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|---|--|
| <b>Title:</b> The Health and Social Care Act 2008 (Regulated Activities) (Amendment) (Coronavirus) (No. 2) Regulations 2021<br><br>COVID-19 Vaccination as a Condition of Deployment in Health and Care providers<br><br><b>IA No:</b> 9580<br><b>RPC Reference No:</b> RPC-DHSC-5132(1)<br><b>Lead department or agency:</b> Department of Health and Social Care<br><b>Other departments or agencies:</b> | <b>Impact Assessment (IA)</b>  |
|   | <b>Date:</b> 12/11/2021  |
|   | <b>Stage:</b> Final  |
|   | <b>Source of intervention:</b> Domestic                              |
|   | <b>Type of measure:</b> Secondary legislation                        |
|   | <b>Contact for enquiries:</b><br>Workforce_Consultations@dhsc.gov.uk |
| <b>Summary: Intervention and Options</b>  | <b>RPC Opinion:</b> <a href="#">Not Fit for purpose (Red)</a>        |

| Cost of Preferred (or more likely) Option (in 2019 prices) |                            |                          |  |
|--|----------------------------|--------------------------|--|
| Total Net Present Social                                   | Business Net Present Value | Net cost to business per | Business Impact Target Status Qualifying provision |
| -251.2   | -94.9                      | 94.9                     |  |

**What is the problem under consideration? Why is government action or intervention necessary?**

Whilst vaccination uptake across health and social care workforce is relatively high, there is variation across both settings.

Sustaining progress with COVID-19 vaccination now and in the future, as new people enter the workforce, is important to minimise the risk of infections to health and care users (who are particularly vulnerable to severe illness and death from COVID-19), the workforce themselves, and the wider community.

Having both doses of the COVID-19 vaccination as a condition of deployment in care homes was previously analysed and the legislation is due to come in to force from 11 Nov 2021<sup>1</sup>. Extending this policy to health settings, domiciliary care and other adult social care settings reduces the risk of infection of those deployed, which in turn reduces the risk of transmission to patients. The more staff who are vaccinated against COVID-19, the more likely it will be that people in their care are protected; staff themselves will be protected and their colleagues will also be protected. Additionally, vaccinated individuals who do contract the virus may be less likely to transmit this to others due to reduced duration or level of viral shedding.

A further rationale of higher vaccine uptake would be a reduction in sickness absence at the times when vulnerable people are most likely to need health and social care. Vaccination of workers will also remove the need to self-isolate if close contacts contract the virus. Roughly a fifth of the all sickness absences in October 2021 (approximately 16,000) were for COVID-19 related reasons, including the need to self-isolate.<sup>2</sup>

<sup>1</sup> [COVID-19 vaccination of people working or volunteering in care homes \(easy read\) - GOV.UK \(www.gov.uk\)](#)

<sup>2</sup> Data on COVID-19 related/overall absences can be found here: [Statistics > COVID-19 Hospital Activity \(england.nhs.uk\)](#)

**What are the policy objectives of the action or intervention and the intended effects?**

- Drive up vaccination levels in health and care workers as a means to protecting all those who use health and care services, a large number of whom are vulnerable, as well as the wider community.
- Protect staff themselves by increasing vaccination rates. This will also help reduce COVID-19 related sickness absences for these workers.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**

We have been pursuing non-regulatory options to drive uptake throughout the rollout of the vaccination programme. This approach, which focuses on encouragement and maximising access, will continue alongside our proposed option - regulations.

A substantial and sustained effort to enable access to COVID-19 vaccines has resulted in high uptake in the population, including across health and social care staff. However, uptake is not universal with variation across both health and care settings. Vaccination uptake figures as at 14 October 2021 for NHS staff show 92.4% have had at least one dose. Uptake rates in NHS can vary from around 84% to 97% for first dose (79% to 95% for both doses).

In social care, 83.4% of domiciliary care staff had received one dose of the vaccine (as of 24 October 2021). Sustaining high levels of staff COVID-19 vaccination now and in the future, as new people enter the workforce, is important to minimise the risk of infection.

The preferred option (option 2) will ensure those deployed in a CQC-regulated health, domiciliary care or other adult social care settings with direct face to face contact with patients or services users, are vaccinated against coronavirus, unless medically exempt and will use both regulatory and non-regulatory measures.

**Will the policy be reviewed?** It will be reviewed with a maximum of 12 months between each review point. **If applicable, set review date:** N/A

|  |                     |    |                       |                           |                     |
|--|---------------------|----|-----------------------|---------------------------|---------------------|
| Is this measure likely to impact on international trade and                |                     | No |                       |                           |                     |
| Are any of these organisations in scope?                                   | <b>Micro</b><br>Yes |    | <b>Small</b><br>Yes   | <b>Medium</b><br>Yes      | <b>Large</b><br>Yes |
| What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? | N/A                 |    | <b>Traded:</b><br>N/A | <b>Non-traded:</b><br>N/A |                     |

***I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.***

Signed by the responsible Minister: Edward Argar Date: 07/12/2021

**Summary: Analysis & Evidence**

Policy Option 1

Description:

Mandate COVID-19 Vaccination as a Condition of Deployment in Health and Care providers

**FULL ECONOMIC ASSESSMENT**

| Price   | PV | Time   | Net Benefit (Present Value (PV)) (£m) |   |                                      |
|---|----|--|---------------------------------------|---|--------------------------------------|
|   |    |  | Low:<br>-357.0                        | High:<br>-160.0   | Best Estimate:<br>-260.0             |
| <b>COSTS (£m)</b>   |    | <b>Total Transition</b><br>(Constant Price) Year |                                       | <b>Average Annual</b><br>(excl. Transition)<br>(Constant Price) | <b>Total Cost</b><br>(Present Value) |
| <b>Low</b>  |    | 161.0  |                                       | 0.0   | 161.0                                |
| <b>High</b>   |    | 379.0  |                                       | 0.0   | 379.0                                |
| <b>Best Estimate</b>  |    | 270.0  |                                       | 0.0   | 270.0                                |
| <p><b>Description and scale of key monetised costs by ‘main affected groups’</b></p> <p>The main monetised costs of this policy are recruitment costs to health and social care providers of recruiting replacements for workers (including costs of temporary care staff) who may not fulfil the requirement of having both doses of the vaccine by the end of the twelve-week grace period.</p> <p>Our central estimate for this cost is £270m<sup>3</sup> (£153m for NHS, £32m for independent healthcare providers and £86m for adult social care providers).</p> <p><b>Other key non-monetised costs by ‘main affected groups’</b></p> <ul style="list-style-type: none"> <li>• Loss of or disruption to health and care services for patients/care users depend on the availability of replacement workers and how quickly they can replace outgoing workers.</li> <li>• Direct, transitional costs to care providers of cover for staff absent due to side effects from having the vaccination, or replacement of staff who suffer complication as a result of it.</li> <li>• Direct costs - loss of productivity of health services, due to increased staff turnover.</li> <li>• Direct administrative costs to health and care providers dealing with HR implications of the regulations on communicating and redeploying workers.</li> <li>• Direct, transitional familiarisation costs to health and care providers familiarising themselves with the regulation and guidelines on exemptions, including monitoring vaccination status.</li> <li>• Direct costs of vaccinations – albeit considered sunk costs for the purposes of this analysis.</li> </ul> |    |  |                                       |   |                                      |

<sup>3</sup> Small differences may occur due to rounding errors.

| <b>BENEFITS (£m)</b>  | <b>Total Transition<br/>(Constant Price)</b> | <b>Year</b> | <b>Average Annual<br/>(excl. Transition)<br/>(Constant Price)</b> | <b>Total Benefit<br/>(Present Value)</b> |
|---|--|-------------|---|--|
| <b>Low</b>  | 22.0   |             | 0.0   | 22.0                                     |
| <b>High</b>   | 1.0  |             | 0.0   | 1.0                                      |
| <b>Best Estimate</b>  | 11.0   |             | 0.0   | <b>11.0</b>                              |
| <b>Description and scale of key monetised benefits by ‘main affected groups’</b>  |  |             |   |  |
| The main benefits are reduced COVID-19 related sickness absences in the health and care workforce; and direct health benefits to the workforce (reduced infections, hospitalisations, and deaths) resulting from additional vaccinations in the workforce.  |  |             |   |  |
| <b>Other key non-monetised benefits by ‘main affected groups’</b>   |  |             |   |  |
| Introducing vaccination requirements would convey a clear message to society about the benefits of vaccinations and drive further uptake.   |  |             |   |  |
| <ul style="list-style-type: none"> <li>• Direct health benefits (reduced infections and deaths) to patients and care service users from additional vaccinations in the workforce.</li> <li>• Benefits to society (and the economy) from higher vaccination uptake levels as a whole.</li> <li>• Greater reassurance (public confidence) to patients and care users that their health and care is prioritised by ensuring staff who look after them are vaccinated.</li> </ul> |  |             |   |  |
| Key assumptions/sensitivities/risks   |  |             | <b>Discount rate (%): 1.5% for QALY calculations</b>              |  |

- The availability and costs of a replacement workforce for dismissed or redeployed staff.
- All those who have had one dose of the vaccine will be willing and able to have their second dose.
- The cost of the vaccinations themselves as a sunk cost.
- Vaccination uptake in the independent healthcare workforce sector has the same profile as the NHS workforce.
- The extent to which pregnancy impacts on exemptions
- Uncertainty around the timing of costs and benefits and so our approach to discounting.

**BUSINESS ASSESSMENT (Option 1)**

|  |                      |                     |  |
|--|----------------------|---------------------|--|
| <b>Direct impact on business (Equivalent Annual) £m:</b> |                      |                     | <b>Score for Business Impact Target (qualifying provisions only)</b> |
| <b>Costs:</b><br>98.2                                    | <b>Benefits:</b> 0.0 | <b>Net:</b><br>98.2 | 94.9   |

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## EXECUTIVE SUMMARY

### 1.1 Problem and justification for action

1. Having both doses of the COVID-19 vaccination as a condition of deployment in care homes was previously analysed and the legislation is due to come in to force from 11 November 2021<sup>4</sup>. Extending this policy to health settings, domiciliary care and other adult social care settings reduces the risk of infection of those deployed, which in turn reduces the risk of transmission to patients and care users, members of the wider community, and the risk of serious illness and death to workers themselves. Additionally, this will reduce anxiety for current and prospective health patients and care users.
2. In health and social care providers, communications and engagement work have been carried out to maximise uptake but despite this, coverage is not universal. As of 14 October, 92.4% of National Health Service (NHS) workers had received at least one dose of the vaccine, while 89% were fully vaccinated<sup>5</sup>. As of 24 October, 83.4% of domiciliary care staff had received at least one dose of the vaccine and 74.1% have received a second dose.<sup>6</sup>

### 1.2 Policy objective

3. Making COVID-19 vaccination a condition of deployment in health and adult social care settings (domiciliary care and other Care Quality Commission (CQC) regulated settings) is intended to:
  - **Help protect all those who use health and care services**, a large number of whom are vulnerable, as well as the wider community by **driving up vaccination levels of health and care workers**
  - **protect staff themselves by increasing vaccination rates**. This will also help reduce COVID-19 related sickness absences for these workers

### 1.3 Policy Option

4. The policy options considered are outlined below.
5. **Option 1** is a 'Business as Usual' (BAU) option, which continues to rely on non-statutory measures to drive COVID-19 vaccination uptake.
6. **Option 2** will, in addition, put in place regulations that will require a registered provider of a CQC-regulated health, domiciliary care or other adult social care services, may only deploy those who have direct contact with patients or services users, if they have been vaccinated against COVID-19, unless medically exempt.

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<sup>4</sup> [COVID-19 vaccination of people working or volunteering in care homes \(easy read\) - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/covid-19-vaccination-of-people-working-or-volunteering-in-care-homes-easy-read)

<sup>5</sup> [Statistics > COVID-19 Vaccinations \(england.nhs.uk\)](https://www.nhs.uk/statistics/covid-19-vaccinations)

<sup>6</sup> [Statistics > COVID-19 Vaccinations \(england.nhs.uk\)](https://www.nhs.uk/statistics/covid-19-vaccinations)

#### 1.4 Who will be impacted by the policy?

7. The regulations will apply to all health and adult social care staff who have face-to-face contact with patients and who are directly involved in patient care, as well as ancillary staff such as porters or receptionists who may have social contact with patients but are not directly involved in their care.
8. The requirement to be vaccinated will apply to all those that are deployed to undertake a CQC-regulated activity either in the public (NHS) or independent sector. It will sit alongside the previously announced care home regulations which come into force on 11 November 2021.

#### 1.5 Impacts of the policy

9. There is significant uncertainty around the change in staff's willingness to be vaccinated as a result of this policy's introduction. The table below provides mid-point estimates, based on a range of scenarios for different levels of vaccine uptake.

1.5.1 **Table 1: Potential impacts of the policy**

|   | <b>Total Health</b> | <b>NHS only</b> | <b>Independent health sector only</b> | <b>Social care</b> | <b>Total</b> |
|---|---------------------|-----------------|---------------------------------------|--------------------|--------------|
| Number of staff in the sector                         | 1,813,000           | 1,486,000       | 327,000                               | 503,000            | 2,316,000    |
| Number vaccinated if no intervention (counterfactual) | 1,679,000           | 1,375,000       | 304,000                               | 428,000            | 2,107,000    |
| Total number exempt from vaccination                  | 36,000              | 30,000          | 7,000                                 | 10,000             | 46,000       |
| Number to be vaccinated under the policy              | 27,000              | 22,000          | 5,000                                 | 27,000             | 54,000       |
| % to be vaccinated due the policy                     | 1.5%                | 1.5%            | 1.5%                                  | 5.4%               | 2.3%         |
| Number remaining unvaccinated (and not exempt)        | 88,000              | 73,000          | 15,000                                | 38,000             | 126,000      |
| % to remain unvaccinated (and not exempt)             | 4.9%                | 4.9%            | 4.6%                                  | 7.6%               | 5.4%         |

10. The policy is likely to have a greater impact in domiciliary care and other care settings where uptake rates are lower compared to healthcare settings.
11. In health 1.813 million staff will be subject to the new regulations across both NHS and independent health care providers. Of these, 1.679 million are already

vaccinated, Under the central scenario, 27,000 are vaccinated following the introduction of this policy, 36,000 are exempt and 88,000 will remain unvaccinated.

12. Similarly for domiciliary and other social care settings, 503,000 staff will be subject to the new regulations, and 428,000 are expected to be vaccinated in the counterfactual without intervention, 27,000 further staff are expected to be vaccinated as a result of this policy, 10,000 are exempt, and 38,000 will not be able to be deployed. Given high historic levels of turnover in the social care sector, we would expect around 3,000 of this last group to have left the sector even in the absence of the policy, suggesting the additional reduction in the available workforce in these care settings would be 35,000. It is this adjusted estimate of 35,000 workers that is used for the purposes of the cost calculations.
13. The central estimate for the number of workers in both health and social care settings who will get vaccinated in response to the policy is 54,000 (ranging from 4,000 and 103,000 in the low and high estimates respectively).
14. It has not been possible to monetise all of costs and benefits potentially resulting from this policy and as such any conclusion on value for money will need to consider the unmonetised costs and benefits as well as breakeven analysis.
15. The monetised benefits are:
  - **direct health benefits to the individual health and care worker** – using Quality Assured Life Years (QALYs) saved due to averted infections and fatalities to health and care workforce
  - **averted sickness absences** – monetised by valuing the work of individuals in terms of their wages (which is lost during their sickness absence period)
  - **reduced hospitalisation costs** – due to serious infections that are averted
16. The monetised health benefits from a reduction in COVID-19 infections and mortality in health and care settings is £6.9 million. There are also potential savings to health and care providers from reduced COVID-19 related sickness absences of £4.3 million and savings from averted hospitalisations are £196,000.
17. The unmonetised benefits include:
  - **health benefits** (reduced COVID-19 infections and deaths) to patients and care service users from additional vaccinations in the workforce
  - **benefits to society (health, wellbeing and economic)** from higher vaccination uptake levels as a whole and better control of COVID-19
  - **greater reassurance (public confidence)** to patients and care users
18. At present there is a lack of academic modelling to directly quantify the societal impacts specifically from vaccinating the health and care workforce cohort. However, in aggregate the economic impacts of the pandemic have been vast globally and domestically, with large increases to the unemployment rate, and government borrowing in the UK continuing to rise to the highest cash deficit on record. Additionally, estimates from the OBR suggest the UK experienced a

sharp economic contraction of around 22.6% of GDP during the first wave in April 2020. Approximately £250 billion was spent in the financial year 2020/21 to support businesses and households in dealing with COVID-19.

19. While wider economic and societal impacts are not built into the monetised costs and benefits of vaccine deployment, they are expected to yield large benefits.
20. The monetised cost of this policy is the **recruitment costs to health and adult social care providers** of recruiting replacements for workers who may not fulfil the requirement of having both doses of the vaccine by the end of the 12-week grace period.
21. This was monetised by estimating the costs of recruiting a worker into health and social care settings. For health, the recruitment costs reflect costs faced by the NHS in the administration, interview process, and induction of a Band 5 nurse, as representative of typical NHS workforce. The figure estimated £2,100 (midpoint of £1,600 and £2,600) includes administration costs (£380), interview costs (£620) and costs of induction (£1,100).
22. For social care, a unit cost of around £2,500 for each role which needs to be filled by a new recruit. This is the midpoint of the total average cost of recruitment estimated by Skills for Care<sup>4</sup> (£3,642) and the same cost excluding the estimated value of lost productivity (£1,313). There is greater uncertainty in the source regarding the productivity component, which is harder to measure robustly and is based on a very high-level assessment by care providers, and we therefore include only 50% of Skill for Care's estimate of this component in social care own assumptions.
23. The modelled cost of replacing unvaccinated workers is £270 million in our central estimate (with a range from £162 million to £379 million). This is a sum of our central estimates for health and care settings; £185 million (ranging from £129 million to £240 million) for healthcare workers and £86 million (ranging from £32 million to £139 million) for adult social care workers.
24. There are also additional costs that have not been monetised, and will add to the pressures faced by providers, leading to potentially lower quality of care:
  - **potential disruption** to health and care services from needing to replace unvaccinated workers
  - **productivity losses** if new, relatively inexperienced staff are recruited to replace staff who leave
  - **productivity losses** from staff absences arising from side effects and potentially lower morale of staff if they feel forced into having vaccination
  - **familiarisation costs** to the health and care providers to become aware of the regulation and its guidelines
  - **administrative costs** to health and care providers who have to deal with complications arising from the regulation, including the redeployment of workers
  - **costs of vaccinations** – which are to a large extent sunk costs given already purchased so already accounted for in terms of administrative capacity

## 1.6 Value for Money Summary

25. The table below outlines the total monetised costs, benefits and net present value (NPV) of Option 2.

**Table 2: Summary of the central estimates for Option 2**

|                                     | <b>Total monetised cost</b> | <b>Total monetised benefits</b> | <b>Monetised Net Present Value</b> |
|-------------------------------------|-----------------------------|---------------------------------|------------------------------------|
| Health providers                    | £185,000,000                | £4,600,000                      | -£180,000,000                      |
| Domiciliary and other care settings | £86,000,000                 | £6,800,000                      | -£79,000,000                       |
| Total                               | £270,000,000                | £11,400,000                     | -£259,000,000                      |

26. As discussed above, this does not include important non-monetised costs and benefits, which it is important to factor into decision-making. The health benefits through reduced infections and deaths to health and care users, as well as to the wider community, from the workforce being vaccinated, are likely to be large but there is a lack of data to value this in the Value for Money (VFM) assessment. As an illustration, using a societal value of a QALY of £60,000, an additional 4,500 QALYs delivered through these or other routes would result in the policy breaking even.

