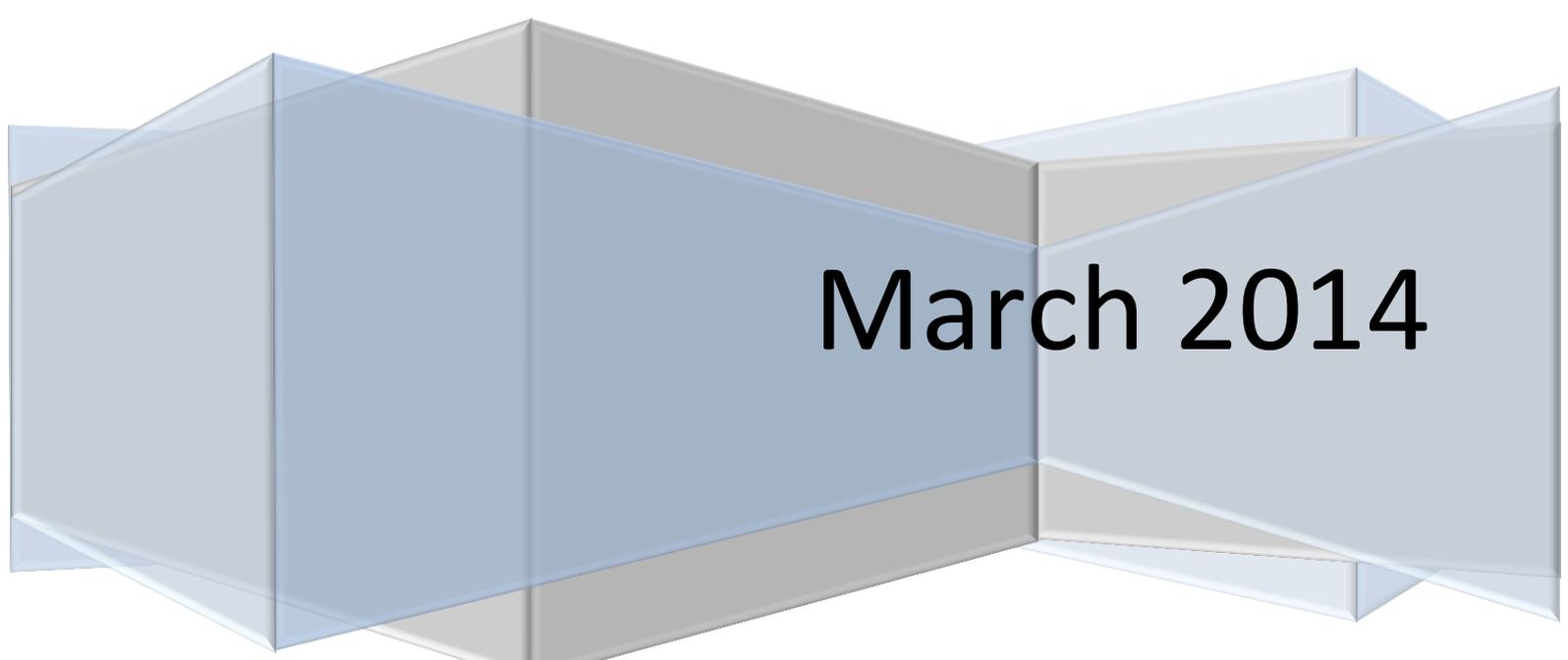


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Whole System Solutions for Emergency and Urgent Care

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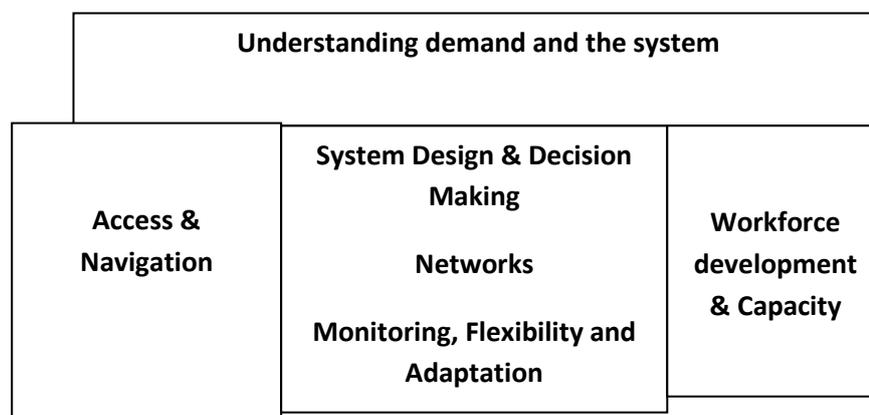
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Introduction

During 2013 there have been numerous statements, reports and commentaries which overwhelmingly give the impression that provision of Emergency and Urgent Care in England has reached a critical point where, without action, it will collapse. Demand for emergency and urgent care is continuing to increase. The reasons for this are a complex mix of changing demographic, health and social factors but the way we deliver urgent and emergency care has remained the same. There is no reason to expect this trend to reverse so the system of delivering care has to adapt.

