



**University of
Nottingham**
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Post-Occupation Evaluation Study Report

Cripps Health Centre



June 2021

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“The Cripps Foundation funded the construction of the original Cripps Health Centre, which opened in 1969. At the time it was considered pioneering, and one of the top healthcare facilities at an educational institution in the world. Come 2015, it was barely fit for purpose and in no way optimizing the efforts of the incredible healthcare workers at the University of Nottingham Health Service. In reviewing what would be needed for the University and broader registered patients for the foreseeable future, significant changes in health issues over the decades had to be taken into consideration. In addition to typical healthcare services, a new leading facility would require purpose-built amenities for mental health, world leading research capabilities, training and development for general practitioners and medical students, and infrastructure for the development of non-traditional roles to support the student experience. The new Cripps Health Centre was designed to be a dynamic facility that would do justice to the dedicated healthcare workers that occupied it whilst meeting the needs of those it served. In September 2018 we officially opened, and it has been a great source of pride for the Foundation to see the effect it has had on students, staff, and the great City of Nottingham, particularly with the key role it has helped the University of Nottingham Health Service to play in the UK’s battle with Covid-19.”

Statement from the Cripps family

INTRODUCTION

Building Understanding was asked to conduct a Post Occupation Evaluation study of the Cripps Health Centre by the University of Nottingham. The study was conducted in 2021 while restrictions were still in place due to the coronavirus pandemic. Therefore, on-the-ground satisfaction studies or face-to-face interviews could not take place. All feedback was gathered remotely.

PROJECT BACKGROUND

The project involved building a new Cripps Health Centre to replace the old one, which had been constructed in the late 1960s. Put simply, the users of the former Cripps Health Centre had outgrown the space. The consulting rooms were too small. The waiting areas were not big enough. There was not really any meeting space for staff.

The Cripps Health Centre is the largest single site GP practice in the country. A rapidly expanding local population was a large factor in the need for a new centre. A General Practice View document written in 2015 reported how the practice's population had increased by nearly half in the previous decade, rising from around 28,000 in 2005 to 41,000 in 2015. At the time it was built, Cripps Health Centre represented about 12 per cent of Nottingham's GP provision. Today, the practice services around 48,000 people, as compared to just over 8,500 for the average GP surgery in England. While student numbers have remained fairly static, the expansion is due to the numbers of students graduating and choosing to stay registered with the practice, alongside increased numbers of international students, some of whom bring their families with them. There was also a move to cater to increasing patient demand and a drive to bring services out of hospital settings and into primary care.

The project was initiated when a member of the Cripps family visited the old centre and offered to donate money to build a new one to cater for these expanded needs. The University of Nottingham also pledged a sum of money towards the project.

The steel enforced concrete construction of the previous centre made it unsuitable for extension. Also, the cost of putting up a temporary facility while it was rebuilt would have added prohibitively to the project's cost. Therefore, it was considered a better option to build a new centre on a greenfield site opposite the old one. This also allowed the University to re-purpose the old centre as student accommodation.

PROJECT DATA

Name of facility:	Cripps Health Centre
Location:	University Park Campus
Gross area:	3,600m ²
Number of storeys:	Two
Users of the facility:	NHS health practitioners and support staff Dentistry University of Nottingham mental health team Pharmacy staff
Room types:	GP and treatment rooms; atrium; waiting areas and meeting rooms; mental health suite; in-bed patient unit, pharmacy, library, dental suite
Start on site:	August 2017
Date completed:	September 2018
Period on site:	1 year and 1 month for the construction period, plus more than 2 years on defect resolution
Gross construction cost:	£9.7m
Funding:	Predominantly donor funded, with a contribution from the University of Nottingham
Contract type:	JCT 2011 D&B

OBJECTIVES OF THIS POST-OCCUPATION EVALUATION

- To highlight issues and best practice associated with the project during procurement, the construction phase, and post practical completion.
- To facilitate two online workshops to discuss initial feedback and generate recommendations.
- To examine to what extent the centre fulfils the original vision.
- By gathering feedback from end users, to establish whether the centre meets the needs of those who work there.

SCOPE OF THE STUDY

STUDY PARTICIPANTS AND METHODOLOGIES

The University of Nottingham's Estates team provided Building Understanding with background to the Cripps Health Centre project. Building Understanding used this information to generate questionnaires aimed at three main groups of stakeholders: the University's Estates team, consultant stakeholders who delivered the project, and end users of the finished centre, representing patients and staff. A member of the Project Management Group (PMG) gave written comments in response to a selection of questions, and the Cripps family provided a statement. After the workshop, Building Understanding also sought further information from the University's IT department regarding Wi-Fi provision. This was provided and is included in this report.

Building Understanding gathered feedback from 19 individuals, most of whom were asked a series of questions from these questionnaires. Some of the questions involved giving a satisfaction rating, where 1 = 'poor' and 10 = 'excellent'.

Microsoft Teams interviews

In order to create an environment which matched a face-to-face interview as closely as possible, the majority of interviews were conducted over Microsoft Teams.

Feedback, mainly by interview, was gathered from the following:

A member of the PMG

Estates Office staff

- Capital Projects Manager
- Head of Capital Projects
- Carbon Reduction Manager
- The former capital projects manager

Consultants

Respondents represented the following stakeholders involved in the project's delivery:

- The architect
- The M&E designer, as well as structural and civil engineers
- The project manager
- The main contractor
- The cost manager

The interview with the main contractor involved four respondents who were present at different times of the project's journey, including the construction period and the defects resolution period post practical completion.

End Users

Feedback was gathered from different types of End User:

- The practice manager
- The University's head of welfare, whose team uses the centre
- Two members of the Patient Participation Group
- A member of the centre's reception team
- Property Manager, with responsibility for Landlord and Tenant Relations

Three of the End User participants gave feedback via Microsoft Teams; one gave it over the phone, and the other requested to respond to the questionnaire in writing.

The workshop

The workshop objectives were to:

- Present the feedback gathered through the interviews.
- Examine to what extent the Cripps Health Centre has delivered against the original vision.
- Discuss any issues raised.
- Generate recommendations for application to future University projects.

SAMPLE SIZES

It is important to note that quantitative feedback in this report is based on small sample sizes. The qualitative feedback given, however, was extremely rich in detail.

FINDINGS OF THIS POE

THE BIG PICTURE

Positives

Cripps Health Centre is considered by many respondents to have delivered against the University's vision and that of the benefactor. It works well. It does what it was meant to do and is very well used. The centre is a significant improvement on its predecessor.

One respondent told us that at the very start of the project, Robert Cripps made it clear that he wanted key end user personnel to lead on how the building developed and how it would be used. These end users greatly appreciated being able to have such a large input into the design. The architects also felt this had been a huge benefit. A member of the Patient Participation Group (PPG) who responded to our study as an End User commented that this group had been invited to share their thoughts on the design. The PPG was also invited to have a walk through when the site was in its early construction period.

"I felt like I had an opportunity to input, even if they could not necessarily act upon all our ideas."

"I think that very importantly, they had a very clear idea right at the start of what they would need to do, that could not possibly be delivered in the building they were in. I think, from my perspective, very importantly, they did really recognise that if they were going to spend on doing this, building a new building, then they would need to not just reach what the current requirements are for delivering services in primary care, but actually to go, 'What would be good?' 'What ought we to have?'"

Another key stakeholder commented:

"... it felt really good to have the people that were going to be using the building so directly involved with the architects, really being able to sit there and think very practically about the use of the building and that could be best promoted in the design."

One example of the impact of user engagement is the size of the consulting rooms. Rooms in the old centre were about 10.5 square metres, while in the new one they are between 14 and 15 square metres, and all designed to nursing specification. The consulting rooms are among the highest rated spaces in the completed centre. One patient respondent in particular noted how well they work. Users, particularly patients, are highly positive about the new centre. One, who is a wheelchair user, had very good things to say about the provision for their needs.

Another key element was the desire to provide a building that would be flexible in the event of a pandemic. Building users had experienced an outbreak of swine flu where tarpaulin and tape had to be used to try to section off the previous building up for safety reasons. With its split design, the new health centre has absolutely made good on this aim, being used as both a vaccine hub and for important clinical trials during the Covid-19 pandemic that hit in 2020.

The goal was to create a building that feels less clinical and more about wellbeing, and the overwhelming feedback was that the design, with its use of natural light and space, along with the garden, had really helped achieve this. The building's design is so strong, it has been recognised in the European Health Awards.

Sustainability issues have been well addressed. It is very good for the environment that mechanisms such as ground and air source heat pumps were put in place, minimising CO₂.

The discovery of a badgers' sett on site was well managed. The team worked closely with the ecologist to follow the correct procedure on how to move these protected creatures. The building is shaped in such a way as to preserve an important Beech tree. The benefactor also participated in the project's evolution with a series of events, including the burial of a time capsule.

