REFORM

Work in progress.

Towards a leaner, smarter public-sector workforce.

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February 2017

#reformworkforce

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Acknowledgements

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Reform

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Executive summary

The public-sector workforce is central to the successful and efficient delivery of public services. Accounting for more than half of day-to-day public expenditure it is essential that its size, structure and skills are continually evaluated, and updated to deliver public services that meet the changing needs and expectations of users. Although the workforce's size has changed over the last half a century and more, it has not always been organised around the needs of users. Designing a workforce capable of meeting people's needs and expectations today and in the coming decades should be a key aim of government.

Today's public-sector workforce

The size of the public-sector workforce has oscillated considerably during the last six decades. It stood at 5.3 million in mid-2016, and has been falling since 2009, when it stood at 6.4 million. The latest figure is 20 per cent lower than its 1979 peak.

Today's workforce is the product of a series of decisions in the post-war period. Since 1960, the size of the workforce has fluctuated with the economy and with the prevailing ideas of the time. Keynesian demand management saw an expansion in the 1960s and 1970s. New Public Management, including the introduction of quasi-markets, led to a sustained fall in the 1980s and 1990s. Numbers recovered under the "Third Way" of the Blair Government, only to fall again after the 2008 financial crisis and the Coalition Government's aim to reduce public expenditure.

Internationally, the UK public sector directly employs a greater proportion of workers than the OECD average, according to the latest figures (2013). New Zealand, a country which outsources a comparable amount of services to third-party providers, employs 62 per cent fewer workers as a proportion of its total workforce.

The UK public-sector workforce also differs from the private sector. On latest figures (2014), public-sector workers are on average older than those in the private sector; more qualified; more likely to be female; more likely to have longer tenures; and less likely to be well motivated.

The value-for-money equation

Current pressures mean the public-sector workforce must undergo radical change to deliver better value for money.

Tight public spending means that public-sector productivity must break from its 20-year trend of near-zero growth. At the same time, the demands on public services are changing rapidly. An ageing population, with increased prevalence of chronic conditions, requires a new way of delivering health and social care. In January 2017, experimental statistics showed that there were 5.2 million examples of fraud and computer misuse offences in the year ending September 2016, almost as many as the 6.2 million traditional crimes.

Citizens want much better digital access to public services. Around a third of people say that they would prefer to book GP appointments online but fewer than 10 per cent have done so. Three-quarters of people have said that they want digital communication with the police, but only half that number have said it is currently possible. New subscription services, delivered by private-sector providers, provide immediate access to GPs via video consultations to 350,000 people in the UK.

Barriers to achieving value for money

The policy challenge is to remove the barriers that prevent public-sector workforces changing in the interests of citizens and their own staff.

Public-sector leaders do not have freedom to reshape their workforces. For the police, the ban on compulsory redundancies for officers meant that recent job reductions fell too heavily on police staff, leaving officers in roles that staff should fill.

Some public-sector workforces are bottom-heavy. In primary care, there are 10 receptionists for every 14 clinicians, and almost one per GP. In secondary care, 18 per cent of employees fill administrative roles. Thirty-seven per cent of civil servants fill defined administrative roles.

Many follow an old-fashioned management model involving multiple layers of hierarchy. Interviewees for this paper spoke of a "frozen middle", that is managers in middle layers who are unwilling to execute ideas without guidance from above. All Whitehall departments have more than the eight levels of employee grades, seen as the maximum for well-functioning public-sector organisations.

The National Audit Office and Parliamentary Select Committees have consistently highlighted skills deficits in technology, commercial skills and leadership in recent years. Soft skills, such as innovation and motivation, are equally important. Poor motivation reduces productivity and may be a cause of absenteeism. In 2014, the average public-sector worker took 8.1 days of sick leave, compared to 5.1 days in the private sector.

Tomorrow's public-sector workforce

Structure

In the future, a less hierarchical model, which exploits advances in technology, will help managers develop a leaner and better performing workforce.

Some public services are already delivering this vision. HM Revenue and Customs (HMRC) has reduced its numbers of administrative staff from 96,000 to 60,000 over the last decade through expanding online services and providing better real-time information. It aims to reduce 11,000 more, as it aims to become "diamond-shaped". Reductions of jobs must be done strategically, however, as a better way of working, rather than salami slicing roles to make savings.

By following this approach, Whitehall, the NHS and police can reduce headcount significantly. According to often-cited analysis by Oxford academics Frey and Osborne, many routine administrative roles have a 96 per cent chance of being automated by current technology. Applying their calculations to current public-sector numbers suggests that over the next 10 to 15 years, central government departments could further reduce headcount by 131,962, saving £2.6 billion from the 2016-17 wage bill. In the NHS, Osborne and Frey's most conservative estimate reveals that 91,208 of 112,726 administrator roles (outside of primary care) could be automated, reducing the wage bill by approximately £1.7 billion. In primary care, a pioneering GP provider interviewed for this paper has a clinician-to-receptionist ratio of 5:1, suggesting a potential reduction of 24,000 roles across the NHS from the 2015 total. In total this would result in 248,860 administrative roles being replaced by technology.

For many other roles, new technology will increase productivity. McKinsey estimates that 30 per cent of nurses' activities could be automated, and a similar proportion for doctors in some specialities, enabling those skilled practitioners to focus on their non-automatable skills.

Some technology will improve public-service delivery. Various companies aim to develop artificial intelligence that can diagnose conditions more accurately than humans. The UK should evaluate drones and facial-recognition technology as alternatives to current policing practice, while recognising concerns about the holding of people's images.

Even the most complex roles stand to be automated. Twenty per cent of public-sector workers hold strategic, "cognitive" roles. They will use data analytics to identify patterns – improving decision making and allocating workers most efficiently. The NHS, for example, can focus on the highest-risk patients, reducing unnecessary hospital admissions. UK police and other emergency services are already using data to predict areas of greatest risk from burglary and fire.

Whitehall should move from hierarchy to "self-management", with teams organising themselves around tasks that need to be done. The Government Digital Service (GDS) has done this to great effect, such as when a 16-person team designed GOV.UK in 12 weeks. Other departments and arm's-lengths bodies – from the Crown Commercial Service to the National Crime Agency – could follow.

Skills and motivation

The public sector should ensure that it populates roles with the skills necessary to exploit technology and fill long-standing gaps in commerce and procurement. Just as importantly, public services should seek to develop non-traditional skill sets such as creativity, learning from errors and self-improvement.

This requires strong leaders, some drawn from the private sector, to change organisational culture. Shared kitchens and feedback boards, for example, enable the spontaneous interactions that will support a new culture of public-service innovation.

The new public-sector culture must also see mistakes as an opportunity for feedback and improvement. Leaders, including politicians, are wrong to "bury" critical reports where that criticism is a valuable insight into public service operation. The NHS is the best current example of this kind of reform. Made independent from NHS England, the Healthcare Safety Investigation Branch should allow clinicians to report mistakes without fear of censure. A greater use of randomised-control trials through public services will provide much-needed evidence to improve decision-making.

Leaders need the flexibility to change organisations, including the ability to motivate individual workers in ways appropriate to them – whether "intrinsic", for example driven by personal satisfaction in the task, or "extrinsic", driven by external rewards such as remuneration and reputation. The target regimes that still operate in public services, notably the NHS, undermine both leaders and the motivation of front-line staff.

Performance management can be improved through a focus on immediate feedback rather than cumbersome annual appraisals. The NHS e-portfolio, an online appraisal system for junior doctors and nurses, allows employees to request real-time feedback. A system that allows managers maximum discretion in tailoring this feedback could be a model for other services to follow.

Recruitment

Securing the right people to deliver these services will be essential. The public sector should be an attractive employer to people of all ages. Some will be attracted by the chance to improve people's lives through their work. Others will want to develop their skills working on the complex problems that public services must solve.

Leaders will also need flexibility over remuneration to build successful workforces. HMRC and the Ministry of Defence have both created new "government companies" which have

some freedoms from public sector pay limits. Academies and foundation trusts have theoretical freedoms to vary pay, although these are rarely used in practice. True flexibility will come when public-sector organisations can manage their pay within a given envelope.

Recent efforts to improve recruitment have focused on high-cost approaches such as attracting high-achievers (such as Teach First) or turning public services into graduate-only professions (such as nursing). It is likely that a greater use of apprenticeships could provide a more skilled and diverse public-sector workforce, and reduce levels of over-qualification, at better value for money. The public sector only employs 1.7 per cent of its workforce as apprentices, compared to 2.3 per cent in the private sector. The creation of the public-sector apprenticeship target means local authorities could have to offer six times more apprenticeships than they currently do. Done right, this represents an opportunity to improve their skills base.

Flexible and temporary employment have been growing for decades, but the emergence of the 'gig' economy, with workers supporting themselves through a variety of flexible jobs acquired on online platforms, has gained traction (and controversy) recently. 'Contingent labour' platforms – trialled in social care – may suit hospitals and schools as an alternative to traditional agency models. It may also suit organisations who face seasonal peaks of demand, such as the need for HMRC to recruit additional capacity at the end of a tax year. 18F, the American version of GDS, has recruited coders for specific tasks by allowing them to bid for work at lower prices, in a reverse auction. Using such platforms in the public sector would show its commitment to delivering working practices fit for the twenty-first century.

Recommendations

1. Automate administrative roles where appropriate, including in the Civil Service to make Whitehall "diamond-shaped". Employ technology to improve the efficiency and quality of front-line and strategic roles.
2. Disrupt hierarchies through fewer management layers and self-management models.
3. Cultivate a learning environment by empowering leaders to learn from mistakes, rather than attribute blame. Public services should make better use of randomised-control trials and agile working patterns.
4. Empower leaders to motivate employees as they see fit, unencumbered by rigid pay and performance management structures and role definitions.
5. Introduce new recruitment patterns, including targeting non-traditional entry routes, such as apprenticeships and digital contingent-labour platforms, to attract a wider skill base.

Introduction

Public services fail when employees fail. This is the dramatic lesson from a number of high-profile errors in recent public-service delivery. In many instances, quality is compromised not because of individual incompetence, but the way the workforce is structured and organised.

The inverse of this is also true. When public services succeed it is often due to excellent working practices. Getting this right across public services is crucial to delivering value for money for services: 50 per cent of day-to-day spend in the public sector is on employees.[1] Continually evaluating and updating workforce size, structure and skills is therefore essential to deliver public services that meet the changing needs and expectations of users, at the lowest possible cost to taxpayers.

Public services must respond to a population with increasingly complex demands – people are living longer, technology is changing the way they behave and inequality remains stark in many areas, from education to health. Addressing these issues within a tight fiscal envelope requires a dramatic improvement in productivity and effectiveness. This importance has not gone unrecognised: the Coalition Government promised to cut public spending without affecting service delivery by improving productivity levels.[2] However, although complex to compare, it appears that while productivity has grown economy-wide over the last two decades, it has remained flat in the public sector.[3]

Outcomes must also be considered when evaluating the public-sector workforce. After all, productivity increases are meaningless if services do not meet the needs of citizens. This paper therefore considers how workforce productivity can be improved, as well as how workers can achieve the right outcomes. Combining the two would achieve value for money (see Figure 1).

Figure 1: Table of definitions

Productivity	The ratio of outputs produced to inputs used.
Workforce productivity	The ratio of outputs produced to workforce inputs used, including salaries and employee benefits.
Efficiency	The relationship between the outputs from a good or service and the resources used to produce them.
Effectiveness	The extent to which objectives have been achieved – that is, whether outputs have resulted in the intended outcomes.
Value for money	The optimal use of resources to achieve the intended outcomes.

Sources: Elizabeth Crowhurst, Amy Finch, and Eleonora Harwich, *Towards a More Productive State* (Reform, 2015); National Audit Office, *Assessing Value for Money,* 2013.

This paper evaluates recent governments' approaches to workforce design across the National Health Service (NHS), education, central and local government and the police. To do so, interviews with 17 experts from across government, public-sector bodies, academia and industry were conducted, alongside an analysis of public and private data, including Freedom of Information (FOI) requests. The aim is to outline a case for change in Part 1 of the paper, before suggesting high-level themes for reform in Part 2. This approach will pave the way for *Reform* to set out more detailed recommendations for specific sector workforces, including the NHS and policing, in subsequent papers.

1 Jonathan Cribb, Richard Disney, and Luke Sibieta, *The Public Sector Workforce: Past, Present and Future* (Institute for Fiscal Studies, 2014), 3.
2 Leandro Carrera and Patrick Dunleavy, 'Understanding Public Sector Productivity – the LSE's Simple Guide', *British Politics and Policy*, 26 May 2010.
3 Office for National Statistics, 'Labour Productivity', Webpage, (2016).

The report finds that the current workforce is a legacy of past approaches. It is built around siloed attitudes of yesterday's governments and fails to embrace technology and new ways of working to meet users' needs in the most effective ways. A traditionalist mentality fails to cultivate a culture of change: mistakes are covered up, risk-aversion is rife and leaders have not built the workforce around the needs of users. That there is one receptionist for every GP should be alarming in a world in which online banking is the norm.

A new approach is needed. Public services should deliver outcomes that matter to users, and meet expectations of interacting via technology. This approach would see services designed around users and render at least 248,860 administrative roles redundant. The accuracy of decision-making can be further improved by using artificial intelligence to make complex decisions and by understanding why mistakes that, for example, cause 10 per cent of hospital patients to suffer from medical error, are made. Securing the right people to do this is essential. New recruitment practices, such as increasing apprenticeships and using 'gig'-economy platforms to better organise workers can inject innovation into service delivery. In short, this is a framework to make twenty-first century services fit for twenty-first century citizens.

Part 1

Today’s public-sector workforce: the case for change

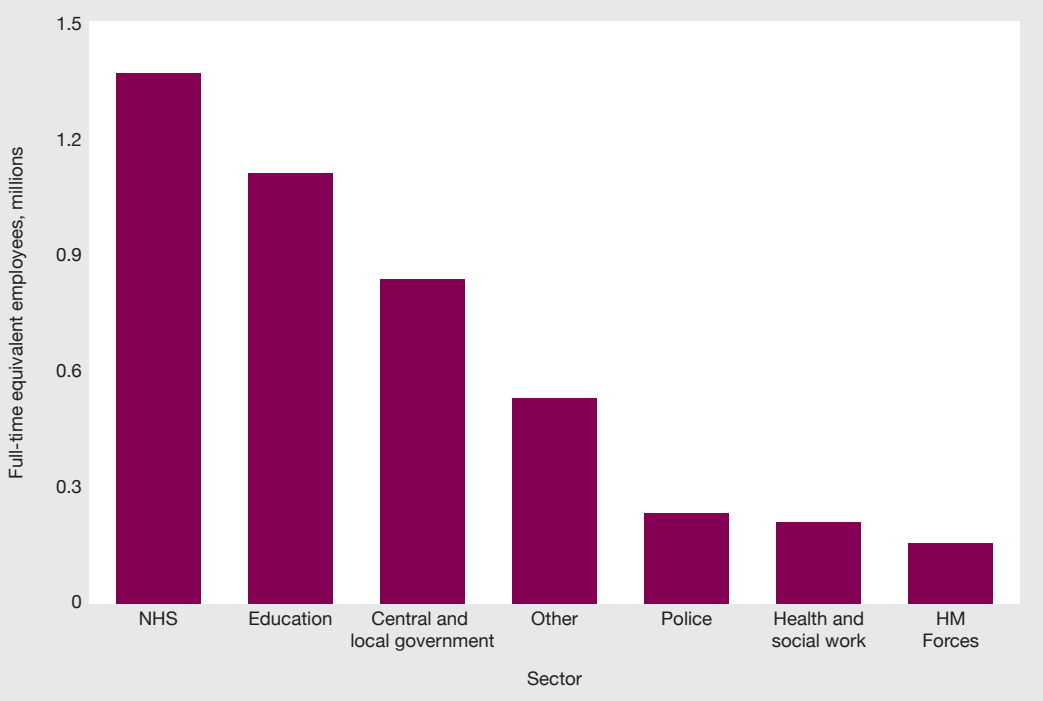
1
Today's public-sector workforce

Today's public-sector workforce has been shaped by a series of policy decisions in the post-war period. Though data issues prevent direct comparisons with other nations and the private sector, this section nevertheless provides context as the backdrop to subsequent analysis.

1.1 The largest workforces

To design tomorrow's workforce, it is important to understand what it looks like today. The public-sector workforce (excluding outsourced services, such as some employment, IT and facilities-management services) stood at 5.3 million in mid-2016.[4] The NHS, the education sector, central and local government, and the police service are the four largest areas (see Figure 2).

Figure 2: Workforce size across public services



Source: Office for National Statistics, *Public Sector Employment, UK*, 2016.

Note: figures are averages over the first three quarters of 2016.

Spending on the the four largest public-sector workforces totals somewhere in the region of £90 billion (see Figure 2). In 2014, the Institute for Fiscal Studies calculated that overall, the public-sector paybill accounted for half of its day-to-day spending.[5] Improvements in working patterns will have a material effect on the cost and quality of public services.

4 Office for National Statistics, *Public Sector Employment*, UK: June 2016, 2016.
5 Cribb, Disney, and Sibieta, *The Public Sector Workforce: Past, Present and Future*, 3.

Figure 3: The cost of workforces for largest public services, 2015-16

Public service	Cost of workforce	Percentage of budget
NHS (2014-15)	£42.3 billion	42.7
Schools (2014-15)	£29.4 billion	70.2
Civil Service	£6.6 billion	68.5
Police	£9.1 billion	75

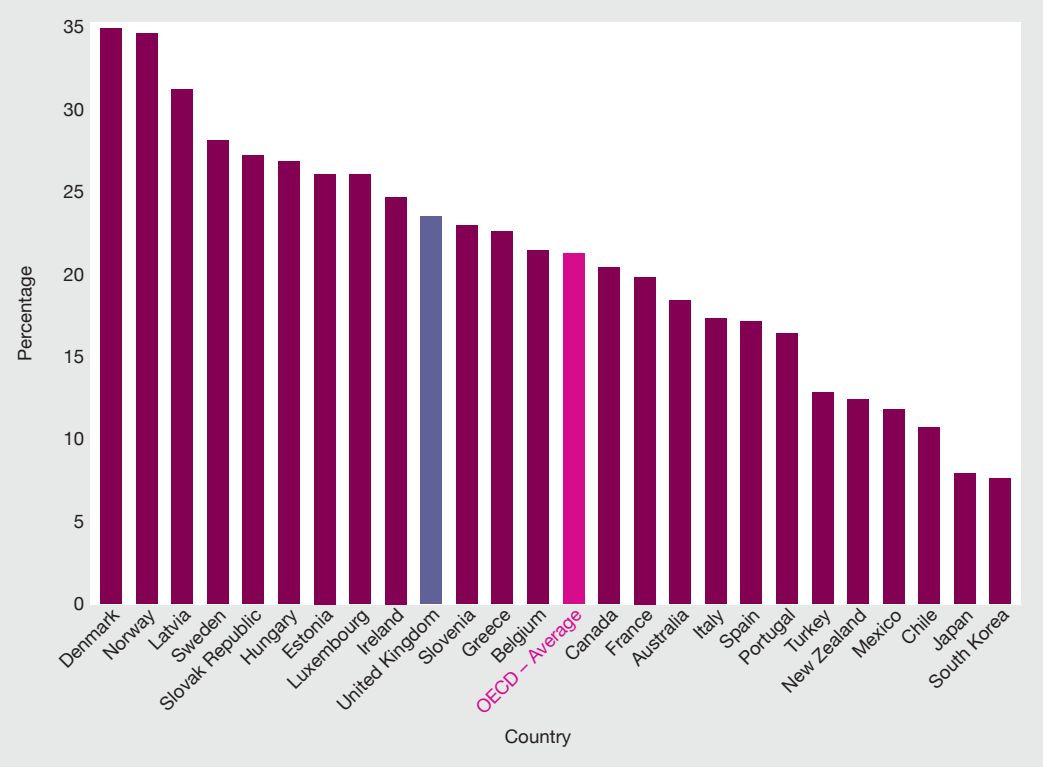
Sources: NHS Digital, *General and Personal Medical Services, England – 2004-2014,* 2015; NHS Digital, *NHS Staff Earnings Estimates to September 2016*, 2016; NHS Digital, *GP Earnings and Expenses*, 2016; NHS England, *Our 2014-15 Annual Report*, 2015; Department for Education, *Income and Expenditure in Academies in England: 2014 to 2015*, 2016; Department for Education, *LA and School Expenditure: 2014 to 2015 Financial Year*, 2015; HM Treasury, *Public Expenditure Statistical Analyses 2016*, 2016; HM Inspectorate of Constabulary, *Value for Money Profiles*. 2016; National Audit Office, *Central Government Staff Costs*, 2015; Home Office, *Police Grant (England and Wales)*, 2015. *Reform* calculations.

Note: Civil Service covers central government administration budgets. Schools' and NHS spending for 2015-16 was not available; NHS data exclude locums and agency staff.

1.2 International context

Overall, UK public-sector employment as a percentage of total employment is higher than the Organisation for Economic Co-operation and Development (OECD) average (see Figure 4).

Figure 4: Employment in public sector as a percentage of total employment, 2013



Source: OECD, *Government at a Glance – 2015 Edition: Public Employment*, 2015.

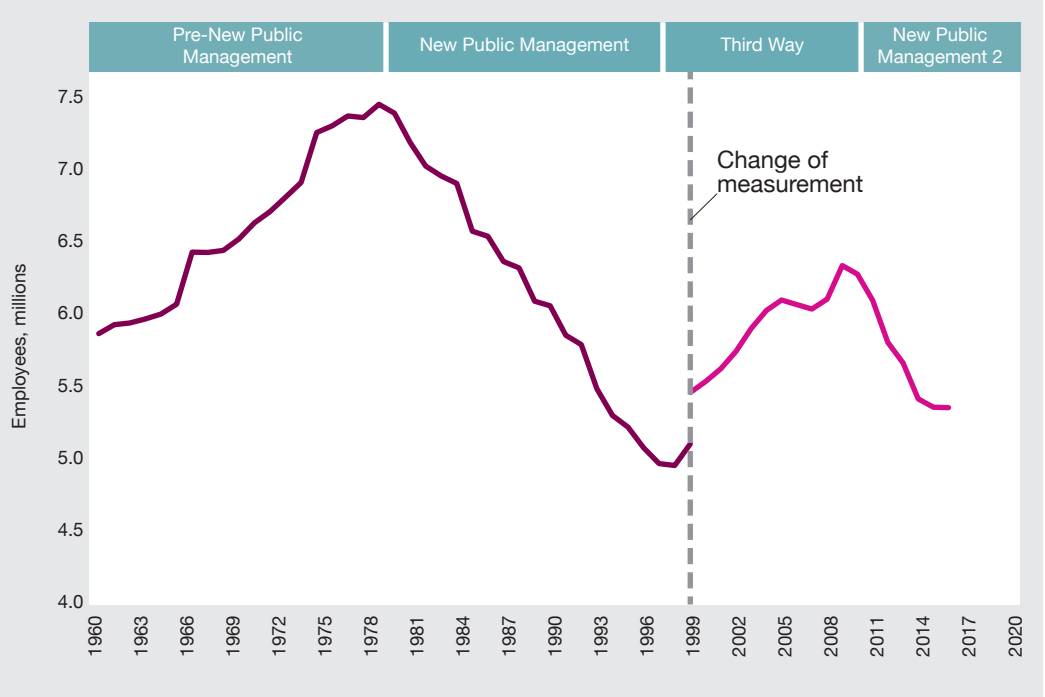
Note: this covers OECD countries for which 2013 data are available. The United States of America and Germany are omitted for this reason.

These figures do not consider outsourced services, such as welfare-to-work and a range of back-office services in the UK, nor the coverage of services, which makes it difficult to directly compare the efficiency of public-sector workforces. As Deloitte has pointed out, however, developed economies tend to "dedicate a greater share of their workforce and GDP to the public sector than less developed countries."[6] There are clear exceptions to this rule, however. New Zealand, a country which provides similar levels of public services to the UK,[7] is noted for its efficient approach to workforce management.[8] Since the 1980s, it has built one of the world's most efficient governments (in terms of measures including wasteful spending and transparency of policymaking) by aiming to keep civil service numbers low. According to the World Economic Forum, the quality of its civil service is superior to all OECD countries other than Finland.[9] At the very least, New Zealand's size lays down a marker for any government looking to improve efficiency.

1.3 How we got here

Today's relatively large public-sector workforce (by international standards) is despite a reduction of half a million workers since 2010 (see Figure 5).[10]

Figure 5: The number of public-sector workers, 1961 – 2016



Sources: National Statistics, *Economic Trends Annual Supplement*, 2004; Office for National Statistics, *Public Sector Employment, UK*, 2016.

6 Megan Schumann, *Workforce Resilience: An International Comparison of the Public and Private Sectors* (Deloitte University Press, 2014).
7 Deloitte, *The State of the State New Zealand 2016*, 2016.
8 While not a mirror image of the UK's public sector, New Zealand is far from dissimilar. The New Zealand Government estimates that it outsources activities to the tune of 19 per cent of GDP. This is compared to the UK's approximate spend of 13 per cent of GDP. These cover similar services, such as ICT and consultancy work. Others, such as probation services, are not, however, outsourced, as parts are in the UK. *Reform* calculations. Adam Sutherland, *New Zealand Government Procurement* (Ministry of Business, Innovation and Employment, 2015); National Audit Office, *Government Commercial and Contracting: An Overview of the NAO's Work*, 2016; Office for National Statistics, 'Gross Domestic Product: Chained Volume Measures: Seasonally Adjusted £m', 23 December 2016.
9 Klaus Schwab, *The Global Competitiveness Report 2014–2015*, 2014.
10 As before, these figures exclude workforce numbers for outsourced services provided by organisations independent of government.

Recent changes follow a history of fluctuating workforce sizes. These have been the result of policy decisions made by successive governments. The 1960s and 1970s saw a faith in bureaucrats as disinterested administrators, doing their best to serve the predictable needs of citizens. This was combined with Keynesian economic theory that argued for public-sector spending to increase employment.[11] Against this background, public-sector workforce numbers were increased to meet demand.

