

# Greater Peterborough Health Investment Plan

## Summary of the Outline Business Case for the Redevelopment of Health Services in Greater Peterborough

### 1 Introduction

The health service in Greater Peterborough serves a population of approximately 285,000 living in North Cambridgeshire and South West Lincolnshire. This is an area with significant economic growth. The population is forecast to increase to 310,000 by 2010 and 340,000 by 2020.

Local health services perform well. They have a reputation for innovation and good management practice. This success has been achieved despite the difficulties created by the inappropriateness of many local healthcare buildings, a lack of flexibility to expand and the problem of a hospital service split across three sites. Today the NHS in Greater Peterborough faces two major challenges: a lack of system capacity and a fragmented infrastructure. These limit opportunities to develop new services and are a constraint to the implementation of the NHS Plan. They are the biggest single risk to the clinical safety of patients.

To meet these challenges local healthcare providers have developed a service model that covers the whole health system and is based on the needs of the patient. Its implementation requires investment in people, equipment and buildings, and is detailed in the Outline Business Case (OBC). The investment plan has been developed by the Peterborough Hospitals NHS Trust, East Cambridgeshire and Fenland PCT, Lincolnshire South West Teaching PCT, North Peterborough PCT and South Peterborough PCT.

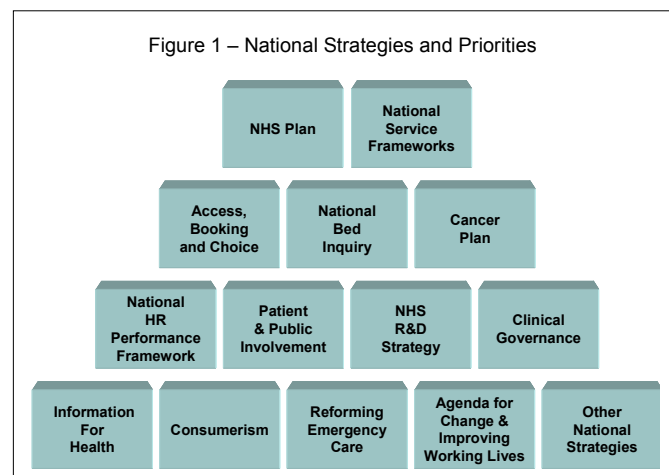
### 2 Strategic Context

The Greater Peterborough Health Investment Plan (GPHIP) is the local strategy for the modernisation of the health services in the Greater Peterborough area. Based on the NHS Plan, the GPHIP will provide the local population with *'fast and convenient care delivered to a consistently high standard. Services will be available when people require them, tailored to their individual needs.'* (The NHS Plan, 2000)

The GPHIP also provides a strategy to resolve the operational difficulties caused by the current configuration of services, the lack of system capacity and the drain on resources caused by the need to support the inefficiencies of multi-site working.

In preparing the OBC, local healthcare providers have considered all the current national strategic priorities (see Figure 1) and local development plans. The conclusion from this work is the need to change the way services are delivered and provide greater choice over the locations from which they are offered. To meet these strategic priorities the service plans and investment must:

- Be based on a whole system approach.
- Be appropriate to the patients' needs.
- Improve equality of access.
- Move services closer to patients' homes.
- Meet the needs of vulnerable people.
- Deliver high quality and effective services.
- Make efficient use of resources.



### 3 Project Scope

The OBC covers the majority of the local health system, including all hospital-based services, health services provided away from the hospital site in an Integrated Care Centre, primary and community care settings and retail centres. It does not include routine GP services, dental services and primary care access targets. These are covered by the PCTs' own estate strategies.

### 4 Service Objectives

The objectives of the GPHIP and the OBC were originally defined in the Strategic Outline Case and have been agreed by the Project Board and the Clinical Core Group responsible for ensuring the project meets national and local priorities and standards. The objectives are:

- To provide better access to services and increase choice.
- To improve the clinical quality of services.
- To increase capacity and introduce new services not currently available in the area.
- To implement national strategic plans and policies, including the requirements and service standards contained in the NHS Plan.
- To implement local strategic plans for primary, intermediate and acute care services.
- To meet the learning and research needs required to support the new service model and clinical roles.
- To make effective use of resources.

