

Covid-19

Personal protective equipment



 AUDIT SCOTLAND

Briefing prepared by Audit Scotland
June 2021

Contents



Key issues	3
Introduction	6
Before the pandemic	8
During the pandemic	10
Long-term planning	21
Endnotes	22

Audit team

The core team consisted of Mark Ferris, Ashleigh Madjitey, Dharshi Santhakumaran and John Kirkwood, with support from other colleagues and under the direction of Angela Canning.

Links

-  PDF download
 -  Web link
-

Key issues



The challenges presented by Covid-19 are significant and unprecedented. Staff across the public sector have worked hard together, in challenging circumstances, to respond quickly to the pandemic. The global market for personal protective equipment (PPE) was complex and volatile early in the pandemic, as worldwide demand grew rapidly, international supply chains collapsed, and prices increased. The Scottish Government and NHS National Services Scotland (NHS NSS) had to manage the sharp increase in demand for PPE at the start of the pandemic by securing new supply chains and in setting up arrangements for the supply and distribution of PPE to health and social care settings. Work is under way to develop a longer-term approach for the supply and distribution of PPE.



The Scottish Government could have been better prepared to respond to the Covid-19 pandemic.

The Scottish Government:

- did not fully implement improvements identified as part of pandemic preparedness exercises
- could have done more to ensure access to PPE and related training in its use.

£37.4m
less at 2019
prices

Worldwide demand for PPE grew dramatically, and prices increased:

- NHS NSS distributed 1.1 billion items of PPE between March 2020 and April 2021
- the price of PPE doubled in 2020, compared to the previous year
- had NHS NSS been able to buy PPE at the same prices as 2019, it would have spent £37.4 million less on PPE stock in the first five months of the pandemic.

Key issues (continued)



Centrally held PPE stocks were very low at points during April 2020 as stock was rapidly distributed to NHS boards:



0.3 days' worth of stock of long sleeve gowns



1 day of FFP3 masks



2 days of visors.



As global supply chains faltered, NHS NSS established new arrangements to provide PPE to primary and social care. NHS NSS:

- set up 48 regional hubs to distribute PPE to social care providers, unpaid carers and personal assistants
- provided PPE to primary care providers directly or through arrangements with NHS boards.



NHS NSS awarded new PPE contracts using emergency procurement procedures:

- 78 contracts worth £340 million were awarded to companies providing PPE between March 2020 and June 2021
- 29 of these contracts, worth £98 million, were awarded to new suppliers with no competition.



The Scottish Government, NHS NSS and partners worked together to set up new Scottish supply chains for PPE, making PPE supply more resilient and benefitting local economies:


- the percentage of PPE manufactured in Scotland has increased since the start of the pandemic, creating an estimated 470 jobs.
- the Scottish Government reports that by value, 88 per cent of PPE (excluding gloves) is now made in Scotland.

Looking ahead

As we begin to move out of the pandemic, the Scottish Government and NHS NSS continue to work with partners to develop a longer-term approach to PPE supply and distribution. This includes both business-as-usual PPE needs as well as preparing for future pandemics. Longer-term planning by the Scottish Government and NHS NSS should consider:



- the challenges which arose during the pandemic, both at a national and local level, to ensure that lessons are learned for pandemic preparedness in the future
- the resilience of the Scottish PPE supply chain as demand for PPE begins to reduce and whether the PPE export market will be able to sustain Scottish manufacturers
- support for suppliers to develop more environmentally sustainable PPE and address the reported issues with the fit of masks for ethnic minorities and women
- a new approach to the pandemic stockpile and the role they would play. The need to maintain sufficient PPE stock needs to be balanced against the costs of managing the stockpile and the risk that items will go out-of-date
- the arrangements for the provision and funding of PPE for social care and primary care in the longer term
- the sustainability of processes and governance arrangements for the procurement, storage and distribution of PPE put in place during the pandemic.

This briefing is part of a series of work on PPE and the Covid-19 response. Further information about our work programme is available at www.audit-scotland.gov.uk .

Introduction



1. Personal protective equipment (PPE) is used to protect the user from health and safety risks. It includes gloves, gowns and different types of masks and other items which protect the face and eyes ([Exhibit 1](#)). During the Covid-19 pandemic, PPE has been essential in limiting transmission of the virus by protecting health and social care professionals and the people they care for from becoming infected.

Exhibit 1

PPE required to protect health and social care workers against Covid-19

FFP3 mask



Provides a high degree of filtration. Must be fit tested to ensure a good seal between wearer's face and mask. During Covid-19, used during aerosol generating procedures (AGPs) and within Intensive Care Units (ICUs).

Type IIR mask



Surgical masks used where there is a risk of blood or body fluids entering wearer's mouth. During Covid-19, worn across health and social care settings when providing direct patient care, entering an area where direct care is undertaken and cleaning rooms and equipment.

Gloves



Disposable gloves to prevent cross contamination between care giver and patient.

Eye protections



Goggles or visors to protect eyes or whole face from splashes or droplets or infectious materials. During Covid-19, worn during AGPs and within ICUs.

Aprons



Thin plastic disposable aprons, designed to give protection from fluids onto wearer's clothes. Used across health and social care throughout the pandemic and changed after each patient.

Gowns (non-sterile)



Long sleeved, reusable gowns which provide more protection than an apron. During Covid-19, used during AGPs and within ICUs.

Hand sanitiser



Used to clean hands where no access to soap and water. Gel or alcohol based. Not strictly PPE but essential for infection control.

2. The Covid-19 pandemic led to a huge global surge in demand for PPE, placing significant pressure on supply chains and leading to substantial increases in prices. In our [NHS in Scotland 2020](#)  report, we reported that there were shortages of PPE in the early stages of the pandemic. The Scottish and UK governments had to respond quickly to procure and distribute enough PPE for use in health and social care settings across Scotland. The impact of the pandemic on public finances has been unprecedented and spending on PPE has been a significant part of this.

