NHS London 2012 Programme Evaluation Report

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Executive summary

The purpose of this report is to describe the findings of an evaluation of NHS London’s 2012 Olympic planning and delivery programme. This programme was established to provide operational support to NHS organisations in London during the 2012 Olympic and Paralympic Games and to fulfil the Olympic Host City contract. We evaluated the programme within the following three domains:

- An analysis of the processes, facilitators, barriers and outcomes of the planning and delivery activities.
- An analysis of plans to address the impact of the Games on routine delivery of local health services, London’s health emergency response and public health protection.

Previous Olympic host cities published detailed reports about planning and delivery of health services inside Olympic venues, and included some descriptive details about local health service adaptation for the Games. However, this is the first time that an independent evaluation of host city health care planning has been undertaken.

Methods

We gathered data from three main sources about programme activities before, during and after the Games to enable a longitudinal perspective. Data sources included:

- NHS London documentation from 18th August 2008 to 22nd November 2012, including Programme Executive meeting minutes and progress reports, to understand how the programme evolved.
- Three phases of qualitative interviews from 13th December 2011 (seven months before the Games) to 13th November 2012 (three months after the Games).
- These interviews with key individuals working for and with the NHS London 2012 Programme team explored planning and delivery from a wide range of perspectives.
- Previous Olympic health care reports from Sydney, Athens, Beijing and Vancouver, to analyse key issues identified from previous Games and to enable their comparison with the London Games.

A qualitative and descriptive thematic analysis was undertaken (using NVivo qualitative analysis software), including triangulation of the three data sources.
Results

Our evaluation describes and analyses the NHS London 2012 Programme’s establishment and development processes from the early stages of planning in August 2008 through to the end of the Olympic delivery period in November 2012.

Description of NHS London 2012 Programme activities

- Governance for NHS London’s 2012 Programme was established and evolved within existing health service structures. The final programme was organised around four workstreams: Health Legacy, Health Services, Health Resilience and Health Protection.

- The NHS 2012 Programme plans were based on London’s bid commitments; i.e. to deliver (i) ambulance services for the Games and (ii) free acute and emergency health care for the Olympic Family), learning from previous Olympics, experience of other large scale events in London and a risk assessment exercise, involving detailed scoping work with local planning partners.

- A major influence on the planning was the local and national geographical, social, economic and political context. The planning became more detailed and specific as the programme evolved, based on a pan-London assumption of Games time activity akin to a ‘mild winter’. NHS London required this to be adapted for specific locations and local needs.

- Games time planning priorities were focused on (i) preparing services for an increase in visitor numbers, (ii) anticipated transport disruption, (iii) enhanced emergency response capacity, (iv) Olympic family health care needs and (v) ensuring a coordinated media response. In the event, there was minimal disruption to local health services during the Olympic and Paralympic period.

NHS London Planning

Interview respondents reported that:

- Overall, working within familiar tried and tested NHS structures was beneficial, although there was a reported lack of initial support from the Department of Health. Assurance processes were deemed to have been necessary and useful, but there was duplication between the assurance demands of the 2012 Programme, emergency planning and the London Organising Committee of the Olympic and Paralympic Games (LOCOG).
• Respondents commented on how valuable it was to have a dedicated 2012 Programme team within NHS London. Continuity provided by this team resulted in high corporate memory and enabled stakeholders to build important, close relationships with team members.

• Working relationships needed to be established with new and unfamiliar external partners, especially LOCOG. Some tensions here were assuaged with the creation of a dedicated LOCOG liaison post within the NHSL 2012 Programme team. At the start of the programme, difficulties experienced in engaging the wider NHS in Olympic planning, but as the Games approached and interest grew, there was growing pressure for local planners to demonstrate that adequate preparations had been made.

• All NHS organisations in London individually modelled their own estimates about likely impact on their trust during the Games. These ranged from an estimated 3% to 20% increase in accident and emergency (A&E) patient numbers, associated with the influx of visitors to London.

• Prospective funding provision was based on the extra capacity needed for the Games above usual working arrangements. Service providers such as the London Ambulance Service (LAS) and designated hospitals undertook substantial extra work requiring additional funding. Other costs were expected to be met out of normal budgets, supplemented by a small amount of additional responsive funding for emerging risks. Postponements to funding decisions resulted in delays in ability to contract pre-planned aid at LAS and temporary under-staffing in designated hospitals.

Delivery

Interview respondents reported that:

• Overall, the delivery of health services during Games time, particularly for the Olympic family, was successful. Plans to meet the bid commitments were appropriate and well communicated to relevant organisations.

• Test events, strikes and large scale public events before the Games enabled refinement of plans through learning and feedback.

• Transport pressures were minimal and there was no increase in A&E attendance that could be directly attributed to Olympic visitors.

• Emergency plans were not tested as no major incident response was required during the Games.
Lessons of low impact on health services from previous Games were used in the planning process, but some trusts took a less conservative approach in their planning assumptions.

Some respondents reported that concerns about security risks dominated thinking in early interviews. Recognising this, NHS London communicated the need for a focus on ‘business as usual’, and this message was well understood by the later stage of planning.

Legacy

NHS London’s legacy activities involved supporting health improvement projects delivered by a range of partners, as well as encouraging system improvement. This was a pragmatic strategy within the constraints of the programme, but some respondents reported that bolder aims were attempted; however funding could not be raised for these initiatives.

Health legacy was a key aim within the 2012 Programme from the start of NHS London’s Olympic planning. After significant initial work, the legacy workstream lost parity with other workstreams focused on Games time delivery, but regained momentum as the planning phase drew to a close and Games time approached. Respondents reported that additional barriers to successful implementation included unclear definitions of the legacy aims, and a lack of dedicated programme funding for legacy work allocated by the Department of Health, although some funding was diverted from other sources.

There was no standardised approach to baseline and follow-up measurement of health outcomes.

During the post-Games interviews, many respondents expressed doubt over the sustainability of many health improvement legacy initiatives, particularly in light of the major NHS reorganisation (the Health and Social Care Act 2012) from early 2013.

There was more confidence in the impact of the Games in creating a system improvement legacy, with many services using the opportunity of the Games to initiate or bring forward plans to implement new policies and processes. (Work on health improvement initiatives continues within the new body, Public Health England).

Methodological issues

Strengths: (i) prospective data collection for 8 months prior to, during and after the Games, (ii) rigorous qualitative methodology was used to analyse descriptive and interpretative findings from several data sources including interviews and documents.
Limitations: (i) our evaluation did not commence until 42 months after the start of the programme, (ii) we used interview data rather than independent observations to assess planning and delivery. However, we interviewed a diverse range of stakeholders and observation would have been extremely costly.
### Recommendations

Evaluation of the NHS London 2012 Programme identified a number of transferable findings and recommendations. Our recommendations are presented with specific implications for future Olympic host city planners, mass gatherings planners more widely, and the NHS.

#### Lessons for future Olympic host cities

- Establish a dedicated planning team headed by a senior programme director
- Dedicate effort to building relationships with the local organisation committee from the outset
- Maximise learning from previous Games, whilst recognising the need for context-specific plans
- Establish legal and funding requirements for Olympic health care planning as early as possible
- Ensure legacy strategy has appropriate leadership, adequate funding, equality to other workstreams and provides a clear definition of legacy to work towards
- Build in sustainability for post-Games continuation of specific health legacy initiatives, including evaluation
- Recognise and address mental health and wellbeing needs of the Olympic workforce

#### Lessons for organisers of mass gatherings including the Olympic and Paralympic Games

- Government health departments should use their broad remit and perspective to designate responsibility to all health organisations as early as possible
- Baseline data should be gathered and governance structures critically examined before embarking on health planning
- Planning should start early for transport disruption, funding negotiations and reporting structures
- EP should be informed by a detailed risk assessment and mapping exercise, and reviewed on an on-going basis
- Testing and exercising should be used to the best advantage by involving all relevant groups
- System improvement legacy should be built in to strategic plans to capitalise on health service investments for the benefit of the local health system

#### Lessons for the NHS

- Existing assurance processes can be used as a planning framework to manage a range of programmes
- Resource utilisation is directly related to assumptions made about proportionality of risk
- Health care organisations should capitalise on their ability to share good practice and resources across established networks when undertaking new programmes of work
Novel and long-term activities are likely to challenge the health service culture and so require senior leadership and adequate resources.

Conclusions

This report represents the first independent evaluation of Olympic health planning activity, focusing on preparations for the London 2012 Games. Planning for effective delivery of health services during the Olympic and Paralympic Games is complex and detailed due to the number of health and other stakeholders involved, and the diversity of tasks required. Careful documentation, evaluation and dissemination of this planning activity can help future organisers of similar mass gathering events as well as host nation health planners.

The thorough planning undertaken by NHS London led to successful delivery, although there were no major adverse incidents in which the emergency plans were tested. Our evaluation of the 2012 Programme, together with evidence from previous Games highlighted the need to ensure that plans are proportionate given that, in reality, the health service impact is unlikely to be significant.

London’s Olympic bid placed an emphasis on regeneration and legacy. However such ambitious aims can only be realised given senior leadership and appropriate funding and prioritisation. Robust mechanisms for evaluating the legacy also need to be planned, resourced and monitored.

Finally, generalisable lessons from one host city to another would be facilitated by greater consistency in measurement and reporting format, using commonly agreed data definitions.
Acknowledgements

We would like to thank for the support we received from the NHS London 2012 Programme members. We would also like to thank Prof Monty Mythen and Prof Hugh Montgomery for their guidance when developing this evaluation. Lastly, we thank all our respondents for their time and the evidence they provided to inform the evaluation.

This is an independent report funded by NHS London, UCL Partners (an Academic Health Science Partnership)\(^1\) and the North East London, North Central London and Essex Health Innovation Education Cluster.\(^2\) The evaluation was conducted by researchers from the Department of Applied Health Research, University College London (UCL). The NHS London 2012 Programme members had no role in study design, analysis or preparation of the manuscript.

\(^1\) [http://www.uclpartners.com/](http://www.uclpartners.com/)
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1 Introduction

1.1 Health Services in the Olympic context

The largest international sporting event traces its contemporary history to the 1896 Athens Summer Olympic Games when 14 nations and 241 athletes competed in 43 events [1]. During the 20th century the Olympic Games rapidly gained social and political prominence as more diverse sports, as well as the Winter and Paralympic Games, were included in the programme.

The first Olympic and Paralympic Games of the 21st century organised in Sydney attracted 6.7 million spectators [2]. Extensive planning is essential to manage the sudden influx of large numbers of people into the host city which presents a significant challenge to public services including transport, security, policing and health services. This report focuses on the major adaptations required to health systems, including the workforce management, capacity planning, procurement strategy, logistics and transportation planning, required to allow routine operations to continue during the period of the Olympic events.

1.2 The UK National Health Service

The UK National Health Service (NHS) is a tax-funded health care system which provides medical care to residents free of charge at the point of use. Box 1 provides an overview of the English NHS system at the time of the London 2012 Olympic and Paralympic Games (significant health system reforms were implemented soon after, in April 2013).

The NHSL 2012 Olympic and Paralympic programme was positioned within the Public Health directorate of London’s Strategic Health Authority (SHA). Under the pre-2013 system, SHAs existed as regional bodies tasked with implementing national priorities from the Department of Health into the health service plans of local primary care trusts (PCTs). The SHA for London, NHS London, had responsibility for 31 primary care trusts (organised into five clusters), 16 acute hospital trusts, 3 three mental health trusts and the London Ambulance Service (LAS). The role of the SHA was to manage and supervise the commissioners and providers it had responsibility for; to assure quality and performance; and

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3 There were a further 18 Foundation Trusts, independent of central financial control and regulated by a separate body (Monitor)

4 [http://www.london.nhs.uk/what-we-do](http://www.london.nhs.uk/what-we-do)
to drive plans for improvement and increasing capacity\(^5\). Alongside these NHS structures, the Health Protection Agency (HPA) also operated as an independent national agency with responsibility for protecting the public from threats to health from infectious diseases and environmental hazards.

**Box 1  the national health system in England in 2012**

<table>
<thead>
<tr>
<th><strong>Health secretary (Department of Health)</strong></th>
<th>Responsible for developing and implementing national government policies; Health secretary reports directly to the Prime Minister</th>
</tr>
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<tbody>
<tr>
<td><strong>Strategic health authorities (SHAs), e.g. NHS London</strong></td>
<td>Oversee performance of NHS organisations in a specific region and prepare plans to improve health services</td>
</tr>
<tr>
<td><strong>Primary care trusts (PCTs)</strong></td>
<td>NHS organisations that commission (and sometimes provide) community services – including general practitioners (GPs), pharmacy and secondary care (i.e. hospital) services</td>
</tr>
<tr>
<td><strong>Acute hospital trusts and foundation trusts</strong></td>
<td>Provide secondary health care</td>
</tr>
<tr>
<td><strong>Ambulance trusts</strong></td>
<td>Provide ambulance cover and emergency access to health care</td>
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### 1.3 Responsibility for London’s Olympic health service planning

Although some 2012 Olympic and Paralympic events were held outside the capital, the majority of the events were held in the host city of London. The main Olympic Park was located in Newham, East London.

Responsibility for Olympic health service planning and delivery in the host city lay with NHS London. NHS London’s 2012 Programme covered four ‘workstreams’ (see 4.1.1), namely:

\(^5\) [http://www.nhs.uk/NHSEngland/thenhs/about/Pages/authoritiesandtrusts.aspx](http://www.nhs.uk/NHSEngland/thenhs/about/Pages/authoritiesandtrusts.aspx)
• **Health services** to ensure that the NHS delivered on health-related bid commitments (see below) while maintaining normal level of services during Games time.

• **Health resilience** to ensure that the NHS was able to respond to any major significant incident and business continuity was maintained.

• **Health protection** focused on communicable disease control and environmental health, and was led by the HPA.

• **Health legacy** focused on using the Games to create a lasting positive health impact for the host city and nation’s population.

The London Organising Committee of the Olympic and Paralympic Games (LOCOG) were responsible for health care within Olympic venues.

### 1.3.1 London 2012 health-related bid commitments

London’s Host City Contract set out a number of bid commitments for the 2012 Games. In conjunction with LOCOG and the Department of Health, the NHS was responsible for delivering the following health-related commitments [3]:

1. Free comprehensive health care to Olympic and Paralympic Olympic Family members throughout their stay for the Games. The Olympic and Paralympic Olympic Family includes VIPs, athletes, support staff, International Olympic Committee (IOC) members and the wider accredited workforce (media and marketing partners).

2. Free emergency treatment for most other visitors, including Olympic spectators;

3. Twenty-four hour ambulance cover for the Games, to be provided by the LAS.

4. Use of established, tried and tested chains of command to coordinate the effective deployment of emergency medical services.

5. Agreeing paid leave for as many staff as will be required to serve the Games venues in a voluntary capacity.

In addition, the Government promised to ensure a lasting health legacy from the Games.

### 1.4 Evaluation aims

This is the first independent evaluation of local health service planning and delivery for the Olympic and Paralympic Games.

Our aim was to describe and evaluate the health planning and health legacy of the 2012 Games by NHS London. Our evaluation explores arrangements for the delivery of health
services outside the Olympic Park; it does not include analysis of services provided within the Polyclinic or other Olympic venues, which were the responsibility of LOCOG.

Our analysis complements work undertaken by the UK’s HPA to describe and examine health protection services and emergency preparedness and response arrangements during the 2012 Olympic and Paralympic Games [4].
2 Methods

We undertook this evaluation between November 2011 and November 2012. Our evaluation comprised analyses of:

1. Previous Olympic and Paralympic health planning documents to identify earlier lessons learnt and recommendations
2. NHS London 2012 documentation
3. Key informants’ perspectives and experiences

(See Figure 1)

2.1 Methodological considerations

We interviewed key stakeholders to ascertain NHS London’s aims and targets, workstreams and governance structures. From this, we were able to establish a framework with which to evaluate the planning and delivery by document analysis and further interviews (inductive analysis). We also undertook a deductive analysis of Olympic legacy documents.

2.1.1.1 Strategic themes of the evaluation

We divided the evaluation into three phases – two occurring before the Olympic and Paralympic Games; and one just after the Games. This allowed for (i) intermediate analysis, feedback to respondents and responsiveness to that feedback; and (ii) an exploration of development of the programme over time (Figure 1).
Our design allowed us to:

- Produce a detailed description of the 2012 Programme from the perspective of the respondents.
- Identify generalisable lessons for future Olympic and Paralympic Games and other mass gatherings, and for the NHS.

### 2.2 Sample and data

#### 2.2.1 Data collection

We collected three types of data: NHS London documentation, previous Olympic health reports and interviews. Our analysis is focused around the governance structure, the core team, their Programme Executive and the workstreams they represented. We collected data from each of these areas, and explored patterns within and between these different units. In order to familiarise ourselves with the personnel and operations of NHS London 2012, we attended team meetings and Programme Executive meetings from November 2011 onwards. During these meetings, we did not take extensive field notes or collect audio recordings, nor
did we interact in the matters under discussion. We defined this position as visible onlookers: maintaining an independent, outsider perspective. This practice continued over the duration of the evaluation while the programme was active (November 2011 – September 2012). Our focus in this was broad and holistic, seeking to familiarise ourselves with the language, individuals and aims of the programme on an open conceptual basis. This helped us to understand the programme and to gain familiarity with the key individuals involved. At all times, we were attentive to the possibility of our presence having a tangible effect on the programme, and made a note where this was likely to have occurred.

2.2.1.1 Documentary data

Our documentary data collection procedure involved the systematic retrieval of the following NHS London documentation:

- Programme Executive minutes and agendas
- Progress reports

Games Planning documents, e.g. Games Planning Packs and Go London! directories (see Box 15 on p. 120)

2.2.1.2 Previous Olympic reports

We retrieved published health planning documents for the most recent three Summer Olympic and Paralympic Games (Sydney 2000, Athens 2004 and Beijing 2008) plus the Vancouver 2010 Winter Games. These Games were selected because of their proximity to the London 2012 Games and the availability of information on health service planning.

2.2.1.3 Interviews

Our objective in the interviews was to capture the respondents’ experiences and perspectives on the programme in their own terms. There were three rounds of interviews, each with different topics covered.

All interviews were conducted according to a flexible topic guide, which included open-ended questions and which was tailored to the individuals’ role and position.

2.2.2 Respondents for interview

We used a mixed purposive sampling strategy, as described below.
2.2.2.1.1 Phase I interviews

- First, we recruited and interviewed respondents using a criterion-based strategy. These criteria were that the respondent must be a member of either the NHS London 2012 Programme team, Programme Executive or a PCT cluster lead.
- Second, using snowball sampling, we recruited additional respondents in partner organisations.

Some respondents who were more peripheral to the NHS 2012 Programme were interviewed once or twice before the Games only. We made this decision on the basis of the information gleaned in the first and second interviews. In addition, there were a small number of new employees who joined the programme in the middle of the interview period, and who therefore became respondents in the second or third round of interviews only.

2.2.2.1.2 Phase I interview

The first interviews were conducted between December 2011 and January 2012. In the first interview, we asked respondents about their role, their involvement with, and their perceptions and opinions of the programme.

2.2.2.1.3 Phase II interview

The second interviews were conducted between May 2012 and July 2012. In the second interview, we based some questions on some of the early analysis of the Phase I interviews in order to target key issues. We also included new material. The questions were open-ended and respondents were given the chance to add further information at the end. The questions were tailored according to the individual’s role and position, and phrased in a way that it was made most relevant to them (see Box 2).
Box 2  The second interview topic guide

- How are the Olympics affecting your hospital/cluster/organisation?
  - How are you prepared for this? How will you manage this impact?
  - How is your regular work affected?
  - Benefits to the organisation?
- What is the boundary between LOCOG, NHS London and LAS in the Olympic park?
  - How is this being managed?
  - What does this mean for the NHS?
  - What is the impact for visitors/athletes/residents/etc.?
- How are you prepared for foreign visitors?
- What is the balance between emergency planning and planning for the continuity of regular activities?
- How are you prepared for media attention?
  - What issues are targets for the media?
- How have you prepared to meet public health issues? (What are they?)
  - Priorities/how is this being done?
- What is the mechanism for your special operations reporting?
  - How will this work?
  - What are your main sources of pressure/interest? To what extent are these anticipated/actual?
- How have you prepared to deal with the travel disruption?
- What are the key emergency planning issues for the Olympics?
  - How have you prepared for them?
  - Issues with achieving this?
  - Persistent risks etc.
- IF RELEVANT: What is the current state of your legacy project(s)?
  - How are they supposed to work?
  - What has been prioritised?
  - What has been lost?
  - How are you ensuring that there will be a legacy?
  - How are you assessing the legacy activities?
  - How are the legacy activities related to the actual Games themselves?
- Is there anything unexpected that you have had to make provision for/plan for?

2.2.2.1.4  Phase III interviews

The third interviews were conducted between August 2012 and November 2012. This interview was mainly focussed on Games time delivery; how effective the planning was perceived to be; assessments of the current state of, and future plans for, legacy initiatives; what was being done post-Games to dissolve the programmes; and a review of their work.
We also asked respondents to reflect on the whole planning process to identify potential improvements or lessons learnt (see Box 3).
### Box 3  Third interview topic guide

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<tr>
<th><strong>Opening questions</strong></th>
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<td>• How did it go? How is everyone feeling now? etc.</td>
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<th><strong>Planning questions</strong></th>
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<td>• How effective was the assurance process?</td>
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<td>• What contribution did the additional funding make to planning and delivery?</td>
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<td>• How would you rate the adequacy of (the use of) learning/modelling (in planning)?</td>
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<th><strong>Games time questions</strong></th>
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<td>• How would you assess the plans for maintaining business as usual?</td>
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<td>o Ability to meet anticipated problem (esp. Transport)?</td>
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<td>o How did the system cope?</td>
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<td>o How efficient was the planning?</td>
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<td>• How well did the system respond to emergencies during Games time?</td>
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<td>• How did the NHS restructuring impact services during Games?</td>
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<td>• Difference between Olympic and Paralympic Games: what difference did you plan for? What was the reality?</td>
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<td>• How would you appraise the measures to mitigate public health risks?</td>
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<td>• How well do you feel you prepared for media attention?</td>
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<td>• How did special operations work in practice?</td>
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<td>o perceptions</td>
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<td>o roles</td>
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<td>o reporting</td>
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<td>• How would you describe your partnership working – new and existing – during Games time?</td>
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<th><strong>Current/future</strong></th>
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<td>• State of legacy initiatives</td>
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<td>o Current status/focus</td>
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<td>o Keeping track/assessment</td>
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<td>o Perpetuation</td>
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<th><strong>Dissolution</strong></th>
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<td>– what is happening now?</td>
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<th><strong>Winding up</strong></th>
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<td>• What would you feel were the greatest lessons learnt?</td>
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<td>• What do you wish you’d known at the beginning?</td>
<td></td>
</tr>
<tr>
<td>• Anything further to add?</td>
<td></td>
</tr>
</tbody>
</table>

### 2.2.3  Analysis

#### 2.2.3.1  Structured analysis strategy

The three phases of interviews and the other data sources were analysed independently. This allowed comparisons between datasets to be made. It also enabled us to explore the progression of issues over the course of the programme.
Our method of analysis was thematic, in accordance with the principles outlined by Braun and Clarke [5]. We made some specific decisions about our analysis on this basis, namely:

- A ‘theme’ would represent an idea, process, event, description or action that has strategic importance in the planning or delivery of the NHS London 2012 Programme.
- We would represent issues on the basis of their keyness to the research, not their numerical prominence (i.e. how many incidences reported).
- We were interested in capturing rich, full descriptions and interpretations from our interview and documentation data sources. We wished to understand the full breadth of all activities undertaken and their significance. The past Olympic and Paralympic Games reports were analysed solely for information that was relevant to NHS London, i.e. transferable lessons, recommendations or difficulties.
- Our analysis of the interviews and documents was entirely inductive in Phases I and II. This means we started with no predetermined categories. Instead we generated themes through reading and unitising the data. In Phase III we used pre-determined categories based on learning from previous interviews (a partially deductive approach). These were augmented and revised through further analysis.
- Our analysis was interpretative, meaning that we went beyond the content of the interview transcripts and documents to construct narrative understandings of processes and ideas. This was a particularly prominent part of our analysis after Phase III when the different elements of the evaluation were synthesised.
- We considered our philosophical position in this study. We believe there are some truths and law-like properties to what was studied. We also believe that these phenomena were strongly dependent on the context and culture in which they were measured, and that we can only present findings from our own perspective. We take it as a principle of qualitative data that in an open ended interview, respondents will mention the topics most important to them. Collecting three types of evidence helps us to triangulate evidence on the phenomenon under study.

2.2.3.2 Description of analysis

Previous Olympic planning reports were coded with respect to:

1. Issues: an occurrence/process/event that has implications for London.
2. Recommendations: explicit or implicit suggested strategies for future host cities.
We carried out an interpretative analysis comparing one document to another, and examining the context in which the document was written. All interviews were transcribed and partially free coded before combining into thematic codes.

