

Dumfries Dental Centre

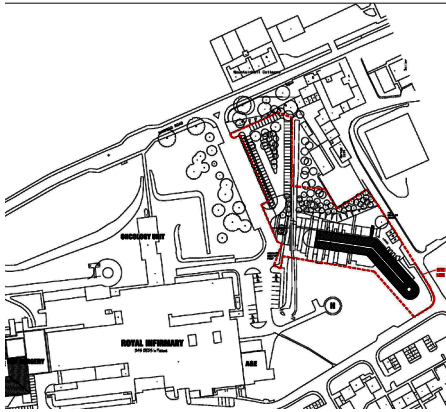
Case Study produced by the
Healthcare Design Programme.



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Dumfries Dental Centre

Overview



^ Site plan showing the position of the centre in relation to the Dumfries Royal Infirmary

The Dumfries Dental Centre is a ground-breaking centre of excellence and learning that moves away from traditional dental building models to co-ordinate a facility built on a series of progressive approaches to dental treatment and education. Its welcoming and positive environment is the product of the commissioning Health Board's changed approach to design which is being continued bringing benefits to subsequent projects.

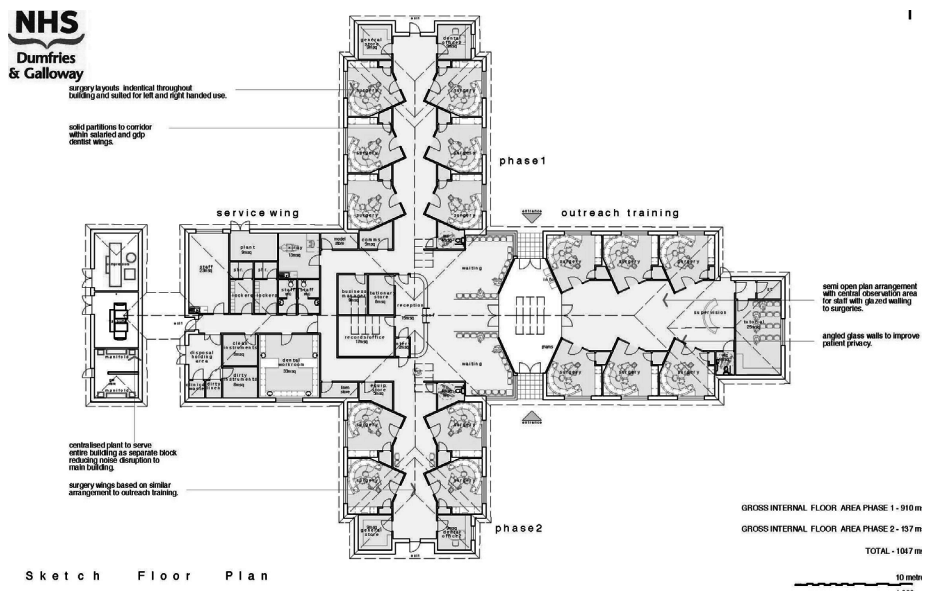
The centre was originally conceived and briefed as 6-8 surgeries to act a partial replacement of existing dental services in Dumfries. There was seen to be a problem in Dumfries and Galloway with provision and quality of dental services due to difficulties attracting dentists to the predominantly rural area. The combination of the new building and existing facilities on a nearby site was conceived as a centre of excellence, providing service and training within the region. The initial design of the new centre, placed next to the Accident and Emergency department of the Dumfries Royal Infirmary, took the form of a cruciform building with a central reception and waiting area, and separate dental services in the wings. Over the course of the project the brief grew to 8 general use surgeries and 10 training surgeries.

After OBC stage, the client took the opportunity to work with a new design team, Davis Duncan (now Archial Ingenium), to produce an innovative and unconventional dental facility. The Project Manager Stephen Howie, one of NHS Dumfries and Galloway's Design Champions, was taking part in a series of seminars organised by A+DS to raise design awareness and inspire change and he credits this process with supporting the move to a less conventional approach.

