on the day BRIEFING

NHS Providers

NHS operational productivity: unwarranted variations in ambulance trusts

This briefing provides a summary of the key findings and recommendations of *Operational productivity and performance in NHS Ambulance Trusts: unwarranted variations*. The review, led by Lord Carter, has been produced following engagement with all 10 ambulance trusts in England. It focuses on ambulance services, which account for £2.3bn of NHS spending each year. The report also considers other services such as 111 and patient transport services, which are often run by ambulance trusts, in the context of their impact on urgent care services. The recommendations from the report can be found in the annex of this briefing. For more information on this briefing or our work in this area please contact david.williams@nhsproviders.org or adam.wright@nhsproviders.org.

Key points

- The focus of the report is on reducing the numbers of patients being taken by ambulance to accident and emergency (A&E) departments. The Carter team has found variations in the rates of conveyance between trusts which it describes as unwarranted.
- Reducing avoidable conveyances to hospital could release capacity worth £300m in the acute sector, the report states. However it also acknowledges that in order to make those savings, alternative services that better meet patients' needs will need to be put in place. It does not calculate the cost of establishing these additional services.
- There are three structural problems with tacking to reduce conveyance rates and improve patient experience: access to GP and community services; establishing urgent treatment centres in all sustainability and transformation partnership (STP) areas; and reducing ambulance handover delays.
- The report states that demand for ambulance services has risen in the past five years, and that the service's overall productivity has increased in response. However, trusts have improved at different rates, and there are significant differences in productivity between providers. Eliminating these could yield £200m in savings, it estimates.
- Productivity opportunities exist in three main areas: staffing, particularly improving engagement and reducing sickness rates; better use of technology; improved fleet management, including nationally-coordinated procurement for vehicles and equipment.
- Although questions were raised over whether ten ambulance trusts is the right configuration, the review concludes "now is not the time" to attempt to address this issue. Trusts should instead focus on moving towards a common infrastructure and operating model.

Ambulance service productivity

There has been a 6% annual increase in demand for ambulance services over the past five years, which the Carter team found to have been disproportionately driven by patients with urgent mental heath or primary care needs, rather than those needing life-saving treatment.

The report states that patients are sometimes brought to hospital unnecessarily in what it terms "avoidable conveyances". However, it finds that this is due to ambulance crews not having access to the right information, or because alternative pathways are not place – not due to poor decision making by staff. According to NHS England's modelling, savings worth over £300m could be made if "overall conveyances were reduced to 50%", mainly through reduced A&E admissions. The report is unclear on how many unnecessary conveyances would be avoided though, and does not calculate the cost of establishing alternative services.

Measuring productivity

The review acknowledges that benchmarking is difficult because, although trusts have large amounts of data, it is not standardised. There is no single measure of productivity because of differences between the populations and geographies different trusts serve. However, judging trusts' own performance on productivity over time, the report finds that the sector as a whole has improved, but that individual trust performance is variable: the best performing trust has improved by 30% over three years, while the worst performer's productivity has declined. This is only judged on cost per call out, and does not take quality or performance into account.

Ambulance trust productivity is highly dependent on other parts of the health service working effectively. Lord Carter's team identified a set of factors that drive ambulance service productivity: the way in which calls are categorised; "hear, see and treat" rates; the time taken to resolve an incident, also known as "job cycle time"; and the overall staff time used for each incident. They found "significant unwarranted variation" in each of them. The report also found that trusts where staff spend more time at the scene with patients convey fewer patients to hospital and are therefore able to see and treat more people.

Improvements

To reduce the rate of avoidable conveyance, there should be a standard range of treatment options for patients – partly because many people call 999 because of the confusing array of healthcare choices. The trust with the highest number of urgent treatment centres has the lowest conveyance rate.

The report makes clear effectively matching supply with demand is key to productivity. Ambulance trusts can improve by: standardising clinical assessment offers in control centres; improving access to patient information, for example via the summary care record; empowering staff to make clinically appropriate decisions; and utilising a consistent workforce skill mix. There is variation in trusts' ability to model demand and the management of staff rotas, leading to over and under utilisation of staff hours. The ambulance sector should also look to identify the best models for managing peaks and troughs in demand.

Workforce and leadership

The report emphasises the health, wellbeing and engagement of staff. High levels of bullying, harassment and sickness absence must be understood and improved within the ambulance sector; the NHS People Strategy is already underway and addressing this.

There is variation in staff engagement scores between trusts but overall scores for the sector are lower than the NHS average. Trusts are clear solutions to this problem must not be imposed from the national bodies. NHS England has also set up #ProjectA for ambulance staff to identify and implement ideas that will lead to improvements.

