Post Project Evaluation (PPE) – Projects costing less than £5m – 2012   Lessons Learned Summary

Theme	Lesson Area	Outcome	Recommendation
Planning of the scheme	Early Engagement of Project Team including structured meetings.	Meetings were regularly held throughout the duration of the project. Project Board was also established to help guide the project and make critical /strategic decisions.	Projects teams may possibly be smaller but involvement from the various departments who have an input should be encouraged. Project Board format worked well.
Planning of the Scheme	Links to the rest of the hospital development.	Although out with the scope of the project, efforts were made once it was apparent that budget constraints would allow this, to improve links with the other units locally. This however did not stretch to pavements from the main road but did include improved pavements, a crossing through the car-park, and improved signage.	Consideration should be given to safe pedestrian access from the main road and across the whole site and included in the subsequent funding in 2012.
Planning of the Scheme	Programme	A detailed programme was prepared indicating NHS milestones during the project. However, later in the project additional milestones pre-appointment were stated.	When programmes are reviewed it is important that relevant information is fed back at an appropriate time to enable better planning.
Planning of the Scheme	Project Design Brief	Room data sheets were completed by the Board and issued as briefing tools to the architect. These included functional requirements specific to the rooms being created.	When programmes are reviewed it is important that relevant information is fed back at an appropriate time to enable better planning.
Planning of the Scheme	Cost Management	A detailed cost plan was prepared at the outset of the project including a construction budget.	When programmes are reviewed it is important that relevant information is fed back at an appropriate time to enable better planning.
Planning of the scheme	Statutory Planning Approvals	A significant reason that the final completion date was not met, related to the time taken to achieve full Planning Approval. It is difficult to highlight what more could have been done to achieve an earlier approval, as significant efforts were made to achieve this including regular liaison with the Local Planning Officer and the external consultees. A significant problem arose with regard to the obtaining of "Road Construction Consent". This took quite a number of months to resolve as it concerned ownership, as well as	It is proposed that for future projects to alert the design team at the earliest opportunity and make additional allowances in time for obtaining Planning Approvals. It is considered important for future projects that the Project Team seek to obtain all statutory consents in advance of

		planning issues.	construction progressing, and in fact in advance of establishing a Target Price.
Planning of the Scheme	Early Warning	Early warning of a proposed scheme enabled key stakeholders to develop enabling measures which proved crucial to the project development.	All project stakeholders should be given an early warning of potential projects at the initial proposal stage.
Planning of the Scheme	Provision of a comprehensive project brief.	Provision of a comprehensive brief by the client along with detailed room data sheets was extremely useful, as this allowed a detailed specification and layout to be prepared before the project was issued to tender, this resulted in minimal alterations to the design during the construction period.	Time spent at the start generating a comprehensive brief is time well spent and key to a successful outcome.
Business Case Process	Training	Awareness and understanding of the business case process with all the stakeholders enabled greater understanding of the necessary processes and timescales that are required for projects.	Develop local business case awareness training for all stakeholders.
Project option appraisal	Several sites considered for a possible new build replacing the present Health Centre, majority of those sites considered being brown field developments, far from the centre of town. Within such an established townscape there are clearly limitations.	Planning restrictions and costs associated with site clearance/contamination precluded all options considered as viable alternative sites. Alternatives would also have resulted in the locale being away from the town centre and Transport Infrastructure, which in turn would have created access problems, particularly for the elderly. Expansion on existing site considered the most cost effective option.	To commence exploratory works on reviewing possible alternative sites at the earliest possible opportunity. Establish close links with Local Authority re planning opportunities / restrictions. Liaise closely with Property Advisory and local Estate Agents
Working with other agencies	Formal agreement regarding leases	Tenants e.g. Local Authority GP's should be signed up prior to project commencement and then all parties would have more certainty relative to their accommodation and financial issues.	Where tenants/3rd parties are involved a Development Agreement must be in place at the earliest possible stage.

Working with other agencies	Joint project not managed by the Board but by an external project manager, design change due to cost control led to conflict with planning	Clear parameters defined for cost control and control of leadership	Early agreement on how cost control and possible design changes should be managed
Working with Other Agencies	Joint Property usage	Multi Agency property group has been set up to consider property and capital management portfolio	Liaising with Scottish Futures Trust (SFT) to expand on remit of multi agency group
Working with other agencies	Property Agreements	Primary and Community Services Management entered into early dialogue with GP and GDP Practices, establishing formal agreements. Agreements planned to be established in advance of project completion	Standard format for such agreements should be uniform throughout the Board Area, perhaps also regional / national format should be utilised/developed.
Defining Roles	Roles & Responsibilities	Clear communication and point of contact established in projects enabled early problem solving	All parties approve the roles and responsibilities and agree communication structure.
Defining Roles	Whilst this was a relatively small scheme for the Board, it represented a large project and one in which key roles had not been filled in the past.	An element of learning on the job which will benefit individuals in future projects. Reliance on main contractor for some aspects	Training and development for key roles to ensure aware of all responsibilities of post.
Defining Roles	Unclear process of achieving user sign off for Medical Records.	For a period client, PSC PM, Architect and PSCP not clear where responsibility for progressing design approval lay.	Clearly define responsibilities at outset of project through activity schedule, overall programme and select activities from list in contracts.
Defining Roles	Framework Project Appointments. In this project the PSC was appointed after	Improved understanding of roles and responsibilities and more robust cost management and value engineering with the expertise available to help review proposals.	In future it would be prudent to make sure that the PSC is on board very early, preferably before the PSCP.

