home in the early stages of the pandemic[4].

10. The UK labour market in 2020/21 was markedly different to that of previous years and this has introduced methodological challenges to measuring health and safety outcomes, compounded by changes or disruption to many data collection processes. There are also challenges in terms of interpreting data both within the year and in the context of comparison with earlier years.

11. This paper explores the impact of the coronavirus pandemic on health and safety at work statistics for 2020/21, including the development of two new coronavirus measures. It first sets out the various methodological challenges and the approaches that have been adopted (including in some cases, not providing updated statistics for 2020/21) along with the rationale. The paper considers impacts across the main range of data sources routinely used in the production of health and safety statistics. The paper goes on to describe the development of the two new measures designed to directly estimate the effects of the coronavirus pandemic on health and safety at work.

[2] Official statistics overview: Coronavirus Job Retention Scheme statistics: 7 October 2021 - GOV.UK (www.gov.uk)

[3] Self-Employment Income Support Scheme statistics: February 2021 - GOV.UK (www.gov.uk)

[4] Coronavirus and homeworking in the UK - Office for National Statistics (ons.gov.uk)

3. Impact of coronavirus pandemic on established health and safety statistics

3.1 Impact of coronavirus pandemic on HSE's main statistical data sources

12. No single data source perfectly captures the totality of health and safety outcomes at work. The compendium health and safety statistics release comprises a range of data sources to enable a rounded assessment of health and safety outcomes at work[5]. The various sources include surveys, administrative and operational data, sentinel surveillance schemes and models. The emergence of the coronavirus pandemic and the government's subsequent response has had some impact on almost all these main data sources.

13. While every effort has been made to minimise the impact of the pandemic on health and safety statistics, some important changes have resulted. In most instances, new data for 2020/21 is available, but needs interpreting in the context of the pandemic situation. In a small number of instances though, the extent of the disruption is such that we have had to suspend or reduce certain data series this year.

14. Table 1 below summarises the impact that the coronavirus pandemic has had on the main range of published data sources. Fuller details for each source can be found at Annex 1.

[5] For more details on the range of data sources used, see https://www.hse.gov.uk/statistics/sources.htm

Table 1: HSE's main data sources for health and safety statistics and the impact of coronavirus on data

Data source	2020/21 Estimate?	Notes
Labour Force Survey (LFS) – workplace injury	Yes	Sharp decrease in annual estimated number of cases. Issues exist around consistency in rates in 2020/21 with earlier years (similarly for latest annual average estimates that include 2020/21). This is discussed in detail in section 3.2. While there have been a number of methodological changes, we don't believe this has materially impacted the data on workplace injury and work-related ill health as suitable adjustments have been made in the analysis.
RIDDOR [Note 1] – employer reported injuries	Yes	A sharp decrease in number of reports, mostly coinciding with periods of national restrictions. Potentially this decrease reflects both reduced injuries, and also reduced reporting by employers. Issues around consistency in rates in 2020/21 with earlier years. This is discussed in detail in section 3.2.
Crime Survey for England and Wales (CSEW)	No	Comparable data from CSEW is not available for 2020 due to changes resulting from move to telephone interviewing in 2020 in response to the coronavirus pandemic.
Labour Force Survey (LFS) – work-related ill health	Yes	Latest annual estimated numbers will include cases that are due to the coronavirus pandemic (either cases of COVID-19 themselves due to exposure at work, or cases as a result of the coronavirus pandemic itself). Developed two new estimates to quantify this. See section 4 for more details. While there have been a number of methodological changes, we don't believe this has materially impacted the data on workplace injury and work-related ill health as suitable adjustments have been made in the analysis.
LFS – working days lost due to work-related ill health or workplace injury	No	Cannot produce reliable estimates of working days lost for 2020/21 that are consistent with estimates for earlier years. This is due to issues with impact of furlough on reported working days lost together with changes in question asking about usual hours worked which is required for estimation process.

THOR [note 2] - Reports of ill health by specialist physicians	Limited	Sharp decrease in numbers reported to THOR scheme covering respiratory disease (reports from chest physicians) and skin disease (reports from consultant dermatologists). This decline is attributed to coronavirus pandemic and only headline numbers of reported cases published for 2020.
Ill health assessed for Industrial Injuries Disablement Benefit (IIDB)	Yes	Substantial reduction in number of assessments for most occupational diseases covered by IIDB. Coronavirus pandemic likely to have affected both claimant behaviour and the medical assessment process. Mesothelioma and asbestos-related lung cancer less likely to have been affected due to prioritisation of these claims.
Death Certificates	Yes	The reliability and interpretation of published mesothelioma and asbestosis mortality data are not believed to be affected by coronavirus pandemic. Published mortality data on other occupational causes of death may be affected.
Costs to Britain Model	No	Model not updated in 2021. As well as issues with reliability and appropriateness of various model inputs due to impact of coronavirus, resulting model outputs for pandemic year would not be appropriate for intended purpose of informing future costing and spending decisions.
Enforcement data	Yes	Substantial reductions in numbers, reflecting reductions in enforcement activity due to coronavirus pandemic. Data included in the 2021 statistics publication on notices issued to duty holders for health and safety breaches are only for those notices issued by HSE due to delays in collecting this data from Local Authorities.
European comparisons	Yes	Available comparable data pre-dates the coronavirus pandemic.

Note 1: Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)
Note 2: The Health and Occupation Reporting Network (THOR)

3.2 Impact of coronavirus on estimating workplace injury and work-related ill health rates

15. To enable appropriate comparison of work-related ill health or injury between sub-groups (e.g., between years, or within years between different industries or age groups) it is necessary to standardise the number of cases to account for differences in size between the sub-groups. HSE's approach is to standardise using rates of work-related ill health or injury per 100,000 workers.

16. Estimates of number of people in employment are used to estimate worker totals. This number includes workers who are temporarily absent from work (e.g., on sick leave or holiday). Estimates of those in employment in 2020/21 are not entirely consistent with estimates from earlier years because government support schemes outlined earlier meant a larger than normal number could be classified as in employment yet not be working (see paragraph 9).