Sickness rates in ambulance services are the highest in the health service, and trusts lose 20 days per member of staff each year. The most common reasons for staff sickness are mental health and musculoskeletal problems. Reported levels of bullying and harassment in the ambulance sector are also the highest in the NHS. The Assaults on Emergency Workers Bill aims to classify offences committed against ambulance staff, while the Association of Ambulance Chief Executives (AACE) is continuing its campaign of zero tolerance of violence towards staff.

Although more staff are employed by ambulance services, vacancies across trusts vary from between 0%-13%. The number of paramedics entering training has already increased, but Health Education England has identified that more work is needed to meet increasing demand. Turnover rates also varied, from between 9%-17%, and many reasons for staff leaving the service have been identified. The report suggests a national rotation plan across the NHS for ambulance staff could reduce staff turnover.

The report suggests training must be adapted to reflect the changing role of the ambulance service, so more of its workforce can make autonomous clinical decisions. This should involve the completion of the paramedic evidence-based education project (PEEP).

Ambulance fleet and control centres

The ambulance fleet

The ambulance fleet is the largest area of non-pay expenditure, with £200m spent every year. While the sector continues to replace its older fleet as part of its usual cycle, the introduction of the new ambulance performance standards is leading to a change in the fleet mix, which could mean around 700 more Double-Crewed Ambulances (DCAs) are required.

Older vehicle breakdowns and unplanned maintenance is a source of inefficiencies – a planned maintenance regime is important. The report identified variation in the types of ambulances used, with 31 different types of specifications used when converting vans into ambulances. The report recommends standardising service specifications. There is also variation in the age of trust fleets and older fleets are

generally more expensive to run. More modern fleets can improve staff morale and decrease the risk of infection.

Improvements may also be made in the procurement of vehicles. The report suggests more effective management of the conversion market in particular may reduce costs and improve quality and resilience. Delivering improvements will require trusts to work together but the report also highlights the need for central capacity to be developed to shape work and ensure economies of scale.

There are no common standards for recording fleet information and analysing performance, and the report recommends for the use of black box technology across the service. It also calls for a reduction in avoidable accidents, particularly on hitting property and colliding with parked vehicles, and reduce the time to report incidents to insurers. Trusts should also review their fuel management arrangements, including their use of fuel cards.

Load lists

Ambulance trusts spend a significant amount of money on medicines, consumables and equipment, referred to as "load lists". The sector spends around £50m a year on their load lists, around £11.5m of which is spent on medicines. The review found significant amounts of variation in the type, presentation and quantities of medicines, and there is similar variation in consumable products (such as gloves, needles and cannulas). The report makes the case therefor for standardising the load list of equipment, consumables and medicines.

Control centres

The overall performance of control centres is measured by the way calls are handled, resources are dispatched and clinical advice given to patients. The report found variation between the time taken to answer calls (between 11 seconds and two and a half minutes). There are two triage systems in use, but the review found no correlation on performance (however moving to one system may enable consistency and support integration). Call length targets should be avoided and are inappropriate, but the report found some cases where call handlers were staying on the line when it was not clinically necessary; improvements in this area may reduce pressure and improve performance.

There is also significant variation in the proportion of call handlers and dispatchers within different control centres, along with variations in the number of standard operating procedures in place in each centre. There is opportunity to standardise and improve consistency in practices and procedures across trusts. The report also calls for the acceleration of interoperability and calls on trusts to work together on shared telephony systems.

In terms of system resilience, the report concludes the current trust partner system (whereby calls are routed to another trust if one trust's IT fails) is not sufficient. Trust boards are asked to test their disaster recovery plans annually. There are also concerns over control centre capacity as demand is forecast to increase by around 4% a year.

Digitalised services

There are currently three ambulance Global Digital Exemplars (GDEs), but the report claims all trusts can be doing more to drive technological development. One example is the uptake of advanced mobile location technology which can reduce the time it takes a call taker to identify the location of callers. Auto dispatch software is also being used in the sector, but adoption should be much quicker.

The sector will centralise its data infrastructure as it upgrades to the wider emergency services network (ESN). It is hoped this will deliver resilient voice communication and broadband data services for all trusts. But the report stresses this should develop into a national integrated infrastructure that would allow services to share calls, improve consistency of operational performance, enable consolidation and drive through efficiencies in procurement.

Estates, facilities and corporate services

There is a threefold variation in the number of operational sites trusts run. While this is partly explained by geography, there is also scope to reduce costs by rationalising their estate. There is significant variation between trusts in the amounts of empty and unsuitable space they have, and trusts are inconsistent in their submissions to national estates data sets.

Make ready systems

"Make ready" systems can be used to rationalise estates and improve productivity by creating "hub" sites where vehicles are made ready for their next shift, and "spoke" sites where ambulances wait to be deployed. Where ambulances are stationed can then be changed according to demand patterns. While most appropriate in urban areas, this way of working can be adapted for rural systems.

