Healthcare goes green

An overcrowded and dilapidated primary care centre in Tyneside has just been replaced by a new £6.7m development that promises to comply with energy targets present and future.

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South Tyneside NHS Primary Care Trust (STPCT) was concerned that conditions in its existing primary care centre were severely affecting service delivery. The Trust provides primary care – including GPs, health visitors, community nurses, dentists and pharmacists – to 20,000 local residents. The GP practices that will occupy the new building have a combined patient list of 14,600 – one of the highest list sizes per GP in South Tyneside.

It was impractical to refurbish the existing centre as it was too small to meet projected demands. The Trust was also aware that the building would fail to meet future statutory requirements, such as new building regulations and energy emissions. These include a mandatory energy target and environmental assessment utilising the NHS Environmental Assessment Toolkit (NEAT), a requirement of the business case approvals process and the tool by which the Department of Health understands that a building has green credentials.

The Trust drew up a concept for a brand new primary care centre and appointed a ProCure21 PSCP (Principle Supply Chain Partner) in March 2005. Work started on the brownfield site in January 2006, with finance for the scheme secured from STPCT and Northumberland, Tyne & Wear Strategic Health Authority.

The successful PSCP made the Trust's remit for sustainability a key element of their bid and, on appointment, engaged with Lionel Hehir, director of Groundwork South Tyneside. Groundwork South Tyneside is a member of the National Federation of Groundwork Trusts and works to build sustainable communities through joint environmental action.

Paul Williams, health supply chain performance manager for building company HBG UK said: “The Trust and design team met with them and looked at the concept with a view to enhancing the environmental design. That covered not only the building structure but also systems like heating, lighting and ventilation.”

The new design is for a two-storey building with car parking. A feature entrance leads into a reception and waiting area, flooded with natural light. On the ground floor, GP suites provide a new central base for eight GPs from around the area (three GPs are now based in the existing centre). There is also a pharmacy, dental suite, and facility for minor surgery. Podiatry and physiotherapy services complete the ground floor accommodation. On the second floor are offices and ancillary rooms, a mental health unit, offices for district nurses and health visitors, a social care centre and audiology and speech therapy.

Work is expected to complete in December 2006 and the practices now in the old health centre will move in over Christmas. Other occupants of the new centre follow in January and the old building will be demolished. The project continues the success of working together with the NHS as part of the ProCure21 Framework Agreement. Walter Hall, STPCT’s head of primary care and the project director, said that effective joint working enabled timely submission of the business plan to the Strategic Health Authority – and its ultimate approval.

He said: “Throughout the process of developing the business case, work was undertaken in a non-confrontational and mutually supportive environment, involving not only the PSCP but all of their supply chain members.”

Achievements and benefits

- Sustainable, efficient and quality design achieved to budget.
- New, spacious and purpose-designed centre will replace existing inadequate facilities and improve service delivery.
- The building will meet statutory requirements now and in the future and take forward the Trust’s vision for future primary care service delivery.
- The centre will accommodate additional GPs from the locality and provide a wide range of primary and community care facilities.
- Early involvement of experienced artists will provide high quality, themed artworks around the building.

Principles and objectives

STPCT wanted a modern, accessible and fit-for-purpose facility, in line with The NHS Plan as well as its own estates strategy.

Walter Hall said, “The Trust was especially keen on two principles right from the outset – that the development should be ecologically friendly and sustainable, and that it should incorporate artworks that would contribute to the wellbeing of the building users.”

The PSCP approached Commissions North, part of the Arts Council of England, to talk through the project. Commissions North then brought in three experienced artists to be involved with the development, each working in different media.

Walter Hall said, “The concept of an environmentally friendly building was one originally proposed by our Chairman, Stephen Clark. The trust made this a part of the shortlisting process for the selection of a P21 partner by asking interested parties to answer the question ‘The Trust is keen to have an ecologically friendly building; what would your approach to this be?’”