3. This briefing paper looks at how the Scottish Government and NHS National Services Scotland (NHS NSS) put in place arrangements to procure, store and distribute PPE to health and social care settings before and during the pandemic, and how they are planning for the longer term. It builds on work done as part of our [NHS in Scotland 2020](#)  report.^{1 2}

4. We will continue to report on PPE issues through the 2020/21 annual audit of NHS NSS and in our NHS in Scotland 2021 report, due to be published in early 2022. The annual audit of NHS NSS will look in more detail at procurement issues, including:

- the management of procurement risks
- the use of advance payments
- how NHS NSS documented procurement decisions and publication of contract award notices.

5. The paper is in three sections:

- **Part 1** sets out the arrangements for procuring and distributing PPE before the pandemic. It also highlights previous pandemic preparedness exercises and how the Scottish Government responded to the findings from these.
- **Part 2** sets out how the Scottish Government and NHS NSS responded to the pandemic and the arrangements they put in place to procure, store and distribute PPE to health and social care settings.
- **Part 3** looks at how the Scottish Government and NHS NSS are planning for the longer term.

6. This briefing paper is based on our review of documents and analysis of Scottish Government and NHS NSS data.

Before the pandemic



Pre-pandemic demand for PPE was significantly lower and the national pandemic stockpile was not enough to meet the unprecedented demands of the Covid-19 pandemic

7. NHS NSS is a national NHS board. One aspect of its role is to provide a single national procurement service for the NHS in Scotland. Prior to the pandemic, this included providing a stock and distribution service for PPE supplies for hospitals. NHS boards would place orders which NHS NSS supplied through its National Distribution Centre. Primary care and social care providers were responsible for sourcing and buying their own PPE supplies.

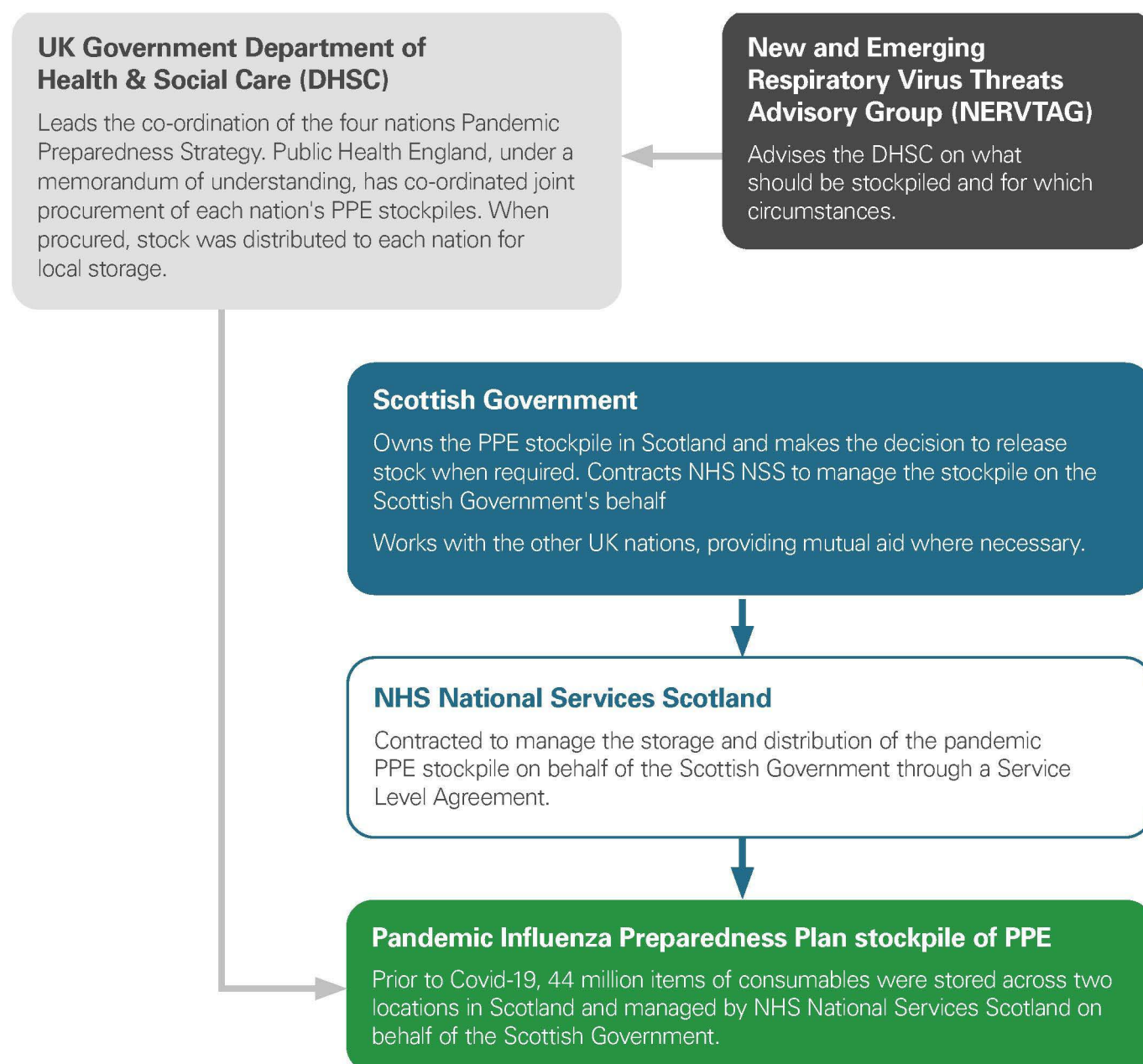
8. Before the pandemic, the model for distributing PPE to NHS boards was based on processing relatively low volumes of PPE compared to demand during the pandemic. In 2019/20, NHS NSS distributed on average 5.6 million items of PPE a week, worth £162,000, across Scotland. This was less than a third of the volume of average weekly shipments since the start of the pandemic ([paragraph 32](#)).

9. The national pandemic stockpile was developed by the four UK nations as part of the UK Pandemic Influenza Preparedness Programme (PIPP) and increased in size following the swine flu pandemic in 2009 ([Exhibit 2, page 9](#)).