This consensus was shattered after 1979. The shift to neo-liberalism (comprising monetarism, supply side economics and pro-market theory) was an attempt to break a period of stagflation and long-term unemployment, and led to a focus on the efficiency of the public sector and its workforce.[12] 'New Public Management' (NPM) was introduced to create a leaner, financially austere public-sector workforce, which looked to mirror the private sector's focus on customer service.[13] This included the use of quasi-markets for public service delivery to drive efficiency and improve choice for users.[14] The result was a drastic shrinking of the size of the public-sector workforce over two decades.

This approach lasted until Tony Blair was elected on a "third-way" platform, which looked to reap the benefits of economic liberalism, while increasing public investment to improve services.[15] The public-sector workforce expanded as governments between 1997 and 2010 tried to increase the range and quality of public services during a booming economy.[16] In absolute terms, the size of the public-sector workforce reached levels close to numbers in the 1960s.

Governments since 2010, in response to a severe fiscal debt and deficit following the 2008 financial crisis, have returned to a model which again looks to drive efficiency through reducing workforce numbers and developing a more sophisticated quasi-market system. The result has been a reduction in absolute numbers, although it is questionable how strategic the approach has been (see Section 3.1).

1.4 Public and private-sector workforces

Since 2008, both the private and public sector have responded to deteriorating finances by, at the very least, trying to increase productivity in services for which they do not want to cut coverage.

Productivity increases are achieved by improving the input-to-output ratio of resources.[17] During austere times, this will largely see inputs being reduced to achieve similar or better outputs – although governments should look to achieve value for money by focussing on outcomes that matter to citizens (see Section 2.2). Traditional approaches to workforce design hold that more experienced, better-educated and better-paid employees will produce better outputs.[18] Yet, this does not appear to be borne out by recent evidence from the private and public sectors: despite the public sector outstripping the private sector on all three measures (see Figure 6), it may not be keeping up with the private

11 Cribb, Disney, and Sibieta, *The Public Sector Workforce: Past, Present and Future*.
12 Jouke De Vries, 'Is New Public Management Really Dead?', *OECD Journal on Budgeting* 2010/1 (2010): 2.
13 Gernod Gruening, 'Origin and Theoretical Basis of New Public Management', *International Public Management Journal* 4, no. 1 (Spring 2001).
14 Ibid.
15 Tony Blair, 'New Politics for the New Century', *The Independent*, 21 September 1998.
16 Cribb, Disney, and Sibieta, *The Public Sector Workforce: Past, Present and Future*.
17 Although this does not, of course, consider whether the best-value inputs are used. For a further discussion of this, see: Office for National Statistics, *Public Service Productivity Estimates: Total Public Services*, 2016.
18 Malcolm Bennison and Jonathan Casson, *Manpower Planning Handbook*, 1984.

sector in productivity increases. Though not directly comparable,[19] productivity rose by an average of 1.6 per cent per year across the economy between 1997 and 2012,[20] whilst public-sector productivity increased by just 0.2 per cent per year.[21]

Figure 6: Characteristics of public and private sector workers, 2014

Employee characteristic	Public sector	Private sector
Aged 16 to 24	5 per cent	15 per cent
Aged 34 to 49	44 per cent	36 per cent
Female	67 per cent	42 per cent
Part-time	32 per cent	26 per cent
Average hours per week	30.3	32.6
Mean gross earnings excluding overtime	£16.36 per hour	£14.12 per hour
Qualifications		
Degree or above	47 per cent	28 per cent
GCSE grades A-C or below	22 per cent	38 per cent
Motivated (2015)	30 per cent	36 per cent
Job tenure (2015)		
> 10 years	40 per cent	23 per cent
> 20 years	14 per cent	7 per cent

Sources: Office for National Statistics, *Analysis of Factors Affecting Earnings using Annual Survey of Hours and Earnings*, 2015; Office for National Statistics, *Public and Private Sector Earnings*, 2014; Chartered Institute of Personnel and Development, *Employee Outlook – Employee Views on Working Life*, 2015.

19 Several barriers exist. Most evidently, public and whole-economy productivity are calculated through different measurements. Public-sector productivity estimates are multi-factor productivity estimates, whereas private-sector estimates are labour-productivity estimates. The valuation of public and private-sector output is also likely to be inconsistent, as a market valuation exists for the private sector, but not the public sector. In addition, the two sectors produce very different services – with manufacturing, construction, and financial and insurance services dominating the private-sector economy, compared to healthcare, education and security services in the public sector. This is further complicated by the overlap between the two: the UK government spends around £225 billion a year procuring goods and services from third-parties, including private-sector organisations. For a further discussion, see: Mike Phelps, *UK Centre for the Measurement of Government Activity: Comparing the Different Estimates of Productivity Produced by the Office for National Statistics*, 2009; Office for National Statistics, *Public Service Productivity Estimates: Total Public Services*.

20 Office for National Statistics, *UK Whole Economy: Output per Hour Worked*, 2016.

21 Office for National Statistics, *Public Service Productivity Estimates: Total Public Services, 2012*, 2015.

2
The value-for-money equation

Lagging productivity is unacceptable to taxpayers and service users, and leaves little room for improving outcomes. To achieve better value for money, the public sector will have to increase productivity, but also drastically improve its effectiveness and outcomes. To do both, public services must fundamentally reform – rather than simply cut – their workforce. This will enable not only improved efficiency, but also the ability to adapt to the changing demands and expectations of the population, and thereby improve the quality of services.

2.1 Productivity

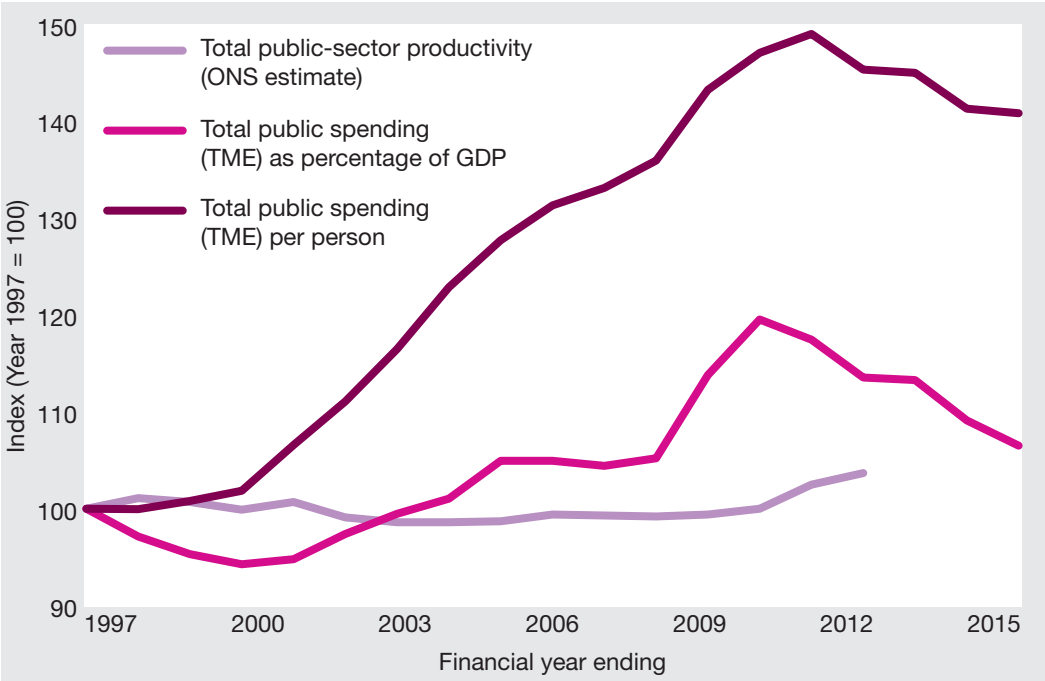
The Government recognises the importance of improving productivity across the whole economy. The Chancellor recently described the productivity gap between the UK and other G7 countries as "shocking".[22] Public-sector productivity has received less attention, however. It was given little space in the Treasury's 2015 productivity plan, for example, and was overlooked in the Chancellor's 2016 Autumn Statement speech.[23]

One possible reason for this lack of attention is that the data available on public-sector productivity are inadequate and inconsistent.[24] In the Civil Service, there are some international comparative measures of government effectiveness,[25] but the underlying data behind calculations are not public and so not open to external scrutiny. The productivity of police forces is currently not measured at all. While policing outputs are understandably difficult to measure, as a large part of their work is preventative, it is not satisfactory to have a major public expenditure which does not measure productivity.[26] Healthcare is also to some extent dominated by prevention efforts, yet the Office for National Statistics (ONS) provides productivity estimates,[27] and increasing health productivity has become an area of attention. The Carter review recently identified opportunities to save the NHS £5 billion a year by 2020-21 through better use of the workforce, amongst other reforms.[28]

Though narrow in its focus, the Carter review reflects an important problem: the public-sector workforce is not as productive as it could be. Overall, public-sector productivity has stagnated for two decades.[29] Across this period, real-terms public-sector spending increased by an average of 3.1 per cent each year, almost 16 times faster than productivity (see Figure 7).[30]

22 Philip Hammond, 'Autumn Statement 2016', Speech, (23 November 2016).
23 HM Treasury, *Fixing the Foundations: Creating a More Prosperous Nation*, 2015; Philip Hammond, 'Autumn Statement 2016'.
24 Elizabeth Crowhurst, Amy Finch, and Eleonora Harwich, *Towards a More Productive State* (*Reform*, 2015).
25 The World Bank, 'Worldwide Governance Indicators', 2016.
26 Office for National Statistics and UK Centre for the Measurement of Government Activity, *Public Service Output, Input and Productivity: Measuring Police Inputs*, 2009.
27 Office for National Statistics, 'Growth Rates and Indices of Output, Inputs and Productivity for Individual Service Areas: Table 5', 2016.
28 Lord Carter of Coles, *Operational Productivity and Performance in English NHS Acute Hospitals: Unwarranted Variations*, 2016.
29 Crowhurst, Finch, and Harwich, *Towards a More Productive State*.
30 Office for Budget Responsibility, *Economic and Fiscal Outlook: July 2015*, 2015.

Figure 7: Public-sector spending and productivity since 1997

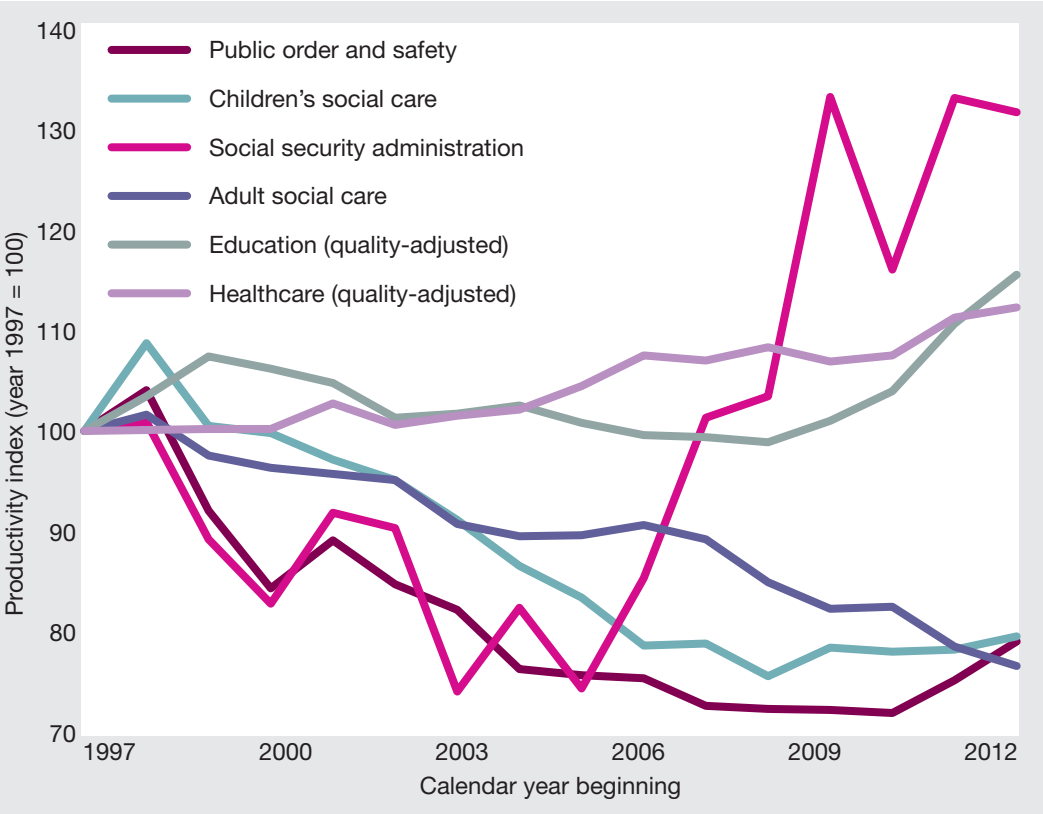


Sources: Office for National Statistics, *Public Service Productivity Estimates*, 2015; HM Treasury, *Publish Expenditure Statistical Analyses*, 2015. *Reform* calculations.

ONS figures show a wide variation in productivity performance across different public services (see Figure 8). Since 1997, there has been a decline in social-care and public-order productivity with recent improvements in the NHS and the education sector.[31]

31 Office for National Statistics, 'Public Service Productivity Estimates: Total Public Services, 2012', 2015.

Figure 8: Office for National Statistics productivity estimates for different public service areas



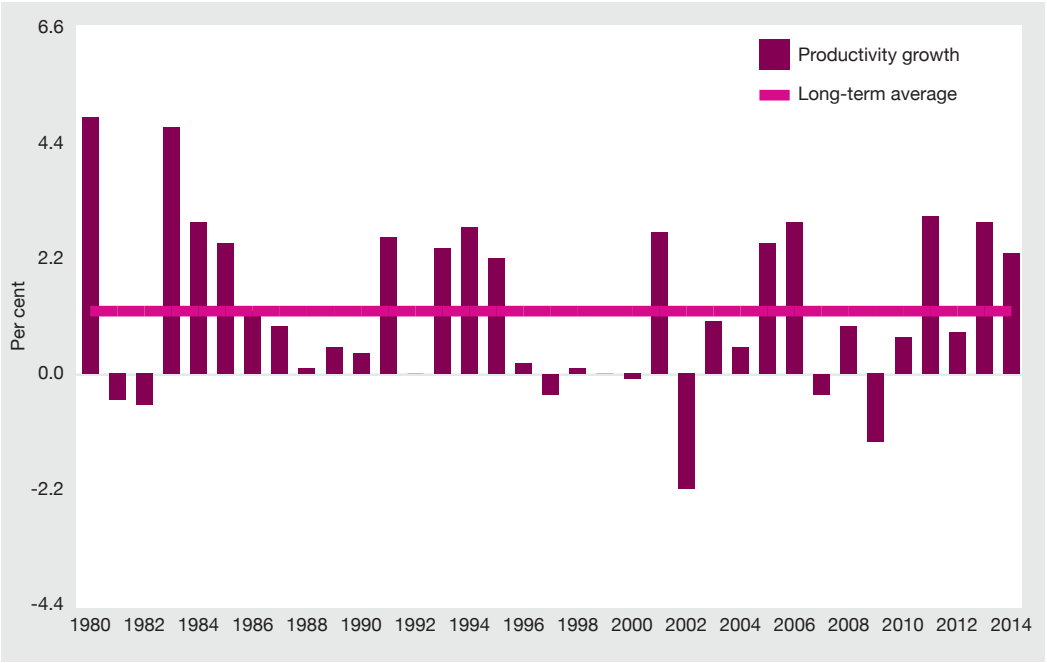
Source: Office for National Statistics, *Public Service Productivity Estimates*, 2015.

Note: Public order and safety includes input and output for prisons, courts and probation services but excludes the police.

Poor productivity has tangible effects on the public sector. Healthcare is a case in point. The NHS *Five Year Forward View* sets out £22 billion of efficiency savings.[32] If the NHS is to meet this target, it must achieve 2.2 per cent productivity improvements annually as well as managing demand.[33] However, trend growth for healthcare productivity suggests that this may be optimistic: since 1979 NHS productivity has grown on average by 1.2 per cent a year (see Figure 9).[34] If NHS productivity follows this trend, it will miss its efficiency target.

32 NHS England, *Five Year Forward View* (NHS England, 2014).
33 Office for Budget Responsibility, *Fiscal Sustainability Report: June 2015*, 2015.
34 Mirko Licchetta and Michal Stelmach, *Fiscal Sustainability Analytical Paper: Fiscal Sustainability and Public Spending on Health* (Office for Budget Responsibility, 2016).

Figure 9: NHS productivity since 1980



Sources: The Office for Budget Responsibility, *Fiscal Sustainability Analytical Paper: Fiscal Sustainability and Public Spending on Health*, 2016; Office for National Statistics, *Public Service Productivity Estimates*, 2017.

2.2 Considering demands and expectations

Addressing the size and cost of the workforce is critical to improving productivity. However, to achieve value for money, public services must go further and improve the quality of outcomes. This is conceptually difficult: it is much easier to measure inputs (such as money) and outputs (the number of interventions – such as GP appointments – delivered), than outcomes (the wellbeing of citizens). Doing so would require a reflection of the changing demands and expectations of citizens.

2.2.1 Demands

Many public services are facing increased demand, largely due to changing demographics and technological advancement. To cope with these, increasing efficiency will not be enough. The essential way in which they are changing must be considered to achieve better value for money.

An ageing population is placing considerable strain on public services: both directly through increased demand, for example on health and social-care services, and indirectly by reducing available expenditure for other services. It is expected that the number of people aged over 75 will continue to grow, increasing from 5.4 million in 2015 to 8.8 million in 2035.[35] Over 65s consume a disproportionate amount of NHS spend, with the average 85-year-old man costing seven times more than the average man in his late 30s.[36] Furthermore, more people of working age are living with long-term conditions. In 2013-14, just under half of adult social-care expenditure went on working-age people.[37] In the decade to 2011-12, working-age adults were the largest and fastest-growing

35 House of Lords Select Committee on Public Service and Demographic Change, *Ready for Ageing?*, 2013.
36 Delphine Robineau, 'Ageing Britain: Two-Fifths of NHS Budget Is Spent on over-65s', *The Guardian*, 1 February 2016.
37 Health & Social Care Information Centre, 'Personal Social Services: Expenditure and Unit Costs, England, 2013-14 Final Release', 2014.

disabled group, numbering 5.7 million.[38] This is a trend set to continue.[39] Increased prevalence of obesity, diabetes and mental ill health are all placing additional strains on services.[40]

Government's response to these demands has been to point to increased inputs into the healthcare system: more money[41] and extra staff.[42] Increased inputs will not necessarily meet the needs of patients, however. For example, a record 115,425 hospital-bed days were lost to delayed discharge in June 2016 alone – an 80 per cent increase from 2011.[43] This is in part due to cuts in social care, which can allow patients to live more comfortable, independent lives – a clear 'outcome'. With few plans to adjust this funding imbalance, needs are unlikely to be met in the best way for these vulnerable patients.[44] Similarly, as pupil numbers are going up, limiting class sizes is often an area of political debate.[45] However, increasing inputs to ensure smaller classes is neither efficient, nor does it ensure more satisfactory outcomes.[46]

In addition to the demographic changes affecting healthcare services, trends in criminal behaviour are shifting the demands on police services. Between 2010-11 and 2015-16 the number of recorded sexual offences rose by 102 per cent.[47] Whilst this drastic increase is mainly driven by changing attitudes to reporting and recording,[48] it represents significant changes to the demands of the policing workforce. Recently published experimental statistics showed that there were 5.2 million examples of fraud and computer misuse in the year ending September 2016, almost as many as the 6.2 million traditional crimes.[49] Other crimes reportedly on the rise are child sexual exploitation, female genital mutilation and modern slavery.[50]

Simply improving the efficiency of public-sector workers – vital though that is – will not be sufficient to address these changing demands. More radical structural reforms are necessary alongside new skill sets, as discussed in forthcoming chapters.

2.2.2 Expectations

The expectations of users are changing as the population is becoming more used to digital services. While some sectors are adjusting accordingly, with up to 80 per cent of banking now taking place online,[51] many public services are not keeping pace. Despite 82 per cent of the adult population using the internet every day,[52] the UK does not rank well when it comes to proportion of citizens connecting with public authorities online.[53] The 2016 *GP Patient Survey* showed that just 6.7 per cent of people had booked appointments online, with 0.6 per cent having accessed their medical records.[54] This is despite 34 per cent claiming they would prefer to book their GP appointments online,[55] suggesting that information about its availability or the convenience of systems needs to be improved.[56] Local government can also do more to engage digitally with the public: a

38 *Reform* calculations. Office for Disability Issues and Department for Work and Pensions, 'Disability Prevalence Estimates 2002/03 to 2011/12 (Apr to Mar)', 2014.
39 Tom Snell et al., *Projections of Demand for Social Care and Disability Benefits for Younger Adults in England. Report of Research Conducted for the Commission on Funding of Care and Support*, 2011, 6.
40 Public Health England, *Adult Obesity and Type 2 Diabetes*, 2014; NHS England, 'Burden of Depressive Disorders by Country, Sex, Age, and Year: Findings from the Global Burden of Disease Study 2010.', Webpage, (24 October 2013).
41 Hugh Pym, 'An NHS Funding Plan at Last – but What's the Catch?', *BBC News*, 24 November 2015.
42 HM Treasury, 'Unprecedented Investment in the NHS', 24 November 2015.
43 Laura Donnelly, 'NHS in Grip of Worst Bed-Blocking Crisis on Record, Figures Show', *The Telegraph*, 11 August 2016.
44 Helen McKenna and Phoebe Dunn, *What the Planning Guidance Means for the NHS* (The King's Fund, 2016).
45 Nicholas Watt, 'Ed Miliband: Labour Government Would Restore Blair-Era Cap on Class Sizes', *The Guardian*, 12 February 2015.
46 Education Endowment Foundation, 'Toolkit Strand: Reducing Class Size', n.d.; House of Commons Health Committee, *Social Care, Fourteenth Report of Session 2010– 12. Volume I*, 2012.
47 Office for National Statistics, *Crime in England and Wales: Year Ending June 2016*, 2016.
48 Ibid.
49 Office for National Statistics, *Crime in England and Wales: Year Ending September 2016*, 2017.
50 College of Policing, *College of Policing Analysis: Estimating Demand on the Police Service*, 2015.
51 British Bankers' Association, *The Way We Bank Now: Help at Hand*, 2016.
52 Office for National Statistics, 'Internet Access – Households and Individuals: 2016', Webpage, (August 2016).
53 Civil Service World, 'Bridging the UK Digital Skills Gap in the Public Sector', Webpage, (27 September 2016).
54 *GP Patient Survey – National Summary Report* (Ipsos MORI, 2016).
55 Lizzie Greenhalgh, 'Why Are Patients Not Using Online GP Services?', *Citizens Advice*, 14 August 2015.
56 Leo Ewbank, Alexander Hitchcock, and Thomas Sasse, *Who Cares? The Future of General Practice* (Reform, 2016).

2014 survey showed that only 29 per cent of people thought that their council was embracing the opportunities new technology offers.[57]

People also expect to be able to connect to police services digitally. In a 2014 international survey, 79 per cent of respondents said that they would like to have digital interaction with the police in addition to, or instead of, face-to-face interaction.[58] In the UK, 76 per cent wanted to engage with police digitally, but only 38 per cent said that this was currently possible.[59] While the extent of online police access may be increasing in some areas, by improving the routes to reporting crimes online,[60] this gap between the policing services offered and the public demand needs to be addressed – to the benefit of both parties.

Where the public sector is not providing certain types of services, people have paid to access them in the private sector. For example, Babylon, an artificially intelligent medical app which triages patients over instant message on their smartphones, charges its users £5 a month for instant online access to GPs.[61] The service was set up in the UK in 2015 and now has 350,000 users.[62] A recent Care Quality Commission inspection found the service safe, effective, caring and responsive.[63] This speaks to the increasing expectation of instant and convenient access to services.

57 PwC, 'Digital Expectations: Are Local Authorities in Tune with the Public When It Comes to Digital?', Webpage, (2014).
58 Accenture, *How Can Digital Police Solutions Better Serve Citizens' Expectations? Accenture Citizzen Pulse Survey on Policing 2014*, 2014.
59 Ibid.
60 Essex Police, 'Online Crime Reports Double', News, (31 August 2016).
61 Babylon, 'Babylon', 2016.
62 Deloitte, *Primary Care Today and Tomorrow: Adapting to Survive*, 2016.
63 Tech City, 'Digital Health Pioneers Babylon Get Full Marks from CQC', Webpage, (October 2016).

3
Barriers to achieving value for money in the workforce

There are a host of barriers to improving value for money in the public-sector workforce. These include the size and hierarchy of public-sector bodies, alongside the skills of workers. This suggests that the public sector is not constructed in the best way to meet the needs of citizens today, nevermind tomorrow. Part 2 of the paper offers ideas for reform.

3.1 Workforce design

To meet demands, both today and in the medium term, public-sector workforces must take a strategic approach to organising the workforce. Put simply, this means identifying demand and shaping resources accordingly. Yet, even this simple formula has not been followed in practice.

The police service is a case in point. In a drive to meet budget reductions, it has reduced the size of its workforce. Without being able to use compulsory redundancy for police officers, however, Chief Constables have been constrained in their ability to shape their workforce to best meet local demand. One person interviewed for this paper explained that the police could not take a strategic approach to reducing the size of their workforce, but instead had to wait for officers to retire and focus redundancies on police staff (that is, civilians). Across the service, this has led to skills being deployed ineffectively. The Winsor review highlighted that officers are now being paid higher salaries for doing tasks that police staff could do.[64] Indeed, specialist police staff may be better equipped to meet the demands of twenty-first century policing by, for example, tackling cybercrime (see Section 5.1.3).

Strategic approaches are lacking elsewhere. For example, money has been wasted rehiring staff made redundant following the 2008 financial crisis. In 2014, the NHS re-hired nearly 4,000 staff and similar behaviours have been seen in local government, the police and fire service.[65] Such an *ad hoc* approach builds in administration costs and may disrupt working, instead of following a strategy to achieve medium-term goals.