	the PSCP.		
Project Management	Project Management	Project managers carried out a number of project management sessions for all staff.	Project management awareness training to be provided to staff.
Project Management	Successful User Involvement	Staff were aware of the technical and practical problems that had to be overcome. Appreciation of need to phase the works and the need for shut downs.	All practical methods were utilised that the affected users understand the design and technical proposals.
Project Management	Infection Control	Early meetings with Infection Control staff clarified any issues between users, designers and the contractors in respect of the scope of the works and the management of the works in a theatre	Infection control staff continue to be part of the project team.
Project Management	Communication	Meeting dates and locations pre agreed for the length of the project with no variations resulted in early risk management	Project meetings times and locations to be agreed for the life cycle of the project in advance.
Project Management	Continuity of staff	Issues were caused by long term absence of key staff members and this together with internal Board pressures failed to enable certain aspects of the project to be investigated as fully as possible due to lack of resource.	A project resource strategy to be set out at the initiation stage and continually reviewed at Programme Board level.
Project Management	Continuity of staff	Due to personnel changes within the organisation (staff leaving/retiring) significant specific knowledge of the history of the project was lost. The Senior Responsible Officer remained consistent throughout the project, however, most other roles changed several times e.g. Project Director and Project Manager.	A project resource strategy to be set out at the initiation stage and continually reviewed at Programme Board level.
Project Management	Communication	Continue to receive mixed feedback on level of communications within projects, particularly with wider group of stakeholders. Although Project Alert system widely used it has a mixed success rate. Communication Plan introduced has yet to be evaluated upon regards success of use.	Workshop with Project Managers on communication strategies to be undertaken. Evaluation of use of Project Alert system and Communication Plan to be undertaken.
Project Management	Employability and Sustainability	Board has recently ratified a paper on its commitment to Employability & Sustainability.	Regular Capital Planning representation at Steering Group and working groups. Working with Procurement team to ensure inclusion in contracts and ability to monitor performance
Project	Project Reporting	Differing approach to Capital Planning Project	Consistent approach to reporting has been

Management		Management within organisation. Consistency of approach has been hampered due to severe senior management shortages.	developed and will be implemented and its use evaluated.
Project Management	Project Development	Inconsistency of approach to project briefing and development has resulted in differing approaches and resulting in over repetition of common work.	Capital Planning user briefing document in development for use with Project Managers which will include standard approach to various areas which will allow more timely execution of projects.
Project Management	Project Briefing	Various projects have been subject to varying degrees of scope of works required due to inadequate initial information at project concept.	Project Mandate has been developed to clearly detail full scope of project before commitment of resources and will also be a means of clearly tracking where project scope and therefore resources required have changed.
Project Management	HUB Co Contracts	HUB Co established earlier this year and various projects are at early stages of business case development.	Regular monitoring of performance and impact to Capital Planning.
Project Management	Commissioning	Commissioning resource tends to be aimed at larger value projects. Lower value projects would benefit from having a 'commissioning' advice tool and programme template to ensure smooth transition of services on completion of project.	Small project commissioning briefing document in development for use by Project Managers.
Project Management	Communication	Agreed communication plan with all stakeholders	All projects should have a communication plan
Project Management	Project Prioritisation	The Board have approved a standard project prioritisation matrix which enables the clinical and technical risks of individual projects to be prioritised. Clear criteria have enabled a prioritised list of projects for the financial year and future years (subject to funding)	Programme management prioritisation matrix to be continued but process to be reviewed on an annual basis by Capital Management Group
Project Management	User Group Sign - Off	Every project had a nominated user group which represented the staff at each relevant site. The benefit of having the user group involvement became evident in the design of each project, in particular the flow of rooms within each facility. Their involvement was essential in resolving early issue prior to sign off.	Involving user groups from feasibility stage is essential rather than just consulting at key stages. However, it must be made clear that the user group leads must have full authority to make decisions on behalf of the staff. This greatly assists the whole process.
Project	Capital Funding	Budget Control – Monthly meetings held with Finance	Continue with monthly meetings.