"I think from that experience it gave me the confidence to go with the more radical approach that Davis Duncan were taking. NHS D&G's usual design principals was driven by budget and function with less emphasis on design quality and innovation. While this building was also built to a budget more emphasis was placed on how the design could enhance the patient experience. The Design Champion workshops played a significant role in this education process making us aware that good design should be a priority in everything we do and also advised how to go about it."

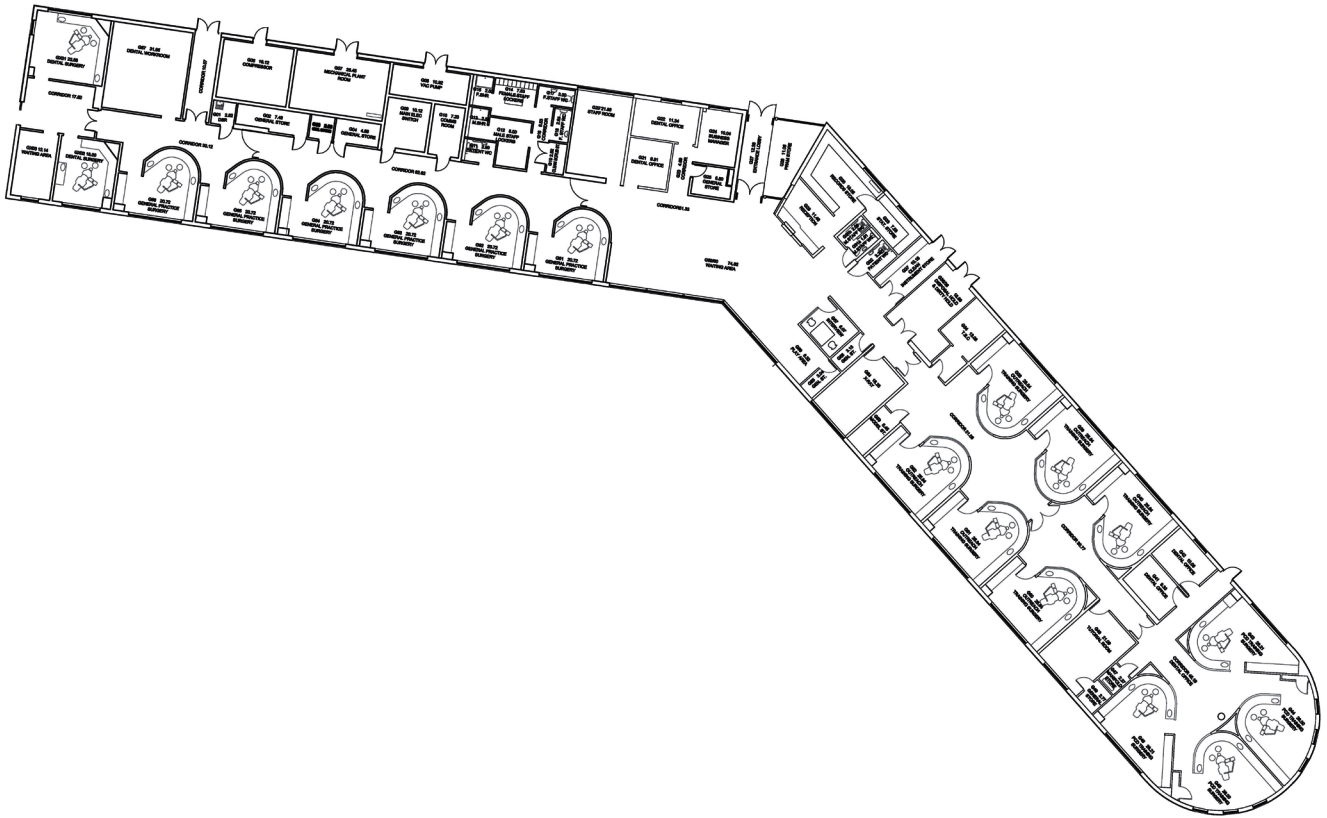
Stephen Howie, Project Manager - NHS Dumfries and Galloway

> Original unbuilt scheme floor plan



<< Exterior of building (credit Archial Ingenium)

Dumfries Dental Centre



Built scheme floor plan



The building bends round the helipad looking out to the hills.
(credit Archial Ingenium)





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Inspired by the views towards the Dumfriesshire hills over the hospital's helipad, Davis Duncan immediately suggested a change in the overall organisation of the site, placing the building on the section originally reserved for parking. They rejected the conventional dentistry building model, in particular the tendency towards small windows, and instead designed a long linear building cranked around the helipad, with large full height windows to maximise views and daylight levels. The building is entered in the centre, with a large waiting room from which you are either directed left or right, towards the standard consulting rooms, or towards the training area.