The Civil Service does not appear to have considered the medium-term effects of money-saving measures. For example, the 2010 update to its redundancy compensation scheme resulted in an increase in the number of civil servants leaving.[66] Interviewees for this paper suggested that high-performing civil servants left first, which is consistent with experience in the private sector.[67]

3.2 Size

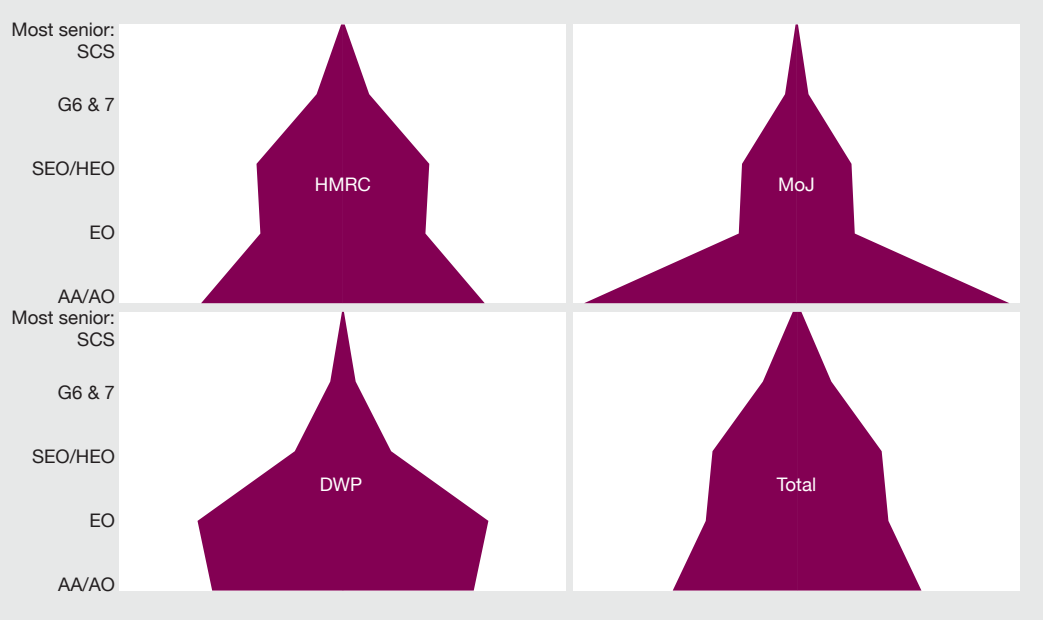
As international comparisons highlight, the UK public sector is larger than many other OECD nations (see Section 1.2). Despite recent policies to reduce its size, many areas remain oversized.

In particular, the public-sector workforce is administratively heavy. The NHS has had a consistently high level of administration. In secondary care, 18 per cent of employees – or 191,000 people – fill administrative roles.[68] These ratios do not include the administrative work carried out by clinicians, which is substantial. The Royal College of Nursing argues that 17 to 19 per cent of nursing time is spent on "non-essential" paperwork.[69] The BMA found that trainee doctors spend 15 per cent of their time on administrative work; others have put the figure for junior doctors as high as 70 per cent.[70] Across primary care, there are 10 receptionists for every 14 clinicians – and almost one per GP.[71]

64 Thomas Winsor, *Independent Review of Police Officer and Staff Remuneration and Conditions Final Report – Volume 1* (London: H.M.S.O, 2012).
65 Recruiter, 'Poor Workforce Planning behind Public Sector Redundancies and Rehires, Experts Say', Webpage, (2014).
66 Civil Service, 'Civil Service Compensation Scheme', Webpage, (2010).
67 Martin Dewhurst, Matthew Guthridge, and Elizabeth Mohr, 'Motivating People: Getting beyond Money', *McKinsey Quarterly*, November 2009.
68 NHS Digital, *NHS Workforce Statistics – August 2016, Provisional Statistics*, 2016.
69 Royal College of Nursing, 'Nurses Spend 2.5 Million Hours a Week on Paperwork', 25 April 2013.
70 Laura Donnelly, 'Junior Doctors "Spend up to 70 per Cent of Time on Paperwork"', 8 December 2015.
71 *Reform* calculations. NHS Digital, *NHS Workforce Statistics – June 2016*, Provisional Statistics, 2016.

The same is true elsewhere. The Civil Service has 154,000 defined administrative jobs,[72] and the education workforce 89,700.[73] Administrative staff tend to be in the lower tiers of the hierarchy. Though a top-heavy workforce would struggle to meet the needs of citizens who require interaction with Whitehall, some of the largest government departments have disproportionately large administrative bodies compared to the Civil Service as a whole (see Figure 10).

Figure 10: Job roles within the largest government departments (full-time equivalent)



Source: Office for National Statistics, *Civil Service Statistics*, 2016.

Note: figures include agency bodies.

A significant proportion of administrative functions can be fully automated and replaced through integrated working. According to Deloitte, over the last 15 years, technology has replaced 50 per cent of many administrative and operative jobs in the UK private sector, including secretarial, call-centre and librarian roles.[74] Whilst there are no publicly available figures on the proportion of public sector jobs that have been automated, there is a large body of evidence that suggests up to 9 in 10 administrative roles could be replaced by technology (see Chapter 4).

3.3 Decision-making layers

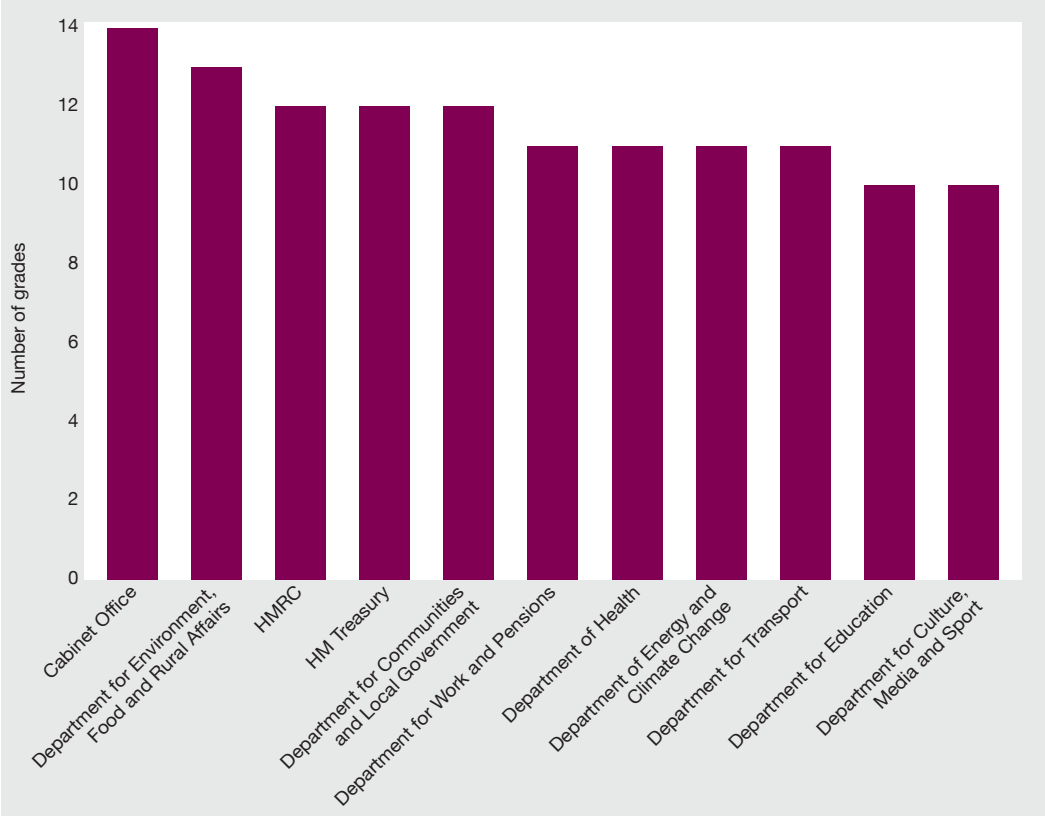
Today's public sector has also failed to organise itself most efficiently in terms of hierarchy. Public services are seen as hierarchical and process-driven – separating thinking and action, and based on a replication of previous approaches.[75] This is a waste of talent and resource. As one expert put it: "In today's fast-changing, knowledge-based economy, this static, top-down conception of management has proven to be inefficient; it wastes the talent, creativity, and energy of most people in these organizations."[76]

Interviewees for this paper spoke of a "frozen middle" layer of decision-making across all public services. This refers to middle managers in organisations who are unwilling and unable to execute ideas, without looking for guidance from above – acting as a road block to action.

72 Office for National Statistics, *Civil Service Statistics*, 2015.
73 Department for Education, 'School Workforce in England: November 2015', Webpage, (30 June 2016).
74 Science and Technology Committee, *Oral Evidence: Robotics and Artificial Intelligence. Tuesday 28 June 2016*, 2016, 3.
75 Frederic Laloux, 'The Future of Management Is Teal', *Strategy+business*, 6 July 2015.
76 Ibid.

This is conspicuous in the Civil Service. HMRC was criticised in 2011 by the Treasury Select Committee for having thirteen management layers, which stopped people from exercising their skills.[77] In the same year, then Minister for the Cabinet Office Francis Maude argued that "civil servants often find themselves frustrated by bureaucracy and red tape, by numerous layers of management, and by a culture that tends to value the generalist over the specialist, and process over outcome."[78] Senior officials at the DWP have also complained of a "highly hierarchical culture" which fails to treat ideas equally.[79] Deloitte considers public-sector organisations to have "excessive layers" when they have eight or more levels of employee grades.[80] By this metric, all major Whitehall departments have too many decision-making layers (see Figure 11).

Figure 11: Number of grades in Whitehall Departments



Sources: Cabinet Office, *Organogram of Staff Roles and Salaries*, 2015; HM Revenue and Customs, *HMRC Organisational Structure Data: 31 March 2016*, 2016; HM Treasury, *Organogram of Staff Roles and Salaries*, 2015; Department for Communities and Local Government, *Organogram of Staff Roles and Salaries*, 2014; Department for Environment, Food and Rural Affairs, *Organogram of Staff Roles and Salaries*, 2015; Department for Work and Pensions, *Organogram of Staff Roles and Salaries*, 2016; Department of Health, *Organogram of Staff Roles and Salaries*, 2016; Department of Energy and Climate Change, *Organogram of Staff Roles and Salaries*, 2013; Department for Transport, *Organogram of Staff Roles and Salaries*, 2016; Department for Education, *Organogram of Staff Roles and Salaries*, 2015; Department for Culture, Media and Sport, *Organogram of Staff Roles and Salaries*, 2014.

Note: Data ranges from 2013 to 2016 figures, but in all cases the most up-to-date numbers have been provided. Home Office, Ministry of Defence and Ministry of Justice have been excluded because the data contain non-Whitehall staff.

77 House of Commons Treasury Committee, *Administration and Effectiveness of HM Revenue and Customs. Sixteenth Report of Session 2010–12*, 2011, 22.
78 Francis Maude, 'Francis Maude Speech to Civil Service Live', 7 May 2011.
79 Jim Dunton, 'DWP Digital Chief Questions Department"s "highly Hierarchical" culture', *Civil Service World*, 3 August 2016.
80 Deloitte, *Reshaping Public Sector Organisations: Evidence-Based Decisions on People, Processes and Structures*, 2015, 7.

The same arguments have been made for police forces. The College of Policing *Leadership Review* argued for "[r]educing hierarchy and bureaucracy by adopting flatter structures and increasing the span of command".[81] In 2015, then Police and Crime Commissioner for Dyfed Powys, Christopher Salmon, spoke of purchasing decisions passing through five ranks before reaching the Chief Inspector (an upper-middle manager) – where it "disappeared from view".[82] More concerning, Salmon points to "fiddled crime figures, rogue behaviour in undercover units, the iniquities of stop and search, [and] inexcusable failures to know what was happening in grooming gangs" as symptoms of excessive management layers.[83]

3.4 Skills and culture

Public services also suffer from a skills deficit in key areas, such as technology and leadership. This has consistently been highlighted by policymakers and watchdogs, such as the NAO and select committees, in recent years. Soft skills are equally important and have received less attention. Without reform, a skills gap will undermine attempts to improve value for money in the public sector.

3.4.1 A skills gap

Technology is capable of transforming the public sector in a myriad of ways, but there is frustration at the pace of change.[84] This is partly due to a lack of high-end digital capacity.[85] HMRC, for example, has identified a 25 per cent skills gap in its IT workforce.[86] Academics have argued that Whitehall lags a decade behind the private sector with respect to the adoption of technology.[87]

The digital skills gap extends beyond the civil service.[88] In 2013, the NAO concluded that "the UK lacks technical skills" to fight cybercrime and that the "current pipeline of graduates and practitioners would not meet demand."[89] Baroness Martha Lane Fox has laid out digital proposals for the NHS.[90] These include supporting patients to book appointments and order prescriptions online; free Wi-Fi in every NHS building; and engaging patients with long-term conditions with digital tools such as remote monitoring and tele-visits.[91] The strategy recognises skills gaps in the capability of the workforce to develop such a system. It recommends "training, support and mentorship programmes" for staff to feel comfortable using technology and recommending it to patients.[92]

The skills gap is not confined to technology, however. Leadership is the key to transformation in any organisation.[93] Yet the public sector is not adequately training and appointing new leaders. A 2016 report found that 27 per cent of public-sector workers think their leaders lack the skills required for a period of change.[94] In the NHS, one in ten chief-executive positions are unfilled and turnover is high.[95] In education, 72 per cent of schools with head teacher vacancies have struggled to recruit.[96]

81 College of Policing, *Leadership Review – Recommendations for Delivering Leadership at All Levels.*, 2015, 14.
82 Christopher Salmon, 'Free Bobbies with Fewer Ranks', *The Reformer Blog*, 22 May 2015.
83 Ibid.
84 National Audit Office, *The Digital Skills Gap in Government: Survey Findings*, 2015.
85 National Audit Office, *The Digital Skills Gap in Government*.
86 National Audit Office, *Replacing the Aspire Contract*, 2016.
87 Patrick Dunleavy, 'Gauging the Time Lags in Whitehall's Responses to Modern Digital Processes Suggests an Enduring Problem with Organizational Culture in the Civil Service', Website, (31 January 2012).
88 Department for Business, Innovation & Skills, *Digital Skills for the UK Economy*, 2016.
89 National Audit Office, *The UK Cyber Security Strategy: Landscape Review*, 2013.
90 NHS England, 'Martha Lane Fox Sets out Key Digital Proposals for the NHS', Webpage, (2016).
91 Ibid.
92 Ibid.
93 Civica, *Invigorating the Public Sector Revolution*, 2015.
94 Civica, 'Public Sector Transformation Demands Greater Focus on Leadership and Culture', February 2016.
95 Sophie Barnes, 'High NHS Chief Executive Vacancy Rate a "Wake-up Call"', *Health Service Journal*, September 2015.
96 National Association of Head Teachers, *The NAHT School Recruitment Survey 2015*, 2015.

3.4.2 Mistakes are repeated

Recent governments have acknowledged that IT, leadership and commercial skills in particular need to be addressed.[97] Culture can also inhibit the delivery of value for money, where the public sector fails to learn from repeated mistakes. In many instances, these errors may not be the result of neglect or incompetence, but preventable mistakes that have occurred – and not been learned from – before.

A failure to learn from mistakes pervades healthcare. There are an estimated 12,000 avoidable deaths each year in hospital, but it is unknown which deaths these are of the total 250,000 hospital deaths.[98] In 2014, Frontier Economics calculated that preventable adverse events cost the NHS up to £2.56 billion a year.[99] The Care Quality Commission (CQC) has identified a failure to prioritise learning from, and inconsistencies in investigating, possibly preventable patient deaths in the NHS, which has resulted in this dearth of knowledge.[100] High-profile cases may be instructive, however. Elaine Bromiley died during a routine surgical procedure, in which nurses identified a solution, but were not consulted by the under-pressure anaesthetists.[101] Nurses respected the strict hierarchy of the operating theatre and did not intervene[102] – a failure of the system's structure, not deviance, inattention or lack of ability from individuals. More open cultures in healthcare have improved safety dramatically (see Section 5.1.2.1).

The same failure to learn appears to arise in other public services. In 2012, the Coalition Government cancelled a competition on the West Coast Main Line franchise due to flaws in the calculations underpinning the bid.[103] Instead of encouraging civil servants to learn from the mistake, then Secretary of State for Transport, Patrick McLoughlin, explained that he was "not going to apologise for the terrible mistake that has been made by the Department".[104] Then Prime Minister David Cameron reportedly pointed the finger at civil servants for the error.[105] Similar errors have occurred elsewhere in the Civil Service. In 2007, for example, spreadsheet errors led to the Home Office underestimating the number of foreign nationals in employment by 300,000.[106] In 2015, the Home Office found an error in its police-force funding formula.[107] Of course, it is plausible that these errors were down to individual malevolence or incompetence. Regardless, errors *were made* in each case, which suggests that – whether blameworthy or not – the Civil Service had not built the structures to ensure they were not repeated. Margaret Hodge, then chair of the Public Accounts Committee, pointed to the lack of transparency necessary to understand what went wrong to avoid similar mistakes in the future.[108]

3.4.3 Lack of innovation

Blame games have contributed to a widely recognised risk-averse culture amongst public-sector workers.[109] In 2014, Maude pointed to fear of making mistakes as a source of the unwillingness to innovate:

> *Too often there is a risk aversion within the public sector. People feel unable to try new things. Governments are very good at looking at new ideas and finding reasons not to*

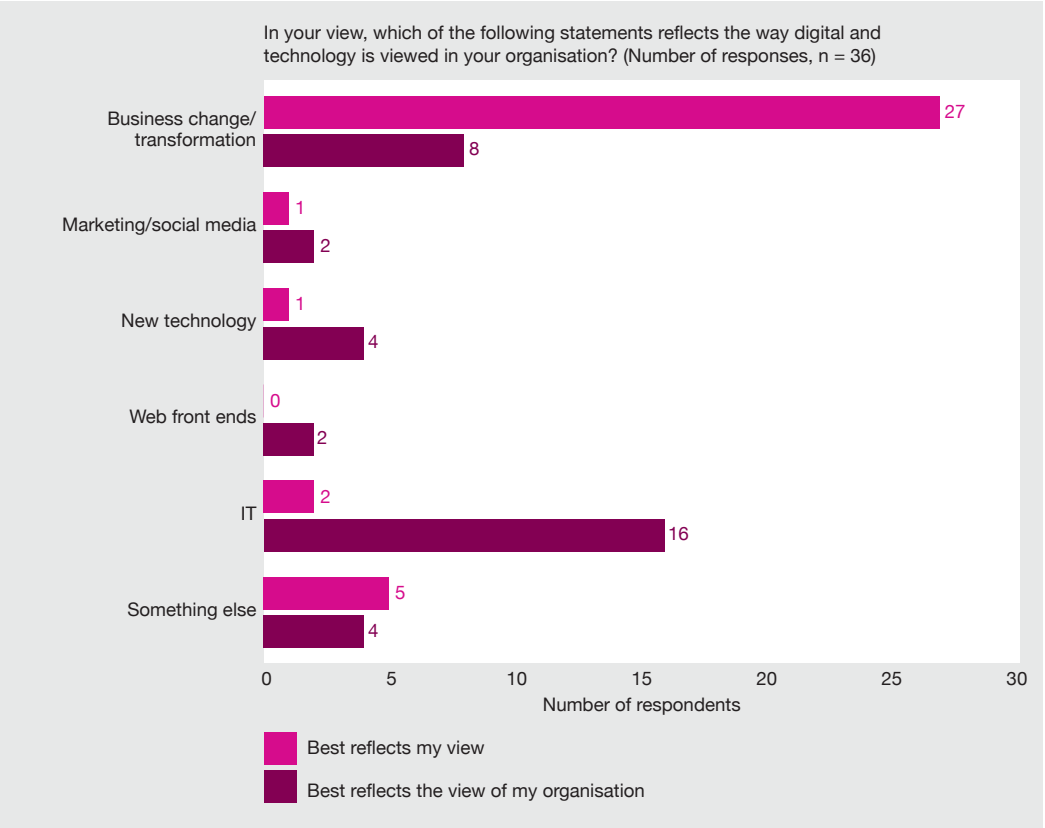
97 Ecorys UK, *Digital Skills for the UK Economy* (Department for Business, Innovation & Skills and Department for Culture, Media & Sport, 2016), 12, 71, 76.
98 House of Commons Public Administration Select Committee, *Investigating Clinical Incidents in the NHS, Sixth Report of Session 2014–15*, HC 886 (London: The Stationery Office, 2015).
99 Frontier Economics, *Exploring the Costs of Unsafe Care in the NHS*, 2014.
100 The Care Quality Commission, *Learning, Candour and Accountability: A Review of the Way NHS Trusts Review and Investigate the Deaths of Patients in England*, 2016.
101 Ian Leslie, 'How Mistakes Can Save Lives: One Man's Mission to Revolutionise the NHS', 4 June 2014.
102 Ibid.
103 'West Coast Contract Cancelled Over "Technical Flaws"', *The Huffington Post*, 3 October 2012.
104 'Why Won't Transport Secretary Say Sorry To Branson?', *The Huffington Post*, 3 October 2012.
105 Jim Pickard, Mark Odell, and Rose Jacobs, 'Officials under Fire over West Coast Deal', *Financial Times*, 3 October 2012.
106 BBC News, 'Smith "Sorry" for Migrants Error', 30 October 2007.
107 BBC News, 'Error Forces Delay to Police Funding Changes, Minister Says', 9 November 2015. Mike Penning, then Minister for Policing, Crime and Criminal Justice, did not identify opportunities to learn from the mistake in his response to an urgent question on the matter, despite a call to do so from Philip Hollobone. House of Commons, 'Oral Answers to Questions: Communities and Local Government', 9 November 2015.
108 Margaret Hodge, 'The Rail Fiasco's Real Culprits Must Not Escape', *The Times*, 9 October 2012.
109 Matthew Syed, *Black Box Thinking*, 2015.

do them...The greatest mistake is to never try anything new or to stick to something that doesn't work.[110]

For example, digital transformation has been hampered by anxiousness over its compliance. A survey of more than 5,000 public-sector staff found that 92 per cent were concerned over the use of cloud computing in the public sector because of data security.[111] Previous *Reform* research highlighted a risk-averse attitude to procurement, which has led to officials following legacy approaches and focusing on the price of items bought, instead of looking to design and expand new platforms to buy goods and services to create outcomes appropriate to users.[112] Swapping traditional approaches for innovative uses of technology seen in other nations could save the Exchequer up to 50 per cent of its spend on some items.[113]

Another inhibitor to innovation has been following traditional approaches to service delivery. This, argues Patrick Dunleavy, has stifled previous attempts to advance technology.[114] There is a discrepancy between the way digital leaders see technology (as underpinning service transformation) and how the rest of Whitehall see it (as IT) (see Figure 12). Simply speeding up traditional approaches to problem solving through faster computer systems is not sufficient.

Figure 12: Perception of digital and technology in Whitehall



Source: National Audit Office, *The Digital Skills Gap in Government: Survey Findings*, 2015.

Note: The NAO surveyed 'digital and technology leaders' across government departments and agencies in August 2015.

110 Francis Maude, *D5 London Opening Speech*, 2014.
111 *Meeting the Digital Challenge: How Well Is the Public Sector Embracing Cloud Computing?* (Huddle, 2015).
112 Alexander Hitchcock and William Mosseri-Marlio, *Cloud 9: The Future of Public Procurement*; Alexander Hitchcock, Charlotte Pickles, and Alasdair Riggs, *The Work and Health Programme: Levelling the Playing Field* (Reform, 2016).
113 Hitchcock and Mosseri-Marlio, *Cloud 9: The Future of Public Procurement*, 29.
114 Dunleavy, 'Gauging the Time Lags in Whitehall's Responses to Modern Digital Processes Suggests an Enduring Problem with Organizational Culture in the Civil Service'.

For example, despite healthcare being a hotbed of innovation, the NHS has not used technology to change working practices. General practice has historically been considered receptive to technology – adopting computer-based patient records before hospitals, for instance.[115] Yet, recent advances, as simple as online triaging and instant messaging, have been used to speed up business as usual, rather than reduce demand by signposting the estimated 17 per cent of appointments used by the so-called "worried well".[116]

3.5 Motivation

A further barrier to increasing value for money is poor levels of motivation. According to the Chartered Institute of Personnel and Development (CIPD), 59 per cent of public-sector workers are not satisfied with their job and in most sectors motivation is an issue (see Figure 13).[117]

Figure 13: Motivation and engagement in individual public sectors

Sector	Engagement and motivation
Education	Eighty-two per cent of English teachers are satisfied with their job – below the OECD average of 91 per cent. Only 35 per cent of English teachers believe the profession is valued in society.
Police	Fifty-six per cent of police officers rate their morale as low. Ninety per cent say force morale is low and 94 per cent believe police service morale is low.
Civil Service	In Whitehall, 70 per cent of senior civil servants feel motivated compared to just 38 percent of middle and junior-rank civil servants.
Healthcare	Motivation in the NHS is higher than other sectors. Scored out of five, staff motivation stands at 3.92. Frontline staff are more motivated than managerial and administrative staff.

Sources: OECD, *The OECD Teaching and Learning International Survey (TALIS) 2013 Results*, 2014; Fran Boag-Munroe, *PFEW Pay and Morale Survey 2016*, 2016; Cabinet Office, *Civil Service People Survey 2015*, 2016; National NHS Staff Survey Co-ordination Centre, *Briefing Note: Issues Highlighted by the 2015 NHS Staff Survey in England*, 2016.