### 5 Service Model

The service model defined in the OBC embraces the objectives of the NHS Plan and the local delivery plans. It will provide patients with a modern, dependable service for the 21<sup>st</sup> Century. The model is based on the principle the service should be centred on the needs of the patient, not the convenience of organisations or professional staff.

The key components of the service are:

- An increase in bed capacity from 778 to 872, with flexibility for further growth.
- Improvements in day case rates and reductions in long lengths of stay for improved bed utilisation.
- Reconfiguration of acute hospital services onto one site comprising:
  - An Emergency Care Centre with fast tracking of patients from triage to rapid assessment, supported by local diagnostics, coronary care, level 2 and 3 critical care beds and five dedicated theatres.
  - A Women's and Children's Centre providing comprehensive acute paediatric, obstetric and gynaecology services supported by two dedicated theatres and neonatal services.
  - Elective care facilities supported by inpatient beds and ten dedicated theatres.
  - A Diagnostic and Treatment Centre (DTC) based on the main hospital site providing outpatient clinics, one-stop access to high-tech diagnostics, investigations and five day surgery theatres.
- Separation of acute, sub acute and intermediate inpatient care, to ensure an effective intermediate care service can be offered, particularly for rehabilitation.
- Separation of elective and emergency resources to provide dedicated services to patients requiring elective treatment, thereby reducing delays and waiting times.
- Community based diagnostics and therapy services, linked to primary care, to provide greater support for the emergency response teams and avoiding the need for minor injuries to be referred to hospital.
- Training for GP, therapist and nurse specialists to undertake some of the work currently performed in hospital, including minor surgical procedures, basic diagnostics, and chronic disease management.
- More consultants' outreach clinics and greater use of technology links, particularly order-communications, results reporting, telemedicine, and computerised booking systems.
- The provision of a multi-professional learning facility on the main hospital site with high tech links to primary care and other education centres.

## 6 Assumptions

The OBC is based on the following assumptions:

|   |   |
|---|---|
| <b>Population</b>                             | <ul style="list-style-type: none"> <li>No change in the catchment area or gain/loss to other health systems or trusts.</li> <li>Annual population growth of 1% for adults and zero for the birth rate (local authority forecasts).</li> </ul>   |
| <b>Epidemiology</b>                           | <ul style="list-style-type: none"> <li>No change in the epidemiology of the population.</li> <li>No local environmental considerations that need to be taken into account and only small pockets of deprivation.</li> </ul>   |
| <b>Increasing performance levels</b>          | <ul style="list-style-type: none"> <li>The Trusts will continue to meet targets.</li> </ul>   |
| <b>Performance improvements</b>               | <ul style="list-style-type: none"> <li>Day case rates are planned to improve, to allow an average of 1.5 cases per day case space each operational day.</li> </ul>  |
| <b>Meeting guidance</b>                       | <ul style="list-style-type: none"> <li>An additional 1% growth in adult elective inpatient activity in line with current trends and allowing for the acceleration in activity required to meet the national waiting times targets by 2004.</li> <li>An additional 2% growth in emergency activity in accordance with the National Beds Inquiry and historical experience.</li> </ul>  |
| <b>Care models and service configurations</b> | <ul style="list-style-type: none"> <li>All patients with a current length of stay of one day and 50% of patients with a current length of stay of 2 days, will be treated as day cases.</li> <li>20% of all emergencies with a current length of stay of 21 days and over will be transferred to an intermediate care bed.</li> <li>20% of all elective patients with a length of stay of 14 days or over will be transferred to an intermediate care bed.</li> <li>The average inpatient episode will reduce by 0.5 days, except for the elderly.</li> <li>Ward occupancy levels will be in line with national targets (82%).</li> </ul> |
| <b>Medical futures</b>                        | <ul style="list-style-type: none"> <li>The development of Electronic Patient Records, digital imaging, telemedicine, online ordering and electronic pathology reporting systems have been factored into the capacity and service planning assumptions.</li> </ul>   |