2.2.4 Focused synthesis

We synthesised and interpreted data between and within data sources, groupings of respondent (for example, NHS London, PCT clusters, acute trusts) and over time.
3 Evidence from previous Olympic health planning reports

Health planning reports produced by previous Olympic host cities have been produced in the post-Games period since the Sydney Summer Olympic and Paralympic Games in 2000. This chapter describes a review of published health planning documents from the four Olympic and Paralympic Games since 2000: the Summer Olympics in Sydney (2000), Athens (2004), Beijing (2008), and the Winter Olympics in Vancouver (2010).

We aimed to draw out common lessons and specific recommendations for health sector planning and delivery for organisers of future mass gatherings, including the Olympic and Paralympic Games, and to help assess whether NHS London paid heed to these lessons in their planning.

3.1 A brief overview of Olympic health planning reports

After the Sydney games, the New South Wales Department of Health (NSW Health) produced a short, descriptive account of the planning and operational phases of the strategic health sector involvement in the Olympic and Paralympic Games [2]. The report describes the establishment of the health planning committee, funding allocation, public hospitals engagement, surveillance planning and ambulance involvement in the Olympic and Paralympic Games.

Following the Athens 2004 Games, the World Health Organization (WHO) produced an extensive publication on the experience of public health sector involvement in planning. *Mass Gatherings and Public Health: the experience of the Athens 2004 Olympic Games* [6] concentrated on challenges experienced by the Greek national health system in the planning and delivery of medical services for the Olympic and Paralympic Games. This account presented recommendations and risks related to specific areas of responsibility, taking into consideration the direct impacts experienced by the various health sector bodies. The report analysed in detail ‘hospital care, primary health care, emergency health care, public health care and hygiene, organization [sic] and co-ordination of the health system’ [7, p.31]. Surveillance, security and safety issues were given particular attention in describing planning for prevention of the possible use of chemical, biological, radiological, nuclear and explosive (CBRNe) material during the Olympic and Paralympic Games.
The Health Legacy of the 2008 Beijing Olympic Games: successes and recommendations [8] was also produced by the WHO and described the medical planning and services delivery for the 2008 Summer Olympics in Beijing. This publication described health legacy initiatives, medical services planning prior to and during the Games, impact on services during the Olympics, prevention of communicable diseases as well as emergency preparedness. The report also provided recommendations for future Games planners.

As shown in Table 1, the Winter Games differ significantly in terms of their scale and impact on health services. Despite these differences, we included the Vancouver 2010 Games in the analysis because they were the most recent Olympic event before the London 2012 Summer Olympic and Paralympic Games. A Vancouver regional health authority, Vancouver Coastal Health, published a detailed report entitled Vancouver Coastal Health 2010 Concept of Operations [9], which describes the planning of health care services inside the Olympic park and at designated public hospitals, as well as an assessment of service continuity across the region during Games time. This publication also provides lessons learnt and recommendations for future Games organisers.
Table 1  Key health care related data from recent Olympic Games (data do not include Paralympic Games)

<table>
<thead>
<tr>
<th>Host City</th>
<th>Tickets Sold</th>
<th>Olympic Family size</th>
<th>Olympic Polyclinic visits</th>
<th>Hospital visits related to the Olympic Games only</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sydney 2000</td>
<td>6.7m</td>
<td>Athletes: 10 651</td>
<td>19,623</td>
<td>NSW Health public hospitals:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volunteers: 46 967</td>
<td></td>
<td>769 presentations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Media: 16 033</td>
<td></td>
<td>184 admissions</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total: 73 651</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athens 2004</td>
<td>3.6m</td>
<td>Athletes: 10 625</td>
<td>10,564</td>
<td>Athens hospitals:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volunteers: 45 000</td>
<td></td>
<td>1022 presentations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Media: 21 500</td>
<td></td>
<td>159 admissions</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total: 77 125</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beijing 2008</td>
<td>6m</td>
<td>Athletes: 10 942</td>
<td>22,137</td>
<td>All designated hospitals (including outside Beijing):</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volunteers: 100 000</td>
<td></td>
<td>3567 presentations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Media: 24 562</td>
<td></td>
<td>128 admissions</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total: 135 504</strong></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Vancouver 2010 (Winter Games)</td>
<td>1.49m</td>
<td>Athletes: 2566</td>
<td>9,053</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volunteers: 22 000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Media: 10 800</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total: 35 366</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>London 2012</td>
<td>8.8m</td>
<td>Athletes: 10 500</td>
<td>23,461</td>
<td>London-based designated hospitals:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Volunteers: 50 000</td>
<td></td>
<td>594 Olympic Family presentations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Media: 21 000</td>
<td></td>
<td>103 Olympic Family admissions</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Total: 81 500</strong></td>
<td></td>
<td>320 hospital referrals</td>
</tr>
</tbody>
</table>

6 Data from a privately-distributed report from LOCOG. This only includes London hospitals. Contact authors for further details.
### 3.2 Previous Games reports

Although the aim of these reports was to describe health service planning and the involvement of the public health sector in the Olympic and Paralympic Games, different approaches were taken to the type and level of information provided. Some reports included lessons learnt for future organisers, while others took a more descriptive stance and did not provide specific recommendations.

An example of the different approaches taken is the presentation of data about access to health care. The Vancouver report did not contain any data on health care utilisation in the 2010 Winter Games (the information recorded in Table 1 is taken from a different source). As noted in the Sydney report, even where data are recorded, they might not be directly comparable between Games due to inconsistencies in definitions used and the period over which data are captured [2, p.12]. Data on number of presentations and admissions in the Sydney 2000 Olympics included both patients who were directly transferred from Olympic venues and those who self-referred, while in Atlanta 1996, only direct referrals were included [2] [26].

Report content was also affected by the political, social and environmental context. For instance, the organisers of the Athens 2004 Games were primarily concerned with possible terrorist attacks because there were the first Games to be held after the events of 11 September 2001. In Vancouver, a major focus of health service planning was mitigating the risk of spread of influenza in light of the previous year’s H1N1 pandemic [9].

Finally, the primary focus of previous Games’ reports was medical provision *inside* the Olympic Park, while the focus of the current evaluation is the delivery of health services *outside* the park. This is because this evaluation was commissioned by NHS London, who are responsible for planning and delivery of usual NHS health services across London during the Games, as well as co-ordinating LAS and designated hospital operations for the Olympic Family. LOCOG is responsible for health care within the Olympic park, and will produce their own post-Games report.

### 3.3 Common themes

We generated six over-arching themes describing the key health planning and delivery issues identified in previous host city reports, as summarised below.

1. Co-operation and communication
2. Planning to meet Games time demand for health services
3. Managing communicable disease and other public health risks
4. Planning and managing the security risk of the Games
5. Administration and logistical issues
6. Developing and delivering health legacy and related programmes

Each of these themes and key lessons are described below.

3.3.1 Co-operation and communication

This theme summarises the observation made by the Beijing and Vancouver reports that the Olympic and Paralympic Games requires the co-operation of a multitude of international stakeholders with different concerns during Games time. The Beijing 2008 report states that the key task is to facilitate strong working relationships amongst these stakeholders from an early stage, in order to overcome the challenges of potentially competing interests, aims and organisational cultures [27].

Experience from Vancouver suggests that service delivery organisations, including health service providers, should establish communication early on with the IOC and the International Paralympic Committee (IPC) so that expectations about respective roles and deliverables are understood from the start [9]. Co-operation is also required at national and local level, for example with the local Olympic and Paralympic Games organising committee, the emergency services and security sector [28], law enforcement authorities [29] and relevant national government ministries (including foreign affairs [28]).

Careful planning and on-going co-operation across the health system helps to ensure the availability of surge capacity as well as the ability to maintain ‘normal’ service, including timely delivery of medical supplies [9]. During the Beijing Games, an ‘Olympic Health Guarantee Work’ system, facilitated by the state Ministry of Health, was established to enhance co-operation and co-ordination of health care and public health services across the six host cities and ensure appropriate allocation of resources during Games time [30]. Vancouver’s ‘Olympic and Paralympic Health Watch’ system was deemed to be very successful in keeping all partners informed of the public health status of the region during the Games period [9].

Effective communication within health care provider organisations is also required, for example to ensure that staff roles and responsibilities are clearly understood. This is
particularly important where staff are required to adapt to different working styles in a new, temporary environment [9]. For instance, the Vancouver organisers suggest that role descriptions of any public health staff employed to work within the Olympic site Polyclinic(s) should be clearly defined and communicated widely. The Vancouver report also emphasised the need for full integration of these public health staff into clinical service teams within the Polyclinics, by making sure that they are included in all communications, involved in all meetings and given opportunities to share knowledge [9].

Despite the acknowledged importance of careful early planning, the Vancouver experience suggests that health care organisations did not undertake significant planning until close to Games time [9].

**Box 4  Co-operation and communication: key lessons and recommendations**

- At an early stage, effective relationships should be established with all international and national stakeholders. Aims should be clarified and potentially competing interests and organisational cultures identified.

- Health service providers should establish good communication with the International Olympic Committee, the International Paralympic Committee, the local organising committee, emergency and security services, and law enforcement authorities from the start. Expectations about respective roles and deliverables should be clarified as early as possible.

- Clear and regular communication between health care authorities will help ensure ‘business as usual’ and to cope with additional service demands. Bespoke systems may need to be established to achieve this.

### 3.3.2  Planning to meet Games time demand for health services

One of the key needs to be addressed when hosting the Olympics is the ability to support the increased demand for health services during Games time (see Table 1). Evidence from previous Games suggests that most health care needs of athletes and the Olympic Family are met through the provision of primary care services within the Olympic Park (for example a Polyclinic), as most of the presented injuries and diseases are relatively minor and do not require complex medical assistance. The relative infrequency of serious illness at mass gatherings in general has been documented elsewhere [31-33]. Polyclinics at Olympic venues therefore play an important role in easing direct pressure on the wider host city health system.
In Athens, orthopaedic (52%) and dental (13%) problems were the most common reasons for presentations by visitors to health care facilities in the Olympic venues during the Games [15]. In Beijing, the majority of medical encounters at the Polyclinic were due to injury (28.1%), followed by respiratory (18%), digestive (12.4%) ear, nose and throat (ENT; 10.3%) and dental (8.3%) disorders [34]. A similar pattern of presentations was observed at Olympic designated hospitals [18]. Cardio- and cerebro-vascular conditions were the most common reasons for emergency care consultations in Beijing (36.8%) [35].

Athletes accounted for 45% of all cases examined at Olympic venue health care facilities in Athens [15], whilst during the Sydney Games they accounted for only 11% Olympics-related presentations to state hospitals [36]. Similarly, in Beijing, athletes accounted for just 15.3% of medical encounters at the Polyclinic (and 18% of patients at designated hospitals). Most (62%) health care attendances by athletes in Beijing were due to injuries, whilst nearly 20% of athlete presentation were for dental problems [34].

In Beijing, the accredited Olympics workforce accounted for 44% of presentations (at both the Polyclinic and designated hospitals) [18, 34]. The Beijing report suggests that the high attendance of the Olympic workforce is due to ‘burnout’ as a result of intense work pressure during the Games [18]. This is corroborated in the Vancouver report, which describes an increase in use of mental health services by Olympics working staff presenting with anxiety and depression, particularly towards the end of the Games [9]. Similarly, the Athens report noted that the Olympic workforce might experience significant stress during the Games in addition to ‘post-event blues’ in the post-Olympic period [29]. In recognition of this, previous reports recommend that future organisers should provide support to the Olympic workforce during the post-Games period to minimise the risk of on-going anxiety and depression [9] and ‘plan early for new activities that will give staff new incentives for work’ [29, p.123].

Advanced workforce planning is required to ensure sufficient health care capacity is available both during the Games and immediately afterwards. Without proper planning, mass requests for annual leave and sabbaticals immediately after the Games may pose a risk to health service capacity [29]. The Vancouver planners noted that hospital staff were more likely to request annual leave during the Olympic, rather than the Paralympic, Games [9].
Box 5 Planning to meet Games time demand for health services: key lessons and recommendations

- Estimates of patterns of service use from previous Games should be used to plan health service capacity for the Olympics in future host cities/countries.

- Ensure that health care capacity is sustained during and after the Games through advanced workforce planning.

- Primary care services should be delivered through a Polyclinic on the Olympic site, as most health care needs can be met here thus reducing pressure on the local health system during Games time. Orthopaedic and dental services at Olympic venues are a priority. Health care consultations by athletes are primarily for injury-related problems.

- The greatest demand for health care services during the Games is likely to come from the Olympic workforce, largely attributed to fatigue and stress. This requires mental health support during and after the Games, and early planning for staff activities upon return to work.

3.3.3 Managing communicable disease and other public health risks

During the Olympic and Paralympic Games large numbers of people, travelling from all around the world, spend prolonged periods of time in close proximity to each other. The organisers of the Beijing and Athens Games highlighted the significant risk that this poses for the spread of communicable diseases and the need to prioritise hospital infection control [37] [38]. As well as the cost of containing a disease outbreak, such an incident would attract significant adverse global media and political attention. The specific communicable disease risk posed by any mass gathering is a function of the climate, timing, setting, type of event, populations attending and mixing patterns of the crowds [39, 40]. Gastrointestinal and respiratory infections pose the greatest communicable disease risks during mass sporting events [39].

While no infectious disease outbreaks were reported in Sydney, there were 12,754 presentations of ‘conditions of public health interest’ to sentinel hospitals and 930 notifiable conditions reported during the five week Olympic surveillance period [41, p.8]. The public
health surveillance system in Athens identified 443 communicable diseases in Olympic districts during Games time, more than half of which were salmonellosis; fourteen clusters of food- or water-borne illness and eight larger outbreaks of gastroenteritis were also reported [42]. In Beijing, 83 suspected communicable disease events requiring medical attention (involving 377 individuals) were reported by hospitals ‘at and above secondary level’ [43, p.60]. Of these latter events, 64 were diarrhoea-related mainly due to contaminated food [43].

Enhanced communicable disease surveillance is a common feature of the planning of recent Olympic and Paralympic Games. For example, specific measures implemented as part of Beijing’s city-wide enhanced surveillance included assessment of all patients presenting to Olympic and other health care facilities for infectious symptoms (fever, diarrhoea, conjunctivitis, rashes and jaundice) as part of a syndromic surveillance system [43]. Likewise in Athens, Games time syndromic surveillance, as well as an enhanced mandatory notification system and a cruise ship inspection programme, was established to supplement the existing public health surveillance and response infrastructure [37]. In Sydney, existing data collection systems were also improved and new systems developed and integrated into the Olympic Surveillance System [2]. Similarly, in Vancouver, public health surveillance systems were enhanced to meet daily reporting requirements during the Games, with a particular focus on monitoring influenza-like illnesses following the 2009/10 H1N1 pandemic [9]. It is worth noting that some observers question the value of establishing syndromic surveillance in countries where robust notification systems already exist [39].

Vaccination programmes have also been implemented as a preventative measure in prior Games, including immunisation of migrant workers in Beijing [43] and a pre-Games programme of H1N1 influenza vaccination in the Vancouver Winter Olympics [9]. In both Vancouver and Athens, specialist public health staff worked within the Olympic park Polyclinic, either in an advisory capacity [37] or providing services, including communicable disease testing and follow-up, immunisation, plus confidential HIV counselling [9].

Other activities to minimise the risk of communicable disease and other public health incidents during Games time have included enhanced vector controls [44] [45], food and water safety programmes and environmental surveillance [2] [46] [47] [43] [9]. Moreover, the three most recent reports (from Vancouver, Beijing and Athens) emphasised the importance of pre-Games multi-agency training and exercising for a range of public health emergencies and mass casualty incidents, including communicable disease outbreaks, water and food contamination, heat-related illnesses and severe weather events, as well as terrorist
attacks (see 3.3.4). The importance of planning for heat-related incidents is confirmed in a recent review of mass gatherings, which concluded that warm weather is the most significant environmental cause of presentations at medical facilities during mass gatherings, particularly among older adults [32].

Sexual health is another important public health issue that previous host cities have focused on as part of health service preparedness. This is a common feature of planning for mass gatherings where there is potential for excessive consumption of alcohol [39]; however, none of the analysed reports included a description of problems specifically linked to alcohol during the Olympics in recent host cities. Both the Athens and Beijing organisers specifically identified sexually transmitted infections (STIs) as a high public health risk during the Games [48] [49]. The Beijing report noted that during large events such as the Olympics, demand for the services of sex workers is significantly higher, which contributes to this increased risk [49]. However, evidence from the Winter Olympics in Vancouver suggests that there was no increase in the supply of sex workers or sex trafficking during Games time [50]. There is limited evidence on the effectiveness of prevention and control measures for STIs in the context of mass gatherings, but recommended interventions include provision of condoms and public health education campaigns [39]. In Athens in 2004, free condoms were handed out within the Olympic village Polyclinic [48]. Free condoms were also distributed during the Beijing Games [49]. In Vancouver, demand for condoms outstripped supply [9].

Box 6 Managing communicable disease and other public health risks: key lessons and recommendations

- The potential spread of communicable diseases during the Olympic and Paralympic Games is a risk that should be planned for. Gastrointestinal and food-borne infections were the most commonly reported communicable diseases in recent Summer Games, but major outbreaks have not been a common feature of recent events.
- Heat- and alcohol-related incidents should also be planned for.
- A well-prepared public health infrastructure has a central role to play in the planning and delivery of Games time prevention and control measures. Measures that should be considered by future host cities include:
  - improved, or new, systems for detecting communicable disease risks (e.g.
creation of syndromic surveillance systems where existing arrangements are deemed inadequate, measures to enhance and/or integrate different surveillance systems, cruise ship inspection programmes).

- deployment of specialist public health staff within the Olympic Polyclinic(s) to provide health protection advice and follow-up.
- targeted immunisation programmes, where required (e.g. for on-going global public health risks such as H1N1 influenza, or to provide necessary immunisations for migrant workers).
- enhanced environmental controls (e.g. vector controls, food and water safety programmes and environmental surveillance).

- The increased risk of STIs should be mitigated through plentiful supplies of readily available (and preferably free) condoms, in addition to health education campaigns.
- Prioritise multi-agency pre-Games training and exercising for public health emergencies and mass casualty incidents (including communicable disease outbreaks and extreme weather conditions).

3.3.4 Planning for and managing the security risk of the Games

Preparing for security contingencies has become an inseparable component of the planning for the Olympic and Paralympic Games due to growing concerns about the possibility of a mass-casualty terrorist incident. Thus Athens was more alert to the risk of attack in comparison to previous Games, and focused on the risk of mass casualties resulting from CBRNe material [29]. Similarly, in Vancouver and Beijing, priority was given to planning for natural or deliberate release of hazardous substances and managing associated health risks [9] [28].

Despite the high risk alert, the Athens Olympic security plan was deemed to have been activated too frequently [29]. There was also a reported reluctance to de-activate plans when risk assessments changed, partly attributed to concerns that response procedures may be relaxed if many incidents were perceived to be hoaxes [29]. Moreover, even though plans were exercised extensively prior to the Games, response management during Games time
faced a number of problems, not least in terms of delayed decision-making, poor communication between agencies, slow processing of laboratory tests and difficulties managing decontamination requirements. The Athens report also highlighted the failure to share knowledge about the official threat assessment beyond law enforcement and security agencies with key partners, such as health services [29]. Similarly, the Beijing report emphasised the need for better sharing of security information with the health sector, to enable appropriate development of plans and capacity [28].

Planning and preparing for such emergencies is a very costly process. For instance, the costs associated with security in the Athens Olympic and Paralympic Games represented a high proportion of the whole budget (amounting to a total of €1 billion), increasing three-fold in comparison with the Sydney Games [29].

**Box 7 Planning and managing the security risk of the Games: key lessons and recommendations**

- Heightened levels of alert about security risks to the Olympic and Paralympic Games require careful preparation and contingency planning.

- Security plans should be activated and de-activated appropriately, in proportion to the risk posed, and reasons for activation/deactivation clearly communicated.

- Security risk assessments should be shared with key partners, including the health sector, to ensure adequate planning and response capacity.

- Future host cities should take measures to ensure that response management is not hindered by delayed decision-making, poor communication between agencies, inadequate decontamination handling or delays in obtaining laboratory test results.

- Planning and preparing for a multi-agency emergency response should consider the significant costs that can be incurred to partner agencies.

### 3.3.5 Administration and logistical issues

The main administrative and logistical issues raised in recent reports were staff accreditation, anti-doping procedures and procurement.
3.3.5.1 Staff accreditation

The Olympic and Paralympic Games involve a large number of staff with different roles who all require specific accreditation to fulfil their duties. Through accreditation, personnel and vehicle permits are made available that grant or limit access to different Olympic park areas and enable staff to work at different venues. Accreditation also facilitates tracking of staff movements within the Olympic village area and their use of hospitals outside the park. Our analysis of previous reports showed that securing accreditation for medical volunteers and staff is a common problem experienced by different Games organisers. For example, accreditation was reported to be a laborious process for the Vancouver organisers, due to the complex and time-consuming technical processes involved [9]. The timing of the accreditation process for the Paralympic Games in Vancouver (which took place at the same time as the Olympic events) also caused problems, because staff with different Olympic and Paralympic Games roles were required to carry out their Olympic Games functions at the same time as going through a second accreditation process [9]. Moreover, in Beijing too few accreditations were given to National Olympic Committee (NOC) medical teams, resulting in some physicians supporting a number of different athlete teams on the same day [34].

3.3.5.2 Anti-doping procedures

During the Beijing 2008 Summer Olympic and Paralympic Games a great deal of attention was given to anti-doping control. The Beijing Olympics organisers suggested that the experience of these Games could be used to help plan anti-doping activity in future Games, for example in terms of work schedules, staffing levels and the number and type of instruments used [51]. A specific learning point highlighted in the Beijing report was the need for a more robust system for measuring the amount and quality of anti-doping work performed, as this is not fully captured by simply counting the number of samples analysed [51].

3.3.5.3 Procurement

Procurement issues were also raised. The Vancouver report noted that the volume and type of medical items required for the Olympics differs in comparison with typical purchases for hospitals during ‘normal’ activity. Due to the short lifespan of the Games, there was a surplus of pharmaceutical products after the Vancouver event, some of which had to be destroyed as donation recipients were not found for all products [9]. The Beijing organisers recommended
that procurement of medical equipment and supplies should be planned effectively so as to avoid a surplus as far as possible [18].

Box 8 Administration and logistical issues: key lessons and recommendations

- Problems with accreditation of the Olympic workforce are common features of recent Games. Future host cities should recognise, and plan for, the time taken to process accreditations, particularly for staff with different Olympic and Paralympic roles. Adequate National Olympic Committee allocations should also be ensured.

- Information on anti-doping work schedules, resource requirements and instruments used in previous Games should be shared with future host cities. Effective systems should be established for measuring the amount and quality of anti-doping work performed (over and above simply counting the number of tests processed).

- Procurement of medical products should be carefully planned to minimise post-Games surpluses and avoid waste.

3.3.6 Developing and delivering health legacy and related programmes

The Olympics presents a real opportunity for each host country to use the publicity of the Games to improve the health of their population. Given the substantial sums involved in hosting recent Olympic and Paralympic Games (€5.5 billion (£4.4 billion) in Sydney [52], €7 billion (£5.6 billion) in Athens [53] and an estimated £8.9 billion in London 2012[7, national governments come under pressure to justify these investments by producing long-term positive impacts for taxpayers, including sustainable health benefits or ‘health legacy’. The concept of the Olympic and Paralympic Games legacy was formally discussed for the first time in 2002 at the International Symposium in Lausanne, where delegates assessed legacies sustained during the Olympic and Paralympic Games held between 1984 and 2000 [54]. Subsequently, all host city organisers have developed legacy initiatives, including projects aimed at improving local population health [55].

______________________________

3.3.6.1 Health legacy aims

The reports from recent host cities highlighted a number of ways in which the Olympics can be used to create a health legacy. The authors of the Athens report discussed how the concept of athleticism can be used to promote the importance and benefits of physical activity to the local population. In an attempt to make the most of this opportunity, a large-scale ‘Olympic Day Run’ was organised in the run-up to the Games for people of all ages and abilities to encourage participation and promote the social aspects of sport [56].

The Olympics have also been used to help raise awareness of health issues more broadly through education campaigns before and during the Games [55], with particular foci on smoking control, sexual health, and HIV/AIDS. Such campaigns can quickly gain prominence with the public due to heightened media coverage resulting from their association with the Olympics [55]. In Vancouver, a condom distribution initiative, combined with multi-media messaging, supported an awareness-raising campaign around HIV/AIDS. A comprehensive anti-smoking programme was also established with the aim of creating a tobacco free Games [9]. A free condom distribution programme and strict smoking controls at Olympic venues were also features of the Athens Games [56]. Similarly, health education campaigns in Beijing focused on smoking and HIV/AIDS prevention, plus anti-doping and other health hazards, using a range of different media [55]. The Beijing report also described opportunities to create an ‘enhanced living environment’ for residents of the host city by raising awareness of environmental issues, enhancing environmental policies and educating children about the Olympic values [55, p.6-7], as well as placing restrictions on smoking in public places [57].