It is recognition of this that has prompted the NHS England review of urgent and emergency care and the recent publication of their findings from phase one of their review set out five key elements considered to be core to the development of urgent and emergency care¹. The NHS Confederation recognises that the challenge now is how to move this agenda forward in terms of practical solutions to support the creation of an emergency and urgent care system fit for the 21st century.

There is pressure to rapidly find “solutions” but the urgent and emergency care system is complex. Attempts to find solutions that can have real impact need to be supported by detailed understanding of the issues and challenges which will underpin future service development and evidence based. There is a general consensus that a **whole system approach** is needed to tackle the problems in urgent and emergency care. Here we have summarised and interpreted the evidence in terms of what we already understand about key interlinked system areas, highlight where further consideration and investigation is needed and provide examples of existing developments that are already tackling these complex challenges.



Understanding and managing demand

Understanding demand

A critical first step to managing demand for urgent and emergency care is to understand it: numbers, trends, characteristics and the reasons why it is changing. So what do we know?

Long term changes in demand for ED and ambulance service care

- Increases in demand for ED care is not a new trend². Over the 40 years from 1966/67 to 2006/7 demand for ED care in England doubled from an estimated 6.8m first attendances at type 1 EDs to 13.6m - equivalent to an increase from 138 to 267 first attendances per 1000 people per year (Fig 1) with an average annual growth of 1.75%.
- Since 2006/7 there has been a further increase to 14.3m first attendances at type 1 EDs in England in 2012/13 but the rate of attendance has remained the same. However over the same period there has been a rapid increase in the use of minor urgent care (type 3) services with attendances increasing by 46% from 4.7m in 2006/7 to 6.9m in 2012/13.
- It is likely that these services have been absorbing the historical 1.75% growth in ED attendances - a recent study has found this sort of size of effect from opening a GP-led walk-in centre³ and have also been creating their own additional demand
- The demographics of ED users have changed. From 1987 to 2009/10 there is a clear shift in the proportion of attenders that are elderly, particularly in the oldest category of 75+ (Figure 2). These changes are important because the workload involved in caring for frail elderly patients possibly with multiple non-specific problems in ED is typically much greater than caring for young people aged 15-24 with single problems.
- Demand for 999 ambulance services has also steadily increased from around 4 million calls per year in 1994/5 to 9 million in 2012/13 – an increase of 160% with utilisation rising from 78 to 171 calls per 1000 people per year over the same time period (figure 3). During this period the proportion of patients transported to hospital has declined but detailed analysis of the demographic profile and characteristics of calls is lacking.
- These patterns of change are not unique to England as similar changes in ED attendances, demographics of users and utilisation of ambulance services have been reported in other countries^{4, 5, 6}

Demand for urgent primary care and whole system demand

- People with health problems also access urgent care via primary care and the NHS Direct and NHS 111 telephone services. A substantial proportion of urgent care is managed by primary care. One population survey has shown that 60% of users of the emergency and urgent care system contact their GP as their first port of call.⁷
- The lack of national data on urgent care contacts with primary care makes it difficult to assess whole system demand for emergency and urgent care. The evaluation of NHS 111⁸ measured whole system demand (excluding in hours GP contacts) over 3 years in 7 former PCT sites. Total contacts and the costs associated with these contacts increased from about £2.9m to about £3.3m, an increase of 14%, or about 4% per year (figure 4)