Management		Director and other Senior Managers with Capital Budgetary Control. This provided early warning of any surplus or deficit with any projects which allowed changes to be made within the Capital Programme and maximised the capital allocation for the financial year.	
Project Management	Infection Control and Risk Management	Infection Control Manager involved from commencement of projects. HAI Scribe assessments undertaken on every project ensuring all recommendations were picked up from onset and incorporated into designs.	Continue working closely with Infection Control as good practice.
Project Management	Communication	Feedback from some staff on one project regarding the lack of input in the design process. This indicated a breakdown in communication from the user group leads to staff as user group consultation had taken place from feasibility to design sign off	A communication plan is being developed that can be used on any project. This will detail what communications should be sent out and who should be responsible for doing this.
Project Management	Change Control	Roles and responsibilities were made clear at the onset of each project . Changes would only be progressed through the Project Manager and that only the Project Manager could instruct the contractor.	It is important that change control procedures are implemented early and strictly adhered to. If change is required throughout a project then a robust change control system must be in place in order to assess the full impact of the change prior to implementation. In particular, where this change may have a financial impact.
Project Management	Use of the Project Team	Given the size of the Board and multi-roles held by staff the Project Team became diluted. The Project team didn't meet with Project Board taking on Project Team responsibilities.	Consider use of Steering Group rather than separate Board and Team given size of the Board
Project Management	Cost Review	Limited cost review undertaken by Project Team – due to dilute of role and disengagement of finance lead. Limited monitoring of revenue costs – only reviewed as part of PPE from final contract signing. Also implication of revised timescales to capital requirements overlooked.	Schedule cost reviews – in particular revenue costs as part of ongoing project management. Include in this impact of capital phasing. This could be found from external support or potential use of Board Cost Advisor extended remit.
Project Management	Project Administration - Project database	The project database was maintained on the Project Managers PC hard drive rather than on a shared drive. This prevented administrative support being provided to	Consideration should be given to setting up a shared drive for project databases to enable administrative support to be provided

		maintain an up to date project database.	in maintaining up to date records.
Project Management	Impact of Guidance on Scottish version of Health Building Note being in draft format only.	Due to the Scottish version of the Health Building Note for Central Decontamination Units being in its final draft stages, there was no robust documentation that the Design Team, and latterly the Framework Scotland Supply Chain, could use to develop the new Central Decontamination Unit. Health Facilities Scotland endeavoured to provide support to this project, but due to the lack of information this was inadequate.	For similar complex projects if a validation procedure is to be developed this must be fully resourced (centrally) at an early stage of the programme with costs clearly identified for any overarching monitoring that is required for complex projects.
Project Management	Contract Management: Select robust Contract Management and procedures.	Due to the change from traditional construction to Framework Scotland, problems were encountered in the novation of some members of the Design Team to Framework Scotland Supply Chain.	It is essential that the procurement route is agreed at an early stage of any project and adhered to. Changes in procurement route will cause delay and cost pressures on any project, therefore full discussions and evaluations of procurement routes should be made at an early stage in the project.
Project Management	Change Control Process	NEC 3 provides potential for robust change control process. There was a tendency to view Early Warnings negatively rather than as an opportunity for the team to work together to find solutions.	Teams should be encouraged to use Early Warnings and work in partnership to resolve but PSCPs should only issue these appropriately. An overuse of Early Warnings can waste valuable time and act as a distraction.
Project Management	Consultation is essential to the successful development of the Project Brief is the early establishment of appropriate stakeholder representation	Through established network, public representation incorporated within the stakeholder Groups, Project Team and Project Board. Representation on all groups included the involvement of the Primary and Community Services team, GP Practice, General Dental Practice (GDP) Practice, Design Team, and Estates Project Management. As required representation included links with NHS Technical Supplies Teams	Establishment of the appropriate team essential Regular and robust communication, written and verbal – a must, this particularly important within multi phased occupied premises.
Project	Statements made at	PSCP offered very ambitious targets at interview. PSCPs	Important that robust information is given in

Management	interview	may feel under pressure at interview to meet client expectations. Not all ambitions delivered in timeframe.	the HLIPs to allow PSCP to set accurate timescales. PSCPs should be prepared to challenge unrealistic client expectations at interview. At interview, clients should carefully consider challenges to their expectations as these may have value and allow realistic expectations to be developed at the outset of a project.
Project Management	Benefits of having in-house knowledge and skills available: Make use of existing skills	Having in-house project management, health planning, technical supervision and Construction Design Management (CDMC) skills/experience/functions paid dividends in getting the project designed, built and in use within very tight timescales and budgets which would probably not have been possible if external resources had to be used.	Where possible use the knowledge and skills within the existing team
Project Management	Mechanical and electrical engineers not working to same timescales as the rest of the design team resulting in changes having to be made	All members of the design team working effectively	Effective management and control by the design team leader or project manager
Project Management	Changes in personnel involved, especially stakeholders can lead to request for design changes which can add to time and costs of project	New stakeholders aware of the limitations for change within an on-going project	Early orientation into the project for new personnel and effective communication regarding potential for change.
Project Management	Timescales	One project took twice as long as anticipated due to unrealistic timescales being set because of the need to utilise money available within the current financial year.	Set realistic timescales especially where working in an occupied building where decanting may be involved or the project