17. There are conceptual differences in the population at risk of suffering work-related ill health compared with the population at risk of sustaining a workplace injury. Historically, this has led to a slightly different definition of employment in the calculation of rates of ill health (particularly from the Labour Force Survey) compared with rates of injury. This means that the effect of those in employment but not working in 2020/21 could differentially affect work-related ill health and injury rates. Consequently, these are considered separately below.

3.2.1 Work-related injury rates

18. Our preferred statistical source of work-related non-fatal injury are self-reported work-related injuries collected through the LFS. The LFS provides the most complete estimate of workers sustaining a non-fatal injury at work. It provides an estimate of the number of all non-fatal workplace injuries regardless of whether the injury resulted in time off work. It also provides two measures of more serious injuries, inferred by duration of time away from work: injuries resulting in more than 3 consecutive (working and non-working) days away from work and injuries resulting in more than 7 consecutive (working and non-working) days away from work[6]. These data are supplemented with reports by employers of certain workplace non-fatal injuries (generally the more serious) that are reportable under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). Data from RIDDOR complements the LFS data, providing greater richness in terms of details about the injury sustained. For more details, see https://www.hse.gov.uk/statistics/sources.htm.

[6] While there is potential for these measures to be impacted by changes in absence patterns during the pandemic e.g., through furlough, analysis suggests that in practice any impact has been small. This is discussed further in Annex 1

19. It is necessary for a person to be in (or at) work to sustain an injury. Rates for work-related injury are calculated using an estimate of the average number of people employed over the last 12 months to reflect the population at risk of injury. Average employment numbers include people that are temporarily away from work (e.g., on sick leave, annual leave, maternity/paternity leave etc), though this is usually stable at around 7.5%[7] per year and so hasn't previously posed an issue for calculating consistent injury rates. It has previously been judged that including those temporarily absent from work is preferable, on the assumption that absences are short term and, for the most part, part of a normal working pattern. Therefore, the measure of those in employment is used as the best available proxy for the size of population at risk of injury.

20. However, in 2020/21 many more workers were temporarily away from work due to furlough. Such workers are included in the official estimates of employment[8]. Therefore, the employment estimate used to calculate injury rates in 2020/21 is not entirely consistent with previous years and will over-estimate the number of workers actually 'at-work' (and therefore at risk of suffering a work-related accident) compared with previous years. Given this, injury rates are likely to be lower, all other things being equal, in 2020/21 compared to previous years.

21. Table 2 below gives an indication of the wide variation in the spread of furloughed workers by industry sector over the course of 2020/21. Therefore, the impact of using an estimate of those in employment to calculate rates in 2020/21 will have a greater effect on the rates of some industries (those with higher levels of furlough) compared with earlier years than others. Some of the industry sectors with the highest rates of non-fatal injury - for example, construction, accommodation and food service activities, manufacturing and wholesale and retail trade (including motor vehicle repair) - had some of the highest proportions of furloughed jobs throughout 2020/21.

[7] X07: Labour Force Survey weekly estimates - Office for National Statistics (ons.gov.uk). [See table 3]

[8] A guide to labour market statistics - Office for National Statistics (ons.gov.uk)

Table 2: Estimated proportion of furloughed employee jobs by sector and quarter of 2020/21, UK

Industry	SIC Sector	Quarters of 2020/21			
		Q1	Q2	Q3	Q4
Agriculture, forestry and fishing	A	13%	5%	6%	10%
Mining and quarrying	B	24%	9%	3%	4%
Manufacturing	C	33%	15%	10%	13%
Electricity, gas, steam and air conditioning supply	D	12%	2%	1%	2%
Water supply; sewerage, waste management and remediation activities	E	17%	7%	5%	7%
Construction	F	41%	16%	12%	16%
Wholesale and retail trade; repair of motor vehicles and motorcycles	G	36%	15%	13%	21%
Transportation and storage	H	24%	14%	10%	13%
Accommodation and food service activities	I	70%	40%	46%	58%
Information and communication	J	15%	10%	7%	9%
Financial and insurance activities	K	6%	3%	2%	3%
Real estate activities	L	24%	12%	9%	11%
Professional, scientific and technical activities	M	20%	13%	9%	10%
Administrative and support service activities	N	31%	17%	12%	15%
Public administration and defence; compulsory social security	O	1%	1%	0%	1%
Education	P	11%	7%	3%	7%
Human health and social work activities	Q	9%	5%	3%	4%
Arts, entertainment and recreation	R	61%	41%	38%	50%
Other service activities	S	47%	27%	29%	40%
Activities of households as employers; undifferentiated goods-and services-producing activities of households	T	42%	14%	11%	11%

Table footnotes

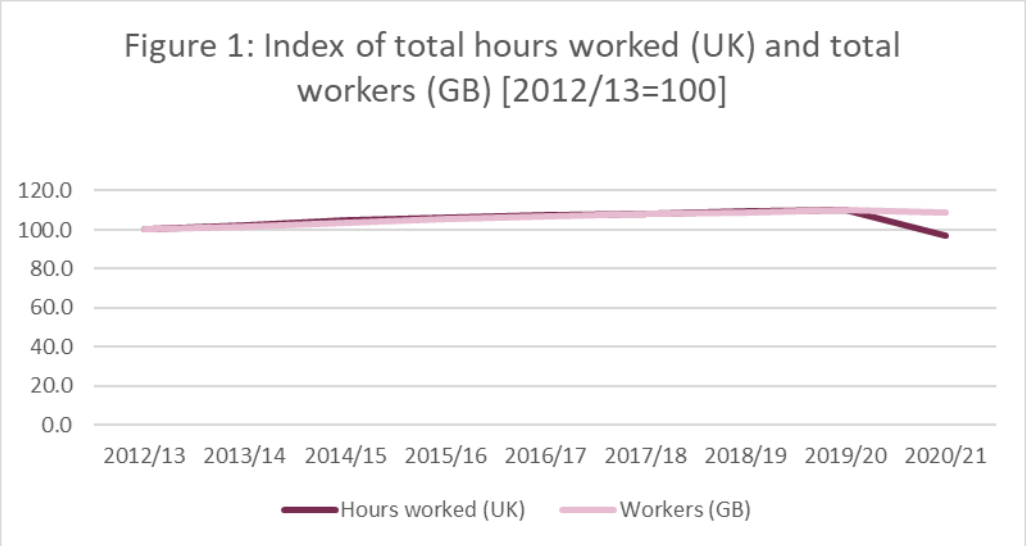
Percentages have been derived by dividing estimate of furloughed jobs (experimental statistics) by all employee jobs.