Fig 1. annual attendances at type 1 EDs

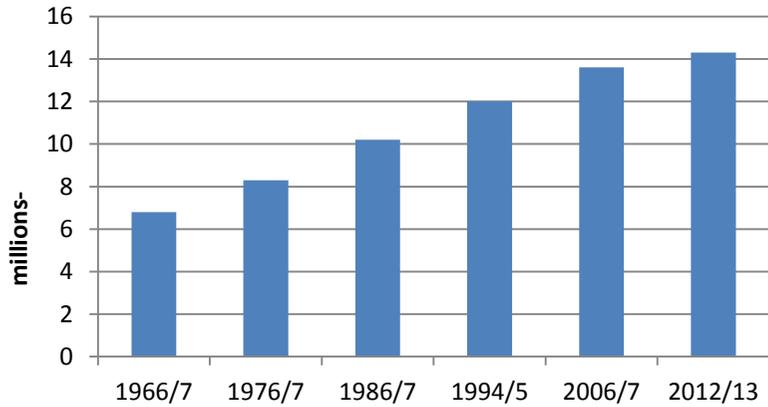


Figure 2 - Age of first attenders at EDs in England

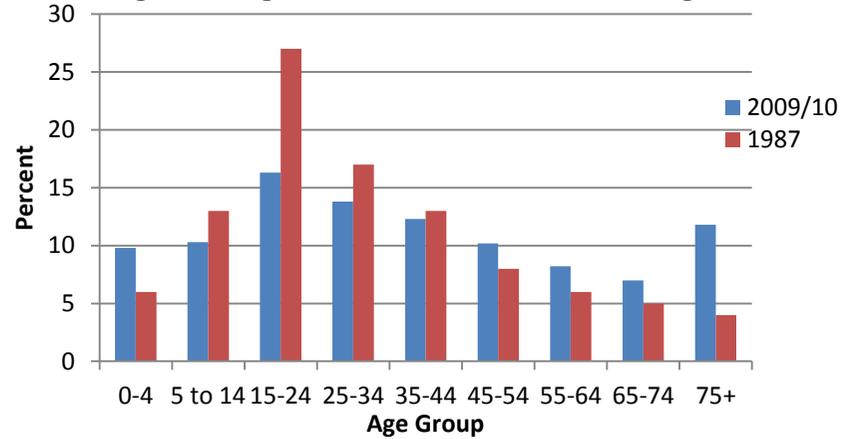


Figure 3 - Demand for emergency ambulance services 1995- 2012

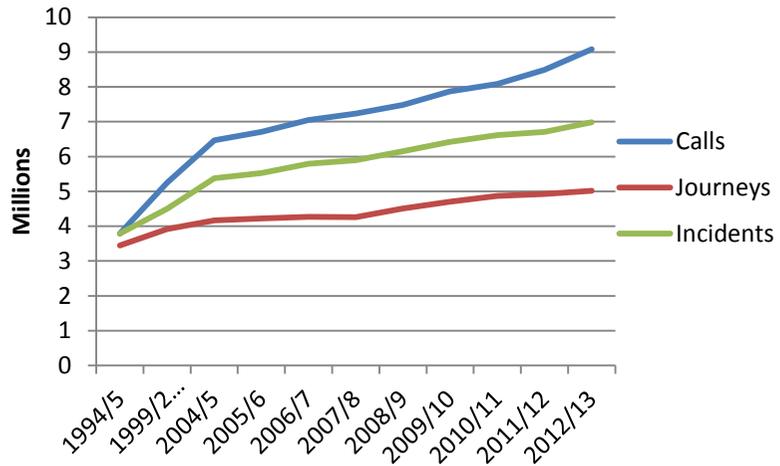
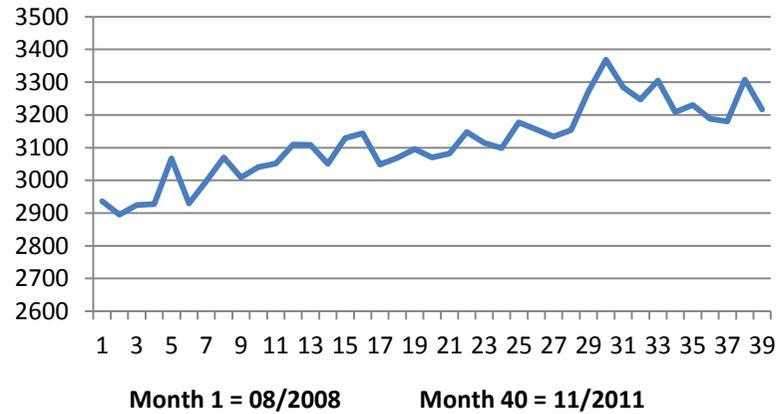


Figure 4 - Average total cost (£'000s) per site adjusted for month



What are the reasons for increasing demand?

The aging population is most often cited as a key driver for increasing demand and there is clear evidence about the changing demographic profile of system users but this is not the sole reason. A rapid evidence appraisal (see supplementary document {link}) has identified a range of factors, associated with both need and decision making on where to access care, that are thought to contribute to the problem.