During the build itself, there were many positive comments on the main contractor, who ran a tidy site and was very forthcoming with information. When the contractor came back to fix defects, it was felt they had shown real commitment to doing so and had also shown a lot of flexibility in the way they worked in a clinical environment during a pandemic.

Negatives

A value engineering process took place to bring the design in line with the budget. This was considered to have been well managed, but some decisions made during the value engineering caused problems further down the line. One example was the reduction of concrete slab on the roof which had an impact on fire stopping.

While the extensive end user collaboration was highly valued by some, the contractor said it caused late changes to the project which put further pressure on the programme. Other members of the project team confirmed there had been late changes, but these only concerned the dental suite.

The main issue came to a head around the time of the project handover. The University had a set end date by which time the project had to be finished. This had been clear from the start and was dictated by the beginning of the new term. The doctor's surgery needed to be ready 10 days before Fresher's Week, when around 9,500 new patients are registered, and thousands of vaccinations are given. There was also the pressing need to use the site of the old health centre for student accommodation.

This caused a major problem for the contractor and their sub-contractors. They reported that delays had been caused by poor weather and end user changes, but no change was made to the end date. The University said that one extra week had been granted to the contractor.

Ultimately, the contractor handed over a building that, it is acknowledged by everyone, was not properly finished. The University employed a surveyor which then uncovered a defects list of between 300 and 350 items.

The additional work required was extensive. The defects resolution period has taken more than twice the length of the build itself, although the fact some of this took place during a pandemic is also a factor. Among the major issues was improper fire stopping and proper floor levels not installed on risers. There were also walls in the wrong place; drains having to be re-laid and missing insulation from pipe work and walls.

The handover process also caused a problem because the mental health service could not move in and were homeless for a week. This is a key part of health provision for the University, and the service was compromised during that time.

There have been ongoing issues with heating and cooling, with users reporting that rooms are either too cold or too hot. Some of the very cold rooms are those where patients are seen.

The other issue has been with NHS rents. While this is an issue with the NHS and not with the building itself, it has meant that some of the spaces could not be used when the building was opened, such as the in-bed patient ward. These spaces were opened when the pandemic hit but it is not known how this situation will be resolved.

HOW CLOSELY THE CRIPPS HEALTH CENTRE FULFILS THE ORIGINAL VISION

A business case concept document prepared by architects CPMG, which provided the design for the new Cripps Health Centre, stated that the original vision was to provide a “holistic approach to primary health and dental care for the University and wider community.” This was to be realised by enhancing the student experience through the provision of accessible first-class medical facilities. It was also important to reinforce the University’s message regarding the importance of student wellbeing. This emphasis on wellbeing was also a focus for the PMG in planning the new centre.

“A New Vision for the Cripps Health Centre” is a proposal drawn up by the University of Nottingham in February 2016. In it, key outcomes for the new health centre were specified.

The physical specification for the building was that it would include:

- 35 generic clinical consulting rooms
- Two minor operation suites, incorporating procedure rooms and a patient recovery space
- Three patient observation bays
- Five University services rooms
- A physiotherapy area
- Eight dentist treatment rooms and a suite of supporting spaces
- Library and training room (for medical students and trainee GPs)
- Training and seminar facilities for 30 people
- Pharmacy
- Reception space and waiting areas
- Administration offices, storage and utility rooms
- Clinical support and staff areas

Those respondents asked whether they considered Cripps Health Centre fulfilled the original vision for the project gave a variety of responses. Four respondents felt that the finished centre had done a good job in fulfilling the original vision. Comments included the fact that

the centre is as busy as ever, that it has a degree of future proofing with capacity to expand, and that sponsors could be taken around the building, and it would be exactly as promised. The provision of mental health services also strengthens the relationship between the University of Nottingham and the Cripps foundation.

Some found difficulty in answering, having either not seen the original brief or not being fully aware of the final outcome. One respondent felt the vision for the building had been watered down through the value engineering process.

The new building provides 20 GPs, eight dentists, the University's mental health teams, physio spaces, a pharmacy, and the ability for support teams to come in. It has spaces that allow the service to start research again.

One respondent was asked to outline the PMG's original vision for the Cripps Health Centre. That was to provide modern, fit for purpose facilities for the delivery of GP services, dental services and University Health Care services to serve the student and staff community. It was also to ensure that the development matched the aspirations of the Cripps family.

Asked whether the PMG had any initial or subsequent concerns regarding the outcome, the respondent said there had been none, and that the PMG had been 'very happy with the outcome of the project'.

In the workshops conducted in May 2021, all participants were asked to consider whether the Cripps Health Centre has fulfilled the original vision and express their view as a percentage rating. The results of this brief survey were uniformly high. Ratings were provided by eight participants, of whom all but one gave a score in the 90 to 95 per cent range. The remaining participant said their rating would be 'in the high 80s to 90 per cent'.

The original desired outcomes for the project are listed below, together with feedback gathered through email and the workshops as to whether these have been achieved.

Ongoing high levels of patient registrations from within the University community.

- It was confirmed in the workshop that this had been fulfilled.

Increased numbers of secondary services based at health centre.

- There is greatly improved provision for mental health services at the new health centre, and also a physio treatment area.

Increased number of clinical research project grants awarded.

- During 2020, the practice team has worked jointly on a large number of major Covid projects, including three class 1a urgent public health studies on the development of the Oxford Astra Zeneca vaccine. There has been a mixed regime trial of the Oxford and Pfizer vaccines, and a mixed regime trial of Pfizer coupled with Moderna or Novavax. The practice has also collaborated with other University-based trials in supporting with patient recruitment and sample taking. At the time of writing, the practice was also about to launch a trial of a Covid booster vaccine, covering additional variants of the virus.

High level of student satisfaction with wellbeing services (as measured by the Nottingham Student Experience Survey)

- Normal student satisfaction surveys have not been able to take place in recent times, due to the pandemic.

Continued co-operation in regard to the outbreak of infectious disease and other critical incidents.

- This has absolutely been achieved. Cripps Health Centre has been used for important clinical trials, and as a vaccine hub, due to the forward planning involved in creating a building that can be partitioned. This is based on previous experience in the old health centre during a swine flu outbreak. Cripps Health Centre is in fact the only GP practice in the country to be running vaccine trials.

Supporting the University of Nottingham Health Service in retaining its Care Quality Commission 'Outstanding' rating, putting it within the top 3% of UK practices.

- This has been achieved. Cripps Health Centre was rated following the move to the new centre and has retained its 'Outstanding' Care Quality Commission rating.

All new University of Nottingham capital projects aspire to achieve a BREEAM 'Excellent' rating

- This was not achieved. The BREEAM rating was downgraded to 'Very good' in the value engineering exercise. However, Cripps Health Centre does feature some excellent carbon reduction elements such as ground source and air source heat pumps.

Part of the original vision was also for Cripps Health Centre to have unrivalled healthcare within the UK university sector, and to be the envy of primary care more broadly in this country. A key stakeholder commented in one of the workshops that he believed the completed centre was indeed envied by other establishments.

FEEDBACK FROM THE PROJECT TEAM

THE DESIGN AND CONSTRUCTION PHASE

The contract for Cripps Health Centre was a JCT Design & Build. There was extensive involvement from end user stakeholders with regular workshops between the architects and users in the pre-contract stage. This, in one respondent's view, really helped to 'nail' the design at an early stage.

"The key successes, I think, were the proactive engagement from the University, the users for the health centre, the doctors, the managers, and the clinicians, and that went very well. It was the first I've ever done a clinical workshop with users that went really well, and we almost got the design nailed within weeks."

The contract was a Design & Build, but the contractor commented that they had been brought in when the design had largely been done. A respondent from the University confirmed that the design was 'about 90% done' by the time contractors were brought on board. Feedback from the workshops was that the University feels strongly that a JCT Design & Build was exactly the right contract for this project. The contractor said that this type of contract means they, the contractor, take on all risk when things go wrong.

The contractors said that they were pressurised to start on time despite design changes in the value engineering stage. They felt this made it hard for them to plan properly. Feedback from one of the workshops was that there was also a delay at the start of the build caused by the presence of a badgers' sett. The contractors were under pressure to achieve the target completion date, a key requirement for the University as students needed to be able to access health services before Fresher's Week. Also, the old centre was required by the University for other purposes.

The University said changes to the design made during the construction period were solely to the dentist's area, representing about an eighth of the building.

The decision to remove half a concrete slab in the roof space and replace it with a gantry walkway caused problems, and this was raised by two members of the project team. Contractors said this design decision caused issues including rooms with missing ceilings, fire compartmentation, acoustic issues and difficulties accessing mechanical kit. Issues with fire stopping were raised by other respondents too.

Recommendations

- Consider what wildlife may be present in the area at the planning stage. In this project, the presence of badgers delayed the start of the build, as they could not be moved when in season.
- Conduct a full 'What If' analysis on all value engineering exercises, to properly assess likely repercussions of decisions made, particularly in terms of costs that may be accrued further down the line. Ensure this includes consideration of factors such as the choice of sub-contractors made by a contractor.