		In another traditionally tendered project the tender submission indicated a much reduced timescale for the project which was accepted but in hindsight this should have been challenged. If realistic timescales were set there would be less stress and frustration involved which would improve working relationships.	has to be managed within a live working area.
Project Management	Competencies of team members	Site manager was not effective in his role regarding managing the site, communication and delivering the required specification and quality. Less delays in the project delivery and improved standards of Health and Safety and quality	Establish the competencies of key construction team members and not just the abilities of the construction company to ensure day to day delivery of the project is not affected by lack of the necessary skills and/or experience.
Project Management	Existing Estate Information	As-built drawings, commissioned surveys etc. to be made available to PSCP at an early stage in project. As the project progressed it was clear that not all information was available/made available at the outset of the project which caused minor unnecessary frustrations and some unnecessary survey work.	PPE participants have agreed to develop a pro-forma for project information which can be used on future projects. This should provide Estates with a checklist of information required and allow the PSCP to readily identify missing information.
Project Management	Strong communications essential	Through good advance planning all worked as prepared.	Advance planning and first class communication with all stakeholders – a must.
Project Management	Adequate down time to be planned from the outset for transition from one phase to the next.	The elements of refurbishment, through its very nature incorporating a number of temporary moves of accommodation.	All plans to be documented, signed off as approved and reviewed as project progresses leading to successful out turn.
Project Management	Stakeholder involvement	Advance planning involving all stakeholders and Main Contractor essential. The segregation of patient care areas from construction areas effectively achieved.	Advance planning and first class communication with all stakeholders – a must.
Managing user expectations	Staff perceptions that there had not been enough specific user	Staff working in clinical or other specialised areas have more input and agreement to the design of their particular working area.	There should be a system in place for the project team to be sure that specific clinical (and other) areas have been agreed by the staff who will be using them and not just

	involvement for some areas.	This should also reduce the risk of having to redesign and alter the facility either prior to, or soon after occupation	signed off by the managers. This should also be applied to other agencies who will be occupying the building. Where senior staff have been involved they should be encouraged to cascade information to their teams
Managing user expectations	Staff appreciated the improvements to the building but were critical of some of the design/layout	Staff more aware of why decisions were made about the design and layout especially in a refurbishment of an existing facility	Limitations due to confines of existing building should be explained. Building standards should be explained to give a better understanding of layouts/positioning of items
Managing Users Expectations	Public Involvement	Presentations to Public Partnership Forum (PPF) on the financial year programme enabled public understanding of the budget and prioritisation matrix	Biannual meeting with PPF
Managing User Expectations	Public Awareness	Estates attendance at PFI provided public awareness of the technical difficulties facing projects	Biannual meeting with PFI
BRE-Environmental Assessment (BREEAM)	Timing of application	Building received a very good BREEAM Assessment rather than excellent, as the BREEAM process started too late, which resulted in lost opportunities.	Start the BREEAM pre-application submission process as early as possible in the design process.
Commissioning	Use of double running and phased move into new facilities.	Good transition and continuity of dental services within NHS Board area	Where possible allow for double running and use of phased move to new facilities.
Commissioning	Handover	Handover at completion of works generally went very well. However, difficulties were experienced on 2 projects where snagging was not completed within the 7 day period which impacted on the delivery and installation of furniture and equipment	Where possible more time should be given for completion of snagging and site set up. This is an important stage in each project and should be reflected as such within the programme.
Commissioning	Estates staff training on plant	During the commissioning period it was difficult to engage with Operational Estates staff who were required to undertake their routine maintenance works and have the additional responsibility of trying to investigate and become acquainted with new complex systems within the new	A Commissioning Team headed by a Commissioning Manager should be appointed with an adequately resourced team supporting the commissioning of a highly complex and highly serviced building

		Central Decontamination Unit.	which performs a key task in the provision of sterile instruments to the local Board.
Commissioning	Estates Staff	Estates staff actively attended and pro active in commissioning progress enabled better understanding of systems and fault finding	Estates staff to attend all commissioning
Commissioning	Staff training / facility commissioning.	Although a detailed commissioning and staff training programme was developed, there continued to be problems with some of the building systems, most specifically the secure door entry system, once the building was handed over.	A more stringent testing and proving process for the secure door entry system would be advantageous
Commissioning	Decants	Project decants were rescheduled due to overruns in construction. This was successful in that services were able to take up and get running with minimal downtime.	The decant was successful largely because staff members sacrificed their spare time to assist. Whereas this is commendable it may not be guaranteed.
Commissioning	Making good of defects	The Board reported a number of defects to the architect during the rectification period. On occasion these were reported 2 or 3 times to the Architect and direct to the Contractor. When the rectification period came to closure many of these were found to be still outstanding.	The lack of communication and timely follow up action during the rectification period should be taken into consideration for future projects and specific appointments.
Commissioning	Use of formed coves with Marmoleum	Albeit some of the formed coves were found to be poor, even where these were satisfactory they appear to be subject to splitting or opening. Given that the floors are cleaned using machinery these appear susceptible to physical damage.	In future when using Marmoleum it would be preferable to specify set-in coved skirtings as these are more robust.
Commissioning	Asset Handover. Transition from project to live functional asset.	By ensuring those responsible for the maintenance and support of the building were fully involved in the planning and delivery of the asset. The project also benefited from the greater emphasis placed on the involvement, role and attendance of those staff at meetings and demonstrations.	Ensure early and appropriate involvement of Estates/Maintenance stakeholders.
Contractor Procurement	Ensuring appropriate and relevant healthcare experience when selecting a contractor.	Selection of a contractor that has previous experience of live healthcare site working.	Ensure selection process allows for appropriate healthcare experience to be given sufficient weighting in the overall scoring and selection process.
NEC3 Contract	Project Management	A number of projects are now being managed through	Continue to monitor use of contract and