Factors associated with increased utilisation of EUC

Health needs and the ability to respond (services and patients)

- Aging population – more frequent users, more fallers, complex conditions, less able to self care
- Deprivation and social factors - Loneliness and lack of social support, increased social mobility, more family separation, access to transport, cultural differences and understanding of primary care services, increasing alcohol related problems
- Changes in organisation of care provision – Psychiatric services moved from hospital to community, access to primary care services
- Policy initiatives - e.g. 4 hour target, 8 minute response times, health promotion and public information campaigns - increased awareness and expectations

Decision making about what and where to access care

- Convenience and confidence – understanding how the system works and where access is easy, quick, anytime, no negotiation, one stop shop, allows bypass of complex pathways, perceived shorter waiting times
- Perceived limitations of primary care - previous experience, community options too slow, will end up in ED for x-ray etc, only hospital doctors can rule out serious illness
- Directed by other services – NHS Direct/111, Out of Hours and in hours GP services, professional risk aversion
- Patient risk aversion – “just want to check it out”, uncertainty about seriousness, waiting for callback, bystanders and family/carers more likely to contact emergency than urgent care

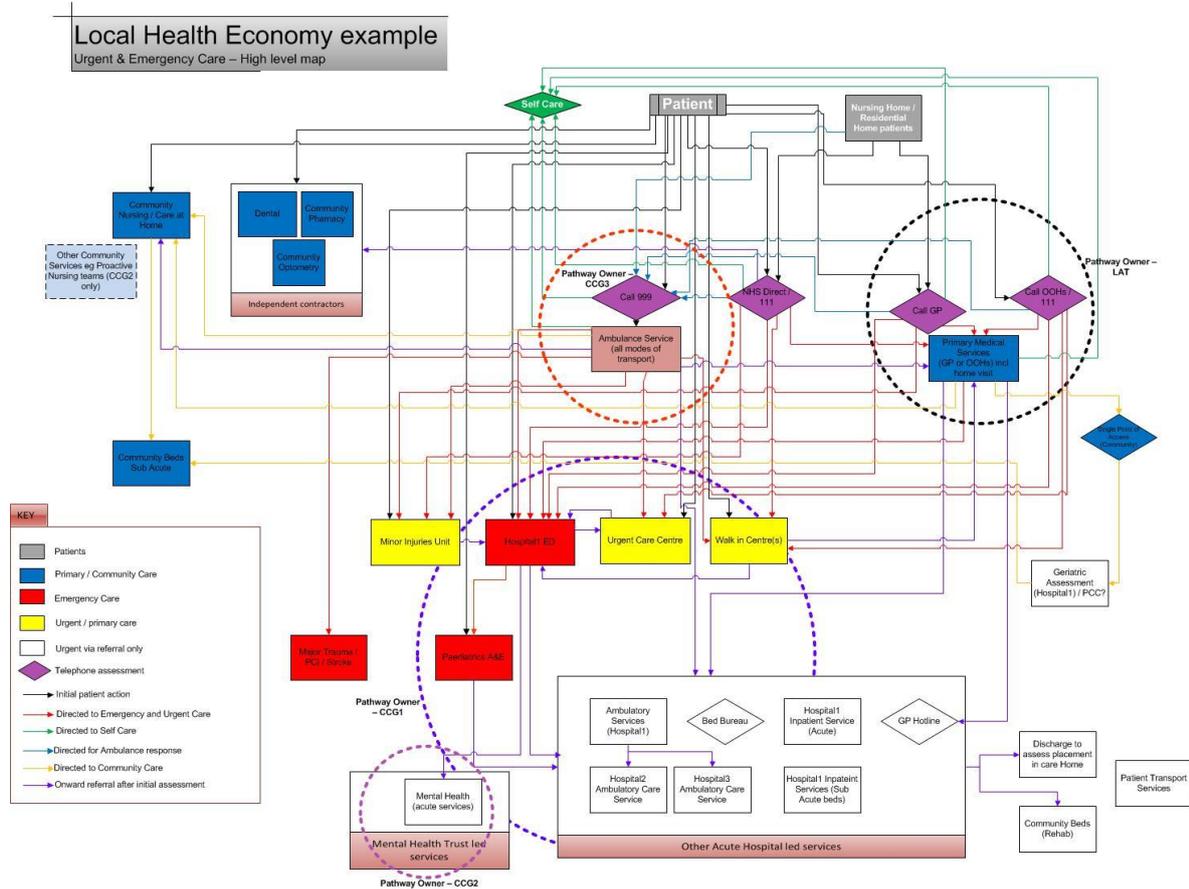
Understanding the system

The lack of clear and detailed information on whole system demand for urgent and emergency care has been acknowledged by both the NHS England¹ and the Parliamentary Select Committee⁹ reviews of emergency and urgent care. Without detailed understanding of demand and the characteristics of users of the emergency and urgent care system there will inevitably be a lack of alignment between the right system responses to meet genuine needs. Similarly, the current system for delivering care comprises a range of services with complex interrelationships (figure 5) which are poorly understood. The key problems are;