## 1.7 Workforce risks

27. While it is uncertain how many and when workers may choose to leave their jobs rather than have a vaccination, our central estimates are of around 88,000 (73,000 workers in NHS, 15,000 in independent health sector) and 35,000 workers in domiciliary care and other care services having not fulfilled the conditions of deployment by the end of the grace period, with a range of between 62,000 to 115,000 in health in the low and high scenario ranges..
28. A reduction in the numbers of health and social care staff may lead to reduced or delayed services. The health system is currently under pressure as a result of the pandemic with an elective waiting list of 5.72 million and also high levels of vacancies. Some staff shortfalls may be covered by temporary staff, but the effective capacity in the temporary labour market is unknown.
29. If a proportion of staff decides to leave the NHS, this would put pressure on NHS services. This is likely to be more acute in clinical staff groups where there are existing staff shortages and lags in labour supply caused by education and training requirements, but all services are likely to be impacted. Leaver rates in the NHS are around a third those in social care so there are likely to be far fewer staff lost due to natural turnover. In addition, a larger proportion of exits may be expected to occur at the end of the grace period given this is what has been reported in relation to the implementation of vaccination as a condition of deployment in care homes and because the same approach is being taken in terms of providing a grace period.

30. In social care, whilst some exits may occur during the twelve-week grace period, it is likely that a large proportion of these may occur at the end of the grace period, as the latest evidence suggests that this will be the case in care homes. The sector experiences a relatively high annual workforce turnover rate of over 34% (of which a third are sector exits). While this means that recruitment forms a regular part of providers' operations (and that our cost estimates deduct those staff who would have left the sector anyway), a significant additional and concentrated loss of staff would present a significant workforce capacity risk. Moreover, this is in a sector that is already facing serious recruitment challenges owing to high competition for labour as the economy re-opens, with competing sectors such as retail, logistics and hospitality offering higher wages and better conditions, as well as high levels of vacancies (now higher than pre-pandemic). Industry sources suggest that recruitment is "more, or much more" challenging than in April 2021.
31. Whilst we have recently announced £162.5 million workforce recruitment and retention fund to support the sector this winter, we envisage that a sizeable portion of the fund will be spent by Local Authorities and providers on retaining the existing workforce and/or paying the existing workforce to supply additional hours. As we cannot quantify the maximum working capacity of the current workforce, however, we are not able to say whether or not the system – even with additional funding – will be able to absorb the loss of capacity resulting from the implementation of this policy, without further intervention.

### **1.8 Implementation/enforcement**

32. A registered person (that is the service provider or registered manager) must not deploy a person as part of a regulated activity unless that person is fully vaccinated against COVID-19, in accordance with the requirements of the regulations, unless they are medically exempt.
33. It would be the CQC's role to monitor and take enforcement action in appropriate cases. At time of registration and when inspected, the registered person would have to provide evidence that those deployed to undertake the regulated activity have been vaccinated.

## **IMPACT ASSESSMENT**

### **1.9 Evidence Base**

#### **1.9.1 Problem under consideration and rationale for intervention**

34. Patients in health settings and care recipients in adult social care settings are particularly vulnerable to severe illness and death from COVID-19. A substantial and sustained effort to enable access to COVID-19 vaccines has resulted in high uptake in the population, including across health and social care staff. However, uptake is not universal with variation across both health and care settings.
35. Vaccination uptake figures as at 14 October 2021 for NHS staff show 92.4% have had at least one dose. Uptake rates vary from 84.2% to 97.1% for first dose (79% to 94.8% for both doses) amongst NHS trusts. In adult social care, 83.4% of domiciliary care staff had received one dose of the vaccine (as at 24 October 2021), which we believe represents the best proxy for Other Settings too for the workforce in scope of the policy (CQC-regulated providers only)<sup>7</sup>. Sustaining COVID-19 vaccination now and in the future, as new people enter the workforce, is important to minimise the risk of infections.
36. From 11 November 2021, proof of a full course of vaccination will be a condition of entering a care home. Responses to the associated consultation made a clear case for extending the policy to other settings where people vulnerable to COVID-19 may also receive care. The Scientific Advisory Group for Emergencies (SAGE) Social Care Working Group has previously suggested a [strong scientific case for parity of approaches](#) between NHS inpatient settings and care homes transmitting COVID-19 infection to susceptible and vulnerable patients in health and care settings<sup>8</sup>. The more health and care staff who are vaccinated against COVID-19, the less likely it will be that people in their care contract the virus; staff themselves will be protected and their colleagues and family will also be protected. It will also benefit the wider population by indirectly driving up vaccination rates.
37. The UK's COVID-19 vaccines have been approved by the MHRA as being safe and effective in reducing the likelihood of COVID-19 infection and preventing severe disease in those who do catch the virus. Analysis from Public Health England (PHE) indicates that the COVID-19 vaccination programme has directly prevented an estimated 24.1 million infections, over 261,500 hospitalisations, and 127,500 deaths<sup>9</sup>.
38. Studies have now reported on vaccine effectiveness against infection of the COVID-19 Alpha variant in healthcare workers, care home residents and the general population. For the Pfizer-BioNTech vaccine, estimates of effectiveness against infection after a single dose range from around 55 to 70% for the Pfizer-

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<sup>7</sup> [Statistics > COVID-19 Vaccinations \(england.nhs.uk\)](#) - NHSE weekly statistics, based on Capacity Tracker responses by care providers to DHSC

<sup>8</sup> [https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(20\)30164-X/fulltext](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(20)30164-X/fulltext)

<sup>9</sup> [COVID-19 vaccine surveillance report week 44 - GOV.UK \(www.gov.uk\)](#)

BioNTech vaccine and for the Oxford-AstraZeneca vaccine from around 60 to 70%.<sup>10 11 12 13</sup> With 2 doses of either vaccine effectiveness against infection is estimated at around 65 to 90%.

39. For the COVID-19 Delta variant vaccine effectiveness against infection has been estimated at around 65% with Oxford-AstraZeneca vaccine and 80% with Pfizer-BioNTech vaccine. Studies have reported 65% to 70% effectiveness against symptomatic disease with Oxford-AstraZeneca vaccine, and 80 to 95% with Pfizer-BioNTech. Effectiveness against hospitalisation of over 90% is observed with the Delta variant with both vaccines<sup>14</sup>.
40. There is clear evidence that vaccines are effective at preventing infection. Uninfected individuals cannot transmit, which means the vaccines are also effective at preventing transmission. Beyond preventing infection, there may also be the additional benefit of reduced transmission by those individuals who become infected despite vaccination, because of reduced duration or level of viral shedding.
41. All adults in the UK have been offered the COVID-19 vaccine but vaccine hesitancy exists as a real concern for some and is more prevalent within certain groups of our society. In a health and social care providers, communications and engagement work have been carried out to maximise uptake but despite this coverage is not universal.
42. Increased vaccination of health and social care workers aims to enable the delivery of a greater volume of health and social care services from a reduction of COVID related sickness absence at a time when the elective backlog and waiting times are at record levels.
43. The UK is not alone in bringing in a legislative requirement for vaccination as a condition of deployment in health/social care settings. Similar requirements have been introduced in [France](#), [Greece](#), and [Italy](#).

### 1.9.2 Consultation response

44. DHSC received over 34,900 responses to consultation<sup>15</sup>.
45. To supplement the views provided in the consultation, DHSC conducted extensive engagement with stakeholders including round table events comprising health and social care providers, representative organisations, local government

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<sup>10</sup> 'Impact of vaccination on SARS-CoV-2 cases in the community: a population-based study using the UK's COVID-19 Infection Survey.' medRxiv 2021: 2021.04.22.21255913

<sup>11</sup> 'COVID-19 vaccine coverage in health-care workers in England and effectiveness of BNT162b2 mRNA vaccine against infection (SIREN): a prospective, multicentre, cohort study.' Lancet 2021

<sup>12</sup> 'Vaccine effectiveness of the first dose of ChAdOx1 nCoV-19 and BNT162b2 against SARS-CoV-2 infection in residents of long-term care facilities in England (VIVALDI): a prospective cohort study.' Lancet Infectious Diseases 2021

<sup>13</sup> 'Vaccine side-effects and SARS-CoV-2 infection after vaccination in users of the COVID Symptom Study app in the UK: a prospective observational study.' The Lancet Infectious Diseases 2021

<sup>14</sup> [COVID-19 vaccine surveillance report - week 44 \(publishing.service.gov.uk\)](#)

<sup>15</sup> [Consultation outcome overview: Making vaccination a condition of deployment in the health and wider social care sector - GOV.UK \(www.gov.uk\)](#)



and regulators. In addition, dedicated adult social care stakeholder sessions were held during October. The topics discussed included: the rationale behind the policy proposal, proposed scope of the regulations, equality issues, workforce impacts, and impacts on providing a safe service.

46. DHSC undertook thorough analysis of the consultation responses and considered the feedback received. Overall, the consultation showed that, while a majority of respondents (64%) did not support the proposal, the responses from the health and social care sector were mixed, with some groups (e.g. managers of healthcare or social care services) mostly supporting the proposed legislative change while others (e.g. service users / relatives of service users) were mostly opposed.
47. Regarding policy scope, the consultation showed some support for the proposed scope of those deployed to undertake direct treatment or personal care as part of a CQC-regulated activity in a healthcare or social care setting.
48. One of the main areas of concern was the timing of the changes and the impact on workforce this winter. Many representative bodies called for a longer period of preparation and implementation, to take effect after winter with some stakeholders pointing to current high vacancy rates.
49. The majority of respondents agreed with our proposal to provide exemptions on medical grounds, as outlined in the proposal. There was a call for ensuring that the system for demonstrating vaccination status or exemption from vaccination is simple and clear.
50. The consultation responses<sup>16</sup> showed that respondents were concerned about the potential for disproportionate impact on those with protected characteristics, such as pregnant women and people from particular ethnic minority backgrounds.

### **1.9.3 Workforce in scope – definition and size**

51. The scope of the policy is based on CQC inspected providers and the staff working in health, domiciliary care and other adult social care settings and delivering direct patient facing service<sup>17</sup>. These cover both public and independent sector providers (profit and not for profit).

### **1.9.4 For Healthcare settings**

52. The definition of the in scope workforce covers professional clinical staff involved in direct patient care (e.g., doctors, nurses, Allied Health Professionals), and also includes support staff who may have face to face contact with patients but are

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<sup>16</sup> [Making vaccination a condition of deployment in the health and wider social care sector: government response \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

<sup>17</sup> 'Other Settings' in scope of this policy can be defined as CQC-registered organisations and staff carrying out the CQC-regulated activity of "personal care".

not directly involved in patient care (e.g. receptionists, ward clerks, porters and cleaners supporting clinical staff).

53. The definitions used for the purposes of the analysis uses occupation codes in the following 10 staff groups based as defined by NHS National Workforce Dataset. Any clerical, maintenance or service staff that support clinical staff are included in the estimates of impact, that is, in scope.

1.9.4.1 Table 2: Categorisation of Staff Groups

| IA Main Group                           | IA Staff Group   |
|---|--|
| Professionally qualified clinical staff | HCHS Doctors   |
| Professionally qualified clinical staff | Nurses & health visitors                               |
| Professionally qualified clinical staff | Midwives   |
| Professionally qualified clinical staff | Ambulance staff  |
| Professionally qualified clinical staff | Allied health professions                              |
| Professionally qualified clinical staff | Healthcare scientists                                  |
| Professionally qualified clinical staff | Other scientific, therapeutic & technical staff (ST&T) |
| Support to clinical staff               | Support to doctors, nurses & midwives                  |
| Support to clinical staff               | Support to ambulance staff                             |
| Support to clinical staff               | Support to ST&T staff                                  |

54. Infrastructure support staff (staff groups in central functions, hotel, property and estates, senior managers and managers) and any associated sub-contracted staff are also largely found in the infrastructure group and so excluded from the policy scope.

55. **With regards to the independent health sector (IS)** - defined to cover private and publicly funded services in profit and not for profit organisations. This is a highly fragmented market, with many providers and no clear mapping of workforce numbers to providers under scope of CQC, and so our estimates for this workforce in these providers are significantly less robust or comprehensive than the other workforce estimates shown above.

56. Due to lack of data on public and privately funded workforce and the fact that individuals are likely to work across both settings, we have not modelled staff groups in IS (independent sector) explicitly. Internal analysis by DHSC suggests a maximum of around 7,000 would be unvaccinated assuming they are not reflected in above providers.

57. Similar for temporary healthcare staff for whom estimates of the size of the workforce are limited. We expect many employees to work both as temporary staff in agency and bank whilst also holding substantive contracts within other NHS settings. We have estimated the number who are solely temporary staff to be 270,000, though this is not an official statistic and should only be used in the context of this modelling. This group counts for less than one sixth of the workforce in scope.

**See Annex C (Estimating size of independent health care workforce) for more details on assumptions and the approach used to derive the IS estimate.**

### **1.9.5 For Adult social care settings**

58. Those in scope for adult social care settings are workers carrying out regulated activities in independent CQC-registered domiciliary care providers and other CQC-registered care settings. For Domiciliary Care, we have used the latest outturn data on workforce size from NHS England (NHSE) and projected this forward based on a trendline.
59. Other settings in scope of this policy can be defined as CQC-regulated organisations and staff carrying out the CQC-regulated activity of ‘personal care’. This covers those workers in Extra Care Housing and Supported Living. Those in shared lives schemes are not in scope of this policy.
60. The size of the other settings workforce in scope is estimated using Skills for Care data (as at March 2021/21) for those in direct domiciliary care<sup>18</sup> and NHSE Domiciliary Care workforce size data (adjusted for the projected change in the workforce size) to estimate the number of workers in other settings that are at CQC-registered providers. This captures workers in Extra Care Housing and Supported Living, at around 80,000. Since NHSE data for “Other Settings” reports both CQC and non-CQC-registered providers, we believe those who are in Direct Domiciliary care (as per Skills for Care) who are not recorded in the NHSE calculation for Domiciliary Care (having adjusted for the projected workforce size) better represent those who are undertaking “personal care” and so in scope for this policy.
61. As with healthcare, otherwise in-scope workers may be exempted from the requirements as set out in the Exemptions section.
62. The following table provides an overview of the staff in scope for this policy, including the size of each workforce sector.

**1.9.5.1 Table 3: Estimated numbers of staff in scope by setting – Health and Adult social care sector.**

| <b>Settings</b>            | <b>Types of organisations</b> | <b>Staff in scope estimates (headcount)</b> |
|----------------------------|-------------------------------|---|
| <b>Healthcare settings</b> |                               |   |

<sup>18</sup> <https://www.skillsforcare.org.uk/adult-social-care-workforce-data/Workforce-intelligence/documents/State-of-the-adult-social-care-sector/Summary-of-domiciliary-care-services-2021.pdf>

|  |   |  |
|--|---|--|
| NHS Trusts   | NHS acute, ambulance, community health, mental health trusts – substantive (permanent staff)  | 1,130,000 <sup>19</sup>  |
| Primary care – GPs practices   | Mainly NHS GPs,   | 89,000 <sup>20</sup>   |
| Primary care – Dentists  | Dental practices  | Approximately 97,000 dentists and dental care professionals <sup>21</sup>  |
| Independent health sector <sup>22</sup> (includes private and publicly funded services in profit and not for profit organisations) | Independent acute hospitals, ambulance services, community health services, mental health, and substance misuse service, private primary care and other health providers (psychologists, occupational therapists, physios, chiropractors) | Best estimate 230,000 (FTE <sup>23</sup> ) in private acute, community mental health services and primary care)<br>Based on internal DHSC analysis (unpublished) <sup>24</sup> |
| Temporary health staff – estimate for modelling  | Private agencies and NHS Bank   | 270,000  |
| <b>Adult social care settings</b>  |   |  |
| Adult social care excl. adult care homes   | Includes domiciliary care and other settings care (extra care housing, Shared Lives schemes and supported living services).   | Approximately 415,000 in Dom Care and 81,000 in CQC registered 'Other Settings' <sup>25</sup> , (as at 24 October 2021)  |
| <b>Other settings in scope but not modelled</b>  |   |  |
| Specialist services  | Prisons, secure settings (asylum centres) Autistic/LD centres Sexual assault referral centres   | Internal analysis suggests negligible but most likely to work in both health and social care settings  |

<sup>19</sup> NHS Digital NHS Workforce statistics

<sup>20</sup> NHS Digital General Practice Workforce Statistics

<sup>21</sup> <https://www.gdc-uk.org/about-us/what-we-do/the-registers/registration-reports>

<sup>22</sup> Defined to include profit and non-profit organisations e.g. charities, social enterprises and includes NHS funded services from independent sector

<sup>23</sup> FTE = Full time Equivalent

<sup>24</sup> See Annex C for detailed calculations on this

<sup>25</sup> 'Other Settings' in scope of this policy is an estimate of CQC-registered organisations and staff carrying out the CQC-regulated activity of "personal care".

|            |                      |   |
|------------|----------------------|---|
| Volunteers | Private individuals, | Approximately 100,000 in Trusts, 10,000 supporting ambulance trusts <sup>26</sup> .<br>No data on volunteers in primary, community or social care |
|------------|----------------------|---|

### 1.9.6 Uptake of vaccination rates in health and care workers

63. There is no single source of vaccination uptake data that aligns with the scope of the workforce affected by this policy.