Several public health campaigns described in the Beijing report were established in collaboration with UN agencies such as WHO or UNAIDS, NGOs and governmental organisations. One example is the WHO ‘3 Fives’ campaign [58], which attempted to enhance knowledge of food safety, nutrition and the benefits of physical activity to the host city population through the distribution of posters and brochures and use of the media to promote the key messages. Another is the WHO/UNAIDS anti-stigma HIV/AIDS campaign [55].

3.3.6.2 Evidence of health legacy

There is very limited evidence in the analysed reports of a sustained impact of past Olympic health legacy initiatives on population health. In Beijing the results of a controlled study
showed that the ‘3 Fives’ campaign produced immediate outcomes of raised public awareness of healthy and safe food choices, but not of the health benefits of physical activity. Longer-term outcomes were not recorded, but difficulties associated with translating short-term knowledge gain into actual behaviour change were noted [59]. The authors stated, for example, that greater dietary awareness did not lead to significantly improved eating habits [60].

The Beijing report stated that measures implemented as part of the smoke-free campaign before and during the 2008 Games provided a stimulus to longer-term tobacco control regulations: in the year following the Olympics a 10-year health improvement plan was published which included a commitment to ban smoking in all public places in Beijing city by 2018 [57]. However, the report’s authors acknowledged the challenges in maintaining enthusiasm for smoke-free policies once the Games had ended [60]. Vancouver reported the most robust anti-tobacco programme of any Olympic host city, but the smoke-free campaign did not meet all expectations, even during Games time. The authors of the Vancouver report noted that there were a greater number of designated smoking areas in the Olympic park than originally anticipated, signage was not always adequate, anti-smoking messages were not aired regularly and the policy was commonly flouted by staff within the Olympic Park [9]. In Athens, smoke-free policies were heralded as a success, with the report claiming that spectators ‘by and large complied’ with the smoking ban, although the impact on smoking behaviour was not measured [56]. In general, however, other priorities (i.e. preparing for emergencies) took precedence within the public health system in Athens and the report concluded that health promotion opportunities were not fully exploited [56, p. 258].

Other long-term benefits were anticipated in China as a result of on-going partnerships in the campaign to raise awareness about HIV/AIDS during the Beijing Olympics. Similarly, it was hoped that efforts to raise awareness about prevention and countering stigma and discrimination towards HIV/AIDS during the Games would have a sustained impact on attitudes in the general population [49]. However, actual impacts were not reported. The Beijing and Vancouver reports also highlighted that the Olympics offer the potential to create an important health legacy through investment in health service infrastructure and capacity in preparation for the Games, both in terms of medical services and the public health system (including surveillance and emergency response) [9, 55], as well as improvements to the natural and social environment (such as air and water quality and green spaces) [61].
In reality, it has proven difficult to measure whether or not hosting previous Olympic and Paralympic Games led to sustained improvements in the local population’s health. Despite efforts to establish an evaluation framework for the 2008 Olympic health legacy, the Beijing organisers concluded that their qualitative and ‘semi-quantitative’ approach was not adequate to measure longer-term impacts and called for a more robust evidence-based methodology in future Games [38].

These findings and recommendations echo the results of two recent systematic reviews of the evidence for a health legacy of Olympic and Paralympic Games and other mass sporting events [62, 63].

### 3.3.6.3 Developing successful health legacy initiatives

A key attribute for successful implementation of health legacy initiatives is inter-organisational co-operation. An example of this is Beijing’s collaborative work on the WHO public health campaigns described previously. There was also close working between international and national partners on the Vancouver HIV/AIDS awareness campaign [9].

Early and long-term planning of legacy initiatives is recommended. For example, the authors of the Vancouver report highlighted the significant time required to develop partnerships and build support around health promotion campaigns, as well as gaining approval for campaign materials from the IOC, the local organising committee and other partners [9]. The Vancouver organisers conclude that the IOC and IPC should set out explicit expectations for development of such materials in the Host City Agreement technical appendix. At the same time, host city public health services should identify required approvals and available funding sources for campaign materials as early as possible in the planning process [9].

The Beijing organisers emphasised the importance of early planning to ensure continuation of services in the post-Games period [34]. Similarly, the Athens report authors suggested that Olympic developments such as investments in assets, infrastructure and partnerships should be planned with a long-term perspective [37].

Following the Vancouver Olympics, specific recommendations in relation to successful implementation of a smoke-free Games included IOC adoption of a comprehensive non-smoking policy across the entire Olympic park. In fact, a survey of spectators found that 58% supported such a blanket smoking ban [9]. The Beijing organisers also emphasised the importance of national non-smoking regulations in supporting a smoke-free Games [57].
Box 9 Developing and delivering health legacy and related programmes: key lessons and recommendations

- Host cities should make the most of the opportunities offered by the Olympics to improve public health, for example by using the Games to encourage participation in sport and physical activity and capitalising on the extensive media profile of the event to (re-)launch health education campaigns.

- There is limited evidence of lasting health benefits to the host city or country following recent Olympic and Paralympic Games. Positive short-term outcomes in terms of heightened awareness of health issues have been realised, but the longer-term impact on behaviour of health promotion or health legacy initiatives is uncertain. An ‘indirect’ health legacy may be realised through improvements made to the host nation’s health (and public health) service infrastructure and capacity in preparation for the Games.

- Recommendations to maximise the potential of the Olympics to create a lasting health legacy for the host nation are listed below:
  
  - Health legacy initiatives, including health education campaigns, should be planned to allow sufficient time to obtain the required approvals and secure funding. To assist in the planning, the International Olympic Committee and International Paralympic Committee should set out explicit expectations for the development of Olympic health promotion materials (e.g. in the Host City Agreement technical appendix).
  
  - Relevant national and international partners (including WHO, UNAIDS, non-governmental organisations) should be involved in the development and implementation of health promotion campaigns from inception.
  
  - Health legacy initiatives should be planned with a long-term perspective to ensure appropriate investments are made in assets, infrastructure and partnerships to enable them to continue after the Games have ended.
  
  - To ensure a smoke-free Games, a comprehensive International Olympic Committee non-smoking policy must be enforced across the entire Olympic Park, underpinned by a strong national regulatory framework, frequent airing of anti-smoking messages and adequate no-smoking signage in Olympic venues.

- Robust evaluation (including baseline, process and outcome measures) should be an integral component of any health legacy initiatives if the long-term health impacts of future Olympic and Paralympic Games are to be measured in a meaningful way.
3.4 Summary of key lessons and recommendations

Despite significant variation in the structure, content and detail of each of the four reports examined, six clear themes arose which are summarised below.

- ‘Co-operation and communication’. Careful planning, early stakeholder engagement and effective internal and external communication all play a crucial role in the smooth delivery of health service provision during the Olympic programme. Previous reports emphasise the importance of co-operation between the wider health system and the local organising committee in preparing for potential surges in demand from visitors, while at the same time maintaining normal services during the Olympic period.

- ‘Planning to meet Games time demand for health services’. Most health care needs of participants and visitors can be met by enhanced primary care services (for example a Polyclinic) within the Olympic park, with orthopaedic and dental services in highest demand. The establishment of these on-site services reduces the pressure on the local health system during Games time. The Olympic workforce are heavy users of medical services during and immediately after the Games, largely as a result of fatigue and stress. Athletes primarily require medical attention to deal with injuries. Health service activity data from previous Games can be used to inform future host city plans.

- ‘Managing communicable disease and other public health risks’. The Olympic and Paralympic Games pose a major risk to the spread of communicable diseases. Gastrointestinal and food-borne diseases are the most commonly reported communicable disease incidents in recent Summer Olympics; sexually transmitted infections have also been identified as an important public health risk. An effective and resilient public health infrastructure, including enhanced surveillance and robust inter-agency response planning, is key to identifying and managing these risks. Distribution of (preferably free) condoms, combined with sexual health education campaigns, plays an important role in reducing the risk of STIs.

- ‘Planning and managing the security risk of the Games’. The Olympic and Paralympic Games are a high profile target for acts of terrorism, including deliberate release of chemical, biological, radioactive or explosive materials. Previous organisers have paid considerable attention to this issue by establishing sophisticated, but costly,
multi-agency emergency response plans. An effective emergency response requires that all key information is shared between the security and health sectors.

- **Administration and logistical issues**. Common problems identified in relation to administration and logistics relate to accreditation of medical staff, anti-doping activities and the need for efficient procurement of medical products. The experience of previous Games can be particularly valuable in planning the process and resource requirements in these areas.

- **Developing and delivering health legacy and related programmes**. There is growing interest in using the Olympics to create sustainable long-term health impacts in the host city and country. Health legacy aims of recent Games include raising awareness of health issues, improving population health behaviours and building local health and public health service capacity. However, while there is some evidence of legacy associated with the development of inter-organisational relationships and health system capacity building, sustainable impacts on population health have been more difficult to assess. Long-term planning and collaboration with relevant national and international partners are expected to improve the likelihood of success of health legacy initiatives. Evaluation of health legacy initiatives needs to be built in from inception if measurement of impact is to be undertaken in a meaningful way.

### 3.5 Conclusion

The documents provided by previous Olympic health planners to aid future host city planning varied in the level and type of information included.

However, a number of common messages and challenges were identified - some supported by the emerging mass gatherings health literature - which should be taken on board in local health service planning and delivery for future Olympic and Paralympic Games. To facilitate transfer of learning to future host cities, it is recommended that these reports should take a more consistent approach, using commonly agreed data definitions and setting out clear, actionable and generalisable lessons and recommendations.
4 Evaluation findings: the NHS London 2012 Programme

This chapter describes in detail the findings of our evaluation of NHS London’s planning and delivery of health services during the 2012 Olympic and Paralympic Games. These findings are based on analysis of respondent interviews and NHS documentation. The results are discussed in three sections:

- **Organisation, processes and experiences.** This section of the report describes key influencers on NHS London’s 2012 planning and delivery, the processes involved and how the programme was experienced by staff.

- **Programme aims.** This section sets out the core components of the programme and explores the extent to which the stated aims were perceived to have been achieved in practice.

- **Health legacy planning.** In this section, the evolution of NHS London’s health legacy strategy is described, examples of specific initiatives are provided and an early assessment of the strategy is offered.

4.1 Organisation, processes and experiences

In this section, the contextual and process-related factors of the NHS London 2012 Programme are described and evaluated. This includes:

- The governance of the programme, both explicit and implicit, internal and external.
- The influences and processes behind the programme throughout the planning and delivery phases.
- The experience of staff working within and with the programme team.

This section complements the other two sections reporting our findings (sections 4.2 and 4.3), preceding an understanding of what happened to how and why this could have occurred.

4.1.1 Governance

As described in the Introduction (1.3), London’s health service planning programme for the 2012 Olympic and Paralympic Games was positioned within the Public Health directorate of London’s SHA, NHS London. The role of SHAs under pre-2013 NHS structures was to manage and supervise local providers and commissioners to assure quality and performance;
and to drive plans for improvement and capacity building (see 1.2). The role of NHS London in the Olympic programme was consistent with these wider responsibilities (see Figure 2), providing a link for top-down Olympic-related directives and providing assurance of Games readiness in local provider organisations up to the Department of Health.

In 2011 the programme was organised into four distinct workstreams, namely:

- Health legacy
- Health services
- Health resilience
- Health protection

**Figure 2** Pan London 2012 Programme governance

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### 4.1.1.1 Governance complexities

NHS London’s 2012 Programme had an impact at every level of the local health service. The sheer number of health and other public sector organisations involved made the programme governance complex: nearly 1500 general practices, mental health, ambulance, acute trusts, community providers, primary care, the Greater London Authority, fire and police services, and the local authorities. The programme also required engagement with a number of external authorities and trusts.

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8 [http://www.nhs.uk/NHSEngland/thenhs/about/Pages/authoritiesandtrusts.aspx](http://www.nhs.uk/NHSEngland/thenhs/about/Pages/authoritiesandtrusts.aspx)
health and other organisations, such as the LOCOG, the Health Protection Agency and the National Pharmacy Association. Significant effort was required by the programme team to demarcate the boundaries of responsibility for Olympic-related health services at the start of the programme (Table 2).

There was a division in the governance of the programme between relationships with existing NHS structures and partner organisations (such as the HPA) and relationships with new partner organisations, primarily LOCOG. Governance within NHS organisations was managed through channels and in a format that was familiar to people working on the programme (see 4.1.1.2). Respondents described this as ‘talking to the system’, implying that they were comfortable with the language and communication systems necessary for implementing the programme within their own organisation. It was also evident that NHS organisations involved in the Olympic programme made efforts to help each other, for example through practical measures such as sharing planning materials between designated hospitals (see 4.1.1.2).

It was widely perceived that NHS organisations found it easier to work within their own system than with external partners, particularly those unfamiliar to them. An apparent explanation for this is that many individuals already knew their counterparts within existing NHS networks and felt able to ask them to do more, particularly at short notice. Indeed, where existing working relationships were not in place, intra-NHS working (for example, between hospitals) was much harder. Members of established networks such as the emergency planners were the most positive about their governance and communication arrangements.

Conversely working with LOCOG was described as a negotiation with a ‘foreign body’. An important reason given for these difficulties (especially in the early planning phase) was the difference in governance structures between the two organisations (see also 4.1.1.3.). LOCOG had a small medical team responsible for health planning and a flat hierarchy, in contrast to the formalised structures of the NHS. NHS respondents also attributed difficulties working with LOCOG to the siloed nature of its internal working arrangements and intra-organisation communications which were perceived to be weak. Thus, decisions that affected health planning were made in other LOCOG departments and not recognised by the medical planners.
<table>
<thead>
<tr>
<th>Organisation</th>
<th>Olympic role</th>
</tr>
</thead>
<tbody>
<tr>
<td>All NHS services</td>
<td>Provision of usual care to local and visiting population</td>
</tr>
<tr>
<td>NHS London</td>
<td>Monitoring and management of a ‘rising tide’ or major incident, which would cause increased admissions to hospitals and walk-in centres</td>
</tr>
<tr>
<td>London Organising Committee for the Olympic Games (LOCOG)</td>
<td>All medical provision to athletes and spectators inside the main Olympic park and other venues. This was mainly provided in the Polyclinic but also in First Aid tents and around the field of play</td>
</tr>
<tr>
<td>Designated Hospitals</td>
<td>Treatment for Olympic Family beyond LOCOG medical capability</td>
</tr>
<tr>
<td>Health Protection Agency (HPA)</td>
<td>Infectious disease and environmental surveillance and response</td>
</tr>
<tr>
<td>Department of Health</td>
<td>NHS performance management and cross-government links</td>
</tr>
<tr>
<td>World Health Organization (WHO)</td>
<td>Provision of information on infectious disease control and emergency planning for mass gatherings</td>
</tr>
</tbody>
</table>

### 4.1.1.2 Working within existing NHS structures and systems

The NHS is a set of linked health providers with a well-established governance structure and management system. Planning for the Olympics was facilitated by familiarity with a number of established policies and processes (including emergency planning and response, quality assurance, winter special operations reporting, service rotas). Respondents often commented on the way these processes were commandeered as part of the planning; mostly this was viewed positively, but there were also criticisms of the appropriateness of using these procedures for the programme (see 4.1.1.2.4).
4.1.1.2.1 Assurance

Assurance involves standard monitoring of processes and plans acting in a feedback loop. This ensures quality through the maintenance of practical activities and plans. The NHS manages its constituent organisations using such assurance processes, and exactly this procedure was used as part of Olympic planning to ensure readiness for the Games.

NHS London’s assurance process was designed to contribute to the national government’s pan-London multi-agency Olympic planning assurance. External assurance of NHS London, including the LAS, was undertaken by the Department of Health. The Department and NHS London assurance timetable required the system to be declared ‘Games ready’ by the end of April 2012, three months before the Olympics commenced.

This ‘upward’ assurance was informed by two distinct assurance exercises undertaken by NHS London in preparation for the 2012 Games:

1. EP and business continuity assurance (part of the annual EP assurance cycle)
2. 2012 specific assurance

A description and comparison of these two assurance exercises is provided in Table 3. More often than not, EP leads were given responsibility for both the EP and 2012 assurance at local level, on the basis that they were familiar with the nature of this task. Olympic designated hospitals also participated in LOCOG assurance around the specific 2012 bid commitments to provide free NHS care to Olympic Family patients. This latter assurance process was reported to be less formal than the NHS London exercise, but no judgement was offered as to whether it was ‘better’ or ‘worse’.
Table 3  Comparing NHS London’s EP and 2012 assurance

<table>
<thead>
<tr>
<th>Topics</th>
<th>EP and business continuity assurance [64]</th>
<th>2012 assurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine (annual) assurance topics</td>
<td>Olympic-specific assurance standards, including: travel and transport arrangements; business continuity; overseas patient policies; workforce planning; patient information; securing deliveries and stocks; communications</td>
<td></td>
</tr>
<tr>
<td>plus additional Olympic-specific criteria</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Cluster / acute trust EP leads</th>
<th>Cluster and acute trust Olympic leads</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Process</th>
<th>100+ assurance questions</th>
<th>Assurance checklists (provider specific)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peer review/detailed feedback</td>
<td>Games ready self-declaration</td>
<td></td>
</tr>
</tbody>
</table>

The 2012 assurance process was undertaken in three phases, organised slightly differently each time and using different materials to assess each organisations’ state of readiness (Table 4). The timing of the final assurance process meant that many organisations were able to use their response to the previous winter period to provide evidence to NHS London that their capacity and business continuity plans had been sufficiently tested.

Some confusion emerged during the earlier assurance (during autumn 2011), where the role of the newly formed PCT clusters in assuring hospital providers was unclear at local level. These issues appear to have been resolved by the time of the April 2012 assurance, with clusters described as having clear responsibility for assuring their own business continuity plans as well as those of health care providers within their jurisdiction.
### Table 4  The NHS London 2012 assurance process [65]

<table>
<thead>
<tr>
<th>Area of focus</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster assurance plans, detailing the key milestones, responsibilities, planning assumptions etc. that was used locally to ensure the clusters, including individual hospital trusts, would be ready for the Games</td>
<td>October 2011</td>
</tr>
<tr>
<td>Leveraging normal contractual levers, such as the 2012-13 NHS London Operating Framework to ensure all trusts had ‘SMART’ plans in place in order to deliver against the Games-time delivery priorities as set out in the Operating Framework</td>
<td>November 2011</td>
</tr>
<tr>
<td>All chief executives provide assurance to NHS London that the actions are completed and the organisation is ready for the Games</td>
<td>April 2012</td>
</tr>
</tbody>
</table>

The assurance process was seen as useful by many respondents because it helped them to manage their planning work. The various assurance exercises were judged to have helped in providing a framework to focus the system on Olympic planning and garner commitment to a shared goal. The assurance process also helped to identify and address a number of gaps in local plans; the external Department of Health assurance identified a need for an improved paper audit trail.

The communications aspects of the assurance were considered to have been relatively unproblematic and very useful in familiarising local partners with the media protocol and reporting lines (as described in 4.2.7.3).

It was reported that at local, London and national level, the reputational risk of the Olympics necessitated the detailed assurance that was undertaken. Department of Health respondents perceived that NHS London had managed the assurance process well and, as a result, central government appeared to be reassured of the city’s capacity to cope with any Olympic-related service demands.
However, there were several criticisms of the various assurance processes, particularly in the Phase II interviews (just before the Games). First, concerns were raised by respondents at all levels of seniority about the time and effort required to comply with external and internal assurance requirements. The annual EP assurance was brought forward to fit with the 2012 planning timetable, creating a large amount of work for local Olympic planning leads to complete over a short space of time. These concerns were exacerbated by the apparent duplication across some NHS London EP and 2012 assurance topics. One PCT cluster respondent spoke of the very time consuming process involved in completing the primary care assurance, mostly due to poor compliance on the part of providers (i.e. GPs). As a result, a mix of complacency and anxiety was reported at local level in the immediate pre-Games period about the readiness of the system for Olympic-related pressures.

Second, several respondents challenged the efficacy of the 2012 assurance exercise in particular. While a number of local Olympic leads commended the 2012 assurance for its ‘hands off’ approach in placing trust in the local NHS to take responsibility for its own plans, others criticised it as a superficial ‘tick box’ exercise which didn’t do enough to assess the quality of local plans. This may in part be due to much of this feedback originating from EP leads accustomed to a more detailed assurance process. Perhaps reflecting these concerns, acute trust and PCT cluster leads described local measures that had been implemented to strengthen the assurance process, for example creating additional checklist items and carrying out detailed work with individual departments and providers with respect to specific areas of concern. One acute trust commissioned an external peer review of its plans to reassure the senior executive team of the adequacy of its Olympic preparations; this was perceived to be of much greater value than the standard assurance process. This trust was also reported to have significantly over-planned its Games time capacity compared to actual Games time demand.

4.1.1.2.2 Sharing of information

Due to the inherent similarity between NHS organisations, they were able to share written materials, such as plans and templates. For example, NHS London’s CONcept of OPerations (CONOPs) for the Games period was widely adapted and mirrored within and between local NHS organisations (see also 4.2.8.2). Designated hospitals were also able to share their plans for Olympic Family admissions, economising on effort and distributing best practice.
The NHS London’s Games Time Reference Manual produced a common template for London’s health service planning for the Olympic and Paralympic Games [66]. As well as referencing NHS London CONOPs (see 4.2.8.2) and describing the media protocol (see 4.2.7.3), the manual contained general travel advice for staff, demand management and health promotion messaging for the public (see 4.2.3.3.1), plus information about access to the NHS for accredited and other visitors (see 4.2.3.3.2). The document also contained a directory of Olympic and Paralympic venues and events.

This manual was used as intended to inform local planning and Games time operational procedures, and this shared approach was judged to have been very effective in preparing services for a coordinated response across the city.

At least four versions of the reference manual were issued by NHS London (the first in November 2011); the updated versions contained newly acquired information and the later versions focussed on guidance for organisations. These continual adjustments were reported to create problems with respect to version control for local planners. A common complaint with the release of a new version was the failure to highlight sections that had been changed since the previous version. This generated some on-going uncertainty over the currency and continued relevance of local plans. Earlier versions were also criticised, even by some at NHS London, for including impractical information and not focusing enough on the guidance function of the manual as a local planning tool.

Delays in the publication of both the final reference manual and operational guidance also impacted on local planning schedules (see also 4.2.8.2).

4.1.1.2.3 Command, control & communication

The NHS has established command and control structures which function during major incidents and critical periods, such as during winter or in the event of a significant infectious disease outbreak or other health emergency. This enables the Department of Health to strategically manage hospitals and other health organisations. Respondents reported that the command and control needed during the Olympic and Paralympic period was made easier due to the natural and established hierarchies between the Department of Health, strategic health bodies and providers. As a result, there was a good understanding of how the reporting would function within existing structures during Games time.
However, some respondents perceived the command and control structure as excessive for the task. The reporting demands were perceived by some to be too onerous, over-bureaucratic and unhelpful. For example, several respondents referred to inappropriate use of some of the daily cluster and trust teleconferences to discuss local non-Olympic issues (see also 4.2.8.4).

Established external communication and media protocols also exist within and between NHS organisations. For example, most local issues were managed by local communications teams, whereas more serious incidents which have wider resonance are dealt with by the SHA or Department of Health media teams. Media reporting during the Olympics was planned within these existing arrangements, with templates and briefings pre-written to facilitate communications during this time (see 4.2.7.3.1). Section 4.2.7.3.2 describes arrangements to establish a standby communications resource for Olympic media demand. Normal media policies and reporting structures were used to ‘manage the message’. However, that these structures were exclusively outward facing, and there was little existing infrastructure for internal communications that could be used for the programme.

4.1.1.2.4 NHS structures for planning

The Department of Health, the political and strategic lead for the NHS, was perceived to provide little effective support for NHS London’s 2012 Programme team at the beginning of the planning process. Some respondents stated that there should have been more direction from the Department at this time and that the lack of sufficient leadership led to tangible disadvantages for the programme. In particular, a number of NHS respondents reported that the health sector was not sufficiently involved in developing and participating in national multi-agency exercises to test system resilience to Olympic pressures and incidents. This was considered to have been a lost opportunity for the NHS in London and elsewhere to test and learn from the planning. That said, as noted in 4.2.6.3 the final national exercise, which did have a strong health focus, was believed to have been very useful. One explanation suggested by NHS respondents was DH’s preoccupation with the wider health service reforms and transition during the early Olympic planning period. However, inadequate central involvement has been reported at previous Games, such as Sydney, where the majority of planning exercises excluded health, and particularly hospitals [67].

Despite the use of established NHS processes, there was no set structure for Olympic health planning and delivery when NHS London’s 2012 Programme started, because this was a unique event for London. Olympic functions had to be embedded across the whole system
including a dedicated team at the SHA and Olympic leads in all local NHS organisations. Many respondents recognised the value of a dedicated planning team, acknowledging the need for specific and separate leadership. There was some debate, however, around whether the NHS London programme team was ideally situated, with some arguing they may have been more effective positioned at an operational, rather than strategic, level.