Trusts are inconsistent in their central reporting of estates data via the Estates Return Information Collection (ERIC). The £20.4m backlog maintenance reported across the sector is therefore likely an underestimate.

Corporate services

Ambulance trusts spend proportionately more than any other sector on corporate services, such as HR, finance, legal and procurement. This may partly be due to the small size of ambulance trusts and the unique nature of its workforce – there are training requirements related to paramedics which other types of trust do not have to fund. However there was still variation between organisations in corporate services spend and the amounts paid for comparable services. There has been little change in how corporate services have been delivered in the NHS, and there are opportunities to modernise and automate. Trusts should also collaborate to make savings.

Implementation

Improving data collections and the Model Ambulance Service and

Making data visible and comparable via a newly developed Model Ambulance Service Portal will enable trusts to identify variation. The Carter team says it will work with NHS England to identify how the information ambulance trusts have could be used to support the design and delivery of community and other services.

NHS Improvement should do further work to develop a productivity index for ambulance trusts.
The review found that patient level data is currently collected from the ambulance service but it is not nationally collated or analysed. The creation of the National Ambulance Data Set (ADS) is being led by NHS England to integrate existing and developing data sets across the urgent and emergency care system- the report supported this development.

Collaboration but not consolidation

The report states trusts should immediately focus on improving performance and removing variation within existing organisations – rather than attempting consolidation within the system. However adopting a common infrastructure, particularly for control centres, will bring about some of the benefits of working at scale. So could collaboration – for example establishing common fleet standards and sharing back office functions .

More common practice

There should be a common operating model for all trusts, including standardising triaging systems and rules, developing common protocols for staff on scene to reduce avoidable conveyance, and common support models for frontline staff. There should also be a common approach to make ready systems, where appropriate, single specifications for ambulances and common load lists.

Financial and contractual incentives

Improvements to ambulance services should be included in the 2019/20 contracting round, for example using mechanisms such as CQUIN. Key measures recommended to be included in next year's tariff are: update of technology to support clinical decision making; implementing defined pathways for people in mental health crisis; a common ambulance specification for new fleet, including a common load list; interoperable telephone services; bringing in alternative pathways or protocols that encourage non-conveyance to hospital.

In future, the tariff should encourage staff to spend longer on scene to reduce conveyance.

The Ambulance Improvement Programme, led by NHS England, should take responsibility for delivery.

NHS Providers Media Statement

In response to Lord Carter's report on the productivity of ambulance trusts, the deputy director of policy and strategy at NHS Providers, Miriam Deakin said:

"Ambulance trusts are feeling the effects of rising demand for emergency services outpacing funding increases, difficulties in recruiting and retaining staff, and the need to adapt the way they meet the changing care needs of patients.

"Lord Carter is right to highlight these challenges and we welcome support from the national bodies which will share learning and support further productivity gains.

"Ambulance services are working hard to reduce the number of unnecessary call-outs and treat people closer to home where appropriate. As well as investing in technology and new fleets, many ambulance services are using approaches such as 'hear and treat' to better understand a patient's needs before deciding whether to dispatch an ambulance. There has also been impressive progress in treating more patients at the scene and improving pathways for heart attacks and stroke.

"We must recognise the role that ambulance services often play as the 'front door' for patients. To be able realise the levels of savings identified, we must address pressures in other parts of the health and care system. Reducing unnecessary trips to hospitals in ambulances could save money, but it will require investment in other areas, for example in primary care, mental health and community services or social care.

"Underpinning this is a workforce at full stretch. Sickness levels across ambulance staff are some of the most severe. The significant shortage of paramedics is unsustainable and must be tackled if we are to address these pressures. We need to ensure staff feel valued and supported."

Annex 1 – recommendations

1. NHSI should make operational data routinely available to ambulance trusts to enable benchmarking, starting in autumn 2018. Trusts should review levels of variation.
2. NHS England should accelerate work to support reduction of avoidable conveyance to hospital, working with trusts, commissioners, STPs, NHSI and NHS Digital.
3. Trusts should maximise resource availability, including by reviewing workforce utilisation and spending controls for example on private ambulances.
4. The ambulance service should develop a five year workforce, recruitment and staff wellbeing plan to improve engagement, cut sickness absence, nurture leadership and minimise vacancies.
5. NHSI should work with trust leaders to produce a standard specification for new ambulance fleet, and improve how the fleet is managed.
6. Trust boards should improve performance of their control centres and strengthen resilience in the event of a major incident or system failure.
7. Trusts must invest in technology for their control centres to improve interoperability with other parts of the system.
8. Ambulance trusts should review their estates to match demand by summer 2019, and optimise their corporate services functions.
9. NHSI and NHS England should work with ambulance trust leaders and other national bodies to implement the findings of the report, including via the production of a Model Ambulance Service tool.