- Too many access points and handoffs between services
- Too much duplication of services

- Too few community options
- Too little focus on type of demand
- Fragmented leadership and co-ordination

Figure 5



Key task – Understanding local demand and the current system

- Assess in detail the characteristics of local demand – demographics, case mix, demand for different services, deprivation and the associated factors (social isolation, proximity to services, health problems, lack of transport, living alone)
- Map the current system - services, access points, pathways, links, flows and activity across them, pinch points, capacity
- This will need a robust and comprehensive information system to support analysis of the characteristics of demand, activity, flows and pathways

System re- design and decision making

System Re-design

A NICE evidence review of health systems identified 6 structures that should be part of any health system¹⁰

- management and leadership
- stewardship and care
- finance
- service improvement and resources
- service design and delivery
- partnerships and connectedness.

More specifically for urgent and emergency care, The Primary Care Foundation has set out some simple key principles for system development which underpin this process¹¹

Key principles for Urgent and Emergency Care system development (Primary Care Foundation (2011))

- Build care around patients not existing services
- Simplify an often complicated and fragmented system
- Ensure urgent care systems work together rather than pulling apart
- Acknowledge prompt care is good care
- Focus on all stages of an effective commissioning cycle – (assess, plan, contract, monitor and revise)
- Offer clear leadership across the system while acknowledging the complexity of the system

A more forensic examination of the current system enables a gap analysis to assess the fit between demand and the available system. The key principles of a good system can then be used as a framework for system re-design that is responsive to local demand and the demographic, and socioeconomic profile and health care needs of the system population

A re-designed system can be mapped and modelled in terms of what needs to be provided for a given population; where; when; how; and the interfaces between not just different parts of the NHS but with other sectors such as social care, local authorities and voluntary organisations. By taking a broad, whole system perspective, it can take account of policy initiatives set out in the NHS England review such as “**providing highly responsive urgent care services outside of hospital**” and “**providing better support for people to self care**” as well as the wider 7 day NHS agenda when considering system re-design. In particular the principle of better support for people to self care raises issues about system boundaries. Clearly there is relevance for the urgent and emergency care system as it needs to respond to requests for urgent and emergency care and better management at the access stage may increase self care options. It also highlights the importance of considering wider services outside the NHS which, with the right links and collaborative working, may improve efficiency and deliver more equitable and appropriate care.

For example a Department of Health led initiative encouraging partnerships between health and social care services and the voluntary sector to improve older people's experiences and prevent use of hospital services reported a reduction in emergency bed days across all 29 projects.¹² In an environment of shrinking budgets across all sectors the justification for whole system re-design involving collaborative working to find ways of working smarter and more efficiently while at the same time giving the public what they want and need is all the more compelling.

However, supporting self care also needs to be addressed by the wider NHS as there are strong links with related areas such as management of chronic disease and long term conditions, and end of life care. There will need to be clear boundaries to areas of responsibility if a system is to work effectively.

Decision making

The task of understanding, designing and delivering a coherent and effective local system of urgent and emergency care is a complex and long-term undertaking. It is likely to involve a diverse range of services and stakeholders that span different sectors both within and outside the NHS. A solution has to be found to organise, manage and co-ordinate these activities. Central to the structures of a good system are the mechanisms to manage it¹⁰. One of the key elements identified in the NHS England review is the need to

“connect all urgent and emergency care services together so the overall system becomes more than just the sum of its parts”

The suggested solution is to develop emergency care networks and there is good reason to support this as a principle. Clinical networks for specific patient groups (cancer, heart disease) that formalise and manage partnership have worked successfully in the NHS. Whilst this may be simpler to achieve for single disease groups, there is some evidence that this could be the right way forward. A National Audit Office review suggested that a network approach had potential for driving change in urgent and emergency care,¹³ and a review for the Department of Health in 2007 found a small number of examples of well functioning urgent and emergency care networks.¹⁴ The evidence from these reviews suggests some key factors that contribute to network success:

- There needs to be clear and agreed network objectives and expected system outcomes
- Membership of network boards should reflect network strategic aims and objectives but should at least include commissioning groups, acute, ambulance and mental health Trusts, NHS Direct (NHS 111), Urgent Care providers, Patient Groups and Social Care.
- Senior level commitment, strong leadership and decision making supported by committed providers and commissioners who are open to change and willing to work co-operatively
- A two tiered model works well, with a network board to manage strategic direction, planning, design and system wide issues supported by local groups to implement and deliver agreed network plans and objectives
- Dedicated funding for network management activities and system wide information systems.