Respondents also emphasised the uniqueness of the Olympic planning compared to usual NHS activities, in particular:

- Planning was required for an event on an unprecedented scale, involving sustained pressure over a fixed period of time.
- NHS London adopted a programme management approach to the planning.
- Close collaboration was required with a large private provider (LOCOG).

These ‘Olympic features’ were judged to have resulted in duplicative governance structures in various areas - such as the assurance process (see 4.1.1.2.1), reporting and exercising – as well as an excessive number of meetings with the birth of various new Olympic planning groups. In addition, staff in partner organisations often struggled to understand these temporary new NHS structures and how to communicate with them.

Challenges also arose early in the programme as a result of some inefficiency in NHS London’s coordination of their internal and external communications. For example, local partners reported multiple (duplicative) NHS London contact points and poor co-ordination between EP and 2012 Programme communication mechanisms. Respondents in PCT clusters and acute trusts described receiving the same email more than once via different sources, resulting in confusion and multiple replies. It was suggested by some NHS London respondents that the 2012 Programme communications director was appointed too late; an earlier appointment may have helped to focus the messages and streamline communication channels from the start. An earlier appointment may also have supported the communication of clearer workstream strategies and helped local partners understand the aims of the programme earlier in the planning process.

4.1.1.3 Working with LOCOG

The relationship between NHS London and LOCOG was acknowledged to be problematic at the start and in need of careful negotiation (in common with the experience of previous Olympic cities, see 3.3.1). At the heart of this relationship was a tension with respect to the
position held by LOCOG: a private provider with its own policies and procedures, which overlapped and abutted those of the NHS. There was a widespread perception amongst respondents that the boundaries between the NHS and LOCOG remit were clearly defined, yet most could cite examples of unclear or ‘grey’ areas that had needed extensive clarification. These included:

- The perimeters of the Olympic Park, in terms of where LOCOG responsibilities ended and NHS responsibilities began.
- Outdoor venues and the surrounding area.
- The external communication of information about Olympic Family patients being treated at designated hospitals.
- The role of the LAS in the field of play.

(The overlap between LOCOG and the HPA in health protection was also a commonly cited ‘grey’ area, but the work of the HPA was outside the direct remit of the NHS London 2012 Programme.)

NHS London respondents perceived a lack of formal reporting structures at LOCOG and an absence of strong accountability and governance (see 4.1.1.1).

A significant barrier to effective working between the two organisations was the size and nature of the LOCOG Medical team. This was a very small team at the start of the planning process, with just a Chief Medical Officer and a Senior Medical Manager. This team expanded rapidly towards Games time, but there were often problems with capacity, and it was noted that other LOCOG departments expanded at a more rapid rate. LOCOG was mainly staffed by individuals without clinical experience, leading to some confusion about roles. For example, it was perceived by some in the NHS that the LAS was being treated by LOCOG as a transport service rather than a clinical resource.

For their part, LOCOG Medical took some time to appreciate why NHS London had such a strong interest in their work and focused their early attention on organisations with whom they were directly working, namely the designated hospitals, the LAS and the HPA. NHS London respondents noted that, initially, LOCOG did not provide a named contact. This caused problems for on-going communication. Eventually, a linking role was established, with the secondment of an NHS London programme staff member to LOCOG. Both sides recognised that this led to significantly improved working relationships (see 4.1.1.3.1 below).
LOCOG also erected practical barriers, including a reluctance to share patient data with NHS London. It was eventually agreed that information should be shared about the numbers of Olympic family referred to designated hospitals. However LOCOG continued to doubt the value of this.

4.1.1.3.1 Negotiation and partnership

LOCOG and NHS London learnt to cooperate with each other despite having differing cultures and governance systems. This was achieved through the implementation of practical steps, such as the mapping of the boundaries of each other’s programmes to clarify areas of overlap and of responsibility. A member of NHS London staff was seconded to LOCOG in order to give both teams the benefit of a dedicated shared contact. In addition, joint activities helped to cement their interests, including the development of shared guidance and other materials, planning work with designated hospitals, plus joint training events and engagement with local health care providers. Finally, robust financial and contractual arrangements were made to clarify relationships: the LAS was eventually contracted directly to LOCOG so that they could cross venue boundaries and operate without restriction.

NHS medical staff volunteering to work for LOCOG in the Polyclinic and elsewhere were required to do this using their annual leave (pre-approved by the NHS), in order to avoid the need for secondment agreements and conflicts with day-to-day roles. These measures led to a more effective working partnership than at the outset of the programme, and there were few issues during Games time. In fact, volunteering arrangements were perceived to have worked well, with services provide at the Polyclinic significantly reducing the burden on local health care providers in the vicinity of the main Olympic Park in particular (see also 4.2.3.4).

4.1.1.3.2 LOCOG and emergency planning

In contrast with the NHS, LOCOG was reported to be disengaged from NHS London EP activity. In fact, some respondents claimed that LOCOG underestimated the security risks of the Games, opting out of multi-agency emergency response exercises later in the planning process. This was compounded by their apparent focus on the Olympic park, with little acknowledgement of security issues in other venues or at the road races.

In addition, NHS London respondents reported that LOCOG did not co-operate with their EP assurance process, preferring to work with designated hospitals directly. This was judged to have created extra work and confusion for planners in these hospitals.
4.1.2 Process and adaptation

In this section, NHS London’s Olympic planning processes and adaptation are discussed in detail, including the factors which influenced the planning as well as the assumptions and principles adopted throughout (see Figure 3).

**Figure 3  Stages of and influences on the NHS London planning process**

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<td>Local considerations</td>
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<tr>
<td>Starting planning in trusts</td>
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<th>Late stage planning</th>
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<th>Changes during Games time</th>
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<tr>
<td>Paralympic adjustments</td>
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4.1.2.1 Starting the planning

At the inception of the programme, the only planning information available to NHS London was that provided by the Olympic bid commitments (see 1.3.1). These bid commitments led to two early pieces of work:

1. The development of a bid for LAS funding to provide ambulance cover for the Games.
2. Specific planning work with the designated hospitals to prepare services for Olympic Family patients (see 4.2.5.2 for a list of the designated hospitals).

Legacy planning also started around this time, leading to the launch of the Go London Strategy in 2009 (see Box 15 on p. 120).

The need for additional funding for the LAS to deliver London’s bid commitment to provide ambulance cover for the Olympic venues was accepted by the Department of Health. To negotiate the funding agreement, a relationship was built between NHS London, ambulance commissioners, and the LAS. The involvement of skilled commissioners in brokering the negotiations was considered to have been a valuable resource, providing specialist knowledge to inform what proved to be a complex costing exercise. Many respondents praised these arrangements, because it gave NHS London and the Department of Health confidence in the funding bid, whilst at the same time representing LAS needs.

Having been named in the bid process, the three designated hospitals received external support from NHS London and LOCOG from an early stage in the planning process. Designated hospitals’ engagement with LOCOG was reported to be positive from the start and helped to establish connections between the designated hospitals, facilitating the sharing of resources and ideas.

4.1.2.1.1 Scoping work

Following initial work clarifying the bid commitments, the NHS London 2012 Programme team embarked on a process of scoping the needs of PCT clusters, acute trusts and other providers. This was achieved through local meetings and workshops to engage stakeholders in the planning process. While many of these meetings and workshops were well received, local Olympic leads and planners often found it difficult to engage their colleagues in scoping and initiating the programme. Possible explanations included the (appropriate) short-term focus of most NHS planning, in addition to high staff turnover, e.g. due to role rotations of junior and middle managers under the NHS management training scheme.

Respondents also suggested that the Olympic programme was hard to scope due to difficulties working with partner organisations e.g. LOCOG, who had different agendas (4.1.1.3). The early work of the LAS following London’s successful 2012 bid also engendered disagreements, with a number of respondents (on both sides) describing early ‘power struggles’ as the NHS London team tried to assert their programme onto the LAS,
who had already undertaken a substantial amount of their own planning. These difficulties were resolved once the governance structure for the programme took shape.

**4.1.2.1.2 Risk culture and its effect on planning**

The cultural climate of the NHS affected the attitudes of individuals involved in the programme in the early planning stage, impacting on the assumptions and principles adopted. Many respondents expressed the prominence of risk and risk-awareness in their planning culture. In the wake of the London bombings on 7th July 2005, the NHS and in particular the LAS were scrutinised for their readiness for a major incident. Following this, attitudes were described as having changed; NHS planning and operational staff now saw a terrorist or other major incident as a distinct possibility. This tendency to ‘overstaff and oversupply’ at mass gatherings as a result of increased risk perception has been reported elsewhere (see 3.3.4 and [68]). This was described as having an effect on the visibility of EP, with greater respect and prominence given to this area of work, against a backdrop of heightened political sensitivity.

Beyond security risks, many respondents visualised disastrous scenarios, with a general sense that the Olympics were ‘big and awful’. This combination of a sensitised workforce and a high profile, large-scale event influenced some respondents’ interpretations of the planning assumptions. For example, in the early stages of the planning, staff in acute trusts and PCT clusters reported being less focused on routine business continuity and more on the risk of disaster scenarios and mitigation.

**4.1.2.1.3 A local and national event**

In the early planning phase, focus was placed on issues arising from the location of the Games within central London. There was potential for significant impact on access to local NHS services, both in terms of road closures for specific events (including the cycle road race and the marathons) and the impact of the Olympic and Paralympic Route Networks (ORN/PRN) on normal transport flow. Most of the venues outside the Olympic Park were centralised, such as the beach volleyball court on The Mall (adjacent to Buckingham Palace, the Queen’s residence) and several hospitals were positioned adjacent to affected roads (including the designated hospital, UCLH). This information, in combination with evidence from previous Games, led NHS London’s 2012 Programme team to prioritise transport planning to mitigate the risk of disruption to business continuity (see 4.2.4.1).
NHS London established a principle that the challenges to accessing each NHS organisation needed to be addressed according to the local context, on the basis of geography (including vicinity to Olympic venues/events) and event timetables. NHS London supported this local effort through dissemination of planning tools developed in partnership with external partners, including the London Events Co-ordination Calendar (see 4.2.3.1.1) and TfL’s transport planning toolkits and guidance (see 4.2.4.2).

In addition to local needs raised in the early planning specification, there were also a number of national interests that had to be addressed. In particular, ambulance services across the country were recruited to provide ‘pre-planned aid’ to support the LAS in delivering London’s bid commitment to provide ambulance cover for the Games. These arrangements required careful macro planning, led by NHS London, so as not to leave any service unfit for purpose.

4.1.2.1.4 Social and political influences

The Olympic bid was won in 2005, under a Labour government. In May 2010, the incoming coalition (Conservative-Liberal Democrat) government inherited the Olympic mantle and its constituent programmes in health and sports. In October 2010, a Comprehensive Spending Review was undertaken that identified areas of the government budget that could be cut. Although the Olympic budget was mostly protected⁹, associated bodies such as UK Sport and the Department for Culture Media and Sport received substantial funding cuts. Legacy-oriented children’s programmes such as Building Schools for the Future were cancelled.¹⁰ In addition, the regeneration agenda in East London questioned during the London Mayoral election, because much of the work up to that point had been supported by the incumbent mayor. This created uncertainties with respect to the establishment of legacy initiatives. Some respondents also suggested that legacy efforts may also have been confounded by the coalition’s abolition of targets for participation of school children in sport and the wider population in any form of regular physical activity.

The greatest impact of the change in government on the Olympic planning, however, was the passing of the Health and Social Care Act in 2012, which constitutes the most radical

¹⁰ http://www.bbc.co.uk/news/education-10682980
reconfiguration of the NHS in its history [69], including the abolition of PCTs and SHAs (including NHS London from April 2013). As a consequence of these reforms, the 2012 Programme team at NHS London was situated in an organisation that would cease to exist eight months after the end of the Olympic and Paralympic Games\(^\text{11}\). It is clear that this had a dramatic effect on the planning process, causing high levels of anxiety and uncertainty amongst staff, hampering efforts to build new and lasting working relationships with partners, and creating widespread doubt about the ability to achieve of an Olympic health legacy in the post-Games period (see also 4.3.3).

In an effort to minimise disruption to the Olympic planning, assurances were given to the core NHS London programme team that their jobs would be protected until after the Games, and efforts were made to find a ‘home’ for legacy work to continue in the new structures (again, see 4.3.3). However, many staff outside the core NHS London team, left their roles as new posts became available. This meant that the remaining employees took on extra tasks, adding to already heavy workloads. Some PCT clusters made plans to mitigate against the consequences of transition for remaining staff by retaining executive level employees who moved posts within the NHS on local on-call rotas. This helped to prevent any major gaps in capacity, particularly in the delivery phase of the programme.

4.1.2.1.5 **IOC/IPC and LOCOG influence**

While LOCOG was an important stakeholder for NHS London, the IOC and IPC were also an important influence on both these organisations. The IOC/IPC are non-profit, non-governmental organisations [70]. Legal rights to the Olympic and Paralympic movement and the Games themselves are owned by the IOC and IPC, giving them power to enforce the Olympic charter on host cities [70]. This, in addition to the universal appeal and visibility of the Games, gives them a wide political mandate to influence Olympic issues such as sponsorship, television rights and financial planning [71].

One of the bid commitments of the London Games was the inclusion of a planned health legacy for Londoners, and East London in particular (see 4.3). Although there was public endorsement of the legacy project by the IOC,\(^\text{12}\) a small number of respondents perceived an

\(^{11}\) NHS London was originally due to be abolished in March 2012 but the reforms were delayed until March 2013.

apparent lack of interest in health legacy in their dealings with them. Their perception was that the IOC was more focused on the security and health protection aspects of the Games.

Disagreements were also reported between the IOC and NHS London over the protection of patient data. Under European law, the Data Protection Directive\textsuperscript{13} prevents personal data about Olympic Family patients treated by the NHS being transferred to the IOC. Negotiations with the IOC to protect these data were led by the NHS London 2012 Programme team, adding to their workload and compromising relationships between the designated hospitals and LOCOG.

4.1.2.1.6 \textbf{Past Olympic host cities as a resource for planning}

Many respondents cited, particularly in the pre-Games interviews, the advantages and disadvantages of using evidence from previous Olympic host cities to inform local planning (Chapter 3). There were two prominent views on the utility of evidence from previous Games. The first was that every effort should be exerted to learn as much as possible from previous host cities. Indeed, some NHS London staff visited both the Beijing Summer Games and the Vancouver Winter Games in support of this effort to gather evidence, and had found these visits ‘reassuring’. One designated hospital reported using information from Vancouver to assist in preparing for the reporting demands during Games time, likewise the LAS learnt directly from the experiences of Vancouver ambulance services. The contrasting view was that previous Olympic reports and experiences were an incomplete and irrelevant source of information, in light of the very specific local context within which host city health services are planned and delivered.

Past Olympic cities were limited as a resource for planners for a number of reasons. First, several respondents commented that previous host cities share so little in common with London in terms of local and national health systems that there were limited applicable learning points to be taken. Second, respondents intimated that the process by which learning is passed on to host city health planners may not be adequate to the task. The only formal mechanism in place to share lessons (the IOC Observer Programme) is designed to meet the needs of local Olympic organising committees. Evidence may therefore be incomplete or not

\textsuperscript{13} Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data.
validated. Our analysis of previous reports also highlights additional limitations in the quality and utility of the information contained in previous health planning reports for future organisers (see 3.2). For example, a lack of evidence-based guidance for the management of mass gatherings, and of standardised outcome measurements of health planning [72].

However, the NHS London 2012 Programme team did draw on some of the conclusions from previous Olympic host cities. These included the evidence of minimal impact on demand for local health services, the need for extra ambulance cover, the benefits of effective communications to support transport planning (see also 4.2.4.1), and of accreditation requirements.

NHS London committed to improve the handover process of learning from London 2012 to future hosts of the Olympics and other mass gatherings. As well as producing a series of four self-assessment reports, NHS London also commissioned this report, the first independent evaluation of Olympic health service planning, as well as four other external evaluations of specific aspects of the programme:

- A trio of reports on sexual health service planning and impact (to be completed by the HPA, Southbank University and social research consultants MBARC Ltd).
- The impact of the 2012 Games on alcohol-related illness and injury (being carried out by the Centre of Public Health at Liverpool John Moores University).

The HPA has also produced its own report on Olympic planning and delivery [4].

### 4.1.2.2 Drawing together the planning assumptions

In order to start quantifying the planning needs, many respondents described specific planning assumptions and priorities that were made at an early stage. These were based on the influences and commitments described above, as well as some more familiar events. As discussed in 4.2.3.1, many respondents emphasised that the NHS in London frequently had to plan for large-scale regular events (such as the Notting Hill carnival, the London marathon, the New Year’s Eve fireworks display) as well as unique events such as the 2012 Diamond Jubilee celebration. Some respondents reported that they could rely on this experience as a beneficial learning resource for planning; for local planners it was expressed as a reason why they did not need to spend undue time planning for the Olympics.

NHS London’s final planning assumption was for a city-wide increase in activity similar to that observed during a ‘mild winter’. In practice, a widely divergent range of planning
assumptions were adopted at local level (see 4.2.3.1.1). While it is likely that this variation at least in part reflects the principle that local plans should consider geographic location (see 4.1.2.1.3), it was clear from the interviews at the end of 2011 that many respondents were unsure about the level of activity they should be planning for, and expressed a desire for more accurate modelling of specific scenarios to help them plan.

The prevalent risk culture and focus on EP (see 4.1.2.1.2) may also have affected local planners’ interpretation of the assumptions provided. While the message of maintaining ‘business as usual’ was effectively communicated by NHS London (see 4.2.2), some respondents questioned this phrase because they predicted that the Olympics would create unusual needs for service delivery. Other respondents reported being focused on the threat of a major disaster which was perceived to be more likely given the high visibility of the Games.

4.1.2.2.1 Starting the planning in NHS trusts

Despite NHS London’s recommendation to begin planning work, many acute trusts did not begin their detailed planning work until a much later stage in some cases. In one case this was because a Trust was undergoing a site move during the Olympic planning period.

Some respondents reported that it took some time to formulate the necessary structures and steering groups needed to start the planning properly. These efforts have already produced useful lessons for future host cities: two acute trusts reported having received visits from Rio 2016 organisers with whom they had shared their internal plans and processes.

4.1.2.2.2 Costing what is usual and what is additional

An important part of the early planning process was the debate around what was deserving of additional funding and what was not. This mirrored other debates within the health service about what constituted usual NHS function, and what represented ‘extraordinary’ workload, requiring special funding from central government. Business cases were made to the Department of Health by NHS London, which costed those aspects of the programme, which went beyond usual NHS functions. This included the extra capacity required by the LAS to provide ambulance cover for the Games; the designated hospitals’ preparations to receive Olympic Family patients; and funding requests to reimburse non-designated hospitals that treat walk-in accredited patients. The Department of Health contested the level of funding required. The delay in reaching agreement caused difficulties, with temporary under-staffing
in designated hospitals and contracting problems for the LAS with subsequent delays in procuring additional vehicles).

In the event, central government funding was made available for the exceptional additional costs arising from London’s bid commitments to provide free emergency and acute health care for the Olympic Family and for 24 hour ambulance cover for the Games. Other costs, including those arising from an increase in visitor numbers, were expected to be met through existing NHS budgets. Access to additional funding was later successfully negotiated by NHS London, and allocated via a bidding process, to meet the costs of ‘emerging risks’. These funds were put to a range of different uses according to local need, including: emergency and CBRNe training; additional Olympic A&E security measures; additional Games time staff accommodation capacity; equipment for local co-ordination rooms; technology for remote working; bicycles for staff travel; additional delivery and patient transport vehicles; expansion of on-call rotas; and dedicated Olympic planning staff resources. In some cases, however, funding for emerging risks became available too late to be of use locally. This created financial problems for some in the post-Games period (see also 4.2.3.4). The allocated funds for emerging risks mostly fell someway short of actual costs incurred, but longer-term benefits from these investments were expected in many localities in the shape of improved systems and procedures (see 4.3.2.2).

Within NHS London, there were mixed opinions about the overall sufficiency of the additional system-wide funding allocated for the 2012 Olympics.

4.1.2.2.3 Support needs for the planning process

NHS London spent time evaluating local planning needs for the Games and how they could support this activity. As already discussed, there was particular recognition of the technical support needed to address transport issues (see also 4.2.4). To help with this, the 2012 Programme team connected with the Olympic group at TfL, who were able to provide detailed information about anticipated pressures on specific transport hubs and ‘hotspots’ on each day of the Olympic period (on an hourly basis). This information was delivered both as an online resource and in workshops, helping to tailor the information for particular organisations, using a cascade mechanism from NHS London down to individual providers (see 4.2.4.2). All NHS respondents praised TfL’s contribution to London’s Olympic health service planning.
4.1.2.2.4 Working with external partners

NHS London shared responsibility for planning work with ‘familiar’ partners such as the HPA, the GLA and local councils. Evidence suggests that inter-agency planning and coordination, including communications, are essential to the delivery of appropriate health care at mass gatherings (see 3.3.1 and [73]). Partnerships were also formed with organisations ‘unfamiliar’ to the NHS, such as the Foreign and Commonwealth Office (FCO) and Live Nation. These new partnerships helped the programme to reach and educate new audiences about NHS entitlements (overseas visitors via the FCO and national embassies) and extend the influence of NHS London’s public health strategy (working with Live Nation to encourage the adoption of Healthy Event Principles – see section 0).

NHS London also made new links with health partners such as Cancer Research UK for sun safety work, Durex for condom distribution, the National Pharmacy Association for primary care business continuity planning, and GlaxoSmithKline (GSK) for anti-doping and legacy work (see also 4.3.1.3). Many respondents within and outside NHS London reported that these links were extremely fruitful, and trusted working relationships were formed. Several respondents also said that they hoped that these links would persist into future work, despite the NHS transition.

4.1.2.2.5 Contribution of NHS culture to the planning

Many respondents articulated a principle throughout the Olympic programme that routine NHS structures and processes should be used wherever possible as this bred familiarity and confidence (see 4.1.1.2). This was a theme that dominated the planning work through its development into the operational phase.

This perspective was informed by a number of factors, such as parsimonious planning and economies of effort, but also a reflection on the ability of the NHS to ‘pull together’ or revert to ‘response mode’ at times of pressure. There was also a widely held view that Olympic issues were normal NHS issues, as reflected in many common aspects of the planning (see Table 5). Some respondents highlighted crucial differences, however, including an anticipated influx of a larger and more transient population of non-English speaking visitors into London, and the need to maintain service levels in the context of Summer rather than Winter background pressures.
### Table 5
**Similarities between routine NHS and Olympic activities**

<table>
<thead>
<tr>
<th>Olympic activity</th>
<th>Similar routine NHS activity</th>
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<tbody>
<tr>
<td>Performance monitoring &amp; reporting</td>
<td>Winter situation reporting</td>
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<tr>
<td>Press on call service</td>
<td>As usual</td>
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<tr>
<td>Notification of infectious diseases</td>
<td>HPA usual work</td>
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<tr>
<td>Media response</td>
<td>As usual</td>
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<tr>
<td>Olympic Family tracking numbers</td>
<td>As for A&amp;E numbers</td>
</tr>
<tr>
<td>Major incident plans</td>
<td>As usual</td>
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<tr>
<td>Assurance of plans</td>
<td>As usual</td>
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### 4.1.2.3 Later stage planning processes

As the programme progressed, some principles were changed and developed to reflect new insights or issues. This included making the most of opportunities to improve NHS systems, growing interest from senior staff, increasing anxiety as Games time approached and learning from test events and exercises.

#### 4.1.2.3.1 Opportunities for improvement

The realisation that much of the Olympic planning would mirror or reinforce existing NHS systems led to a new principle within the planning, that is that the impetus and effort behind the programme could be used to improve existing NHS systems going forward. In fact, system legacy formed a central plank of NHS London’s legacy strategy from 2009 (see Box 15 on p. 120). Examples of NHS system improvements attributed to the Olympic planning are described in 4.3.2.

Other health partners took similar opportunities for improvement, such as standardisation of systems and processes at the HPA, and development of improved communication and training materials by the LAS.
In contrast, some acute trust respondents did not believe that planning for the Olympics had benefited their organisations at all.

4.1.2.3.2 Senior management interest

Having initially struggled to create interest in the Olympic programme amongst colleagues (see 4.1.2.1), many respondents across all organisations described an increase in demand for information during the Olympic year. Early in 2012, the ‘sudden’ realisation that the Olympics would be taking place later that year caused an influx of requests to reassure senior managers about progress with the planning. Respondents suggested that senior figures may have felt exposed by inquiries by their own line managers and executive boards. In some cases, this led to a lack of recognition of planning work already done and subsequent demands for inappropriate (as perceived by planners) levels of reassurance, resulting in uncomfortably heavy workloads and associated stress.

These pressures were exacerbated where it was perceived that planners did not keep senior management teams informed of progress on an on-going basis. Where regular upward communication of Olympic planning activity had been maintained, the worst of these pressures tended to be avoided.