BMS

Feedback from the workshops was that the University was not happy with the work of the sub-contractor appointed to install the BMS system. There have been significant problems in this area. Building users experience extremes of cold and heat and it seems difficult to regulate the temperature in different spaces. The Estates team need to go to the building to control the air handling aspect of the BMS. Problem areas include the underfloor heating system, which switches to cooling even on cold days. The University has now switched off the cooling in the winter months.

As to what could have been done differently, one respondent in the initial feedback interview thought that the internal maintenance team from the University should have been involved in design reviews. Another thought a better approach would be for the maintenance team to share their policies so these can then be communicated to the contractor.

It was commented in the workshop that it had been useful for the University's maintenance team to offer feedback at the design stage, but perhaps there were times when this could have been communicated quicker. Some comments were received after equipment was procured, and if these comments had been communicated earlier different equipment might have been ordered.

A University representative commented at the meetings that the team structure is evolving, with a new compliance team now in place to comment on designs and offer support.

Guttering

The guttering has had to be cleaned out since the building was constructed. At the time of handover, it was filled with a great deal of rubbish which needed to be cleared. Since then, there have been water stains to the side of the building. The guttering needs regular cleaning out as the building is surrounded by trees. This comes at quite a high cost to the University as a specialist company has to be used who have to be trained to work on the roof. Use of a cherry picker to clean the gutters was not part of the design intent for Cripps Health Centre.

It was not thought generally by workshop participants that the design of the guttering should have been different. One University representative said that in future projects, guttering principles should be debated at design stage to account for elements such as a building's geographical location, for example, if it is in a leafy area.

Recommendations

- Debate principles of guttering on new projects to take account of where the building is situated, e.g.: a leafy area.

M&E Installation

The M&E elements of Cripps Health Centre have been among the more problematic areas. Feedback was mixed as to how well people rated the design and co-ordination of M&E services. The University rated this fairly highly at an '8', but other members of the consultant team went as low as '4' and '2'. One respondent rated it a '10', however. Problems have been reported with elements associated with the mechanical systems.

Recommendations

- Ensure the University's maintenance department is fully aware of the proposed maintenance schedule for any new building, so that maintenance is operational from day one. This will ensure retrospective planning does not have to take place.
- Ensure engagement with the University's maintenance team at the design stage of any new project, so that any issues regarding how a building will be maintained will arise at an earlier stage and training can be given.
- When the University's maintenance team is involved at the design stage, ensure any feedback is relayed promptly so that any changes can be incorporated before equipment is ordered.
- On Schneider systems, ensure greater communication between the University's estates team and the Schneider-approved contractor.

Glass

A piece of glass was broken on the front of the health centre, and it has been since boarded up. When the University tried to replace the glass, they discovered it was only available as a bulk order. The University has had to order a piece of replacement glass which will not match. The Estates team has also asked the manufacturer to include them on any bulk order they may do in the future, so that the glass can be correctly replaced, but this may be years into the future.

Recommendations

- Select materials that have no restrictions on re-order.
- Debate glazing options on all new projects. This should take into account the orientation of the building as this may affect decisions made. For example, a building's glazing needs to help it perform well and prevent overheating.

FEEDBACK RELATING TO THE BUDGET

A value engineering process took place to bring costs down to within the budget when the contractor was appointed. The contractor worked with the design team to identify areas that could be value engineered. These included:

- Downgrading the project down from a BREEAM 'excellent' rating to 'very good'
- Eliminating a significant amount of protruding window detailing
- Reducing the concrete slab on the roof
- Removing a flushing system on the cold-water pipe work for legionella control
- The choice of a cheaper sub-contractor to undertake the BMS installation.

Feedback from the consultant team is that the value engineering exercise inevitably involved compromising the original design. However, it was also pointed out that the exercise did bring costs in line with budget, and that the project team worked well together to deliver the savings required.

It was more important to deliver a building that met clinical need rather than a building that was aesthetically pleasing. One comment in the workshop was that the centre had been designed from the inside out, in other words, putting clinical need first.

The overall project was delivered to the value engineering budget.

“It was successful because to achieve the level of savings, you need that buy-in from everybody. You need that from the design team. You need that from the contractor. You need that from the client. There was an overall will to get that project to site.”

FEEDBACK RELATED TO THE DESIGN AND LAYOUT

Cripps Health Centre has been built in a V shaped design because, despite the fact that trees had to be chopped down to build it, the local authority was particularly sensitive about one tree, a beech. In order to preserve this tree, the building had to be designed to miss it, hence the V shape with a link.

The two-legged formation of the building has resulted in increased flexibility during the Covid-19 pandemic, with preparation for pandemics having been one of the key aims for the new Cripps Health Centre. Due to this design, sections have been ‘cut off’ for singular use, such as Covid testing. This flexible element of the design really came into its own when the Covid-19 pandemic hit the world. The building has also been designed so that the wings can be extended outwards in the future, if needed.

It was designed to contemporary standards in terms of spaces and consulting rooms. There is room for minor surgery, dentistry, and mental health provision. Consulting rooms were designed to be identical. Feedback was that having this requirement in from day one was a benefit, as it meant that design was not later shoehorned in.

Other feedback regarding the design was that good use had been made of the centre’s location on the brow of a hill, that the entrance to the reception area works very well, and that the medicinal garden, the Eleanor Cripps Memorial Garden, was a particularly successful element. In fact, Cripps Health Centre has been recognised in the European New Health awards due to its good design.

When the building was designed, every room met NHS design guide requirements. Other aspects, such as the in-patient ward, were added by the University.

One respondent pointed to the “massive curtain walling” and “high ceilings” making the facility feel open and welcoming. More than one respondent said the centre felt light and airy, with all rooms enjoying natural light. Corridors are wide. Another respondent, who is involved with other NHS projects, felt this one was roomier than most.

With an emphasis on achieving a sense of wellbeing as well as providing medical facilities, several members of the project team felt that the centre succeeded in this aim, with its feel of being a pleasant space to be in, rather than oppressively clinical.

The wellbeing garden forms a major part of this objective. An aesthetic element of the design was to bring the outside into the centre through the use of leaf designs, colours and pictures, rather than traditional signs. Some international plants were also chosen to reflect the international student population using the facility.

“It doesn’t feel like a health centre, it just feels like a lovely space.”



Leaf designs decorate the corridors

The M&E Design

Cripps Health Centre uses heat pumps for heating and cooling. The heating on the ground floor areas uses a ground source heat pump. The upper floors use an air source heat pump. This technology, while not new, was uncommon at the time of the build.

One respondent from the University commented that the principles of the M&E design were very sound. The system is designed to recover heat from the exhaust that extracts air from the building. This heat exchange recovers up to 90 per cent of the thermal energy.

One of the consultant respondents commented that one criticism of the design is the way the air source heat pump is contained in the roof space and not outside. The mechanical engineers would prefer to have air source heat pumps outside if possible, so they can absorb or reject heat freely, but it was decided not to have any plant outside.

Flexibility

Cripps Health Centre's consulting rooms are all designed to a nursing specification and are all the same size. This means that at any time, nurses or GPs can be put into any room. Many internal walls are not load-bearing, although this is not the case in the dental surgeries because the walls have radiation protection. For acoustic reasons, floors were laid after the walls were built. This means every room may have a different floor level which could cause issues if two rooms were going to be joined together. However, as the building will remain a health centre, this is not an issue.

FEEDBACK RELATING TO RELATIONSHIPS, COMMUNICATION AND COLLABORATION

During the construction phase of the project, relationships were judged to have been fairly good. The University's respondents provided the highest numerical ratings, averaging '8', while consultants went slightly lower with '6.75'. The contractor team reported that at the start of the project, they thought relationships were good, but there was deterioration as the project progressed and moved into the post completion phase, when significant problems were uncovered which had to be rectified over a lengthy period of time.

One respondent had this to say:

"I just think it was a positive relationship from day one. When we got commissioned to do the project, there was no negativity. Everyone clearly communicated with each other. If there was an issue, we had a discussion about it, and got it resolved. I think it was a very, very good, proactive relationship and it remains so, I think."

The contractors felt that they were put under pressure to hand the building over when it was not complete, and this affected the quality of the relationship with the University. They thought that due to elements of the construction phase, such as poor weather, and some design changes, the end date should have been put back. The contractor respondents commented that they had re-sequenced their programme to accommodate a high voltage cable running through the site, in order to maintain a good relationship with the University.

It was also commented that there had been quite a high staff turnover on the project. This made it hard to build relationships, as people kept leaving, including the project manager, and personnel from the contractor and the University. Also, there was no clerk of works.

"Relationships were fine when people were there, they did not go sour, but you can't build relationships with people who are not there."

However, it was clear that if relationships between some parties had become strained, mainly in the handover and post-completion period, this had not spilled over on to the entire project team, which was reflected in the fact that some people detected no friction.