The relationship with higher education providers was a key driver in the design of the training facilities within the building. One wing of the building is dedicated to education and training, with a suite of rooms with glass partitions to the corridor for observation, ending in a curved walled room with 4 open bays. During the majority of the design of the building, the education programme was to be carried out in conjunction with Glasgow University, and the training areas were designed to fit with their requirements, but subsequently the Therapist undergraduate course structure was not felt to work appropriately between the two bases so part of the training wing became a dual centre (with Inverness) for the University of Highlands and Islands School of Oral Health Science. This required some post-build changes, primarily adding considerable technical and communication capabilities to a lab room to enable it to function as a distance tutorial room.

In addition, again after the building work had started, it was decided that the specialist facilities within Dumfries should also be added to the facility, rather than be retained. Therefore two additional rooms, equipped for patients with additional space and access requirements were added to the brief. Due to the flexibility of the plan and the site, it was possible to extend the form at limited additional cost.

The building includes a number of key sustainability features. Funding was received through the Carbon Trust to install a ground source heat pump to heat and cool the building, and the building uses a sustainable urban drainage system (SUDS). The large windows and roof lights significantly reduce the need for artificial lighting and solar heat gain is reduced through the use of reflective glazing.

“We wanted innovation introduced and we wanted the building to be as sustainable as possible using natural ventilation and light, and we're very happy that we've actually achieved that to the extent we have.”

Stephen Howie, Project Manager - NHS Dumfries and Galloway

Experience

The building is set back from the car park, and the busy hospital site; walking across a small bridge and down the quiet landscaped path, the first impression is calm seclusion. The faded timber boarding, neutral painted panels and simple windows allow the building to sit unobtrusively within the natural landscape, welcoming the user in. After the enclosed approach, the waiting area and reception displays an unexpected



The open plan training area
(credit Archial Ingenium)



The curved end of the building is raised on pillar to accommodate the exterior ground levels.
(credit Archial Ingenium)



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- ^ The entrance to the centre is through a secluded garden area.



- > The waiting room looks out over the helipad to the hills

- > Wayfinding is aided by bright colours and clear signage
(credit Archial Ingenium)

wide vista of the open green space and over to the hills. The space is peaceful and relaxing, and rather than patients nervously looking through magazines, the view is the main draw; chairs that start the day arranged neatly facing reception soon end up facing out of the windows, both for the landscape and the interest of arriving helicopters.

A primary focus in the scheme was the redesign of consulting rooms. During the initial design phase, a great deal of work was put in to designing consulting rooms that were ambidextrous, as traditionally dentist rooms are right or left handed, restricting recruitment and flexibility. The process involved detailed consultation with staff, and a full scale mock up for testing. This resulted in a curved wall in each room, which in the original plan was taken up in the exterior wall thickness, but was reversed in the revised Davis Duncan scheme, producing an undulating corridor wall. This feature gives the corridor additional width and interest, and wayfinding and welcome are encouraged by light flooding in from above onto walls painted in a bright rainbow of colours.

Once in the consulting room the view from the full windows again takes precedence, proving positive distraction for patients. The consulting rooms are clean and simple, with the mirror image fixtures allowing dentists full access from each side and corresponding facilities for technicians and other staff. Whilst there are specialist facilities within the building for disabled patients, in most cases the standard rooms have been found to be sufficiently spacious and well laid out to cope with the additional challenges.

Reaction

Reaction to the centre has been very positive, with the building winning and nominated for a number of design and sustainability awards, both within the NHS and beyond.

“The board were delighted with the reception that the dental centre received in the community, both locally and throughout NHSScotland. They have indicated that they’re looking to maintain that kind of design standard in the future.”