10. The stockpile was developed in preparation for a flu pandemic. As we reported in our [NHS in Scotland 2020](#)  report, PPE requirements during the Covid-19 pandemic were unprecedented and the levels held in the stockpile were not enough to meet initial demand.

Exhibit 2

Management of the pandemic stockpile



Source: Audit Scotland and Scottish Government

The Scottish Government did not fully implement improvements identified as part of pandemic preparedness exercises

11. The Scottish Government conducted two pandemic preparedness exercises. Exercise Silver Swan was held in 2015 and Exercise Iris in 2018. Both exercises identified access to, and training in the use of PPE as areas for improvement.³ As we highlighted in our [NHS in Scotland 2020](#) report, the Scottish Government did not fully implement the recommendations from these preparedness exercises and so could have been better prepared to respond to the Covid-19 pandemic.

During the pandemic



Exhibit 3

PPE timeline, January 2020 to June 2021



First confirmed Covid-19 case in the UK	23 January		
	24 January	PPE distributed to GPs from pandemic stockpile	
First confirmed Covid-19 case in Scotland	1 March		
Covid-19 declared a pandemic by the World Health Organization	11 March		
	19 March	<p>Covid-19 no longer classified as a High Consequence Infectious Disease in the UK, affecting the type of PPE required *</p> <p>Call convened, initially daily, between the SG, NHS in Scotland and government organisations to develop Scottish PPE manufacturing</p> <p>NHS NSS sets up social care helpline to triage urgent requests for PPE</p>	
	22 March	Letter from the Minister for Trade, Innovation and Public Finance to Scottish companies appealing for support with provision of PPE	
First UK Lockdown begins	23 March	NHS supply chain external mailbox set up to receive offers from companies	
	27 March	Single Point of Contact group established as a forum to address PPE issues at NHS board-level	
	30 March	Delivery of 8 weeks' worth of PPE to all GP surgeries in Scotland	
	1 April	Scottish Government sets up PPE helpline mailbox for health and social care staff to report PPE issues	
	17 April	Online portal established for NHS boards to report PPE supply issues.	
	18 April	NHS NSS distributes one week's supply of PPE to all care homes in Scotland	
Cont.			

Exhibit 3 (continued)

	27 April	Local PPE hubs established to supply social care providers with PPE where normal supply routes have failed. The hubs are run by local Health and Social Care Partnerships (HSCPs)
	28 October	Scottish Government publishes its PPE Action Plan
Second UK lockdown begins	6 January 2021	
	30 June	Provision of PPE to primary and social care due to come to an end

Note. *High consequence infectious diseases such as Ebola and SARs have a high case fatality rate and require full body PPE.


Source: Audit Scotland

The four UK nations jointly developed guidance on the use of PPE

12. At the start of the pandemic, the four UK nations jointly developed guidance which set out the type of PPE that health and social care workers should be wearing in different settings. The guidance has been revised repeatedly over the course of the pandemic, as knowledge of transmission risks has increased.

Worldwide demand for PPE increased dramatically and at points in April 2020, centrally held stocks were very low

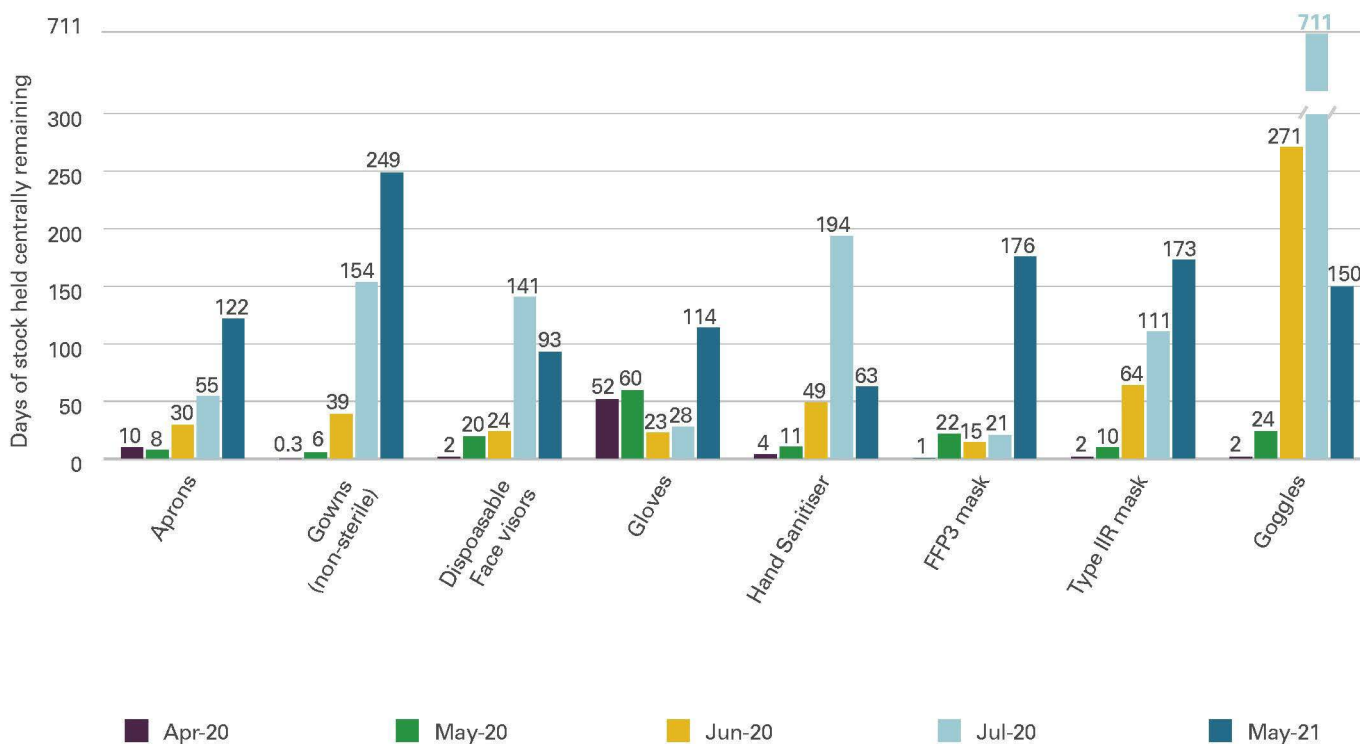
13. In March 2020, an increase in demand for PPE and a reduction in supply as foreign factories shut because of Covid-19 lockdowns meant that the global supply chain for PPE began to falter. This pressure resulted in difficulties procuring PPE, large cost increases and unstable supply across the world. There were particular pressures on gowns and visors at the start of the pandemic, as these items had not been held in the UK stockpile.