## 7 Activity Forecasts and Facilities

The forecast activity for 2010/11 and the facilities required to support the activity have been calculated using the assumptions listed in section 6, together with local authority data on population growth. The forecasts are provided in the table below.

| Activity Area                    | Actual (2001/02) | Forecast (2010/11) | Change  |
|----------------------------------|------------------|--------------------|---------|
| Day cases (Admissions)           | 15,288           | 28,441             | + 86.0% |
| Elective Inpatients (Admissions) | 9,713            | 6,998              | - 28.0% |
| Emergency Inpatients (Admission) | 21,541           | 25,910             | + 20.3% |
| Maternity (Admissions)           | 6,637            | 6,444              | - 2.9%  |
| Intermediate Care (admissions)   | 0                | 2,578              | -       |
| Outpatients (Attendances)        | 187,339          | 255,564            | + 36.4% |

The acute bed requirements have been calculated by specialty, based on the forecast growth in activity, planned changes in access rates and the recommended NBI occupancy levels. The forecasts include small projected increases in average lengths of stay due to the impact of the aging population and conversion of the short stay activity to day cases. A summary of the proposed bed complement is provided below.

Forecast Bed Requirements by Classification

| Day Spaces | Total Beds | Acute Beds |           |           |       | Sub Acute      |                        |       |
|------------|------------|------------|-----------|-----------|-------|----------------|------------------------|-------|
|            |            | Elective   | Emergency | Maternity | Total | Hospital Based | Integrated Care Centre | Total |
| 76         | 774        | 107        | 409       | 40        | 556   | 178            | 40                     | 218   |

The actual number of inpatient beds provided in the hospital and integrated care centre would be 782. The difference of 8 beds is a result of the general configuration of the wards proposed in the new facilities. The majority of wards are based on a 32 bed template. The number of beds allocated to each specialty has been agreed with the relative clinical management team and the service planning teams.

## 8 Long List of Options

A long list of options was developed from the opportunities created by the current health estate, the need to consider a do nothing, a do minimum and a non-capital solution. The long list options only relate to the provision of acute services. The option appraisal of intermediate care services was undertaken by the two Peterborough PCTs as a separate exercise. Only one option was determined as appropriate for future service provision, an Integrated Care Centre located close to the city centre.

All the options, with the exception of the do nothing option, were based on the same core assumptions and required to deliver the same activity levels, range of services and quality. Only three of the options passed the initial assessment criteria drawn from the NHS Executive good practice guidance on the Private Finance Initiative.

## 9 The Short List Options

The three options considered in detail are:

**Do Minimum** ..... The minimum required to fulfil the criteria defined in the good practice guidance. This option is split across two sites and includes:

- An Emergency Care Centre.
- A Diagnostic and Treatment Centre.
- A Woman and Child Centre
- Modernisation of existing facilities to meet gender separation and key consumerism requirements.
- Relocation of key services to meet clinical requirements.
- All backlog maintenance.
- A small scale park and ride scheme to alleviate congestion problems on the PDH site.

**PDH Hub** ..... All acute hospital services would be located on the PDH site with a park and ride facility on the ECH site.

**ECH Hub** ..... All acute hospital services would be located on the ECH site.

All the short list options include the provision of an Integrated Care Centre, located close to the city centre. For the Do Minimum and PDH options this would necessitate the purchase of approximately 6 acres of land. The Integrated Care Centre would be operated by the North Peterborough PCT and provide the following range of sub acute services:

- Intermediate care beds, primarily for rehabilitation.
- Minor injuries unit.
- Out-of-hours primary care emergency service.
- Low-tech diagnostics and treatment centre.
- Outpatient clinics.
- Community service staff base.
- Children's community services.
- Children's medical respite service.

## 10 Option Appraisal

The results of the appraisal of the short list options are provided in the tables below.