Collaboration

When it came to collaboration, feedback was still mixed. Again, the University provided the highest ratings with an average score of '8'. Consultants averaged '7.75' while the contractor went down to '3.67'. It should be noted that two of the contractor respondents who provided ratings on collaboration were not present during the construction phase. The contractor respondent who was present during the project phase provided a rating of '5' for collaboration.

Most respondents felt that the project team had worked very well together. Use of the Revit software to share drawings had worked well. A respondent from the PMG group said that 'design and collaborative working' had been the aspects of the project they thought had gone well.

However, the contractor felt that although things never became aggressive, there was not real collaboration with them when it came to building the centre. It was felt that there was an 'us and them' approach from members of the project team and that not all parties had bought into the value engineering exercise.

Communication

A question on communication also saw a mixed bag of ratings. As previously, the University was most positive, giving an average rating of '7.5'. The consultants rated this slightly less at an average of '6.75' while, again, the contractor respondent was less impressed with an average of '5'. For this question, only the contractor respondent involved during the construction phase provided a rating.

On the positive side, it was thought that site meetings were well run, with everyone able to have their say. The University thought the contractor communicated well. Another consultant said the contractor gave all the documentation that was required to the quantity surveyor.

One issue identified by the contractor was end user involvement, saying this created a 'decision by committee' element. However, as previously stated, other members of the team fed back in the workshops that the only design changes in the construction period had been to the dental suite.

It was also suggested by several respondents that had the University employed a clerk of works to oversee quality inspections, things might have been better. Feedback from the University during the workshops was that the appointment of a team of three clerks of works to oversee building projects is now under consideration.

Recommendations

- The University is intending to appoint an in-house clerk of works, or perhaps a team of three clerks of works, to conduct on-site inspections during building projects to help ensure quality is maintained. A clerk of works has been used subsequently on the BDI and Power Electronics projects.

FEEDBACK RELATING TO MAIN CONTRACTOR AND SUPPLY CHAIN

There was mixed feedback as regards the performance of the main contractor and the supply chain. Numerical ratings ranged from '8' down to '2'. Ratings towards the lower end of the scale concerned issues surrounding the problems with construction encountered during the post-completion period.

One respondent thought that the main contractor had been 'very good'. The project manager overseeing the build at the time was judged to have performed well by more than one respondent. The contractor had experience in healthcare, which was a factor in their selection. It was also commented, by two respondents, that the contractor had been 'very forthcoming' in providing information. They were also said to have been very accommodating during the construction period in allowing groups of students to visit the site.

However, it was pointed out by most respondents that there were issues with the construction of Cripps Health Centre that were uncovered in the defects period. Problems that required fixing afterwards included:

- Fire stopping not properly completed
- Lack of insulation in external walls in GP rooms
- Issues with M&E

When it came to the performance of the sub-contractors, feedback was also mixed. The University had a reasonable level of satisfaction, giving sub-contractors an average rating of '7'. This was more or less echoed by the contractor who gave sub-contractors '6.5'. The consultant team, however, went slightly lower with an average rating of '5.25'.

The contractor pointed out that sub-contractors were coming in at weekends in order to achieve the target end date for the project. It was commented that sub-contractors were 'going the extra mile' to get the works done.

One of the sub-contractors, employed to do the roofing and cladding, went into receivership during the build. There were also felt to have been issues with the M&E sub-contractors in terms of install quality. From the University's perspective, the BMS sub-contractor fell some way short of expectations and there were problems with design, co-ordination and coding work. One respondent felt that there was a lack of quality control over sub-contractors.

It was commented that the contractor had lost control over quality.

Examples of poor sub-contractor work were:

- Temporary floor levels left in risers, rather than proper floor levels installed
- General construction waste left in plant rooms
- Insulation on duct work damaged and ripped
- Some missing insulation from pipe work

There was also mixed feedback on the quality of the brickwork.

In the post completion period, two rooms were left 'sodden with water' with mouldy plaster, taking two months to dry out and displacing consultants who work there. The University reported that the basin waste had not been attached so that when people washed their hands, water fell into the cavity. As walls were built before floors, the water went to the bottom of the wall and sat there, moving up through the wall over time.

Other problems raised included:

- Walls in the wrong place
- External levels
- Lack of lighting in the risers
- Ground source heat pump not working properly
- Gutters blocking
- Drains having to be re-laid
- Overflowing shower
- Wrong meters which had to be replaced
- In the garden, planting not corresponding to signage
- Water boiler tripping out and needing to be replaced

FEEDBACK RELATING TO PROGRAMME

It was thought that the programme had been well managed. Cripps Health Centre was delivered and occupied at the date specified by the University. Construction on site was fast and it was commented that PMG meetings were held in such a way as to not delay the build. All the RIBA stages were hit at the right time and planning approval was obtained. The University said the project largely remained on programme despite the bad weather.

However, it is acknowledged by all parties that the building was far from finished when it was handed over.

As far as numerical ratings go, feedback was reasonably good, with an average '7.5' rating provided by the University's respondents.

The contractors said a period of bad weather during the construction phase had set them back by at least three or four weeks.

Another issue was a badgers' sett on site. The badgers were moved, but it was reported in one of the workshops that the project team had to wait while they were in season.

As previously mentioned, the contractors also felt end user engagement in the construction phase had been significant in terms of the programme. Workshop participants confirmed that it had only been the dentists' area where late changes were made, by the dentists themselves, and not by the design team. The changes were an entrance area, plus a separate office and a separate room for the dentist's administrator.

The contractors felt that, in hindsight, they should have not handed over the building when they did, as this would have enabled them to finish off construction works to a better standard. The Contractor was moving fast in order to hit the end date. The pace of the construction works was corroborated by another respondent. A respondent from the University said that it was known things were being cut fine in order to reach the completion date. One University respondent said that delaying completion until the following January might have been the wiser course of action. Another respondent on the consultant team also said that it would have been better to hand over the building later, so that M&E snags could be resolved.

However, one respondent from the University commented that a delayed handover might have resulted in works being finished to a better standard, but there is still a question as to whether larger, hidden defects would still have been uncovered later.

FEEDBACK RELATING TO HANDOVER, COMMISSIONING AND DEFECTS

The handover of Cripps Health Centre was extremely rushed. Several respondents confirmed this. The structural and civil engineers were not able to complete snagging before handover. The contractor did not have time to finish before the dentists moved in, which meant a long list of remedial works. In the event, the dentists actually moved out again for a while.

The handover of the building was the element with the lowest satisfaction rating from the University's estates team, who gave it an average score of '3'. This feedback was echoed by the end users, who also gave it the lowest rating of any aspect of the project that was

scored. This was due to the issues that the rushed handover period caused, of which more detail will be provided later in this report. Their average rating was '4'. One building user reported that when staff moved in, some lights were not working in the reception area, parts of the ceiling were missing, and the desk was not ready.

After practical completion, the University employed a building surveyor to go round Cripps Health Centre and list all the defects. This surveyor came back with a list of between 300 and 350 defects. Some of these were dangerous, such as issues with fire stopping. Another was the fact there was no floor, just soil, in the riser cupboards.

Having identified defects, a plan was put together to rectify them. The contractor was based on site for more than a year, in a site compound with a manager and staff on site daily. It was an in-depth procedure involving removing and re-installing ceilings, and installing fire stopping. Contractors worked out of hours so that the health centre could operate during the day. They were felt to have been flexible and adaptable in how they approached the work.

Once the defect list was put together, the contractor was praised by several respondents for the commitment they showed in resolving them. They made a risk profile as to what they would and would not accept in terms of defects. Most of the defect resolution occurred before the Covid pandemic. When the pandemic started, water heaters on site had to be replaced so water was warm enough for proper hand washing, and the contractor made this change.

Another respondent commented that a reason for the delay in resolving defects might have been that quite a few people from different parties involved in the project left their roles shortly before handover.

The improvement in the defects period was reflected in slightly higher ratings for snags resolution. This was rated '7.5' by the University, but '4.67' on average by the consultant team.

Commissioning

The question of commissioning attracted entirely negative feedback. Problems included:

- Control issues with the BMS system not completed to the University's specification, meaning remedial work had to be done later and functionality added.
- The air source handling unit switching to cooling in the dental suite, even on cold days.
- Seasonal commissioning problems with the ground source heat pump so that cooling is not activated in summer.
- There were issues with the fire alarm.
- There were problems with front doors. Once, a blind patient became trapped in the area between the two sets of doors and had to be rescued by a member of the public, who prised the doors apart.

It was commented that all commissioning was supposed to have been done before practical completion certification was issued. No seasonal commissioning was done on the heating. While the commissioning of the fire alarm system was available, it was not clear why as elements were missing, such as the absence of detection of any of the risers.

O&M manuals were described as 'hit and miss'.

The standard of commissioning also attracted low overall ratings, with the University scoring this '4.5' and the consultant team going even lower with '3.5'.