Poor motivation affects productivity. This is the case in the private sector.[118] According to Gallup, unmotivated workers in the USA are 18 per cent less productive.[119] Organisations with engaged employees are more productive, have a lower turnover and up to 100 per cent more applications for job vacancies.[120]

High rates of absenteeism may be caused by low levels of motivation.[121] In 2014, the average public-sector worker took 8.1 days of sick leave, compared to 5.1 days per worker in the private sector.[122] Figures from 2015 show that at any one time 4.4 per cent of NHS staff are off sick with a wide variation in sick rates between different NHS roles.[123] This compares to 1.8 per cent in the private sector.[124]

115 Tim Benson, 'Why General Practitioners Use Computers and Hospital Doctors Do not—Part 1: Incentives', *BMJ : British Medical Journal* 325, no. 7372 (9 November 2002): 1086–89.
116 Ewbank, Hitchcock, and Sasse, *Who Cares? The Future of General Practice*, 28; Gareth Iacobucci, 'Fifth of Appointments Wasted on "Worried Well", Leading GPs Warn', *Pulse*, 16 March 2010.
117 Jessica Cooper, *Employee Outlook – Employee Views on Working Life* (CIPD, 2015).
118 Sehrish Anam and Fatima Bajwa, 'Impact of Workforce Motivation on Productivity of Organizations – A Case Study of Apparel Industry, UK', *International Journal of Scientific & Engineering Research* 6, no. 10 (October 2015).
119 Gallup, *State of the American Workplace: Employee Engagement Insights for U.S. Business Leaders*, 2013.
120 Emma Seppala and Kim Cameron, 'Proof That Positive Work Cultures Are More Productive', *Harvard Business Review*, December 2015.
121 Khagendra Nath Gangai, 'Relationship between Workplace Motivation and Absenteeism among Employees in Retail Industry', *International Journal of Retailing & Rural Business Perspectives* 4, no. 3 (2015).
122 Personnel Today, 'Sickness Absence Rates and Costs Revealed in UK's Largest Survey', Webpage, (2015).
123 On average ambulance drivers took 25 days of sick leave per year and doctors 4.4 days. Laura Donnelley, 'New Figures Show Soaring NHS Stress Leave, and 15 Days Sickness a Year', *The Telegraph*, 2015.
124 Ibid.

3.6 Recruitment

The public sector needs people with the right skills to cope with the significant challenges outlined in this chapter. While training and continuous development are important, a large part of securing a qualified workforce is to attract people with the right qualifications and best potential in the first place. Different public-sector areas experience different challenges.

Within the Civil Service, a large majority of digital leaders have quoted pay limitations as an inhibitor to the recruitment and retention of people with digital skills.[125] Frustration has also been expressed over the need to transfer people to other positions or departments to offer them higher pay – a requirement which has been described as a form of poaching between departments.[126] Pay inflexibility may be one of the reasons that spending on consultancies has been high in the Civil Service, despite the much increased cost per individual employee.[127] Specifically, it may explain why the public sector as a whole accounts for almost 24 per cent of the digital-consultancy market.[128]

Inability to compete on salaries was also a dominant theme throughout interviews for this paper. The Civil Service Commission has pointed out that, of the 158 roles advertised in 2015-16 at SCS pay-band 2 and above, 124 were filled – but of the 34 where no appointments were made, 35 per cent were for commercial directors.[129] Despite having unusual flexibility to offer more generous pay packages, recruitment difficulty is likely to be because the pay differentials between public and private-sector commercial directors are still too large.[130] Some departments have found measures to circumvent pay restrictions, but greater flexibility needs to be implemented across the Civil Service (see Section 6.1.1)

To identify the best potential employees, graduate schemes are becoming increasingly popular. However, the schemes are failing to put forward sufficient evidence to support the assertion that those who do well academically will necessarily make for better civil servants, teachers, police officers and social workers (see Section 6.2). Currently, schemes do not adequately monitor the extent to which their specific intake produce better outcomes than a different, and perhaps more diverse intake would have done.

The public sector also needs to prepare for new ways of working. By 2020 it is estimated that 43 per cent of the American workforce will be working freelance.[131] While the so-called 'gig' economy – where workers support themselves by flexible jobs aquired on online platforms – is also growing in the UK,[132] the public sector is not keeping up with the potential benefits of flexible employment methods, with very few examples of implementation so far.[133] With restrained budgets, but an urgent need for qualified labour, public-sector employers should look to take advantage of the opportunities that contingent-labour platforms offer (see Section 6.4). Furthermore, they should adopt a more flexible approach when allocating people to tasks within their workforce – traditional thinking about qualification requirements and team structures will not be the best way to achieve value for money in a future-proof public sector, as outlined in Section 5.1.3.

125 National Audit Office, *The Digital Skills Gap in Government: Survey Findings*, 2015.
126 Rebecca Hill, 'Civil Service Pay Caps Risk Poaching of Digital Talent, Event Hears', *Civil Service World*, 1 November 2016.
127 National Audit Office, *Use of Consultants and Temporary Staff*, 2016.
128 Ibid.; Management Consultancies Association, *UK Consulting Industry Statistics 2016*, 2016.
129 Civil Service Commission, *Annual Report and Accounts 2015-16*, 2016.
130 Ibid.
131 Accenture, *Liquid Workforce: Building the Workforce for Today's Digital Demands*, 2016.
132 Robert Vaughan and Raphael Daverio, *Assessing the Size and Presence of the Collaborative Economy in Europe* (PwC UK, 2016).
133 Ben Dobson, 'Getting to Grips with the Gig Economy III: The Public-Sector Workforce', *The Reformer Blog*, 14 December 2016.

Part 2
Tomorrow's public-sector workforce

4
Structure

Though specific aims differ, all areas of the public-sector workforce should look to achieve the best outcomes for the lowest level of input possible. A critical step to achieving this is to get the size and structure of the workforce right. A less hierarchical model which exploits advances in technology can help managers construct a leaner workforce, capable of more efficiently meeting the expectations and needs of service users.

4.1 Shape and size

As Chapter 3 outlined, the public sector has not taken a consistent approach to workforce size. Between now and 2030, several interviewees for this paper insisted, policymakers can reduce the size of the workforce, while better meeting the needs of service users. In line much of the literature, 2030 will be used here as a medium-term date, which allows time for public services to implement changes offered by current technology.[134]

Broadly speaking, technology can disrupt jobs in three areas:[135]

1 **Administration or operative roles**, in which activities are repetitive and predictable.

2 **Interactive or frontline roles**, which require a high degree of personal interaction.

3 **Cognitive roles**, which require strategic thinking and complex reasoning.

The automatibility of jobs is not binary, however.[136] Rather, within jobs, public-sector leaders should look at the *tasks* that can be automated.[137] McKinsey conclude that up to 45 per cent of activities in the US labour market can be automated by current technologies.[138] This will not translate into 45 per cent of jobs being automated – though some have the potential to be – but the automation of a significant proportion of tasks does present opportunities for reductions in headcount.

The most comprehensive study is Carl Frey and Michael Osborne's 2013 analysis.[139] It sets out the potential for automation of over 700 roles based on currently available technology.[140] The Bank of England used it to calculate that 15 million jobs in the UK economy are at risk of automation.[141] Applying this data to public services reveals significant opportunities for the automation of tasks.

4.1.1 Administrative and operational

Administrative and operational functions are repetitive and predictable activities, which can be desk-based administrative roles, or physical roles such as cleaners.[142] Deloitte counts 1.3 million of these roles across the public sector.[143] These functions can, in many instances, be fully automated and replaced through integrated working.

In Whitehall, pioneering departments have made efforts to reduce the number of these roles. HMRC, for example, has reduced the workforce from 96,000 in 2005 to 60,000 a decade later through expanding online services and rolling out real-time information, enabling less contact between tax advisers and users.[144] HMRC's ambitions do not stop there: to meet its aim of becoming "diamond shaped" (to reduce the lower level of

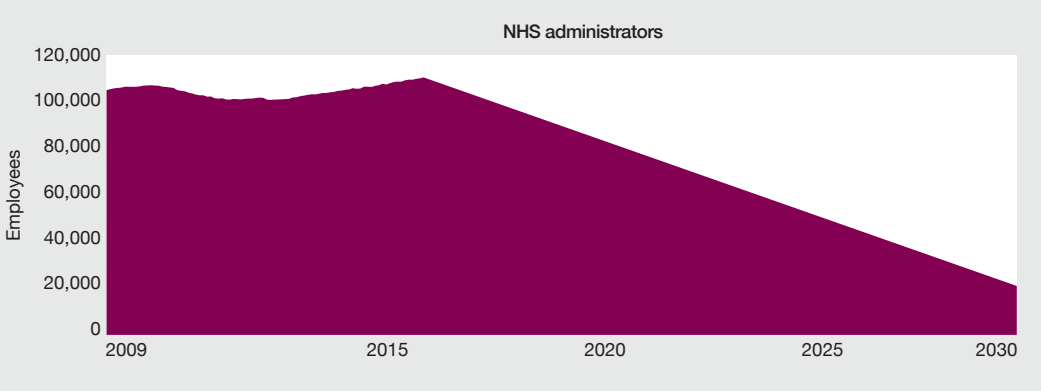
134 See, for example: Deloitte and Reform, *The State of the State 2016-17: Brexit and the Business of Government*, 2016.
135 Ibid., 16.
136 Michael Chui, James Manyika, and Mehdi Miremadi, 'Where Machines Could Replace Humans--and Where They Can't (yet)', *McKinsey Quarterly*, July 2016.
137 Michael Chui, James Manyika, and Mehdi Miremadi, 'Four Fundamentals of Workplace Automation', *McKinsey Quarterly*, November 2015.
138 Ibid.
139 Carl Benedikt Frey and Michael Osborne, *The Future of Employment: How Susceptible Are Jobs to Computerisation?*, 2013.
140 Ibid.
141 Andrew Haldane, *Labour's Share*, 2015, 13.
142 Deloitte and Reform, *The State of the State 2016-17: Brexit and the Business of Government*, 16.
143 Deloitte, *Automation Set to Transform Public Services*, 2016
144 HM Revenue and Customs, *Building Our Future Transforming the Way HMRC Serves the UK*, 2015.

administration),[145] it will need to remove a further 11,000 administrative jobs, assuming numbers of staff at other levels remain constant.[146]

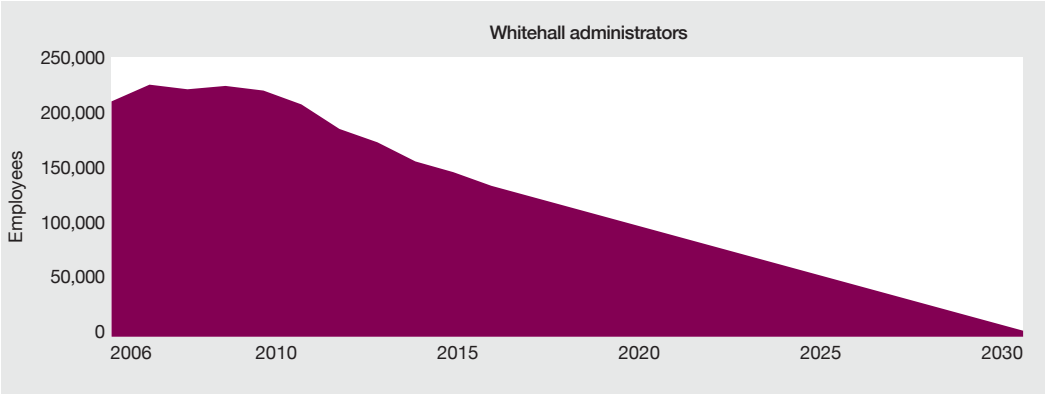
Other departments can follow HMRC's lead. In 2015, DWP officials mooted reducing employee numbers by 30,000.[147] The Department has made progress towards this aim, becoming diamond-shaped in 2016 after cutting over 5,000 jobs in a year.[148] Changes to the number of employees in other roles means DWP still needs to remove 26,000 roles to meet the 30,000 target.[149] Making all central government departments and their agencies diamond-shaped would require the reduction of 36,500 administrative staff.[150]

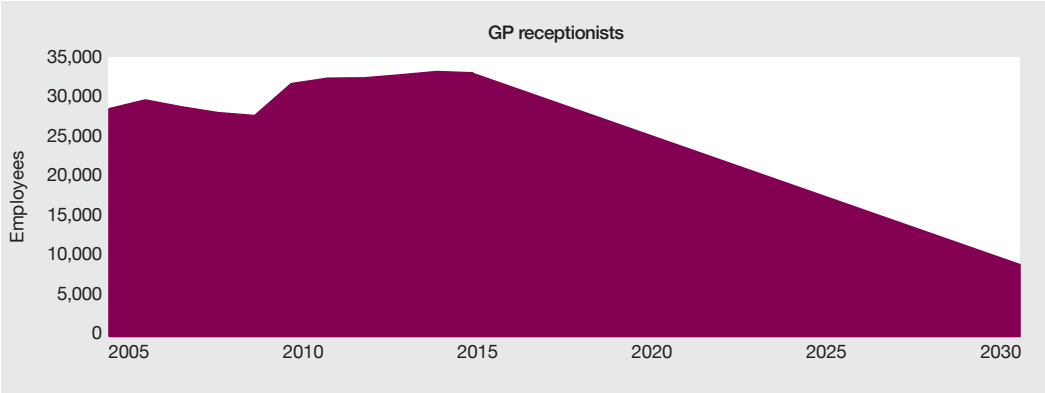
Public services can go much further, however. Frey and Osborne's analysis reveals a 96 per cent probability of automation of Whitehall's 137,460 administrator roles, which would entail a reduction of 131,962 jobs.[151] This would save £2.6 billion from Whitehall's 2016-17 wage bill, some of which could be invested in the development of technology to improve services.[152] The same principle can be applied to NHS administrators. Here, Frey and Osborne's most conservative estimate reveals an 81 per cent chance of automation.[153] Excluding primary care, this would entail the reduction of 91,308 jobs.[154] On the best available data, this would represent a saving of £1.7 billion on the 2015-16 wage bill.[155] GP numbers can be gleaned from current practice. A pioneering GP provider interviewed for this paper has a clinician-to-receptionist ratio of up to 5:1, which, if replicated across the country could reduce GP receptionist numbers by over 24,000 from their 2015 total (see Figure 14).[156] Integration of back-office administration across multiple practices and online booking facilitates this.[157]

Figure 14: The potential effect of automation on selected jobs



145 Matt Foster, 'HMRC Chief Lin Homer Looks To "diamond-Shaped" future for Department |', *Civil Service World*, accessed 2 September 2016.
146 *Reform* calculations. Ibid.
147 Sarah Neville, 'Pensions Staff Face 30,000 Job Cuts', *Financial Times*, 3 August 2015.
148 *Reform* calculations. Office for National Statistics, *Civil Service Statistics*, 2016.
149 *Reform* calculations. Ibid.
150 *Reform* calculations. Ibid.
151 *Reform* analysis of ONS data using Frey and Osborne's calculations. Frey and Osborne, *The Future of Employment: How Susceptible Are Jobs to Computerisation?*; Office for National Statistics, *Civil Service Statistics*, 2016.
152 *Reform* calculations. Office for National Statistics, *Civil Service Statistics*, 2016.
153 Frey and Osborne, *The Future of Employment: How Susceptible Are Jobs to Computerisation?*
154 *Reform* calculations. *NHS Digital, NHS Workforce Statistics – June 2016*, Provisional Statistics.
155 Best available data being the mean annual earnings of those filling roles described as 'support to clinical staff', under the 'non-medical staff' heading. The average salary for a FTE employee in the 12-month period to February 2016 was £18,333. NHS Digital, *NHS Staff Earnings Estimates to September 2016*, 2016.
156 NHS Digital, *NHS Workforce Statistics - June 2016, Provisional Statistics*.
157 Ewbank, Hitchcock, and Sasse, *Who Cares? The Future of General Practice*, 28–29.





Sources: NHS Digital, *NHS Workforce Statistics - June 2016, Provisional Statistics*, 2016; Carl Benedikt Frey and Michael A. Osborne, *The Future of Employment: How Susceptible are Jobs to Computerisation?*, 2013; Vanguard GP providers; Office for National Statistics, *Civil Service Statistics*, 2016.

Note: GP receptionist numbers are based on the highest receptionist-to-clinician ratio from interviewed providers.

Policing has a small number of administrators. According to official statistics, 1,640 of the 127,000 police workforce are administrators.[158] A majority of these are call-centre operators, which, according to Frey and Osborne's calculations, returns a reduction of 1,590 jobs in total.[159] Though this may be high in percentage terms, in absolute numbers it is a much more modest reduction and to the police's credit that the current administrative workforce is lean.

In total, this analysis returns a possible automation, according to Frey and Osborne's figures, of 248,860 job roles.

Administrative roles encompass a wide range of activities, from people updating datasets to call-centre operators. While there is no public information breaking down these roles, FOIs suggest that call centre operators fill many roles. DWP alone, for example, employed an average of 3,832 between April 2015 and March 2016.[160] According to Frey and Osborne, these roles have a 97 per cent chance of being automated.[161] This can be done by following HMRC's lead of placing rudimentary tasks online, and preventing people calling by providing updates of the progress of interactions which are commonly made (see Figure 15). More broadly, public-sector bodies could advertise online services when people call, or make online services more easily accessible than phone numbers. Processes must nevertheless remain for those who need to use the telephone to contact services – which necessitates a small proportion of operators remaining in place.

158 Home Office, *Police Workforce, England and Wales, 31 March 2015 - Supplementary Tables*, 2015.
159 *Reform* analysis of Home Office data using Frey and Osborne's figures. Frey and Osborne, *The Future of Employment: How Susceptible Are Jobs to Computerisation?*; Home Office, *Police Workforce, England and Wales, 31 March 2015 – Supplementary Tables*.
160 Department for Work and Pensions, 'Freedom of Information Disclosure', 17 October 2016, FOI3374.
161 Frey and Osborne, *The Future of Employment: How Susceptible Are Jobs to Computerisation?*

Figure 15: GOV.UK Notify

Government receives millions of calls each year from people checking up on the progress of anything from passport applications to benefits claims. GOV.UK Notify aims to reduce these calls by sending notifications via text messages, emails or letters. The Home Office has begun using GOV.UK Notify to notify people of the progress of their passport applications. Official data on its outcomes are unavailable, but interviewees for this paper familiar with the programme argued it is reducing unnecessary contacts.

It could be further used for: MOT reminders for vehicle owners; Jobseeker's Allowance claims progress; Lasting Power of Attorney updates; and Universal Credit updates.

Source: Peter Herlihy, 'Status Tracking - Making It Easy to Keep Users Informed', *Government Digital Service*, 5 October 2015.

More complex administrative roles can also be automated. McKinsey argues that finance-officer roles can be cut by 45 per cent,[162] while Deloitte calculates that 39 per cent of legal-associate can be automated.[163] Robotic-process automation has been used in legal services to replace basic-regulatory-search tasks, find precedents and conduct research.[164]

A more radical approach would be to use a distributed ledger, which records transactions securely and transparently. Blockchain is one example identified by government.[165] Sweden has piloted it to record property ownership instantly, instead of waiting months for documents to be processed.[166] Blockchain can also execute transactions automatically through 'smart contracts', which carry out functions if pre-defined conditions have been met. Businesses could, for example, set up real-time tax payments when they receive income – and automatically receive rebates where appropriate. DWP could automatically pay and update social security in reaction to a recipient's work status – a compliment to Universal Credit, which pays benefits dynamically, based, in part, on working hours.[167] This could remove the need for administrators to process claims in the largest government departments – helping them meet their aim of becoming diamond shaped. To attract blockchain suppliers, government should cultivate a market for this technology by using centralised procurement channels, such as G-Cloud.[168]

4.1.2 Interactive and frontline roles

Interactive and frontline roles require substantial personal interaction, and include jobs such as doctors, nurses, teachers and police officers.[169] These require communication and interactive skills that are less likely to be automated than administrative tasks.

Yet there is still potential to use automation to increase productivity – by enabling skilled practitioners to focus on activities that require currently non-automatable skills, and by reducing the tasks involved in a given role and thus reducing the overall headcount. McKinsey estimate that 30 per cent of a nurse's activities could be automated – which include tasks such as collecting information and administering non-intravenous medications.[170] For doctors, the figure ranges from 13 per cent to 31 per cent, depending on speciality.[171] For example, Mckinsey point to administering anaesthesia during simple procedures or reading radiological scans as automatable.[172] This is precisely the aim of

162 James Manyika et al., *Disruptive Technologies: Advances That Will Transform Life, Business, and the Global Economy*; Deloitte, *Developing Legal Talent: Stepping into the Future Law Firm*, 2016.
163 Deloitte, *Developing Legal Talent: Stepping into the Future Law Firm*.
164 Jane Croft, 'Legal Firms Unleash Office Automatons', *Financial Times*, 16 March 2016.
165 David Mead, 'Exploring Opportunities for Distributed Ledger Technology in Government', *Civil Service Blog*, 26 May 2016.
166 Reuters, 'Sweden Tests Blockchain Technology for Land Registry', 16 June 2016.
167 Alexander Hitchcock, 'Public Services in Blockchains II: Disrupting Bureaucracy', *The Reformer*, 18 August 2016.
168 Alexander Hitchcock, 'Public Services in Blockchains IV: Getting It Right from the Start', The Reformer, 13 September 2016.
169 Deloitte and Reform, *The State of the State 2016-17: Brexit and the Business of Government*.
170 Chui, Manyika, and Miremadi, 'Where Machines Could Replace Humans--and Where They Can't (yet)'.
171 Ibid.
172 Ibid.

IBM's Watson computer: Watson is already, IBM claim, better at diagnosing lung cancer than humans, with a success rate of 90 per cent, compared to 50 per cent.[173]

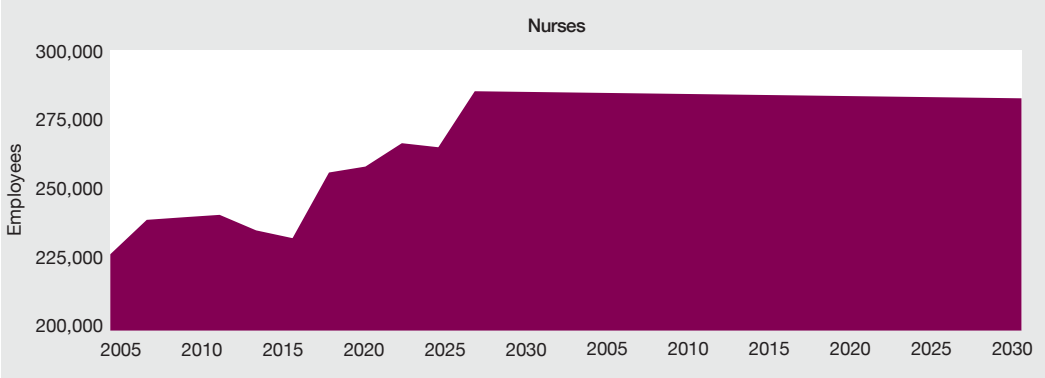
The logic of artificial intelligence (AI) technology is simple: machines learn by collecting information as a human would – but they can process this at a considerably faster speed. Watson can read 40 million documents in 15 seconds.[174] Its creators argue that only 20 per cent of the knowledge human doctors use when making diagnoses and recommending treatments relies on trial-based evidence – and with 160 hours' reading a week required to keep up with newly published medical knowledge, computers have a competitive advantage.[175]

Surgery is another area on the verge of being disrupted. Autonomous robots, such as the Smart Tissue Autonomous Robot (STAR), have already outperformed human surgeons in routine procedures. This led to one surgeon involved in the research to comment that "maybe one day they'll take over."[176] Dr Patrick Finlay has identified keyhole surgery as an area where robots could reduce the number of surgeons needed to deliver interventions.[177]

Policing can also be revolutionised. Autonomous crowd-monitoring drones could replace police-helicopter-operating roles by identifying issues and deploying police officers most effectively on the ground.[178] Facial-recognition technology has been applied by police forces across the world, notably in the US and Israel.[179] In theory, used in CCTV or body cameras, this technology can more efficiently identify missing people, people committing crime or fugitives.[180] Researchers in the US identified one of the Boston marathon bombers in 2013 using the technology.[181] Detailed evaluations have yet to be undertaken and there are profound ethical questions about holding people's images,[182] but – after addressing the latter – UK police forces should evaluate and trial the technology to improve efficiency.

Though opportunities exist, consultants are less bullish about the automation of frontline roles in healthcare and policing, with the likelihood that these professionals will take on other, non-automatable roles to meet demand. Nevertheless, Deloitte research suggests that policymakers can keep the number of key workers, such as nurses, flat in absolute terms, thereby delivering better value for money for taxpayers (see Figure 16).

Figure 16: Automation of nurse roles



Source: Deloitte and Reform, *The State of the State 2016-17: Brexit and the Business of Government*, 2016.

173 Ian Steadman, 'IBM's Watson Is Better at Diagnosing Cancer than Human Doctors', WIRED UK, 2 November 2013.
174 IBM, 'IBM Watson Health', Watson Health, 30 November 2015.
175 Steadman, 'IBM's Watson Is Better at Diagnosing Cancer than Human Doctors'.
176 Eliza Strickland, 'Autonomous Robot Surgeon Bests Humans in World First', IEEE Spectrum: Technology, Engineering, and Science News, 4 May 2016.
177 Pippa Stephens, 'AI, Robots, Pocket Doctors: Patient-Centred Health Tech', *BBC News*, 23 September 2014.
178 Rory Cellan-Jones and Jane Wakefield, 'Future Cops: How Technology Is Set to Change Policing', *BBC News*, 3 July 2013.
179 Kaveh Waddell, 'Half of American Adults Are in Police Facial-Recognition Databases', *The Atlantic*, 19 October 2016.
180 Eric Hess, 'Facial Recognition: A Valuable Tool For Law Enforcement', *Forensic Magazine*, 17 October 2010.
181 Michigan State University, 'Facial-Recognition Technology Proves Its Mettle', *ScienceDaily*, 24 May 2013.
182 Clare Garvie and Frankle, 'Facial-Recognition Software Might Have a Racial Bias Problem', *The Atlantic*, 7 April 2016.

4.1.3 Cognitive roles

Cognitive roles are those which require strategic thinking and complex reasoning, such as chief executives and senior managers. One-fifth of public-sector workers fill these roles.[183] These roles are least likely to be automated over the next ten to 20 years, but there are several areas where technology can improve senior officials' work – increasing efficiency for them and the frontline staff who respond to their instructions.[184]

Bureaucratic roles are on the cusp of being disrupted by AI. Japan's Ministry of Economy, Trade and Industry has announced plans to use AI to help civil servants to draft answers to questions put to Cabinet Ministers in parliamentary debates.[185] The UK government could work with Japanese counterparts to replicate this approach. After all, it presents an excellent opening for experimentation, with little cost of failure (*vis-à-vis* potential life lost in healthcare) and clear opportunites for efficiency if successful.