Estimates of Employee jobs – taken from ONS published table JOBS03: Employee jobs by industry - Office for National Statistics (ons.gov.uk)

Estimates of furloughed jobs – taken from Official statistics overview: Coronavirus Job Retention Scheme statistics: 7 October 2021 - GOV.UK (www.gov.uk) [Table 3] [Note: furlough data for Q2-Q4 include both partially and fully furloughed jobs. The option to partially furlough jobs was introduced on 1 July 2020]

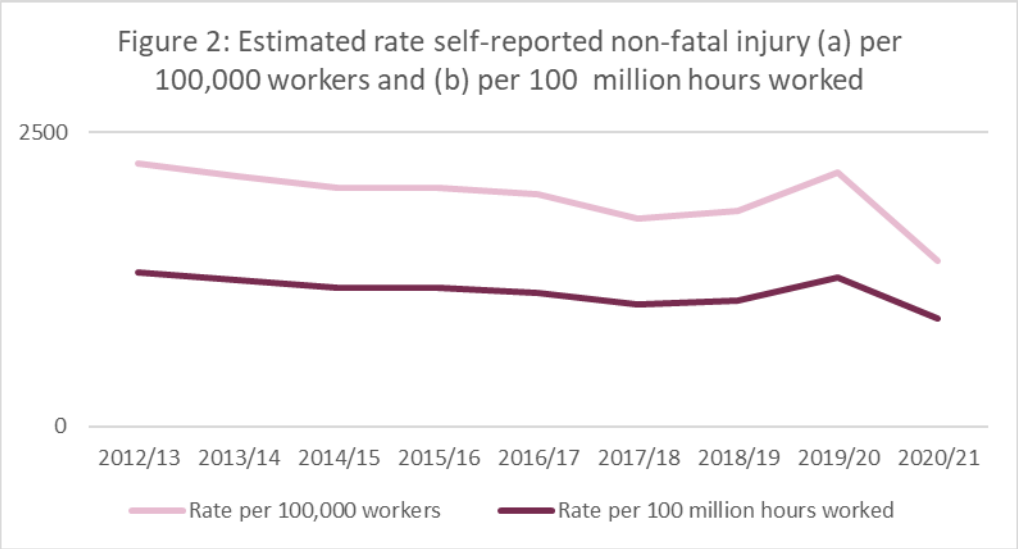
22. An alternative to incidence rates as a way of standardising injury counts to enable comparison between different groups or over time is frequency rates. The frequency rate can be expressed as the number of workers injured over a year for each 100 million hours worked. Through user engagement we know that injury frequency rates are used by some organisations and we have previously published an information paper advising how incidence rates can be converted to frequency rates (and vice versa). See https://www.hse.gov.uk/statistics/assets/docs/injury-frequency-rates.pdf.

23. The number of hours worked in 2020/21 was markedly lower compared with other recent years, reflecting the impact of furlough. In contrast, the number of people in employment was more stable as furloughed workers were included in the count. This is illustrated in Figure 1 below, which shows total hours worked and total workers in employment expressed as an annual index over the period 2012/13-2020/21, with 2012/13=100.



Source:
Total workers: Annual Population Survey: Number of worker (jobs) [Based on HSE's derived estimate of jobs: the analysis and interpretation is the sole responsibility of HSE]
Total hours worked: HOUR03: Average hours worked by industry - Office for National Statistics (ons.gov.uk)

24. Given the uncertainty over comparability of workplace injury incidence rates in 2020/21, we have explored the impact of standardising injury numbers using actual hours worked as this rate measure is free from the issues of furlough. Figure 2 below presents the self-reported non-fatal injury incidence rates alongside experimental estimated frequency rates. The movement in both series mirror each other very closely, although the fall in rate in 2020/21 from the 2018/19 pre-coronavirus was not as steep in the frequency (hours) rate series and was more in-line with the pre-coronavirus trend than the incidence (in employment) series. Although not shown here, standardising employer reported non-fatal injuries under RIDDOR by hours worked presents a similar picture.



Source: Labour Force Survey

25. This supports our assessment that injury incidence rates in 2020/21 will likely be an under-estimate due to this denominator issue, all other things being equal. However, it also confirms that after accounting for the impact of furlough, at the all-industry level at least, the overall direction of change is still downward, albeit at a dampened rate. [Note: this assessment in self-reported injury data does not account for the sampling uncertainty associated with the survey estimate itself].

26. These issues also apply to the rate of fatal workplace injury. Previously, rates of cases of ill health reported to the Specialist Physician reporting schemes (THOR) have used the estimate of workers in employment to calculate estimated rates. However, as noted in table 1, because of the exceptionally low numbers reported in 2020 only limited data from the scheme is being published for 2020 and it includes no rate information.

27. Aside from these methodological considerations, changes in the way that work is organised or delivered as a result of the pandemic may have contributed to some of the non-fatal injuries in 2020/21 or indeed prevented some. However, linking an injury to the effects of the pandemic is extremely difficult and not possible to do within the limitations of the data collected in either the LFS or RIDDOR.

3.2.2 Work-related ill-health rates (Labour Force Survey)

28. Work-related ill health conditions are usually a manifestation of exposure to a hazard over a period of time rather than to a single event (which would more likely be categorised, at least in the first instance, as an injury from a discrete accident). They can be acute (short-term) or chronic (persist over a long period of time, sometimes over a lifetime). Furthermore, there can be a time-lag (latency) between the exposure to the hazard and the presentation of the ill health condition (for example a musculoskeletal back condition may develop slowly over several years). Because of these factors, a worker doesn't necessarily have to be at work to suffer a work-related condition (which can be either a continuation of a pre-existing condition or a newly presenting case). This differs from a work-related injury, where the worker had to be in work for the accident to occur.