Issues around commissioning were discussed in the workshops. A computerised facilities management system so that commissioning is hard-wired into the process for delivery of a project, and not reliant on members of the team remembering it needs to be done, would have helped with this. The O&M manuals should act as a 'catch all' with all data included.

Recommendations

- Ensure seasonal commissioning is always included in a project's specification.
- Ensure O&M manuals are a catch-all so that seasonal commissioning is not missed.
- Enhance the University's internal facilities system to include a handover tick list on a computerised system, so that these checks become ingrained rather than reliant on a member of the team remembering what still needs to be done.

STEPS TAKEN TO MINIMISE THE IMPACT ON THE ENVIRONMENT IN THE CREATION OF THE CRIPPS HEALTH CENTRE

Environmental considerations during construction

As previously outlined, there was a badgers' sett on the construction site. Care was taken to move these creatures in the proper way. One respondent said one area was even dug by hand in order to prevent disturbance to the badgers.

Steps were taken to preserve wildlife and protect birds nesting in trees. It was envisaged that the creation of garden spaces would bring in more wildlife through the introduction of water features and planting.

Although trees were cut down to build Cripps Health Centre, one important beech tree was preserved.

A respondent from the PMG said that three Eucalyptus trees, the Richard Martin Memorial Trees, had been planted next to a new pedestrian path, as the original trees in the former Dry Garden – where the health centre now is – had been felled.

Noise impact on students

One end user respondent commented that because construction had to proceed quickly, there had been some disturbance to nearby students during exam time. However, another respondent from the project team said that efforts were made to carry out noisy or nuisance works outside a certain timescale to minimise the impact on students in the building next door. Liaison also took place with neighbours.

Environmental impact brought about by the extensive defects period

In terms of the environmental impact of the centre, the fact that the contractor has had to come back on site for such a long period was said to have had a negative effect. Transport costs have of course increased due to this. There has also been a lot of additional waste.

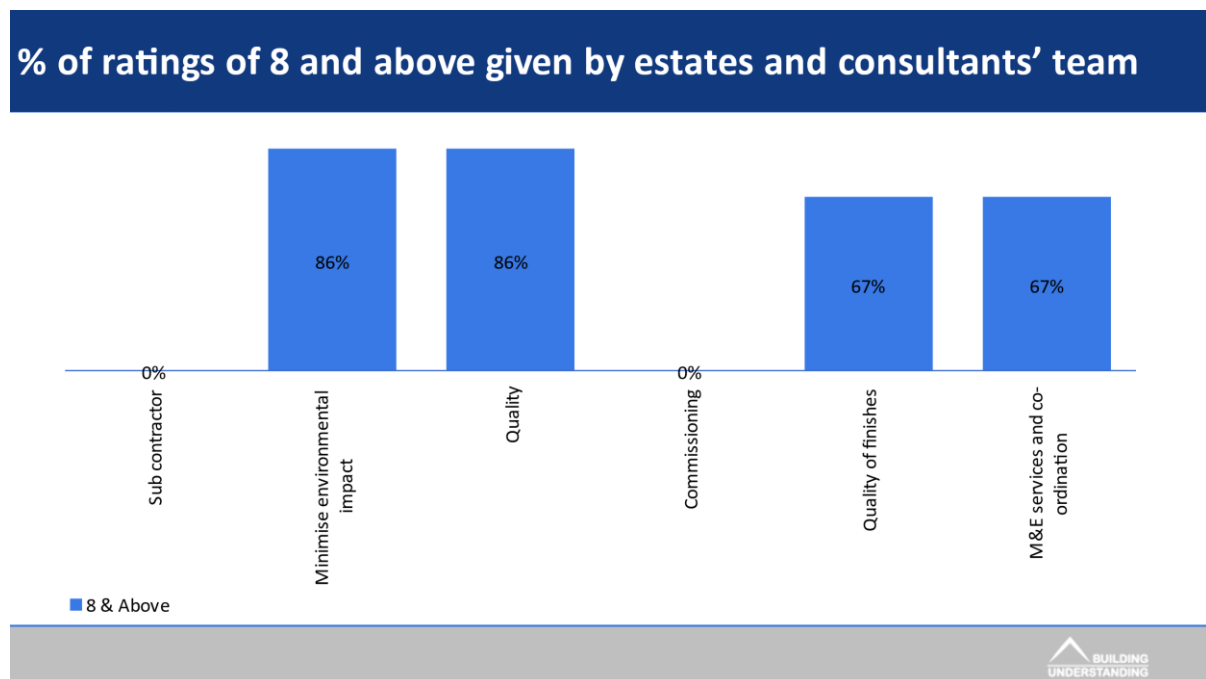
Sustainable impact of the design

Despite the problems with heating and cooling, the M&E gas-less design is very positive in terms of carbon reduction.

"I think the way they have been having to rule out natural gas for the supply, that's a real achievement. It means, because it's purely electric, each year that goes on, we are actually de-carbonising that building because it's picking up grid electricity, which is going greener. Buildings where we have got gas, at the moment, that's a fixed carbon intensity. Unless you make interventions, in some way or another, the carbon emissions of that building won't go down, those that use gas, that element of it. We need to be doing more of that, with other buildings. It's difficult to a retrofit in existing buildings, but where it is a new build, we need to make sure we are going down that avenue."

Use of laminated timber in the design was another eco positive, said one respondent.

In terms of numerical ratings, respondents generally provided good scores on the efforts made to reduce the impact on the environment. The University's average score was '7.5' while the consultants' team went to '8.25'. The contractor gave a rating of '8'.



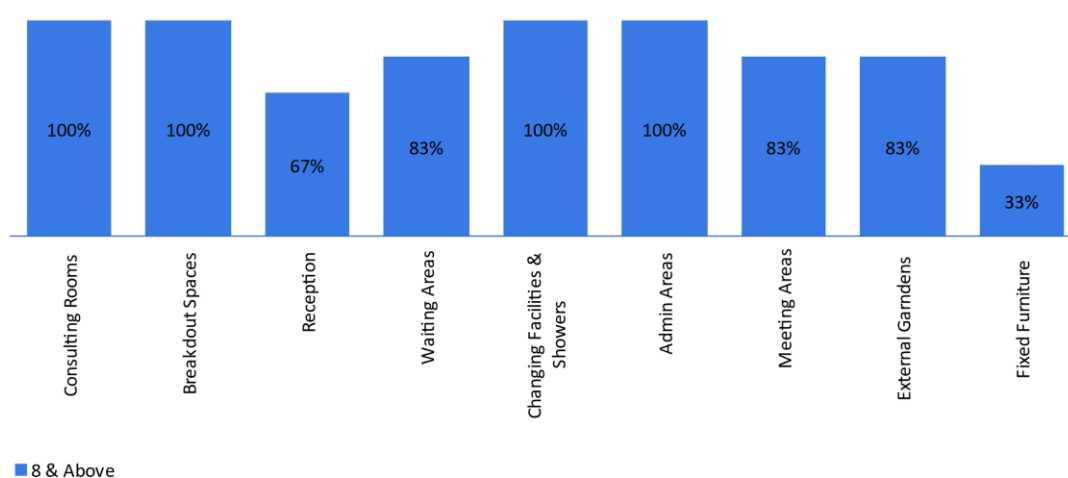
Cripps consultant and estates team respondent ratings of 8 and above

POST OCCUPATION – END USERS

FEEDBACK RELATING TO KEY SPACES IN THE CRIPPS HEALTH CENTRE

End users were asked to provide ratings for different areas in the Cripps Health Centre. With varying usage patterns, not everyone felt able to rate every space. The Estates team were also asked to provide feedback and ratings on aspects such as operational issues.

Total % of ratings of 8 and above given by end users



Feedback on different spaces: Ratings of 8 and above given by end users

Additional comments were also received relating to different spaces.

Consulting rooms

The increased size and good layout of these were felt to be a positive by several respondents, including one of the patient representatives, who commented that it is a specific benefit that all equipment needed is generally in the room. This means that when a patient is being seen for something like a blood test, the clinician can just perform this without having to go out of the room. Of all the spaces rated by end users, the consulting rooms scored joint highest with an average rating of 'nine', with the admin areas attracting the same high rating. One of the benefits of having a larger consulting room is that a clinician can get all the way around a bed when examining a patient. As one respondent from the Cripps Health Centre put it:

“Even simple things like ideally, when there is a couch in a consulting room, you want to be able to get to both sides of the patients. The old rooms had couches pushed against walls, which only gave access to one side of a patient. Just simple things like that. The old consulting rooms were 10 and a half square metres as standard; the new ones are 14 or 15 metres squared – quite a difference.”



The consulting rooms are significantly larger than in the old centre, allowing clinicians better access around beds

Reception area

This was felt to be one of the weaker areas, largely for reasons of privacy. Several respondents raised the point that it is hard to retain confidentiality when a patient is explaining things to a receptionist. Also, there was an argument raised by several people – though not necessarily agreed with by all – that the desk is configured awkwardly for wheelchair users. *(For more on this, see: Accessibility and Navigation, below)*

Reception staff feel that their room is not big enough for the 10 to 12 people working there, which has been a particular factor during the pandemic. The reception area scored lowest of all the spaces rated, with an average of '6.67'.