Predictive analytics is another key area. For example, burglary data is currently used by Santa Cruz City in the USA and West Yorkshire Police in the UK to identify areas at greatest risk of burglary to increase presence in those areas. With no additional officers, Santa Cruz reduced property theft by 19 per cent, while West Yorkshire Police reported a 25 per cent reduction.[186] As HMIC has recognised, predictive analytics "works; it is evidence; it is professional practice".[187] Widespread use of data analytics would help fulfil the College of Policing's aim for police officers to work to prevent crime – including across different public services, such as fire and healthcare.[188] Greater Manchester models risk of fire to support decisionmaking over how resources should be deployed in the region.[189] To deliver these approaches, the Government has correctly identified the need for a drastic improvement in collecting data and understanding what interventions work to reduce reoffending.[190]

Use of analytics to predict demand also has applications in healthcare.[191] In developed nations, Accenture estimates that 60 per cent of healthcare spending is consumed by 5 per cent of patients.[192] Identifying when these patients are in risk of needing hospital care, and thereafter acting to avoid it, can save precious workforce time. For example, Accenture helped a hospital in Valencia reduce hospitalisations by 79 per cent amongst a test group of 500 patients through earlier interventions.[193] Granular population segmentation has been achieved in London, which allows managers to plan care and structure workforces around the needs of residents.[194] In Devon, risk profiling was 87 per cent accurate in predicting unscheduled admissions for the top 200 high-risk patients.[195] Expanding this approach across the NHS requires a serious improvement in data quality, understanding causality and focusing on outcomes important to services users, as *Reform* has pointed out.[196]

183 Deloitte, *Automation Set to Transform Public Services*, 2016.
184 Deloitte and Reform, *The State of the State 2016-17: Brexit and the Business of Government*.
185 The Japan Times, 'Can Artificial Intelligence Help Japanese Bureaucrats Write Answers to Diet Questions?', 4 January 2017.
186 Accenture, *Preparing Police Services for the Future. Six Steps toward Transformation*, 2013.
187 Stephen Otter, *Speech to the Budget and Performance Committee*, 2013.
188 Association of Police and Crime Commissioners and National Police Chiefs' Council, *Policing Vision 2025*, 2016, 7.
189 Greater Manchester Fire and Rescue Service, *Supplementary Information on How We Model Risk and Allocate Resources for the IRMP/Corporate Plan 2015 – 2018*, 2015.
190 Ministry of Justice, *Prison Safety and Reform*, 2016.
191 A large body of literature in the US is forming to this extent. See, for example: Gabriel J. Escobar et al., 'Stratification of Risk of Early-Onset Sepsis in Newborns ≥34 Weeks' Gestation', *Pediatrics* 133, no. 1 (January 2014): 30–36; Devan Kansagara et al., 'Risk Prediction Models for Hospital Readmission: A Systematic Review', *JAMA* 306, no. 15 (19 October 2011): 1688; 'Automated Identification of Postoperative Complications Within an Electronic Medical Record Using Natural Language Processing', *JAMA* 306, no. 8 (24 August 2011); Ruben Amarasingham et al., 'Allocating Scarce Resources in Real-Time to Reduce Heart Failure Readmissions: A Prospective, Controlled Study', *BMJ Quality & Safety*, 31 July 2013.
192 Accenture, *Predictive Health Analytics Models and Case Management for Improving Quality of Life and Reducing Unnecessary Consumption of Resources,* 2015.
193 Ibid.
194 Oleg Bestsennyy, Tom Kibasi, and Ben Richardson, *Understanding Patients' Needs and Risk: A Key to a Better NHS*, 2013.
195 NHS England, *Using Case Finding and Risk Stratification: A Key Service Component for Personalised Care and Support Planning*, 2015, 21.
196 Eleonora Harwich, Alexander Hitchcock, and Elaine Fischer, *Faulty by Design. The State of Public-Service Commissioning.*, 2017, 8–16.

These approaches require a different skills base to extract and analyse data from across public services.[197] A new attitude to learning from data is also required for leaders to be able to identify these and similar opportunities (see Chapter 5). Government must also be careful to address users' concerns where citizens interact with technology, particularly when sensitive information is being accessed. The problem with failing to do so is highlighted by the recent care.data episode, in which the programme was scrapped over concerns that people had not received adequate information about their right to opt out of sharing personal data.[198] Public campaigns and piloting software in small areas could create support for the software, instead of government being seen to force it on users reticent to share personal data.

4.2 Hierarchy

There is a growing evidence base showing that the hierarchy of organisations affects their efficiency. Governments have long been large, complex bureaucracies, but their increase in size over the course of the twentieth century led to their identification as inert and stifling innovation.[199] The Thatcher Governments moved away from their predecessors' views of bureaucracy as a disinterested approach to delivering services, to looking for private-sector efficiency in administering public services.[200] Then, before becoming Prime Minister in 2010, David Cameron spoke of moving into the "post-bureaucratic age" in which structures were agile enough to respond to quickly to people's needs.[201] Achieving this requires a step change in current thinking.

4.2.1 Thawing the "frozen middle"

A theme of management literature is the need to remove hierarchy to streamline decision making and task execution.[202] This, it is argued, is essential to meet the increasing demands from consumers and citizens. As Deloitte has argued, "[t]he days of the top-down hierarchical organization are slowly coming to an end".[203]

This requires infrastructure change to succeed. With fewer middle managers to monitor employees, information must be disseminated through organisations to allow those delivering services on the frontline to act autonomously. This should provide frontline workers with standardised procedures, yet empower them to deal with complex customers[204] and challenge assumptions of senior managers (for example, in the police force – a need the College of Policing has identified).[205] IT can provide junior employees with the information necessary to make these challenges, as well as allow leaders to collect data, take important decisions from afar, be consulted in real time and intervene speedily when something goes wrong.[206] Virgin has spoken of technology giving "staff more authority and autonomy to get work done and drive continual improvements to the organization's policies and processes [through feedback]."[207] Leaders will have to encourage this autonomous behaviour and show a positive attitude to mistakes from people who have less experience of decision making (see Chapter 4).

4.2.2 Self-management models

A radical change of hierarchy can meet needs more dynamically. A less hierarchical, self-management model is suited to organisations which must respond to unpredictable

197 Bestsennyy, Kibasi, and Richardson, *Understanding Patients' Needs and Risk: A Key to a Better NHS*.
198 Lis Evenstad, 'NHS England Scraps Controversial Care.data Programme', *ComputerWeekly*, 7 June 2016.
199 Ludwig von Mises, *Bureaucracy*, 1944.
200 Jonathan Cribb, Richard Disney, and Luke Sibieta, *The Public Sector Workforce: Past, Present and Future*.
201 David Cameron, 'The next Age of Government', *TED Talk*, February 2010.
202 See, for example: Gary Hamel, 'First, Let's Fire All the Managers', *Harvard Business Review*, December 2011; Jeff Schwartz et al., 'Organizational Models: A Network of Teams', *Deloitte University Press*, 29 February 2016.
203 Schwartz et al., 'Organizational Models'.
204 Patrick Dunleavy and Helen Margetts, 'The Second Wave of Digital Era Governance', *American Political Science Association Conference*, 2010, 7–8.
205 College of Policing, *Leadership Review – Recommendations for Delivering Leadership at All Levels.*, 20.
206 Dunleavy and Margetts, 'The Second Wave of Digital Era Governance', 7.
207 Brian Robertson, 'Holacracy: Disrupting Management Hierarchy', *Virgin*, 9 October 2015.

demand. These models put much more power into the hands of those executing tasks, which, it is argued, allows those closest to the problems to solve them and does not rely on removed management to deliver flawless solutions.[208] In practice, it means employees are free to organise themselves around work that needs to be done – applying, for example, to be part of different teams on different projects. When projects finish, these teams disband. This removes 'departments' within organisations. People will even fill different roles within different teams – leading some and filling specific functions in others.[209] Different variations of the model have found favour with hundreds of private-sector organisations – from the online clothes company, Zappos, to Morning Star, a company making food processors[210] – and even rigidly hierarchical institutions such as the US army, which has used this workforce model to allow officers to move quickly from administrative functions to mission-oriented projects.[211]

Self-management models can be exploited by Whitehall departments and services that are designed to respond to changing demand or be self-directed in pursuit of policy. GDS lays down a marker here. It has a wide-ranging aim to work with the whole of government to improve public services, build digital platforms, improve use of government data, and improve decision making when procuring technology.[212] To do so, people work in project-based, self-governing teams that work to defined objectives, such as building GOV.UK (as a 16-person team did in 12 weeks),[213] or identifying opportunities for improvement across government (such as in the case of GOV.UK Notify). GDS teams are governed by ten design principles, which complement its mantra of being 'consistent not uniform'.[214]

GDS has been widely praised for driving efficiency – to the tune of £3.6 billion since 2012 – and improving the use of technology across the public sector.[215] Elsewhere, more radical self-management models have improved the efficiency of government (see Figure 17).

Figure 17: Washington state government self-governing model

Washington Technology Solutions (WaTech) is the IT arm of Washington state government. Over the last two years it has employed a self-governing model within a disruptive division called e-gov.

This has led to positive results. Their staff 'empowerment' metric has reached 90 per cent – a 50 per cent increase since the model was established. The speed of processing operational issues is two minutes – down from 20 minutes at the start of the experiment.

The Government is now looking to understand whether these improvements can be replicated at scale. It is currently doing this through a controlled trial, in which a larger self-management model is pitted against a traditional hierarchical model.

The lesson of the trial is that bodies need a clear vision and strong leaders who will make tenacious decisions to drive reform. To ensure the longevity of the approach, leaders must collect data to show the effect of the change and allow other bodies to follow.

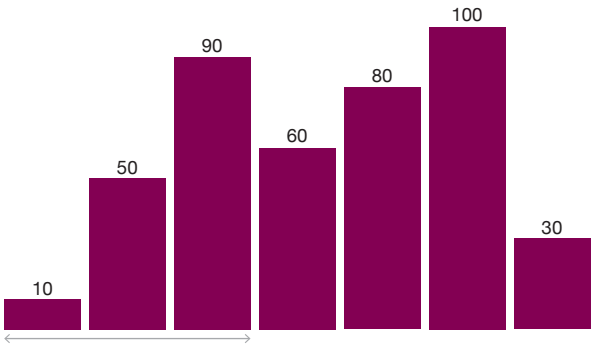
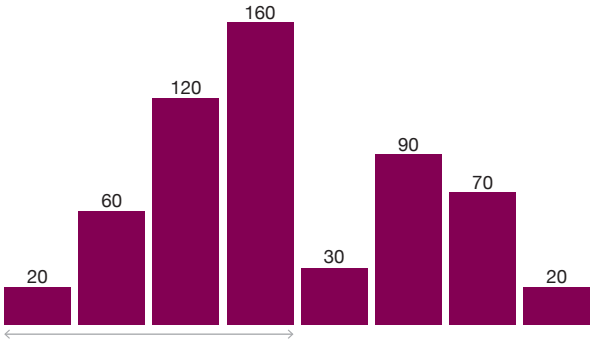
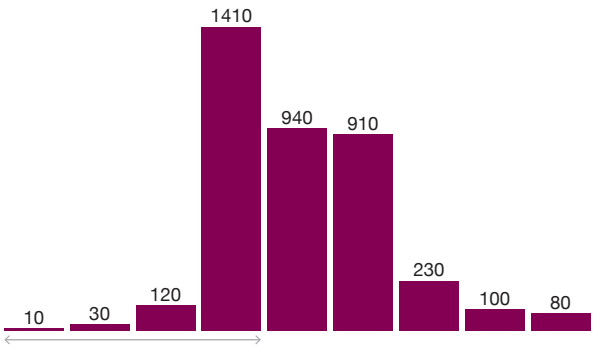
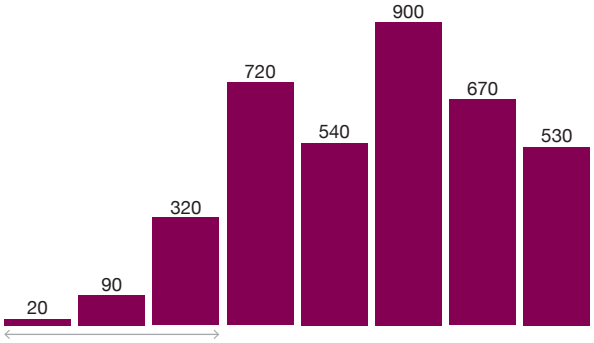
Source: e-gov, 'The Holacracy Experiment in Washington Government', 2016

These models have traditionally been associated with IT projects, but as Ian Watmore, then Chief Operating Officer of the Cabinet Office's Efficiency and Reform Group, argued in 2011, "there is no such thing as an IT project; there are only business projects that

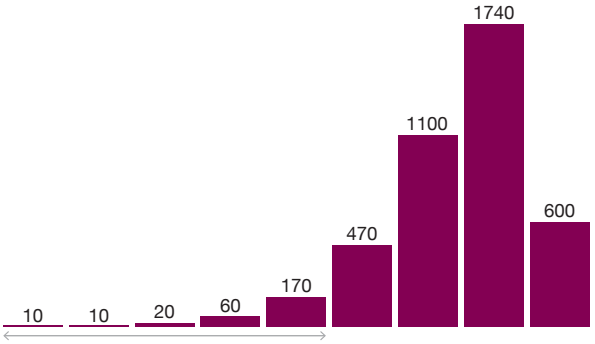
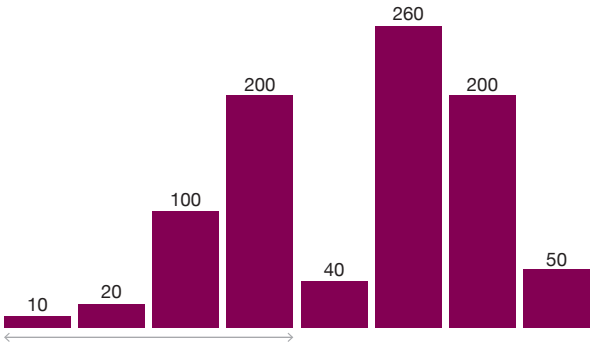
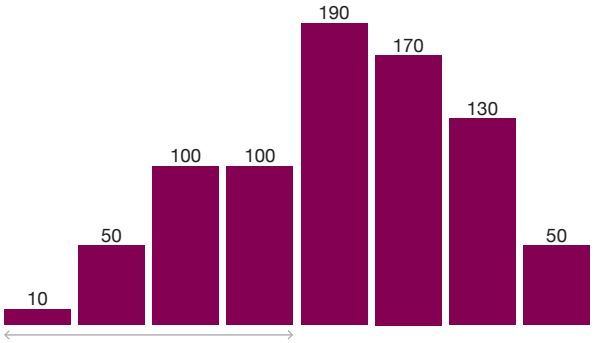
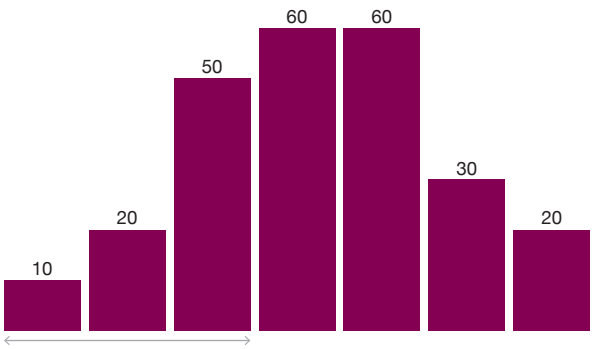
208 Dustin Haisler and Tim Howell, 'What If Government Embraced Holacracy?', *GovTech*, 10 September 2015.
209 Ethan Bernstein et al., 'Beyond the Holacracy Hype', *Harvard Business Review*, 1 July 2016; Haisler and Howell, 'What If Government Embraced Holacracy?'
210 Bernstein et al., 'Beyond the Holacracy Hype'.
211 Schwartz et al., 'Organizational Models'.
212 Government Digital Service, *About the Government Digital Service*, accessed 26 October 2016.
213 Government Digital Service, 'Meet the Alphagov Team', GDS Blog, (2011); Tom Loosemore, 'Alpha.gov.uk Wrap-Up', GDS Blog, (29 July 2011).
214 Government Digital Service, 'What's the Design Process at GDS?', n.d., accessed 14 October 2016; Government Digital Service, 'GDS Design Principles', n.d., accessed 14 October 2016.
215 Stephen Foreshew-Cain, 'How Digital and Technology Transformation Saved £1.7bn Last Year', *Government Digital Service*, 23 October 2015.

involve IT".[216] Arm's-length bodies that respond to variable demand could also benefit from this approach (see Figure 18).

Figure 18: Arm's-length bodies which could explore self-management models

Body	Function	Current structure ⟷ Indicates management levels
Serious Fraud Office	Investigates and prosecutes serious or complex fraud, bribery and corruption.	
Competition and Markets Authority	Promotes competition for the benefit of consumers, both within and outside the UK.	
Defence Science and Technology Laboratory	Ensures innovative science and technology contribute to the defence and security of the UK.	
Valuation Office Agency	Provides government with the valuations and property advice required to support taxation and benefits.	

216 National Audit Office, *A Snapshot of the Use of Agile Delivery in Central Government*, 2012, 5.

Body	Function	Current structure ⟷ Indicates management levels
National Crime Agency	Leads UK law enforcement's fight against serious and organised crime.	
Office of Gas and Electricity Markets	Regulates gas and electricity markets in Great Britain.	
Crown Commercial Service	Leads on procurement policy on behalf of the UK government.	
UK Export Finance	Provides insurance to exporters and guarantees to banks to share the risks of providing export finance.	

Sources: Office for National Statistics, *Civil Service Professions by Department and Responsibility Level*, 2016; ONS, *Civil Service Professions by Department and Responsibility Level*, 2016.

Note: Management levels are defined as Grade 7 or above.

These organisations could explore the benefits of flatter structures. The Defence and Science Technology Laboratory, for example, is expected to provide specialist science and technology services for national defence, reacting to unpredictable threats and horizon scanning future risks and opportunities.[217] A less hierarchical approach may enable it to respond to and identify fast-changing national-security issues more rapidly.

As Figure 18 shows, each body would require different changes. While the shape of the National Crime Agency's workforce means it is well-placed to consolidate current management roles and support its high proportion of executives to use a self-managed approach, most others, particularly the Defence Science and Technology Laboratory and UK Export Finance, would need to change the roles of a larger proportion of its middle managers to work as executives and project-specific leaders, rather than defined managers.

The same holds in healthcare services, in areas where demand varies widely. As the 'gatekeeper' for the healthcare system, primary care – and general practice in particular – is tasked with responding to all patient needs. This can be effectively done by teams of clinicians, with responsibility for a proportion of registered patients. This less hierarchical, team-based model has been used in Southcentral in Alaska, and has led to waiting times being reduced from four weeks to the same day, faster referrals and a better relationship between patients and clinicians.[218] More radically, Buurtzorg, a Dutch nursing-care provider which employs 9,000 nurses, has implemented a model in which teams of 10 to 12 nurses decide which patients to serve, where to rent offices, and which doctors, pharmacies and hospitals to work with.[219] There are no defined leaders as management tasks are shared between nurses. The model allows clinicians to deliver bespoke care to patients instead of following centrally-set targets. This has resulted, according to one study, in 40 per cent less care hours because patients become self-sufficient faster.[220] Emergency hospital admissions have been cut by a third, and the average hospital stay of a Buurtzorg patient is shorter.[221] A mantra of its founder is: "Humanity above Bureaucracy".[222]

Self-management models will not be implemented overnight. Buurtzorg trains employees in management, and help create a powerful network of trust, amongst frontline nurses.[223] Larger organisations have installed IT systems to advertise roles and organise teams internally.[224] Morning Star ratified a constitution to set out broad-brush rules by which teams can form.[225] Some of its employees devise team-based agreements setting out the responsibilities, activities and goals of the project.[226] This is used to monitor performance and install confidence that everyone is working in the same direction.[227] This allows teams to provide clarity in roles, direct employees to end goals and avoid the problem of too many meetings disrupting the workflow – a common complaint of flat structures.[228]

217 Defence Science and Technology Laboratory, *Maximising the Impact of Science and Technology for the Defence and Security of the UK*, 2015.
218 Ben Collins, *Intentional Whole Health System Redesign: Southcentral Foundation's 'Nuka' System of Care* (The King's Fund, 2015), 33–37.
219 Laloux, 'The Future of Management Is Teal'.
220 Ibid.
221 Ibid.
222 Ibid.
223 Ibid.
224 Bernstein et al., 'Beyond the Holacracy Hype'.
225 Ibid.
226 Ibid.
227 Ibid.
228 Ibid.

5
Skills and motivation

Delivering a smaller, more agile and less hierarchical workforce model across public services will require different skill sets amongst workers. These skills should build on, and can thrive in, a culture that incentivises innovation and learns from failure. Leaders in this new model must also be given the flexibility to tailor their approach to performance management and motivation to get the most of their teams.

5.1 Skills

A less hierarchical, more technologically sophisticated public-sector workforce requires a different skills base. The public sector should ensure that it populates roles with the skills necessary to exploit technology and fill long-standing gaps in areas such as commerce and procurement.[229] To truly transform public services, however, human resource (HR) managers should look to cultivate non-traditional skill sets – such as creativity, learning from errors and proactive self-improvement – to make the public sector less risk-averse and more innovative. This requires strong leaders to support employees to change their approach to work, and HR managers to fill job roles with the best people to deliver the outcomes users want and demand dictates.

5.1.1 A culture of change

It is well-recognised that the public sector lacks IT, leadership and commercial skills.[230] This needs to be addressed, as recent governments have acknowledged.[231] Some have taken steps to upskill: DWP's digital academy, for example – which trained 1,000 employees in 2015[232] – is set to be expanded across government, under the guidance of GDS.[233]

Public-sector bodies must, however, avoid the trap of providing training for legacy approaches. As interviewees for this paper argued, digital and technology should be a means to transform business practices: a mindset that looks to develop different approaches to meeting user expectations. In the words of GDS, the "technology you use to do your job should help you achieve more."[234] Government-run programmes, such as the digital academy, can provide the base knowledge. Yet digital upskilling should not be the narrow remit of 'IT professionals'; all employees filling cognitive and problem-solving roles need to be equipped with the skills to use and develop technology to meet user needs.[235]

For example, GPs in London reduced demand for services via online triaging, but this was not used by all patients.[236] GPs have spoken about the cultural change within the profession needed to drive such reforms, as they do not want to be held responsible for erroneous signposting.[237] Pilots are being introduced, however: in London, Babylon is being trialled for 1.2 million people.[238] According to its founder, it costs Babylon 80 per cent less per hour than the NHS to provide medical care because of its use of AI.[239] This reveals large potential savings for the NHS and suggests that culture change may be afoot.[240]

This approach recognises that innovation is unlikely to be achieved by siloed thinking, and that digital capability can transform how 'traditional' problems are addressed. For example, the Los Angeles Police Department (LAPD) took the concept of predictive

229 National Audit Office, *The Digital Skills Gap in Government: Survey Findings*.
230 Ibid.
231 Ecorys UK, *Digital Skills for the UK Economy*, 12, 71, 76.
232 William D. Eggers and Joel Bellman, *The Journey to Government's Digital Transformation* (Deloitte University Press, 2015).
233 Cabinet Office, 'Government Digital Service Announces Plans to Run a National Digital Academy', 15 September 2016.
234 Government Digital Service, 'Common Technology Services: Technology Is a Tool, Not a Barrier', 25 August 2015.
235 Diana Bersohn, *Shaping the IT Workforce of the Future* (Accenture, 2015), 3.
236 Ewbank, Hitchcock, and Sasse, *Who Cares? The Future of General Practice*, 2016, 28.
237 NHS Alliance, *Making Time in General Practice*, 2015.
238 Madhumita Murgia, 'NHS to Trial Artificial Intelligence App in Place of 111 Helpline', *Financial Times*, 4 January 2017.
239 Madhumita Murgia, 'How Smartphones Are Transforming Healthcare', *Financial Times*, 12 January 2017.
240 Murgia, 'NHS to Trial Artificial Intelligence App in Place of 111 Helpline'.

policing – which seeks to prevent crime and thereby better enable the police to protect the public – from Walmart's analysis of patterns to determine demand.[241] As the minutes from the First Symposium on Predictive Policing reveal:

> *"Wal-Mart…analyzes weather patterns to determine what it stocks in stores. The results indicate that Wal-Mart should overstock duct tape, bottled water and strawberry Pop-Tarts before a major weather event. The Pop-Tarts represent a "nonobvious relationship" and [Charlie] Beck [Chief, LAPD] noted there are many of these relationships in law enforcement that can be explored with predictive policing."*[242]

Other pioneering ideas have similarly combined unconnected ideas. The Behavioural Insights Team (BIT) was designed by the Coalition Government to apply the ideas of behavioural psychologists to problems in government – from pushing people to make tax returns to nudging people to invest in pension schemes at an earlier date.[243] This example shows that the mindset applies beyond digital transformation, and that creative thinking can identify a range of solutions to public-policy issues.[244]

Public-sector organisations should look to learn from such successes to cultivate creative thinking throughout their workforces. An open leadership that looks to embrace change (especially in challenging times) is crucial for achieving more for less, according to CIPD.[245] This is echoed by local authorities, which have faced substantial budget cuts in recent years, who explain the need to find new ways of working to achieve collective goals.[246] More narrowly, the NAO shows that 70 per cent of government departments currently have 10 or fewer digital leaders – and only four ministerial departments have digital leaders on their main boards.[247] Government must work to fill more senior positions with digital leaders to help to create and disseminate this mindset of change. Such leaders could identify opportunities for the use of blockchain or AI to transform public services. Interviewees from within government and outside also argued that government should recruit more leaders from the private sector to cultivate a more innovative approach to problem solving by bringing fresh ideas to the public sector. Recruiting professionals who could command large salaries in the private sector may require a different attitude to pay (see Chapter 6).