The NICE review recognised that health systems are not static but dynamic and evolving. A good network model also involves taking responsibility for the full range of system functions and is not only concerned with defining, planning and implementing a system model but is also concerned with

- managing performance
- evaluating innovations to assess their impact and cost effectiveness
- monitoring demand patterns, system function and performance against intended outcomes
- reviewing and adapting the system to respond to changes in need, inadequate performance or the development of new innovations in services or ways of working

Since the 2007 review the landscape has changed and there have been significant re-organisations within the NHS. More recently Urgent Care Boards have been implemented to manage short term system problems but their role is not well defined,⁹ there is no evidence on their effectiveness. Ground level opinion suggests that their function is limited as they have not overcome problems such as agreement on membership, ability to effect change, lack of strategic focus and direction and difficulties in engaging organisations and fostering a culture of collaborative working. However the potential of the broader network model is still recognised. The Primary Care Foundation have stated

“Urgent and emergency care networks have an important role to play in leading local healthcare systems. Too often they have been seen as talking shops where no real decisions are taken, but if systems choose to give them real executive authority.....then they can play a key role in improving care across organisational boundaries.”

The development of strongly led and empowered networks is probably the single most important principle that will underpin the achievement of the long-term objectives for the urgent and emergency care system. The recognition of the key role of networks is to be welcomed, but we would question the NHS England suggestion that emergency care networks should be based on the major trauma network model with responsibility for system delivery resting with Major Emergency Centres for 3 reasons:

- Major Trauma Networks are still relatively new and there is as yet no empirical evidence that they function as intended, have improved system function and performance and therefore are the right model to replicate
- The description by NHS England of an emergency care network rather than an **urgent** and emergency care network omits the far bigger proportion of the population accessing the system by using urgent primary care. This will increase if the ambition to deliver more care out of hospital is achieved.
- Patients with life threatening conditions that need specialist major emergency centre care comprise the smallest proportion of the urgent and emergency care population. Will assigning responsibility for system delivery and performance with the provider who will manage the fewest patients be acceptable to commissioners and other providers in the wider system?

We do not underestimate the difficulties and challenges associated with developing a network model. It will need courage, vision and commitment to drive it forward and overcome the established organisational, professional and leadership boundaries that have thwarted innovation and collaborative working across multiple sectors in the past.

Nevertheless, without this approach it is difficult to see how the aspiration whole system solutions can be achieved. The challenge now is to find ways to move forward in a constructive way and tackle the practical issues that are likely to arise.

Key tasks – Development of Urgent and Emergency Care Networks

- Development of a network model for implementation across different systems utilising both theoretical evidence on systems and networks and practical examples where these exist.
- Identifying any current network models and making network development and implementation a core function of any pioneer/demonstration initiatives for urgent and emergency care system development
- Clarify network roles and objectives in relation to strategic direction; day to day delivery; performance monitoring and accountability
- Consider the usefulness of performance targets for individual parts of the system and look at the development of whole system performance metrics;
- Resolve conflicts around the commissioning and provider roles and whether networks only support network functions or also directly commission services
- Develop better understanding and methods of managing system financing. This needs to extend beyond simple tariffs for different parts of the system. Costs and funding decisions will be a critical part of system redesign and the impact of these decisions will need to take a system perspective in terms of where the real benefits of investment or disinvestment in services is realised. A whole system approach raises the question of whether a future solution would be to assign a budget for provision of a **system** rather than services.

Access and navigation

A key task for any good system will be providing mechanisms for people to access the care they need when they need it. The NHS England review recognises this in the proposed element of

“helping people with urgent care needs to get the right advice in the right place, first time”.

This means some form of sorting or triage is needed to direct people to the right care. The NHS England view is that NHS 111 will play the key role in this process. NHS 111 has got off to a shaky start and much of the media interest has been around problems associated with getting this service up and running on a national scale. There has been criticism that the service is inappropriately directing people to higher levels of care than they need. An evaluation of 4 pilot sites showed no significant impact on primary care or ED, but did find a 3% increase in ambulance incidents.¹⁵ This equates to 24,000 extra ambulance incidents per 1million NHS 111 calls. There was also an increase in overall system demand.

Despite the rhetoric, disposition rates by NHS 111 have remained stable and there is no indication of a major shift with national roll out¹⁶.

However, the on the ground view beginning to emerge from ambulance services is that referrals from NHS 111 are changing their demand profile with a shift towards out of hours and weekends and the increased activity is having an impact on 8 minute response time performance. This should be monitored and looked at more closely for ambulance services and it would be prudent to assess whether similar changes are happening in emergency departments.