Conditions		NEC3 and are now subject to full Post Project Evaluation. Projects have, to date, proved to be very success with positive outcomes and no ongoing contractual issues	outcome of post project evaluations. Project Managers attending various Health Facilities Scotland (HFS) courses.
NEC Contract	Project Management	The Board asked their Cost Advisors to take responsibility for risk and change control given Board Project Management workload. Specific requirements of NEC contract in relation to risk management & change control well managed through use of Board Cost Advisor to complete and take responsibility for.	Consider wider use of Board Cost Advisor to ease workload for Board Project Manager – in particular responsibilities and requirements of NEC project management
NEC Contract and Contract Processes	Method of Procurement – Risk	The Board elected to use "Frameworks Scotland" utilising an NEC 3 Option C Form of Contract. It is considered that this approach was appropriate giving the Board greater cost certainty and spreading risk where appropriate between the parties. This procurement route transfers a significant proportion of the risk of delivery to the PSCP.	This approach was considered the correct one given the nature and type of project involving the development of new build facilities on essentially "green field" sites. This however may not be appropriate in more complex situations.
NEC Contract and Contract Processes	Administration – Roles, Responsibilities	The role of the NEC 3 Supervisor was new to all parties and their involvement was perhaps more limited than it should have been.	Promote awareness of Supervisor role of duties at the project PID development
NEC Contract and Contract Processes	Administration – Roles, Responsibilities	The NEC Contract admin toolkits were new to many parties .	It would have been useful a workshop to be undertaken at an early stage to learn NEC contract administration toolkits etc.
Contractor Procurement	Ensuring appropriate and relevant healthcare experience when selecting a contractor.	Selection of a contractor that has previous experience of live healthcare site working.	Ensure selection process allows for appropriate healthcare experience to be given sufficient weighting in the overall scoring and selection process.
Development of design & Target Price	Project areas well developed prior to Framework. Medical Records and staff changing less developed. Pressure to provide Target Price rapidly	Target Price took longer than anticipated to develop.	All areas should be developed and signed off prior to agreeing Target Price

Design of the scheme	Delay due to floor screed / vinyl	Building handover was delayed by 8 weeks due to the slow drying out of a floor screed.	In hindsight, more focus should have perhaps been given by the contractor on the compatibility of the floor screed and vinyl coverings in relation to what was quite a tight construction programme
Design of the Scheme	Secure door entry system	Although demonstrated and proven prior to handover, there were later problems.	More stringent testing regime should be introduced to accommodate full range of scenarios for staff / visitor access.
Design of the Scheme	Vision Panels	Post-handover there was a failing of one of the fixings for a vision panel in a bedroom door. Although installed to the manufacturer's recommendations, this required to be upgraded throughout.	Obtain extensive and detailed brief on capacity and extent of client capabilities to damage fixtures and fittings.
Design of the Scheme	Secure Gates	There was much discussion over the locking arrangement for the secure gates and how to ensure the bolt / lock would not provide a foothold.	It is felt that a good solution was developed however compromises will always be necessary balancing security / safety / fire escape egress .
Design of the Scheme	The swale / site drainage	Required to comply with the Sustainable Urban Drainage System (SUDS) that planning / Scottish Environmental Protection Agency (SEPA) requires, the swale in hindsight should not have been positioned outside the front entrance.	It is felt that a good solution was developed More focus by architect and other designers on layout of external areas including SUDS.
Design of the Scheme	Pinpoint alarm (connection to other units)	There was much discussion on how this alarm system would be linked to other units.	In the end this seems to work well however the client preferred supplier / installer caused some problems on site. Consideration to be given to alternative suppliers / competition.
Design of the Scheme	Recesses for Fire Extinguishers	Developed to remove these from the main corridor area where they may become an obstacle for staff walking with patients	A simple detail which should be considered on future projects.
Design of the Scheme	New Build rather than alteration and refurb of former school	A good decision at the pre-tender stage.	Detailed Options Appraisal needs to always be investigated.
Design of the	Internal door hinges	Initial installation not robust enough for client group.	Upgraded hinges/doors to be considered.