#### 1.9.6.1 *For Healthcare settings*

64. An extract of healthcare worker vaccination statistics for NHS trusts, as 28 September 2021) has been applied to estimates of health workforce in scope<sup>27</sup>. This covers around 85% of employees in organisations that use ESR – the NHSs HR and payroll system; and so is considered a robust sample. The uptake figures have been extrapolated for the workforce in scope of this policy.

65. UK Health Security Agency (UKHSA) also have recently published vaccination for healthcare workers that show lower overall uptake and a greater variation between Trusts.<sup>28</sup> However, differences are likely to reflect how the figures are collected rather than substantial underlying differences in uptake.

#### **Further details of the 2 sources of vaccination uptake are discussed in Annex A.**

66. Vaccination uptake rates for NHS Trusts (14 October 2021)<sup>29</sup> show a 92.4% first dose uptake rate in England, with a range from 84.2% to 97.1% first dose uptake rate between trusts. For second dose uptake the rate is lower, at 89% for England, ranging from 79.5% to 94.8% between trusts.

67. The main driver of differences in vaccination uptake is age and ethnicity. Younger health workers and Asian or Black ethnic groups in NHS have lower uptake rates. Uptake rates vary between Trusts; 177, (82.4%) of trusts have a first dose uptake rate above 90%; 4 out of the 216 trusts have their first dose uptake rate below 85% and 38 are below 90% uptake rate.

#### 1.9.6.2 *For adult social care settings*

<sup>26</sup> Provided by NHSEI (unpublished)

<sup>27</sup> UNPUBLISHED

<sup>28</sup> [COVID-19 vaccine uptake in healthcare workers - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/statistics/covid-19-vaccine-uptake-in-healthcare-workers)

<sup>29</sup> [COVID-19 monthly announced vaccinations 14 October 2021](https://www.gov.uk/government/statistics/covid-19-monthly-announced-vaccinations-14-october-2021)

68. NHSE data reports that 83.4% of domiciliary care staff had received one dose of the vaccine (as of 24 October 2021)<sup>30</sup>. For the workforce in Other Settings that are in scope, since the equivalent figure for Other Settings includes those that are from non-CQC regulated providers, we use the Domiciliary Care sector since we feel this is more representative of the Other Setting workforce that is in scope of the policy (CQC-regulated providers only).

### 1.10 Policy objective

69. . Vaccination reduces the risk of infection, which in turn reduces transmission. The more health and care workers who are vaccinated against COVID-19, the more likely it will be that vulnerable people in their care are protected; workers themselves will be protected and their colleagues will also be protected. Additionally, vaccinated individuals who do contract the virus may be less likely to transmit this to others due to reduced duration or level of viral shedding. A higher level of vaccination uptake is also likely to reduce staff sickness absences at the times when vulnerable people are most likely to need health and social care.
70. There has already been a significant effort to vaccinate health and care staff. This has involved bespoke communications materials, paid advertising, stakeholder toolkits, positive messaging using influencers and leaders, content in different languages, briefings with different faith groups, engagement sessions, webinars with clinical experts, vaccine champions, and practical support including vaccination at places of work, flexible access to vaccine hubs, digital booking support, and monitoring and support from NHSE.
71. However, despite these efforts there remain a minority of health and care workers that have not taken up the opportunity of vaccination, and there remains variation in organisational and local uptake rates.
72. Ensuring increased vaccine uptake in health and social care settings is therefore the objective of the policy as a means to protect people who use services.
73. The Scientific Advisory Group for Emergencies (SAGE) Social Care Working Group has also previously advised there is a strong scientific case for parity of approaches with respect to vaccination offer and support between NHS inpatient settings and care homes, given the similarly close and overlapping networks between residents or patients and workers of all kinds in both.

### 1.11 Approach to analysis – healthcare and social care settings

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<sup>30</sup> [Statistics » COVID-19 Vaccinations \(england.nhs.uk\)](#) - NHSE weekly statistics, based on Capacity Tracker responses by care providers to DHSC

74. This section presents the modelling approach used in this IA. The analysis is in line with the recent care homes impact assessment<sup>31</sup>, although there are some differences regarding potential impact of the policy, and we have included estimates of the value of benefits from this policy.

75. Broadly the approach involves:

- Estimating size of the workforce in scope – in healthcare and adult social care settings impacted by this policy (domiciliary and other care settings),
- Identifying scenarios of the potential behavioural impacts (vaccination uptake) of this policy (i.e. the extent of which in scope workforce get vaccinated in response to the policy),
- Estimating number of unvaccinated in scope workforce who will not be fully vaccinated by the end of the grace period (expected to be in March 2022) for each of the scenarios considered
- Estimating costs of replacing in scope workforce (who remain unvaccinated by the end of the grace period),
- Valuing direct health benefits of increased vaccination uptake amongst in scope workforce by estimating the QALYs saved via averted infections and fatalities
- Valuing benefits of reduced sickness absences and hospitalisation costs
- Assessing the non-monetised costs and benefits
- Assessing the risks narrative rather than modelled
- Conducting sensitivity analysis on productivity loss and temporary staffing for healthcare, and on the cost of recruitment for social care.
- Conducting breakeven analysis on the number of additional quality adjusted life years needed, in order for the policy to break-even.

### 1.12 Rationale and evidence to justify the level of analysis used in the IA (proportionality approach) – *healthcare and adult social care settings*

76. Due to the high degree of uncertainty around how the workforce may react to this policy, we modelled **three potential behavioural impact scenarios**. These are:

#### 1.12.1.1 ***Low behavioural impact scenario***

77. This assumes that there is no behaviour change from the policy, so it represents an *upper* limit for the number of workers who will not have fulfilled their condition of deployment by the end of the grace-period. In practice it is unlikely for the policy to have no impact on behaviour, therefore this scenario is used primarily as a planning estimate which is used to inform the central estimate. The vaccination data is on the number of workers who have had their first dose (rather than those with both doses) as it provides acts a leading indicator compared to the two doses rate (and so can be used to determine if there is any uptick or downturn in the data).

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<sup>31</sup> [Making vaccination a condition of deployment in older adult care homes: impact assessment \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/94444/making-vaccination-a-condition-of-deployment-in-older-adult-care-homes-impact-assessment.pdf)

78. For **healthcare**, the vaccination uptake rates by staff group as at 28 September, provided by NHSE as shown in Annex A are applied to the NHS workforce and Independent Sector estimates of workforce in scope, by staff group (for NHS); there has been no significant change in uptake given plateauing of uptake since July 2021 so these figures are applied to published NHS D workforce estimates.
79. For **adult social care**, vaccine uptake rates are reported by NHSE<sup>32</sup>. The estimate uses the number of the workforce from domiciliary care who have received their first dose of the vaccine, as reported weekly by providers captured by the Capacity Tracker. The Capacity Tracker is a regular mechanism for adult social care providers to provide requested information to DHSC to aid the design of sector support and which serves as the basis for relevant NHS and DHSC statistical publications. This uptake is then projected forwards in time using a logarithmic trendline-of-best-fit<sup>33</sup>.
80. A logarithmic trendline is appropriate given the trends seen in the data of a high initial uptake followed by slowing down of uptake. It should be noted that we use the domiciliary care uptake rate for other settings since we believe that the workforce in scope (CQC-regulated, and so those providing personal care) are more akin to domiciliary care than to the 'other settings' category in the NHSE vaccination data (that contains non-regulated providers and those in local authorities).

#### 1.12.1.2 ***High behavioural impact scenario***

81. This represents an estimate of the minimum number of workers who will not have fulfilled their condition of deployment by the end of the grace-period. As with the low impact scenario above, the high impact scenario represents a planning estimate to help inform a central estimate for modelling impacts.
82. For **healthcare**, NHS vaccination rates are above those seen in the wider population hence we have used an approach that applies the increase in uptake rates seen in the care homes workforce to NHS.
83. For **adult social care**, vaccination rates are below the level we would expect to eventually reach given vaccine hesitancy reported in the wider population so we use ONS survey data on the proportion of the entire adult population of Great Britain who indicate vaccine hesitancy<sup>34</sup> broken down by key demographics and adjusting those figures to match the demographics of the adult social care workforce (principally age and gender).

<sup>32</sup> <https://www.england.nhs.uk/statistics/statistical-work-areas/covid-19-vaccinations/>

<sup>33</sup> Based on data which is self-reported by providers, via Capacity Tracker - response rates might affect vaccination rates.

<sup>34</sup> 'Vaccine hesitancy' is defined as those who have been offered the vaccine but declined the offer, are very or fairly unlikely to have the vaccine if offered; are neither likely nor unlikely to have the vaccine if offered; don't know; or preferred not to say rather than just those unvaccinated, and so represents a more optimistic estimate. This data is taken from ONS's Opinions and Lifestyle Survey, which has a reputation of being accurate thanks to its rigorous testing and quality-assured data.



### 1.12.1.3 **Central scenario**

84. Using both the low and high estimates as guidelines, the central midpoint has been calculated in order to reach a proportion of the workforce who may not have fulfilled their condition of deployment and therefore could be subject to being replaced. Monetised costs and benefits of this policy have been modelled on the midpoint.
85. Monitoring of the potential impact of vaccination requirements for workforce in care homes suggests that the equivalent midpoint estimate – made before the previous legislation was introduced – remains reasonably accurate, and hence reasonable to assume the impact of that policy to fall within the range between equivalent high and low estimates.

## 1.13 **Description of options considered**

### 1.13.1 **Option 1 - continuing with the current non-statutory approach**

86. This would involve continuing with a communication and engagement centred approach. Communications campaigns across digital and print platforms encouraging vaccine uptake have taken place for both social and healthcare sectors. Influencers, community and faith leaders, and other trusted figures have been engaged to deliver messaging at local and national level.
87. It would involve continuing efforts with health and care workers, for example, the chief people officer has requested all NHS trusts hold supportive 1 to 1 conversation with every staff member and a person of trust to address their specific concerns around vaccine uptake.

### 1.13.2 **Option 2- Introduction of statutory requirements for vaccination of health and social care workers.**

88. This option will mean that, as part of providing safe care and treatment, providers must assess the risk of, and prevent, detect and control the spread of, infections, including those that are healthcare associated.
89. Introduction of regulations would require that registered person (that is the service provider or registered manager) must not deploy a person as part of a regulated activity unless that person is vaccinated against COVID-19, in accordance with the requirements of the regulations, unless they are medically exempt or otherwise meet the conditions to be deployed.<sup>35</sup>

## 1.14 **Exemptions**

90. For some people the clinical advice is that the COVID-19 vaccination is not suitable. Individuals would be exempt if they have an allergy or condition listed

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<sup>35</sup> [COVID-19: the green book, chapter 14a](#)

by the Green Book<sup>36</sup>, for example, prior allergic reaction to a component of the vaccine. The Green Book also lists allergies or conditions where professional medical opinion should be sought on whether an individual should be exempted.

91. There is limited data to determine the number of workers who would be eligible for exemption. Though unknown, we expect there to be very small numbers of staff who will have medical reasons not to be vaccinated and therefore will be exempt: up to 1% of the overall workforce.
92. Whilst staff who are pregnant can now claim exemption, and that analysis estimated that 4% of the social care workforce is likely pregnant at any one time, we do not know exactly what proportion of pregnant staff are already vaccinated. Therefore, using this and analysis to find the proportion of the workforce pregnant at any one time, we have arrived at an estimate that **2%** of the overall workforce may be exempt.
93. We are using care homes as a proxy for Domiciliary Care, Other Settings and healthcare workforces in scope in this impact assessment, given an equivalent process will be take place for these workers as it has done so for care workers. Workers under the age of 18 will be similarly exempt on a temporary basis from the requirement to be vaccinated - but these only account for about 1 in 500 of NHS trusts' employees. Similarly, under 18s are estimated to make up around 0.1% of workforce (using weighted ASC-WDS Direct Care data<sup>37</sup>, which can be used as a proxy for those in scope of the policy).

#### 1.15 Estimates of unvaccinated staff – healthcare and adult social care

94. Estimates of the unvaccinated workforces in the three scenarios are summarised in table 4 below.
95. The unvaccinated workforce is estimated to be 4.9%, with a range of range of 3.4% to 6.3% for healthcare settings. These are set out in the table below.
96. The **central** estimates are summarised in the table below.

##### 1.15.1 Table 4: Central estimate of the size of the unvaccinated workforce (that are not exempt) at the end of the grace period – health workforce in scope

|                  | Estimated no. of workers unvaccinated at the end of the grace period | % of the total workforce in scope estimated to be unvaccinated at the end of the grace period |
|------------------|--|---|
| NHS Trusts       | 56,000   | 5.0%  |
| Temporary staff  | 13,000   | 5.0%  |
| NHS Primary Care | 3,000  | 3.8%  |

<sup>36</sup> [COVID-19: the green book, chapter 14a](#)

<sup>37</sup> [Workforce estimates \(skillsforcare.org.uk\)](#)

|                    |        |      |
|--------------------|--------|------|
| Independent Sector | 15,000 | 4.7% |
| Total Health       | 88,000 | 4.9% |

**Adult social care** – the figures below are based on the end of grace period being 31 March 2022.

**1.15.2 Table 5: Central estimate of the size of the unvaccinated workforce (that are not exempt)<sup>38</sup> at the end of the grace period - adult social care**

|                         | <b>Estimated no. of workers unvaccinated at the end of the grace period</b> | <b>% of the total workforce in scope estimated to be unvaccinated at the end of the grace period</b> |
|-------------------------|---|--|
| <b>Domiciliary care</b> | 29,000  | 7%   |
| <b>Other settings</b>   | 6,000   | 7%   |
| <b>Total</b>            | <b>35,000</b>   | <b>7%</b>  |

**1.15.3 Low behavioural impact scenario**

97. The low vaccination estimate is such since we are assuming there is no behavioural change by workers due to the policy. In addition, we are assuming that the vaccine uptake rate for domiciliary care staff and staff in other adult social care settings continue at the current trend.

98. Using weekly domiciliary care data from the week commencing 11 July 2021 to 24 October 2021 to project England-level uptake of the first vaccination 4 weeks into a grace period on 3 February 2022 (based on it starting on 6 January 2022) so as to allow a further eight weeks for a second dose within the grace period, per current guidance. Our projection suggests that around 86% of the domiciliary care and other settings workforce would have had both doses and therefore around 14% of the workforce in scope will not have met the requirement by the end of the grace period (not accounting for exemptions and usual turnover).

99. This estimate uses data on the proportion of staff from domiciliary care who have received their first dose of the vaccine, as reported weekly by providers captured by Capacity Tracker – a regular mechanism for providers to provide requested information to DHSC to aid the design of sector support and which serves as the basis for relevant NHS and DHSC statistical publications. We have used the data on the proportion of workers who have had their first dose (rather than those with both doses) as it provides a more robust forward projection given that a longer time series is available (as it leads second dose uptake by around eight weeks). As a result, since we require the estimate of the proportion those who have had both doses by the end of the grace period, and current guidance states that eight

<sup>38</sup> Given high historic levels of turnover in the social care sector, we have also adjusted for the workforce who would have left the sector in the absence of the policy.

weeks is required between doses, we use a cut-off date of four weeks into the grace period to measure the number of staff who have had their first dose (covering both those who have already had their first dose and allowing eight weeks for those who haven't had either to get their first dose) – this then makes the assumption that all those with the first dose will then receive their second dose within eight weeks on from this date, per the current guidance.

100. To obtain the proportion of staff with one dose at the cut-of date, we project forwards in time using a logarithmic trendline-of-best-fit from the outturn data. We think that this is appropriate given that such a trendline is often used when change begins quickly before slowing gradually and approaching a limit. It should be noted that we use the domiciliary care uptake rate for other settings too since we believe that the workforce in scope (CQC-regulated, and so likely those providing personal care) are more akin to domiciliary care than to the 'other settings' category as reported in the NHSE data (that contains non-regulated providers and those in local authorities).

#### **1.15.4 High behavioural impact scenario**

101. Our high estimate uses a range of survey data to estimate the proportion of the workforce who may choose to remain unvaccinated. Using ONS survey data on the proportion of the entire adult population of Great Britain who indicate vaccine hesitancy<sup>39</sup> broken down by key demographics and adjusting those figures to match the demographics of the adult social care workforce (principally age and gender) through a weighted average, we estimate that 5% of the care home workforce could be vaccine hesitant (without accounting for exemptions and usual turnover). While the ONS data on vaccine hesitancy is reported at Great Britain level and is broken down by age and gender, we have used Skills for Care's workforce estimates on gender, age and the total number of all job roles within the adult social care workforce to adjust the figures reported by the ONS to match the workforce demographics. We think that this is a sensible approach to calculate the potential vaccine hesitancy in the workforce.

102. Using the exemptions estimate of 2% mentioned earlier in the document, and accounting for those who would have left due to the policy anyway, we therefore conclude that the most reasonable lower estimate would be 3%.

#### **1.15.5 Central estimate**

103. Our central estimate is a midpoint of the low and high behavioural impact scenarios. Based on our low and high vaccination estimates of between 14% and 5%, as detailed above, we calculate a midpoint of 9% of the adult social care workforce to be unvaccinated at the end of the 12-week grace period.

104. Additionally, as explained in more detail in the Exemptions section above, we estimate 2% of the workforce to be exempt and so have to net this proportion of

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<sup>39</sup> [Coronavirus and vaccine hesitancy, Great Britain - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/peopleinwork/healthandcare/articles/2020-07-29-coronavirus-and-vaccine-hesitancy-great-britain). The ONS define "vaccine hesitancy" as the proportion of respondents who: have been offered a vaccine but declined the offer; are very or fairly unlikely to have the vaccine if offered; are neither likely nor unlikely to have the vaccine if offered; don't know; or preferred not to say.

the workforce off of our estimates of unvaccinated workers. As such, this reduces the central estimate to be 7%, with a range of 3-12%.