29. HSE's estimates of work-related ill health from the LFS are mostly restricted to the sub-population of people who have worked in the last 12 months. To standardise the estimated number of cases, the rates are constructed by dividing the count of workers reporting a work-related illness by an appropriate estimate of people who worked in the last 12 months multiplied by a factor of 100,000. The estimate of employment used to estimate work-related ill health rates from the Labour Force Survey includes all those who have been in employment at some point over the last 12 months, regardless of whether for the entire year. This approach recognises the fact that to suffer a work-related ill health condition you don't necessarily need to be at work. This is a slightly wider definition of employment than is appropriate for calculating injury incidence rates.

30. While furlough has impacted on the number of people actually at work (as opposed to in employment), it should have very little impact on our estimate of people who worked at some point in the last 12 months as only a minority of people will have been furloughed for a full twelve-month period (see Table 2 above). Indeed, from table 2 the industries where this looks most likely are accommodation and food service activities, arts, entertainment and recreation and other service activities, all of which have average or lower rates of work-related ill health.

31. In addition, furlough will not have impacted on the number of people suffering a work-related illness in quite the same way as on the number of people sustaining a workplace injury as you don't necessarily have to be in work to suffer a work-related condition. However, it will almost certainly have had some effect: for example, it will have reduced some exposures while introducing additional potential sources of exposure (e.g. to stress), though it is not possible to quantify the extent.

32. Therefore, estimates of the rate of self-reported work-related ill health in 2020/21 are more broadly comparable, methodologically speaking, with estimates from earlier years.

3.3 Interpretation of Trends

33. The coronavirus pandemic in 2020/21 introduced unprecedented changes to the workplace. These changes extend to health and safety at work, including end health outcomes. In the case of work-related ill health, in 2020/21 (and possibly 2019/20) some cases of work-related ill health will be cases of COVID-19 due to exposure at work, some will be other types of work-related ill health related to the effects of the coronavirus pandemic (e.g., arising from the way that work has been re-organised as a result of coronavirus) and some will be the completely unrelated to the coronavirus pandemic as in pre-pandemic years. For workplace injury, as previously noted, changes in the way that work is organised or delivered as a result of the pandemic may have contributed to some of the non-fatal injuries in 2020/21 or indeed prevented some.

34. This combined with both the methodological challenges calculating comparable injury (and to a lesser extent ill health) rates and issues with data collection mean it is difficult to interpret trends in health and safety outcomes across the latest years. The approach adopted for putting the 2020/21 data in context has been to comment on the level of workplace injury and work-related ill health in 2020/21 compared to the pre-coronavirus level (or 2020 for some data collections where data is on a calendar year basis) and to note the pre-coronavirus trend. The effects of the pandemic mark 2020/21 out as an anomalous year and as such it is not directly comparable with earlier years.

35. It is too soon to say exactly how the world of work will evolve in the coming years as we adjust to the long-term presence of coronavirus in the community, though it is looking increasingly likely that there will be a long-term legacy on working conditions in many workplaces. The effects of this will be borne out in future health and safety statistics and the statistics will remain an important source of evidence on potentially changing patterns of health and safety.

36. For injuries and short latency illness conditions, it is clear that the coronavirus has introduced a large discontinuity in the data, but perhaps less clear for long latency ill health where the harm was done many years ago. However, there is a potential for a longer-term effect of COVID-19 on this data. The emergence of a new significant cause of death in older people could mask the extent of long latency ill health in older and retired workers going forward.

37. It is anticipated that the majority of issues in the 2020/21 data will be reduced in future years. However, issues with some data sources will likely continue. For example, it is likely that current pressures on the NHS will continue to disrupt reporting into the THOR scheme.

4. Measuring the impact of coronavirus on work-related ill health in 2020/21

38. With the clear potential for coronavirus to impact on work-related illness, HSE commissioned additional questions in their annual module of work-related illness questions in the Labour Force Survey (LFS) to be able to assess the contribution of coronavirus to overall work-related ill health. The HSE work-related ill-health questions in the LFS ask respondents if in the last 12 months they have suffered any illness, disability or other physical or mental problem that was caused or made worse by their job or work done in the past. Further questions elicit information about the most serious of these illnesses or conditions if there are more than one (see https://www.hse.gov.uk/statistics/lfs/modules.htm). In 2020/21, these additional questions were asked about the most serious reported condition eliciting whether respondents considered it was linked to the coronavirus pandemic. This has allowed us to develop two estimates of the impact of coronavirus on self-reported work-related ill-health and therefore better understand work-related ill-health in 2020/21 in the context of the pandemic, namely estimates of:

    - COVID-19 which may have been due to exposure to coronavirus at work
    - Work-related illness caused or made worse by the effects of the coronavirus pandemic

4.1 COVID-19 due to exposure to coronavirus at work

39. This estimate provides a measure of the number of self-reported COVID-19 cases due to workplace exposure to coronavirus within the overall estimate of work-related ill health. For respondents to recall such cases within the survey, they first need to respond positively to the work-related ill health screening question:

    > "Within the last twelve months have you suffered from any illness, disability or other physical or mental problem that was caused or made worse by your job or by work you have done in the past?"

    Survey respondents reporting that they have suffered a work-related ill health condition are then asked to provide details of the condition (or where they have suffered more than one condition, the condition they deem the most serious) which is categorised by the survey interviewer into one of eleven illness categories.

40. For those respondents reporting either an infectious disease or breathing or lung problems, additional questions were asked to determine if the specific condition was COVID-19 that they believe may have been contracted at work. Specifically:

> "Do you think your illness may have been from exposure to coronavirus (COVID-19) at work?"

41. Those respondents who reported either an infectious disease or breathing or lung problems as their most serious work-related illness and thought it was from exposure to coronavirus (COVID-19) at work form the basis of the estimate of self-reported COVID-19 due to exposure to coronavirus at work (The flow chart at Annex 2 shows the question sequence for defining this group).