Capital and Revenue Cost of the Options

| Option     | Capital Cost & MIPs 345 (£m) | Change in Revenue Cost (£m) | Total Revenue Cost (£m) |
|------------|------------------------------|-----------------------------|-------------------------|
| Do Minimum | £225.5                       | £35.38                      | £141.04                 |
| PDH Hub    | £299.4                       | £35.97                      | £141.65                 |
| ECH Hub    | £268.9                       | £32.76                      | £138.43                 |

## Comparison of the Options

| Option     | Total Construction Period | Benefit Score (Higher is better) | Benefit to Cost Ratio (Higher is better) | NPC (Including Risk Adjustment) (£m) | Suitability for PFI (Higher is better) |
|------------|---------------------------|----------------------------------|--|--------------------------------------|--|
| Do Minimum | 8.5 years                 | 8.6                              | 0.243                                    | 3,321.5                              | 235                                    |
| PDH Hub    | 12.5 years                | 43.6                             | 1.122                                    | 3,371.4                              | 270                                    |
| ECH Hub    | 5.8 years                 | 90.1                             | 2.750                                    | 3,305.3                              | 500                                    |

The option appraisal clearly shows the ECH Hub option provides the best outcome on all measures. It also:

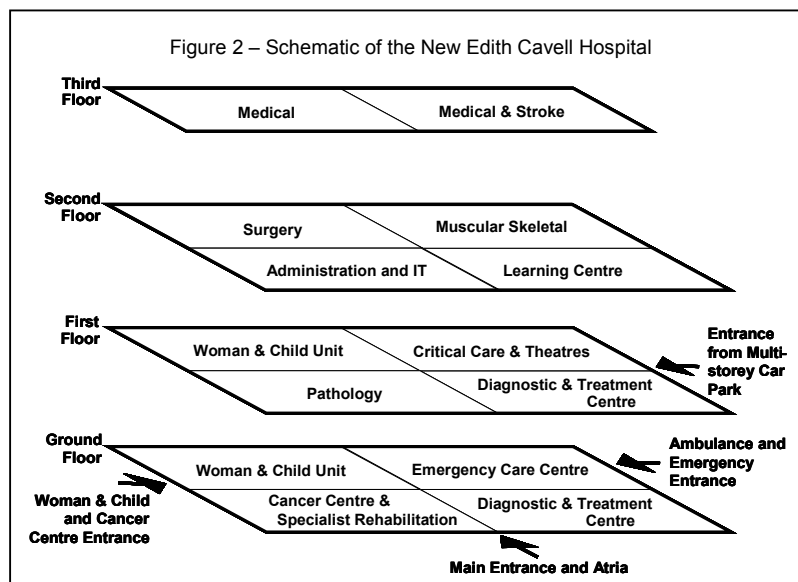
- Fully meets the requirements of the GPHIP and NHS Plan standards.
- Is fully supported by clinical staff.
- Provides the greatest level of flexibility and scope for future changes.

## 11 The Preferred Option

The preferred option will create a network of new primary and intermediate care services around an acute hospital development located on the Edith Cavell Hospital site (see figure 2). An Integrated Care Centre located on an existing hospital site close to the city centre will support the developments in intermediate and primary care services.

This option is supported by the outcome of the formal public consultation exercise conducted by the North West Anglia Community Health Council between 13<sup>th</sup> December 2001 and 12<sup>th</sup> March 2002 and approved by the Norfolk, Suffolk and Cambridgeshire Health Authority's predecessor organisation, Cambridgeshire Health Authority.

An outline planning application for the ECH development is due to be approved by late March 2003. The outline application for the Integrated Care Centre is due to be approved by late April 2003.



## 12 Affordability

The affordability assessment has been undertaken on the basis of the new funding arrangements being introduced by the Department of Health. Under these arrangements the service provider (the Trust) will receive income from the commissioner (the PCTs) on the basis of the actual patient activity undertaken, paid at the national tariff for each clinical procedure or condition. PCTs can only approve and commit to the activity levels forecast in the OBC and the funding of them at the national tariff. Therefore the Hospital Trust has undertaken an assessment to determine whether the expected income from the PCTs will be sufficient to fund the cost of implementing the preferred option.

The assessment process has been conducted in two stages:

- Identify the additional cost of the OBC and any other planned developments.