WCs

It was seen as a positive that these all cater for disabled users. They are all gender neutral and 'twinned' with WCs in Africa, which was felt by one respondent to have been a lovely touch. Generally, the WCs are good but break sometimes. Some respondents felt that there could be a few more. A member of the Patient Participation Group commented that those in the waiting areas are not that obvious. WCs scored '8.17' as an overall end user rating.

Gardens

These are uniformly felt to have been among the most successful elements of Cripps Health Centre. 'Beautiful' was one person's descriptor. Staff greatly appreciate using the gardens. However, the issue of access to the gardens was raised by both patients who gave

feedback. A disabled user said they were unsure if patients were allowed into the gardens and would appreciate signposting to them. Another patient said that the nicest garden, the central one, was not accessible to patients due to the fact they would be able to see into consulting rooms. It was confirmed later in one workshop that patients are not allowed into the central garden for this reason. However, there is a programme of organised activities that take place in the garden spaces, including Tai Chi, Waist Watchers, a community garden group, and walks for wellbeing. These were starting back up at the time of writing this report, as pandemic-related restrictions were being eased.

A respondent from the PMG confirmed that an external gardening group space had been adapted to the rear of the health centre at the request of GPs who had been able to increase their offering as a result of the larger health centre.

It was also commented by both patients and other respondents that just the presence of the gardens was a benefit to the health centre, even if access was not given to all. The gardens, it was felt, really help to lift the space and make it feel therapeutic.

The gardens were rated '8.83', on average, by end users.



The garden spaces are highly rated

Atrium

This is felt to be a very positive space, being light and spacious and airy.

One respondent had this to say:

"I think being stood in the lobby in the waiting area, and there is the atrium and the full height ceiling and the bust of Robert Cripps, Boots is on your right and the doctor's reception is on your left, and you can see the entrance to the dentists' upstairs, I do think it's really

successful. You can see through to the garden area at the back and it's a really pleasant doctor's surgery, and medical centre."

Waiting areas

One patient raised an issue with these. There are three waiting areas for the GP surgery alone. They are not staffed which can cause a problem if patients do not manage to get to the right waiting area. Sometimes staff have to look for lost patients and it can cause a problem if someone is taken ill in a waiting area and there are no staff easily available. Waiting areas were given an average end user rating of '8.33'.

A member of the PPG commented that some chairs in the waiting areas have arms, important for those who have difficulty in standing up.

Admin areas

The PPG member commented that there was much more administration space than there was in the previous centre, adding that this was important because of the workload that GPs must deal with nowadays.

POST-OCCUPATION – FEEDBACK FROM KEY STAKEHOLDERS

NHS leases

There have been issues regarding NHS leases and rents and what the expectations are regarding a market rent.

The rushed handover and desire to get clinicians into the space in time meant an absence of documentation from clinical tenants.

Another key factor is that because Cripps Health Centre offers more space than the NHS would normally fund, some areas remained unused when the centre opened. One of these areas was the in-bed unit. This situation did change during the pandemic, but concern was voiced by one respondent as to whether areas that were unlocked during the pandemic would remain so.

A respondent from the PMG group said that agreeing terms with each of the stakeholders over the use of the space had been an area for concern.

It was suggested by one respondent that clearer communications regarding the University's requirements on documentation would have helped. These clearer communications could have involved documented discussions with the NHS around the process for applying for funding. Also, if deadlines had been issued in writing with tenants and space not allowed to be occupied before legal documentation, this would also have protected the University which has had a tricky situation to resolve.

Flexibility in a pandemic

One of the most positive pieces of feedback received in this Post Occupation Evaluation regards how flexible Cripps Health Centre has proved to be in coping with the Coronavirus pandemic, which hit in 2020. This is because the building can be easily divided. This flexibility has been clearly demonstrated. The Cripps Health Centre has been used for major

national trials on Covid vaccines since April 2020. These include trialling the Oxford vaccine and combinations of vaccines. The in-patient unit was quickly turned into a vaccine hub.

“We are running major Class 1A public health trials and we are the only general practice in the country actually running those trials. We are probably the only one capable of running them and we are the only practice in the county that is running its own vaccination centre at the same time, so the fact that we can do all this is a function of the building, actually. We have the same staff probably that we had in the old building, but we couldn’t have done it there.”

Capacity

It was commented that the centre has the capacity to offer the range of services that it needs to provide, not just medical support, but mental health support too. A key mental health stakeholder said mental health provision in Cripps Health Centre offers a dedicated, protected area for an important service to be provided for students. Also important is that mental health is provided in the same area as medical support, because good communication with doctors who may be responsible for students, medically, may be needed. The mental health spaces have been carpeted so they are not so clinical in feel.

Fixtures and fittings

There have been issues with broken taps. In 2021, legionella filters had to be installed on all the taps.

Quality of finishes

One member of the University’s estates team thought these could have been done better. Elements highlighted were:

- Damage to walls
- Dado rail situated where chairs are placed
- Lack of wipeable splashback behind sinks
- No splashback behind hand sanitisers

Numerical ratings as regards the quality of the finishes was broadly good, however. The Estates team rated these at ‘8’ on average, while end users thought the quality of the finishes was high, rating these with an average score of ‘9.25’. In fact, this was the highest of the end user scores.

FEEDBACK RELATING TO OPERATIONAL ISSUES

One of the main pieces of feedback from users of the building was over the heating and cooling. Staff used to be able to control the temperature of rooms, but this is now controlled by the University. The University reported many complaints from users about the inability to control the temperature.

Feedback from the University’s estates team was that heating on some rooms is constantly over 24 degrees but a few doors down, it never gets above 20 degrees. The University used thermostats to monitor temperature information over a period of a week. This showed that

the temperature displayed on the wall was not the temperature in the room. The University was then told that the temperature displayed was that of the extract air up in the ceiling. Thermostats not being in the right place have caused problems with room temperatures.

The University has had to switch off cooling in the health centre over winter in the hope that temperatures will level out, but it is not certain whether this will work. Seasonal commissioning is intended to resolve issues such as these, but none was carried out.

Attempts have been made to change the underfloor system so that the ground source heat pump cools. Every time this happens, the Estates team needs to wait another year to do seasonal commissioning.

There have been significant problems with the BMS. The system is a packaged air system, which the University does not have anywhere else. The system means the University has no control over some elements. Also, the system's graphics tell the BMS team about different numbers of air handling units, but not other important information such as the room they are in or what the extract temperatures are. This information is needed to build a picture. A lot of graphics were either missing or did not work but the team could not do anything with the information they had. The University feels this work was not completed satisfactorily.

(For more on the user experience, see "Feedback relating to the quality of the internal environment").

Cleanliness

This is considered to be good, or "really quite impressive", in the words of one patient respondent. The only area which causes any issue is the reception desk, whose smooth surface gets dirty easily.

The University's estates team commented that the floors are hard to clean, because lacquer was removed when they were polished out to remove scratches in the post completion period.

As far as how easy the building is to keep clean, end users scored this an average of '8.5'.

Day-to-day use

As far as using Cripps Health Centre every day is concerned, end users generally rate it highly. The design and flow of the building is felt to be very good.

Staff have reported some problems:

- The WCs break sometimes
- Drains frequently smell unpleasant
- The front door sometimes breaks. People have been stuck in it and sometimes it will not open. For the first six or seven months, staff had to ring security when trying to lock up in the evenings as the doors would not lock.
- Problems with heating system

Asked how well Cripps Health Centre operates, end users gave it an average rating of '7.67'. As far as how it stands up to day-to-day use, they gave it '7.75'. A member of the Estates team asked to comment on the centre's day-to-day use went higher with a rating of '9'.

FEEDBACK ON AV AND DATA CONNECTIVITY

The University's phone system that Cripps Health Centre uses was said to work well. The NHS one has not worked as well, and the University was felt to have been very helpful in trying to get this fixed.

It was mentioned by two respondents that the University's Eduroam Wi-Fi system does not work well in Cripps Health Centre. Also, some issues with getting technology installed into meeting rooms were reported. There is very little mobile phone signal inside the building. This is mainly an issue for staff and does not affect the ability to meet clinical need.

The issue of data connectivity in fact attracted the lowest average rating for end users, with an average score of '4.33'. However, not everyone provided a rating and there was a general view that any issues were not necessarily the fault of the building.

Feedback was requested after the workshops from the University's IT team. One participant reported that the mental health department, which had only very recently moved back into the building, had been unable to access the University's Wi-Fi on one particular day and therefore had to use that of the pharmacy. This was a problem at a time when much of the mental health provision at the University was being remotely provided due to the pandemic.