14. By April 2020, centrally held PPE stocks were very low, with NHS NSS holding less than a day's worth of stock of long sleeve gowns and a few days' of other key items in its warehouses ([Exhibit 4](#)). Daily stock reports from some NHS boards showed they held additional stock locally. However, we highlighted in our [NHS in Scotland 2020](#)  report that some NHS boards reported shortages around this time. The situation changed daily, as stock arrived in shipments and was distributed to NHS boards. NHS NSS reports there were always incoming orders to help manage the supply, with stock arriving and being shipped out to NHS boards on the same day at some points.

15. The Scottish Government authorised the release of PPE from the PIPP stockpile. As most of the FFP3 masks had passed their original expiry date, they were independently tested, and their expiry dates extended. The Scottish Government had no concerns with the efficacy of this stock, and it was used to supplement existing arrangements until supply chains became more stable.

Exhibit 4

Number of days of stock held centrally by NHS NSS, April 2020 – May 2021



Note: This does not include stock held by NHS boards. Some NHS boards reported to NHS NSS in April 2020 that they held an additional 7.6 days' of gowns, 40 days' of FFP3 masks and 3.3 days' of IIR masks. Other PPE items were not reported at this time. In the early phase of the pandemic, goggles and visors were used as eye protection, latterly there was a preference for visors.

Source: Audit Scotland analysis of NHS NSS monitoring data

16. Over summer 2020, Covid-19 cases fell, orders arrived, and NHS NSS increased the level of centrally held PPE stock. Based on modelled demand, it now has between three and four months' supply of PPE. More PPE is now made in Scotland, which has stabilised the supply chain. However, demand remains high because PPE is now required in more situations than before the pandemic and the second wave during winter 2020 meant more people were in hospital and ICUs. As a result, prices for some items remain high and volatile.

Healthcare professionals raised concerns about access to and use of PPE early in the pandemic

17. In the early stages of the pandemic, organisations representing the frontline workforce raised concerns with the Scottish Government about both the availability and suitability of PPE provided to those working in a health and social care. Concerns included whether the guidance on what PPE to use adequately protected healthcare professionals.

18. In April 2020, the Royal College of Nursing (RCN) surveyed its members on the use and availability of PPE.⁴ Results from its Scottish members showed that 25 per cent of those respondents working in high-risk environment reported that

they had not had their mask fit tested and 47 per cent reported being asked to re-use single use PPE. On 26 May 2020, the Chief Nursing Officer issued a letter to all NHS boards clarifying that single-use PPE should not be re-used.

19. A British Medical Association (BMA) survey of its Scottish members, carried out at the end of April 2020, found that 29 per cent of respondents who carry out AGPs reported shortages of full-face visors and 13 per cent reported shortages of FFP3 masks. Of those not carrying out AGPs but working with possible or confirmed Covid-19 patients, availability of eye protection was the main concern, with 24 per cent reporting shortages.⁵

The Scottish Government worked with partners to address PPE supply challenges

20. In the early stages of the pandemic, the Scottish Government set up a PPE Strategy and Governance Board. This group is responsible for overseeing the implementation of the Scottish Government's PPE Action Plan.⁶ This includes an action to improve evidence about the fit and comfort of PPE for different groups, including women and ethnic minorities. It also supports opportunities to develop a Scottish PPE supply chain and oversees work around environmentally sustainable and reusable PPE. There are other groups involved in decision-making around PPE. These include the PPE for Primary Care Group and the Social Care PPE Steering Group.

21. The Scottish Government's PPE Action Plan aims to ensure that 'the right PPE of the right quality gets to the people who need it at the right time'. It sets out roles and responsibilities at a national level for procuring and distributing PPE and the governance arrangements within the Scottish Government.

22. The Scottish Government worked with partners to identify and address issues with PPE supply. This included a daily telephone call between the Minister for Trade, Innovation and Public Finance and stakeholders to coordinate a response to supply issues ([Exhibit 3, page 10](#)).

23. NHS NSS established the PPE Single Point of Contact Group to enable NHS boards to raise and discuss issues with PPE at NHS board level. NHS NSS held twice-weekly meetings to coordinate and respond to supply issues. It also set up an online PPE portal to allow the procurement teams within NHS boards to advise of any PPE shortages and what critical supplies were needed.

NHS NSS reviewed the impact of the pandemic on its PPE supply chain

24. The processes that NHS NSS had in place for distributing PPE before the Covid-19 pandemic were based on lower PPE usage. They were not designed to enable distribution of high volumes of PPE to urgent timescales. In early April 2020, NHS NSS commissioned a review of PPE distribution in Scotland. The review report highlighted a range of issues, including a lack of knowledge about stock held by NHS boards and a need for a better understanding of PPE demand and usage in social care and primary care settings. It made several recommendations around demand modelling, transparency of deliveries, usage, prioritisation and military support, which were to be implemented in April 2020. These helped shape NHS NSS' approach to distributing PPE, including its approach to modelling supply and demand and establishing social care PPE hubs ([paragraph 29](#)).

The approach to modelling demand for PPE has developed over the course of the pandemic

25. From March to June 2020, a Scottish Government team modelled demand to help predict the volumes of PPE needed over the course of the pandemic. Initially, the approach focused on the acute sector and was based on information about Covid-19 patient numbers. The model then shifted to a staff-based one, using national workforce data. NHS boards provided information on staff working in different settings and estimates of PPE use.