4.1.2.3.3 Over-planning and anxiety

The impending Games, combined with increasing senior management interest, gave rise to growing anxiety and sense of responsibility for Games time delivery among respondents during the second phase interviews (just before the Games started). Despite the principle established during 2011 by NHS London about minimal impact on local health services, towards the later planning stages, many respondents asserted that it is better to over-plan than to under-plan. Evidence from previous Olympic and Paralympic Games was often disregarded at this stage on the basis that ‘every Games is different’ and this was used to justify planning for increased demand for services (especially A&E services) in London. Respondents stated that working to this principle provided reassurance and comfort to planners that they had done enough to mitigate the great unknown risks of the Games.

This shifting tendency to over-plan was stimulated by the start of the Torch Relay (19 May 2012 to 27 July 2012) where attendances were higher than expected. This was considered by some respondents to have caused apprehension, and may have induced additional late-stage planning activity in local NHS organisations. One respondent recalled an NHS London
programme meeting where uncertainties arising as a result of the Torch Relay attendance were discussed explicitly in the context of whether or not planning assumptions should be revised upwards. However it was not clear from the interviews to what extent this message was communicated to or acted upon by local planners.

4.1.2.3.4 Learning from testing and events

Pan-London and locally arranged table-top exercises provided opportunities for the NHS and its key partners (including the HPA and LOCOG) to practice and test their response to a range of possible scenarios, and refine plans accordingly. LOCOG test events and joint NHS London/LOCOG exercises were perceived to have been particularly useful in helping to strengthen local plans, including communications and reporting protocols, as well as clarifying respective roles of the NHS and partner agencies (see 4.2.6.3). Live exercises and ‘real’ events were deemed to be most useful for identifying the lessons and adaptations required for Games time health service response.

There were limitations to the usefulness of the testing and exercising activity, however. Some respondents believed that there were too many test events, many of which were poorly organised. Another criticism made by local planners was that insufficient time was allowed to adapt plans in between events. Some local test events, as well as most national exercises, were judged to have been of limited use as there was insufficient focus on the health system response, with a number of respondents reporting that this potentially hindered further useful learning (see also 4.2.6.3). Nevertheless, no major incident responses were required during the Games that had not been practised.

4.1.2.4 Changes to plans during Games time

The NHS programme and its constituent acute trusts and PCT clusters appeared responsive to needs and lessons learnt during Games time, helping to reduce waste and implement best practice. For example, due to the low numbers of A&E admissions and minimal transport disruption, one designated hospital closed a ward that had been specially opened for anticipated extra patients, stepped down their security and scaled down plans for extra deliveries. Others adjusted their procedures for receiving Olympic Family patients when they realised that it took longer than expected for athletes to reach the hospital from the main Olympic Park.
4.1.2.4.1 Paralympic adjustments

Many organisations described having made pre-planned changes to their operational plans for the Paralympic Games, such as adding disabled spokespeople to media teams and placing appropriate kit in the Polyclinic to meet the anticipated health needs of Paralympians.

Unplanned changes were also made following the Olympic and Paralympic Games period. For example, one designated hospital reinstated staff annual leave in the interim period between the Olympic and Paralympic Games anticipating this to be a quiet period. Many PCT clusters and trusts also re-evaluated the risk of transport disruption. A number of local NHS organisations reported having scaled back their internal reporting procedures during the Paralympics following low levels of reporting during the Olympics. Where reporting was not scaled back there was often resentment from staff, who felt that their time was being wasted (see also 4.2.8.4).

4.1.2.5 Reflections on the planning

In our third and final interviews (within three months of the end of the Games), many respondents reported that the plans had not been tested due to the limited transport disruption and minimal pressure on A&E services from Olympic visitors. There was some suggestion that the planning had been effective, because responses to low level pressures were particularly smooth. Emergency plans were not tested because no major incident response was required during the Games.

Some elements of the planning that could have been started earlier were identified. These included the resource intensive engagement with pharmacies near the Olympic Park to prepare them for the increase in visitor numbers. Both EP and 2012 programme staff reflected on what was judged to have been an undue focus on EP during the early planning phase. Some respondents also believed that much of the emergency and operational planning had been too detailed, although most still adhered to the principle that they would rather have over-planned than under-planned and that, on balance, the planning was proportional to the risks posed by the Games. Finally, many respondents reported that more could have been done by NHS London to stimulate the health promotion and legacy workstreams.

4.1.3 Staff experience

In this section, three broad issues are discussed:
1. The leadership of the programme and its impact on working conditions for staff
2. The demands of the programme throughout the planning phase
3. The experience of working during Games time.

4.1.3.1 **Leadership of the programme**

Many staff commented on the importance of the quality of leadership during the Olympic planning. Leadership was discussed both in the context of their own organisation (i.e. their direct superiors) and also in relation to the leadership of the programme provided by NHS London.

The 2012 Programme aimed to apportion responsibility and leadership across the network of stakeholders within and external to the NHS. Each NHS organisation named an Olympic lead, and the Chief Executive of each trust was asked to sign up to the programme. This was considered to be an effective way of introducing the programme across the organisations involved. Many of our interview respondents were named Olympic leads, and all of them understood their role and the NHS London 2012 Programme very well.

4.1.3.1.1 **Valuing the continuity of a dedicated team**

Many respondents commented on how valuable it was to have a dedicated 2012 Programme team within NHS London. The continuity provided by having this team in place meant that there was high corporate memory and stakeholders could build important, close relationships with team members. This facilitated easy access to information and support. For example, many respondents reported that they could ‘pick up the phone’ and ask informally for clarification or advice. In some circumstances, staff turnover at LOCOG resulted in errors due to lack of corporate memory, including the removal of dedicated ambulance bays from the Olympic Park, which then had to be re-instated.

4.1.3.1.2 **Seniority of leadership**

Despite the benefits of a dedicated team, some respondents suggested that the leadership of the programme was not sufficiently senior to achieve the required levels of buy-in to the Olympic planning at an early stage. This was believed to affect the ability to drive forward the legacy work, and to have hindered the influence of the majority of Olympic leads within local NHS partner organisations.
There were two common scenarios described within local NHS organisations. First, the individuals appointed to be Olympic leads were senior staff, but delegated the planning work to more junior staff, thus hindering the process of engagement. A second scenario described EP officers being appointed to take on additional Olympic planning responsibilities, due to their planning skills. This affected leadership of the programme at local level in a number of ways, including lack of capacity and seniority, challenging the credibility of the work. This issue caused undue stress to staff working in these roles, as well as others involved in the planning, because early delays in planning implementation led to increasing pressure near to the start of the Games to provide both internal and external assurance that local plans were robust.

4.1.3.2 Demands on staff time

The 2012 Olympic programme made significant professional and personal demands on staff. Many respondents described the personal costs of the high workload over the planning period. These included, sacrificing time spent with family, suffering from stress and illness; and compromising other work areas as growing attention was focused on the Games.

4.1.3.2.1 Responses to the programme

One reason frequently cited by respondents for their high workload was the low level of interest in the Olympic programme shown by colleagues at the start of the planning process. This resulted in significant planning problems when these colleagues were required to provide information or to attend meetings. Towards the end of programme, the opposite problem was reported, where senior staff required high levels of information and reassurance (see 4.1.2.3.2). As a result, planning staff were required to provide more and more information, sometimes repeating previous work. Local planners also reported having to deal with polarised views towards the Olympics, with some colleagues under-estimating the potential impact and needing encouragement to engage, and others requiring attention to reduce high levels of concern.

4.1.3.2.2 Workload problems

The identification of Olympic leads from amongst staff with existing roles within each organisation, gave rise to excessive workloads at certain stages of the programme. The demands of the programme were variable for the first two years and could easily be addressed. As the Games approached, however, the workload increased substantially and
many respondents described working well beyond their contracted hours on a regular basis. One of the reasons for the increase in workload was the focus on testing and exercising, with each test event and exercise requiring substantial preparation. Several respondents described this process as duplicative, with insufficient benefits to health planning (see 4.1.2.3.4).

Some organisations (including designated hospitals and some PCT clusters) received additional funding for their Olympic planning work. This was often used to recruit dedicated staff such as project managers, which significantly eased some of the problems described above.

**4.1.3.3 Games time experiences**

Respondents described some important changes and experiences in the immediate run up to and during the Games period.

**4.1.3.3.1 Last minute staffing and other issues**

Last minute ‘power struggles’ were reported as a result of some programme staff trying to justify the inclusion of new roles inside the Games Time Co-ordination Centre (GTCC; NHS London’s central operations room during the Games – see 4.2.8.2), despite CONOPs roles having been agreed.

Within the GTCC room, NHS London respondents also described the appearance of new staff in the delivery period of the programme, which caused some confusion and anxiety. Some staff, with no prior experience of working in a command and control structure, were asked to support the GTCC by joining the Games time rota. This was judged to be a good experience for those new to the work, but caused resentment among the more experienced and close-knit EP staff who considered these to be specialist roles.

New staff were also brought into both NHS London to support the programme team, as well as Olympic delivery teams in PCT clusters and other local organisations. It was observed that the complexity of the programme made it difficult for new staff to get up to speed. Although there was a lot of work to do during this time, not all roles were suitable for short term staff, and respondents suggested that a better planned approach to expanding the workforce could have been adopted.
4.1.3.3.2 Reassurance and last-minute nerves

Some respondents commented on the last minute work required to reassure some partners who were late to engage with the planning, in particular with respect to communications concerning demand management. In some cases, minimal input was required. However, just before the Games, NHS London had to re-distribute printed leaflets to NHS organisations, pharmacies and event organisers to co-ordinate health promotion messages.

4.1.3.3 Working during Games time

In common with previous Olympics, there was little impact on most NHS providers during the Games. Most staff enjoyed working during the Games more than expected and were surprised by the lack of transport problems (see 4.2.4.5). Many respondents took the lack of increased activity as a sign of effective planning.

In our post-Games interviews, respondents highlighted staff going ‘above and beyond the call of duty’, putting in significant extra effort in order to make sure that services ran smoothly during Games time. This was noted especially in designated hospitals, where staff provided non-clinical services for Olympic Family members, e.g. making tea, and providing clothes and mobile phone chargers, to help improve these patients’ experience of the NHS (see also 4.2.5.4). Extra efforts were also made to ensure the smooth running of central and local Games time operation rooms and to submit reports on time. Respondents reported that the shifts were acceptable and the workload was not too onerous. Overall, staff were proud to be involved in Games time health service delivery, particularly after the NHS was celebrated as part of the Opening Ceremony, and this motivated many to work hard during this period.

Many respondents reported that having the Olympics to focus on was a ‘relief’ and a respite from the anxiety associated with the NHS transition (4.1.2.1.4).

Some respondents, however, found it difficult to sustain their motivation throughout the Games period. Examples were provided of staff growing bored, particularly in operational roles where few enquiries were coming in and little was being reported. Many had to work additional hours and weekends to cover the Games time rota despite this, which caused some resentment. Some staff requested reporting arrangements be scaled back when it became clear that these were not needed to the level planned. Although most PCT clusters did respond to these requests (as described in 4.1.2.4.1), one notable exception did not and this was a cause of anger for the individuals affected (see also 4.2.8.4).
4.2 NHS London 2012 Games time delivery Programme Aims

4.2.1 Introduction

The aims and components of NHS London’s 2012 Programme, as articulated by respondents, are summarised in Figure 4. This chapter provides a discussion of the evolution and attainment of each of these aims, as described and perceived by respondents and with reference to NHS London 2012 planning documents.

Figure 4 Overview of NHS London's 2012 Games time delivery planning aims

4.2.2 Maintaining ‘business as usual’ for London's health system

From the early stages of the planning process, NHS London’s 2012 Programme was focused on minimising the impact of the Olympic and Paralympic Games on the delivery of ‘normal’ health services for London’s residents. ‘Business as usual’ became a mantra across the system and informed plans throughout, with ‘Olympic additionality’ built into the programme to ensure timely reporting of performance and rapid response (see 4.2.8). There was some suggestion, however, that the ‘business as usual’ message took longer to be communicated and adopted within the LAS.

The two main risks to maintaining ‘business as usual’ were identified by NHS London to be:
1. The potential increase in health care demand resulting from an increase in visitor numbers to London (discussed in 4.2.3).

2. Transport disruption as a result of Olympic-related travel journeys, plus the Olympic Route Network (ORN)/Paralympic Route Network (PRN) and access to Games Lanes\(^\text{14}\) (see 4.2.4).

Based on evidence from previous Games, transport disruption was deemed to pose the greatest risk to ‘normal’ services (discussed earlier in 4.1.2).

Given the size of a mass gathering such as the Olympic and Paralympic Games, and growing awareness of security risks as a result of recent international events, health planning of such events is often placed within the remit of emergency planners (see 4.1.2.1.2 and [74]). In line with this, preparing for the Games was considered by respondents to share many common features with the preparations required for a major incident, especially in terms of the command and control structures that would be required. However, a number of respondents pointed out that the Olympics are not an emergency, but involve sustained disruption over a pre-planned and fixed period of time. While in our first interviews, some cluster-level respondents expressed concerns about the potential scale of a major incident at the Games, by the second interview most respondents focused on planning for ‘business as usual’. This reflects recognition by NHS London that the required planning for the Olympics was more akin to the NHS’ winter response and required a wider set of skills than EM, including performance management. The ‘winter planning’ focus proved to be very effective in conveying the ‘business as usual’ message to clusters and trusts.

Nevertheless, EM skills continued to be recognised as a necessary and core element of NHS London’s Olympic operational arrangements, with the following ‘hybrid’ structure evolving:

- A dedicated 2012 planning lead, with EM managerial presence in the Games time operational control room at all times (see 4.2.8.2).
- Maintenance of a parallel emergency response function throughout to sustain resilience in the event of a major incident (see 4.2.6).

\(^{14}\) Dedicated ‘Games Lanes’ were established as part of the Olympic Route Network to ensure timely transport of athletes and officials and IOC delegates to and from venues.
These parallel arrangements of a 2012 operational team and separate EP response capacity were mirrored at the Department of Health and at PCT cluster level. In acute trusts, Olympic planning tended to remain within the EP team’s remit throughout.

4.2.3 Preparing London’s health services for an increase in visitor numbers

4.2.3.1 Capacity planning assumptions and mitigation

The interviews and planning documents demonstrated that NHS London’s 2012 Programme was informed by evidence and learning from previous Games. Transferability of this evidence to the London context is discussed in 4.1.2.1.6.

NHS London respondents did not anticipate a significant impact from the Olympics on ‘business as usual’, primarily because visiting spectators were expected to be drawn from a ‘healthy’ population on the whole and therefore unlikely to have high demand for local health services. This also reflects the experiences of previous host cities, as illustrated in Table 1. However the evidence also suggests that activity at on-site medical facilities may be high, as visitors use the opportunity to seek medical attention for long-term health problems that do not require immediate treatment [75, 76].

Many respondents also emphasised that London is well-rehearsed in dealing with large events and surges in visitor numbers, albeit not over such a sustained period of time. Moreover, most health problems experienced at the main Olympic Park site were expected to be dealt with by LOCOG Medical.

This message of minimal disruption was disseminated throughout the system, although uncertainties about Games time service impact remained and were reflected in specific local assumptions and preparations (see below). As discussed in 4.1.2.3.3, the popularity of the Torch Relay led to some anxiety at NHS London that the impact of the Games may be greater than anticipated, but it is not clear if or how this impacted on local preparations and assumptions.

4.2.3.1.1 Specific planning assumptions

The final pan-London planning assumptions were based on additional demand akin to a ‘mild winter’, with estimates of a 9-12% increase in A&E activity across London cited by NHS London respondents in the phase II interviews. There was variable absorption of these city-wide assumptions at local level, however: during these same interviews, one respondent
stated that London was anticipating an increase of 3-9% in A&E activity and another an increase of 5-8%.

These pan-London ‘winter planning’ assumptions applied to both the Olympic and Paralympic period. Beyond this, local commissioners and providers were expected to use their experience from previous events to translate what this might mean for their individual trust, based on their specific location and circumstances (see 4.1.2.1.3). They were supported by planning tools, including the London Events Co-ordination Calendar, a comprehensive day-by-day guide (including start and finish times) to all of the Cultural Olympiad and other Summer events that would occur during the Games period, as well as the Olympic events time table.

Some acute trusts (mostly non-Olympic designated hospitals\textsuperscript{15}) believed that the London-wide planning assumptions provided by NHS London were an over-estimate, while others believed they were a significant under-estimate. Trust-specific modelling assumptions for increases in accident and emergency (A&E) attendances tended to range from 8% to over 20%, with some scenario planning based on much larger increases (up to 60%). This may be attributed to a growing belief expressed by many respondents, especially PCT cluster and acute trust Olympic planning leads, that it was better to over-plan than to under-plan. The actual impact was expected to vary according to the location of each hospital site in relation to where and when individual sporting events were taking place, which may explain the wide variation in planning assumptions adopted.

A London-wide assumption of no more than 5% increase on normal primary care activity was not accepted universally by GP practices, and required some PCT clusters to engage in detailed work to persuade providers that the impact would be no greater than this.

In East London, near the Olympic Park where most of the Paralympic events took place, local planning assumptions were mostly unchanged between the two Games.

The most significant impact of the increase in visitor numbers was expected in A&E departments, sexual health clinics, and primary care walk-in-centres\textsuperscript{16} closest to the main sporting venues, and also dental services (reflecting many of the priorities identified in

\textsuperscript{15} Hospitals not specifically designated to receive Olympic Family visitors (see 4.2.5).

\textsuperscript{16} Walk-in-Centres (Walk-in centres) complement NHS primary care and A&E services by dealing with a range of minor illnesses and injuries. Patients do not need to register at a WIC to receive treatment and no appointment is necessary.
previous host city health planning reports, as described in 3.3.2). However, not all localities agreed with NHS London’s predictions on specific service impacts. In particular, there was some scepticism around the anticipated increase in sexual health attendances, with a number of local Olympic leads reporting that they had not prioritised this in their planning.

Two campsites opened for visitors to the Games, one in East London and the other in South East London, were also anticipated to have an (un-quantified) impact on local services. Finally, there was also some uncertainty over the likely impact of the cultural Olympiad and live viewing sites on demand for local services.

4.2.3.1.2 Contingency planning

Key areas of focus in local contingency plans included:

- Workforce planning.
- Increasing the physical capacity of services.
- Improving internal hospital referral procedures.

Specific examples of measures taken locally are described in Box 10. Overall, these preparations generated reassurance at local level in the ability of services to cope with a sustained increase in demand.
Box 10 Examples of local preparations for an increase in visitor numbers

**Workforce planning**

- Recruitment efforts to ensure all clinical posts filled
- Coordinated annual leave/ban on new requests for leave during the Games period
- Pre-planned agency/bank staff needs
- Trust-wide daily staff deployment procedures
- Extra locums for August junior doctor rota changeover
- Strengthening of on-call rotas
- Non-Olympic training and strategic work put on hold

**Increasing physical capacity**

- Keeping hospital wards open that would normally be closed
- Rescheduling planned activity over Olympic/Paralympic period
- Bringing forward plans to open new wards or new premises
- Cluster-wide ‘mutual aid’ arrangements to enable transfer of patients between hospitals to relieve local pressures
- Commissioning of extended walk-in centre opening hours

**Internal hospital referral procedures**

- Accelerated referral process from A&E
- Separate pathway for Olympic Family patients to minimise impact on other patients

### 4.2.3.2 Foreign visitor entitlements

The NHS has established policies and procedures which describe foreign nationals’ entitlements and charging arrangements, as follows:

- Free emergency health care is available to all visitors.
- Residents of countries with a health care agreement with the UK may also be able to receive non-emergency health care free of charge.
- All other overseas visitors are required to pay in full for any NHS inpatient or outpatient treatment they receive during their visit to the UK.

At the same time, the NHS had responsibilities under London’s 2012 Olympic bid commitments to provide free comprehensive health care to Olympic and Paralympic Family members throughout their stay in the UK for the 2012 Games.

While evidence from previous Games suggested that the resulting impact on local health services would be negligible, one of the main priorities for NHS London in preparation for
the Olympics was to communicate a clear message to overseas visitors about these entitlements, through as many outlets as possible. These included foreign embassies, hotels, VisitBritain/Visit London and Live Nation websites, London Councils, walk-in health centres, which were known to see a large number of overseas visitors, LOCOG, temporary campsites, National Olympic Houses, and tourist information centres. London Ambassadors were also trained in NHS entitlements and provided with signposting leaflets to distribute. The primary aim of this dissemination activity was to avoid inappropriate use of services and protect normal health care provision for Londoners.

In the twelve months leading up to the Games, NHS London issued guidance on charging overseas visitors and organised pan-London workshops and training. This training was informed by policies developed by designated hospitals as part of their Olympic planning. At local level, preparations included:

- Use of NHS London information and guidance to strengthen existing policies to ensure that overseas visitors are identified and managed appropriately, including access to interpreters and multi-lingual reference materials.
- Obtaining assurance from providers that policies were up-to-date and well-publicised.
- Raising awareness among staff and updating staff training on these policies (especially A&E staff).
- Raising the profile, and increasing Games time capacity, of hospital overseas patient and visitor teams.

One acute trust explored the option of long distance repatriation capacity for UK resident visitors.

In the immediate pre-Games period, stakeholders were confident of the NHS’ capacity to deal with the influx of overseas visitors to London. Respondents commonly cited the fact that there were tried, tested and familiar policies in place and were aware of NHS London’s wide

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17 London Councils is a think-tank and lobbying organisation that promotes the interests of London’s 33 local councils. It also runs a number of pan-London services (www.londoncouncils.gov.uk).

18 ‘London Ambassadors’ was the name given to volunteers who provided assistance and information at strategic points around London, such as airports and near the Olympic venues

19 Hospitals specifically commissioned to provide health care to the Olympic Family (see 4.2.5.2)
dissemination strategy for its signposting messages. Nevertheless, some residual concerns remained about the risk of ‘health tourism’ and the potential financial impact of delays in recouping costs of treating overseas visitors.

4.2.3.3 **Public health and demand management**

Public health goals within NHS London’s 2012 Programme focused primarily on preventative work to minimise the impact of visitor numbers on the local NHS in two main ways:

1. Keeping people healthy and preventing illness.
2. Signposting visitors to health information and advice to promote well-being and to prevent inappropriate use of services.

As well as taking the lead role outside the Olympic venues, the public health workstream also aimed to support LOCOG to look after the public health needs of spectators within the venues.

4.2.3.3.1 **Identifying and addressing public health risks**

Using evidence from previous Games, key public health risks were identified and prioritised in consultation with public health and communications leads across the London NHS, and information was developed for each risk. The information focused on those public health risks which were not being managed by the HPA, including:

- Alcohol use.
- Sun safety.
- Hydration.
- Sexual health.
- Safe travel.

The principal channel for public health communications was a specially developed micro site on the NHS health information website (NHS Choices). Public health messages were also included as part of the information sent out by LOCOG to ticket holders. In order to maximise impact, public health communications were designed to be consistent across the NHS nationally. ‘Sign-off’ from strategic health authorities in other areas was sought to

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20 [www.nhs.uk](http://www.nhs.uk)
enable this. Flexibility was also built into the programme, to ensure that the messages were relevant to the specific day-to-day context of the Games. For example, it was intended that sun safety outreach workers would engage in more general health promotion communications in the event of poor weather, and different messages were prepared for different temperatures.

Specific actions undertaken to mitigate each of the aforementioned public health risks are described in Box 11.

Communicable disease and environmental risk management and response (including food safety) was led by the HPA, in partnership with the local NHS and local councils; the HPA also had a constant staff presence in the Polyclinic [4]. The high reputation of the HPA in London engendered confidence in their ability to manage these risks effectively. Specific measures established for the Games period included enhanced surveillance, rapid delivery of vaccines and haemoglobin to the Polyclinic and accelerated diagnostic testing procedures. Management protocols were also clarified in the case of an outbreak on one of the campsites established for visitors to the Games. In general however, the HPA estimated that the risk of a large outbreak during London 2012 was relatively low, given the local context of good sanitation and clean water supply, an established system of food hygiene quality controls, a relatively advantaged local population and tried and tested surveillance systems. Olympic health planning reports emphasise the ‘major risk’ posed by the potential spread of communicable disease during the Games. This risk seems to be based on evidence from the Hajj, where outbreaks of meningococcal disease in particular have required public health intervention [77]. In contrast, studies of Olympic games and smaller mass gatherings reported that surveillance systems have shown a low incidence of infectious disease, due to the seclusion of visitors to hotels and sporting venues [78, 79].

Box 11 Public health risk mitigation

- Alcohol misuse

  This area of work primarily involved working via local public health leads to target event promoters and local Augmented Safety Advisory Groups (ASAGs), focusing on licensing and encouraging responsible practices around alcohol at local events. It was considered that communications alone would be ineffective in light of pervasive advertising from alcohol retailer Olympic sponsors.