105. Also, given that the sector sees an annual workforce turnover rate of over 34%<sup>40</sup>, it is assumed that over a 12-week period, usual turnover could be as high as 8%. Our estimates are therefore each reduced down to net off this impact (on those who are at risk of being displaced and not exempt) and account for the staff who may have left, even without the policy. This reduces the central estimate to 7%, with a range of 3-11%.
106. Therefore, for **domiciliary care**, using approximately 420,000 as the total number of staff in CQC-registered domiciliary care settings at the cut-off date<sup>41</sup>, and assuming that approximately 7% of the workers may not have fulfilled the requirements by the end of the grace period, this equates to around 29,000 unvaccinated workers, with a range of 11,000 to 47,000 for the high and low behavioural impact scenarios respectively.
107. For **other care settings**, using approximately 83,000 as the total number of staff in CQC-registered other care settings at the cut-off date<sup>42</sup>, and assuming that approximately 7% of the workers may not have fulfilled the requirements by the end of the grace period, this equates to around 6,000 unvaccinated workers, with a range of 2,000 to 9,000 for the high and low behavioural impact scenarios respectively

### 1.16 Monetised and non-monetised costs and benefits – overview for health and adult social care settings

108. This section presents the economic assessment of the preferred option, split out in to costs and benefits for both sectors. We have approached this with the high, low, and central behavioural impact scenarios detailed in section 1.15. Both the costs and benefits have been detailed in the sections below.
109. A high-level summary of **monetised** costs and benefits for both health and adult social care settings in the central scenario can be seen in the Table below.

#### 1.16.1 Table 6: Central estimates Health and ASC VFM summary table

| Settings   | Costs        | Benefits   |
|--|--------------|------------|
| Health care  | £185,000,000 | £4,600,000 |
| Adult social care<br>(domiciliary care and<br>other CQC-regulated<br>settings) | £86,000,000  | £6,800,000 |

<sup>40</sup> <https://www.skillsforcare.org.uk/adult-social-care-workforce-data/Workforce-intelligence/publications/Workforce-estimates.aspx>

<sup>41</sup> Using NSHE data projected forward and adjusting for the impact from the Workforce Retention and Recruitment Fund (WRRF).

<sup>42</sup> Using Skills for Care and NHSE data to estimate the number of workers in other adult social care settings that are CQC-registered, adjusting for the impact from the Workforce Retention and Recruitment Fund (WRRF).

|       |              |             |
|-------|--------------|-------------|
| Total | £270,000,000 | £11,400,000 |
|-------|--------------|-------------|

### 1.16.2 Costs

110. There are a number of costs, monetised and non-monetised, that may arise to different groups as a result of making the COVID-19 vaccination a condition of deployment, some of which fall to providers - public sector and independent sector i.e. business and civil society organisations, and some which fall to individuals employed in those providers.

### 1.16.3 Monetised costs

111. **The main monetised costs arise due to recruitment of additional workforce to replace those who are unable to be deployed at the end of the grace period.** The staff who are more likely to be immediately permanently replaced are for those vacancies where there are fewer entry/hiring requirements, e.g. healthcare support workers and home care staff. However, for other staff groups e.g. doctors, nurses there are likely to be challenges in replacing staff who leave or are redeployed.

112. The following paragraphs discusses **monetised costs** for health care and adult social care (domiciliary care and other care) settings separately. The main assumption is that replacement permanent labour is available from the wider labour market - but in reality there is likely to be severe supply shortages in some workforce groups (particularly clinical workers – given inelasticity of supply in the short term and high levels of vacancies for doctors and nurses in NHS) but also for support workers given workforce shortages across the sector and increasing competition for labour from the wider economy.

#### 1.16.3.1 *Monetised costs: Healthcare settings*

113. To estimate the unit costs of recruiting healthcare workforce we have used the typical recruitment costs for Band 5 nurses in NHS. This has been used as a proxy for the recruitment costs of all healthcare staff. The recruitment costs reflect administration costs, the line manager time costs and the costs of induction of new staff.

114. There is likely to be a cost of a temporary fall in productivity in the short term as the new recruits adjust to their new roles, we have not been able to monetise this due to a lack of robust data and sensitivity analysis to assess potential impact on costs based on evidence from typical recruitment costs in adult social care see para 97. Further details on recruitment cost used in annex D.

115. Multiplying the estimates of the cost of recruitment to replace the unvaccinated by the 3 estimates (high, low and central) of the size of the unvaccinated workforce by the end of the grace period, we have estimated the total cost of replacing these workers. **This places the total estimated cost of recruiting unvaccinated healthcare workers at £185 million in the central scenario, with a range of £129 million to £240 million.**

### 1.16.3.2 **Monetised costs: Adult social care settings (domiciliary care and other settings)**

116. Since the policy will require CQC-registered domiciliary care or other adult social care providers to only deploy workers that have been vaccinated (in accordance with regulations), the cost of recruitment is used to quantify the possible cost of replacing all non-vaccinated workers with vaccinated ones, as a result of the policy. The cost used is £2,478, per worker, as derived from the stated costs of recruitment by a small adult social care provider (using the midpoint between the training & recruitment costs only and include the training & recruitment costs plus the lost productivity from using new workers)<sup>43</sup>. The costs from this source are based on a single small adult social care provider, that employs 20 full time equivalent care workers so is used with caution.
117. The total calculated cost of recruitment from this source combines the individual costs of covering exiting staff through agency workers, preparing a job description and the application process, advertisement and promotions, shortlisting, conducting interviews, doing checks and contracting, completing induction and training, having initial supervision support and the lower productivity caused by a reduced capacity. The derived cost of £2,478 that is used as the basis to estimate the cost of recruiting new workers falls in the middle of the total cost of recruitment as calculated by the source at £3,642 and the total cost when excluding the cost of lost productivity at £1,313. We have assumed that the cost of recruiting a new worker will fall in the middle of this range, because of the uncertainty surrounding the estimate of lost productivity for new staff. We have therefore only included 50% of this component in the value we use.
118. Using the adjusted Skills for Care estimate of the cost of recruitment of £2,478 (to replace the unvaccinated), and multiplying this by the three estimates (high, low and central) for the size of the unvaccinated workforce at the end of the grace period, as explained in the Estimates of Unvaccinated Staff section above, we have estimated the total cost of replacing these workers.
119. For domiciliary care, where the estimates of the size of the unvaccinated workforce is 29,000, with a range from 11,000 to 47,000, (taking in to account exemptions and usual turnover) this places the estimated cost of recruitment for replacement workers £72 million in the central scenario, with a range of £27 million to £116 million. For other care settings, where the estimates of the size of the unvaccinated workforce is 6,000, with a range from 2,000 to 9,000 (taking in to account exemptions and usual turnover), this places the estimated cost of recruitment for replacement workers at £14 million in the central scenario, with a range of £5 million to £23 million. Therefore, the total estimated cost of recruiting those adult social care workers estimated to be not have met the conditions of deployment at the end of the grace period is £86 million, with a range from £32 million to £139 million.

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<sup>43</sup> [Calculating the cost of recruitment \(skillsforcare.org.uk\)](https://www.skillsforcare.org.uk)

120. This stated cost of the policy may represent a conservative estimate since the cost of recruitment per worker does not consider any potential efficiency savings that may be incurred through the process of providers recruiting a reasonable number of workers as a result of the policy change. This is explained in more detail below. The cost of the policy will vary across providers, based on an array of factors including the role and therefore pay of the workers needing to be replaced and the total number of workers being replaced. If providers replace a large number of workers, they may have the potential to reduce the cost of recruitment, per worker, by employing recruitment strategies that offer savings for recruiting a large number of workers at one time. Additionally, it is sensible to assume that the stated cost per worker is likely to vary significantly, based on each providers ability to realise savings during the recruitment process. These savings may occur through several ways, including (but not limited to) training a large number of staff at one time or mass advertising. These savings may reduce the cost of recruitment per worker. Therefore, the stated cost of £2,478 which is used to calculate the total cost of replacing staff may be seen as a conservative estimate. This saving is not adjusted for in the monetised cost as it is likely that on average, the differences in the ability to do this may balance out across providers.
121. To capture this uncertainty around the cost of recruitment, we have conducted a further a sensitivity test on the central estimate. Using the upper estimate of the cost of recruitment from Skills for Care of £3,642 per worker, which is consistent with estimates from a representative body within the sector and applying it to the central estimate for the number of workers who may be unvaccinated, estimates that the cost would increase to £126 million.

### **1.17 Uncertainties with the estimates of impact**

122. There are a number of uncertainties with some of the assumptions underpinning the estimates of workforce impacted.
123. There is potential for a margin of error around the estimate of the size of the unvaccinated workforce. The basis for identifying the unvaccinated is to discount all those who we can confidently identify as being vaccinated. This methodology inherently increases the relative error around the number of the small minority who cannot be so identified. Also, we have made assumptions around the number of employees who are exempt from vaccination due to pregnancy who might already have been vaccinated prior to knowing they are pregnant.
124. There is limited evidence to suggest a positive behavioural impact, even though this might be the expected outcome of this policy - i.e. that more staff are vaccinated than under the counterfactual. International evidence is limited and the circumstances of the countries in which the vaccine is a condition of employment are not necessarily relatable to England (e.g. at our current uptake rate, other laws on vaccine as a condition of employment in the country at the time, etc.).
125. Moreover, various evidence sources suggest there are multiple factors which drive lower levels of uptake, including some such as access which will be



relatively unaffected by the policy, and other evidence that it could go further and reduce the vaccine uptake rate than its current projections. As such, this estimate represents a central scenario for what could occur. The central estimate made of the potential change in uptake in care homes as a result of vaccine requirements, using a comparable methodology<sup>44</sup>, was close to the number of staff in those settings who were not recorded as having had at least one dose of the vaccine at least eight weeks (the recommended timing between doses) before the end of the grace period.<sup>45</sup>

126. There could however be the possibility of negative behaviour change resulting from the policy. For example, a German experiment found that vaccination requirements increased anger among individuals with existing negative vaccination attitudes and led to a decrease in uptake by 39%<sup>46</sup>. Moreover, recent public consultation<sup>47</sup> on VCOD in health and wider social care sector found that the biggest concern among respondents was that staff might refuse the vaccine and resign, with 94% of respondents citing this, and 85% raised a similar concern, that staff might resign in protest.
127. Though this evidence does highlight that there *could* be a negative impact when factoring in behaviour change, we have not been able to quantify the extent of this and so it is not included in our estimates. As such, the additional positive change which we cannot measure is implicitly being traded off against the possibility of there being a negative behaviour change resulting from the introduction of the policy, of which there is some.
128. The figure used as the total number of staff working in CQC registered domiciliary care, and therefore in scope for this policy, as well as the uptake rate, is uncertain. These figures are based on a set number of provider responses, which deviate at each data collection point. As at 31 October 2021, the response rate was 95% of providers – though this rate does deviate, the rate remains high enough for the figures it provides to be representative of all of the providers in its scope. At the same time, however, there is clear evidence of a downward trend in the number of staff and we have made a projection of workforce numbers who will be affected – adding to uncertainty within these estimates.
129. It should be noted that we use the domiciliary care estimate for other settings since we believe that the workforce in scope (CQC-regulated, and so likely those providing personal care) are more akin to domiciliary care than to other staff in the ‘other settings’ category in the vaccination data (that contains non-regulated providers and those in local authorities).
130. We have not included the cost of deploying the vaccine since the cost of acquiring and administering the vaccine is already factored into the government

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<sup>44</sup> [Statement of impact – The Health and Social Care Act 2008 \(Regulated Activities\) \(Amendment\) \(Coronavirus\) Regulations 2021 - GOV.UK \(www.gov.uk\)](#)

<sup>45</sup> <https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2021/09/COVID-19-weekly-announced-vaccinations-30-September-2021.xlsx>

<sup>46</sup> Betsch C, Bohm R. (2016). "Detrimental effects of introducing partial compulsory vaccination: experimental evidence". *European journal of public health* (1101-1262), 26 (3), p. 378.

<sup>47</sup> [Making vaccination a condition of deployment in older adult care homes: impact assessment \(publishing.service.gov.uk\)](#)

budget for national rollout. Therefore, it's not clear the extent of the marginal vaccination cost from this policy.

131. The estimate of the proportion of workers who qualify for exemption and so will not need to be replaced contains some uncertainty. Exemptions will apply for individuals below the age of 18, for those who are taking part in clinical trials, and for those who are deemed clinically exempt on the basis of the Green Book and Joint Committee on Vaccination and Immunisation (JCVI) guidance or by a clinician. We have estimated this is up to 2% but this is uncertain given the lack of data available on the numbers of people that meet a clinical exemption listed in the Green Book.
132. In social care, to estimate the cost of recruiting replacement workers who may leave as a result of the policy, we have assumed that 8% of those workers identified as those who may not fulfil the requirements of the policy, may have left even without the policy. Therefore, we have adjusted the number of workers unvaccinated and not exempt to account for this, as the cost of recruiting them would form a regular part of providers operations and therefore costs, and so not part of the cost of policy. Lower turnover rates in healthcare (around a third of social care rates in NHS) suggests this is less of an issue but the estimated values in health are likely to be slight overestimate as a result of not adjusting for turnover.

### 1.18 Unmonetised costs – Healthcare and adult social care settings

133. **Loss of or disruption to health and care services**– A reduction in the health and social care workforce may lead to lower health outcomes for society. COVID-19 has caused unprecedented levels of disruption to health and care provision in the UK and has had a compounding impact on routine and planned care. The health system is currently stretched with elective waiting list of 5.72 million and high levels of vacancies. The number of patients waiting over 52 weeks to start treatment has increased from 1,600 in January 2020 to over 292,000 in August 2021. Some staff shortfall may be covered by temporary staff, but we don't know the effective capacity in the temporary labour market.
134. Workforce pressures can also lead to delayed discharges of hospitalised patients at a cost of £350<sup>48</sup> as of 2017/18. Longer stays in hospital can also have an impact of the individual's health outcomes even after he or she is eventually discharged, such as through increased risk of infection, low mood and reduced motivation.<sup>49</sup>
135. Disruption of domiciliary care or other services could also lead to temporary shortages which may also lead to an increase in hospital discharge delays, add costs to commissioners and potentially cause harm to care users by placing care

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<sup>48</sup> This estimate was based on archived data from NHS Improvement for 2017/18, accessed here: [\[ARCHIVED CONTENT\] Archived Reference Costs | NHS Improvement \(nationalarchives.gov.uk\)](#). No updated figure available

<sup>49</sup> More information can be found here: [Delayed transfers of care: a quick guide | The King's Fund \(kingsfund.org.uk\)](#)

users in sub-optimal care settings – i.e. residential homes rather than at home care, or in NHS rather than ASC settings. There may also be an impact on care users' families and other loved ones by increasing the use of informal care – potentially causing some carers to leave the labour market due to additional care responsibilities.

136. Older age groups and people with disabilities or other health conditions are likely to be impacted by the disruption to these services in particular. This is unlikely to be just a short-term consequence given the number of staff leaving, especially those in staff groups that are already struggling with supply shortages, such as nurses. The recruitment process to replace these workers may be challenging resulting in potential disruption to health and care services and the potential for sustained pressure on those remaining in the workforces.
137. **Loss of productivity in health services<sup>50</sup> – this would happen as replacements for those who leave their roles due to being unvaccinated take time to get accustomed to their new roles.** The policy may also place a short-term strain on the members of the workforce who are already vaccinated as a consequence of potentially needing to pick up extra work due to temporarily reduced capacity. This is likely to vary substantially across regions, given that the current vaccine uptake differs between NHS trusts and between local authorities.
138. The size of this impact is likely to be affected by the number of replacement workers necessary and the speed at which replacement workers are recruited. For some staff groups, any strain may only exist in the short term before replacement workers are recruited. This is more likely for healthcare support workers and workers in social care where the sector typically recruits c.10% of its workforce from other sectors over the course of each year. The value of lost productivity forms part of the monetised cost of recruiting replacement staff for social care services.
139. **Administrative costs to health and care providers dealing with HR implications of the regulations on communicating and redeploying workers.** This change in regulation will need to be communicated to staff and could result in workers needing to be redeployed; this could take time from health and care providers. The regulation has been consulted on (over 34,900 responses were received) and follows the care homes regulations. DHSC will engage with providers and their representative bodies and provide guidance on how to comply with the regulations to help minimise administrative costs.
140. **Direct, transitional familiarisation costs to health and care providers familiarising themselves with the regulation and guidelines on exemptions, including monitoring vaccination status.** There will also likely be a direct cost to health and care providers for the time management need to familiarise themselves with the regulation and guidelines around exemptions. We consider that the time required by each provider to familiarise themselves will be small, as providers have been required to monitor and report the vaccination status of staff

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<sup>50</sup> An estimate of this has been included within the cost of recruitment for social care workforce.

deployed in their organisations to DHSC via UK PHE COVID-19 vaccination survey (NHS organisations) and the Capacity Tracker collection (domiciliary and other care settings) for some time and are therefore familiar with considering this issue. Managerial pay in the NHS is, on average, £38 per hour as of June 2021, implying a cost per organisation of familiarisation in the order of around £76 (assuming an illustrative 2 hours per organisation to consider exemptions and alter existing guidance to staff). To put this cost into context for healthcare settings, there are around 20,000 NHS trusts, GP practices and dental practices in scope, which amounts to a cost of approximately £1.5 million using this wage rate. For social care, given the wage for independent sector senior management pay is £16.70 per hour in 20/21, and there are around 11,400 organisations in scope, the equivalent estimate will be around £400,000. Given the magnitude of uncertainties already expressed in the range of monetised direct costs to business estimated above, we have not explicitly included an estimate of this much smaller – and also uncertain – impact in our quantification of potential costs.