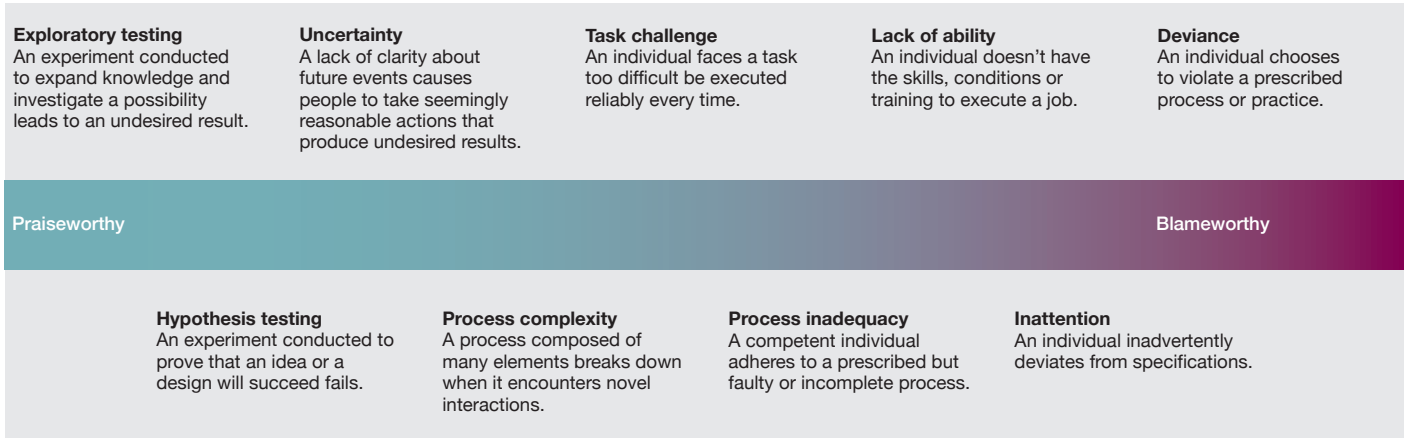
Changing leadership is not a panacea, however. This new culture needs to cascade down the organisation, and to help facilitate this, public-sector bodies could create opportunities to share knowledge. Google, for example, believes that its success depends on innovation and collaboration, and so has looked to create 'watercooler' moments of spontaneous interaction.[248] This involves simple changes such as longer lunch tables – to expose employees to more colleagues, who can share different ideas – and optimising the lunch line to take an average of three to four minutes to facilitate meetings, without wasting too much time.[249] One interviewee emphasised the importance of making the conditions to cultivate spontaneous interaction and creative thinking particular to the organisation, while not disrupting work too severely. This does not require whole-sale redesign of workspaces, however: interviewees pointed to shared kitchens, feedback boards and even shared office decorations as engendering shared thinking.

241 Walter Perry et al., *Predictive Policing: The Role of Crime Forecasting in Law Enforcement Operations* (RAND Corporation, 2013), 4.
242 National Institute of Justice, 'First Predictive Policing Symposium: Los Angeles, November 18, 2009', in *Predictive Policing Symposiums*, 2012, 3.
243 Richard Thaler, *Misbehaving: The Making of Behavioural Economics*, 2016, 330–45.
244 A body of literature is forming to argue that spontaneous interactions, and the connection of two disparate ideas, has underpinned important innovation – in business, science, healthcare and government. See, for example: Tim Harford, *Messy: The Power of Disorder to Transform Our Lives*, 2016.
245 Chartered Institute of Personnel and Development and Public Sector People Managers' Association, *Leading Culture Change: Employee Engagement and Public Service Transformation*, 2012.
246 Jane Dudman, 'Public Sector Leaders Must Work with Staff and Be Open about Change', *The Guardian*, 28 November 2012.
247 National Audit Office, *The Digital Skills Gap in Government: Survey Findings*, 14.
248 James B. Stewart, 'At Google, a Place to Work and Play', *The New York Times*, 15 March 2013.
249 Zach Bulygo, 'Inside Google's Culture of Success and Employee Happiness', *Kissmetrics Blog*, 2015.

5.1.2 Black-box thinking

Transforming the public sector requires a new approach to learning from mistakes. This is a cultural shift from blame to understanding and learning – one that looks for feedback and improvement.[250] Matthew Syed has called this 'black-box' thinking, after the recording devices used in aeroplanes to investigate accidents.[251] This recognises that there is a spectrum of reasons for failure (see Figure 19). That actions are still considered blameworthy highlights that individuals and teams should still be held accountable for their actions, and does not permit reckless risk taking. Rather, it serves as a more nuanced understanding about where errors occur to ensure they are not repeated.

Figure 19: A spectrum of reasons for failure



Source: Amy C. Edmondson, 'Strategies for Learning from Failure', *Harvard Business Review*, April 2011

Learning from mistakes requires an emphasis on non-traditional skill sets, including resilience, looking to identify errors and willingness to learn.[252] It takes two forms:

1 Identifying preventable day-to-day errors;

2 Creating a culture that looks to innovate through learning.

5.1.2.1 Learning to learn

At the centre of Figure 19 are reasons that errors might arise during day-to-day activities. In many instances, these errors may not be the result of neglect or incompetence, but preventable mistakes that have occurred – and not been learned from – before. Human error cannot be eradicated – and indeed may be the result of individual, blameworthy actions – but it can be reduced.[253]

Leaders can set the tone by providing clarity that mistakes are to be expected – identifying those which are tolerated (even encouraged, in some situations outlined in Section 5.1.2.2) and those which are clearly the fault of the individual. Leaders should be willing to search out errors, and publicly confront problems to address them. This attitude has not been adequately exhibited by the public sector in recent years. Governments are frequently accused of 'burying' unfavourable reports – such as a recent report questioning the value for money of the Troubled Families Programme – which raises serious questions as to the willingness of ministers to learn from policies.[254] Sir Bernard Hogan-Howe was accused of covering up a report critical of the Metropolitan Police's handling of historic

250 Microsoft, *Digital Transformation Skills for Government and How Public Sector Organizations Can Acquire Them*, 2016, 18.
251 Syed, *Black Box Thinking*.
252 Ibid.; Amy C. Edmondson, 'Strategies for Learning from Failure', *Harvard Business Review*, April 2011; Martin E. P. Seligman, 'Building Resilience', *Harvard Business Review*, 1 April 2011.
253 Syed, *Black Box Thinking*.
254 Chris Cook, 'Troubled Families Report "Suppressed"', *BBC News*, 8 August 2016.

child sex abuse, after it was published on the day of the US presidential election.[255] These examples, as well as the case of the NHS's lack of awareness of the causes of preventable deaths (see Section 3.4.2), show that, without identifying why the error was made – that is, looking to learn – organisations cannot understand how employees, and other bodies doing similar activities, might avoid similar mistakes in the future.

Putting this approach into practice requires the creation of a clear framework to empower employees to identify and report mistakes. The Civil Service has no such overarching body, which has contributed to its struggle to develop an institutional memory of mistakes.[256] The *Ministerial Code* and previous documents outlining ministerial responsibility, speak of accepting responsibility for mistakes, not learning from them.[257] The police's Independent Police Complaints Commission (IPCC) is designed to identify and learn from mistakes, but it has not driven cultural change. Instead, according to former Chief Superintendent Irene Curtis OBE, the IPCC is overseeing a "blame culture", which "has got progressively worse" in recent years.[258]

Though imperfect, the NHS has recently attempted to install bodies capable of learning from mistakes. In 2016, it created the Healthcare Safety Investigation Branch (HSIB) – a national clinical investigation body, designed to investigate a small number of mistakes and set the tone for NHS trusts' internal investigations. The creation of 'safe spaces' for clinicians to report mistakes, without fear of blame, should help the NHS meet the Secretary of State for Health's aim to create "the world's largest learning organisation."[259] Confidence in this body's independence is critical for clinicians to come forward. To ensure this, HSIB should become independent of NHS England – the institution it will be called on to investigate – and 'safe spaces' should be enshrined in primary legislation.[260] A reformed NHS oversight body could provide a model for other public services.

Such bodies recognise that serious mistakes can be the result of a series of small errors, thereby empowering employees to highlight and learn from mistakes, without fear of retribution.[261] This approach has improved practice in pioneering providers. In the USA, Virginia Mason Health System applied Toyota's open culture and learning approach to mistakes to medical error by installing 24-hour reporting hotlines, online reporting systems and praising the honesty of those highlighting mistakes.[262] This resulted in the hospital being rated as one of the safest in the world a decade after these initiatives were installed and seeing a 74 per cent reduction in liability insurance premiums.[263]

5.1.2.2 Agile thinking

Learning from mistakes entails a bottom-up approach – one in which truth is valued above hierarchy and an open and honest culture looks to learn from mistakes at all levels. This thinking can also be applied when undertaking new projects and approaches.

Agile thinking has traditionally been applied to IT projects. It is an iterative approach to making policy and running projects, where basic plans are drawn up, user feedback is sought and improvements are made.[264] It requires a distinct set of skills:[265]

- Collaboration and communication;
- Self-management to pursue ideas;

255 Martin Evans and Robert Mendick, 'Fury as Scotland Yard Set to Bury Damning Child Sex Abuse Report on Day of US Election', *The Telegraph*, 4 November 2016.
256 House of Commons Public Administration Select Committee, *Developing Civil Service Skills: A Unified Approach. Fourth Report of Session 2014–15*, 2015, 29.
257 Cabinet Office, *Ministerial Code*, 2015.
258 Public Bill Committee, 'Policing and Crime Bill', 15 March 2016, col. 19.
259 Jeremy Hunt, 'From a Blame Culture to a Learning Culture', 3 March 2016.
260 House of Commons Public Administration and Constitutional Affairs Committee, *PHSO Review: Quality of NHS Complaints Investigation. First Report of the Session 2016-17*, 2016, 172016–17.
261 Edmondson, 'Strategies for Learning from Failure'.
262 Syed, *Black Box Thinking*, 53.
263 Ibid., 55.
264 Kent Beck et al., *Manifesto for Agile Software Development*, 2001.
265 National Audit Office, *A Snapshot of the Use of Agile Delivery in Central Government*, 5.

- Confidence to share early ideas or prototypes;
- Desire to self-improve.

GDS has pioneered this approach within government and notes: "Agile isn't just a set of rules, it's a mindset. An approach to solving problems and meeting user needs."[266] It is outward-facing, evidence-based and recognises that users of services and systems know best.

Benefits have accrued from this approach across public services. GDS's creation of G-Cloud (an online procurement portal, which has delivered 50 per cent savings on outsourced IT goods and services) is another example from central government, as well as the Ministry of Defence's Imagery Exploitation Programme.[267] In the USA, Vermont police force contracted an IT company to design an agile database based on officer (user) feedback.[268] This has delivered impressive results: a 50 per cent reduction of the time spent managing information, at 20 per cent less cost than the previous system.[269]

Despite GDS working to disseminate agile thinking (through the *Government Service Design Manual*, for example[270]), there is some way to go to fully permeate public services.[271] Again, leaders have not set the right framework. In 2013, for example, then Secretary of State for Justice, Chris Grayling, claimed that government may be justified in bypassing information collection when making policy when he argued: "The last Government were obsessed with pilots. Sometimes those in government just have to believe in something and do it".[272] Furthermore, the NAO has identified that past attempts to install agile working have been hampered by staff looking for sign-off from senior members of the team – a strong cultural barrier to change.[273]

Syed and others have argued for increased use of randomised-control trials (RCTs) when designing government policy.[274] These are deemed the gold standard of evidence gathering, and can be used to evaluate current policy and test new approaches.[275] BIT has shown the benefits of this rigorous approach to constructing policy in a range of areas. In one trial, BIT and HMRC brought forward £160 million of tax debts in six weeks through sending letters telling people that others in their locality had paid their taxes.[276] Yet, as BIT chief executive, David Halpern, has argued: "Many areas of government have not been tested in any form whatsoever. They are based on hunch, gut feel and narrative…We are effectively flying blind, without much of a clue as to what really works, and what doesn't."[277] Healthcare and education have benefitted from RCTs, while crime and justice, employment services, procurement and welfare policy have used fewer RCTs.[278]

Departments and arm's-length bodies following agile approaches – such as the Department for Transport and Companies House – have used private companies with

266 Mike Bracken, 'You Can't Be Half Agile', *Government Digital Service*, 10 July 2015.
267 National Audit Office, *A Snapshot of the Use of Agile Delivery in Central Government*; Hitchcock and Mosseri-Marlio, *Cloud 9: The Future of Public Procurement*.
268 Rich Nadworny, 'How One Man Turned a Municipal Police Department Into an Agile Software Company', *Huffington Post*, 3 December 2014.
269 Ibid.
270 GOV.UK Service Manual, 'Agile Delivery', Webpage, (2016).
271 National Audit Office, *A Snapshot of the Use of Agile Delivery in Central Government*, 9.
272 Chris Grayling, 'Commons Debate on "Transforming Rehabilitation"', HC Deb 9 Jan 2013 Vol 556. Grayling's unwillingness to learn from previous approaches has not served users well. Transforming Rehabilitation – the outsourced probation programme he backed to work in the debate – has struggled to incentivise providers to deliver innovative services, in part because its outcomes-payment weighting has not been contrasted accordingly. This was despite a pilot being run and other departments, such as DWP, having a longer history of outsourcing complex human services (such as welfare-to-work services). HM Inspectorate of Probation, *An Inspection of Through the Gate Resettlement Services for Short-Term Prisoners*, 2016, 7.
273 National Audit Office, *A Snapshot of the Use of Agile Delivery in Central Government*, 21.
274 Syed, *Black Box Thinking*, 166–77.
275 Guido Imbens, 'Better LATE Than Nothing: Some Comments on Deaton (2009) and Heckman and Urzua (2009)', *Journal of Economic Literature* 48 (June 2010): 399–423.
276 Cabinet Office, *Applying Behavioural Insights to Reduce Fraud, Error and Debt*, 2012, 22–24.
277 Syed, *Black Box Thinking*, 171.
278 Jonathan Shepherd, 'The Production and Management of Evidence for Public Service Reform', *Evidence & Policy: A Journal of Research, Debate and Practice* 3, no. 2 (1 May 2007): 231–51. Although, to the Government's credit, the Work and Health Programme will involve a randomised-control trial. Department for Health and Department for Work and Pensions, *Improving Lives: The Work, Health and Disability Green Paper*, 2016, 32.

experience of delivering these approaches, to run project-management courses and training.[279] These have reportedly empowered employees to take ownership of projects and break down the culture of looking for guidance from above.[280] This can serve as an important platform before organisations develop the approach that works best for them. Organisations can also hire experienced employees from the private sector, which has a longer history of delivering agile approaches.[281] Interviewees spoke of the need for more porous boundaries between the public and private sector – introducing these project-management skills would be an important step to changing the public sector mindset.

5.1.3 An outcomes-focused approach to filling job roles

To meet the changing needs and expectations of service users, the public sector should refine its approach to populating job roles – focusing on what people can achieve, not traditional approaches to delivering services. This is an extension of the self-management and automation mentality. As McKinsey has argued: automation "will force companies to figure out how to reassemble the remaining tasks into something that makes a new kind of sense, even as it reconceptualizes the very idea of what a job is."[282]

This approach can go beyond small-scale self-management models and work for any organisation with tangible outcomes. After all, workforce design is about meeting the needs of users. The more efficiently this can be done, the better the result for the taxpayer. *Reform* has previously argued, for example, that 50 per cent of GPs' tasks could be undertaken by other clinicians, such as nurses and physiotherapists.[283] This would require a drastic cultural shift amongst GPs, which could be facilitated by sharing examples where multi-disciplinary teams have improved care at lower cost, as well as designing new contracts to replace the current framework to inject competition into service delivery.[284]

Policing could also benefit from this approach. Pioneering forces have utilised civilian staff to meet changing need. Durham Constabulary employed university students to help customise its database to help staff and officers to find information pertinent to their investigations.[285] Then Home Secretary Theresa May's call for civilians with specialist skills – such as accountancy or computing – to fill roles tackling cyber or financial crime is the right approach.[286] Making the most of this, several interviewees explained, requires management that can make redundancies to reshape the workforce more dynamically.

These services require both a clear idea of the outcome the organisation hopes to achieve, as well as information on what skills they have at their disposal. This requires a shift in data collection – from time-consuming and delayed annual reviews, to real-time analysis of skills *vis-à-vis* needs. Such data can also help with succession planning for ageing workforces – a process 3M (a multinational mining company) followed to boost annual productivity by 4 per cent.[287]

Larger organisations, such as government departments or hospitals, could benefit from digital workforce platforms to connect people to roles.[288] This drives the allocation of skills within an organisation to meet its objectives in the most efficient way. Employees can bid to take part in different projects, providing freedom for workers to add value where they feel they are best placed to do so, as well as allowing managers to deliver instant online feedback on employees' progress. This practice has been followed in some areas of

279 National Audit Office, *A Snapshot of the Use of Agile Delivery in Central Government*, 16, 19.
280 Ibid.
281 National Audit Office, *Governance for Agile Delivery: Examplesfrom the Private Sector*, 2012.
282 Aaron De Smet, Susan Lund, and William Schaninger, 'Organizing for the Future', *McKinsey Quarterly*, January 2016.
283 Ewbank, Hitchcock, and Sasse, *Who Cares? The Future of General Practice*, 2016, 37–40.
284 Ibid., 44–52.
285 Jessica Twentyman, 'Durham Constabulary Uses Microsoft Dynamics CRM to Make Arresting Insights', *Diginomica*, 2 April 2015.
286 BBC News, 'Civilians to Help Police Investigate Cybercrimes, Says Theresa May', 20 January 2016.
287 World Economic Forum, *Talent Mobility Good Practices: Collaboration at the Core of Driving Economic Growth*, 2012, 48.
288 Smet, Lund, and Schaninger, 'Organizing for the Future'.

government. For example, the Maritime and Coastguard Agency has advertised for operational staff to work on projects via the Agency's intranet. Its agile approach has delivered services quickly, including building a website in two weeks and securing an emergency-response building for DCLG to act as a national control room.[289] Sprawling bodies, such as the Civil Service, can better connect people from different departments to achieve the aims of projects. Other public-sector bodies, such as the North Wales Police, have used similar platforms to facilitate agile working across several locations.[290]

This approach is not about the displacement of employees, but rather enabling them to more effectively use their skills – being matched with tasks they are best-placed to deliver. Stability is key: employees should not be frequently sent around the country to different departments. HMRC recognised this when consolidating office numbers from 593 offices across the country in 2005 to a planned 13 in 2027,[291] with one interviewee pointing out that rationalising the estate allowed millennials the space to move around the organisation, taking on new challenges and cross-fertilising ideas from one team to another.

5.2 Motivation

Motivated employees are key to delivering public-service transformation.[292] The link between employee motivation and performance is well established.[293] There is a growing body of evidence on strategies to motivate employees. The public sector should look to employ these in a dynamic way, recognising that while there are common themes of what motivates at an aggregate level, individuals will be motivated differently from one another. This requires a more strategic use of leaders to motivate their staff.

5.2.1 Motivation: an overview

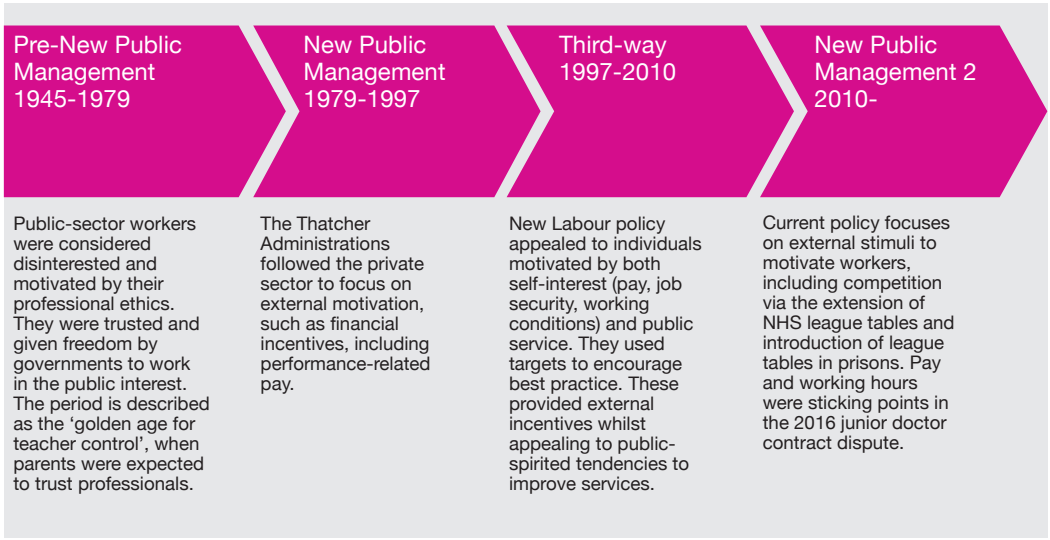
Typically, motivation is divided into:

- **Intrinsic motivation**, which comes from within an individual. Internal satisfaction or interest in the task is the incentive for work.
- **Extrinsic motivation**, which is driven by external rewards such as financial remuneration packages, reputation, feedback and results.

Over time, successive governments have approached motivational strategies for public-sector workers differently (see Figure 20).[294] This demonstrates the difficulty of designing policies capable of motivating millions of different individuals across the public sector.

289 National Audit Office, *A Snapshot of the Use of Agile Delivery in Central Government*, 19.
290 BT, *Agile Working Supports High Quality Policing*, 2010.
291 'HMRC: Building Our Future Plan, HC Deb 28 April 2016', n.d.; HM Revenue and Customs, *Building Our Future Transforming the Way HMRC Serves the UK*.
292 R Kreitner, *Management*, 6th ed. (Boston: Houghton Mifflin Company, 1995).
293 Petty McGee, 'A Meta-Analysis of the Relationships between Individual Job Satisfaction and Individual Performance', *Academy of Management Review* 9, no. 4 (1984).
294 Julian Le Grand, 'Knights, Knaves or Pawns? Human Behaviour and Social Policy', *Journal of Social Policy* 26, no. 2 (April 1997); Louise Dalingwater, 'Post-New Public Management (NPM) and the Reconfiguration of Health Services in England', 2014.

Figure 20: Government policy on public-sector motivation



Sources: Julian Le Grand, *Knights, Knaves or Pawns? Human Behaviour and Social Policy*, 1997; Louise Dalingwater, *Post-New Public Management (NPM) and the Reconfiguration of Health Services in England*, 2014.

Current literature holds that public-sector employees are much more likely to be driven by intrinsic motivators than financial rewards.[295] This holds for all salary levels.[296] Indeed, public-sector workers have been found to contribute more to the provision of public services than is explained purely by self-interest.[297] An audit commission survey carried out in 2002 found that employees joined the public sector to "make a positive difference" and look for a vocational career with rewarding work.[298] In fact, financial incentives may reduce intrinsic motivation: Edward Deci's meta-analysis of 128 controlled experiments found that "tangible rewards tend to have a substantially negative effect on intrinsic motivation".[299] Pay must, of course, be reasonable to recruit staff (see Chapter 6).[300]

In many instances, however, intrinsic and extrinsic motivation overlap. Feedback or beneficiary contact, may harness intrinsic motivation, for example. Although public-sector workers are strongly motivated by the positive impact of their work, they need to see that their work is achieving the desired outcomes.[301] A division between financial and non-financial motivation strategies may be more helpful, whilst recognising that the non-financial motivators appear far more important to public-sector employee motivation (see Figure 21).

295 Yoon Jik Cho and Perry, 'Intrinsic Motivation and Employee Attitudes: Role of Managerial Trustworthiness, Goal Directedness, and Extrinsic Reward Expectancy', *Review of Public Personnel Administration* 32, no. 4 (2012); Nikki Blacksmith and Harter, 'Majority of American Workers Not Engaged in Their Jobs', *Gallup*, 28 October 2011.
296 Cho and Perry, 'Intrinsic Motivation and Employee Attitudes: Role of Managerial Trustworthiness, Goal Directedness, and Extrinsic Reward Expectancy'.
297 Philip Crewson, 'Public-Service Motivation: Building Empirical Evidence of Incidence and Effect' 9, no. 4 (1997); Peter Reilly, *The Link between Pay and Performance* (Institute for Employment Studies, 2003).
298 Reilly, *The Link between Pay and Performance*.
299 Edward Deci et al., 'A Meta-Analytic Review of Experiments Examining the Effects of Extrinsic Reward on Intrinsic Motivation', *Psychological Bulletin* 125, no. 6 (1999); Bernd Irlenbusch, 'When Performance-Related Pay Backfires', Webpage, (2009).
300 Jonathan Cribb, Carl Emmerson, and Luke Sibieta, *Public Sector Pay in the UK* (Institute for Fiscal Studies, 2014); Antoine Bozio and Paul Johnson, *Public Sector Pay and Pensions* (Institute for Fiscal Studies, 2009); Richard Brooks, *Pay and the Public Service Workforce* (IPPR, 2004).
301 Jo Casebourne, *Why Motivation Matters in Public Sector Innovation*, 2014.

Figure 21: Motivation strategies in the public sector

Non-financial motivation	**Leadership** is key to employee motivation and organisational performance.[302] Leaders have the capability to harness other motivational techniques.
	Autonomous individuals with control of their work are more motivated and productive.[303]
	Aligning **organisational values** with those of employees harnesses motivation.[304]
	Beneficiary contact that brings employees into contact with the beneficiaries of their work improves outcomes.[305]
	Feedback can improve motivation and performance.[306] Active performance management has a positive impact on change-oriented behaviour.[307]
	Regular training and development in organisations improves productivity and financial performance.[308] Millennials would like to be recognised for their work more frequently than previous arrangements, and career development is particularly important to them.[309]
	Flexible working not only saves resources on estates, but is a key priority and motivator for employees.[310]
	Workspace environments, including lighting and employee-designed environments, can affect performance.[311]
Financial motivation	While increasing **pay** may not increase motivation, too little pay may demotivate.[312] Those on salaries in the top half of the population have similar levels of engagement and job satisfaction to those in the bottom-half.[313] Pay is likely to play a greater role in recruitment and retention.[314]
	Performance-related pay is a useful motivator where the output is easily measurable. This is rarely the case in the public sector. Evidence indicates that performance-related pay does not motivate public-sector workers.[315]
	Total reward including holidays, study leave and pensions are more generous in the public sector.[316] There is, however, limited evidence on the motivational impact of pensions – though again this may affect retention.