42. An additional question

> "Was your coronavirus (COVID-19) confirmed by a test?"

was also asked but not included as part of the measure of COVID-19 due to exposure to coronavirus at work. This is because in the first wave of the pandemic, testing was targeted and only became more widely available over the course of the year. However, we do provide a breakdown of the COVID-19 estimate by reported test status (see the published table at https://www.hse.gov.uk/statistics/assets/docs/lfsillcov.xlsx).

43. There are a number of limitations of the measure of COVID-19 due to exposure to coronavirus at work. It would, in many cases, be difficult for an individual to know where they acquired COVID-19 given its prevalence in the community and this could lead to under or over attribution to work exposure. Some respondents may not even have considered it as a work-related condition given its wide prevalence in the general community. Or they may not have thought worthy of mentioning it if they only suffered mild symptoms. Indeed, those who reported other work-related conditions may not have considered the infection or breathing or lung problem caused or made worse as their most serious and consequently not have been asked whether they thought this may be due to exposure to coronavirus (COVID-19) at work.

44. Although, there is uncertainty over this measure, on balance it probably underestimates the scale of COVID-19 acquired from exposure at work. However, it does allow an assessment of the burden of COVID-19 in context of the overall estimate of self-reported work-related ill health in 2020/21.

4.2 Work-related illness caused or made worse by the effects of the coronavirus pandemic

45. A well as COVID-19 due to exposure at work, the coronavirus pandemic could also have caused or made worse other work-related conditions. Rapid changes in how and where people were working, changes in work intensity, and perceived job insecurity, even if working conditions did not markedly change, all have the potential to affect workers' health in a number of ways.

46. New questions added to the Labour Force Survey's work-related illness module for 2020/21 that follow the ill health screening question have enabled an estimate of the scale of work-related ill health caused or made worse by the effects of the coronavirus pandemic (in addition to the estimate of COVID-19 due to exposure to coronavirus at work).

47. The estimate is made up of two components:

- For reported cases of work-related breathing or lung problems, or infectious disease, it includes respondents who reported that the condition was linked to coronavirus, but not due to COVID-19 exposure at work.
- For all other work-related conditions, it includes those respondents who reported that the condition was either linked to coronavirus, or changes in their working conditions during the pandemic.

Annex 2 provides a flow chart of the question sequence for defining this group.

48. Some examples of how the coronavirus pandemic could have caused or made worse a work-related ill health case include:

- An existing musculoskeletal condition (whether work-related or not) made worse by a change in working conditions due to the pandemic – such as a temporary workstation at home.
- A case of stress, depression or anxiety caused or made worse by the uncertainty in work arising from the coronavirus pandemic. This could include where there were no changes in working conditions
- A new or existing case of asthma (or any other work-related condition), that has been made worse by COVID-19 that the respondent believes was contracted at work where this condition was deemed more severe than the COVID-19 infection.

49. It should be noted that we cannot infer that in the absence of the pandemic the number of cases of work-related ill health attributed to coronavirus would not have occurred. Many cases have a number of contributory factors, and so may well have occurred even in the absence of coronavirus. Or they may have occurred anyway within the reporting individual but possibly later or in a less severe form. This is something that cannot be determined from the information we have. The world in 2020/21 has been very different to any other year. For some it would have introduced new or additional health and safety risks and for others it may have removed or reduced health and safety risks.

50. Results of both these new measures of the impact of coronavirus on work-related ill health can be found at https://www.hse.gov.uk/statistics/coronavirus/index.htm.

5. Conclusion

51. The coronavirus pandemic in 2020/21 caused unprecedented changes to the British labour market making it markedly different to that of previous years. Combined with this, the pandemic has caused changes or disruptions to many data collection processes relied on to produce Health and Safety Statistics.

52. Health and Safety statistics which are produced annually by HSE have been updated on as complete and comparable basis as possible. There remain issues with estimating injury incidence rates as the employment estimates include people who were on furlough, thus inflating the size of the at-risk population. Preliminary work exploring non-fatal injury frequency rates at the all-industry level (which standardise numbers based on hours worked instead of numbers in employment) confirms the prior expectation that non-fatal injury incidence rates in 2020/21 are an under-estimate due to this denominator issue all other things being equal. However, it also confirms that accounting for the impact of furlough, at the all-industry level at least, the overall direction of change is still downward, albeit at a dampened rate.

53. The discontinuities introduced by the coronavirus pandemic mean that for many of our statistics (particularly those relating to non-fatal injuries and shorter latency ill health conditions), it is not possible to make meaningful statistical assessments of trend across the most recent years. In these cases, we have instead presented trends prior to the pandemic period and commented on whether there has been any change in the most recent year compared to the pre-coronavirus level.

54. The figure for the total number of ill health cases now includes self-reported cases of COVID-19 due to exposure to coronavirus at work and other cases of ill health caused or made worse by the effects of the coronavirus pandemic. No attempt has been made to adjust the data to estimate what the totality of ill health would have been in the absence of coronavirus. It would not be sensible to simply subtract the coronavirus-related cases from the total since we do not know whether some of the people reporting a coronavirus-related ill health condition would have developed and reported an ill health condition if pre-pandemic working practices had continued.

ANNEX 1: Description of the impact of coronavirus pandemic on HSE's main data sources for statistics on health and safety at work

55. This annex provides a description of the impacts from the coronavirus pandemic on 2020/21 health and safety statistics, the results of which are summarised in table 1 of the main report.

Labour Force Survey (LFS)

Methodological changes

56. In response to the coronavirus pandemic, during 2020/21 the Office for National Statistics (ONS) (who are responsible for running the LFS) made some changes to the LFS data collection and various refinements to the weighting[9] methodology.

57. From March 2020 (with the onset of the coronavirus pandemic), face-to-face interviews for respondents newly joining the survey[10] were moved to telephone interviews. With a corresponding fall in response rates, the wave 1 sample was doubled from July 2020 to increase the achieved sample size. ONS found that since these changes were implemented, certain characteristics were not as well represented as in earlier surveys introducing an increased non-response bias to the survey. As a result, various improvements have been made to the ONS weighting methodology. For further details see Impact of reweighting on Labour Force Survey key indicators, UK - Office for National Statistics (ons.gov.uk).