141. **Direct, transitional costs of cover to health and care providers for staff absent due to side effects from having the vaccination, or replacement of staff who suffer complication as a result of it.** We have not included this as part of the monetised costs given that we do not know with sufficient certainty how often side effects are severe enough to result in absence from work or the duration of such absences. We do not know the incidence of these side effects for the workforce vaccinated as result of the policy. A direct cost to providers may emerge if some of the additional workers who are vaccinated as a result of the policy experience side effects severe enough to result in absence from work.
142. Around one in eight people who have received one dose of the Pfizer COVID-19 vaccine have experienced at least one systemic effect within seven days of their jab compared with roughly one in three who received the AstraZeneca vaccine. The additional cost of dealing with absences due to side effects of those vaccinated as a result of the policy would be the cost of covering staff shifts using overtime or agency staff at a premium over and above what would usually be paid to existing staff.
143. **As an illustrative example only**, albeit a pessimistic example would assumes a third of those workers vaccinated as a result of the policy (so as to represent an extreme upper-bound estimate) were to be absent from work for an (illustrative) five days, and using a premium for staff cover of 20% of the average wage (£9.46 for independent direct domiciliary care hourly), this could be estimated at an illustrative cost of roughly £700,000 for social care settings. For healthcare settings, using a similar approach (with an average daily wage of £82.60), this cost is also around £700,000.

### 1.19 Benefits

144. COVID-19 vaccines have been shown to provide protection from infections, hospitalisations and deaths. Though there is still uncertainty in the precise impact

of these outcomes, the data available to date suggests good efficacy in all these outcomes compared to other vaccines that make up Government vaccination programmes such as for seasonal flu.

145. Increasing vaccination uptake rates in response to the policy will likely lead to benefits:

- being vaccinated to the individual health and care worker
- contact with (who are particularly vulnerable on average) to the people with whom they come in into
- COVID-19 rates for the wider society due to lower overall

146. There are also likely to be other benefits due to reduced sickness absences and lower hospitalisation costs from having a greater number of individual health and care workforce vaccinated and wider economic benefits.

147. The central estimate for the number of workers in both health and social care settings who will get vaccinated in response to the policy is 54,000. As a result there will be fewer hospitalisations, deaths, sickness absences and infections. There are many different factors which may affect this, so it is difficult to accurately estimate these impacts. However, it is certain that as a result of this policy, health and care environments will be safer from COVID for both patients and staff.

### 1.19.1 Monetised benefits

- **health benefits to the individual** - QALYs saved due to averted infections and fatalities to health and care workforce
- **averted sickness absences** - this was monetised by valuing the work of individuals (which is lost during their sickness absence period) in terms of their wages.
- **reduced hospitalisation costs** due to serious infections that are averted

148. These are summarised below. Details on our methodology can be found in Annex D.

149. **Direct health benefits to individual health and care workers from being vaccinated.** Health workers have a higher risk of getting COVID-19 than the population as a whole<sup>51</sup>. We have monetised the direct benefits of increased vaccination rates to the health and care workforce by using Quality-Adjusted Life Years. QALYs are a concept commonly used in health economics and in particular by the National Institute for Health and Care Excellence to value the outcome of different health interventions. The approach takes account of not only the increase in life expectancy a policy or treatment is expected to generate but the quality of that life and any improvements made. Based on willingness-to-pay research, the social value of one QALY – one additional year of life, experiencing

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<sup>51</sup> [https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(20\)30164-X/fulltext](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(20)30164-X/fulltext)

the highest possible quality of life – has been established at £60,000 and we have used this to estimate the monetary value of the QALYs saved by avoided fatalities and infections amongst the workforces in scope due to additional vaccination uptake in response to the policy.

150. **Averted COVID-19-related sickness absences<sup>52</sup>**; Increasing vaccination rates are likely to reduce COVID-19-related absences. Sickness absence rates in NHS are above levels seen pre pandemic and account for around 20% of total absences<sup>53</sup>. This has been monetised using average wage rates for the appropriate workforces in scope and the average amount of time we expect someone who has been infected to be absent for.

151. **Lower costs of hospital treatments by increasing protection against the virus for the clinically vulnerable (cost savings due to avoided hospitalisations)**. By offering a high level of protection for both users and other workers by vaccinating the workforce, there will be a benefit from reduced hospital admissions and treatments. During the height of the pandemic, urgent medical procedures were cancelled or postponed to allow the NHS to deal with the significant pressures faced by COVID-19 hospitalisations. This demonstrates the opportunity cost of hospitalisations and the value of reducing them. We have monetised the savings of averted hospitalisations for the workforces in scope by estimating the number of serious infections that would be averted and the expected hospitalisation cost of a serious case using PHE modelling – further details on the methodology can be found in Annex C.

152. Overall, the monetised benefits for health and social care are summarised below:

1.19.2 **Table 7: Monetised benefits for health and social care**

| <b>Settings</b>   | <b>High behavioural impact scenario</b> | <b>Central scenario</b> | <b>Low behavioural impact scenario</b> |
|---|---|-------------------------|--|
| Health care   | £9,200,000                              | £4,600,000              | £0                                     |
| Adult social care (domiciliary care and other CQC-regulated settings) | £12,600,000                             | £6,800,000              | £1,000,000                             |
| <b>Total</b>  | <b>£21,700,000</b>                      | <b>£11,400,000</b>      | <b>£1,000,000</b>                      |

### 1.19.3 Unmonetised benefits -healthcare and adult social care

#### 1.19.3.1 *Health benefits to patients and care service users.*

153. Individuals receiving care in health and adult social care settings are more clinically vulnerable than the wider population. If the workforce is fully vaccinated against COVID-19, this will likely limit the likelihood of nosocomial infection in healthcare settings. CEBM analysis of “probable” nosocomial infections (defined

<sup>52</sup> Absences due to both COVID-19 or self-isolation due COVID-19

<sup>53</sup> More information can be found at: [Statistics » COVID-19 Hospital Activity \(england.nhs.uk\)](https://www.nhs.uk/statistics/covid-19-hospital-activity)

as patients who test positive after over 7 days in hospital) in England<sup>54</sup> and NHSE figures on COVID-19 infections<sup>55</sup> suggest there have been 46,127 nosocomial cases since August 2020 and now currently around 70 per day (compared to a peak of about 600 per day during last winter).

154. Evidence based on PHE modelling shows that the fatality rate from a COVID-19 infection for older patients, is around 3% for those aged 65-74, increasing to over 11% for those aged 75+<sup>56</sup>. This will be inflated by the fact that it does not account for vaccination status (given that this data was published in 2020), so with a 90% vaccine uptake and 90% protection against fatality<sup>57</sup>, we may expect these figures to **drop closer to 1%** for everyone aged 65+. This is almost certainly an underestimate since it is representative of the wider population rather than hospital patients specifically, who we expect to be more vulnerable to COVID-19 on average. We therefore consider a range of higher nosocomial fatality rates from 1 to 4% to account for this uncertainty.

155. Modelling from the COVID-19 and Health Protection team estimates that patients aged 65+ lose on average **6 QALYs upon a COVID-19 death** (typically ranging from 3.9 to 8.6 QALYs). The rate of nosocomial infections is currently 70 per day, but as a starting point, we may expect this to fall over time due to COVID becoming less prevalent in the coming years and infection control improving in hospitals to about 10% of this (7 per day, equivalent to about 2,600 a year).

156. Our illustrative estimates of the impacts of the QALY losses and the potential health benefits of this policy are outlined below (although these figures should be interpreted with caution as our evidence on this is limited):

1.19.3.2 **Table 8: Potential Nosocomial benefits of patients aged 65+**

|  | <b>Nosocomial fatality rate (of patients aged 65+)</b> |               |               |               |
|--|--|---------------|---------------|---------------|
|  | <b>1%</b>  | <b>2%</b>     | <b>3%</b>     | <b>4%</b>     |
| Nosocomial fatalities per year                       | 26   | 51            | 77            | 102           |
| QALYs lost on average per year                       | 156  | 312           | 468           | 624           |
| Value of QALYs lost per year <sup>58</sup>           | £9.4 million   | £18.8 million | £28.1 million | £37.4 million |
| Value of 1% deaths saved due to this policy per year | £0.1 million   | £0.2 million  | £0.3 million  | £0.4 million  |
| Value of 5% deaths saved per year                    | £0.5 million   | £0.9 million  | £1.4 million  | £1.9 million  |

<sup>54</sup> [Probable healthcare associated infections in England - The Centre for Evidence-Based Medicine \(cebm.net\)](https://www.cebm.net/2020/07/probable-healthcare-associated-infections-in-england/)

<sup>55</sup> [Statistics » COVID-19 Hospital Activity \(england.nhs.uk\)](https://www.england.nhs.uk/statistics/statistics-article/covid-19-hospital-activity/)

<sup>56</sup> A detailed breakdown of infection and fatality rates by age can be accessed here (see page 3): [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1029750/Greenbook\\_chapter\\_14a\\_29Oct21.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1029750/Greenbook_chapter_14a_29Oct21.pdf)

<sup>57</sup> Data from the University of Edinburgh suggests this is the case: [Covid: Vaccines '90% effective' at preventing Delta variant deaths - BBC News](https://www.bbc.com/news/health-57484444)

<sup>58</sup> For a value of £60,000 per QALY



|                                    |              |              |              |              |
|------------------------------------|--------------|--------------|--------------|--------------|
| Value of 10% deaths saved per year | £0.9 million | £1.9 million | £2.8 million | £3.7 million |
|------------------------------------|--------------|--------------|--------------|--------------|

### 1.19.3.3 **Benefits to society (and the economy) from higher vaccination uptake levels as a whole.**

157. The benefits that accrue from eligible individuals receiving a vaccine fall across the entire England population. In addition to directly protecting the individual, vaccines can provide indirect protection by reducing onward transmission and so decreasing the probability that an individual is infected in the first place.

158. It is appropriate to take account of the very high non-quantified macroeconomic benefits of a comprehensive vaccination programme when deciding whether to deploy the vaccine, including to the groups that may have the least direct health benefit. The JCVI have recommended roll-out to health and care staff as part of phase 1, to reduce mortality and morbidity from COVID-19, and MHRA have approved the vaccine as being safe and effective for use. This will bring both health gains to the immunised groups and wider social and economic gains to wider society.

159. At the outset of vaccine deployment in December 2020, the COVID-19 and Health Protection Analysis team estimated that the macroeconomic benefits would be in region of £1 billion for every week a vaccine programme is available, until the end of 2021. This was based on OBR estimates in 2020, which suggested a sharp economic contraction, of the order of magnitude of 22.6% of GDP<sup>59</sup> during the first wave in April 2020. The pace of the recovery and the extent of any long-term economic ‘scarring’ are both still highly uncertain. The pandemic brought about a significant economic downturn in 2020 and 2021, for example the employment rate of 16-64 year olds in England fell to 75% in January-March 2021, the lowest rate since October-December 2016<sup>60</sup>. In the most recent SAGE paper on direct and indirect COVID-19 excess deaths<sup>61</sup>, it was reported that the adverse economic shock and impacts on education are likely to lead to poorer health in the population and future health care need.

### 1.19.3.4 **Greater reassurance (public confidence) to patients and care users that their health and care is prioritised by ensuring staff who look after them are vaccinated.**

160. Vaccines are generally effective at reducing onward transmission to some extent, either by the individual having full immunity from infection, or through moderating the transmission by reducing the individual’s symptoms. This is why JCVI advises that those who work with the vulnerable are included in the priority groups.

<sup>59</sup> <https://obr.uk/download/fiscal-sustainability-report-july-2020/>

<sup>60</sup> ONS (2021) Labour Force Survey Headline Indicators. Available from: Labour Market Profile - Nomis - Official Labour Market Statistics (nomisweb.co.uk)

<sup>61</sup> [S1373 Direct and Indirect Health Impacts of C19 Detailed Paper .pdf \(publishing.service.gov.uk\)](#)



## 1.20 Breakeven Analysis

161. Our central estimate for the costs in health and social care settings amount to £270 million, which equates to 4,500 QALYs by valuing each QALY as equivalent to £60,000. By taking the average QALY loss per fatality for those aged 65+, this equates to 740 lives that need to be saved for the policy to breakeven on its monetised costs in healthcare – but additional QALYs will also be generated by reductions in sickness amongst staff, patients, care users and in the wider community, by reductions in anxiety, and through other mechanisms.

## 1.21 Direct costs and benefits to businesses

162. Direct cost to business of replacing workers who are unable to be deployed by the end of the grace period have been monetised. Other direct and indirect costs to business feature in the non-monetised costs section. It is worth noting that the costs to business referred to here (and in the whole document) include that of civil society organisations as well, and that home care providers include non-profit organisations.

163. For adult social care, we use the Skills for Care workforce estimates<sup>62</sup> to calculate the share of the direct care workers in a domiciliary care service who work in a local authority setting out of the total workforce in scope; 3%. Since the workforce of the Other Settings for adult social care seems most akin to Domiciliary Care, we can use this.

164. For healthcare, it is estimated that the independent sector makes up 8% of the total workforce, therefore 92% of the workforce are estimated to be in a public provider setting.

165. We have then applied these proportions to the calculations above to net off the impact of public providers, reducing the costs from £270 million to £98 million for businesses in the central scenario.

### 1.21.1.1 *Estimation of direct costs and benefits to business by sector*

166. Evidence on the size of the independent **healthcare** sector workforce covered by this policy is limited. For the purposes of this impact assessment a best estimate of the independent sector workforce has been calculated from the wider healthcare estimates of number of providers and employment levels.

167. Healthcare workforce covered by this policy is found in the following industries (SIC codes)

- hospital activities - **861**
- general medical and dental activities - **862**
- other human health activities - **869**

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<sup>62</sup> [Workforce estimates \(skillsforcare.org.uk\)](http://skillsforcare.org.uk)

168. The ONS Business Register Employment Survey (BRES)<sup>63</sup> BRES estimates of above industries report around 656,000 people are employed, including sole traders, and partners. Not all of these will be in scope of the Regulations. Our estimates of those in scope are based on the following providers:

- ..... I  
**Independent acute health providers**, staff involved in the provision of acute medical services, fertility treatment, pregnancy termination and screening services.
- .....  
**High street’ dentistry**: services accessed directly either as NHS or private treatment patients, or as a mixture of the two funding resources (e.g. NHS ‘upgrades’).
- ..... P  
**Primary medical providers**, this covers services provided by GPs.
- ..... I  
**Independent mental health providers**, staff involved in delivering mainly mental health hospital treatment, as well as learning disability and autism.
- ..... C  
**Community Health services** funded by NHS but provided by independent sector.

169. The above list is not comprehensive, there are some workforces that we have not been able to identify explicitly because of data limitations. Specifically, it has not been possible to identify particular staff groups, for example, AHPs e.g. physiotherapists and occupational therapists who are in scope because they are likely to work in both NHS and the private settings simultaneously.

170. Analysis of the HCPC register<sup>64</sup> and cross referencing with NHS workforce statistics suggests the numbers working in non-NHS settings is around 114,000 and so a maximum of around 7,000 unvaccinated AHPs are uncouned in our modelling of impacts.

171. Using estimates of workforce in the NHS and pro rating with market segmentation evidence mainly from LaingBuisson<sup>65</sup> estimate 20% of the healthcare workforce to be in the independent sector, therefore 80% to be public sector. However, a proportion of these are delivering NHS funded services, so netting these off suggest 8% are direct business costs. Applying this proportion to our central estimate of costs to health providers (£185m) gives an estimate of **£15 million** direct costs to businesses.

172. There are also likely to be impacts to temporary staffing providers due to likely workforce shortages in NHS. Although we might expect some independent sector organisations e.g. private acute hospitals to lose income/activity if staff leave and are not replaced leading to lower health outcomes, temporary staffing

<sup>63</sup> ONS (2018) Business Register and Employment Survey: open access. Accessed [here](#)

<sup>64</sup> Data on HCPC registrants can be found here: [Registrant data and statistics | \(hcpc-uk.org\)](#)

<sup>65</sup> Laing & Buisson (2018). Healthcare Market Review, 32<sup>nd</sup> Ed. London

providers may benefit from increased demand from NHS for temporary workforce to replace substantive workforce.

173. For **adult social care**, providers are likely to experience a short-term cost (i.e. accruing in the first year) of dealing with replacement of workers (short-term cover alongside recruitment and training costs), if 7% of domiciliary care workers and workers in other settings do not choose to get vaccinated as a result of the policy and are not eligible for an exemption– this is the full cost of £86 million estimated within this impact assessment and is therefore subject to a one-year appraisal period. As stated in the Business Impact section earlier, from Skills for Care workforce estimates<sup>66</sup> we have estimated that around 3% of domiciliary care providers in scope of this policy are public providers, therefore 97% to be private providers.
174. Taking in to account the percentage of the workforce we estimate to be public and private providers, we estimate for the direct cost to business to be £98 million. In the long run however, having a fully vaccinated workforce reduces the likelihood of a high number of absent days, which would benefit the provider as it reduces the need and therefore cost of finding replacement work.
175. As mentioned in the cost section above, businesses are likely to experience a change in business from domiciliary care and other CQC regulated providers in other settings, depending on the proportion of their workforce that are vaccinated. Although there may not be a net cost to businesses as a result of this, there is likely to be a small cost to providers in the form of the time spent by staff to verify the vaccine status of visiting professionals entering the care home.
176. Additionally, this is a sector that is facing serious recruitment challenges against a backdrop of accelerating competition for labour as the economy re-opens, with competing sectors such as retail, logistics and hospitality offering higher wages and better conditions, as well as record levels of vacancies. Analysis of recent survey data from providers found that a large proportion of them reported that recruitment was more, or much more challenging than in April 2021.

## 1.22 Impact on Small and Micro Businesses (SAMBA)

177. The majority of health and care providers will be small or micro businesses or civil society organisations, and these proposals will apply to their staff. The burden of verifying that staff are vaccinated and some recruitment costs for replacing staff may be disproportionate, as not all costs will vary with business size. Given that small and micro providers account for a significant proportion of all providers in England, and to ensure that all health and care users are equally protected, it would not be possible to exempt smaller enterprises. Small and micro providers can be defined as those having fewer than 50 employees. A summary of the proportion of business in each employment size band can be seen in the table below.