26. In May 2020, based on modelled demand, NHS NSS began to develop 12-week oversight dashboards to help inform procurement and distribution decisions and improve reporting. It used this data to provide daily PPE stock bulletins to a range of stakeholders. The dashboards bring together a range of supply and demand data, including:

- stock levels held at the National Distribution Centre
- estimated date when stock will run out
- orders placed
- NHS board stock levels (where local data has been submitted).

NHS NSS' remit was extended to include social care and primary health care

27. At the start of the pandemic, primary care and social care providers, who would normally source PPE from private supply chains, found that their usual suppliers were unable to provide the increased levels of PPE needed. The Scottish Government expanded NHS NSS' remit to provide PPE to primary care providers and social care settings (including care homes and care-at-home services) which were unable to access PPE through their usual routes ([Exhibit 5, page 15](#)). In 2020/21, through its sustainability fund, the Scottish Government also reimbursed social care providers an estimated £17.5 million for costs associated with PPE and infection control.

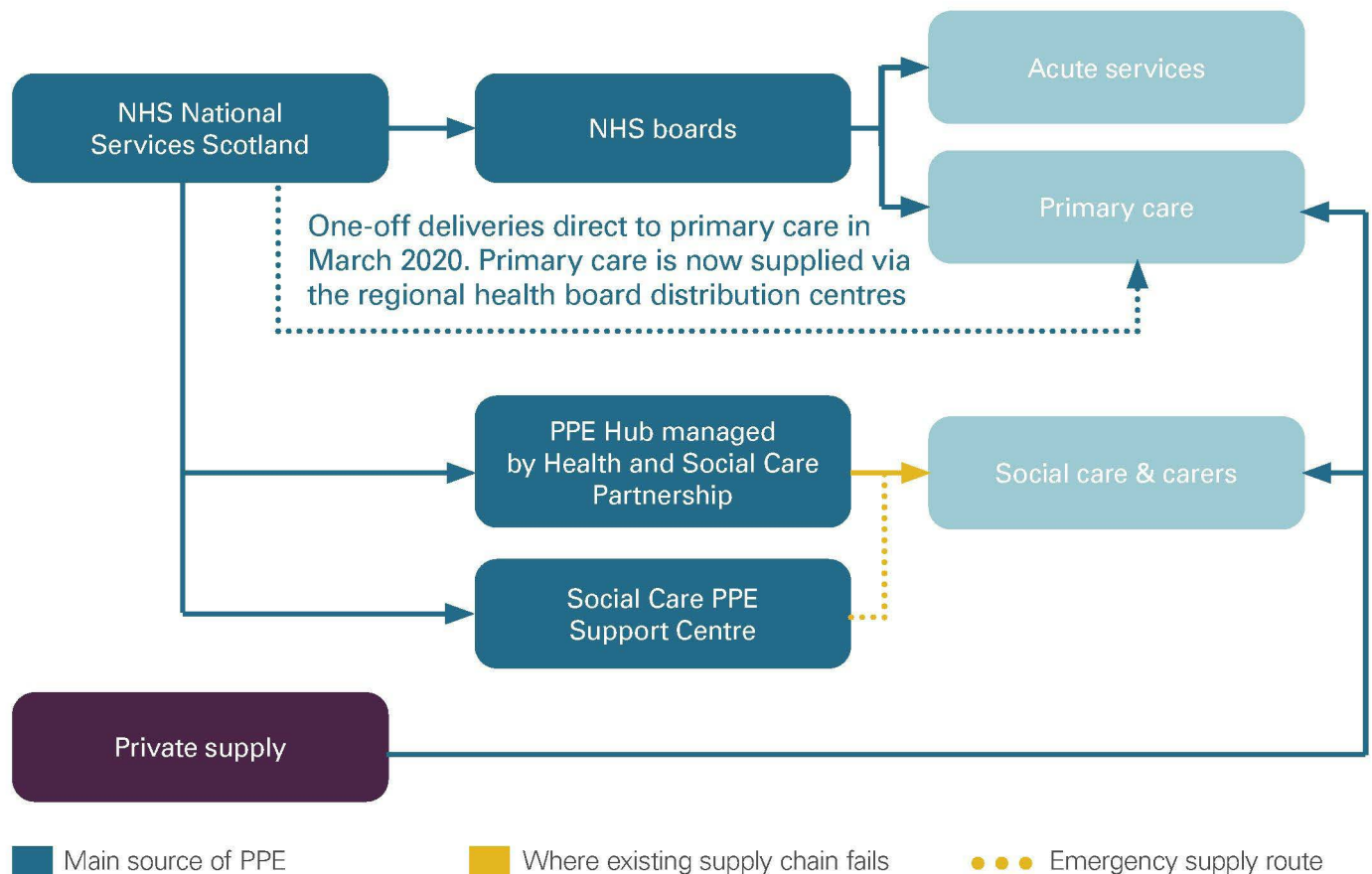
28. NHS NSS distributed PPE from the pandemic stockpiles to GPs on 24 January 2020. It then provided an initial 8-week supply of PPE to GPs at the end of March, after which they could access it from NHS NSS directly or through NHS boards. From early April 2020, community pharmacies could arrange for PPE supplies through an NHS NSS call centre. Dentists and opticians were given PPE by NHS NSS as they prepared to re-open in June 2020.

29. Initially, NHS NSS delivered a week's supply of PPE to all care homes in Scotland. It then established 48 PPE hubs across Scotland. Care providers, including unpaid carers and personal assistants, can access up to a week's PPE from the hub. At the time of writing, the hubs will be in place until the end of June 2021. The Scottish Government and NHS NSS are currently considering future arrangements ([paragraph 50](#)).

30. In March 2020, NHS NSS also set up the social care support centre, which has an emergency phone line for urgent requests for PPE. Calls to this number are triaged and either directed to a hub or arrangements are made for an emergency delivery to the care setting.