Stephen Howie, Project Manager - NHS Dumfries and Galloway

The new building has been the catalyst for several service and use changes. As the surgeries are identical, it was decided that they would not be personalised so that dentists would be able to work in any of them; the rooms have small moveable units that contain additional tools for specific types of dental work which can be moved around as appropriate, but all other equipment in completely standardised. This flexibility in the building has been mirrored in the staff, who are expected to not only be able to work in different rooms but also between the service rooms and the training areas, resulting in additional training and changing deployment to ensure that all staff are up to this challenge and maintain the relevant skills. There has also been substantially more outpatient surgical procedures transferred from the hospital than anticipated, and the building is coping well with these.

Additionally, the board took the opportunity to move to an entirely paperless



RECEPTION

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- > The surgeries in the training wing have curved glass partitions for observation.

records system. Dumfries and Galloway already had this network, which was used by most of the surgeries in the area, but coverage wasn't complete. The new building proved the impetus to finish the connections and implement its full use. The decision was also made to use off site sterilisation of equipment, freeing up space in the centre; this significant change in approach was enabled through the confidence of the board in the new building and their staff to accommodate additional change.

The building has been well received by the patients and staff. The new building has been an excellent recruitment device, as its innovative design and corresponding service changes has attracted a good selection of staff who were looking for that sort of challenge. The patients have responded very well to the building, commenting on the light, colours and views.

"Having started out with this caution and suspicion about this design from many of the staff, now everyone's had experience of using it most of them are very reluctant to use one of the other surgeries unless they absolutely have to!"

Penny McWilliams, Director of Primary Care Dental Services

The colours and materials used in the building were a source of debate with the staff throughout the build. Initially there was a feeling that they were too bright and seemed childish or distracting, but now that the building is inhabited, most now like the colours. The exterior cladding, though also liked, has been a source of comment, as the faded timber boards expand and contract more than anticipated, leaving gaps and uneven overlaps between the boards.