  One acute trust respondent made specific reference to having successfully influenced decisions at their local council event planning meetings that might impact on A&E (e.g. licensing of live sites), as well as using this forum to obtain valuable information about local cultural events to inform hospital planning
| Sun safety | during the Games (e.g. the London Event Calendar).  
- Arrangements were made for a central London alcohol response centre to deal with post event demand during anticipated busy periods.  
- The aim was to keep people safe during the Games and raise the profile of sun safety measures.  
- This included the commissioning of sun safety outreach workers for some of the larger events and live sites to disseminate sun cream, hats and brief advice.  
- Event promoters were encouraged to make sunscreen and brief advice available at welfare points.  
- NHS London successfully negotiated with LOCOG an increase in the size of sunscreen liquid containers that could be taken in to venues. |
| Hydration | Emphasis was placed on the availability of free drinking water at the Olympic Park, in light of security restrictions preventing people taking in their own water.  
- Olympic sexual health service planning was led by the London Sexual Health Programme.  
- Their aims were to reduce the stigma around sexual health and improve service engagement, especially among young people.  
- Previous Olympic health planning reports noted the high levels of sexual activity among athletes after they had finished competing.  
- Free condoms were distributed via established and new routes (including athletes’ rooms, national Olympic Houses, live sites, cultural events).  
- Agreement was reached by NHS London with the Terence Higgins Trust to use their Summer sexual health campaign for the Olympics. |
| Sexual health | Information was included in LOCOG communications to ticket holders. |
| Safe travel | Information was included in LOCOG communications to ticket holders. |

### 4.2.3.3.2 Signposting visitors to appropriate services

Alongside the public health communications and related preventative activities, a significant amount of time was invested by NHS London in developing communications to explain the role of the NHS and signpost visitors to appropriate services. For example, signposting leaflets were developed and distributed in hotels and tourist information centres, and information was posted on the LOCOG and Visit London, Visit Britain and Live Nation.

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21 The London Sexual Health Programme (LSHP) supports efficient and effective commissioning of sexual and reproductive health services. LSHP also acts as an umbrella agency for stakeholders across primary, community, secondary and specialised care.

22 The Terence Higgins Trust is a UK-based HIV and sexual health charity.

ticketing websites. Guidance was also produced for LOCOG medical staff to use in their patient consultations. In support of this, work was done with the local NHS and host boroughs to ensure that relevant services were available and service information up-to-date on the NHS Choices website.

Plans to commission an increase in pharmacy testing for STIs, in order to divert patients from NHS sexual health services, were cancelled due to delays in establishing appropriate governance arrangements.

4.2.3.3.3 Impact of risk mitigation and signposting activity

Assessing the impact of public health interventions and signposting on demand for services during Games time is problematic, because it is not possible to ‘prove’ the specific contribution of such measures. However, on the whole, these activities were considered to have been worthwhile. For example, informal feedback received by NHS London suggested that the sun safety outreach work was appreciated by spectators during the occasional sunny days that occurred during the Olympic period. As expected, there were no significant food poisoning or communicable disease outbreaks during the Games. Those that did emerge were dealt with quickly and efficiently using normal protocols, led by the HPA.

Nevertheless, one local public health lead suggested that NHS London’s public health communications focused too heavily on demand management and did not use the opportunity of the Games to promote positive health messages to the local and national population.

4.2.3.3.3.1 Healthy Event Principles

Another major area of work for NHS London’s public health team in preparing for the Games was the development of a set of Healthy Event Principles as a tool to encourage sharing of responsibilities for health at local events beyond the NHS [80]. These principles were informed by the experiences of previous host city organisers and were widely publicised and promoted during Games time. For example, they were posted on the LOCOG website and advocated with the Greater London Authority (GLA), London Councils, ASAGs and individual event promoters. The aim was also to create a legacy in the form of an easily

24 http://www.visitbritain.org/
25 http://www.livenation.co.uk/
accessible guide to facilitate the integration of health considerations into large-scale event planning, both in the UK and elsewhere.

### 4.2.3.4 Games time impact on demand for health services

Overall, the actual impact of the Games on demand for health services was reported to have been manageable. For example, increases in A&E attendances and primary care demand were significantly below pre-Games estimates. There were some local peaks, for example, single day sharp increases in attendance at some walk-in-centres and high levels of Games time activity at one pharmacy located in the vicinity of the main Olympic Park. These increases were within planning assumptions but could not necessarily be attributed to the Games because some walk-in-centres which were not located near Olympic venues experienced peaks in demand. Even where designated hospitals were busier than usual, this had no impact on normal services due to the effective operation of separate Olympic Family pathways (see 4.2.5).

The anticipated surge in alcohol-related attendances and demand for sexual health and dental services did not materialise. No problems were created by the live sites or campsites. In fact one campsite did not open, due to lack of bookings.

There is evidence that the Olympics may have had a positive, albeit temporary, impact on services in some trusts, where A&E performance (on waiting times) significantly improved during the Games period, falling back to pre-Games levels shortly after.

Respondents attributed the success of the NHS in London in coping with the increase in visitors during Games time to a range of factors, including:

- Detailed London-wide and local capacity planning, which was perceived to have been proportionate to the risk on the whole, except perhaps at some designated hospitals where PCT cluster leads regarded some of the preparations to be ‘a bit over the top’.

- The effectiveness of the LAS Olympic control room in deploying resources across London as needed.

- Comprehensive health service provision at the Olympic Polyclinic minimising the impact on the local NHS. Emergency doctors, skilled spectator teams and pharmacy services were judged to have been key ingredients of this success (the Polyclinic was reported to be very busy almost immediately, with around 800 contacts per day during the Olympics and 500 during the Paralympics).
• A family atmosphere at the live sites, reducing the risk of alcohol-related problems.

• A degree of ‘luck’, for example poor weather during the early Olympic period (which prevented heat-related illness and discouraged visitors to live sites) and no Games time major incident for the NHS to deal with.

• A perception that a larger than anticipated number of non-Olympic visitors avoided London during the Games period.

There was no discernible difference in the overall impact on services during the Olympic or Paralympic Games. The presence of on-site highly trained health care staff, and effective triage facilities, has been shown to reduce the number of patients requiring transport to local health care facilities at other mass events [76].

Within the LAS, ‘business as usual’ baseline planning assumptions were based on activity levels during an unusually busy pre-Games period, and therefore may have been too high. An external stakeholder interviewed as part of the evaluation recommended that greater effort should be made to establish Summer baselines across all health services to better predict the anticipated impact of the Games on normal levels of activity.

While Games time impact did not have detrimental consequences for London’s health services, a number of risks were identified for the medium to longer-term as a result of London’s 2012 planning and delivery, as described below.

• Challenges in maintaining staff capacity in the build up to, and during, the busy winter period as a result of delayed annual leave requests (this is consistent with the experiences of previous host cities).

• Financial implications for individual trusts, especially non-designated hospitals where costs were expected to be absorbed as part of normal commissioning budgets. Although additional funding which was made available for emerging risks was put to good use, in many cases it was offered too late to be of any practical benefit and fell significantly short of the actual costs incurred. In one non-designated hospital, a deficit was created as a result of measures taken to create surge capacity for the Olympic and Paralympic period.
4.2.4 Planning for transport disruption

4.2.4.1 Planning priorities

The central London location of many of the Olympic venues meant that transport disruption, arising from an increase in visitor journeys and the ORN/PRN, was identified as a key risk to the maintenance of ‘normal’ service delivery from the outset. NHS London’s main transport concerns were site access and journey times across three priority impact areas:

- NHS staff travelling to and from work.
- Deliveries and supplies to and from NHS sites.
- Patients travelling to and from hospital and community-based service appointments.

NHS London’s Games time transport plans were informed by learning from the 2010 Vancouver Winter Games which highlighted the importance of transport communications in helping to prepare staff, patients and suppliers for the anticipated disruption. A major focus of the planning was therefore concerned with cascading information throughout the system, from NHS London to PCT clusters to providers to staff.

4.2.4.2 Roles and responsibilities

NHS London’s transport planning involved close working with Transport for London (TfL) throughout. TfL’s stated priority for the NHS during the Games was to ensure that no patient journeys or deliveries would be delayed as a result of Olympic-related transport disruption. The roles and responsibilities of all key partners in the planning are summarised in Figure 5.

Both NHS London and PCT cluster lead respondents were clear in their role as ‘messengers’, emphasising the responsibilities of individual providers to ensure that information was cascaded and communicated effectively to enable staff and patients to plan their travel during the Games. However, transport planning information about the predicted impact on specific hubs was thought to have been disseminated too late to be of use to one acute trust in particular, causing delays in detailed planning.

26 Transport for London is the local government body responsible for most aspects of the transport system across London.
While acute trusts made efforts to be as flexible as possible to allow for the potential impact on staff and patient attendance (see Figure 6), ultimately the responsibility for individual journeys lay with those undertaking them. One hospital trust required staff to self-certify that they had read the relevant information and had made plans for their travel over the Olympic and Paralympic period; other trusts had less formal arrangements, leaving it up to local managers to decide how to assure themselves that staff were sufficiently prepared.

Figure 5  Transport planning roles and responsibilities
4.2.4.3 Development of transport plans

There was a significant amount of uncertainty and some anxiety approximately nine months prior to the start of the Games about the extent of the impact of anticipated transport disruption on NHS services. According to planning documents produced during this period, specific concerns raised by PCT cluster and acute trust Olympic leads included:

- Implications for patient transfers and discharge arrangements.
- Demand for ambulance transfers if car access to a hospital site was to be restricted.
- The potential impact on neighbouring hospitals of site-specific access restrictions.
- The effect on the number of patient DNAs (‘did not attends’).
- How staff travel journeys and access to local transport hubs would be affected.
- Safeguarding of pharmaceutical and ‘time critical’ deliveries to/from hospitals, GP practices and pharmacy sites.
- Risks to community services arising from heavy traffic, road closures and plans for local authority enhanced parking restrictions.

As planning progressed, many of these concerns were allayed. Confidence in TfL’s planning, together with learning from test events (for example, the cycle road race in Summer 2011 and other LOCOG test events) helped to reassure the NHS. However, residual concerns remained in the immediate pre-Games period, including:

- Unresolved issues around restricted parking zones and the impact on delivery of services in the community (including midwives and primary care home visits).
- Lengthy and on-going negotiations with pharmaceutical suppliers, including arrangements for short notice/time critical deliveries.
- Reservations about the responsiveness of staff and patients to the transport communications.

While TfL planning tools and guidance were generally very well received and valued, some respondents described the transport information being disseminated as being ‘alarmist’.

4.2.4.4 Specific transport planning measures

Access to the ORN, over and above ‘blue light’ emergencies, was negotiated between the Department of Health, NHS London and the Olympic Delivery Authority (ODA)/TfL. A Memorandum of Understanding (MoU) was signed between NHS London and TfL to allow access on an ‘as needed’ basis for the following scenarios:
- Patient transport where there was a pressing (but not life threatening) clinical need.
- Travelling in and out of venues.
- ‘Active area cover’ (i.e. movement of vehicles to fill gaps in ambulance cover).

Despite delays in reaching an agreement and signing the MoU, LAS praised the outcome of these negotiations in granting the service ‘unprecedented’ access to the Games lanes.

Specific local contingency arrangements established to minimise the impact of transport disruption are described in Figure 6. For example, one acute trust recruited a dedicated transport and travel advisor for the Olympic period.

Health service providers located away from the main Olympic Park tended to focus their transport planning efforts on the Olympic Games, assuming that the transport system would be quieter during the Paralympics. In other areas, plans remained broadly unchanged.
Figure 6  Examples of specific local measures to minimise transport impact

**Staff**
- Raising awareness through various communication channels (e.g. workshops, team meetings, intranet, email, newsletters, screensavers, signposting to TfL’s online travel planning tools, manager checklists); staff ‘self-certification’ that information received and travel plans made (one hospital trust)
- Targeted communications and site specific plans based on staff travel surveys
- Flexible and remote working arrangements where possible, including temporary relocation at alternative sites
- Shift adjustments for ‘frontline’ staff (e.g. early/late starts, locally resident staff to cover Olympic shifts)
- Use of existing ‘emergency’ hospital staff accommodation policies (e.g. staff accommodation blocks, outpatient beds assigned for overnight staff accommodation, patient hotels, block booking of local hotel rooms where possible/available)
- Rescheduling of non-urgent community service appointments; telephone consultations where appropriate/acceptable
- Encouraging and facilitating alternative transport modes (e.g. use of existing/specially purchased pool bicycles for staff travel, expand availability of bicycle storage, dissemination of TfL walking and cycle route maps, use of incentives such as ‘Walk to Rio’ competition) and car pooling
- On-site social facilities for staff to enjoy (including big screen TVs showing sporting events) if they wish to delay their journey home to avoid rush hour
- ‘Multi-skilling’ programme to train up ‘back room’ staff in ‘mission critical’ tasks (e.g. portering, patient registration, hospital food service delivery)
- Minimising the requirement for face-to-face meetings by reviewing corporate calendars and making greater use of teleconferencing facilities.

**Suppliers**
- Raising awareness among suppliers about use of ORN
- Signposting and cascading TfL planning tools/encouraging attendance at TfL freight workshops
- Deployment of additional delivery vehicles and drivers
- Negotiating earlier/later/night time and/or nearby deliveries in ‘hot spot’ areas, including arrangements to ensure safe receipt and storage
- Rescheduling prescription delivery/collections for long-term conditions patients, using existing procedures established for the Christmas/New Year period
- Local stockpiling of supplies and expanding storage areas
- National negotiations to relax quotas for holding of pharmaceutical products in designated areas
- Reviewing supply chains and updating of supplier business continuity plans
- Motorcycle deliveries for smaller items

**Patients**
- Information dissemination:
  - sent out with outpatient and elective appointment letters and text message reminders
  - targeted communications to maternity patients
  - posters displayed at health service premises
  - Central number for patients to call in the event of transport delays en route to appointments
  - Flexibility to accommodate late arrivals as far as possible
  - Rescheduling of elective appointments:
    - offer to move to post Games period
    - complex cases in the middle of the day to ensure all staff/supplies available
- Patient transport:
  - updating of patient transport business continuity plans
  - additional patient transport drivers; vehicles taken home to reduce number of journeys
  - earlier pick-up times to allow for delays
  - additional LAS cycle response units deployed to non-ticketed events
- Temporary hospital reception established away from main entrance affected by restricted site access

4.2.4.5  Games time transport impact

Despite some localised difficulties (for example, bed pressures at one hospital were exacerbated by road closures during the cycle road race), the overall impact of transport
changes on London’s health services was minimal and many contingency measures were not required. Thus:

- **Staff travel.** Traffic and transport hubs in the vicinity of the major venues were very busy, but this didn’t cause any obvious major delays to staff journeys.

- **Patient travel and transport.** Across London, there was no discernible impact on DNAs, with some hospitals witnessing a slight increase and others no change or a slight fall. Even where increases were observed, these could not necessarily be attributed to transport problems; rather, there was a suggestion that some patients may have missed appointments intentionally to watch the sport.

  LAS response times exceeded target response times during the Games period.

- **Supplies and deliveries.** While deliveries were reduced in some areas (near the Olympic Park), no supply shortages were reported.

Some minor transport-related incidents were reported by respondents. For example, on one occasion staff were not available to take receipt of a rescheduled pharmaceutical delivery; on another, changes to a one-way system delayed access to hospital for a patient attending for cancer treatment. However these were dealt with quickly and effectively.

Additional anticipated pressures on the transport system during the Paralympic Games as a result of schools re-opening after the summer holidays, and higher than expected ticket sales did not materialise.

### 4.2.4.6 Assessment of NHS London’s Olympic transport planning

In the absence of any major adverse event, it was widely acknowledged that it was not possible to judge whether the planning was proportionate to the risk. Although one acute trust Olympic lead suggested that community services ‘over-reacted’ to the transport risk, others attributed the absence of transport disruption at least in part to the detailed preparatory work and contingency measures that were established. The most successful aspects of the planning are described below.

- **Successful TfL communications.** London was quieter than expected. This was thought to be because businesses and the public heeded advice to adjust the timing and mode of their travel. TfL daily updates were judged to be less useful in areas close to the Olympic Park (which were graded ‘red’ every day for the entire period).
• Learning from test events. For example, the impact of the cycle road race on local hospitals was significantly reduced compared to a trial race held during the previous Summer. This was due to the adjustment of plans in the interim period, including reduced road closure period and placement of ambulances within the landlocked area.
• The MoU between the Department of Health and TfL, and Games time flexibility in granting of permission to use Games Lanes.
• Detailed logistical planning to safeguard pharmaceutical deliveries and specimen supplies.

Despite minimal Games time transport disruption, in the post-Games interviews some doubts were raised about the success of specific travel information cascade mechanisms. For example:

• The effectiveness of email and hospital intranet posts to inform frontline staff (who may not be frequent users of these communication channels) was questioned by some.
• In one acute trust, patients who were sent an appointment letter prior to the development of local Olympic travel leaflets did not receive a subsequent communication from the trust including these leaflets, because of the postal costs incurred.
• In the LAS, feedback from local team managers suggested that more detailed and targeted travel information could have been cascaded internally at an earlier stage.
• While contingency plans were not required during the Games period, longer-term benefits are anticipated through the creation of a ‘health system legacy’ to enhance business continuity (especially in primary care), for example during the busy winter period (see also 4.3.2).

4.2.5 Meeting the health care needs of the Olympic Family

4.2.5.1 Main aims

The ‘Olympic Family’ consisted of VIPs, athletes, support staff, IOC members and the wider accredited workforce (media and marketing partners). NHS London’s main priority was to fulfil its responsibilities under the 2012 bid commitments to provide free comprehensive health care for the duration of their stay in the UK.
4.2.5.2 Responsibility for the Olympic Family’s health care

LOCOG was responsible for providing health care to the Olympic Family within the main Olympic venues. These services were provided primarily at a Polyclinic, situated in the main Olympic Park and staffed by medical volunteers. The Polyclinic provided facilities to deal with the majority of health care needs, including minor trauma, sports massage therapy, dental treatment, optometry, pharmacy and MRI scanning.

Where treatment could not be provided at the Polyclinic, or an Olympic Family member fell ill outside of the main venues, three hospitals trusts in London were designated to provide services to accredited patients:

1. Homerton University Hospital in Hackney, East London – commissioned to deal with athletes’ health care needs.
2. Barts Health NHS Trust in the City of London – commissioned to treat the accredited media and athletes requiring specialist care.
3. University College Hospital in Central London – commissioned to treat other Olympic Family members.

The planned Olympic Family health care pathway between the main venues and designated hospitals is summarised in Figure 7.

In the event of major trauma, the usual London pathways were to be followed to ensure the same rapid and high quality care available to any patient.

Figure 7 Intended Olympic Family care pathway between the main Olympic site and the wider health system (major trauma excepted)
4.2.5.3 Planning for Olympic Family NHS attendances

Additional government funds were made available via a bidding process to support the NHS in its Olympic Family service provision. Mechanisms were also established to enable non-designated hospitals to claim back the costs of treating any Olympic Family patients in the post-Games period.

NHS regulations were amended to allow for free treatment of foreign national Olympic Family members.

Each designated hospital appointed a Hospital Olympic Planning Officer (HOPLO) who was responsible for guiding Olympic Family members through the NHS and ensuring a seamless patient pathway. The HOPLO was also the main point of contact between the hospital and the Polyclinic and was responsible for reporting any Olympic Family attendances up to NHS London and LOCOG as part of Games time performance monitoring procedures (see 4.2.8.3).

LOCOG worked directly with the designated hospitals and the LAS on developing and testing specific patient pathways for the Olympic Family (through training, exercising and test events), with a particular emphasis on coordinated communications protocols to deal with media interest in high profile patients. Designated hospitals which were not commissioned to treat athletes were not trained specifically to deliver the athlete patient pathway.

A major focus of designated hospital preparations was reviewing and boosting security capacity in A&E. This included arrangements for ensuring that ambulances that had been security screened at the Olympic Village were not left unattended on hospital sites.

It was anticipated that some Olympic Family attendances would occur outside the planned pathway and a number of preparations with the wider health system were made for this:

- National workshops (run jointly by NHS London, LOCOG and the Department of Health) on managing an accredited Olympic Family member.
- Olympic Family protocols, including communications, were agreed across the system (including non-designated hospital A&E departments, as well as pharmacy to prevent prescribing of banned substances).
- Arrangements for dealing with accredited patients incorporated in to the NHS London assurance process (see Assurance in 4.1.1.2).
- Participation in LOCOG test events.
In the immediate pre-Games period, non-designated hospitals appeared confident in their local plans for dealing with accredited patients.

NHS London was also involved in lengthy negotiations over the role and responsibilities of the team doctor and anti-doping issues on referral of an athlete to a local hospital.

NHS London took the same approach to planning for Olympic and Paralympic accredited patients; while the numbers were expected to be smaller for the latter, the anticipated nature of attendances was considered to require a potentially greater health care resource.

4.2.5.4 Games time Olympic Family demand for NHS services

There tended to be an initial sense of alarm about how to respond when the first Olympic Family patient arrived in an A&E department, but plans soon fell into place as staff became familiar with the protocols, and the actual impact on normal hospital services was minimal. This was attributed to the well-publicised distinct pathways and protocols for Olympic Family members (in designated and non-designated hospitals) in addition to the very small numbers involved (41 attendances and five admissions in the VIP designated hospital; 106 attendances and 26 admissions in the accredited workforce designated hospital).

The Polyclinic was also praised for having relieved much of the potential pressure on the NHS in London by dealing with most Olympic Family health care needs.

The number of Olympic Family admissions was approximately the level expected, although the athlete designated hospital received more than double the number of anticipated attendances and admissions, (i.e. 400 attendances and 50 admissions). In non-designated hospitals, the number of attendances was in line with or below planning assumptions, with the exception of one central London site where numbers were higher than expected (around 60 A&E attendances). However the impact was still deemed to be low. Levels of activity were slightly lower during the Paralympic Games.

High demand for health services from the Olympic workforce was highlighted in the health planning reports of previous host cities (see 3.3.2). In London 2012, concern was expressed by LOCOG and designated hospital respondents over the very poor health of some members of the team support staff, which led to a small number of hospitalisations and ethical issues around whether or not to initiate treatment that would have to be continued in the patient’s home country (for cancer, for example). The approach taken in these cases by hospitals and the Polyclinic was to conduct an initial examination, start treatment where absolutely
necessary and provide a detailed recommended treatment plan for continuation on return to their country of residence. The wider accredited workforce, on the other hand, mostly attended hospital with minor ailments and were keen to be treated quickly and return to the Games.

There was an unexpected demand for paediatric athlete services, due to the low age limit of some sports. However, the need to plan for paediatric care at mass gatherings and to focus on working relationships between paediatric and adult emergency care providers has been suggested previously by Bernardo et al. [81]. Another unexpected demand was for non-clinical services, such as provision of clothes and toiletries (for example, for workers with no family or friends in London) or mobile phone chargers (to enable patients to contact their colleagues or family and prevent the ward team becoming the point of contact for all communications).

Language was less of an issue than anticipated, with hospitals managing non-English speaking patients within normal arrangements where interpreters did not attend with patients.

In reality, managing the media impact proved to be more challenging than managing clinical needs, but in general protocols worked very well. Although protocols protected the identity of high profile accredited patients, it sometimes proved very difficult to safeguard the anonymity of those who presented in their team colours.

The Olympic Family pathway as outlined in Figure 7 worked well, with some minor exceptions:

- As anticipated, some Olympic Family members (mostly VIPs) self-presented to the hospital nearest to their London lodgings or venue they were visiting. There is also some anecdotal evidence that presentations to non-designated hospitals may have been the result of clinical staff referring patients to hospitals they are familiar with or where they could access specialist treatment.
- One acute trust Olympic lead reported that some accredited patients had been referred with minor health problems that could and should have been dealt with at the Polyclinic. This was attributed to the unfamiliarity of some non-UK based volunteers with the workings of the NHS. This may also indicate that NHS London’s signposting information was not getting through to all Polyclinic staff (see 4.2.3.3.2).
The pathway was reported to work more effectively at the Homerton than other designated hospitals, perhaps because the pathway for athlete injuries was clearer and this group of potential patients were mostly concentrated in a single location, at the Olympic Village.

LOCOG were very satisfied with the performance of the LAS in transporting accredited patients to and from designated hospitals. One minor complaint from LOCOG was that ENT specialists were not always available immediately on arrival of an Olympic Family patient. A recommendation was made for the HOPLO to be of sufficient seniority to be able to obtain these resources urgently, as required.

4.2.6 Emergency preparedness

4.2.6.1 The Olympic emergency planning process

NHS London is a core member of the London Resilience Team (LRT), a multi-agency team that leads on pan-London emergency planning and response. The LRP’s planning assumptions for the 2012 Olympics were based on central government’s London Olympic Resilience Planning Assumption (LORPA). Although some of the LORPA scenarios were regarded as ‘unrealistic’, NHS London aimed to ensure that their plans could reasonably respond to them all.

NHS London’s Olympic EP was underpinned by a risk assessment and gap analysis, illustrated in Figure 8. Initial assumptions were based on maximum capacity at live sites and cultural events across the city. The mapping exercise was completed by April 2010 and preparatory activity commenced later that year. NHS London’s role in the EP process, was as always, a strategic one; detailed plans were the responsibility of local partners.