302 Laurie Paarlberg, Bob Lavigna, 'Transformational Leadership and Public Service Motivation: Driving Individual and Organizational Performance', *Public Administration Review* 70, no. 5 (2010); Casebourne, *Why Motivation Matters in Public Sector Innovation.*

303 David MacLeod and Nita Clarke, *Engaging for Success: Enhancing Performance through Employee Engagement*, 2009; Barbara Kersley, *Inside the Workplace: First Findings from the 2004 Workplace Employment Relations Surve* (Workplace Employment Relations Survey, 2004).

304 OECD, *Building Organisational Capacity for Public Sector Innovation: Background Paper*, 2014.

305 Adam Grant, 'Leading with Meaning: Beneficiary Contact, Prosocial Impact and the Performance Effects of Transformational Leadership', *Academy of Management Journal* 55, no. 2 (2012).

306 Catherine Chubb, Peter Reilly, Duncan Brown, *Performance Management Literature Review* (Institute for Employment Studies, 2011)

307 André de Waal and Béatrice van der Heijden, 'The Role of Performance Management in Creating and Maintaining a High Performance Organization', *Journal of Organization Design* 4, no. 1 (2015); Investors in People, *People Management Benchmark*, 2015.

308 *Skills for Improved Productivity, Employment Growth and Development* (Switzerland: International Labour Conference, 2008); Jesse Campbell, 'Identification and Performance Management: An Assessment of Change-Oriented Behaviour in Public Organisations', *Public Personnel Management* 44, no. 1 (2015); Daniel Pink, *Drive: The Surprising Truth About What Motivates Us* (Canongate Books, 2011).

309 PwC, *Millennials at Work – Reshaping the Workplace*, 2011.

310 Gallup, *State of the American Workplace: Employee Engagement Insights for U.S. Business Leaders*, 2013; Vodafone, 'Vodafone Global Survey Reveals Rapid Adoption of Flexible Working', News release, (8 February 2016).

311 Craig Knight and S. Alexander Haslam, 'The Relative Merits of Lean, Enriched, and Empowered Offices: An Experimental Examination of the Impact of Workspace Management Strategies on Well-Being and Productivity', *Journal of Experimental Psychology: Applied* 16, no. 2 (June 2010); The Helen Hamlyn Centre for Design, Royal College of Art and Gensler, *Workplace & Wellbeing: What Aspects of Workplace Design Are Most Important to People's Wellbeing?*, 2016; Peter Mills, Susannah Tomkins, and Luc Schlangen, 'The Effect of High Correlated Colour Temperature Office Lighting on Employee Wellbeing and Work Performance', *Journal of Circadian Rhythms* 5, no. 2 (January 2007).

312 Frederick Herzberg, 'The Motivation-Hygiene Concept and Problems of Manpower', *Behavioral Concepts in Management*, 1968.

313 Blacksmith and Harter, 'Majority of American Workers Not Engaged in Their Jobs'.

314 Richard Brooks, *Pay and the Public Service Workforce*.

315 Reilly, *The Link between Pay and Performance*; Paul Suff, Peter Reilley, and Annette Cox, *Paying for Performance* (Institute for Employment Studdies, 2007); J. Edward Kellough and Lu, 'The Paradox of Merit Pay in the Public Sector', *Review of Public Personnel Administration* 13, no. 2 (1993).

316 Ed Holmes and Matthew Oakley, *Local Pay, Local Growth* (Policy Exchange, 2012).

5.2.2 A framework for improving motivation

Such a range of motivators indicates that a one-size-fits-all approach is inapproapriate. Instead leaders should be empowered to motivate workers in the ways they see most appropriate.

5.2.2.1 Leadership

Individual workers will be driven by financial and non-financial motivators differently. As such, leaders should be afforded the flexibility to motivate their workers as they see fit. The problems of poor leadership are clear: a survey by the Chartered Management Institute found that in the UK 47 per cent of respondents left their last job because of poor management and 49 per cent would take a pay cut to work with a different manager.[317]

Lower-paid, lower-skilled workers in the Civil Service are less likely to rate leaders positively and have lower morale.[318] One possible reason for this may be that leaders tend to be more 'coercive' when managing this group, with employees given little freedom to do their jobs.[319] This style of leadership has proved unsuccessful elsewhere. The only shared leadership style of headteachers of schools in special measures, identified by the Department for Education, was 'coercive'.[320]

Strong leadership traits have, however, been identified by consultants and pioneering organisations across the globe (see Figure 22).

Figure 22: Successful leadership characteristics

Recent work on leadership has focused on employee opinion and how they feel individual leadership characteristics affect engagement. McKinsey surveyed 189,000 people in 81 organisations and found four leadership qualities accounted for 89 percent of variation in leadership effectiveness.[321] These were: supportive, results oriented, seeing different perspectives, and problem solving.[322] Google has also identified managerial behaviours which can improve employee satisfaction:[323]

1. Be a good coach;
2. Empower; don't micromanage;
3. Be interested in success and well-being;
4. Be productive and results-oriented;
5. Be a good communicator and listen to your team;
6. Help employees with career development;
7. Have a clear vision and strategy for the team;
8. Have key technical skills to support the team.

The challenge for the public sector is to harness good leadership, which requires ministers to strike a balance between holding leaders to account, supporting them and providing them with freedom to act in the best way to motivate employees.[324] In this, the Civil Service provides a model for public services to follow. In 2015, following nationwide consultation, it launched the *Leadership Statement* outlining three desirable attributes:[325]

317 Henry Stuart, 'Let People Choose Their Managers', Webpage, (2016).
318 Cabinet Office, *Civil Service People Survey 2015*, 2016.
319 Performance and Innovation Unit, *Strengthening Leadership in the Public Sector*, 2001.
320 Ibid.
321 Claudio Feser, Fernanda Mayol, and Ramesh Srinivasan, *Decoding Leadership: What Really Matters*, 2015.
322 Ibid.
323 David Garvin, 'How Google Sold Its Engineers on Management', Webpage, (2013).
324 Performance and Innovation Unit, *Strengthening Leadership in the Public Sector.*
325 Sir Jeremy Heywood, 'Better Leadership in the Civil Service: A Statement of Intent', Webpage, (2015).

1 Inspiring about their work and its future;

2 Confident in their engagement;

3 Empowering their teams to deliver.

The *Civil Service People Survey* now focuses on these attributes. By benchmarking the performance of leaders, the Civil Service can hold leaders to account and highlight areas in which improvement is needed. Other public services should consider widespread leadership appraisal in this way.

Interviewees also highlighted the importance of supporting leaders to allow them to confidently pursue a change agenda. One interviewee compared Sir David Dalton's 16-year tenure at Salford Royal NHS Foundation Trust, which has provided him with a platform to enact lasting change and drive a value-driven culture, to the two-and-a-half-year average length of NHS hospital chief executive tenures.[326] The King's Fund has identified a blame culture which makes board-level posts in the NHS unattractive.[327] This has contributed to widespread board vacancies, which themselves have been shown to negatively affect staff morale and engagement.[328] Lord Rose has recommended that the NHS develop a better, service-wide communication strategy to broadcast good news and information, and best practice to create a healthier environment for leaders.[329] This recommendation was supported by an interviewee familiar with the NHS workforce.

Leaders should be freed from central directions. The NHS is a case in point. NHS trusts have been subjected to "a dramatic extension of central control" as meeting deficits have been prioritised in recent years: the 2016-17 planning guidance includes control over annual leave, sick leave and price caps for agency staff.[330] Detailed top-down targets should be avoided as they stifle leadership within the system: bullying cultures as a result of targets were reported in NHS Mid Staffordshire and in the 2015 Francis report.[331] Where leaders have been given freedoms, they have driven change: large-scale vanguard providers provide flexibility for staff in terms of remuneration and practice, and, providers claim, a more "exciting place to work".[332] This resulted from strong leadership in the first place and could be extended across the country through less prescriptive contracts.[333] Other NHS targets, such as the four-hour A&E waiting-time target, were identified by interviewees as undermining clinicians' autonomy, demotivating frontline staff. There is little hospital leaders at any level can do to mitigate these negative effects.

Leadership structures in policing are antiquated and stifling innovation.[334] The College of Policing have said that leadership "poses potentially the greatest obstacle to the culture of candour and challenge that is necessary to succeed in the future context."[335] Currently, excessive ranks and bureaucracy obstruct clear lines of communication and make it difficult for leaders to take responsibility and exercise flexibility.[336] Forces must strip out unnecessary layers to enable greater trust and communication between staff.

Greater freedom to improve motivation would also help paint a picture of what works. According to The Performance and Innovation Unit, improving leadership requires a "clearer shared understanding of what leadership behaviours work in delivering today's public services."[337] Allowing leaders to develop their own approaches to motivating employees would highlight approaches that work, which can then be shared across public services.

326 Ayesha Janjua, *Leadership Vacancies in the NHS: What Can Be Done about Them?*, 2014.
327 Ibid.
328 Ibid.
329 Lord Rose, *Better Leadership for Tomorrow: NHS Leadership Review*, 2015.
330 McKenna and Dunn, *What the Planning Guidance Means for the NHS*.
331 Robert Francis, *Independent Inquiry into Care Provided by Mid Staffordshire NHS Foundation Trust January 2005 – March 2009 Volume I* (The Mid Staffordshire NHS Foundation Trust Inquiry, 2010); Robert Francis, *Freedom to Speak Up. An Independent Review into Creating an Open and Honest Reporting Culture in the NHS*, 2015.
332 Robert Harris, 'Leading from the Front in Primary Care', *The Reformer*, 12 April 2016.
333 Ewbank, Hitchcock, and Sasse, *Who Cares? The Future of General Practice*, 2016.
334 College of Policing, *Leadership Review – Recommendations for Delivering Leadership at All Levels.*, 18.
335 Ibid.
336 Ibid.
337 Performance and Innovation Unit, *Strengthening Leadership in the Public Sector*, 5.

5.2.2.2 Beneficiary contact

The positive social impact of public-sector work is likely to attract millennials.[11] The satisfaction of delivering goods and services for the benefit of the country should remain throughout the course of the job.

Beneficiary contact is a tool leaders can use to harness motivation.[338] Whilst frontline public-sector workers see the direct impact of their work, others may not. This strategy is therefore most relevant to those not working on the frontline. Studies have shown that when fundraising callers meet beneficiaries they raise more in donations.[339] DWP used *Back to the Floor*, an initiative where senior civil servants spend a week experiencing a frontline role. The programme had mixed feedback with some visits acting out like 'royal visits' and so a new initiative 'Twinning' has evolved.[340] This works on the basis that a more enduring relationship enhances partnership. Specifically, feedback has shown that not only do senior civil servants value the opportunity to see the good work being done, they see first hand some of the problems faced on the frontline.[341]

Some organisations have redesigned their workspace around this principle. In Hackney, a specialist open-plan building was opened in 2010 for local government administrative staff to provide a visual connection between the public areas on the ground floor and the office areas above.[342] Residents receive advice on issues, from housing to welfare, use computers and meet local government officials.[343] Though there are no outcome measures on whether this intervention has improved staff performance, it is a positive example of how the public sector can narrow the distance between administrative staff and service users.

5.2.2.3 Performance management

Performance management is key to motivation, but current processes are inconsistent and considered ineffective.

In policing, for example, one senior officer interviewed for this paper described the ongoing appraisal system for officers as "embarrassing" and suggested the force had little understanding of the competency of their officers. The system is variable between forces and based around an annual apprasial.[344] This is despite the Home Office's attempt to overhaul the system by introducing mandatory annual appraisals and pay progression linked to performance.[345]

On the other hand, senior clinicians feel overburdened with bureaucratic, complicated and time-consuming appraisal systems. A survey of 2,499 doctors, 719 appraisers and 192 responsible officers found that the revalidation system was not felt to be relevant to the needs of doctors.[346] Within the Civil Service, performance management is based around twice-yearly appraisals. A survey of civil servants found that only two per cent felt it was fair that at least 10 per cent of staff must be ranked as "must improve".[347] Nine per cent found the performance-management system motivating and 13 per cent found it useful for personal development.[348] Of managers surveyed, 72 per cent agreed that the process was too time consuming.[349] Despite such damaging approval ratings and wide

338 OECD, *Building Organisational Capacity for Public Sector Innovation: Background Paper*, 2014; Adam Grant, 'Leading with Meaning: Beneficiary Contact, Prosocial Impact and the Performance Effects of Transformational Leadership', *Academy of Management Journal* 55, no. 2 (2012).
339 Adam Grant, 'Impact and the Art of Motivation Maintenance: The Effects of Contact with Beneficiaries on Persistence Behavior', *Organisation Behaviour and Human Decision Process* 103 (2007).
340 Catherine Truss, *Employee Engagement in Theory and Practice*, 1st ed. (Routledge, n.d.).
341 Ibid.
342 The Hackney Society, 'Spaces 2012', Web Page, (2012).
343 Ibid.
344 Home Office, *Circular 006/2014: Amendments to the Determinations under Police Regulations 2003*, 2014.
345 Home Office, *Linking Police Officer Pay Progression to Performance*, 2015. It should be noted that the system of appraisals is being moved to the College of Policing through the Assessment and Recognition of Competence (ARC) project following a commission from the Home Office. Responsibility for pay will remain with the Home Office.
346 NHS, *The Early Benefits and Impact of Medical Revalidation*, 2014.
347 Public and Commercial Services Union, 'Performance Management Divisive and Unfair', Webpage, (29 April 2016).
348 Ibid.
349 Civil Service World, 'Civil Service Performance Management: Survey Highlights Leaders' Frustrations', Webpage, (2016).

recognition that the system ought to change, reform is proving extremely ineffective, with estimations that new appraisals will not be in place until 2018.[350]

Studies show that millennials "want a management style and corporate culture that is markedly different from anything that has gone before": frequent feedback and encouragement, and an environment of constant learning. [351] Internal digital-workforce platforms identified in Section 5.1.3 could go some way to addressing this. The private sector's approach can also be used as a model. Deloitte, for example, has recently abandoned annual reviews, objectives set from the top and 360-degree feedback.[352] This was following a 2015 survey of corporate executives from multiple companies which found that 58 per cent felt performance management did not engage employees or drive performance.[353] Deloitte now provides weekly "check-ins" and reviews at the end of each project in a bid to improve performance management.[354] The international bank ING has introduced feedback apps and describe them as "continuous, more forward-looking and truly focused on performance".[355]

The public sector has a long way to go to deliver performance-management processes fit for modern workforces, but the NHS e-portfolio, an online appraisal system for junior doctors and nurses, is paving the way. The system allows employees to request real-time feedback as regularly or irregularly as they wish from colleagues. The current system is considered restrictive in the feedback it allows managers to submit.[356] A less restrictive system should allow managers to provide tailored advice and support. Services, such as the police, could incorporate a similar framework into their performance management strategy.

350 Jim Dunton, 'Controversial Civil Service Performance Management to Stay until 2018 "at Earliest"', *Civil Service World*, 11 July 2016.
351 PwC, *Millennials at Work – Reshaping the Workplace.*
352 Marcus Buckingham and Ashley Goodall, 'Reinventing Performance Management', *Harvard Business Review*, 2015.
353 Deloitte, *Global Human Capital Trends 2014 Engaging the 21st-Century Workforce*, 2014.
354 Buckingham and Goodall, 'Reinventing Performance Management'.
355 Greg Wright, 'Employee Feedback Apps on the Rise', Webpage, (2015).
356 British Medical Association, 'My Tiresome Portfolio Little Boxes, All the Same', 27 January 2015.

6 Recruitment

Securing the right people is essential to the effective running of public services. This will be especially important in the future given the level of workforce redesign that is required to meet future demands. Three current trends in public-sector recruitment are particularly worth paying attention to: targeting academic achievers, apprenticeships and contingent-labour platforms.

6.1 Attracting talent

There are two key questions public services must answer: (i) what skills do they need, and (ii) are they well placed to attract them? To help answer the latter question, leaders should consider a reform of pay scales and a renewed focus on employer brands.

6.1.1 Pay

A dominant theme throughout interviews for this paper was that the public sector is not equipped to compete on salaries for the most sought-after skills. As highlighted in Section 3.1.4.1, this is a well-documented concern, and Brexit has raised further questions about the growing need for skills to complete highly complex tasks and negotiations.[357]

Some initiatives have enabled public-sector bodies to be more competitive. One example is 'companies in government' (or government-owned companies, so-called 'GovCos'). These can take various corporate forms, but are wholly or partially owned by the government.[358] In interviews for this report it was clear that this is a valued option. When in-sourcing elements of its expiring Aspire contract, HMRC created a GovCo, the Revenue and Customs Digital Technology Services, to side-step civil service pay scales and attract those who had worked for private companies delivering the contract.[359] If done strategically, offering higher pay for the level of skills required can save costs. HMRC estimates transitioning from one large-scale IT contract to the management of several smaller contracts by their own GovCo will save them around £200 million a year from 2020-21.[360] If this is the case, the increased pay scales that facilitated more qualified hires will most likely be more than paid for. The Ministry of Defense took a slightly different route and created Defence, Equipment and Support, a so-called GOCO (government-owned, contractor-operated entity),[361] also releasing them from civil service pay scales.[362]

GovCos and GOCOs appear to be effective ways of circumventing pay restrictions, but they are unlikely to be the most efficient ones. There may be a range of other reasons to establish independently run government-owned bodies, but when asked why HMRC had done so, their Chief Digital Officer cited "a better employment offer" as the main motivation.[363] It is worth noting that although GovCos can offer a higher initial pay, they are also restricted by the current public-sector pay freeze, which means that salaries can rise by no more than 1 per cent a year.[364] The Government needs to recognise the need for greater pay-package flexibility, and allow individual departments to manage their salary budgets within a given envelope, to prevent unnecessary efforts being made to side-step rigid civil service pay scales.

However, even public-sector employers who do have the freedom to set pay may not be taking full advantage of it. A 2014 *Reform* survey revealed that the majority of academies had not changed pay structures since becoming an academy.[365] Similar findings have been seen in NHS foundation trusts who have flexibility to set pay, with suggestions that

357 Simon Fraser, 'Oral Evidence: The UK's Negotiating Objectives for Our Withdrawal from the EU', HC 815, 16 November 2016.
358 National Audit Office, *Companies in Government*, 2015.
359 House of Commons Committee of Public Accounts, *Quality of Service to Personal Taxpayers and Replacing the Aspire Contract. Thirteenth Report of Session 2016-17*, 2016.
360 National Audit Office, *Replacing the Aspire Contract*.
361 Louisa Brooke-Holland, *In Brief: Outsourcing Defence Procurement* (House of Commons Library, 2013).
362 Joshua Chambers, 'DE&S Finally Wins Pay Freedoms', *Civil Service World*, 16 April 2014.
363 House of Commons Committee of Public Accounts, *Quality of Service to Personal Taxpayers and Replacing the Aspire Contract*. Thirteenth Report of Session 2016-17., Q14
364 Ibid., *Q15*.
365 Amy Finch et al., *Plan A+ 2014: The Unfinished Revolution* (Reform, 2014).

public-sector employers feel pressured by national pay bargaining systems and trade unions.[366] To be able to attract and retain the necessary skills, it is important that employers have the genuine freedom to split pay envelopes as they see fit.

6.1.2 Employer brand

Given the constraints on departmental budgets, and the evidence on motivational factors for public-sector workers and millennials (see Chapter 5), flexible pay scales cannot be the only solution to attract highly skilled employees to the public sector. An area for improvement which came across repeatedly in interviews, is the need for public sector bodies to develop stronger employer brands.[367] Millennials often cite 'meaningfulness' as a key priority in choosing a job, and this appears to be even more important for Generation Z.[368] Employers should therefore emphasise the opportunities unique to the public sector in having a positive impact on citizens' lives.

Local government has been trying to battle negative perceptions of public-sector employment through campaigns such as 'Walk Tall', which attempts to address stereotypes about inflexible, job-for-life type roles, while also providing recommendations for public-sector managers to support a more adaptive workforce.[369] Local government also suffers from a shortage of planners, especially specialists.[370] This is due to difficulties in recruitment and a high turnover of staff.[371] St. Alban's Council have identified four ways to improve their attractiveness as an employer: clarifying career pathways, emphasising the huge impact on shaping public spaces, utilising opportunities to share posts across local government, and offering more flexibility in their employment terms.[372]

Despite these efforts, tangible outcomes have not yet been observed. Local and central government may be able to learn from other employers, especially when it comes to attracting specialists. According to one interviewee for this paper, Durham Constabulary has for years been recruiting young graduates, attracted by the valuable experience and impact of their work, to develop the force's digital solutions. Local government may be able to apply this approach to planning graduates who are keen to gain experience and observe the impact that planning has on the local environment.

Attracting digital talent may require a slightly different approach. A 2015 international survey showed that although the main career goal across graduates was a good work-life balance, graduates aiming to work in the tech sector emphasised a desire to be a technical or functional expert, as well as being entrepreneurial and innovative.[373] They were less concerned about serving a greater good, suggesting that advertising the potential to develop individual skills may be more useful than appealing to a public-service sentiment. Using both websites and social media to promote positions is also important to attract tech graduates, who cite these as sources of employer information more than non-tech graduates.[374]

366 Holmes and Oakley, *Local Pay, Local Growth*.
367 'Mind the Skills Gap…. How Can the Public Sector Attract and Retain Top Tech Talent?', *Computer Business Review*, 26 October 2016; Jon Milton, 'The Public Sector People Crisis', *HR Magazine*, 12 October 2015.
368 Deloitte, *The 2016 Deloitte Millenial Survey: Winning over the next Generation of Leaders*, 2016; Ricoh, 'Generation Clash in the UK: New Research Reveals Generation of under 19-Year-Olds Entering the Workplace Demand Most from Employers', News release, (5 October 2015).
369 Dawn Reeves, *Walk Tall: Being a 21st Century Public Servant* (Shared Press, 2016).
370 Women and Equalities Committee, *Oral Evidence: Disability and the Built Environment*, HC 631 (House of Commons Library, 2016).
371 East of England Local Government Association, 'Responding to Skills Shortages in the Sector', News, (27 January 2016); Women and Equalities Committee, Oral Evidence: Disability and the Built Environment.
372 Local Government Association, 'Workforce News Podcast September 2016', Webpage, (2016).
373 Universum, *Talent Attraction in the Tech Industry*, 2015.
374 Ibid.

6.2 Targeting high achievers

A dominant idea in public-sector recruitment is to target the highest academic achievers and either fast track them into positions of seniority or deploy them in areas that are subject to highly complex issues. The Civil Service has had a system of fast-tracking since the first half of the twentieth century, now known as the Fast Stream.[375] More recently, frontline professions have created graduate schemes which also target academic achievers. Inspired by the programme Teach for America, Teach First was set up in the UK in 2002, and in 2014 the first cohort of the graduate programme Police Now was enrolled.[376] Several social-work fast-track schemes have also been running since 2010.[377]

While there is no question that the public sector needs to find ways to attract the best possible employees, different routes must be evaluated before expansion. It is important that the relative success of programmes is evaluated on different measures, including diversity, given the evidence that diverse organisations generate better outcomes.[378] Both the Fast Stream and Teach First have been running for enough years to make some assessment of their success.

6.2.1 The Civil Service Fast Stream

Aiming to find leaders "prepared to commit themselves to solve the big issues",[379] the Fast Stream has grown significantly since its inception. In 2016, the number of graduates recommended for appointment was 976, up from 271 in 1994.[380] According to a 2010 Public Administration Committee report, a disproportionately high number of the civil servants progressing from Grades 6 and 7 to the Senior Civil Service (SCS) are Fast Stream alumni; in 2016 they made up about 31 per cent of Director Generals, 29 per cent of Directors and 22 per cent of Deputy Directors.[381] Although data are not available to compare the like-for-like performance and progression of Fast Streamers with equivalent civil servants, a conservative estimate is that Fast Streamers have made up around 6 per cent of the Higher Executive Officer-level employees, but have gone on to account for about 25 per cent of the SCS.[382]

Promotions are not a sufficient measure of performance, however. Fast Streamers may be promoted because there is an assumption that they will be better than other civil servants, or because they have been given training or opportunities that non-Fast Streamers have not been afforded. The understanding of which intake and training methods make for the best leaders needs to improve, and not be built on the assumption that a certain type of recruitment necessarily produces the most competent employees. In 2009, the Civil Service Capability Group explained that a system had recently been introduced which would make it "possible to track individual careers over a number of years and establish, for example, whether any common factors are driving performance."[383] This was to be managed by the ONS, but monitoring is now back with the Cabinet Office and data on the fast streamers' progression into the SCS seem to be the only performance measures

375 Richard Chapman, *The Civil Service Commission 1855 -1991: A Bureau Biography* (London: Routledge, 2004).
376 Teach First, 'Our History', Webpage, (2016); David Spencer, Matt Lloyd, and Lydia Stephens, *Police Now: The Case for Change* (MET Careers, 2014).
377 CommunityCare, 'Social Work Fast-Track Schemes: What We Do and Don't Know', 3 February 2016.
378 Vivian Hunt, Dennis Layton, and Sara Prince, *Diversity Matters* (McKinsey & Company, 2015).
379 Civil Service Fast Stream, 'Welcome to the Fast Stream', Webpage, (2016).
380 Cabinet Office, *Freedom of Information Disclosure*, 2016, FOI323625.
381 Cabinet Office, *Freedom of Information Disclosure*, 2016, FOI323624; House of Commons Public Administration Select Committee, *Outsiders and Insiders: External Appointments to the Senior Civil Service, Seventh Report of Session 2009-10*, HC 241 (London: The Stationery Office, 2010).
382 This estimate is based on the following information. In 2015, there were 55,430 civil servants at the Higher Executive Officer (HEO) level, which is the level Fast Streamers enter and operate at before they complete the four-year programme, the total number of Fast Stream graduates recommended for employment from 2012 to 2015 was 3,400. It assumes that the ratio has been similar throughout the history of the Fast Stream. This a conservative estimate as Fast Stream intake has increased, while the general size of the Civil Service has decreased. Sources: Office for National Statistics, *Civil Service Professions by Department and Resposibility Level*, 2016; Cabinet Office, *Freedom of Information Disclosure*, 2016, FOI323625; Cabinet Office, *Freedom of Information Disclosure*, 2016, FOI323624.
383 House of Commons Public Administration Select Committee, *Outsiders and Insiders: External Appointments to the Senior Civil Service, Seventh Report of Session 2009-10.*, Ev 53.