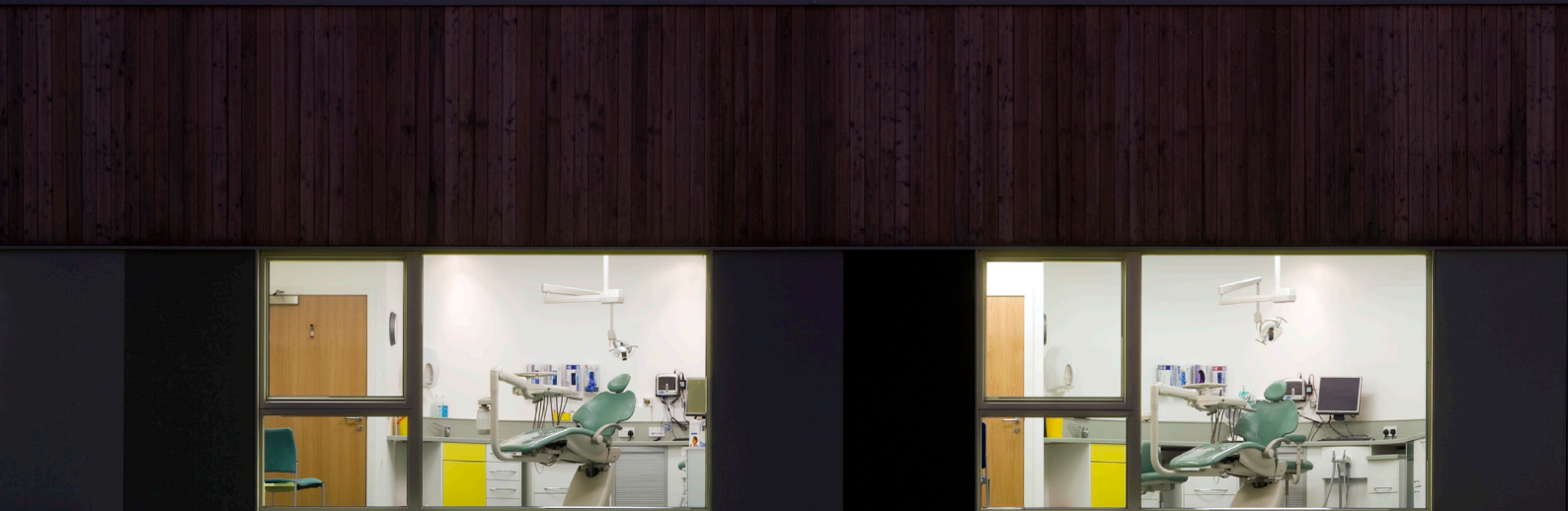
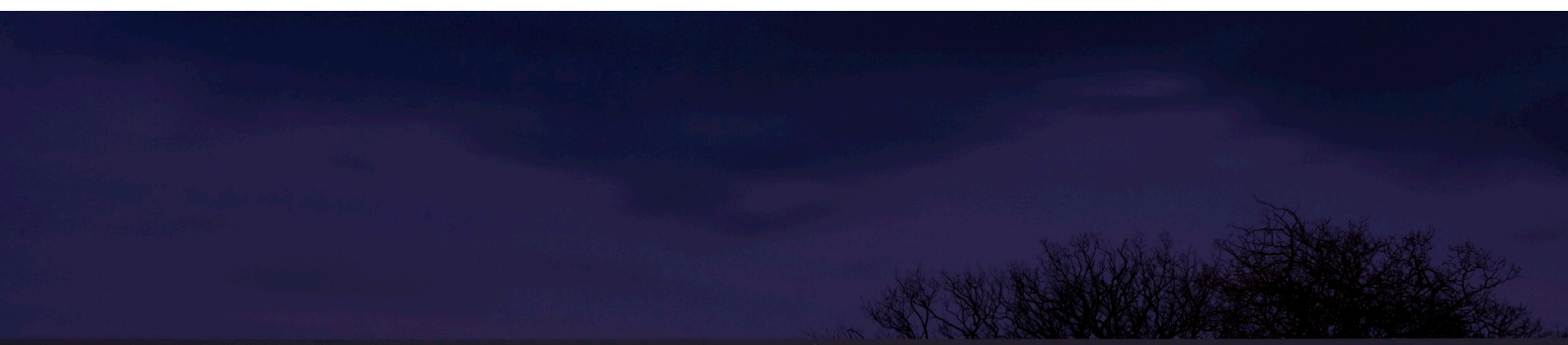
The changes haven't been entirely painless however. The Board feels that the change, mid project, from a two building service model that retained the original facilities, to a combined new building has caused some strain on the staff's feelings about the new centre. Unfortunately staff who, early on, had been in good faith offered the choice between moving to the new facility but preferred to stay in the old, were later required to transfer. By that point they had missed the opportunity to take part in the consultation processes that may have helped give them a sense of ownership of the new building. The compression to a single facility has also resulted in an under provision of office facilities. The majority of the staff however like the building, and this appreciation continues to grow over time and the building's use.

There have been a few problems adjusting to and refining some of the sustainability features. The heat pump works well when heating the building but it is not yet being fully utilised for cooling in summer, resulting in the occasional use of mobile air-conditioning units, though in most cases it is possible to simply move to a cooler room on the other side of the building. There have also been some problems with the SUDS drainage from the roof, as debris placed there by the air disturbance from the frequent helicopters led to blockages in the system which has had to be subsequently altered.

- > Each surgery is laid out so that the patient can see out through the large windows to the natural views. The surgeries are standardised and kept uncluttered so that they can be used by right or left handed dentists for any procedure.

(lower right - credit Archial Ingenium)

Overall the building has been a great success, and is appreciated by its users, both staff and patients. It is confirmation that good design can support both innovative, highly specialised facilities and working practices, and the everyday journey and experience of the patients and staff.



Project Information

Location: Dumfries, Dumfries and Galloway
Delivery Team: Davis Duncan (now Archial Ingenium) and Ashleigh Construction
Value: Full Capital Cost including dental fit out with remote training skills lab and Xray facility. £4.48M
Opening Date: January 2008
Procurement Type: Traditional
Client body: NHS Dumfries and Galloway

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With thanks to Stephen Howie and Penny McWilliams of NHS Dumfries and Galloway