58. While the revised weightings take account of non-response to the LFS itself, they do not take account of non-response to individual questions, in particular the work-related ill health and injury screening questions. Thus, there is a further adjustment applied by HSE to the ONS weights to take account of this question non-response. In line with the ONS' new weighting methodology, HSE's further adjustment has also been revised to better account for the change in non-response bias.

[9] The LFS collects data on a sample of the population. To convert this information to give estimates for the population, the sample data is weighted

[10] For the LFS, people are interviewed in five consecutive quarters, with the first interview (wave 1) generally being face-to-face

59. In conclusion, while there have been a number of methodological changes to the way the Labour Force Survey is carried out, we don't believe this has materially impacted the data on workplace injury and work-related ill health as suitable adjustments have been made in the analysis.

60. The changes described above have affected weights from the 2020 LFS quarter 1 onwards. Therefore, work-related illness and workplace injury results have been revised for 2019/20 to take on board the new weights [see also https://www.hse.gov.uk/statistics/about/revisions/revision-log.htm, and the 2020/21 results (based on 2021 LFS Q1) are also based on the new weighting methodology.

Issues with particular data items

61. One of the big advantages of embedding the work-related ill health and injury module of questions within the LFS is the richness of labour market data available from the core LFS questions. Of particular importance are questions around employment and hours worked as these feed into the headline measures of work-related ill health and injury (in terms of rate estimates and working days lost).

62. As described in section 3.2 furlough has impacted on the LFS measures of employment as workers temporarily absent from work, including on furlough, are included in the count. This has implications for the injury incidence rates. See section 3.2 for a fuller discussion of these issues.

Working days lost

63. Alongside estimates of the prevalence and incidence of work-related ill health and workplace injury, HSE also provide estimates of the resulting working days lost. These are expressed in terms of full-time equivalent days lost to standardise across different working patterns. (See https://www.hse.gov.uk/statistics/lfs/calculation.htm). They are calculated using a combination of data from both HSE's question modules which ask about absence in terms of duration and from the core LFS question module which asks about usual hours worked. The latter is needed to standardise by full-day equivalent days lost. Both sets of these data items were compromised in the 2020/21 dataset due to impacts of coronavirus.

64. Within the LFS, respondents who report an injury or ill health condition are asked to provide information about the number of days work they missed as a result. Furlough has the potential to distort the durations reported or result in inconsistent response patterns, particularly for longer injury and illness durations. Some respondents may have adjusted their response to discount periods of time on furlough while others may have included such time.

65. Additional questions were included in the LFS to establish whether the period of reported absence included any time on furlough (and if so, how much). In theory, we can therefore adjust the reported duration to exclude time on furlough. Although this would provide estimates of days lost when scheduled to work, in doing this we may be discounting time that the respondent was still incapacitated and would still have been off work in the absence of furlough, thereby under-estimating severity. Similarly, the increase in homeworking may have reduced absence duration. Therefore, even with the additional questions on furlough, it is impossible to produce estimates that provide a consistent measure of severity with earlier years.

66. The results may be particularly distorted in the case of ill health conditions because the question about time off allows for episodic instances of the condition. Workers can have flare-ups of work-related conditions even when they are away from work.

67. Alongside these uncertainties, the question in the core LFS module asking about usual hours worked was changed to ask respondents to provide their usual hours that reflected conditions prior to the pandemic and not their current usual working hours. This change was made to support the principle aims of the LFS. However, using this modified question would distort our standardisation process and contribute to estimates that didn't reflect the true situation.

68. Given all these factors we are not able to produce a meaningful or reliable measure of working days lost in 2020/21 in a way that is consistent with earlier estimates and this data series has been suspended for 2020/21.

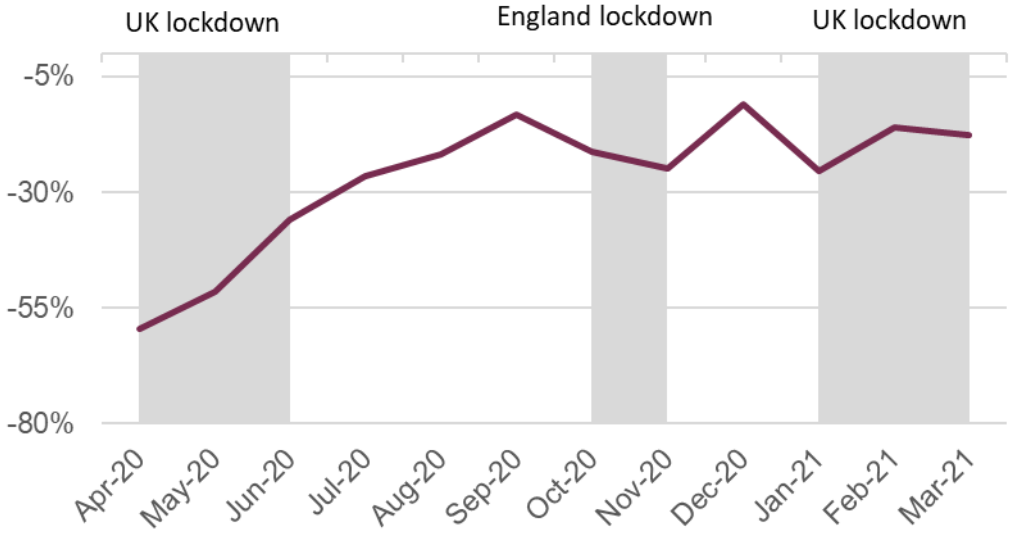
Over-3-day absence injuries and over-7-day absence injuries

69. Over-3-day absence and over-7-day absence injuries provide measures of more serious workplace injuries and are defined as three or seven consecutive (working and non-working) days away from work (not counting the day on which the accident happened) respectively. As discussed above, going on furlough has the potential to discount the time-off work duration reported by the respondent. However, as the proportion of injuries with over-7-day absence and those taking no time off work has remained consistent with earlier years, combined with the fact that very few respondents reported including a period on furlough as part of their absence duration, it appears unlikely that furlough has had a major impact on these two measures.

Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)

70. There was a sharp decrease in the number of employer-reported non-fatal injuries in 2020/21, mostly coinciding with periods of national restrictions. The greatest monthly fall compared with reports in 2018/19, was in April 2020 (down 60%). This aligns with the first full month of the national lockdown.

Figure 3:Percentage change in employer reported non-fatal injuries in 2020/21 compared to 2018/19, GB



Source: RIDDOR

71. Over the full-year 2020/21, the number of reports were down 27% on 2018/19 levels, with the largest falls in sectors hardest hit by the various restrictions in place. In accommodation and food services, number of reports were down 64% while in arts, entertainment and recreation reports were down 60% on 2018/19 levels. In contrast, reports from the health and social work sector were less affected, with a 9% reduction on 2018/19 levels and in the electricity, gas, steam and air conditioning down 8%.

72. This pattern of falls is largely in line with when and where the restrictions fell. While it reflects fewer people at work at different points over the year, it may also reflect reduced reporting by employers as they adjusted to different working arrangements.

73. While the number and pattern of injury reports is broadly in-line with expectations, as described in section 3.2 furlough has impacted on the measures of employment used to construct injury rates. The employment numbers include workers temporarily absent from work, including on furlough. This has implications for the injury incidence rates as it inflates the population at risk. See section 3.2 for a fuller discussion of these issues.

Crime Survey for England and Wales

74. No new data on work-related violence will be available from the Crime Survey for England and Wales for 2020. The ONS, who supply the data from this survey, are unable to provide comparable data on work-related elements given the change to a telephone-survey in May 2020 caused by the coronavirus pandemic. The survey has been reinstated as a face-to-face survey from October 2021. For details of issues with the headline national statistics from this source see the ONS comparability report.

Reports of ill health by specialist physicians

75. The Centre for Occupational and Environmental Health (COEH) at the University of Manchester operate The Health and Occupation Reporting network (THOR) on behalf of HSE. This currently consists of 2 specialist reporting schemes: SWORD (based on reports from hospital consultants specialising in respiratory disease) and EPIDERM (based on reports from consultant dermatologists). In 2020, COEH reported a sharp decrease in response rate compared to 2019, although the number of physicians enrolled in SWORD and EPIDERM remained fairly stable compared to previous years. (See https://www.hse.gov.uk/statistics/assets/docs/sources.pdf for more details of the THOR scheme).

76. COEH attribute this to the coronavirus pandemic, citing contributory factors in their annual report to HSE as:

- Closure of the University of Manchester and work from home requirements in 2020 prevented sending out of postal reporting cards to reporters, limiting the ability of reporters who prefer to report via a reporting card rather than electronically.
- The closure of many, if not all, non-urgent dermatology and respiratory clinics.
- The redeployment of some chest physicians to acute COVID-19 wards to respond to the COVID-19 crisis.

77. It is clear also that access to primary care, the route through to specialists, was limited either practically or because of patient perceptions for non-COVID-19 cases in 2020.

78. As such the numbers reported by the THOR schemes were exceptionally low in 2020. Headline figures from the THOR scheme are shown in the published tables for completeness but are not comparable with previous years. Detailed breakdowns of the 2020 figures (by occupation, industry and causative agent) are currently not shown in the tables as the figures up to and including 2019 remain our best estimates of the incidence of specialist diagnosed work-related respiratory and skin disease.

Ill health assessed for disablement benefit (IIDB)

79. The Industrial Injuries Disablement Benefit (IIDB) scheme, administered by the Department for Work and Pensions (DWP), compensates employed earners who have been disabled by a prescribed occupational disease (PD) (i.e., conditions where an occupational cause is well established or where the circumstances in which the condition arose imply an occupational cause was more likely than not). Annually, DWP send to HSE details of new cases of assessed disablement by disease. Claimants must undergo a medical assessment process to confirm their eligibility and degree of disablement in order to decide the extent of any compensation award. The coronavirus pandemic is likely to have affected both claimant behaviour and the medical assessment process. For most PDs in the scheme, there was a substantial reduction in the number of assessments carried out in 2020 compared with previous years. Figures for mesothelioma (PD D3) and asbestos-related lung cancer (PDs D8 and D8A) are less likely to have been affected due to these being prioritised within the scheme and automatically assessed at 100% disablement given the severity and poor prognosis of these conditions.

Death Certificates (DC)

80. Mesothelioma and asbestosis mortality statistics published by HSE are based on the date of occurrence of deaths rather than the date registered. Statistics are first published around 18 months after the end of the current year to allow for late registrations to be included. The most recent statistics for mesothelioma and asbestosis are therefore for deaths that occurred during 2019, some of which may have been registered as late as March 2021. Analysis of the mesothelioma data shows that although some deaths that occurred in 2019 took longer to be registered during the coronavirus pandemic in 2020, the number of late registrations by March 2021 was similar to the number expected based on patterns of late registrations in previous years. This suggests that the asbestos-related mortality statistics are unlikely to have been affected by the pandemic.

81. Although the government through the Coronavirus Act 2020 put in place mechanisms to ensure no delay in medical certificate cause of death (MCCD) by medical practitioners, it is nevertheless possible that statistics for deaths registered in 2020 due to certain specific occupational diseases (e.g. pneumoconiosis) requiring investigation by coroners have been affected.

Costs to Britain

82. The Cost to Britain of work-related ill-heath and injury has not been updated in 2021, and latest available estimates of Cost are for 2018/19. The reasons for not updating include:

    - No 2020/21 data on days lost from work-related ill-health and injury (a key component of the model) are available from the LFS.
    - Other model components are based on 'normal' circumstances around sick pay, benefits and healthcare. These have not held during the pandemic, where, for example, furlough and non-face-to-face medical appointments will have altered both the cost profile and also who bears them.
    - Even if appropriate inputs for 2020/21 were available, it is clear that this pandemic year is unusual. Given that one of the uses of the model is to inform future costings and spending decisions it is not appropriate to use a model that includes estimates from this very unusual year to do this. HSE's Chief Economist advises that it would be preferable to use the most recent model for 2018/19, suitably adjusted for current prices, in such circumstances.