Scheme	– robustness		
Design of the Scheme	Vision panels in doors (fixings)	Client retrospectively upgraded.	Upgraded installation.
Design of the Scheme	240v supply to heating control	Client retrospectively to change.	Heating controls to be low voltage in rooms.
Design of the Scheme	Secure door entry system	Re-design may be required.	Appoint specialist designer/.supplier to ensure this meets client requirements. Single swing doors may be necessary.
Design of the Scheme	Worktop finish	Some worktops were replaced as they did not satisfy Infection Control.	Infection Control to shortlist samples prior to client group/user decision.
Design of the Scheme	Waste pipe below sink in Occupational Therapy(OT) kitchen	Waste pipe arrangement amended.	More consideration to be given to drainage/trap arrangement on rise/fall sink.
Design of the Scheme	Co-ordination of client supplied elements – e.g. water feature	Fitted but at a later date	Client supplied Furniture Fixtures and Equipment (FF&E) to be co-ordinated.
Design of the Scheme	Security gates	Arrangement of locking for security gates is not ideal.	To be considered further for future projects.
Design of the Scheme	Access paths/car parking etc	Additional paths and improvements to car park were added to remit.	More user group input required
Design of the Scheme	Staff room Acoustic panels	A seclusion room was changed into a staff room. Were installed and successful.	Need to be considered earlier by client. Was always going to be a retrofit item but should be considered on future projects too.
Design of the Scheme	Classification for unit/brief	Some doors may not be robust enough for client group/users.	A greater understanding of the client group may need to be given to the professional/design team in future projects.
Design of the Scheme	Change of proposed location	Initial proposals were developed around the use of adjacent Ward. This was subsequently changed due to the lack of a robust clinical service strategy which introduced aborted costs.	Due to time constraints to complete the project this may have been considered an acceptable risk.
Design of the Scheme	Working with existing buildings	Due to budget constraints pre-tender it was decided not to rewire the ward. When works commenced it became apparent that a full rewire was required for technical reasons	Use of risk register and good programming allowed for this to have a minimal effect on the project. Furthermore Staff good will and flexibility ensured that the moves were

			completed successfully.
Design of the Scheme	Camera Coverage	The existing cameras were modified but don't cover corridors and therefore footage isn't as useful as hoped.	Consideration to be given to extending coverage of cameras in future.
Design of the Scheme	Specification of Panic Alarms in Clinical Rooms	Wall mounted panic alarms aren't located conveniently for discrete activation.	Use of different specification of panic alarm in future.
Design of the Scheme	HAI Scribe 3	There was no detrimental outcome on this project but an opportunity for improvement was noted.	Consideration that HAI Scribe 3 Process or similar be undertaken as a desktop exercise prior to tender. The recommendations from this exercise this can then be considered to be included within the Pre-tender health and safety information.
Design of the Scheme	Principal Supply Chain Partners (PSCP) undertook to develop new Medical Records & Staff Changing areas but the local project team had to intervene to ensure end users needs were being reflected in the design.	Lack of early quality engagement with end users for non clinical areas impacted on overall levels of satisfaction with the end product.	Important to understand how the PSCP intends to develop design to ensure end users needs are taken into account and that progress of the project is not adversely affected by either duplication of effort or gaps in information gathering
Design of the Scheme/ User Centred Design	The Cardiac Cath Lab was the first of its kind for the hospital and only a small number of the cardiac clinicians had experience of working in a cath lab. 4 existing cath labs were visited.	Established cath labs were visited – particularly those with similar geography to our local Board and/or similar clinical activity to learn what had/hadn't worked in their design and lessons learned about sizes/adjacencies etc. The learning from these visits was shared and discussed in the cath lab user group with a view to incorporating appropriate design ideas. The lessons learned at these visits had a significant impact on the success of the cath lab design the local hospital. Contacts made on these visits proved valuable in providing feedback on our developing designs based on their experiences.	Valuable lessons can be learned from other similar developments and repeating mistakes made elsewhere can be avoided. Incorporating the learning from other areas can speed up the design process and help give users confidence in the design being developed.

	Two staff changing developments incorporating the same locker allocation system were visited.	Although the staff changing developments visited were similar, small but significant differences in these developments meant that one operated well while the other faced ongoing difficulties. This allowed us to avoid repeating the mistakes made in the problematic development without incurring any additional costs.	
Design of the Scheme	Retaining existing design consultants following Framework Principal Supply Chain Partner Appointment (PSCP)	The Board were keen to retain designers who had already undertaken significant design work on the project so that the knowledge gained was not lost. Communication between design consultants and PSCP took time to work. Less than ideal levels of due diligence undertaken. Some design assumptions made by the PSCP.	Retaining existing consultants has advantages and disadvantages that require to be carefully weighed up. If design consultants are retained, early work on design assumptions is required by PSCP and a correct level of due diligence undertaken.
Design of the Scheme	Building Warrant	Although the design team were involved in regular dialogue with Building Control during design development, a Building Warrant was not obtained prior to Target Price. As some significant issues were not sufficiently defined, it was difficult to finalise a specification and therefore an accurate cost. Building Control requirements proved more onerous than expected by the design team. Additional costs were incurred to meet Building Control requirements.	Statutory Approvals form an important part of delivery programme and can negatively impact on project programme and costs if not sought at the correct time.
User Centred Design	Communication and involvement throughout the project	User Groups appropriate to each area of development were established in advance of the development of each area. Worked very well particularly for Angio Cath areas. High levels of clinician/user satisfaction particularly with Angio/Cath labs. A clear sense of ownership of the design.	A good communication strategy greatly assists project success. Appropriate involvement (ensuring user involvement from the outset of the project and for the duration of the project, involving only appropriate people, ensuring the inclusion of key individuals, having meetings/communication only when required) is likely to maximise the continued involvement and commitment of key individuals.
Partnership Working	Requires effort to develop.	Project participants became a cohesive team as the project developed. The quality of relationships was evident	Good partnership working requires clarity of roles and responsibilities; early identification