It is still early days for NHS 111 but the evaluation of pilot sites provided some encouraging evidence in terms of improving equity in access. There was a high level of awareness of the service in the local populations and those identifying themselves as disabled or having a limiting long term illness were more likely to use NHS 111 than groups in better health, indicating that NHS 111 is reaching some groups of the population with greater needs. However, the problem of older people being less likely to use telephone accessed care persisted. This will need to be considered in any system re-design and other methods of access explored⁸. The pilot site evaluation also provided some insights in to what users think about this service which can inform future service development.^{8,17}.

Aspects of the service people liked were:

- Immediate response
- No waiting for call backs
- Ambulance (sometimes)
- Appointments being made

Aspects they didn't like were:

- Waiting for call backs – NHS 111 & Out of hours GP services
- Long pathways where they are moved between multiple services
- Questioning – if they have a specific request
- Services not linked with their information

The plans put forward to enhance the NHS 111 service by NHS England will contribute to improving this service. Early senior clinical involvement should tackle some of the issues around reducing inappropriate referrals to emergency rather than urgent care and providing more self care advice. There is limited evidence that prompt senior clinician (GP) telephone consultation can be an effective way of managing urgent problems out of hospital.¹⁸ However, there are wider issues a network will need to consider in designing a NHS 111 service that is fit for purpose:

- The providers of NHS 111 in the early pilot sites were experienced and established NHS call handling services (ambulance service and NHS Direct). The national rollout saw a range of different providers enter the market, some from outside the NHS. There has been no formal evaluation of how well these different models perform although the NHS England Review¹ has cited some early indications that established providers perform better. There is close alignment with the ambulance service as the other main 24/7 telephone access point and

calls flowing between the 2 services. From a system perspective it is worth considering whether these services should be integrated and led by the ambulance service

- If waiting times for call backs are to be reduced the senior clinical involvement also needs to be integrated within the 111 system – perhaps by being part of the service rather than outside – so that there are no delays in transferring calls
- NHS 111 is only as good as its links to other services and the electronic Directory of Services (DoS) is a crucial component in effective service delivery.⁸ Development of the DoS will need to be closely aligned to system re-design and needs to be constantly updated. This also has implications for the effective management of patients outside hospital.

There are also some wider issues around access and navigation that will need to be considered.

Direct access to services

The NHS England review has acknowledged the fact that there has been a change in the configuration of emergency departments over recent years and proposes a 2 tier system to ***ensure people with more serious or life-threatening emergency care needs receive treatment in centres with the right facilities and expertise.*** This may better reflect current provision but adds another “choice” in to the system. If people can choose to self- present at urgent care centres, emergency centres and major emergency centres the problem of multiple entry points and the public accessing the “wrong” service, either because of confusion or because of factors such as convenience, will persist. A “phone before you go” system, such as that operating in Denmark, could be considered to mitigate this.

If the public can still walk in to any service, EDs in particular will still then be accessed by people with urgent rather than emergency problems and urgent care centres may be accessed by people with emergencies. An alternative could be combined urgent and emergency care centres that cater for all attendees. Patients are streamed to different parts of the centre on arrival and no condition is deemed inappropriate for treatment, advice or re-direction. It is a model that has worked well in the Netherlands¹⁹ and there are examples of these in England. Some robust evaluation of current models to see if they can have an impact on improving care delivery should be conducted before this option is rejected in favour of an alternative that is unproven.

At a broader level navigation will require sensitive and robust triage tools, not just at the initial telephone call stage, but at other points in the system where decisions are made about what care is needed. This includes paramedic decisions on where to take people -major emergency centre, emergency centre, or urgent care centre? However there is good evidence that, with the exception of very specific clinical conditions such as stroke, this is currently not the case.²⁰ Any system re-design that will require good triage decisions to ensure effective navigation around the system will need to consider developing robust tools to support these processes.

Media campaigns

It has been suggested that more information and publicity campaigns to help people choose the right service or provide information to promote self care could be beneficial. However the evidence suggests that, with the exception of very specific conditions, these campaigns alone do not change the way people access services.^{20,21}

The “choose well” campaign to inform the public about where to access urgent care has been running for several years but there appears to have been no formal evaluation of whether it has had any impact on the choices people make. A NICE review of health behaviour change concluded that media campaigns alone are not enough change behaviour.²² Attempts to educate the public in making the right choice about where to access urgent care will need to be supported by better understanding of the rationale behind their choices and building a system that delivers care that also takes account of the “human” factors such as confidence, convenience and providing a good experience that will influence their future choices.