Enforcement

83. HSE's published enforcement data includes data on notices issued by HSE to employers in relation to a contravention of health and safety legislation and completed prosecutions brought by HSE, and in Scotland the Crown Office and Procurator Fiscal Service (COPFS). In 2020/21, HSE's operational activities were impacted by the coronavirus and so numbers for the year are markedly less.

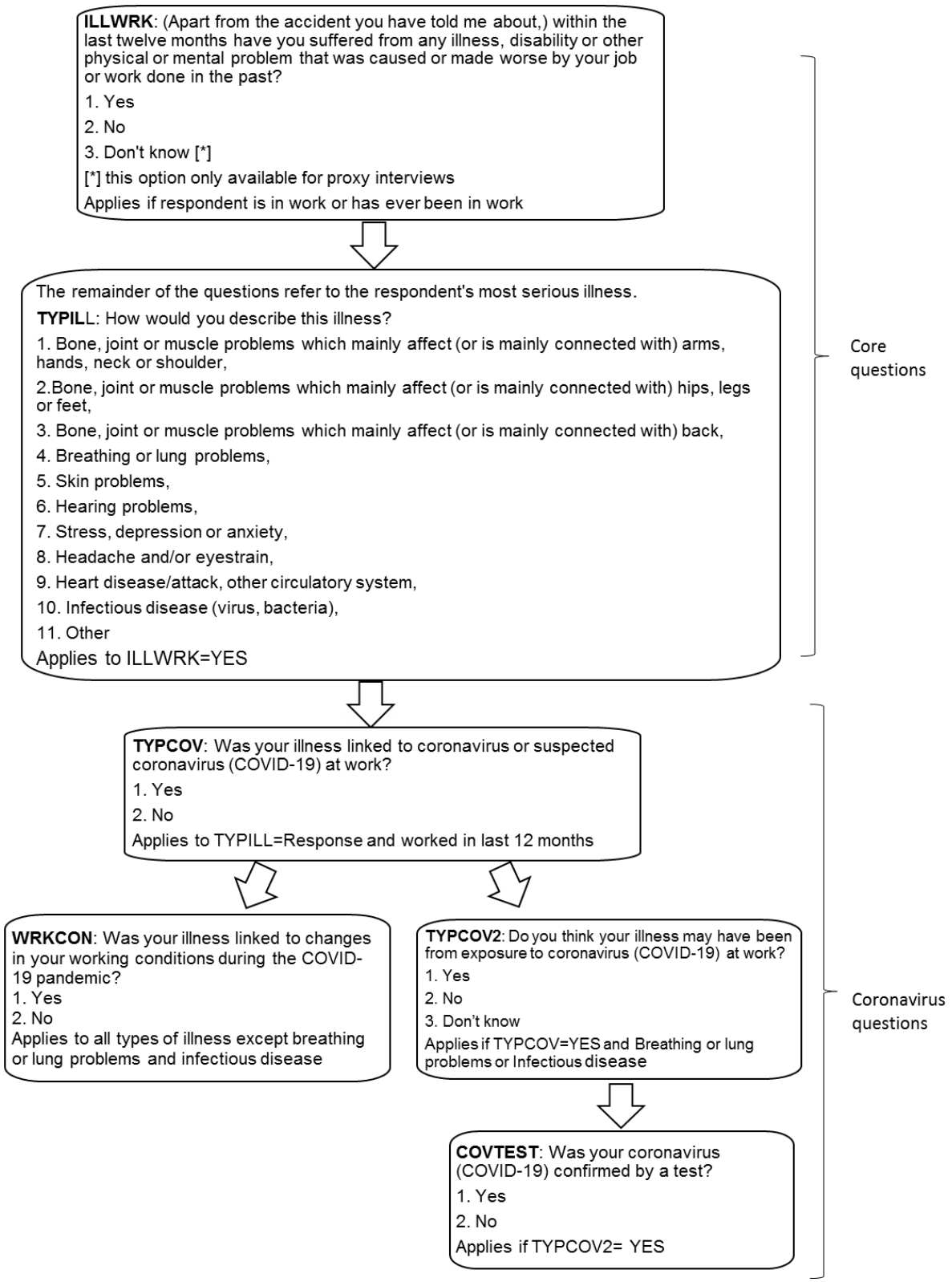
84. Data included in the 2021 statistics publication on notices issued to duty holders for health and safety breaches are only for those notices issued by HSE due to delays in collecting this data from Local Authorities.

European Comparisons

85. HSE draws on data published by a number of European agencies to make comparisons of Health and Safety in UK with other European countries. The available data sources all pre-date the coronavirus pandemic.

ANNEX 2: HSE Health and Safety Module

Sequencing of questions in HSE's ill health question module to derive the two new coronavirus measures



National Statistics

National Statistics status means that statistics meet the highest standards of trustworthiness, quality and public value. They are produced in compliance with the Code of Practice for Statistics, and awarded National Statistics status following assessment and compliance checks by the Office for Statistics Regulation (OSR). The last compliance check of these statistics was in 2013.

It is Health and Safety Executive's responsibility to maintain compliance with the standards expected by National Statistics. If we become concerned about whether these statistics are still meeting the appropriate standards, we will discuss any concerns with the OSR promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored. Details of OSR reviews undertaken on these statistics, quality improvements, and other information noting revisions, interpretation, user consultation and use of these statistics is available from www.hse.gov.uk/statistics/about.htm

An account of how the figures are used for statistical purposes can be found at www.hse.gov.uk/statistics/sources.htm.

For information regarding the quality guidelines used for statistics within HSE see www.hse.gov.uk/statistics/about/quality-guidelines.htm

A revisions policy and log can be seen at www.hse.gov.uk/statistics/about/revisions/ Additional data tables can be found at www.hse.gov.uk/statistics/tables/.

General enquiries: simon.clarke@hse.gov.uk

Journalists/media enquiries only:www.hse.gov.uk/contact/contact.htm

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