The University's IT department said the problems experienced were due to a wider wireless issue which was in the process of being resolved with the replacement of some aged equipment in a nearby building. The University was also investing in a wider upgrade of the network which would provide further stability and pave the way for a full upgrade in the medium term.

FEEDBACK RELATING TO THE QUALITY OF THE INTERNAL ENVIRONMENT

Heating and cooling

This is a major issue. One respondent reported that upstairs, it is either 'freezing cold air or red hot'. The underfloor heating downstairs does not work well. The ventilation system in the windows downstairs is supposed to blow flaps open but does not seem to. Cold air blowing through the front door does not help.

There was some discussion on issues experienced with the front door during one of the workshops. The contractor's representative said these had been commissioned but a cheaper option was chosen as part of the value engineering exercise. The issue was to do with the sensor which blew the door open, including during periods of snowfall.

Another respondent reported that staff sometimes have to wear jackets and scarves whereas others are hot and have to wear sleeveless tops. In the reception area, one member of staff may be very warm and another who is placed under a fan will be very cold. Nurses report that their room is so cold that patients cannot get undressed, as the temperature is as low as 15 degrees.

One of the patients responding to the survey also re-affirmed the view that heating is a problem, and this was also confirmed by another who told of a particular patient complaint regarding cold rooms.

The temperature of Cripps Health Centre was the second lowest rated area for end users, who gave it an average of '5.5'.

Lighting

Feedback was that the space in general feels light and airy.

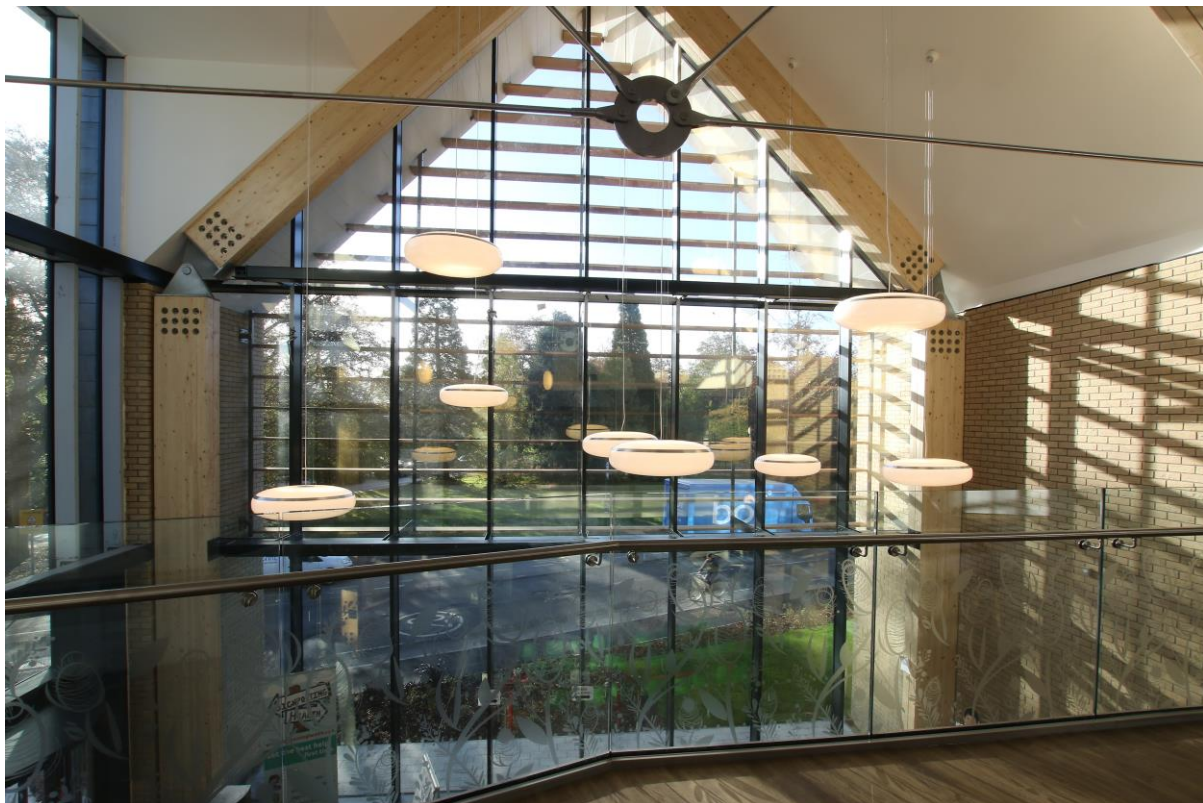
Positive comments included:

"As a patient, I most like the use of light in the building, and the gardens."

"In the main waiting room, on the reception desk, the natural light is absolutely beautiful, that comes in through those windows, and on the top landing where the windows are, it's all windows one side and the other, it's absolutely beautiful ..."

"Considering a lot of people who will be using that space are not feeling great, to have something that is airy and spacious is really nice."

However, it was also commented that the artificial lighting is sometimes not as successful. Complaints have been received from people saying that lights in the reception and admin rooms hurt their eyes. It was also said that the GP waiting area can feel a bit dark.



Natural light floods into the space

Sound

This was generally highly rated at '8.67' on average. Both patient respondents rated this aspect of Cripps Health Centre at '10' out of ten. It was appreciated that the building 'feels nice and quiet', particularly for those with sound sensitivity issues. Neither patient had noticed distraction due to noise.

It was also commented that as far as sound goes, the new centre is much better than the old one in that it provides a layout in which different services are protected.

However, staff who are in the building more often have reported some issues with sound proofing. One person said that although sound proofing was generally very good, it had been a problem in two specific pairs of rooms. GPs have reported some problems with people hearing what they are saying outside the room. It was said that the reason for this was a filler area in a recess which was said not to have been sound proofed.

General

Generally, it was commented by a user that the building flows better than the old one, feels better, is set out better, and is not as 'confusing'.

"I think it's a good building. I prefer this building to our old building. I think it runs a lot smoother. I think patients like it, and it is a good look for Cripps, with being one of the biggest GP practices in the UK, it is nice to have that building to go with the name. I'd say I'm quite satisfied overall with the building."

Additional elements end users would have liked to have seen

- An extra room next to the GP waiting area for patients who need to lie down while waiting to be seen
- Another place to sit down between the reception and the doctor's area, as it is a long way to go for people with mobility issues
- A few more WCs

FEEDBACK RELATING TO ACCESSIBILITY AND NAVIGATION

Accessibility was highly rated by all end user respondents who gave it an '8.67' overall with one score of '10'. One patient who is a wheelchair user appreciates the disabled parking spaces outside the centre, and the ramp to access the main entrance.

There is car parking at Cripps Health Centre for those who drive, and there are bus links outside the centre too. A patient respondent who either uses public transport or walks to the centre finds no problems with accessing it.

Respondents said that the lift in Cripps Health Centre was a positive element as far as accessibility was concerned. It was felt by end users who were involved in the design that the successes were smaller waiting areas and spaces set aside for nervous patients, as well as rooms and doors that are wide enough for wheelchair access.

The patient who is a wheelchair user provided a rating of '9' on the accessibility of the building, as well as for the provision for disabled users. This person felt that most areas of the building they wanted to use were very accessible. Positive elements are the flooring, level access, wide foyer space, wide downstairs corridors, accessible WCs, lower-level sign-in screens, wide internal entrance to the pharmacy and the automatic front door, which are all good for wheelchair access.

Some doors, however, are harder to get through with a wheelchair. These are the doors to the upstairs corridors and to the dental practice which are too heavy for a wheelchair user.

The respondent felt they could also be too heavy for patients with balance issues, muscle weakness or limited upper body strength, or other mobility aids such as crutches or walkers. It was suggested that power assist would be a good addition to these doors. Some rooms are also slightly small for a larger wheelchair to turn in.

Several respondents reported an issue with the reception desk. It is felt by staff and patients that the lower-level section of the desk, which is for wheelchair users, is not positioned optimally for approach by a wheelchair user, and that a different position – more central – would be better. The issue is that when people are queuing, they must wait when a wheelchair user is being spoken to by a receptionist. Different positioning of the drop-down area could improve the flow.

Navigation

One respondent from the Estates team had this to say:

“The building is navigable because it is very clear what is where. It is also very discreet. If you were not specifically looking for the mental health area, you would not necessarily know it was there.”

However, another respondent commented that the fact there are three waiting areas sometimes made things confusing for patients, and they can get lost. These are when patients may not have quite taken on board which coloured area they need to sit in, meaning they sit in the wrong place and staff have to try and find them.

FEEDBACK RELATING TO SECURITY

This was generally highly rated ('8.67' average end user score) with only one issue reported by one respondent, which did not concern the security of the building itself, per se. The matter concerns the mental health support area which relies on the green button scheme for security. Staff must press the green button if an issue arises during a consultation where they feel threatened. This is potentially problematic because it relies on staff being able to press this button on a computer in a crisis. It was acknowledged there were no easy answers to this particular issue and that the main thing was to ensure staff in this area were never on their own.