Exhibit 5

Routes to obtaining PPE during the pandemic



Source: Audit Scotland

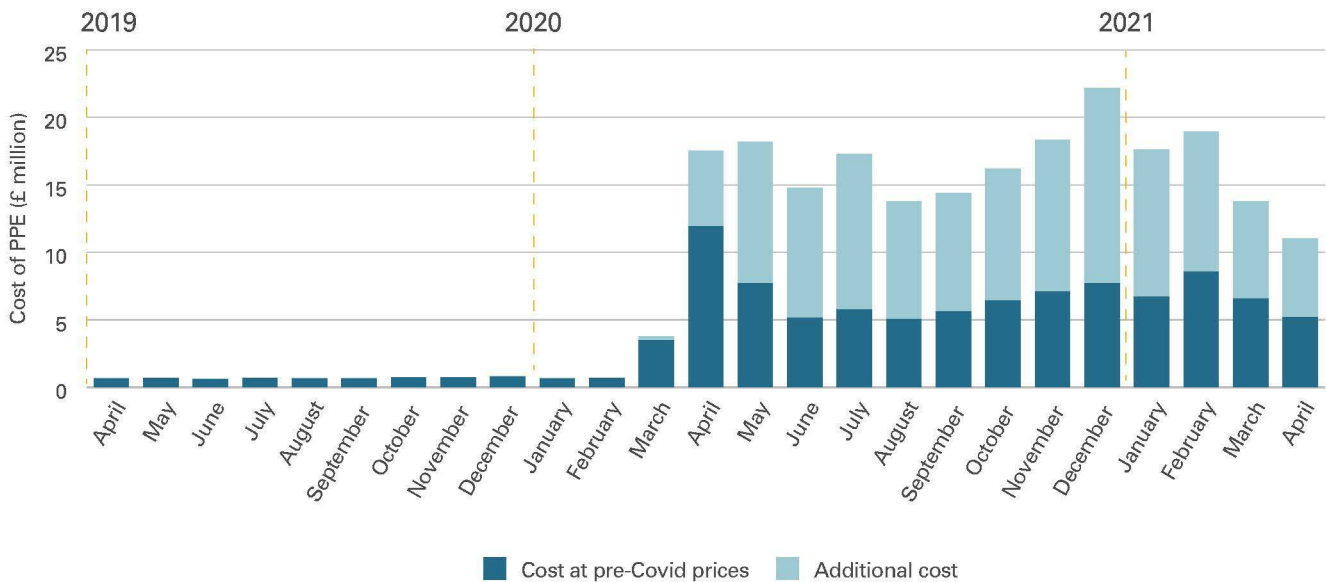
31. Between March 2020 and April 2021, NHS NSS provided 1.1 billion items of PPE, worth £218 million, to health and social care across Scotland. Sixty-two per cent of this went to acute health care, nine per cent to primary care and 29 per cent to social care and carers. When they were able to, care homes and care-at-home services got their PPE from private supply chains; when this was not possible, they used the hubs. NHS NSS estimates that, between April and August 2020, it provided 38 per cent of care homes' and 42 per cent of care-at-home services' (including personal assistants) PPE. Unpaid carers got all their PPE from NHS NSS through the hubs model.

The amount and cost of PPE bought increased dramatically

32. In 2019/20, NHS NSS distributed on average 5.6 million items of PPE, worth £162,000 a week across Scotland. Since March 2020, this has increased to an average of 17.4 million items a week worth £3.6 million, a 212 per cent increase in volume and over 2100 per cent increase in the cost of shipments. By September 2021, based on the contracts already signed, NHS NSS will have spent £340 million on PPE for the pandemic response.⁷

33. On average, the unit price of PPE during the pandemic doubled compared to the previous year. Had NHS NSS been able to buy PPE at the same prices as 2019, it would have spent £37.4 million less on PPE stock in the first five months of the pandemic ([Exhibit 6](#)).

Exhibit 6
Cost of PPE shipped by NHS NSS, April 2019 to April 2021














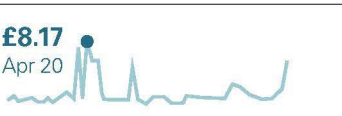


Source: NHS NSS

34. In 2020/21, the Scottish Government received £1.4 billion in Barnett consequentials based on spending on PPE in England.⁸ This money is not ring-fenced and can be used by the Scottish Government for any spending within the year. However, it has committed to spending all resource funding from health consequentials on healthcare in Scotland.

35. The prices paid for PPE were volatile as demand spiked for certain items and supply of others became more challenging ([Exhibit 7, page 17](#)). This meant that NHS NSS had to manage a complex and uncertain market when purchasing PPE, with prices fluctuating over the course of the pandemic. This volatility meant that NHS NSS had to pay high prices for PPE items at certain points, but it managed this by keeping the volume of orders lower when prices were at their peak.

Exhibit 7

Volume of PPE distributed and unit cost, before and during the pandemic

PPE	Weekly Distribution		Average unit price paid by NHS Scotland		
	Pre Covid-19	During the pandemic	Pre Covid-19	Unit prices Jan 20 and Mar 21	During the pandemic
 Type IIR mask	19,000	3,028,000	£0.24	 £0.75 Apr 20	£0.31
 FFP3 mask	100	119,000	£2.71	 £5.27 Mar 20	£2.08
 Gloves	5,000,000	10,874,000	£0.03	 £0.17 Mar 20	£0.09
 Eye protections	Not routinely supplied	219,000	Not routinely supplied	 £12.35 Mar 20	£1.60
 Aprons	786,000	3,059,000	£0.02	 £0.45 Apr 20	£0.03
 Gowns (non-sterile)	1,000	39,000	£1.71	 £8.17 Apr 20	£4.18
 Hand sanitiser	2,100 litres	13,100 litres	£5.82	 £29.00 Mar 20	£4.72

Source: Audit Scotland

NHS NSS used emergency procurement regulations to directly award PPE contracts without competition

36. There are strict rules surrounding the public sector's purchase of goods and services in the UK. In normal circumstances, any contract over the thresholds of £50,000 for goods and services must go through a competitive process.⁹ This is to ensure that the body gets value for money and that there is fair access to contracts.