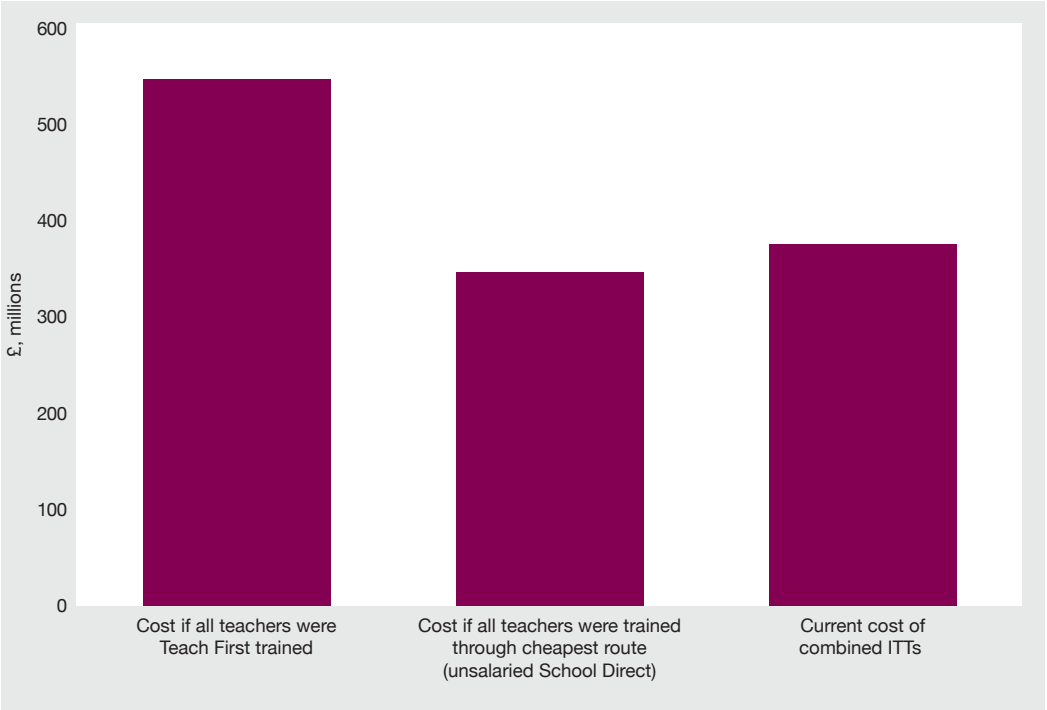
available.[384] For an accurate evaluation of the programme's success, more detailed performance information should be gathered and compared across the different routes into the Civil Service. In addition, it should be observed whether those who received higher scores during the admissions process go on to perform better, as this could provide a proxy for whether the right tests are in place.

6.2.2 Teach First

Recruitment for public-sector frontline roles has recently seen a significant expansion of fast-track graduate programmes. The social-work schemes and Police Now are too recent to assess outcomes, but some high-level conclusions can be drawn from Teach First, which has been running for over ten years.

Teach First is the most expensive of the different initial teacher training (ITT) routes.[385] Teach First entrants made up 7 per cent of postgraduates training to become secondary teachers, but 11 per cent of the training costs.[386] If all secondary teachers were trained through the Teach First route, the combined costs to schools and central government would increase by 46 per cent.[387] In contrast, if all teachers were trained through the cheapest route, unsalaried School Direct, 8 per cent of costs would be saved (see Figure 23).

Figure 23: Difference in average postgraduate ITT costs (secondary)



Sources: *Reform* calculations. Rebecca Allen et al., *The Longer-Term Costs and Benefits of Different Initial Teacher Training Routes* (The Institute for Fiscal Studies, 2016); Department for Education and National College for Teaching and Leadership, 'Initial Teacher Training: Trainee Number Census – 2015 to 2016', Official Statistics, (2015).

384 Office for National Statistics, *Freedom of Information Disclosure*, 2016, FOI 2963; Cabinet Office, *Freedom of Information Disclosure*, 2016, FOI323714.
385 Rebecca Allen et al., *The Longer-Term Costs and Benefits of Different Initial Teacher Training Routes* (The Institute for Fiscal Studies, 2016).
386 Department for Education and National College for Teaching and Leadership, 'Initial Teacher Training: Trainee Number Census – 2015 to 2016', Official Statistics, (2015).
387 Ibid.; Allen et al., *The Longer-Term Costs and Benefits of Different Initial Teacher Training Routes*.

The differences would be even larger if the cost per teacher still in the profession after five years was considered, given that retention rates for Teach First graduates are lower than any other trainees for which data are available.[388]

If outcomes for pupils taught by Teach First graduates are significantly better, the additional costs may be justified. In a survey of head teachers' first impression of trainees, respondents thought Teach First trainees had the best subject knowledge, were most likely to get hired of all secondary trainees and were most often seen as offering value for money.[389] Other evidence has previously suggested that Teach First trainees have some positive impact on pupil outcomes.[390] Furthermore, if Teach First graduates are still teaching three years after their qualification, they are disproportionately likely to do so in schools with high proportions of disadvantaged pupils.[391]

The above are important and positive for evaluating Teach First. However, not all indicators favour the programme. In the same survey of head teachers, Teach First participants were ranked lower than unsalaried School Direct when it came to fresh teaching ideas, and had the lowest score of all trainees on behaviour-management skills.[392] In addition, although they are more likely to teach disadvantaged pupils, they also tend to move to schools with high levels of attainment.[393] With the attainment gap between children from different socioeconomic groups stubbornly persistent, especially in secondary schools,[394] it is important that the best teachers go on to teach not only in disadvantaged areas, but also in schools with lower attainment.

Weighing up the advantages and disadvantages of the Teach First programme suggests that the increased cost does lead to improved outcomes. However, to justify the significant cost difference, outcome measures should be improved across all routes to allow for fair comparisons. If Teach First does turn out to be a superior model, its components should be analysed separately to identify the sources of its success, and to find out if they can be replicated more efficiently across the teaching workforce. Currently, Teach First graduates only reach a small minority of children. If it is the best way to secure high-quality teaching, such a small reach cannot be satisfactory.

6.2.3 Evaluating the pursuit of high achievers

Evidence suggests that higher-educated individuals perform better on both task-related and so-called 'organisational citizenship' behaviour measures, meaning fulfilling their direct responsibilities as well as taking on tasks beyond their immediate responsibility.[395] Correlations have also been found between cognitive ability and skills such as financial acumen and the ability to establish strategic direction.[396]

The evidence, however, also shows that cognitive-ability tests skew intakes against diversity, meaning that fast-track and top-end graduate schemes risk losing out on the well-evidenced benefits associated with diversity in management and the workforce generally.[397] This is the main reason the admissions process of the Civil Service Fast Stream has changed, shifting away from psychometric tests, with the hope that this will

388 National Audit Office, *Training New Teachers*, 2016; Allen et al., *The Longer-Term Costs and Benefits of Different Initial Teacher Training Routes*. None of the Schools Direct routes have data on retention rates after five years yet, as they have only been running since 2014.
389 Allen et al., *The Longer-Term Costs and Benefits of Different Initial Teacher Training Routes*.
390 Rebecca Allen and Jay Allnutt, 'Matched Panel Data Estimates of the Impact of Teach First on School and Departmental Performance', *Institute of Education* DoQSS Working Paper, no. 13–11 (September 2013); Arad Research, *An Evaluation of the Delivery of the Teach First Leadership Development Programme Cymru (Wales)*, 2016.
391 Allen et al., *The Longer-Term Costs and Benefits of Different Initial Teacher Training Routes*.
392 Ibid.
393 Ibid.
394 Department for Education, *Revised GCSE and Equivalent Results in England, 2014 to 2015*, 2016.
395 Thomas Ng and Daniel Feldman, 'How Broadly Does Education Contribute to Job Performance?', *Personnel Psychology* 62, no. 1 (February 2009).
396 Evan Sinar, *Cognitive Skills in Senior Leaders: Focused Influence, Critical Consequences* (Development Dimensions International, 2013).
397 Hunt, Layton, and Prince, *Diversity Matters*; Donna Ford, *Intelligence Testing and Cultural Diversity: Concerns, Cautions, and Considerations* (The National Research Center on the Gifted and Talented, 2004).

increase diversity in both applications and intake.[398] Application statistics for 2016 indicate that this may be working: candidates from lower socioeconomic backgrounds made up 14.6 per cent of applicants, an impressive increase from 7.9 per cent in 2015.[399] The only measure of diversity on the Teach First programme is the intake of graduates coming from a Black, Asian and minority ethnic background, where it mirrors other ITT routes, with around 15 per cent of the 2015 intake.[400]

The question of fast-track programmes feeds into a wider debate concerning the necessity of degrees. Since 2013, nursing has been a degree-level occupation, and the College of Policing has made proposals to either require degrees of new policing entrants, or enrol them on a degree-level apprenticeship.[401] However, a recent report suggests that the move towards degrees in nursing has led to an underutilisation of the skills added through academic qualifications.[402] This is supported by the latest World Economic Forum report on Human Capital, which points out that the UK has a high rate of overeducation, and suggests that the country makes improvements in alternative education paths.[403]

The expansion of graduate schemes and demanding degree-level qualifications may therefore not be the right direction for public-sector recruitment to move in. While programmes like the Fast Stream and Teach First are successful on some measures, it does not necessarily mean that they are the only, or best solutions. Before expanding further across sectors, the Government should investigate the extent to which programmes deliver value for money. Part of the evaluation process should be to make provision for alternative routes to public-service roles and compare outcomes alongside degree-level routes that already exist.

6.3 Apprenticeships

One alternative route to recruting the right people to the right jobs is apprenticeships. If used to its full potential, this can work as a source of highly skilled labour, at a much lower cost than fast-track programmes.

With the apprenticeship levy to be introduced in April 2017, the Government is hoping to make apprenticeships a more attractive option for young people, increasing both their quality and quantity.[404] Employers with a pay bill of more than £3 million a year will have an incentive to take on a large number of apprentices to make best use of the 0.5 per cent of the pay bill that they will be allocating to a training fund.[405] Furthermore, public-sector employers will be given targets for the number of apprentices they need to appoint – the preliminary, and somewhat arbitrary suggestion is that at least 2.3 per cent of the workforce of public-sector workplaces with more than 250 employees should be apprentices.[406]

Local government may have to offer *six times* more apprenticeships than they currently do.[407] Schools, who do not have a recent history of apprenticeships, are also included in the target. It is still unclear whether only very large schools will be covered by it, or if the cut-off point of 250 employees is set for entire councils (or multi-academy trusts), meaning that most schools will have to comply.[408] While these may be two of the most

398 Cabinet Office and Civil Service, 'Civil Service Fast Stream Opens to Recruit the Brightest and Best UK Graduates', News release, (30 September 2016).
399 Social Mobility Commission, *State of the Nation 2016: Social Mobility in Great Britain*, 2016.
400 Department for Education, *Initial Teacher Training Census for the Academic Year 2015 to 2016, England*, 2016.
401 College of Policing, 'Proposals for Qualifications in Policing', News release, (2 February 2016).
402 Chartered Institute of Personnel and Development, *Alternative Pathways into the Labour Market*, 2016.
403 World Economic Forum, *The Human Capital Report 2016*, 2016.
404 Sue Husband, 'Three Million Quality Apprenticeships', Speech, (18 March 2016).
405 Department for Business, Innovation & Skills, *Apprenticeship Levy: How It Will Work*, 2016.
406 Department for Business, Innovation & Skills and Department for Education, *Consultation on Apprenticeship Targets for Public Sector Bodies*, 2016; Department for Business, Innovation & Skills and Department for Education, 'Public Sector Apprenticeship Targets', Closed consultation, (2016).
407 Local Government Association, 'Workforce News Podcast – May 2016', Webpage, (2016).
408 Lee Povah, 'The Apprenticeship Duty and How It Affects Schools', *SecEd*, 25 May 2016; Freddie Whittaker, 'Apprenticeships: How the Levy and Hiring Targets Will Affect Schools and Multi-Academy Trusts', *Schools Week*, 11 July 2016.

drastic increases, the public sector as a whole currently only employs 1.7 per cent of its workforce as apprentices.[409]

Substantive growth in public-sector apprenticeships is therefore expected soon, and it is important to address how this is best utilised. Last year, Ofsted found that most high-quality apprenticeships were in sectors with great experience in apprenticeship provision, such as vehicle, construction and engineering industries.[410] Although the health, public services and care category of apprenticeships is the second largest, its growth is relatively recent and because it covers a range of sectors it does not reveal disparities in size and experience within those.[411]

The underrepresentation of apprentices in the public sector as a whole is worrying, as it is likely there are public-sector employers with little to no experience in apprenticeship provision. Ofsted also found that in most areas, excluding aerospace technology, employers had difficulty hiring apprentices with a sufficient level of skills, concluding that this is partly down to a low volume of applicants, caused by poor promotion of the apprenticeship route in secondary education.[412] The quality of apprenticeships and applicants may have to develop simultaneously – improvements in outcomes are partly down to the quality of applicants and more applicants are likely to be attracted at the prospect of better outcomes.

Although the sudden increase in apprenticeship starts will undoubtedly present significant challenges, it is a step in the right direction. Examples of best practice have already been identified, such as the public-sector commercial-profession apprenticeship, where its requirement of candidates to display the ability to apply skills to real-life scenarios was highlighted.[413] The opportunity to design alternative routes to teaching has been seized already, and this level of proactivity is needed across public services to make the most of the expansion.[414] If successful, this will not only provide a more diverse range of genuinely good education paths for young people, but a more skilled and diverse public-sector workforce. In the long term, it could reduce levels of overqualification which is both an indication of wrongful allocation of education resources, and results in lower career-satisfaction levels.[415] Public-sector employers should therefore take responsibility for the provision of high-quality apprenticeships, both to their own and national advantage.

6.4 Contingent-labour platforms

Flexible and temporary employment has been growing for decades,[416] but the emergence of the 'gig' economy, with workers supporting themselves through a variety of flexible jobs aquired on online platforms, has gained traction (and controversy) lately.[417] Although public-sector institutions have not yet taken advantage of opportunities offered by contingent-labour platforms, there are areas where their potential benefits seem obvious.

Currently in the public sector, contingent labour is most closely associated with social care. ONS data for 2016 suggest that the proportion of care workers not guaranteed a minimum number of working hours has increased from about 10.2 per cent to 14.2 per cent since 2015.[418] Concerns over the extent to which they are being paid the minimum wage by traditional contractors have repeatedly been voiced, [419] but alternative models

409 Husband, 'Three Million Quality Apprenticeships'.
410 Ofsted, *Apprenticeships: Developing Skills for Future Prosperity*, 2015.
411 Skills Funding Agency and Department for Business, Innovation & Skills, *Apprenticeship Programme Starts by Sector Subject Area (2005/06 to 2015/16 – Reported to Date)*, 2016.
412 Ofsted, *Apprenticeships: Developing Skills for Future Prosperity*.
413 Tom Richmond and Jonathan Simons, *The Skills We Need, And Why We Don't Have Them* (Policy Exchange, 2016).
414 Billy Camden, 'First Step of Teaching Apprenticeships Signed off', *Schools Week*, 9 September 2016.
415 Mark Beatson, 'Over-Qualification: Who Is Affected and What Are the Consequences?', *CIPD Community*, 17 February 2016.
416 John Burgess and Julia Connell, *International Perspectives on Temporary Agency Work* (London: Routledge, 2004).
417 Ibid.
418 Hilary Osborne and Pamela Duncan, 'Number of Care Workers on Zero-Hours Contracts Jumps to One in Seven', *The Guardian*, 17 November 2016.
419 Amelia Hill, 'Care Workers Launch Largest Ever Legal Claim over Minimum Wage Dispute', *The Guardian*, 14 September 2016.

are emerging. The company HomeTouch matches carers with customers on an online platform and charges less than traditional agencies, but their carers on average make an hourly salary 67 per cent above the national minimum wage.[420] A similar framework was attempted in the public sector with 'Slivers of time', which emerged around a decade ago. It was used by councils to fill discrete caring tasks, as well as smaller administrative and customer service jobs.[421] Despite some initial take-up, an interviewee for this paper explained that projects have stalled since 2013, mainly because of conflicts with additional earnings alongside benefit payments. The roll-out of Universal Credit could diminish this issue, as its purpose is to make it more profitable for claimants to take on work alongside receiving benefits.[422]

Adopting a contingent-labour platform for social care would allow local authorities to set the conditions that they see fit without depending on the judgment call, and cost, of a 'middle man'. At a time where councils are struggling to remain within their budgets, avoiding agency costs, while being able to only pay for hours worked, would be a great advantage.[423] Carers would be able to choose the hours they are free to work and the tasks they are happy to do. Currently, the contracts which do not guarantee them a minimum number of hours make taking on other jobs difficult, as working hours could conflict. With the adoption of contingent-labour platforms, carers would be able to fully determine how to split their hours between different sources of work and not be restricted by one employer. An additional benefit of these platforms in social care is the increased autonomy of users, who have the ability to choose when they would like care, and which of the available carers they would like to receive it from. In Greenwich, implementing the format has allowed more flexibility in responding to users' requests, less time spent on admin and provided a platform for more flexible working, as well as volunteering.[424]

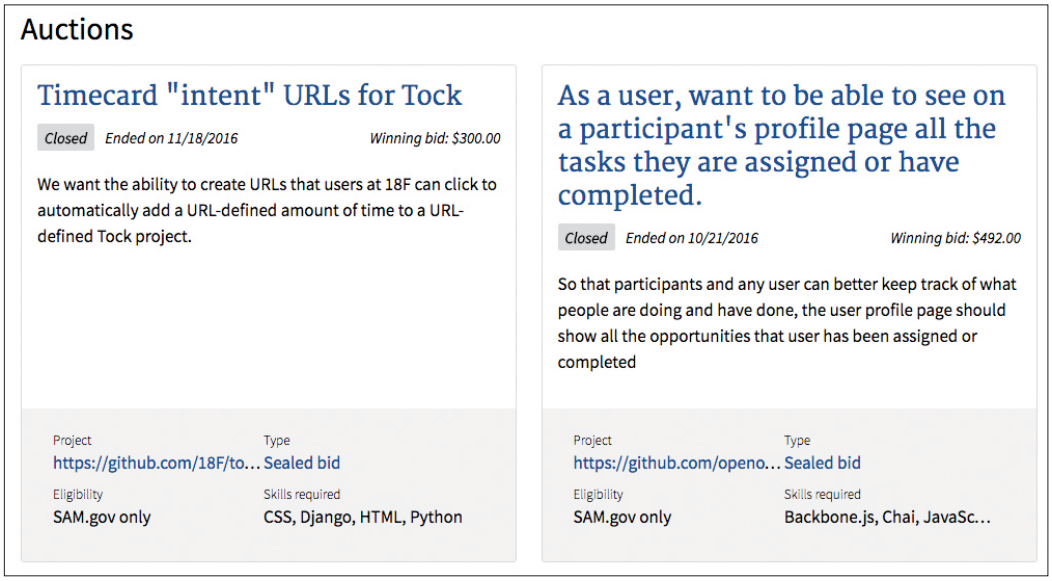
While social care is an obvious area for developing contingent-labour platforms, it should be explored across the public sector. Both schools and hospitals are struggling to keep down their spending on agency fees, and have scope to make a system that is more beneficial to employers and employees.[425]

For digital skills specifically, the Government has adopted an online platform called Digital Outcomes and Specialists, which public-sector organisations can use to find expertise for limited time periods or projects.[426] The person or organisation offering their services quote a price, which will form part of the grounds for a final purchase decision. Elsewhere, G-Cloud has overwhelmingly been used to purchase contingent labour and consulting services, despite these being one of four spend categories.[427] This highlights the appetite for using contingent-labour platforms in government and amongst high-skill workers.

A more radical approach has been taken by the American equivalent to GDS, 18F. In 2015, 18F launched a reverse-auction site called Micro-purchase. Coders can bid and offer their expertise for discrete tasks, and have the chance to bid again if others outbid them (see Figure 24).

420 Jamie Wilson, 'The HomeTouch Pay Report at 100,000 Hours', Webpage, (7 November 2016); Dobson, 'Getting to Grips with the Gig Economy III: The Public-Sector Workforce'.
421 National Council for Voluntary Organisations, *Case Study: Slivers of Time*, 2009.
422 Department for Work and Pensions, *Universal Credit: Welfare That Works*, 2010.
423 Rachel Carter, 'Councils "overspending" on Adult Social Care Budgets', *CommunityCare*, 2 November 2016.
424 'Lewisham Person 2 Person Marketplace', *Catford Central*, 11 February 2014; Sue Mitchell, 'P2P Marketplace: Person to Person Support', 2013; King's Fund, *Greenwich P2P Marketplace*, 2013.
425 Dobson, 'Getting to Grips with the Gig Economy III: The Public-Sector Workforce'.
426 Digital Marketplace team, 'The Difference between G-Cloud and Digital Outcomes and Specialists', *GOV.UK*, 3 November 2016.
427 Hitchcock and Mosseri-Marlio, *Cloud 9: The Future of Public Procurement*, 29–30.

Figure 24: 18F Auctions website



Source: Screenshot of the 18F Auctions website

The dominant idea behind Micro-purchase is to provide a lower barrier for new vendors to work with government and to avoid traditional contracting for smaller issues where a larger contract would incur excessive costs and less flexibility.[428] 18F awarded its first winning bid to a coder offering their services for just $1, and the solution passed the acceptance criteria.[429] Although this was a unique occurrence, it shows that a reverse-auction site can create significant savings. 18F estimates that the format has saved them $67,790 on the 29 deliveries so far.[430] Importantly, 18F have been open to learning from failed auctions, and are constantly readjusting the process to make the outcomes as reliable as possible in terms of quality and timing, and to make the process a positive experience for all parties involved.[431]

Platforms like Micro-purchase not only promise significant savings. According to the World Economic Forum, they will also have a revolutionising effect on the labour market, making "work global, even if workers are not."[432] This has been observed for decades in the private sector with call centres being placed abroad.

Contingent-labour platforms could be applied elsewhere. Some public-sector bodies are subject to seasonal changes in demand and would benefit from access to agile and affordable labour, for example in HMRC at the end of a tax year.[433] Instead of negotiating contracts with third-party agencies, a platform would allow temporary employees, who may include people who have retired from the sector, to be appointed directly.

Taking advantage of the benefits offered by a truly global source of digital talent will be central to the reshaping of the public sector. For labour platforms to work well, however, employers must determine where the greatest potential lies and how to best utilise it. First, they should consider how a contingent-labour platform will meet their specific needs. Often it will be because the type of work lends itself well to outcomes-payments, such as the digital examples above. Another common reason would be unpredictable levels of demand and the opportunity to provide users with greater choice, as with the

428 V. David Zvenyach, 'Micro-Purchase Auctions Round 2: What We Learned', *18F*, 15 January 2016.
429 V. David Zvenyach, 'Early Lessons from the Micro-Purchase Experiment', *18F*, 6 November 2015.
430 18F Micro-purchase, 'Insights', Webpage, (2016).
431 Michael Torres and V. David Zvenyach, 'When a Micro-Purchase Doesn't Work Out, We Try to Learn from It', *18F*, 7 July 2016.
432 World Economic Forum, *The Human Capital Report 2016*, 1.
433 House of Commons Committee of Public Accounts, *Quality of Service to Personal Taxpayers and Replacing the Aspire Contract. Thirteenth Report of Session 2016-17.*

example of social care. Related to these divisions are considerations over how the employment should work in terms of remuneration. Some will be based on provided outcomes and determined through a bidding process, where other sectors such as care work are likely to be commissioned on an hourly basis, and if not for a set price, then with a minimum rate to not undercut the living wage.

For contingent-labour platforms to work in the public sector, they must be user friendly, as has been the case for the most successful private-sector platforms. Public-sector institutions should use size to their advantage, and build platforms covering multiple roles (in turn demanding the succesful recruitment of people with the skills to build such platforms, see Section 6.1). Employees would sign up listing all their qualifications, which would be verified, and then be able to access and apply for all relevant tasks. As platforms are developed across councils, NHS trusts, schools and other bodies, they should be built with compatibility in mind, so that workers could easily transfer their qualifications.

7 Conclusion

Meeting the needs and expectations of citizens today requires government to escape yesterday's approach to workforce design. Across public services, workforces have been designed around workers: they are hierarchical, too large and irresponsive to user needs. Analogue approaches are followed in a digital world. Recent years have seen reductions in numbers, but no change in mentality: productivity, if focused on at all, is considered more important than understanding the outcomes citizens want; automation is seen as quicker IT systems, not a new delivery model. Workforces are not delivering value for money.

A new approach requires a new mindset. Cutting numbers should not be seen as an end in itself; technology should replace jobs where it can deliver a better service, as well as a more cost-efficient one. Self-management models and fewer management layers should promote innovation. A willingness to identify and learn from mistakes would improve the quality of services. This can be facilitated by leaders with the freedom to motivate workers as they see fit. New recruitment practices should focus on what employees can offer, rather than narrow academic qualifications. Tapping into the 'gig' economy can make this much more efficient.

Updating the workforce to meet the needs and expectations of citizens in the twenty-first century is a critical means to delivering value for money in public services. The principles in this paper set out high-level themes government should consider. Blueprints for action in individual policy areas will be outlined in subsequent papers. If applied successfully, the quality of public services achieved within a restricted funding envelope will improve, to the benefit of the workforce and users alike.

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