Some security protocols were changed due to a situation with the front doors. These would automatically open if someone walked towards them unless they were closed from the inside, enabling people to access the waiting area, possibly drinking, to stay out of the rain.

As a result, a video link was installed to the dentist's area and others, so doors could be locked and if a patient approached, they could be buzzed in. This was an unforeseen issue and generally, security is felt to be good. Users say they feel safe. A member of the Estates team asked to comment on security gave this a rating of 'nine'.

FEEDBACK RELATING TO ENVIRONMENTAL PERFORMANCE AND SUSTAINABILITY

Information on this is not known at this stage. The gas-less design will reduce the building's carbon footprint, but the impact of this is not known yet, and is specific to this building.

“That heat pump design, over time, will reduce the carbon emissions of the project, as the grid gets greener, and more renewables are added, the project should emit less and less CO2, indirectly...”

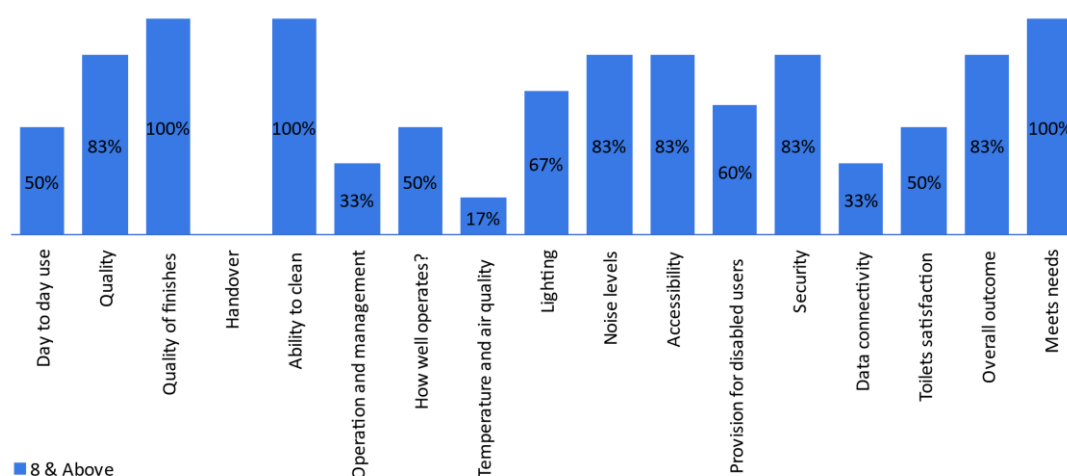
In terms of capital cost, the University has overspent by at least 10 per cent. Conversations are still ongoing about the ground source heat pump. The solar panels are not yet switched on and the University has inquired as to why this is. The building is costing a lot to operate but that should lessen as, hopefully, issues are ironed out.

FEEDBACK RELATING TO QUALITY OF CRIPPS HEALTH CENTRE

Feedback was provided by consultants, the University and end users.

Despite problems experienced during this project, the quality of Cripps Health Centre is felt to be high. The University’s estates team gave this one of their highest average ratings, scoring it ‘8.25’. The consultant team, also, provided a fairly high average rating of ‘7.67’. End users too thought that by and large the quality of the centre is good, rating it on average ‘eight’.

Total % of ratings of 8 and above given by end users



Feedback on different aspects of the Centre: Ratings of 8 and above given by end users

WHAT MIGHT HAVE BEEN DONE DIFFERENTLY?

Respondents in all groups were asked a question at the end of the questionnaire as to what they thought could have been done differently.

A variety of suggestions were received.

Project team

- Contractor said they would put the start of the project back by four weeks to properly accommodate design changes.
- Greater discussion around the value engineering options.
- Working together to ensure the client had the project they wanted complete and on time.
- A clerk of works employed by the University
- Having an M&E clerk of works
- Not issuing practical completion when the building was not finished.
- Earlier engagement from the dentists.

Tenant relations

- Heads of terms committed to in a time frame with long stop dates, as to when tenants must sign and complete leases.

End users

- A larger phone room for reception staff to work in.
- Reconfigured reception desk to better accommodate wheelchair users.
- A few more WCs.
- Better sound proofing of clinical rooms.
- A virtual run through of design with patients before construction.
- A room next to GP area for patients to lie down while waiting to be seen, if required.

Subsequent to the build, a member of the project team said that some minor adaptations had been made to the outside space, some of which have been alluded to in this report.

These were:

- an external gardening group space to the rear, at the request of the GPs who have been able to increase their offering as a result of the larger health centre.
- A pedestrian path has been added from the parking area with feature lighting next to three eucalyptus trees. These trees are the Richard Martin Memorial Trees, planted as the original trees were felled in the former Dry Garden, where the health centre is now located.
- Moving the bin store as it was causing issues with the line of sight in the visitor parking area. Consequently, three further parking spaces have been introduced.

The second two items on this list have improved the ergonomics and natural flow between the parking and the health centre, further enhancing the setting.

DOES CRIPPS HEALTH CENTRE MEET THE NEEDS OF THOSE WHO USE IT?

Feedback from end users was broadly 'yes', in answer to this question. One person rated this '10', while the average rating was '9'. Feedback was that problems experienced were minor and that, in general, the building had been well thought through in order to cater fully for those who work there. One patient respondent was particularly impressed with the thought that had gone into future-proofing the building.

"It really is practical for day-to-day use. Considering how high a footfall it has, and quite how broad a usage it has, in terms of it's not just the GP practice that's in there, there is the dentists and mental health services as well, it doesn't look tired."

OVERALL OUTCOME

There were high ratings in terms of how people felt about the overall outcome of Cripps Health Centre. The consultant team gave this an average rating of '8.25', while the University's estates team gave it '7.67'. End users were the happiest with '8.67'. The contractors did not feel they were yet able to provide a rating, as they were still involved in the project when interviewed. The member of the PMG group said they were very happy with the outcome of Cripps Health Centre.

Conclusion

It is clear that while the journey to get there has not been easy, the overall outcome of Cripps Health Centre is a positive one. The uncovering of such a large extent of defects, some of which were dangerous, has been unfortunate but praise was also given to the contractor for working in live clinical spaces for two and a half years to resolve issues, during a pandemic. A clerk of works team and a computerised system for checking commissioning are among the recommendations for future building projects, arising from the lessons learned on Cripps Health Centre. A 'what if' exercise conducted during any value engineering process would also be helpful, to properly examine the repercussions of decisions made.

However, it is also clear that the building that has been provided meets the needs of those who use it and fulfils large parts of the vision originally set out.

In particular, Cripps Health Centre has provided a key service to the UK during the fight against Covid-19. In that respect, and in acting as a major health provider for the University and the city of Nottingham, it could be said to have actually saved lives.

To sum up, here are some things that our respondents said:

"It is a great asset for the University and the community."

"The building has lived up to what they said they wanted, but also what they needed, in order to be able to deliver a modern service."

APPENDIX I: SUMMARY OF RECOMMENDATIONS

Maintenance

- Ensure the University's maintenance department are fully aware of any new building's planned maintenance schedule should be, so that maintenance is operational from day one. This will ensure retrospective planning does not have to take place.
- Ensure engagement with the University's maintenance team at the design stage of any new project, so that any issues regarding how a building will be maintained will arise at an earlier stage and training can be given.
- When the University's maintenance team is involved at the design stage, ensure any feedback is relayed promptly so that any changes can be incorporated before equipment is ordered.

Guttering

- Debate principles of guttering on new projects to take account of where the building is situated, e.g.: a leafy area.

VE exercise

- Conduct a full 'What If' analysis on all value engineering exercises, to properly assess likely repercussions of decisions made, particularly in terms of costs that may be accrued further down the line. Ensure this includes consideration of factors such as the choice of sub-contractors made by a contractor.

Wildlife considerations

- Consider what wildlife may be present in the area at the planning stage. In this project, the presence of badgers delayed the start of the build, as they could not be moved when in season.

Materials

- Select materials that have no restrictions on re-order.

Glazing

- Debate glazing options on all new projects. This should take into account the orientation of the building as this may affect decisions made. For example, a building's glazing needs to help it perform well and prevent overheating.

Schneider

- On Schneider systems, ensure greater communication between the University's estates team and the Schneider-approved contractor.

Seasonal commissioning

- Ensure seasonal commissioning is always included in a project's specification.
- Ensure O&M manuals are a catch-all so that seasonal commissioning is not missed.
- Enhance the University's internal facilities system to include a handover tick list on a computerised system, so that these checks become ingrained rather than reliant on a member of the team remembering what still needs to be done.

Clerk of works

- The University is intending to appoint an in-house clerk of works, or perhaps a team of three clerks of works, to conduct on-site inspections during building projects to help ensure quality is maintained. A clerk of works has been used subsequently on the BDI and Power Electronics projects.