37. On 20 March 2020, the Scottish Government published procurement guidance for public bodies during the Covid-19 pandemic, to enable them to procure goods and services with extreme urgency.¹⁰ This sets out existing provisions in the procurement regulations for exceptional circumstances but using them increases the risk of legal challenge and not achieving value for money.

38. The main mechanism used by NHS NSS during the pandemic was to award contracts directly to suppliers without competition.¹¹ In 2020/21, NHS NSS awarded eight contracts (10 per cent) worth £71 million (21 per cent) through its existing arrangements, but most contracts for PPE were directly awarded to suppliers, either because of:

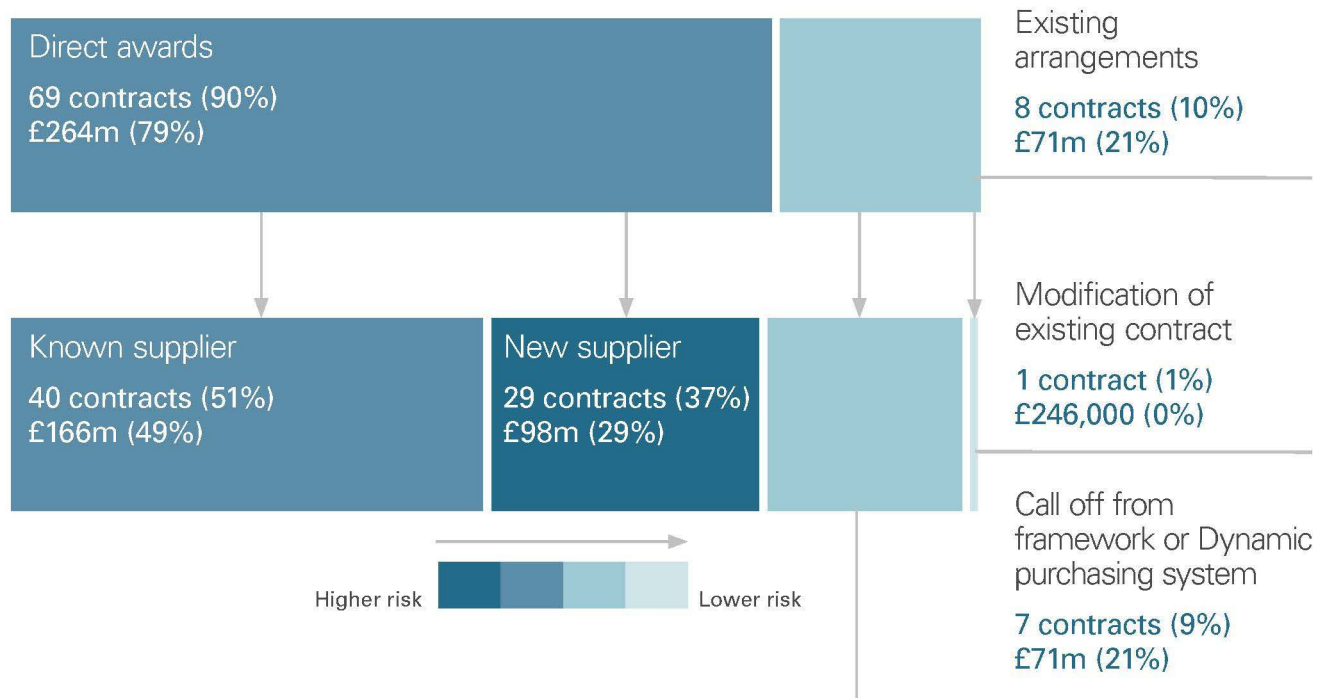
- specific circumstances where the supplier is uniquely placed to deliver the contract (eight PPE contracts worth £46 million were awarded for these reasons), or
- extreme urgency as described above (61 PPE contracts worth £218 million were awarded for these reasons) [\(Exhibit 8, page 18\)](#).¹²

NHS NSS now reports that it has returned to competitive procurement for its PPE contracts.

39. As part of the regulations, bodies must publish a contract award notice within 30 days of a contract being awarded. Of the 74 PPE contracts awarded in the pandemic where an award noticed was required, 20 per cent were published within 30 days and four remain outstanding.¹³ NHS NSS acknowledges that the unprecedented demands on its procurement team made achieving this challenging.

Exhibit 8
Procurement risks

Twenty-nine contracts worth £98 million were awarded to new suppliers with no competition.



Note: NHS NSS also spent £4.8 million on PPE from NHS Wales

Source: Audit Scotland using information from NHS NSS

40. NHS NSS was operating in extremely challenging circumstances. It had to balance additional risks against the risk that frontline staff would not have access to sufficient, high-quality PPE. NHS NSS:

- spent £98 million with 24 suppliers (through 29 contracts) that it had no previous relationship with. Scottish Enterprise staff based in China carried out due diligence on most of the new suppliers, including visiting some factories and inspecting products
- made advance payments to 20 suppliers to secure the shipment. This was often to secure manufacturing slots or airfreight. Up to March 2021, NHS NSS had paid almost £135 million in advance payments and had £10.3 million of orders outstanding. There is a risk with any advance payment that stock is not received. NHS NSS monitored the advance payments and reported the balance to its finance, procurement and performance committee.

41. Recognising the substantial increase in spending and the additional risks facing NHS NSS through the procurement of PPE, the annual audit of NHS NSS will consider the procurement of PPE by NHS NSS in more detail including examining a sample of contracts ([paragraph 3](#)).

42. We published [guidance for auditors and public bodies on Covid-19 and the emerging fraud risks](#) in July 2020, and on [Red flags in procurement](#) in October 2019.

The Scottish Government worked with partners to develop a Scottish PPE supply chain

43. At the start of 2020, none of NHS NSS' PPE was manufactured in Scotland. The Scottish Government, NHS NSS and Scottish Enterprise worked with Scottish manufacturers to produce PPE. By April 2021, the Scottish Government reported that 88 per cent of PPE, excluding gloves, was manufactured in Scotland, often using Scottish raw materials. Gloves are almost exclusively produced in Malaysia, where there is an established supply chain.