		at the PPE workshop where overall both the strengths and weakness of the project were shared openly, providing some useful information to take forward to future projects.	where some participants require support to achieve partnership working; & acknowledging that the different partnership groups have different requirements and processes.
Design/Construction – engagement with key building users	Good opportunities for engagement with staff into design	Good layout and flows of surgeries allow staff to perform duties with much greater ease than old facilities.	Ensure frequent opportunities for engagement with key users of facilities through design and construction process
Design & Construction – use of local companies	Difficulties in using local contractors given main Contractor systems	Limited use of local companies	Work closer with main contractors early in process to establish what is required to facilitate use of local contractor
Construction	Risk Register development	It is recognised that the risk register is a key tool in the delivery of the project. On this project there were a few risks, that on reflection, had not been fully developed.	It should be highlighted that it is important that all parties understand what each of the risk activities actually allow for. This can help to avoid future uncertainty regarding liability.
Construction	Consultants Inputs	It is considered that the M&E consultant provided limited input during the construction stage.	It is felt more details of the required Consultants input could be established at Target Price stage.
Construction	Consultants Inputs	Resolution of defects – whilst workmanship was considered satisfactory there were a number of defects present prior to and at handover.	In hindsight it would have been beneficial for a period to be ring-fenced for defects resolution prior to handover. This could be built into the programme at Target Price stage.
Construction	Change Control process proved to be very beneficial.	Changes are always likely especially when users become more involved/more common once works commence.	Ensure Change Control Process is implemented on all projects.
Construction	Quality of works	A decision was made to employ the services of a Clerk of Works to monitor the quality of work and compliance with specifications/requirements. Not always required when the design team is not novated as they were on this design and build project.	Clerk of Works proved to be a very valuable member of the client team on this project.

Construction	Vacant Site but with adjacent end-users	Prior to commencing works, the Board undertook a HAI Scribe 3 which identified risks to adjacent users and the contractor.	Patient risks were identified and no incidents were reported during the project. A near miss was identified (open skip) and this was promptly dealt with by the contractor.
Construction	Quality Finishes / Building	The refurbishment was extremely limited due to financial constraints. Much of the existing fabric was left in place and only obsolete or unsuitable finishes were replaced.	The previous finishes and building construction were suitably robust to allow for minimal alteration. This shows the benefit of using durable high quality materials.
Construction	Quality M&E	When the contractor started work on the electrical circuits it became apparent that these weren't to current standards and would therefore require to be replaced.	An allowance had been made within the risk register for this occurrence which covered the cost of the replacement wiring. This did slightly extend the programme and used the Board's programme float for this phase.
Construction	Statutory Compliance Audit and Risk Tool (SCART) Compliance	Impact of statutory compliance requires to be regularly feedback to Capital Planning Project Managers.	Representation on SCART steering group/sub-groups with feedback to Project Managers via departmental monthly meeting.
Construction	Asbestos Management	Local Capital Planning Policies and Procedures for the implementation of the Boards Asbestos Management require to be reviewed and enforced.	Awareness session for all Capital Planning Project Managers has been arranged. Capital Planning representation on various Asbestos Management working groups and steering groups with outcomes being reported through Project Managers monthly meeting.
Construction	HAI and Anti-ligature compliance	Varying standards of HAI interpretation and anti-ligature requirements throughout organisation. This results in costly design time being undertaken at commencement for each project.	Standard, consistent approach required within Capital Planning.
Construction	Programming	Specialist contractors did not factor in the remote location/transport issues	All tender documents will highlight transport issues to the location.
The Effectiveness of the Building		The building now appears to work well as a forensic mental health unit.	A Review Group has been establish to monitor the clinical service being delivered from the new premises and the