Existing processes and plans, via the annual NHS EP audit, were used to prepare the system for Olympic emergencies and to enable the NHS in London to retain its ‘normal’/non-Olympic emergency response capacity. Olympic additionality was built into the assurance process to ensure existing plans were resilient to the anticipated increase in visitor numbers to the city during the Games period, including overseas visitors unfamiliar with the UK health system. Faster response times were also required for such a high profile international event, not least because of the intense media attention and presence of a large number of VIPs and VVIPs in the city.
4.2.6.2 Emergency planning priorities and on-going risks

Mass casualty incidents, particularly those associated with security risk and CBRNe release, were identified early on as priorities for NHS London’s Olympic emergency planning.

Additional measures put in place to support the LAS Olympic response included:

- Extra staff resources brought in from other ambulance services across the country to meet demand at the main Olympic venues, with training provided on London equipment and procedures.
- The establishment of a central deployment centre in East London.
- Pre-positioning of ambulance teams across the city.

Planning for a large-scale communicable disease outbreak, in partnership with the HPA, was undertaken as part of normal emergency preparations. Local exercises helped to clarify the respective roles of partner agencies (including HPA, LOCOG, local authorities and Directors of Public Health) in any outbreak occurring within one of the main Olympic venues. However, the risk of such an outbreak in London was deemed to be relatively low (see 4.2.3.3.1).

Site specific priorities included planning for mobile phone network congestion in the vicinity of the main Olympic venues.
As part of the on-going risk assessment process, planning documents highlighted a number of threats identified by NHS London to the system’s emergency response capability during the Games, including those described in Box 12.

**Box 12 Potential risks to London’s NHS Games time emergency response capacity**

- Reduced emergency staffing capacity caused by NHS volunteers working for LOCOG medical services during the Games.
- Renewed concerns over the potential impact of any LAS industrial action, following shortcomings in the system identified during the strike held on 30 November 2011. Significant time and effort was invested to improve LAS business continuity plans to address these concerns.
- The impact of public sector reforms, introduced by the new national coalition government elected in May 2010, including:
  - impact of the prevailing NHS reorganisation on command and control structures and multi-agency resilience networks;
  - potential loss of pan-London EP knowledge and expertise resulting from the transfer of lead responsibility for the LRP to a new host organisation (the GLA);
- A number of London acute trust IT projects going live during Games time.

### 4.2.6.3 Outcomes of the planning process

At NHS London, Games time preparedness activity was prioritised over non-urgent EP work not specifically linked to the Olympics. The latter was put on hold, but existing arrangements were considered to be robust enough to use as necessary. Locally, some concerns were raised about the risk to ‘normal’ response capacity created by focusing too much on preparing for Olympic-specific incidents. Furthermore a senior staff member left the central EP team shortly before the Games, which caused one local partner to report that key contacts were lost at a critical point in the planning process.

Whether or not the result of these late changes, a number of plans were perceived (by NHS London and local partners) to have been rushed through in order to complete them in time for the Games. There is some evidence that, at least initially, local business continuity plans were based on ‘worst case scenario’ assumptions; and this was reflected in the nature of some of the bids for funds made available for emerging risks (see 4.1.2.2.2).
LAS plans emphasised the service’s focus on health, rather than security, in recognition of its key role at the centre of any NHS emergency response. The proportionality of efforts to improve LAS business continuity in the event of industrial action was questioned by one research participant.

The detailed local planning, assurance, exercising and test events all helped to foster confidence across the system in London’s NHS Games time response capacity, although residual uncertainty remained in the immediate pre-Games period at local level with respect to the resilience of plans to deal with a large scale mass casualty incident. The familiarity of existing plans and procedures was deemed to have aided the planning.

Multi-agency table top and live exercises helped prepare the system for an Olympic incident (as in previous Games – a number of practised scenarios occurred during Games time, including a smoke plume created by a 34 pump fire in East London which were dealt with quickly and effectively). Exercises helped to identify important lessons, e.g. for communication between new and existing response partners, including LOCOG. However, there was considered to have been insufficient focus on health in national exercises, until the final exercise which NHS London helped to plan.

No major incident, either Olympic or non-Olympic related, occurred in London during the Games to fully test the London’s plans. However, many respondents emphasised the longer-term benefits of the Olympic planning to better prepare the system for future emergencies.

4.2.7 Media strategy

4.2.7.1 Strategy aims

The NHS London media strategy aimed to mitigate the reputational risk arising from the 2012 Olympic and Paralympic Games. Ensuring consistent communications, across the NHS and with key external partners, was identified as a priority in the planning.

In developing the strategy, the media team drew on the limited evidence available from previous Games (in particular Vancouver), and, more importantly, on NHS London’s own experience in dealing with previous incidents. Specific London incidents and associated learning points for the Olympics, as highlighted by research respondents, are described in Box 13.
Box 13 Lessons from recent London incidents for 2012 media planning

<table>
<thead>
<tr>
<th>Incident</th>
<th>Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac arrest in a professional footballer during a match in North London, March 2012</td>
<td>Learning from shared media response with football club of direct relevance for NHS/LOCOG joint Games time response</td>
</tr>
<tr>
<td>2009 swine flu pandemic</td>
<td>Successful media response informed Olympic planning, reporting lines and exercises</td>
</tr>
<tr>
<td>London bombings, July 2005</td>
<td>Effectiveness of positive media stories where people were saved/treated by NHS staff</td>
</tr>
</tbody>
</table>

4.2.7.2  Predicted pattern of media interest

Growing national and international media interest was expected as the Games approached, with an increasing focus on negative stories. While the main media interest was not expected to be on the health service (but rather on security, transport or escalating costs), possible issues of relevance to the NHS were identified, including the risk of ‘health tourism’ and Olympic patients receiving preferential treatment over resident Londoners. Plans were informed by the possibility that a small incident (such as a localised disease outbreak or heat wave) could become a huge story in the face of media scrutiny. Up to 40,000 journalists were anticipated to be in London for the Games, only half of whom would be accredited as part of the official Olympic media centre (whose attention was expected to be focused on the sport).

Attention was expected to shift primarily to sports-related coverage once the Olympics had started. After the Games, national media interest was anticipated to emerge around the financial impact for the NHS of hosting the Olympics, as well as the promised health legacy.

4.2.7.3  Media planning priorities

Three main areas of activity emerged from the research interviews as the main focus of NHS London’s media team in preparing for the Games, namely:

- Ensuring coordinated and consistent communications across the NHS in London.
- Safeguarding communications capacity and resilience across the system.
- Balancing proactive and reactive media work.
As with other aspects of NHS London’s 2012 planning, the media strategy aimed to build on existing processes and procedures wherever possible, complemented by new Games time protocols and structures, such as those outlined in Box 14. Some anxiety and confusion was created initially over the complexity of the new reporting structures.

The impact of social media remained an unknown quantity in the planning, and there was some concern immediately prior to the Games amongst the central planning team about the potential for negative Twitter stories to disseminate rapidly.

**Box 14 Examples of new and existing communications protocols and procedures**

<table>
<thead>
<tr>
<th>Existing protocols</th>
<th>New/enhanced Olympic protocols</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Media enquiries channelled via NHS London media desk to relevant policy lead for a response (i.e. Olympic enquiries to the 2012 Games Time Control Centre – see 4.2.8.2)</td>
<td>• Urgent messages reported by the Department of Health to the Government Olympics Communication newsroom via the Message Integration Group (MIG)</td>
</tr>
<tr>
<td>• Press statements delivered by dedicated senior policy lead</td>
<td>• Olympic-related issues dealt with via joint NHS/LOCOG media protocols and shared responsibility arrangements</td>
</tr>
<tr>
<td>• Localised issues managed according to local media protocols</td>
<td>• Enhanced alignment of media response plans with established partners (including TfL, HPA, the police, etc.)</td>
</tr>
<tr>
<td>• London-wide/national issues escalated up to NHS London/ Department of Health via established communication channels; use of existing pan-London/national protocols as necessary (e.g. heat wave national protocol, LRP protocols, NHS/HPA protocols)</td>
<td></td>
</tr>
</tbody>
</table>

4.2.7.3.1 **Coordinated and consistent communications**

A core media brief was developed to facilitate consistency of communications in response to media enquiries; the brief also contained contact details of all NHS and partner communications leads. This brief was sent directly to local communications teams and included as part of NHS London’s 2012 operational guidance to maximise coverage and awareness. Examples provided by respondents of anticipated Olympic-related enquiries and standard responses contained within the media brief included:
In addition to the core media brief, coordinated multi-agency communication protocols were developed and local teams trained in their use. A daily pan-London Games time communications teleconference supported this coordinated effort and was designed to facilitate rapid reporting of Olympic-related media stories and timely preparation of media lines (section 4.2.8.3 describes how this fits in to the wider Games time reporting process for the NHS in London). As well as the daily teleconference, other media monitoring mechanisms established by NHS London included intelligence gathering through Games time Co-ordination Centre (see 4.2.8), in addition to a dedicated staff resource within the central communications team tasked with ‘traditional’ and social media monitoring.

Wider system assurance and testing, together with communications-focused multi-agency exercises, helped to tighten NHS communications plans and rectify uncertainties over lines of reporting. Key external partners in NHS London’s media response planning included TfL, LOCOG, HPA and the Metropolitan Police.

A residual concern in the immediate pre-Games period, raised both centrally and locally, was the perceived lack of control in an organisation as large and diverse as the NHS over staff making unsanctioned statements about services to the press. By keeping all staff informed of the detailed planning taking place at local level, it was hoped that this risk would be mitigated.

4.2.7.3.2  Safeguarding media response capacity

Additional communications staff capacity was secured across the NHS in London, both centrally and locally (including the LAS), in anticipation of the increased Olympic media
scrutiny. Arrangements for (refresher) media training for senior managers were also made across the system.

The core NHS London 2012 media team consisted of a strategic lead (who led the daily conference) and two other staff members: one responsible for media response and producing a daily summary; another with responsibility for media monitoring and producing Games time daily communications briefing which was disseminated across the NHS in London.

Flexibility was built into the system via an arrangement whereby NHS London could call on local teams in the NHS and local authorities, as well as LAS resources, to bolster the central communications team as necessary.

4.2.7.3.3 **Balancing reactive and proactive media activity**

A media brief was developed for use across the NHS in London to respond to media enquiries and emerging stories. This was updated regularly as new issues emerged and was disseminated via the web and in hard copy. Media briefings were also prepared for ministers to use in response to questions about NHS preparations for the Games.

Positive proactive media stories about the NHS were planned for the weeks prior to the Games, alongside demand management publicity and health promotion information. However, the main focus remained on reactive media work throughout, in part because of the risk of positive stories being misinterpreted and to protect the NHS from media scrutiny. There was a sense in the immediate pre-Games period that ‘no news is good news’ in terms of Olympic media coverage for the NHS.

Some acute trust respondents described proactive work being done by their communications team to place stories in the local press, describing NHS preparations for the Olympics, in order to alleviate any concerns of local residents about the impact on local services.

4.2.7.4 **Games time media response**

Just before the Games started, there was an air of qualified confidence in NHS London’s Olympic media strategy.

Local NHS Olympic leads appeared reassured by the careful and coordinated planning that had taken place, and there was widespread awareness across the system of the core media brief, Games time media protocols and reporting mechanisms. Local NHS organisations had
received very little in the way of media enquiries at this stage. The LAS, however, reported an increase in Freedom of Information requests about their Olympic planning.

The *pattern* of media interest was broadly as anticipated, with a growing number of high profile negative news stories circulating before Games, including the impact of road restrictions imposed by the ORN/PRN and accelerated care pathways for the Olympic Family diverting resources away from other patients. One story relating to the latter occurred prior to Games time protocols going ‘live’ and resulted in inconsistent messages being issued by LOCOG, NHS London and the hospital involved, although this had minimal impact.

The *level* of Games time demand, however, was lower than anticipated, particularly in terms of international media interest. Only 35 media enquiries were logged over the entire period and issues were dealt with quickly and effectively. Despite fears for the first ‘social media Games’, no major stories arose either via these new channels or via the traditional media. The ‘feel good’ factor generated by the inclusion of the NHS in the Olympic opening ceremony was perceived to have led to some very positive Games time reporting of the NHS and, it was suggested, may have diverted negative media interest. As a result, less reactive media work was required than anticipated and more proactive communications were undertaken.

Handling of the media when an Olympic Family member was admitted to a designated hospital worked as planned. In fact, an unexpected positive media story developed following the hospital treatment of one GB athlete, who publicly praised the treatment they had received.

There was slightly less media interest during the Paralympic Games. The handful of enquiries received about health service access and accessibility during this period involved scenarios that had been planned for and were easily dealt with. In response to a quieter than expected Olympic Games, NHS London’s media team presence was reduced during the Paralympics, but access to surge capacity was retained throughout.

Once again the media planning was believed to have been proportionate to the assessed risk. Despite the lack of media interest at the levels anticipated, much of the success of Games time response was attributed to having a single (and coordinated) point of contact for media enquiries in all partner organisations, as well as consistency of communications across London.
4.2.8 Games time monitoring and reporting

4.2.8.1 Performance monitoring aims

The primary aim of NHS London’s performance management and Games time reporting was to retain close scrutiny of activity across London’s health services in order to enable prompt identification of ‘rising tide’ and surge pressures and a rapid remedial response. Particular attention was paid to being able to identify Olympic Family or other VIP attendances.

A ‘belts and braces’ approach to reporting up through the system was taken in an attempt to provide reassurance to central government and minimise Games time ad-hoc requests for information.

4.2.8.2 Games time monitoring and reporting arrangements

NHS London produced a ‘Concept of Operations’ document for the 2012 Games (referred to as ‘CONOPs’), which set out monitoring and reporting structures for the Olympic and Paralympic period. As reported in section 4.2.2, existing EP arrangements were retained to run alongside these Olympic-specific structures.

PCT clusters and acute trusts largely replicated NHS London’s CONOPs at local level. Delays in issuing the final NHS London CONOPs document therefore had a knock-on effect for local planning schedules, particularly in relation to mechanisms for reporting acute trust performance data. Initially, instructions were given for hospitals to report directly into NHS London and later this was changed to reporting via PCT clusters. These delays and late stage changes appeared to be the consequence of two factors: ‘power struggles’ over roles and responsibilities within the GTCC (see 4.1.3.3.1); plus a lack of clarity over where NHS London fitted into the overall Games time command and control structures.

The final GTCC arrangements, as described by NHS London respondents, are presented in Figure 9. The main function of the GTCC was operational, responding to queries and disseminating information across the system (in the form of a daily brief), drawing on expert input as and when needed. The role of the executive lead was to keep the NHS London board informed of issues arising and to provide senior level sign-off for deployment of additional resources as needed. Essential EP experience was retained throughout via the appointment of senior and/or room managers from NHS London’s emergency preparedness team. These arrangements were mirrored at local level, with senior executive responsibility for dedicated Olympics co-ordination rooms in PCT clusters and acute trusts.
All documentation for the GTCC was kept in hard copy, as well as electronically, as back-up in case of system failure.

Following their planning visit to Vancouver in 2010, the NHS London 2012 team concluded that it can be onerous to maintain detailed daily reporting and monitoring across the health system during Games time. The reporting structures established by NHS London took these considerations on board by using familiar performance metrics (plus Olympic-specific data items, including accredited patient attendances) and the automated reporting mechanisms used by the NHS during the annual busy winter period. Routine information reported via this route was to be supplemented by exception reports of Olympic-related issues in regular teleconferences, plus relevant incoming queries (including from the media) received by the GTCC. Nevertheless, in the immediate pre-Games period, some concerns remained over the perceived complexity of additional Olympic reporting requirements. The LAS, for example, highlighted the multiple reporting structures they were expected to feed into during Games time (including NHS London, the National Ambulance Co-ordination Centre and central government’s National Olympic Co-ordination Centre).

Close alignment of the reporting formats used by NHS London and the Department of Health was also prioritised to ensure consistency. NHS London and Department of Health respondents emphasised the need for supporting prose to accompany these standard reports to avoid misinterpretation of the data at ministerial level. The key role of experienced NHS operational staff in the central reporting structures (within the NHS Operations team) helped to reassure the NHS London 2012 team that the risk of such misinterpretation would be minimised.
4.2.8.3 Reporting process

As already described, the 2012 reporting process largely replicated NHS winter reporting, overlaid with links to additional Olympic partners (including NHS/LOCOG exception reporting arrangements and regular contact with TfL) and involving more regular - at least daily - scrutiny. Monitoring was facilitated by a specially developed performance reporting tool, which pulled together all data sources in an easy-to-read graphical format. A simplified overview of the intended reporting process is provided in Figure 10. NHS London also reported in to the LRP Games time operational structure; PCT clusters contributed data to local authority monitoring and reporting systems.

Alongside these reporting arrangements, a pan-London daily communications teleconference was held with local communications leads (see 4.2.7.3.1). Situation reports (sitreps) were supplemented by information gathered from media monitoring (see 4.2.7.3). Key information
reported via NHS London sitreps was collated into a daily brief, prepared by NHS London’s communications team, and disseminated across the health system by the GTCC.

Individual hospital arrangements for internal reporting varied, with some planning daily trust-wide teleconferences and others relying on electronic submission of standardised reports.

Assurance and testing of the reporting process, as well as a ‘soft launch’ prior to the start of the Games, was judged to be very effective in getting the system up to speed and aligning central and local CONOPs. The GTCC planned to open in May 2012 and remain in operation until after the Paralympic Games had ended.

**Figure 10  Simplified overview of NHS London Games times reporting process**

![Diagram of reporting process]

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4.2.8.4  **Assessment of the monitoring and reporting process**

Reporting arrangements remained in place throughout the Games period, but were ‘stepped down’ between the Olympics and Paralympics. Hours of operation were reduced slightly during the Paralympics in response to a quieter than expected Olympic Games (although on-call arrangements were retained at all times).
Despite some initial minor ‘teething problems’ while people became familiar with the system, for example, confusion about reporting lines in the event of an Olympic Family attendance, processes worked well and most queries were dealt with promptly by the GTCC. As time progressed, fewer and fewer enquiries were received. Members of the GTCC emphasised the importance of having a television in the room to keep the team abreast of what was happening ‘outside’.

Feedback from respondents suggested that people felt well-informed across the system and there were high levels of co-operation with reporting obligations. NHS London was commended by local NHS Olympic leads for using tried and tested systems which engendered familiarity and confidence. The automated sitrep plus exception reporting approach was judged to have been the correct focus on the whole because there was rarely anything to report.

Some surprise was raised by acute trust respondents that NHS London was only interested in accredited patient admissions, rather than in all attendances. In the event, requirements were changed during Games time to include all Olympic ‘attributable’ patients in reports (i.e. any visitor transported via ambulance from the Olympic Park). There is no evidence however that this caused any problems for the local NHS.

In addition to formal reporting mechanisms, informal cluster level monitoring arrangements were operated to assist a more rapid response to localised surges in demand, although mostly these were not required (see 4.2.3.4). A number of acute trust Olympic leads stated that they would use the new systems established for the Games to improve local reporting processes going forward (for example, daily trust-wide capacity planning teleconferences).

In common with the other components of the NHS Olympic programme, the Games time reporting arrangements were not tested by extreme events. However they were considered to be effective and this was attributed to:

- Use of familiar systems and standardised reporting formats. It is hoped that the latter will be used for winter reporting in future.
- Single point of contact via the GTCC and local co-ordination rooms (and HOPLOs in designated hospitals).
- EP presence in the GTCC.

A number of local Olympic leads questioned the continued need for daily teleconferences involving all stakeholders while the system remained ‘very quiet’; others praised NHS
London’s flexibility in keeping calls brief where there was nothing to report. Although there was consensus over the need for greater levels of scrutiny of NHS performance during the Games, some challenged the over-reporting of ‘minor issues’ and time wasted in pan-London and national teleconferences discussing problems that would normally be dealt with locally. However, some acute trust and Department of Health respondents believed that this helped to provide reassurance that there were no major issues being missed.

A common criticism raised by acute trust Olympic leads was the timing of dissemination of the NHS London daily brief, which was usually distributed too late during the day to be useful for local communication purposes. Consequently, local communication briefs to help staff plan for the following day were often distributed without this information, or had to be updated and re-issued when this information became available.
4.3 NHS London’s contribution to an Olympic health legacy

Legacy was one of the core features of London’s 2012 Olympic bid, with aspirations for large-scale regeneration of a deprived area in East London (in the vicinity of the main Olympic Park) as well as a sporting legacy for the nation [82]. Available evidence is insufficient to determine whether or not previous Olympic and Paralympic Games achieved a sporting legacy for the host nation; although no previous host city has set out an explicit strategy to achieve this [83].

London aimed to be the first city to develop a clear strategy to achieve both a sporting and wider health legacy from hosting the Olympic and Paralympic Games. The realisation of London’s health legacy ambitions required the involvement of a wide range of agencies, including planners, local government, schools and health services. NHS London’s plans to deliver an Olympic health legacy should be considered in this broader context, although we do not attempt to evaluate London’s wider legacy aims in this report.

4.3.1 NHS London’s legacy strategy

NHS London’s 2012 Programme included a dedicated health legacy workstream from its inception. A legacy strategy, named ‘Go London’, was developed in collaboration with key public and private sector partners [80].

Respondents described the impact of the prevailing economic climate in diluting ambitions for NHS London’s legacy strategy. What was initially conceptualised as a large-scale pan-London programme became a strategy to actively support local projects and to promote these initiatives under a common banner. Four Go London! reports were produced, showcasing a wide range of local 2012-inspired projects [80].

4.3.1.1 Initial legacy work

Respondents from a range of organisations reported that their initial legacy aims were to achieve something ‘big and exciting’, with a pan-London focus on increasing physical activity levels. NHS London described undertaking a scoping exercise into potential investment to support a programme of this magnitude, which showed it to be an overambitious target. In order to raise funding, they would need to obtain commitments from a substantial number of NHS chief executives as well as the Mayor’s office, and this was seen to be an insurmountable challenge. The focus of the programme was therefore reduced to supporting a wide range of local initiatives in settings such as workplaces.
NHS London planning documents suggest that the initial principles of the legacy work were to focus on health improvement, and to support the wider regeneration in East London. As part of this, the Olympic Polyclinic was identified in 2008 as a potential asset for the NHS, and plans were made to secure a handover to Newham PCT following the Games. The programme staff at this early stage used evidence such as the Marmot Review [84] recommendations and a commissioned, independent systematic review of Olympic health legacy [85] to guide their strategies.

During 2009, the legacy workstream was established. Physical activity was chosen as key priority for health improvement legacy, because this was in line with existing PCT work. Building on existing priorities was seen as a positive step by NHS London, although some 2012 Programme staff suggested that the ‘Olympic’ branding caused people to delay the work until a later stage. This is reflected by the observation by many respondents in all three sets of interviews that legacy was not their priority and it was usually the weakest part of any progress report they produced. Designing and delivering health legacy projects was reported to be an unfamiliar activity for operational NHS staff, and required additional long term planning skills and investment, especially at the start.

Funding was also a frequently noted concern recorded in minutes of Programme Executive meetings in 2009-2010, with several projects at risk of failing if further funding was not provided. For example, the economic downturn put the Polyclinic at risk, and substantial work from NHS London was put into securing Department of Health funding and a suitable site for a permanent structure. The team looked for funding from underspend in other areas and from corporate sponsors.

4.3.1.2 Legacy as an evolving concept

Respondents commonly referred to the lack of research evidence on the long-term health impact of hosting a mass sporting event such as the Olympic and Paralympic Games. Without specific examples of long-term health impacts of previous Games, respondents struggled to articulate a consistent definition of what an Olympic health legacy would look like for London.

Perhaps reflecting this uncertainty, the concept of legacy used by NHS London appeared to evolve over the lifetime of the programme, from an initial focus on physical activity and health to a broader concept encapsulating both health and system improvement. An aim of the initial strategy was to use what was referred to as the ‘festival effect’ to encourage an
Olympics-inspired increase in physical activity (not only sport participation) across London, especially in deprived communities, in order to reduce health inequalities. The final strategy incorporated three broad areas, including wider health improvement aims and a specific NHS focus to use the Olympics to achieve system improvements (see Box 15).

Some respondents observed that a consequence of this evolving strategy was further confusion among stakeholders over the definition of health legacy, with external partners commonly continuing to use definitions developed locally. This confusion was not confined to external partners; in fact, some respondents who joined the NHS London team later in the programme expressed some initial uncertainty over the meaning of the health legacy concept. Other reasons offered by respondents for the lack of a shared understanding of health legacy included:

- Inconsistencies between the London 2012 bid commitment to increase sport participation and the NHS’ aims for broader health improvement.
- Abolition of physical activity legacy targets by the new national government in 2010, thus removing a shared focus for local legacy activities.
- Challenges in unifying diverse aims across a range of legacy projects into a single, coherent strategy.