Walter said, “The P21 partnership approach allowed joint working along with the structural engineers and sub contractors, all of whom were better enabled to contribute to the planning of a building that was as ‘green’ as practicable.” He added: “Early involvement was essential to the delivery of this project. The environmental elements of the design such as the alignment of the building to maximise natural light and the thermal design could not have been ‘added on’ at a later stage.”

It would have been more difficult, he said, to engage all of these parties working as an integrated design team under a traditional contract.

Lorraine Brayford, the Department of Health’s Programme Manager for Sustainable Development (Health Estates & Facilities), said that emerging research demonstrated the long-term benefits of well-designed and maintained buildings.

"For example, there is growing evidence linking 'greener' buildings with higher staff productivity and lower absenteeism rates, and better performance in employee recruitment and retention. Research is also beginning to show that these types of buildings have a tangible and positive impact upon patient recovery rates."

Sustainable design

- Design concept to bring as much natural light into the building as possible through light wells – particularly to deep plan office locations.
- Natural ventilation paths introduced through clerestorey roof lights in order to minimise the requirement for air conditioning thereby avoiding the use of environmentally damaging refrigerants and gases like nitrous oxide.
- Stack effect of natural air passage through the building.
- Nighttime cooling accommodated through roof lights.
- Use of green materials e.g. composite timber/aluminium windows, linoleum floor coverings where appropriate (linoleum, unlike vinyl, is biodegradable).
- A 'Green Guide to Specification' analysis was undertaken and an overall rating assessed for building components.
- Rainwater recovery system incorporated into design. Water is collected in tank and pumped back into the building for use in public areas e.g. toilet flushing.
- Roof insulation was increased in density to prevent heat gain through the roof. Insulation has no CFCs (CFCs are the main cause of stratospheric ozone depletion).
- Consultants undertook thermal modelling to assess the building's thermal performance. Using specialist software, they simulated what temperatures would be within individual rooms over the year at any time of the day. This determined whether rooms needed only natural or mechanical ventilation. Heat loss through the building is better than the regulations require.

Engineering services

- The domestic hot water system is solar powered – four solar panels located on roof.
- Daylight and movement sensors are provided for internal lighting to ensure lighting is used as efficiently as possible.
- Air conditioning is only provided in areas that could potentially overheat e.g. meeting rooms. These areas were identified through a thermal modelling exercise.
- Non-concussive taps installed into sink units (taps cannot be left running accidentally).
- Water leak detection was installed – shuts off water supply automatically if taps left on.

Call for abstracts for IHEA national conference 2007

We are now accepting abstracts for the national conference of the Institute of Hospital Engineering, Australia (IHEA) coming up in Melbourne on 12–14 September 2007.

Abstracts submitted in the form of a case study on the following topics will be reviewed:

- climate change
- management tools for sustainability
- sustainability and the future
- sustainability projects

The formatting instructions for abstracts are detailed below:

TITLE

- Title should be a maximum of 50 characters in length.

AUTHOR/S

- Initials, followed by the surname, should be used to identify authors (eg. J. Brown).
- Underline the name of the presenting author.
- Each author should be listed by institute, city, state and country.
- Do not include degrees or professional titles (eg. Dr, Prof).

TEXT

- Should be a maximum of 300 words written in the English language.
- Text should be single-spaced and fully justified.
- Do not leave blank lines between paragraphs.
- Use standard abbreviations only.
- When using abbreviations for compounds, spell out the name in full at the first mention and follow with the abbreviation in parenthesis. Do not use abbreviations in the title.
- Font should be Arial, in 12 point size and must be submitted in MS Word.

Please submit your Abstract (200 – 300 words) to ihea07@eventplanners.com.au by Monday 12 March 2007. If you have any questions regarding this please do not hesitate to contact the Event Manager, Kim Robinson on 03 9320 8600.

We look forward to reviewing your submission.

Michael McCambridge
Convenor, 2007 Local Organising Committee