			effectiveness of the design / environment in supporting the care package
The Effectiveness of the Building	Location	The project didn't have any influence on the location of the building as it was exploiting spare capacity. However, several issues with the location were raised during design stage – accessible parking, location in relation to main reception and bus stops.	
	Functional Suitability	End-users stated that the accommodation was suitable for carrying out their duties. That is not to say they are perfect and some of the rooms don't strictly adhere to the Health Building Notes (HBN) recommendations.	The ward selected was the best available for relocation at the time of the project. In the future the recently introduced Property Asset Management System (PAMS) may provide assistance in the selection of suitable relocation premises.
		Layout of new clinical rooms was criticised by end users as didn't strictly follow standardised layouts recommended by HBN.	Sign off procedures to be tightened to ensure that end users have been fully consulted and agree to proposals.
Surgery utilisation	Whilst there has been increase in surgeries further work is required to align staff to operational hours to maximise the utilisation of surgeries	Current utilisation rate of 70% which could be improved if more surgeries are open in early evening and full rota populated. This required work to align working practices which is ongoing.	Conduct workforce analysis early in process and seek to align working practices and rota planning to optimism surgery utilisation and increase appointments.
Benefits Realisation	No measure in place to measure the benefits to Oral Health locally other than through increase in appointments.	Limited ability to measure the true outcome of the dental centre to oral health	Establish benefit registers and establish a process to record baseline measures and track improvements
ADB	Since project	ADB output from NHS Capital Team can be a useful input	The local Capital team to continue to

	completed the Board are making increased use of ADB.	to designers.	develop use of ADB.
Decontaminatio n Services	Consideration of either the establishment of Local Decontamination Unit, or the use through centralisation of services, of an Area Sterile Decontamination Unit.	This issue was central to the decision to include accommodation for a General Dental Practitioner within the project.	Dependent on geography, local or centralisation of services must be considered and evaluated, both in terms of logistics and finance.
Post Occupation Assessment	Distribution and return of questionnaires	A review of the process last year highlighted issues around the distribution and return of staff questionnaires and it was decided that in future these should be fully administered by the team carrying out the evaluation and not by the local manager. This year questionnaires were issued to a random selection from a staff list, with a reply-paid envelope for its return, but responses were still poor. Improved response rate in both numbers and content	Data collection to be reviewed again for next year with the questionnaires possibly being supported by structured interviews.
Post Occupation Assessment	One of the projects was programmed over 4 phases and took 12 weeks to complete. Quality of PPE compromised due to length of time lapsed.	Better response and feedback if PPE is carried out in a phased approached in line with the phased programme. More likely to have feedback from original stakeholders.	PPE to be planned to suite project programmes if Phased rather than waiting for the whole project to be complete and information used to report on complete project PPE.
The Role of	Surveys	Despite the ward being vacant during the design stage no	In hindsight, intrusive condition surveys may

Advisers		requests for intrusive condition surveys were requested by the design team.	have meant that the additional electrical works were planned rather than reactive. Early consultation and engagement with local Estates and reference to PAMS will assist future projects on such matters
The Role of Advisers	Surveys	Several design errors were identified during the course of the project that were solely due to poor surveying and checking of design on-site. These include structural walls not being identified, dimensions not being checked and existing services not being correctly identified. etc.	During the design stage it wasn't appreciated that access was available to solem. Had this been known then more thorough investigations could have been completed. Consultation and engagement with local Estates and reference to PAMS will assist future projects on such matters
	Cost Control	The determination of the Final Account for the project was extended to a period of some 11 months. One reason given by the Project Manager for this delay may was that the Quantity Surveyor (QS) left the company during this period.	Early and repeated follow up action by Project Manager after conclusion of contract works to ensure identification and prevention of potential delays.
The Role of Advisers	Design / Professional Team	The design was taken up to Royal Institute of British Architects (RIBA) Stage E+ prior to appointing a design and build contractor to whom the designers were novated to. This route of procurement proved successful with a positive relationship retained between all parties throughout the project and until the successful agreement of a final account.	This Design and Build route proved successful but as did the traditional route used for the neighbouring Unit. It is important when considering Design and Build to ensure the design is progressed to at least RIBA Stage E so there is little room for the contractor to change specifications.
	Cost and Programme	Project was delayed by 8 weeks but at no additional cost to the client. Project was delivered well below budget and included over £100k of additional works / changes.	The appointment of a professional project manager and cost consultant who are experienced in working with a client team and delivering similar developments.
The Role of Advisers	Design/Professional Team	The Board procured the services of the whole client professional team using the former Office of Government Commerce (OGC) Framework (now Buying Solutions)	This proved to be very successful.

	Cost and Programme	which allowed the client body to use the Project Manager as the principle contact with the professional team and help interface on technical matters. This route of procurement proved successful with a positive relationship retained between all parties throughout the project and until the successful agreement of a final account. Project was delayed by 3 weeks following the late inclusion of a Seclusion room. Project was delivered well below budget and included additional works/changes.	The appointment of a professional project manager and cost consultant who are experienced in working with a client team and delivering similar developments.
Roles and Responsibilities	Framework Projects	There would be more clarity of roles and responsibilities as PSCP did not always seem to be aware of their contractual and regulatory responsibilities and communication was not as effective as it could have been.	An early meeting should be convened with the PSCP and Project Team with the sole intention of reminding the PSCP of their contractual and regulatory responsibilities and how the meeting of these would be communicated.