As the Games drew nearer, the concept of legacy appeared to grow clearer and a shared understanding started to emerge. According to some respondents from local NHS organisations, there was a greater drive during this period to label positive Olympic-driven system developments as legacy and a drive from senior management to focus more attention on legacy initiatives. Respondents ascribed this in part to a growing sense of excitement about the Olympics in general and in part to a shift in attention towards health legacy as the operational planning phase drew to a close.
Box 15 The Go London! Strategy

NHS London’s strategy for achieving a health legacy from the 2012 Olympic and Paralympic Games was developed with partners across the public and private sector, to encourage projects inspired across three broad themes, namely:

- **Healthy Londoners.** Local and pan-London activities to improve the health of London residents.
- **Healthy NHS.** Initiatives to develop a fitter, healthier and more productive NHS.
- **London 2012 Olympic and Paralympic Games-Inspired.** Opportunities arising directly out of the 2012 Games, including volunteering and national initiatives.

Source: NHS London’s final Go London! Report [80].

4.3.1.3 Health improvement legacy aims

As described in Box 15, NHS London’s strategy for a health improvement legacy targeted both the public and NHS staff.

A selection of public-facing projects which aimed to use the Olympics to improve the health of Londoners is shown in Box 16. Respondents emphasised that these projects were targeted towards priority groups (for example older people) and/or acknowledged health needs (for example low levels of immunisation uptake across London). These examples demonstrate the broad scope of projects included as part of NHS London’s legacy programme [80].

Box 16 also highlights the involvement of the private sector in some of these initiatives, with successful partnerships being developed between the NHS in London and two pharmaceutical companies in particular. Benefits of working with commercial organisations, as described by NHS staff leading these projects, include access to expertise and resources (including for evaluation) that might not otherwise be available and which may improve the sustainability of a project. However, other NHS respondents not involved in these projects expressed some distrust of these arrangements, as the NHS has not traditionally worked comfortably alongside such private sector partners in health improvement initiatives. Other initiatives were developed in close collaboration with academic partners to support an evidence-based approach (for example ‘Brain Train’).
The national ‘Your Personal Best’ programme recruited celebrities well known to the target audience, and this was deemed to be effective in increasing the initiative’s appeal. Respondents involved in legacy work tended not to consider athletes to be appropriate ‘ambassadors’ for many legacy projects, because they represented an ideal of physical health that could not be achieved by many of those targeted by these initiatives.

Health improvement legacy initiatives targeted at staff, as described by local NHS respondents, tended to focus primarily on encouraging more active lifestyles, especially walking and cycling. One example, mentioned by a number of respondents, was local use of the ‘Fit Bug’ device (which records the number of steps a person makes, as well as calories burned) to encourage staff to work as teams to ‘walk to Rio’.

The response of the local NHS to achieving an Olympic health legacy for staff varied markedly across acute trusts. For example, one trust engaged in intensive consultative work with staff to design and develop a comprehensive programme of legacy initiatives to capture the spirit of the Games, both to improve staff wellbeing and implement system improvements. In comparison, another trust engaged in minimal work, with a celebrity-led staff ‘keep fit’ session the only explicit local example of health improvement activity cited. This diversity in approaches reflected the prevailing culture within individual trusts, with some respondents describing long-established programmes for staff wellbeing in their organisation, while others acknowledged that such issues barely registered as a priority.

Box 16 Examples of 2012-inspired projects supported by NHS London’s health legacy strategy

**My Best Move**

This project was a London-specific GP training programme, running in parallel with the national ‘Your Personal Best’ programme (see below). It concentrated on teaching health professionals about the benefits of physical activity as a tool for treatment of long term conditions. The initiative targeted over 50 GP practices in London.

For further details see:
http://www.intelligenthealth.co.uk/projects/MyBestMove_london.html

**Your Personal Best**

This project was created through a partnership between GlaxoSmithKline and NHS London, with the aim of promoting physical activity as a ‘treatment’ for people over 55 with long-term conditions. It involved a communications campaign, providing material for GPs to enable conversations with patients about their physical activity uptake. It also hosted a
website with information about physical activity benefits for patients.
For further details see: http://www.yourpersonalbestcampaign.co.uk/

**Brain Train**

This project promoted physical activity as an intervention for mental health problems. The programme targeted the mental health care workforce to promote the benefits of physical activity to be included in treatment regimes.
For further details see: http://www.londonhp.nhs.uk/services/mental-health/improving-access-to-psychological-therapies-iapt/brain-train/

**London 2012 Active Travel**

This initiative was a partnership between NHS London, LOCOG, Transport for London (TfL) and local authorities to increase active travel, improve infrastructure and contribute to health improvement. The project encouraged Londoners to make healthier travel choices during Games time and beyond, such as walking or cycling.
For further details see: http://www.london2012.com/about-us/sustainability/active-travel/

**Celebrate and Protect**

This project, a partnership between the NHS in London and Sanofi Pasteur MSD, aimed to use the Olympics to raise the profile of childhood immunisations in order to improve uptake. Birthday cards were distributed by local GP practices across nine London boroughs to children at birth, 1 and 4 years, to remind parents about upcoming immunisations.
For further details see: http://www.spmsd.co.uk/doc.asp?catid=481&docid=912

4.3.2 Assessing the impact of NHS London’s health legacy strategy

**4.3.2.1 Health improvement legacy impact**

Respondents frequently referred to lack of research evidence from previous Games and on the effectiveness of specific initiatives in achieving lasting health improvements. In response to this lack of evidence, those involved in legacy work emphasised that evaluating the impact of NHS London’s health legacy strategy was crucial in order to demonstrate to future host cities how the Olympic and Paralympic Games, along with other mass gatherings, can be used to enhance both population health and the local health care system. In the absence of pan-London or national Olympic health legacy targets or criteria, some respondents questioned how success could be measured in practice. Some interviewees suggested that accurate and standardised baseline assessments should start a few years before the Games and continue after the Games to rigorously capture the change.
Those involved in commissioning or managing legacy initiatives described local efforts to capture information to evaluate the impact of individual health improvement projects. NHS London collated some evidence in its final Go London! directory [80], using information gathered via questionnaires from individual partners. This evidence was believed to be essential to build a successful business case to continue these projects in the post-Games period. This does not constitute standardised, accurate baseline data capture, however. At the same time, respondents acknowledged that collecting reliable evidence on the impact of legacy initiatives is very challenging, not least because of the difficulties in attributing specific outcomes to this activity and the long time frame before improvements in health outcomes are likely to be achieved. The short-term focus of NHS planning time-scales was considered to work against the perpetuation of health sector funded initiatives.

Despite these local efforts, as the Games approached a number of respondents in designated hospitals and some PCT clusters suggested that legacy was perhaps the one bid commitment that the NHS could not fulfil. In acute trusts, the lasting benefits of Olympic-inspired staff health promotion initiatives were not always clear, although some trusts planned to embed the successful health and system improvement components of its legacy initiatives in future strategies, either through a dedicated legacy workstream or existing Corporate Social Responsibility structures.

4.3.2.2 System improvement legacy impact

Many respondents from the local NHS believed that planning for the Games provided an impetus for developing and implementing new systems that will have lasting effects for their organisation. All PCT cluster and acute trust respondents described local post-Olympic debrief activity or ‘After Action Reviews’ (AARs) designed to garner learning from the experience of operational planning and Games time delivery. Specific examples of system improvements identified as a result of planning for the Olympic and Paralympic Games are described throughout this chapter, and include:

- Purchase of new equipment (for example EP control room hardware, decontamination suits and tents, blackberries and laptops to facilitate remote working).
- Updated staff training (for example CBRNe training for primary care, overseas visitors policies, EP and response).
- New and updated policies and procedures (for example more efficient time-critical delivery arrangements, charging protocols for overseas visitors, primary care business
continuity plans, ‘multi-skillers’ programme to train up ‘back-room’ staff in mission critical tasks).

- Enhanced reporting and performance monitoring systems (for example introduction of automated reporting, site-wide staff deployment morning teleconferences).
- Improved partnerships within and across the NHS in London, plus new or enhanced external partnerships (for example with TfL, event organisers and foreign embassies).

Respondents also highlighted the benefits of improved transport infrastructure in and around the Olympic Park area to health and related services located nearby.

Arguably, the impact of these system improvements are easier to measure and attribute than health improvement impacts, as many changes and adaptations can be put to the test when the NHS is next put under pressure, for example in the busy winter period. Indeed, a number of respondents in acute trusts described how planning for the Games had improved their response to increased demand for services during the Queen’s Diamond Jubilee weekend in June 2012. However, some respondents questioned whether or not the improvements made for the Olympics would have lasting benefits beyond the Games period, when there is no additional resource and attention is no longer focused on a shared goal. Moreover, with no single body taking responsibility for measuring these impacts across London, and in the context of significant NHS reforms, a number of respondents questioned whether or not learning from the NHS’ Olympic planning would – or could - be captured and shared effectively to enable system-wide improvements in future.

4.3.3 Barriers to delivering an Olympic health legacy

A number of barriers to delivering NHS London’s 2012 health legacy strategy were identified, and these are described in turn below.

The primary obstacle to progressing health legacy work in the NHS, as described by all respondents involved in this area, was the ‘de-prioritisation’ of legacy in favour of the more pressing work of Olympic operational planning. As in previous Games (for example Athens 2004 [56]), the consequence of this was that legacy work received a much lower level of funding and resource than other areas. In fact, no additional funding was allocated by the Department of Health for NHS London’s Olympic legacy work as part of the 2012 Programme, although funding was drawn from other sources to finance health improvement activities. The perceived consequences of this lack of funding, both centrally and locally,
included delays to project initiation while alternative funding sources were being identified; and difficulties in attracting delivery partners.

NHS London was bound by the Olympic bid commitments as well as a duty to protect local services from the impact of the Games and, therefore, it was inevitable that the planning focused on preparing the system for Games time service delivery. In fact, members of NHS London’s legacy team were temporarily required to change their duties to prepare other workstreams for the April 2012 assurance (see 4.1.1.2.1) and there were fears that their responsibilities during Games time (on the on-call rota for Games time Co-ordination Centre – see 4.2.8.2) would further undermine their legacy work. Given the perceived lack of urgency associated with NHS London’s legacy strategy, it is perhaps of no surprise that respondents described this area as constantly being ‘pushed to the end of everyone’s agenda’.

As the operational planning phase came to a conclusion, however, there was an expectation that legacy work would start to rise up the agenda, as senior management turned their attention to building on what could be learned from the Olympic planning. Media interest on the impact of the Games was also expected to fuel a revised interest in legacy, including health legacy. Despite this, a number of respondents thought that interest in Olympic legacy would wane as the Games became a distant memory.

The lower priority of legacy work during the later operational planning phase was exacerbated by a perceived lack of accountability and responsibility for legacy at local level, in contrast to the operational planning. This was compounded by the absence of a single body with over-arching responsibility for bringing together, and evaluating, all of the legacy work being carried out across government agencies (as well as within LOCOG). Of particular concern to many respondents was how the NHS legacy strategy would be taken forward following the disbanding of NHS London and PCT clusters from April 2013 as part of the national public sector reform programme. Some argued that it was not worthwhile pursuing legacy initiatives that risked being lost in the transition, as legacy staff move to new organisations and attention is focused on establishing the new organisations and systems. The impact of the NHS reforms on the NHS’ legacy strategy at the time of the third and final interviews was not clear, however a new ‘home’ for NHS London’s strategic health improvement work was identified in early 2013 in the new national body for public health, Public Health England (established April 2013).

At local level, the absence of tangible examples of legacy from previous Olympics and associated difficulties articulating the concept of legacy were judged to have created
problems in securing support and funding for specific health improvement initiatives. Respondents working on local initiatives also mentioned difficulties engaging health professionals in health improvement legacy work. This was attributed to other Olympic planning priorities taking precedence and/or an unfamiliarity with this type of work. Some NHS respondents argued that legacy efforts should have been led by public health professionals, not health care or managerial staff who lack the appropriate skills and experience.
5 Discussion and recommendations

In this chapter, we outline the implications of our findings for future Olympic host cities and organisers of other mass gatherings; for the NHS and for designers of similar evaluation projects in future.

Our evaluation demonstrates that NHS London’s health care delivery plans used appropriate evidence and were based on detailed local information. These plans were well communicated to NHS organisations, and delivery was successful. However the plan to create a health legacy was more challenging to implement, due to: the lack of a clear definition of the legacy components; insufficient funding and prioritisation; lack of appropriate (i.e. public health) leadership and of clear accountability mechanisms.

The implications for health planners are presented in terms of structural, delivery and legacy issues. Key lessons for future host cities, organisers of mass gatherings and the NHS are brought together and summarised in the executive summary.

The chapter concludes with a discussion of the strengths and limitations of our evaluation methods.

5.1 Structural issues

Key issues were identified in the health care programme’s establishment phase relating to staffing and partnership issues. Lesson for future events are summarised below.

5.1.1 Staffing

- Whilst the emergency components of planning for the Olympics and Paralympics are of vital importance, health care planning does not need to be delivered solely from the perspective of emergency planners.
- The Games require a broad range of skills to plan for the appropriate health service response. Organisers of mass gatherings should bring together staff with skills in EP, performance management, communications and public health.
- The team should be led by a senior programme director identified at the inception of an Olympic health programme to promote early interest across the system, to establish the structure for the programme and to gain voice for health care issues as part of the host city’s plans. Such leadership is required to avoid duplication, fragmentation and marginalisation of health in multi-agency strategy plans.
• The dedicated central programme team should remain in place throughout the planning and delivery of the event, and a single named contact should be given to stakeholders to facilitate communication and relationship building.
• Senior experienced staff are also required to focus on strategy and design, supported by sufficient administrative staff. Staff continuity should be maintained wherever possible, which requires attention to staff welfare and appropriate contracting.
• Flexibility should be retained to enable services to respond effectively, with arrangements for staff redeployment to respond to Games time demand.

5.1.2 Developing strategic partnerships and working arrangements

• All health planning partners in the host city should be assigned well-defined roles and responsibilities at the outset, with clear accountability to a lead planning agency. This will help to develop a common vision and minimise conflict and duplicated efforts.
• A genuine relationship between local health services and the local Olympic and Paralympic organising committee should be established at the earliest possible opportunity. It is important for these organisations to clarify their responsibilities and boundaries, as well as to create clear communication channels, as soon as possible to reduce duplication of roles and tasks. One way to establish an effective working relationship and improve communication is through secondment of health service staff to the organising committee, as demonstrated by NHS London 2012.
• Data protection laws (such as those in many European countries, Australia, South Africa and many Asian countries) will govern the type and level of information that the IOC and IPC are permitted to gather on health service use, and this should be clarified at an early stage.
• Previous Olympic cities are a useful source of information: planners should refer to published reports and research, and build communicative relationships with previous host city organisers.
• Planning structures adopted in previous Games are a useful reference point for subsequent Olympic health planners, even though many governance and communication arrangements will depend on the organisation of the host city health service.
• The strategic programme planning team should assess the strengths and weaknesses of their own system to decide how to distribute the work required. For example, this may
involve engagement of existing or new partners where expertise and experience is lacking within the planning team (e.g. transport planning, logistics, health improvement).

- A **common reference manual for planning** should be distributed to all providers of health services. In situations where central control does not exist, providers should be incentivised to use such a manual through contractual arrangements.

- **Well-publicised and adequately resourced protocols**, which have been agreed with the local organising committee medical team, are essential to establish appropriate care pathways for the Olympic Family. Regulatory changes may be required if it has been agreed that local health services will treat these patients free of charge. In such cases, procedures should be agreed for Olympic Family patients who present with major health problems, requiring long term care plans.

### 5.2 Delivery

#### 5.2.1 Planning assumptions

- The criteria used to determine planning assumptions for Games time health service impact should be consistently and clearly communicated to all partners throughout the planning process to minimise uncertainty.

- Some lessons from previous Games - such as anticipated health service impact, transport disruption and timelines for planning - can be usefully incorporated into local plans.

- Relevant **baseline activity levels** for Olympic planning should be established (i.e. Summer baselines for the Summer Olympics) and, ideally based on three years’ data to maximise reliability.

- Olympic emergency plans should be informed by a detailed risk assessment and mapping exercise, and risks should be continually assessed and adapted.

- Host city health planners should work closely with the local organising committee from an early stage. As well as forging valuable relationships for on-going planning work, this will help in the development of specific assumptions for expected levels of health care activity within the Olympic venues (provided by the organising committee) and facilitate more accurate assessments of anticipated demand for local health services during Games time.

- Evidence on predicted impact from previous host cities should be taken into account to minimise the financial risks of ‘over-planning’.
• Planning assumptions should be used to secure adequate and timely funding to ensure appropriate staff workloads and effective capacity building.
• Clarity in describing experiences and lessons from the Paralympics separately from the Olympics, where relevant, would also be of value.

5.2.2 Early targets for planning

• **Additional health service funding** for designated hospitals and ambulance service provision for the London 2012 Games should be identified and agreed as early as possible to assist in, and progress, the planning.

• **Transport disruption** poses a significant risk to Games time health service delivery (for both hospitals and community-based services), especially in a large city where many of the venues are centrally located. Timely transport communications to support travel planning for staff, patients and suppliers play a key role in mitigating this risk. **Site specific work** in the busiest transport hubs likely to be affected by Games time travel is especially worthwhile. Negotiations over use of Games Lanes by patient transport vehicles should be started as early as possible, as should negotiations with suppliers over alternative pharmaceutical delivery arrangements in travel ‘hot spots’.

• Special **Games time reporting processes** should be agreed in plenty of time for local services to establish and practice their own internal reporting procedures. This is facilitated if appropriately skilled staff, including emergency planners and performance managers are involved in their development. Automated standard reports plus exception reporting should be the norm to avoid ‘over-scrutiny’ of health service performance and inefficient use of staff time.

5.2.3 Specification of plans

• The Olympic ambulance service should establish a **central deployment centre** to ensure adequate coverage of Olympic and Paralympic events; where a public host city ambulance service is used for this purpose, this deployment centre also provides an essential function in maintaining normal coverage for the local population during the Games.

• **Paediatric services** should also be prepared to deal with athletes participating in sports with lower age limits. Paediatric-sized emergency equipment is needed to properly treat ill or injured children and must be available on site. All sizes are needed to accommodate the wide range of children’s heights and weights [81].
Olympic and Paralympic media strategies should be based on predicted patterns and level of media interest (based on local experience and previous Games). To ensure a consistent and coordinated media response, a core media brief should be developed and shared across the health system and with key partners, and multi-agency communications protocols should be agreed.

5.2.4 Assurance and testing

- An effective assurance process can provide a useful planning framework and help focus efforts on a shared goal. The assurance process should be comprehensive, but proportionate so that it does not hinder the development of the programme. The process should be adaptable to all organisations involved, and require tangible evidence of ‘readiness’. Independent peer reviews are a valuable additional assurance tool, but the resource and time commitments of such an exercise should be considered in the context of Olympic planning pressures.

- Multi-agency test events and exercises play a key role in preparing the health system for the Games, but all relevant partners must be involved for maximum benefit. Opportunistic use of local events can also maximise learning with little resource attached.

5.3 Legacy

5.3.1 Definition and targets

- To promote a shared understanding and common legacy goal, the legacy concept should be clearly and specifically defined and communicated to all relevant stakeholders. Planning for the Olympics includes structural changes which create opportunities for population health improvement and health system improvement. More should be done to capitalise on these opportunities. To help articulate legacy aims and provide a focus for local plans, targets for both health and system improvement legacy should be identified at the outset, based on rigorous needs assessments.

- Health legacy work must be monitored and evaluated. This must be planned from the outset to secure common, standard definitions of baseline, process and outcomes data, and structures to ensure the complete collection of these data. Adequate resourcing is also required to ensure that monitoring and evaluation is carried out appropriately.
5.3.2 Leadership and management of legacy

- Health legacy should be **articulated as a goal** at the start of health planning.
- There should be **clear accountability and central leadership by a public health expert** for health legacy work in the host city. This will ensure that common aims processes and time lines are defined and monitored. It will also allow cross-sector opportunities to collaborate on legacy initiatives to flourish.
- Efforts should be made to win **support from the IOC and IPC** for legacy work, to raise its political profile in the host nation. Relevant national and international partners, including WHO, can be powerful partners in the development and implementation of public health legacy initiatives.
- If it is to be attempted, health legacy should be an official agenda item for every organisation involved in Olympic planning. Health improvement legacy should have **equal importance in terms of exposure, staffing, and proportionate resource** to other health planning workstreams if it is to receive appropriate attention.
- To maximise impact, **sustainability** should form an integral part of legacy planning and support should be provided wherever possible for initiatives to continue beyond the Games. This will require adequately resourced and long term data collection.
- **Robust evaluation methods** should be developed to measure Olympic health legacy, including common data definitions for baseline, progress and outcome measures, and complete, standardised measurement of these.
Box 17  Summary of lessons for health planners

Lessons for future Olympic host cities

- Establish a dedicated planning team headed by a senior programme director.
- Dedicate effort to building relationships with the local organisation committee from the outset.
- Maximise learning from previous Games, whilst recognising the need for context-specific plans.
- Establish legal and funding requirements for Olympic health care planning as early as possible.
- Ensure legacy strategy has appropriate leadership, adequate funding, and parity with other workstreams. The strategy should provide a clear definition of legacy to work towards.
- Build in sustainability for post-Games continuation of specific health legacy initiatives, including evaluation.
- Recognise and address mental health and well-being needs of the Olympic workforce.

Lessons for organisers of mass gatherings (including the Olympic and Paralympic Games)

- Government health departments should use their broad remit and perspective to designate responsibility to all health organisations as early as possible.
- Baseline data should be gathered and governance structures critically examined before embarking on health planning.
- Planning should start early for transport disruption, funding negotiations and reporting structures.
- EP should be informed by a detailed risk assessment and mapping exercise, and reviewed on an on-going basis.
- Testing and exercising should be used to the best advantage by involving all relevant groups.
- System improvement legacy should be built in to strategic plans to capitalise on health service investments for the benefit of the local health system.

Lessons for the NHS

- Existing assurance processes can be used as a planning framework to manage a range of programmes.
- Resource utilisation is directly related to assumptions made about proportionality of risk – justification and public debate should temper the desire to over-plan.
- NHS Health care organisations should capitalise on their ability to share good practice and resources across established networks when undertaking new programmes of work.
- Novel and long-term activities are likely to challenge the NHS health service culture and so require senior leadership and should be given adequate resources and senior-
5.4 Strengths and limitations of this evaluation

This evaluation began in November 2011, nine months before the London 2012 Olympic Games began and ended three months after the Games. This allowed us to undertake prospective observation although we were not present to observe the programme’s inception and early development.

The flexible and iterative nature of this evaluation allowed us to adjust our approach to each subsequent round of interviews in accordance with our preliminary findings at each stage.

We undertook a qualitative analysis of interviews conducted with a wide range of stakeholders from all seniority levels and all components of the programme. We also analysed meeting minutes and reports in order to triangulate our findings. The research was undertaken by experts in qualitative methods and in public health, who have extensive experience of the NHS. However analyses of quantitative data were not undertaken because this was outside the remit of the evaluation.
6 Conclusions

This report represents the first independent evaluation of Olympic health planning activity, focusing on preparations for the London 2012 Games. Planning for effective delivery of health services during the Olympic and Paralympic Games is complex and detailed due to the number of health and other stakeholders involved, and the diversity of tasks required. Careful documentation, evaluation and dissemination of this planning activity can help future organisers of similar mass gathering events as well as host nation health planners.

The thorough planning undertaken by NHS London led to successful delivery, although there were no major adverse incidents in which the emergency plans were tested. Our evaluation of the 2012 Programme, together with evidence from previous Games highlighted the need to ensure that plans are proportionate given that, in reality, the health service impact is unlikely to be significant.

London’s Olympic bid placed an emphasis on regeneration and legacy. However, such ambitious aims can only be realised given senior leadership and appropriate funding and prioritisation. Robust mechanisms for evaluating the legacy also need to be planned, resourced and monitored.

Finally, generalisable lessons from one host city to another would be facilitated by greater consistency in measurement and reporting format, using commonly agreed data definitions.
7 List of contributing organisations

The authors would like to thank everyone who took part in the study.

- NHS London
- NHS East London and the City
- NHS Haringey
- NHS North East London and the City
- NHS North Central London
- NHS North West London
- NHS South West London
- NHS South East London
- NHS Outer/Inner North East London
- Barts Health NHS Trust
- Homerton University Hospital NHS Foundation Trust
- University College London Hospitals NHS Foundation Trust
- Guy’s and St. Thomas’ NHS Foundation Trust
- Imperial College Healthcare NHS Trust
- Chelsea & Westminster NHS Foundation Trust
- South London Healthcare NHS Trust
- London Ambulance Service
- Department of Health
- London Organising Committee of the Olympic Games
- Health Protection Agency
- Greater London Authority
- Intelligent Health
- Transport for London
- GlaxoSmithKline
- Institute of Sport, Exercise and Health, University College London
- Centre for Outcomes Research & Effectiveness, University College London
References


34. Renström, P., et al., Medical service for athletes, in The Health Legacy of the 2008 Beijing Olympic Games: successes and recommendations, J. Dapeng, A. Ljungqvist,