44. NHS NSS provided advance payments for orders of PPE from some Scottish companies. This enabled the companies to invest in the machinery and facilities needed to produce the required PPE ([Case study 1, page 20](#)).

45. By bringing PPE manufacturing into Scotland, the Scottish Government and NHS NSS hope to build resilience for any future pandemics and create jobs. Since the start of 2020, we estimate that around 470 jobs have been created in producing PPE in Scotland.¹⁴ In the longer term, demand for PPE is expected to drop and Scotland will then produce more than it uses. NHS NSS and Scottish Enterprise are working with Scottish manufacturers to grow Scotland's international healthcare supply chain.

Case study 1



Alpha Solway

Pre-pandemic	Alpha Solway made FFP3 masks in Taiwan and employed 75 people in Dumfries and Galloway making PPE.
March 2020	Alpha Solway starts the process of moving respirator mask production back to Scotland, setting up a second factory in Dumfries and Galloway. The first phase was a £2.5 million investment in the site.
April	NHS NSS and Scottish Enterprise produce a business case for the Scottish Government to approve an advanced payment of £2 million on an order of 2 million masks from Alpha Solway.
Early May	Alpha Solway could produce 12-15,000 masks a week.
Late May	Delivery of the new machinery enabled 100,000+ masks to be made per week using raw materials from Forfar and the Lake District. These masks have a shelf life of seven years, compared to three years for the masks from Taiwan.
June	Production of 1 million masks per week.
August	Masks formally certified as FFP3 and suitable for the NHS.
Mid August	NHS NSS orders £53 million of masks and visors through its framework supplier ARCO. This will meet Scotland's demand until September 2021.
March 2021	£4.8 million funding support from South of Scotland Enterprise allowing Alpha Solway to build a new factory worth £12 million and support an additional 300 jobs.

Source: Scottish Government and Alpha Solway

Long-term planning



46. The Scottish Government is working with partners to develop longer-term plans for the procurement and supply of PPE. The PPE Strategy and Governance Board is currently considering what the priorities for PPE should be and how these can be achieved.

47. The Scottish Government asked all NHS boards, including NHS NSS, to develop remobilisation plans to cover the period April 2021 to March 2022. These build on initial remobilisation plans developed in August 2020. The NHS NSS remobilisation plan sets out how NHS NSS will deliver essential services, while continuing to play a key role in responding to Covid-19. This includes how NHS NSS will maintain a resilient PPE supply chain. This will involve developing an approach to modelling demand in the long term and which will be able to respond to future pandemics. NHS NSS is also working with the Scottish Government and partners to support the development of a more environmentally sustainable PPE supply.

48. The Scottish Government has provided funding (£1.2 million in 2020/21) for the development of a new national stock management system. This system is currently being implemented and will allow NHS NSS and NHS territorial boards to get real-time information on local stock levels and usage across the country. This will inform national demand modelling in the longer term.

49. NHS NSS has expanded and diversified its approach to storing PPE, to ensure greater resilience. Prior to the pandemic, NHS NSS held small volumes of PPE stock in its National Distribution Centre for meeting business-as-usual demand. It also held stock in two external warehouses on behalf of the Scottish Government. To support the long-term resilience of PPE supply, NHS NSS has leased a further two warehouses, as well as having access to an additional five warehouses managed by third parties.

50. In January 2021, the Scottish Government committed to extending the current approach to providing PPE to primary and social care until the end of June 2021. The Scottish Government is currently considering its approach to the long-term provision and supply of PPE to primary and social care.

51. In its longer-term approach to PPE supply and distribution, the Scottish Government and NHS NSS should consider both business-as-usual needs and preparing for future pandemics ([Looking ahead, page 4](#)).

Endnotes



-
- 1 [NHS in Scotland 2020](#),  Audit Scotland, February 2021.
 - 2 There is more information about Audit Scotland’s work on the impact of Covid-19 on Scotland’s public services on the Covid-19 hub on our website: <https://www.audit-scotland.gov.uk/covid-19>.
 - 3 [NHS in Scotland 2020](#),  Audit Scotland, February 2021.
 - 4 RCN publishes results of member survey about PPE, [RCN website](#). The survey had 1,465 respondents based in Scotland.
 - 5 BMA Scotland Covid-19 tracker survey results, BMA, May 2020. The survey had 1,351 respondents.
 - 6 Personal protective equipment (PPE) for Covid-19 – Scotland’s Action Plan, Scottish Government, October 2020.
 - 7 Data provided by NHS NSS.
 - 8 The UK Government uses the Barnett formula to allocate funds to Scotland, Wales and Northern Ireland when additional money is spent in areas that are devolved to the relevant administrations, such as health.
 - 9 Public Contracts (Scotland) 2015 & Procurement Reform (Scotland) Act 2014 regulations.
 - 10 Scottish Public Procurement Notice SPPN/4.
 - 11 This is possible if: there are genuine reasons for extreme urgency, these events were unforeseeable, it is not possible to meet the usual timescales set out in the regulations and the situation is not the fault of the public body.
 - 12 NHS NSS also spent £4.8 million on PPE from NHS Wales.
 - 13 Four contracts did not require NHS NSS to publish award notices.
 - 14 Based on information provided by the Scottish Government and NHS NSS.

Covid-19

Personal protective equipment

This report is available in PDF and RTF formats, along with a podcast summary at:

www.audit-scotland.gov.uk 

If you require this publication in an alternative format and/or language, please contact us to discuss your needs: 0131 625 1500 or info@audit-scotland.gov.uk 

For the latest news, reports and updates, follow us on:



Audit Scotland, 4th Floor, 102 West Port, Edinburgh EH3 9DN

T: 0131 625 1500 E: info@audit-scotland.gov.uk 

www.audit-scotland.gov.uk 

ISBN 978 1 913287 53 5