Workforce and capacity

Any health system re-design will need to consider the implications around the workforce needed to deliver a plan. The NHS workforce, as a whole, is under considerable pressure with existing or predicted shortages in many professional groups.^{23,24,25} In the wider sense it will impact on the development of collaborative partnerships with services and specialities outside the immediate system but which will be crucial to improving care pathways. For example, there is some evidence that early assessment of frail elderly patients by geriatricians in the ED can improve care²⁶ but further development will depend on sufficient speciality capacity. The move to 7 day working will also have an impact. More specifically, there are significant challenges system re-design in 3 key areas:

Emergency medicine

A comprehensive assessment by the College of Emergency Medicine of the speciality paints a bleak picture.²⁵ The 249 type I (major) Emergency Departments in the UK are staffed by 1400 consultants, 1000 staff and associate specialist doctors and 1200 trainees in emergency medicine. However, over the last three years, there has been a vacancy rate in applications to EM specialist training posts of over 50%. Surveys suggest that the majority of trainees enjoy their training time in the ED but that reducing numbers of them want to pursue a career in the specialty. They cite poor working conditions, a harsh work-life balance, a target-driven culture and the lack of 24-hour support for the ED as barriers to a long-term career choice in EM. A two tier system may exacerbate this problem – would EM specialists want to work anywhere other than a major centre? An emergency centre would need to be configured in a way that makes it an attractive place to work for professionals.

Ambulance Service

A key element of the NHS England review is

“Providing highly responsive urgent care services outside of hospital”

One of the main ways of achieving this is recognition that ambulance services are well placed to provide this care. “Treat and leave” is already an option across ambulance services in England but there is substantial variation in conveyance rates which needs further investigation. There is also good evidence that the ambulance service can manage people at home using advanced practitioners and that patients like it.²⁷ There is scope to continue to increase specialist paramedic roles, however, if the vision of more paramedic care in the community is to be realised, the right skills need to be extended to the wider paramedic workforce.

Historically the emphasis for paramedic training has been on life-threatening emergencies but today these cases comprise only 10% of workload.²⁸ Treating and leaving more people at home or managing them in the community needs better clinical decision making skills and access to services. New research on patient safety and decision making for ambulance staff has identified some key issues that will need to be addressed if this is to be taken forward.²⁹

Key tasks for development of ambulance services as out of hospital providers

- Leaving people at home carries risk – paramedics need to be confident in their decisions or they will continue to transport to hospital to mitigate this risk. Confidence is dependent on
 - ✚ Good training to equip them with the skills they need to make sound decisions
 - ✚ Availability of services so the the right referrals can be made, when they are needed and there is certainty that another professional will take over where appropriate
- Reconsider the 8 minute category A response time target which forces ambulance services to organise their services to meet the needs of the few.⁸ Resultant operational pressures can have a detrimental effect, for example paramedics may need to stay longer on scene to assess and refer, but be under pressure to become available for another call
- Funding – developing the workforce will need substantial investment and changing working practices will have cost implications. Networks will need to consider how ambulance services are paid for and where additional ambulance investment will produce cost-savings elsewhere in the system

Primary Care

Providing more care out of hospital, including more senior clinician involvement in telephone access, will increase pressure on primary and community care. There is already a shortage of GPs³⁰ and current research on avoidable emergency admissions is showing that attracting GPs to work out of hours is difficult.³¹ System re-design will need to carefully model the system needs, the likely impact of 7 day GP surgery opening on demand for out of hours urgent care and the whole system shifts in resource allocation needed to support out of hospital care.

Capacity

Along with workforce system re-design will need to consider both current capacity and estimate where this may need to change in a new model. Current experience can inform this activity. One of the key factors that impacts directly on ED performance is exit block, that is the inability to discharge a patient from the department due to lack of access to a hospital bed or suitable community services. There is evidence that declining acute trust bed capacity and the inability of hospitals to discharge patients for lack of social support at home is a key factor in creating crowded emergency departments³² and that this can lead to adverse clinical outcome for patients.^{33,34} In the NHS, the number of acute hospital beds has decreased by a third in the last 25 years whilst bed occupancy rates have increased to nearly 88% in 2012. The Australasian College of Emergency Medicine³⁵ highlighted hospital bed capacity as being a key factor in access block and called for bed occupancy to fall to below 85%. They also highlight that solutions to overcrowding lie within the system and only marginal gains are made by reducing the number of primary care patients accessing emergency departments due to their low complexity. They recognised that collaboration with community players and a network approach is the key to finding solutions to these problems.

Finally, it is worth remembering experience has shown that attempts to make access easier (walk in centres³, NHS Direct³⁶, NHS 111⁸) increases expectations and consequently increases demand. This will need to be considered in assessing whole system demand.

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