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<sup>66</sup> [Workforce estimates \(skillsforcare.org.uk\)](https://skillsforcare.org.uk)

178. For healthcare, the policy will impact healthcare businesses, who may no longer be able to deploy staff in direct patient facing roles. The table below presents a snapshot of wider healthcare private businesses covered by this policy. It shows 97% of private healthcare businesses are small and micro businesses<sup>67</sup> and so we do not believe a policy of exemption of SAMBA could be effective in delivery of the policy objectives.

179. Further guidance will be published to help support healthcare providers, including small and micro businesses in implementing and complying with the regulations.

180. For **adult social care** proportions, we have used Skills for Care estimates of non-residential adult social care organisation sizes in England<sup>68</sup> to calculate 89% of adult social care providers to have fewer than 50 employees, and so be classed as small or micro businesses. To make this applicable to the workforce in scope of this policy we then apply this to the number of CQC-registered domiciliary care providers, as reported in the CQC care directory<sup>69</sup> and filtered for domiciliary care agencies (using the "Personal Care" responsibility as a proxy), we estimate around 10,200 agencies out of a total of around 11,400 to be small or micro. Advice from SAGE on the potential risk to care users as a result of high levels of unvaccinated staff does not distinguish by the size of service.

**1.22.1 Table 9: proportion of business in each employment size band<sup>70</sup>**

|  | Proportion of businesses in each employment size band |        |        |      |       |
|--|---|--------|--------|------|-------|
|  | 0-9   | 10- 49 | 50-249 | 250+ | Total |
| Hospital activities                    | 71%   | 9%     | 10%    | 10%  | 100%  |
| General medical practice activities    | 58%   | 39%    | 4%     | 0%   | 100%  |
| Specialist medical practice activities | 94%   | 6%     | 0%     | 0%   | 100%  |
| Dental practice activities             | 77%   | 22%    | 0%     | 0%   | 100%  |
| Other human health activities          | 91%   | 7%     | 2%     | 1%   | 100%  |
| UK Healthcare Average                  | 78%   | 19%    | 2%     | 1%   | 100%  |
| Adult social care <sup>71</sup>        | 62%   | 28%    | 9%     | 1%   | 100%  |

181. Working with Skills for Care to ensure that resources such as guidance and best practice are available to support all providers and local authorities with capacity and workforce planning, recruitment, and well-being. We anticipate that

<sup>67</sup> [UK business: activity, size and location - Office for National Statistics \(ons.gov.uk\)](https://ons.gov.uk)

<sup>68</sup> [The size and structure of the adult social care sector and workforce in England \(skillsforcare.org.uk\)](https://skillsforcare.org.uk)

<sup>69</sup> [Care directory with filters \(01 October 2021\) | Care Quality Commission \(cqc.org.uk\)](https://cqc.org.uk)

<sup>70</sup> [UK business: activity, size and location - Office for National Statistics \(ons.gov.uk\)](https://ons.gov.uk)

<sup>71</sup> [The size and structure of the adult social care sector and workforce in England \(skillsforcare.org.uk\)](https://skillsforcare.org.uk)

smaller providers will make greater use of these resources due to the potential disproportionate impact on them.

182. Skills for Care has developed a dedicated one stop webpage that brings together a range of support, information, and resources together to support social care employers to continue to recruit and retain their staff in a challenging environment. This includes case examples where employers have successfully encouraged their staff to take up the vaccine ahead of this policy being implemented. These will help share good practice from across the sector.<sup>72</sup>
183. Skills for Care can also provide local and national workforce support to local authorities and employers.
184. We will also work with local authorities to ensure they are contingency planning and accessing additional support, as well as promoting joint working across a region to assist with targeted recruitment. In addition, we have put in place a range of measures to help providers recruit and retain staff. This includes relaunching our National Recruitment Campaign to highlight the opportunities of working in adult social care, free and fast-track DBS and barred list checks for COVID-19 related recruitment to speed up the onboarding process, and work with DWP to provide resources and training to Job Centre Work Coaches to enable them to effectively promote adult social care careers to jobseekers.
185. We recently announced funding for a Workforce Recruitment and Retention Fund of £162.5 million which may be used by providers to help curb workforce pressures felt from vaccination policy for care workers and more general staff shortages from between now and the end of the financial year. We have not modelled the impact of this fund in the costs as we assume everyone that is retained or recruited will be vaccinated or willing to be vaccinated (so it will not affect the uptake rate). We have modelled it in the benefits though, since an increase in the workforce size that are vaccinated will feed through to additional vaccinations relative to the counterfactual and so will improve the monetised health benefits.

### 1.23 WORKFORCE

186. While it is not possible at this point to predict how many and when staff may not be deployable, central estimates of 88,000 workers having not fulfilled the conditions of deployment by the end of the grace period in NHS and 35,000 workers in domiciliary care and other care services suggest the impact on staffing levels and health and care services could be significant. Any reduction in the professionally qualified clinical workforce is likely have a more significant impact, as there is less scope to rapidly restore capacity.
187. Whilst we are assuming that a potentially large number of replacement workers may be necessary to help address the vacancies that may arise as a result of the policy, there are plausible reasons to suggest why we think this may be possible.

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<sup>72</sup> [COVID-19 vaccination \(skillsforcare.org.uk\)](https://www.skillsforcare.org.uk)

These include the approaching end of the furlough scheme, introduced to help deal with the pandemic, which may result in a possible sudden increase in the size of the non-professionally qualified workforce entrant pool, helped further by the limited level of requirements necessary for those entering the sector. The policy may also incentivise some people to enter this labour market, given their increased level of protection against the spread of the virus at the workplace relative to other labour markets.

**Table 10: Breakdown by staff group of unvaccinated staff in health under each scenario**

|                                   | Head-count       | High behavioural Impact Scenario |                       | Central Scenario |                       | Low Behavioural Impact Scenario |                       |
|-----------------------------------|------------------|----------------------------------|-----------------------|------------------|-----------------------|---------------------------------|-----------------------|
|                                   |                  | Unvaccinated                     | per cent Unvaccinated | Unvaccinated     | per cent Unvaccinated | Unvaccinated                    | per cent Unvaccinated |
| <b>All staff in scope</b>         | <b>1,813,000</b> | <b>61,800</b>                    | <b>3.4%</b>           | <b>88,300</b>    | <b>4.9%</b>           | <b>114,700</b>                  | <b>6.3%</b>           |
| All NHS staff in scope            | 1,486,000        | 51,000                           | 3.4%                  | 72,900           | 4.9%                  | 94,800                          | 6.4%                  |
| NHS Trusts (staff in scope only)  | 1,129,000        | 39,300                           | 3.5%                  | 56,200           | 5.0%                  | 73,000                          | 6.5%                  |
| Bank and Agency                   | 268,000          | 9,300                            | 3.5%                  | 13,300           | 5.0%                  | 17,300                          | 6.5%                  |
| General Practices (in scope only) | 89,000           | 2,400                            | 2.7%                  | 3,400            | 3.8%                  | 4,400                           | 5.0%                  |
| Dental                            | 97,200           | 2,700                            | 2.8%                  | 3,900            | 4.0%                  | 5,100                           | 5.2%                  |
| Independent                       | 230,000          | 8,000                            | 3.5%                  | 11,400           | 5.0%                  | 14,900                          | 6.5%                  |

188. Whilst a central estimate of 35,000 workers of not meeting the condition of deployment at the end of the grace period could present a risk given existing staff capacity issues in the sector, some exits will occur throughout the twelve-week grace period and not all at the end. The sector experiences a relatively high annual workforce turnover rate of over 34% (of which a third are sector exits). While this means that recruitment forms a regular part of providers' operations (and that our cost estimates deduct those staff who would have left the sector anyway), a significant additional and concentrated loss of staff presents a significant workforce capacity risk. Moreover, this is in a sector that is already facing serious recruitment challenges owing to high competition for labour as the economy re-opens, with competing sectors such as retail, logistics and hospitality offering higher wages and better conditions, as well as high levels of vacancies (now higher than pre-pandemic). Industry sources suggest that recruitment is "more, or much more" challenging than in April 2021. It is worth noting that the extent of the challenge posed by increased turnover will also depend on the local labour market conditions. Some of these risks could be somewhat mitigated at the local level through levers which are set out below.

189. The estimates for the proportion of the workforce who may not have fulfilled their condition of employment by the end of the grace period is at England-level. This means that the differences will likely differ between regions with the risks higher in those areas with lower vaccine uptake rates. However, there may be local levers in place to manage this risk. For example, we can expect Local Authorities to proactively manage these risks given their knowledge of local provider and labour markets and the ongoing work taking place regarding vaccine uptake. We can expect them to have contingency plans in place to deal with workforce shortages and provider failures as set out in the Care Act<sup>73</sup>. The ability of LAs to manage this risk locally will be affected by the scale and nature of the workforce challenge in each area. The DSHC regional team will be working with LAs to understand local contingency plans and advise and support where appropriate. Examples of actions that can be taken are redeploying staff from their own or other services.

190. While people could get vaccinated in response to the policy, it is very possible that they would feel resentment as they felt they had no viable alternative. This could be detrimental to staff morale in a period where the health and care workforce is already under a lot of pressure in an environment where cohesive teamwork is valuable, meaning that people getting vaccinated could actually be counterproductive to an extent<sup>74</sup>.

#### 1.24 Sensitivity analysis

191. Sensitivity analysis has looked at changing assumptions regarding productivity, and temporary staffing. In healthcare, central estimates assume no loss in productivity or use of temporary staffing given lack of evidence on the scale of these impacts.

192. **Applying lost productivity assumptions** used in social care modelling to healthcare recruitment cost estimates results in total costs of the policy increasing from £270 million to £373 million (the high and low impact scenarios increase from £162 million and £379 million to £234 million and £513 million respectively) for healthcare settings.

193. A more optimistic assumption, would assume new recruits take 1 month to adjust to their new workplace (during which they work at 75% capacity), would see the total costs of the policy **rise from £270 million to £305 million** (central scenario), with the high and low scenarios rising from £162 million and £379 million to £186 million and £424 million respectively.

194. It is also likely the costs of replacement have been underestimated because of lack of adjustment for temporary labour in healthcare. It is unclear how providers will respond to workforce shortages or the effective capacity of the temporary labour market

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<sup>73</sup> [Care Act factsheets - GOV.UK \(www.gov.uk\)](https://www.gov.uk)

<sup>74</sup> Betsch C, Bohm R. (2016). "Detrimental effects of introducing partial compulsory vaccination: experimental evidence". *European journal of public health* (1101-1262), 26 (3), p. 378.



195. Assuming that temporary staff cover for **departed clinical staff for 2 months**, this amounts to **an increase in total costs of the policy to £454 million** in the central scenario, ranging from £290 million to £618 million in the high and low scenarios respectively.

196. A less optimistic assumption of **6 months** temporary staff cover for clinical staff and **2 months** cover for support staff as well results in **a significant increase in total costs to £915 million** in the central scenario, ranging from £613 million to £1.217 billion in the high and low scenarios respectively.

### 1.25 Care Quality Commission Implementation

197. Under the approach set out above it would be the CQC's role to monitor and take enforcement action in appropriate cases. At time of registration and when inspected, the registered person would have to provide evidence that those deployed to undertake the regulated activity have been vaccinated.

**198. In case of non-compliance with the legislation, CQC would take a risk-based and proportionate approach to enforcement, looking at all the evidence identified and whether the public interest test is met, in line with its enforcement policy. CQC has civil enforcement powers and in the most serious of cases, criminal enforcement against the provider or registered manager may be appropriate.**

199. Civil enforcement options available to CQC include issuing:

- a warning notice
- a notice of proposal or decision to impose, vary or remove registration conditions
- a notice of proposal or decision to suspend or cancel registration
- an application to court for immediate cancellation of registration where there is serious risk to a person's life, health or well-being
- an urgent notice of decision to suspend or vary conditions of registration where there is risk of harm to a person

200. Regulation 12 imposes a requirement on providers and registered managers to provide safe care and treatment. This includes a requirement for the provider and registered manager to assess the risk of, and prevent, detect and control "the spread of, infections, including those that are healthcare associated". This is supplemented by the Secretary of State's IPC Code issued under s.21 of the Health and Social Care Act 2008. Where a breach of regulation 12 results in avoidable harm or a significant risk of avoidable harm to a service user, the provider or registered manager may be guilty of a criminal offence, and the CQC will look at whether to take criminal enforcement action. The maximum fixed penalty notice is £2,000 or £4,000, in respect of an offence committed by a registered manager or provider respectively. It is a defence for a registered person to prove they took all reasonable steps and exercised all due diligence to prevent the breach of regulations.

### 1.26 Equality – Public Sector Equality Duty



201. As part of this Equality Analysis we have considered each of the protected characteristics stated above, to ensure this policy meets the above requirements. Our analysis suggests that a number of groups with protected characteristics may be impacted – both positively and negatively - by this policy. These include:
202. Patients who are elderly and those with some disabilities face a high risk from COVID-19 infection. They are also more likely to be health and care services users. This policy will mean that more staff would be vaccinated, providing them greater levels of protection against COVID-19 infection. Only 2% of the NHS workforce are aged 65 or over<sup>75</sup> and around 4% have a disability (although 10% do not disclose their disability status<sup>76</sup>). Both of these are below the population average meaning they are unlikely to be disproportionately impacted from a workforce perspective.
203. Minority ethnic groups, who make up for over 20% of the NHS workforce and over 15% for the General Practice workforce compared to 14% in England.<sup>77,78</sup> Similarly, the Skills for Care Workforce Estimates suggest that 21% of the ASC workforce belong to a minority ethnic group<sup>79</sup>. Ethnic minority staff and adherents to certain religions and beliefs are likely to be negatively impacted by this policy because there appears to be more significant levels of vaccine hesitancy in these groups in, for example, surveys of the wider population conducted by the ONS. A paper prepared by the ethnicity sub-group of the Scientific Advisory Group for Emergencies (SAGE)<sup>80</sup> also states that in general for new vaccines (post-2013), adults in minority ethnic groups were less likely to have received the vaccine compared to those in white ethnic groups (by 10-20 percentage points). This risk will be partially mitigated by the 12-week grace period, allowing the unvaccinated to receive both doses.
204. Women, who make up over 75% and 80% of the NHS and General Practice workforce respectively<sup>81,82</sup> and 82% of the ASC workforce, compared to 51% of the population in England. As a result, more women will be impacted compared to men by a policy requiring COVID-19 vaccination as a condition of deployment. They may be disadvantaged by this policy if more female workers are dismissed due higher representation in the workforce.
205. Pregnant people may also be impacted by this policy, as previously routine vaccination during pregnancy was not advised. As a result, pregnant health and social care workers may be less likely to have already been vaccinated against COVID-19. Advice has since been updated to reflect new evidence but vaccination amongst pregnant people is still below average. This risk will be

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<sup>75</sup> [NHS Workforce Statistics - December 2020 \(Including selected provisional statistics for January 2021\)](#)

<sup>76</sup> [Factors influencing COVID-19 vaccine uptake among minority ethnic groups](#)

<sup>77</sup> [NHS Workforce Statistics - December 2020 \(Including selected provisional statistics for January 2021\)](#)

<sup>78</sup> [General Practice Workforce, England - Bulletin Tables, September 2015 - March 2021](#)

<sup>79</sup> The aggregate percentage is calculated here as all non-white ethnic groups (Mixed/Multiple ethnic groups, Asian/Asian British, Black/African/Caribbean/Black British, Other), excluding those that were classed as 'Unknown/Not Given'. The aggregation is used since a breakdown given by ethnicity group does not aggregate to the ASC workforce total and would not capture all workers.

<sup>80</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/952716/s097-9-factors-influencing-vaccine-uptake-minority-ethnic-groups.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/952716/s097-9-factors-influencing-vaccine-uptake-minority-ethnic-groups.pdf)

<sup>81</sup> [NHS Workforce Statistics - December 2020 \(Including selected provisional statistics for January 2021\)](#)

<sup>82</sup> [General Practice Workforce, England - Bulletin Tables, September 2015 - March 2021](#)

partially mitigated by the 12-week grace period, allowing the unvaccinated to receive both doses, and by the approach taken to exemptions for pregnant workers.

206. As set out, there are multiple groups with protected characteristics who may be disadvantaged by this policy, either through redeployment or dismissal. However, this must be balanced against the public health benefits of maximising vaccine uptake in the health and care workforces, and the benefits this will bring, specifically to elderly and vulnerable people who face a high risk of serious complications from COVID-19.

### **1.27 Monitoring and evaluation**

207. We will work closely with the health and social care sector and key stakeholders to monitor the impacts of this policy. This will include monitoring data such as vaccine uptake rates and employee numbers across both sectors.

208. For the healthcare sector, we will draw upon existing publications of workforce numbers to monitor any net fall in staff numbers<sup>83</sup> as well as existing data on workforce vaccination which will show changes in vaccination rates by region and trust. We will work with provider representatives to survey and understand impacts on them during implementation, to understand the workforce capacity impacts as a result of this policy.

209. For the social care sector, this will draw on information from the Capacity Tracker collection and monthly data on workforce size (including comparisons to past trends), absence and vacancy rates from Skills for Care's ASC workforce data system, as well as surveys of the sentiment and experience of other stakeholders in terms of retention, recruitment and indicators of strain. Data on staff and resident positive tests for COVID-19, and the outcomes for residents, can also be monitored.

210. We recognise the importance of obtaining qualitative intelligence direct from stakeholders and will utilise our regional assurance teams to gather feedback from providers and local authorities. However, it may not be possible to form direct causal links to the policy given broader factors impacting the sector workforce and the incidence and impact of COVID-19. This monitoring will form a significant part of the monitoring and evaluation plan for the proposals.

### **1.28 Wider impacts including Equality**

211. In line with Better Regulation Guidance, we have considered the following issues as part of this appraisal:

#### **1.28.1 Trade impacts**

212. We do not anticipate that the proposals are likely to impact trade or investment.

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<sup>83</sup> <https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics>

### **1.28.2 Legislation**

213. The proposals are aligned with the Human Rights Act and should not infringe on any right included in the Act. The proposals do not impinge on civil liberties as they do not compel anyone to be vaccinated against their will but do establish an explicit duty of care for those working and volunteering in care homes. The proposals should not contravene the Data Protection Act or Freedom of Information Act.