- Identify the expected growth in income through the change to the new funding mechanism and any other funding commitments for specific initiatives or service developments.

The cost of implementing the OBC has been calculated using a model that takes the current cost information from the Trust's ledger and applies growth factors based on defined cost drivers, allows adjustments for changes in skill mix, improvements in quality and the introduction of new services. The costs are also split between the acute hospital and the Integrated Care Centre to allow PCT specific costs to be determined.

The Trust's income will increase with the forecast rise in activity levels. In addition the Trust's reference costs are approximately 8% below the current average national tariff. These factors will result in an increase in income of £16m and £7.5m respectively.

The November 2002 pre-budget statement identified spending on the NHS would increase by an average of 7.4% a year in real terms over the five years to 2007/08. Although much of this additional funding will be targeted at specific developments and initiatives, some will flow through general growth in PCT funding and on to Trusts through above inflation increase in the national tariffs.

Assuming there is 1.34% real growth in the national tariffs, the balance between the expected growth in income, and the cost of the preferred option is provided in the table below. This demonstrates the option is affordable within the planning assumptions used to develop the OBC.

Affordability Analysis

|                                       |                |
|---------------------------------------|----------------|
| <b>The expected growth in income:</b> | <b>£m</b>      |
| Increase in activity =                | £16.168        |
| Move to national tariffs =            | £7.521         |
| Eight years growth at 1.34% =         | £9.074         |
| <b>Total growth =</b>                 | <b>£32.763</b> |
| Cost of OBC                           | (£32,763)      |
| <b>Balance</b>                        | <b>£0</b>      |

### 13 Project Timetable

The timetable for the PFI procurement process, completion of the Full Business Case and the construction works is given in the table below.

Summary of the Project Timetable

| <b>Key Tasks</b>                              | <b>Completion Date</b> |
|---|------------------------|
| OBC Approval                                  | April 2003             |
| Advertise for Evaluate and Select PFI Partner | April 2003/August 2004 |
| FBC Approval                                  | August 2004            |
| Start on Site                                 | January 2005           |
| Integrated Care Centre Operational            | July 2006              |
| New Hospital Operational                      | April 2011             |

The opening of the Intermediate Care Centre in 2006 will provide the incremental growth in capacity required to meet the growth in activity over first half of the planning period for the OBC. During the period up to mid 2006 the current access and capacity plans identify a number of developments to meet the required short-term growth in capacity. These include:

- The transfer of all hospital based diabetic services to a community location.
- The new day surgery unit currently under construction at the Edith Cavell Hospital.
- An expanded walk-in centre service.
- Additional clinic space for breast services.

The PCTs are also reviewing a number of service areas with the aim of increasing capacity without the need for capital investment in facilities or partnering with other organisations such as Social Services.

## **14 Project Management**

The management of the project during the Full Business Case stage has been structured in accordance with the recommendations of the Capital Investment Manual amended to take into account the multiple NHS partners to the project.

The project team has six full time staff supported by a full range of external advisors. The team has experience in health planning, equipment, service planning, finance, HR, capital projects and PFI. Several team members have been involved with the project since its inception in 1993, providing considerable continuity and knowledge of local health services, the partner organisations and their strategic plans.

## **15 Trust and PCT Support**

On 25<sup>th</sup> February 2003 the Board of the Peterborough Hospital Trust approved the OBC and confirmed the preferred option is affordable based on the planning assumptions used for the business case and the forecast for future income growth.

The OBC has also been presented to the boards of the four PCTs that cover the majority of the population served by the GPHIP. The North and South Peterborough and the Lincolnshire South West PCT boards approved the OBC on the 5<sup>th</sup> March 2003. The Cambridgeshire and East Fenland PCT board approved the OBC on 12<sup>th</sup> March 2003. The PCT boards have approved the:

- Objectives of the OBC.
- The strategic fit with the NHS Plan, local delivery plans and other local priorities.
- The assumptions for future growth in activity.
- The service models and configurations.
- The formulation and analysis of the options.
- The cost estimates for the building works and the new service models.

*March 2003*