### **1.28.3 Competition test**

214. We would expect businesses who have a higher proportion of professional workers that are vaccinated may have increased business compared to competitors who have a smaller proportion of their workforce vaccinated.

### **1.28.4 Rural issues**

215. We do not expect impacts on rural areas in particular. The policy will be reviewed if significant obstacles would prevent eligible workers from accessing vaccination in a timely and accessible way for example due to vaccine supply issues or changes in national clinical guidance. This would mean for example, that if supply issues mean it is impossible for a member of staff to access a vaccination within a reasonable travelling distance, the requirement will disapply to that individual until the supply issue is resolved.

### **1.28.5 Equality – Public Sector Equality Duty**

216. Please refer to the Equalities Impact Assessment<sup>84</sup>.

### **1.28.6 Health and safety**

217. Overall, the expansion of the system will not have any impact on the health and safety measures, but signal that the Government has confidence in the current system.

### **1.28.7 Regional perspectives**

218. The devolved administrations have been kept informed of the policy development, however the scope of the policy is England only. Devolved consent for these regulations is not required.

### **1.28.8 A summary of the potential trade implications of measure**

219. There are no impacts on international trade. All services affected are domestic and based in England.

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<sup>84</sup>[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1032170/ma-king-vaccination-a-condition-of-deployment-in-health-and-wider-social-care-settings-equality-impact-assessment.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1032170/ma-king-vaccination-a-condition-of-deployment-in-health-and-wider-social-care-settings-equality-impact-assessment.pdf)

## **Annex A**

### **1.29 NHS workforce vaccination uptake statistics**

There are 2 nationally available sources of data on healthcare vaccination uptake statistics – NHS England and NHS Improvement (NHSEI) and UKHSA - each having different collection methods and coverage. These show different levels of variation at Trust level and uptake nationally: 92.2% and 83.6% for NHSEI (at 28 September 2021) and UKHSA (at 30 June 2021) respectively. Where Trusts have an incomplete record of the vaccination status of their frontline staff e.g. because they were vaccinated in vaccination centres or community pharmacies, the UKHSA figures vaccine uptake may be an underestimate of actual figures.

The NHSEI collection method is reliant on the matching of individual characteristics to identify the NHS number of employees with ESR records. As a result, the vaccination rates are based on a sample of around 85% of employees.

The methodology may result in lower matching rates for some ethnic groups or those who have recently migrated to the UK. However, the sample sizes are sufficiently large for the estimated rate for each ethnic group to be robust. The potential impact of their under-representation may be to introduce some bias when comparing other groupings, such as region, where those groupings have varying ethnic make-ups.

**1.29.1 Table A1: Summary of Data Sources**

|  | <b>NHSEI</b>  | <b>UKHSA</b>   |
|--|---|--|
| Coverage - organisations                     | All NHS trusts  | Based on sample of (self-selecting) NHS Trusts (around 65% Trusts provided a return in June 2021),   |
| Scope -workforce coverage                    | All NHS staff who are appear in the NHS Electronic Staff Record (ESR)<br>The figures exclude agency and those NHS Bank staff that are not paid through ESR<br>Includes only staff on ESR for whom an NHS number could be identified.                          | Frontline NHS workers – professionally clinically qualified, and support staff i.e. excludes infrastructure – estates and managers. Includes temporary staff who have direct patient care (Agency and Bank staff); |
| Methodology                                  | Matching of individuals via NHS number – an indirect approach that matches vaccinated staff identified on the National Immunisation Management System (NIMS) database with ESR employee data, with numbers scaled to in scope workforce population estimates. | Manual input by Trusts using established methodology.  |
| Latest figures (COVID-19 vaccination uptake) | 92.2% dose 1 uptake (as at 28 September 2021) – all NHS Trust staff.  | 83.6% (as at 30 June 2021) – HCW with direct patient care  |
| Pros   | <ul style="list-style-type: none"> <li>• Timely data e.g. vaccination uptake as at 28 September 2021 published on 9 October 2021.</li> <li>• Counts vaccination events irrespective of where the</li> </ul>   | <ul style="list-style-type: none"> <li>• Provided by trusts who will be responsible for dealing with unvaccinated staff.</li> <li>• Wide workforce scope (NB: need better</li> </ul>                               |

|      | event occurred i.e. whether by the Trust or in other settings.   | understanding of non-NHS response rate)   |
|------|--|---|
| Cons | <p>Excludes individuals on ESR for whom the NHS number cannot be identified.</p> <p>Based on an 85% match rate leaving the potential for an underrepresentation of those with Asian names or recent migrants to UK<sup>85</sup></p> <p>Unable to reliably identify frontline healthcare workers.</p> <p>Does not include staff not on ESR who may still be within scope of the proposal.</p> | <ul style="list-style-type: none"> <li>• Based on sample of responses (65% of trusts in June 2021)</li> <li>• Concerns around quality of data – reliant on manual input by trusts and self-reporting by staff. Trusts are often not sighted on staff who have been vaccinated in community pharmacies, primary care networks or vaccination centres.</li> <li>• Less timely reporting e.g. vaccination rates as at end of September were published on 28 October 2021 (4-week lag)</li> </ul> |

## Annex B

### 1.30 Vaccination uptake in NHS Trusts 28 September 2021

The following table show vaccination rates used in modelling estimates of impacts in IA provided by NHSEI. They refer to vaccination rates as at 28 September 2021.

#### 1.30.1 Table B1: Vaccination uptake in NHS Trusts by age band

<sup>85</sup> [EDBT19\\_paper\\_213.pdf \(openproceedings.org\)](#)

| Age band             | Size of workforce | Uptake 1 <sup>st</sup> dose (%) | Uptake 2 <sup>nd</sup> dose (%) | Unvaccinated numbers (no doses) | % of staff unvaccinated |
|----------------------|-------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------|
| <b>All age bands</b> | <b>1,438,407</b>  | <b>92.2%</b>                    | <b>88.8%</b>                    | <b>111,488</b>                  | <b>7.8%</b>             |
| 16-17                | 2,259             | 84.0%                           | 57.0%                           | 362                             | 16.0%                   |
| 18-24                | 104,941           | 88.2%                           | 82.3%                           | 12,343                          | 11.8%                   |
| 25-29                | 161,811           | 87.7%                           | 81.9%                           | 19,953                          | 12.3%                   |
| 30-34                | 181,270           | 89.0%                           | 83.7%                           | 19,936                          | 11.0%                   |
| 35-39                | 162,992           | 91.0%                           | 87.1%                           | 14,611                          | 9.0%                    |
| 40-44                | 161,373           | 93.1%                           | 90.3%                           | 11,205                          | 6.9%                    |
| 45-49                | 167,322           | 94.7%                           | 92.4%                           | 8,904                           | 5.3%                    |
| 50-54                | 174,797           | 95.7%                           | 93.8%                           | 7,575                           | 4.3%                    |
| 55-59                | 163,095           | 96.1%                           | 94.6%                           | 6,353                           | 3.9%                    |
| 60-64                | 102,510           | 96.7%                           | 95.3%                           | 3,340                           | 3.3%                    |
| 65-69                | 32,921            | 97.1%                           | 95.8%                           | 960                             | 2.9%                    |
| 70-74                | 10,069            | 97.3%                           | 96.1%                           | 267                             | 2.7%                    |
| 75-79                | 3,131             | 98.2%                           | 97.0%                           | 56                              | 1.8%                    |
| 80+                  | 1,183             | 98.3%                           | 97.0%                           | 20                              | 1.7%                    |
| <i>Unknown</i>       | <i>8,069</i>      | <i>32.4%</i>                    | <i>18.0%</i>                    | <i>5,455</i>                    | <i>67.6%</i>            |

Source: <https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2021/12/COVID-19-Vaccinations-of-NHS-Trust-Health-Care-Workers.xlsx>

1.30.2 Table B2: Vaccination uptake in NHS Trusts by ethnicity

| Ethnic group  | Size of workforce | Uptake 1 <sup>st</sup> dose (%) | Uptake 2 <sup>nd</sup> dose (%) | Unvaccinated numbers (no doses) | % of staff unvaccinated |
|---|-------------------|---------------------------------|---------------------------------|---------------------------------|-------------------------|
| <b>All ethnic groups</b>                            | <b>1,438,407</b>  | <b>92.2%</b>                    | <b>88.8%</b>                    | <b>111,488</b>                  | <b>7.8%</b>             |
| Black or Black British - Caribbean                  | 18,877            | 64.6%                           | 58.8%                           | 6,684                           | 35.4%                   |
| Mixed - White and Black Caribbean                   | 6,109             | 73.2%                           | 67.8%                           | 1636                            | 26.8%                   |
| Black or Black British - Any other Black background | 16,707            | 74.4%                           | 67.3%                           | 4283                            | 25.6%                   |
| Black or Black British - African                    | 59,217            | 81.8%                           | 74.7%                           | 10,778                          | 18.2%                   |
| Asian or Asian British - Bangladeshi                | 8,598             | 82.0%                           | 74.3%                           | 1547                            | 18.0%                   |
| Mixed - White and Black African                     | 6,868             | 83.5%                           | 76.9%                           | 1133                            | 16.5%                   |
| Asian or Asian British - Pakistani                  | 26,238            | 83.5%                           | 76.1%                           | 4324                            | 16.5%                   |
| Mixed - Any other Mixed background                  | 10,617            | 87.7%                           | 82.9%                           | 1301                            | 12.3%                   |
| White - Any other White background                  | 90,013            | 88.1%                           | 84.8%                           | 10,756                          | 11.9%                   |
| Other ethnic groups - Any other ethnic group        | 35,408            | 90.3%                           | 86.3%                           | 3,419                           | 9.7%                    |
| Mixed - White and Asian                             | 6,086             | 93.4%                           | 89.8%                           | 399                             | 6.6%                    |
| White - Irish                                       | 11,427            | 93.8%                           | 91.2%                           | 710                             | 6.2%                    |
| Asian or Asian British - Any other Asian background | 48,408            | 93.9%                           | 89.8%                           | 2,933                           | 6.1%                    |
| Asian or Asian British - Indian                     | 69,204            | 94.3%                           | 90.5%                           | 3,927                           | 5.7%                    |
| Other ethnic groups - Chinese                       | 7,655             | 94.8%                           | 92.0%                           | 400                             | 5.2%                    |
| White - British                                     | 973,859           | 95.0%                           | 92.2%                           | 48,538                          | 5.0%                    |
| <i>Unknown</i>                                      | <i>43,116</i>     | <i>79.8%</i>                    | <i>74.4%</i>                    | <i>8,720</i>                    | <i>20.2%</i>            |

Source: <https://www.england.nhs.uk/statistics/wp-content/uploads/sites/2/2021/12/COVID-19-Vaccinations-of-NHS-Trust-Health-Care-Workers.xlsx>



## Annex C

### 1.31 Estimating size of wider healthcare workforce in scope of the proposed policy

Estimates of NHS staff are based on NHS Digital's NHS Hospital & Community Health Service (HCHS) workforce statistics. Data on the NHS workforce are drawn from the Electronic Staff Record (ESR). ESR is the HR and payroll system for the NHS.

Less robust data is available for private providers in scope of this policy so we have inferred this from data on NHS staff, NHS spend on Independent sector providers and Professional register data.

There are also challenges in estimating the workforce found in independent sector covered by this policy – estimates of workforce are available by SIC codes that cover the wider health sector, and their potential for double counting staff who work in both NHS and Independent Sector (IS)

Our best estimate of wider IS workforce in scope is 330,000 (including dentists), which represents 20% of total workforce in scope.

Independent sector is defined to include NHS and non - NHS funded activity, and across both working in profit and not for profit e.g. charities and voluntary organisations.

We have used the following SIC codes to estimate value, employment levels and number of businesses in scope:

- **8610** - Hospital activities
- **8620** - Medical and dental practice activities
- **8690** - Other human health activities

Our estimates of the independent healthcare workforce sector affected by this policy and included in the estimates of impact cover the following organisations:

- Independent acute health providers, staff involved in the provision of acute medical services, fertility treatment, pregnancy termination and screening services.
- 'High street' dentistry: services accessed directly either as NHS or private treatment patients, or as a mixture of the two funding resources (e.g. NHS 'upgrades').
- Primary medical providers, this covers services provided by GPs.
- Independent mental health, staff involved in delivering mainly mental health hospital treatment, as well as learning disability and autism.
- Community Health services funded by NHS but provided by independent sector.

To estimate impact to the independent sector, we use estimates of independent health sector market shares as estimated by LaingBuisson (2018)<sup>86</sup> split by sector (public or independent sector supply) and by type of funding (public or private funding), as shown in the table below.

**1.31.1 Table C1: Market segmentation for selected health sectors – LaingBuisson**

|   | <b>Acute providers</b>                       | <b>Mental Health (acute, in patient)</b> | <b>Dentistry</b>         | <b>Primary medical services</b> |
|---|--|--|--------------------------|---------------------------------|
| Funding/ Supply – market segmentation         | <i>Based on elective surgical admissions</i> | <i>Based on MH bed capacity</i>          | <i>Based on spending</i> | <i>Based on spending</i>        |
| Public funding/public sector supply (%)       | 85.5   | 67.5                                     | 0                        | 93.6                            |
| Public funding/independent sector supply (%)  | 6.1  | 29.6                                     | 49.1                     | <0.5                            |
| Private funding/independent sector supply (%) | 7.6  | 2.9                                      | 50.9                     | 5.8                             |
| Private funding/public sector supply (%)      | 0.8  | 0  | 0                        | 0                               |

### 1.32 Independent sector Mental Health workforce.

Mental health workforce is employed across the range of health related SIC codes listed above. LaingBuisson 2018 estimates the value of inpatient admitted mental health sector as £1.8 billion and the market segmentation shows a 90/10 split in the independent sector between NHS and IS. For the purposes of estimating the size of the wider IS MH workforce we have used overall estimates of NHS spend and NHS mental health workforce and pro-rated these to estimate NHS funded and privately funded IS workforce.

### 1.33 Community health services

Community health services (CHS) are publicly funded but can be supplied by either public or independent sector organisations. Indicative estimates of CHS contract values from a recent internal benchmarking exercise carried out by NHSE suggests 30% of NHS funded community services are supplied by the independent sector.

Extrapolating the estimated NHS workforce based on analysis of occupation codes and area of work to LB market segmentation percentages and DHSC and non NHS provision gives is shown below.

<sup>86</sup> Source: Laing & Buisson (2018). Healthcare Market Review, 32<sup>nd</sup> Ed. London

**1.33.1 Table C2: Estimated workforce (FTE) in scope by market segmentation in selected health sectors**

| <b>Internal DHSC estimates '000</b>              | <b>Acute health providers</b> | <b>Dentistry</b> | <b>Primary medical services</b> | <b>Mental Health Services</b> | <b>Community Health Services</b> | <b>TOTAL estimated</b> |
|--|-------------------------------|------------------|---------------------------------|-------------------------------|----------------------------------|------------------------|
| <b>Workforce in scope</b>                        | 983,000                       | 97,000           | 94,500                          | 158,000                       | 136,500                          | 1,469,000              |
| <b>Public funding/public sector supply</b>       | 840,000                       | 0                | 88,500                          | 111,000                       | 105,000                          | 1,144,500              |
| <b>Public funding/independent sector supply</b>  | 60,000                        | 48,000           | 500                             | 42,000                        | 31,500                           | 182,000                |
| <b>Private funding/independent sector supply</b> | 75,000                        | 49,000           | 5,500                           | 5,000                         | -                                | 134,500                |
| <b>Private funding/public sector supply</b>      | 8,000                         | 0                | -                               | -                             | -                                | 8,000                  |
| <b>Total IS workforce for modelling impacts</b>  | 143,000                       | 97,000           | 6,000                           | 47,000                        | 31,500                           | 324,500                |

#### **1.34 Other independent health providers**

There is a highly fragmented market of other health providers in addition to the medical and dental workforces shown above. These work in a range of business models including self-employed, private hospitals and clinics and as part of wider corporate entities and staff may work in NHS and independent sector providers. Most of these workforces are professionally registered workforces (15 AHPs registered by HCPC).

These workforces include for example physiotherapists, podiatrists, psychologists, occupational therapists etc all of which can be either NHS (community based) or independently funded. Although we cannot quantify exactly how many AHP staff are working in Independent sector, our workforce in scope are likely to include them – in CHS estimates and NHS (given many are likely to work across both NHS and private sector.)

The table below based on internal DHSC analysis of professional registers and NHS workforce is likely representative of the scale of non-NHS workforce in these areas.

Assuming 5% unvaccinated rate in central scenario would suggest around 7,000 unvaccinated AHPs in our estimates.

1.34.1 **Table C3: Non-NHS AHP workforce (headcount)**<sup>87</sup>

| <b>Profession by Application Type</b> | <b>Total Registered</b> | <b>Estimated Percent of Staff employed outside NHS</b> | <b>Estimated Total Employed outside NHS</b> |
|---------------------------------------|-------------------------|--|---|
| Arts therapists                       | 4,904                   | 90%  | 4,432                                       |
| Chiropodists / podiatrists            | 12,472                  | 76%  | 9,432                                       |
| Dietitians                            | 10,407                  | 50%  | 5,212                                       |
| Occupational therapists               | 41,762                  | 56%  | 23,550                                      |
| Physiotherapists                      | 59,717                  | 60%  | 35,550                                      |
| Practitioner psychologists            | 25,073                  | 37%  | 9,303                                       |
| Radiographers                         | 38,168                  | 45%  | 17,173                                      |
| Speech and language therapists        | 17,413                  | 57%  | 9,879                                       |
| <b>Total</b>                          | <b>209,916</b>          |  | <b>114,530</b>                              |

### 1.35 Volunteers - individuals

Estimates of the size of individual volunteers<sup>88</sup> are limited to those volunteering in NHS Trusts but we do not believe the estimates of unvaccinated are significant. Pre COVID-19 there were approximately 100,000 volunteers directly supporting hospital trusts and approximately 10,000 Community First Responders supporting ambulance trusts plus many more supporting other roles such as patient transport. These numbers will also have changed during COVID-19. For other sectors e.g. primary care, we know that many thousands of volunteers support social prescribing activity or directly volunteer for GP practices but have no way of collecting this data. Applying central scenario assumption of 6.5% for hospital trust volunteers would suggest around 7,000 although it is likely that given age profile of this group, there would be expect a higher uptake in this group.

In addition to individuals volunteering directly with Trusts, there will also be individual volunteering in voluntary organisations, which will be reflected in our estimates of non-NHS provided services above.

<sup>87</sup> Based on [HCPC Registrant snapshot - 1 September 2021](#) , : [HCPC Registrant snapshot - 1 September 2021](#)

<sup>88</sup> Individuals volunteering via charity or voluntary organisation are counted in independent sector estimate

## Annex D

### 1.36 Monetising benefits (health)

3 benefits are monetised:

1. **Estimate of discounted QALYs saved due to averted infections and fatalities** as a result of people within the health and care workforce becoming vaccinated in response to the policy.
2. **Estimate of the potential costs of sickness absences within the health workforce** that are averted due to people becoming vaccinated due to the policy – this was monetised by valuing the work of individuals in terms of their wages (which is lost during their sickness absence period).
3. **Estimate of the fall in hospitalisation costs** due to serious infections that are averted, again due to people becoming vaccinated in response to the policy.

For the above benefits the key inputs required are

- number of averted infections and fatalities.
- the age breakdowns of the workforce in scope
- using these proportions to estimate the numbers unvaccinated in each of the three scenarios.

Numbers of averted infections and fatalities was estimated using data from PHE<sup>89</sup> broken down by 4 different age bands (15-44, 45-64, 65-74, and 75+).

We applied these rates to the unvaccinated workforce population within the health and care sector. These are likely to be an overestimate of the infection rates given the majority of the health and care workforce is now vaccinated. However we expect this to be offset to at least some extent by the fact that transmission can still occur amongst the vaccinated population (albeit to a lesser extent) and that there is strong evidence to suggest that the currently dominant delta variant is more transmissible than the COVID-19 variants that were dominant last year.

For the **low behavioural impact scenario** this figure is 0 overall (and means that monetised benefits are overall 0 as well).

For the other 2 scenarios, it first involved using the vaccination uptake rate for the given age bands as provided by the NHSEI data to estimate the size of the unvaccinated workforce in scope for each age band under the **low** scenario.

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<sup>89</sup> Source: [Greenbook COVID-19 chapter 14a \(publishing.service.gov.uk\)](#) (page 3)

Using these figures, we estimate the size of the unvaccinated workforce in scope by subtracting the unvaccinated workforce adjusted for behaviour under each scenario from the unvaccinated workforce under the **low** scenario.

The numbers of averted infections and fatalities (by age band) were calculated as follows:

- **For the number of averted fatalities** for each age band, this involved taking the size of the workforce in scope who we expected to get vaccinated in response to the policy and multiplying this by the infection rate and then the infection-fatality ratio (IFR) by the relevant age band as provided by the PHE data mentioned above. A vaccine efficacy rate of 90% (for Pfizer) was assumed as well, based on modelling from the University of Edinburgh<sup>90</sup> - we assumed that anyone who gets vaccinated at this stage due to the policy will get the Pfizer vaccine.
- **For the number of averted infections**, this was a similar process except that it was multiplied by the infection rate. The evidence used to estimate the vaccine efficacy of Pfizer (80%) was provided by modelling from the COVID-19 and Health Protection team.

Monetising the benefits from this point, using the figures for the averted infections and fatalities, was then dependent on the benefit being monetised:

1. **Regarding monetising the QALYs saved**, this involved a slightly different process for averted fatalities and (non-fatal) infections:
  - 1.1. **For the QALYs saved by averted fatalities**, this involved taking the estimate for each age band and multiplying it by the average QALY loss of a COVID-19-related death (taken from modelling by the COVID-19 and Health Protection team) for the corresponding age band to get an estimate for the total QALYs saved overall. This was then multiplied by £60,000 (value of QALY used in DHSC appraisal) to determine a societal monetary value of this health benefit.
  - 1.2. **For the QALYs saved by averted non-fatal infections**, using the results of a study on patients admitted to hospital in the UK due to COVID-19<sup>91</sup> and the number of positive tests and hospital admissions in the UK overall in late 2020<sup>92</sup> (i.e. before people were getting vaccinated – as this would distort these figures), the number of averted (non) hospitalisations were estimated, along with the number of admissions to an ICU. These numbers were then multiplied by the average QALY loss per patient under each of these events to determine the QALYs saved by averted non-fatal infections overall, and this benefit was monetised as before by multiplying this by £60,000.
2. **For the benefits of reduced sickness absences**, this involved taking the expected absence period in days by age band, including the self-isolation period, using the results of a study on the prevalence and symptoms of Long-COVID-19<sup>93</sup>. The next step was to estimate the average FTE wage per day of

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<sup>90</sup> Source: [COVID: Vaccines '90% effective' at preventing Delta variant deaths - BBC News](#)

<sup>91</sup> Source: [Features of 20 133 UK patients in hospital with COVID-19 using the ISARIC WHO Clinical Characterisation Protocol: prospective observational cohort study | The BMJ](#)

<sup>92</sup> Accessed from [Cases in the UK | Coronavirus in the UK \(data.gov.uk\)](#) on 31/10/20.

<sup>93</sup> Accessed here: [Attributes and predictors of Long-COVID: analysis of COVID cases and their symptoms collected by the COVID Symptoms Study App \(medrxiv.org\)](#)

the workforces in scope using published figures by NHS Digital<sup>94</sup> and multiplying this by the expected absence period and the number of averted infections to estimate the savings from the fall in sickness absences, assuming that the output of an individual is equal, in monetary terms, to their wage.

3. **For the fall in hospitalisation costs**, this was monetised by taking the average hospitalisation cost of a COVID-19 patient (as provided by unpublished PHE modelling) and multiplying this by the number of averted hospitalisations outlined above to estimate the savings in terms of hospitalisation costs overall.

**1.36.1 Table D1: Range of the benefits**

| <b>Benefits – NHS trusts/CCGs</b>                             | <b>High behavioural impact scenario</b> | <b>Central scenario</b> | <b>Low behavioural impact scenario</b> |
|---|---|-------------------------|--|
| Estimated QALYs save due to averted infections and fatalities | £3,700,000                              | £1,800,000              | £0                                     |
| Savings due to reduced sickness absences                      | £3,200,000                              | £1,600,000              | £0                                     |
| Fall in hospitalisation costs                                 | £133,000                                | £67,000                 | £0                                     |
| <b>Total - NHS</b>  | <b>£7,000,000</b>                       | <b>£3,500,000</b>       | <b>£0</b>                              |

| <b>Benefits – primary care</b>                                | <b>High behavioural impact scenario</b> | <b>Central scenario</b> | <b>Low behavioural impact scenario</b> |
|---|---|-------------------------|--|
| Estimated QALYs save due to averted infections and fatalities | £234,000                                | £117,000                | £0                                     |
| Savings due to reduced sickness absences                      | £297,000                                | £148,000                | £0                                     |
| Fall in hospitalisation costs                                 | £8,000                                  | £4,000                  | £0                                     |
| <b>Total – primary care</b>                                   | <b>£540,000</b>                         | <b>£270,000</b>         | <b>£0</b>                              |

| <b>Benefits – dental staff</b> | <b>High behavioural impact scenario</b> | <b>Central scenario</b> | <b>Low behavioural impact scenario</b> |
|--------------------------------|---|-------------------------|--|
| Estimated QALYs                | £256,000                                | £128,000                | £0                                     |

<sup>94</sup> Accessed here: [NHS Staff Earnings Estimates June 2021, Provisional Statistics - NHS Digital](#)

|   |          |          |    |
|---|----------|----------|----|
| save due to averted infections and fatalities |          |          |    |
| Savings due to reduced sickness absences      | £248,000 | £124,000 | £0 |
| Fall in hospitalisation costs                 | £9,000   | £5,000   | £0 |
| Total – dental staff                          | £513,000 | £257,000 | £0 |

| <b>Benefits – independent sector</b>                          | <b>High behavioural impact scenario</b> | <b>Central scenario</b> | <b>Low behavioural impact scenario</b> |
|---|---|-------------------------|--|
| Estimated QALYs save due to averted infections and fatalities | £606,000                                | £303,000                | £0                                     |
| Savings due to reduced sickness absences                      | £519,000                                | £260,000                | £0                                     |
| Fall in hospitalisation costs                                 | £22,000                                 | £11,000                 | £0                                     |
| Total – independent sector                                    | £1,100,000                              | £573,000                | £0                                     |

Note that the benefits to dental staff are excluded from all the other groups – this is because we do not have data on the breakdown of public and private dentists. In total, the benefits for healthcare settings amount to £8.9 million for the high scenario, £4.5 million for the central scenario and £0 million for the low scenario.

### 1.37 Recruitment costs (health)

Given uncertainty in how providers will respond to workforce shortages we have made simplifying assumption that replacement staff are available immediately from wider labour market and used band 5 wages as a proxy for all staff affected by this. We have assumed these individuals would be replaced by permanent staff effectively immediately – while this is not necessarily realistic it is also very unclear how long they would take to get replaced, especially given the supply shortages in clinical staff groups and competing demand for labour from wider economy. The recruitment costs we included are the **administrative costs, time costs of line managers** and the **induction costs**.

While these estimates of recruitment costs focussed exclusively on Band 5 nurses, we used this as a proxy for all healthcare staff. We did this for the following reasons:

- Nurses form the largest staff group of the projected unvaccinated workforce under all 3 scenarios.



- Band 5 nurses' wages are approximately average relative to all healthcare staff – this is important as the modelling relies on nurses' wages to estimate the time costs to line managers and the induction costs.
- The breakdown of the recruitment costs in the modelling largely carry over in a general sense – the admin costs are largely consistent, the line manager time costs are largely similar (although the interview process would likely vary between bands and staff groups) and the induction costs would largely be similar as well (it consists of a corporate induction and a clinical induction, which is what healthcare staff in scope would be expected to go through).

### 1.38 Monetising benefits (Adult Social Care)

Like with healthcare described above, the same three benefits have been monetised:

1. **Estimate of discounted QALYs saved due to averted infections and fatalities** as a result of people within the care workforce becoming vaccinated in response to the policy.
2. **Estimate of the potential costs of sickness absences within the care workforce** that are averted due to people becoming vaccinated due to the policy – this was monetised by valuing the work of individuals in terms of their wages (which is lost during their sickness absence period).
3. **Estimate of the fall in hospitalisation costs** due to serious infections that are averted, again due to people becoming vaccinated in response to the policy.

The key inputs required for these calculations mirror that of those used in healthcare. Numbers of averted infections and fatalities was estimated using data from PHE modelling, as with healthcare, broken down by 4 different age bands (15-44, 45-64, 65-74, and 75+).

For each of the three benefits, we have calculated a high, low, and central behavioural impact scenario estimate for the QALYs and their monetary values. To calculate these, we have followed the same methodology as detailed in the above monetised benefits (healthcare) section.

#### 1.38.1 Table D2: Estimated Benefits in each Scenario

| <b>Benefits – domiciliary care</b>                            | <b>High behavioural impact scenario</b> | <b>Central behavioural impact scenario</b> | <b>Low behavioural impact scenario</b> |
|---|---|--|--|
| Estimated QALYs save due to averted infections and fatalities | £7,000,000                              | £3,800,000                                 | £578,000                               |
| Savings due to reduced sickness absences                      | £3,300,000                              | £1,800,000                                 | £288,000                               |
| Fall in hospitalisation costs                                 | £168,000                                | £91,000                                    | £9,000                                 |
| <b>Total – domiciliary</b>                                    | <b>£10,500,000</b>                      | <b>£5,700,000</b>                          | <b>£876,000</b>                        |

| care  |   |                         |  |
|---|---|-------------------------|--|
| <b>Benefits – other settings</b>                              | <b>High behavioural impact scenario</b> | <b>Central scenario</b> | <b>Low behavioural impact scenario</b> |
| Estimated QALYs save due to averted infections and fatalities | £1,400,000                              | £745,000                | £114,000                               |
| Savings due to reduced sickness absences                      | £656,000                                | £356,000                | £57,000                                |
| Fall in hospitalisation costs                                 | £33,000                                 | £18,000                 | £2,000                                 |
| <b>Total – other settings</b>                                 | <b>£2,000,000</b>                       | <b>£1,100,000</b>       | <b>£172,000</b>                        |

Therefore, the total monetised benefits for adult social care from all 3 benefits has been estimated to be £6.8 million, with a range from £1 million to £12.6 million.

### **1.39 Domiciliary and other social care settings – details of approach to estimating unvaccinated staff**

#### **1.39.1 Low behavioural impact scenario**

The low vaccination estimate is such since we are assuming there is no behavioural change by workers due to the policy. In addition, we are assuming that the vaccine uptake rate for domiciliary care staff and staff in other adult social care settings continue at the current trend.

Using weekly domiciliary care data from the week commencing 11 July to 24 October 2021 to project England-level uptake of the first vaccination 4 weeks into a grace period on 3 February 2022 (based on it starting on 6 January 2022) so as to allow a further eight weeks for a second dose within the grace period, per current guidance. Our projection suggests that around 86% of the domiciliary care and other settings workforce would have had both doses and therefore around 14% of the workforce in scope will not have met the requirement by the end of the grace period (not accounting for exemptions and usual turnover).

This estimate uses the number of staff from domiciliary care who have received their first dose of the vaccine, as reported weekly by providers captured by NHSE – a regular mechanism for providers to provide requested information to DHSC to aid the design of sector support and which serves as the basis for relevant NHS and DHSC statistical publications. We have used the data on the number of workers who have had their first dose (rather than those with both doses) as it provides a more robust forward projection given that a longer and more timely time series is available (as it leads second dose uptake by around eight weeks – although it may represent an overestimate if some workers choose only to take up the first dose). As a result, since we require the estimate of those who have had both doses by the end of the grace period, and current guidance states that eight weeks is required between

doses, we use a cut-off date of four weeks into the grace period to measure the number of staff who have had their first dose (covering both those who have already had their first dose and allowing eight weeks for those who haven't had either to get their first dose) – this then makes the assumption that all those with the first dose will then receive their second dose within eight weeks on from this date, per the current guidance. This uptake is then projected forwards in time using a logarithmic trendline-of-best-fit<sup>95</sup>. We think that this is appropriate given that such a trendline is often used when change begins quickly before slowing gradually and approaching a limit, which is a similar pattern to that we have observed in vaccine uptake among workers in domiciliary care and other adult care settings. It should be noted that we use the domiciliary care uptake rate for other settings since we believe that the workforce in scope (CQC-regulated, and so likely those providing personal care) are more akin to domiciliary care than to the 'other settings' category in the vaccination data (that contains non-regulated providers and those in local authorities).

### 1.39.2 High behavioural impact scenario

Our high estimate uses a range of survey data to estimate the proportion of the workforce who may choose to remain unvaccinated. Using ONS survey data on the proportion of the entire adult population of Great Britain who indicate vaccine hesitancy<sup>96</sup> broken down by key demographics and adjusting those figures to match the demographics of the adult social care workforce (principally age and gender) through a weighted average, we estimate that 5% of the care home workforce could be vaccine hesitant (without accounting for exemptions and usual turnover). While the ONS data on vaccine hesitancy is reported at Great Britain level and is broken down by age and gender, we have used Skills for Care's workforce estimates on gender, age and the total number of all job roles within the adult social care workforce to adjust the figures reported by the ONS to match the workforce demographics. We think that this is a sensible approach to calculate the potential vaccine hesitancy in the workforce).

Using the exemptions estimate of 2% mentioned earlier in the document and accounting for those who would have left the policy anyway we therefore conclude that the most reasonable lower estimate would be 3%.

### 1.39.3 Central estimate

Our central estimate is a midpoint of the low and high behavioural impact scenarios. Based on our low and high vaccination estimates of between 14% and 5%, as detailed above, we calculate a midpoint of 10% of the adult social care workforce to be unvaccinated at the end of the 12 week grace period.

Additionally, as explained in more detail in the Exemptions section above, we estimate 2% of the workforce to be exempt and so have to net this proportion of

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<sup>95</sup> Based on data which is self-reported by providers, via Capacity Tracker - response rates might affect vaccination rates.

<sup>96</sup> [Coronavirus and vaccine hesitancy, Great Britain - Office for National Statistics \(ons.gov.uk\)](https://www.ons.gov.uk/peoplepopulationandcommunity/healthandlife/articles/coronavirusandvaccinehesitancygreatbritain/2020-07-29). The ONS define "vaccine hesitancy" as the proportion of respondents who: have been offered a vaccine but declined the offer; are very or fairly unlikely to have the vaccine if offered; are neither likely nor unlikely to have the vaccine if offered; don't know; or preferred not to say.

the workforce off of our estimates of unvaccinated workers. As such, this reduces the central estimate to be 8%, with a range of 3-12%.

Also, given that the sector sees an annual workforce turnover rate of over 34%<sup>97</sup>, it is assumed that over a 12-week period, usual turnover could be as high as 8%. Our estimates are therefore each reduced down to net off this impact (on those who are at risk of being displaced and not exempt) and account for the staff who may have left, even without the policy. This reduces the central estimate to 7%, with a range of 3-11%.

Therefore, for **domiciliary care**, using approximately 415,000 as the total number of staff in CQC-registered domiciliary care settings, as per NHSEI data as of 24 October 2021 (as explained in the Workforce in Scope section), and assuming that approximately 7% of the workers may not have fulfilled the requirements by the end of the grace period, this equates to around 29,000 unvaccinated workers, with a range of 11,000 to 47,000 for the high and low behavioural impact scenarios respectively.

For **other care settings**, using approximately 81,000 as the total number of staff in CQC-registered other care settings, estimated from Skills for Care and NHSEI data to estimate the number of workers in other adult social care settings that are CQC registered (as explained in the Workforce in Scope section), and assuming that approximately 7% of the workers may not have fulfilled the requirements by the end of the grace period, this equates to around 6,000 unvaccinated workers, with a range of 2,000 to 9,000 for the high and low behavioural impact scenarios respectively.

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<sup>97</sup> ASC-WDS 19/20 - <https://www.skillsforcare.org.uk/adult-social-care-workforce-data/Workforce-intelligence/publications/Workforce-estimates.aspx>