

REDEVELOPMENT AT THE ROYAL HOSPITALS – PHASE I

BACKGROUND

The Royal Victoria Hospital Belfast is entering a new phase in its two hundred year history. From its early beginnings in 1797 as the Belfast Dispensary and Fever Hospital it has emerged as The Royal Hospitals Trust comprising four internationally known hospitals, namely the original The Royal Victoria Hospital, The Royal Maternity Hospital, The Royal Belfast Hospital for Sick Children, and The Dental Hospital.. The Royal Hospitals Trust's built estate represents 10% of the total Northern Ireland regional estate and is over 168,000 square metres in size. The Trust is situated on a 29.5 hectares site close to Belfast City Centre.

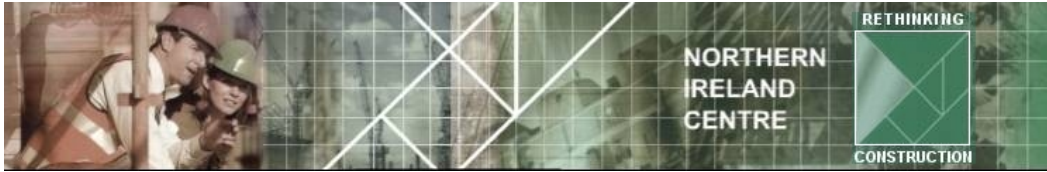
THE PROJECT

The Royal Hospital is currently going through a major capital redevelopment programme in the region of £100 m. The £47 m Phase One development has just completed and the Phase Two developments are work-in-progress. Phase Three is planned. Phase One redevelopment comprises a major seven storey replacement of the main hospital departments and ward areas previously accommodated in the original 1903 hospital building. The design was chosen following a formal design competition. The structure is in-situ reinforced concrete and external cladding consists of insulated aluminium panels. The work comprises a Main Entrance, Fracture Clinics, Out Patients Clinics, Theatres, Day Procedure Unit, Intensive Care Unit, Adult Acute Wards, Pharmacy, Engineering Services Centre, Roads, Vehicle Parking and Landscaping.



This phase of redevelopment is part of the ongoing programme being undertaken by the Royal Hospitals Trust to provide new and replacement facilities to compliment the equipment and resources available to the medical staff of the hospital. Phase I offered the perfect test bed for the Health Estates to prototype 3 Egan based innovations – Performance Related Partnering (PRP); Alternative PRP based Procurement Methods; and Operational Risk.

- PERFORMANCE RELATED PARTNERING
- ALTERNATIVE PROCUREMENT
- OPERATIONAL RISK



INNOVATION 1 – PERFORMANCE RELATED PARTNERING PUTS CLIENT AT THE CENTRE

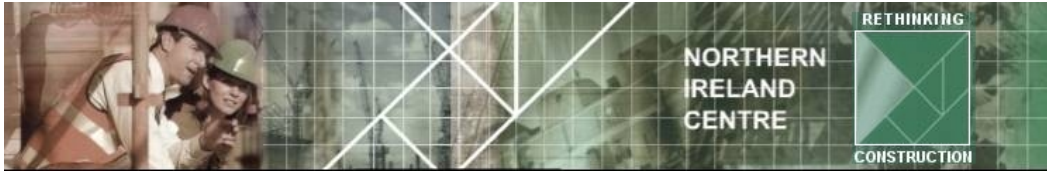
Performance Related Partnering is a new procurement methodology adopted by Northern Ireland NHS Estates and rolled out to the individual Hospital Trusts. There was a general recognition of inefficiencies in the traditional procurement approach in the Health Sector through relatively poor performance on cost, time and quality; fragmented design and construction processes; little learning from projects; limited R&D; adversarial contracts; and the overwhelming acceptance by the Government of the Egan Report. A cultural change was required and Performance Related Partnering (PRP) provided the catalyst for improvement in procurement processes.

The Phase One redevelopment of Royal Hospital illustrated a fundamental restructuring of how major capital works are procured, designed, constructed and maintained. The objectives for designing a new partnering model were clear and the focus on added value, greater efficiency, lower costs, quicker completions and better profitability was paramount.

Quality based selection and a non-adversarial relationship model based on partnerships was fundamental to the success of the initiative. John Cole, Chief Executive of Health Estates Northern Ireland was the driving force behind the initiative and admits that Phase I of the hospital redevelopment provided the benchmark for what initially started out as revised procurement prototype. The PRP process as it is now known in Phase II has evolved from that prototype model.

The PRP process reflected a desire to create longer term relationships that encouraged research, learning, improvement, and mutual benefit. Royal Hospitals adopted PRP on the premise that the process will only continue on the basis of demonstrable good performance with performance bench-marking against similar projects.

- PERFORMANCE RELATED PARTNERING
- EGAN PRINCIPLES
- PROCUREMENT
- ADDED VALUE
- EFFICIENCY
- PROFITABILITY
- QUALITY BASED SELECTION
- REALTIONSHIP MODEL
- MUTUAL BENEFIT
- PERFORMANCE BENCHMARKING



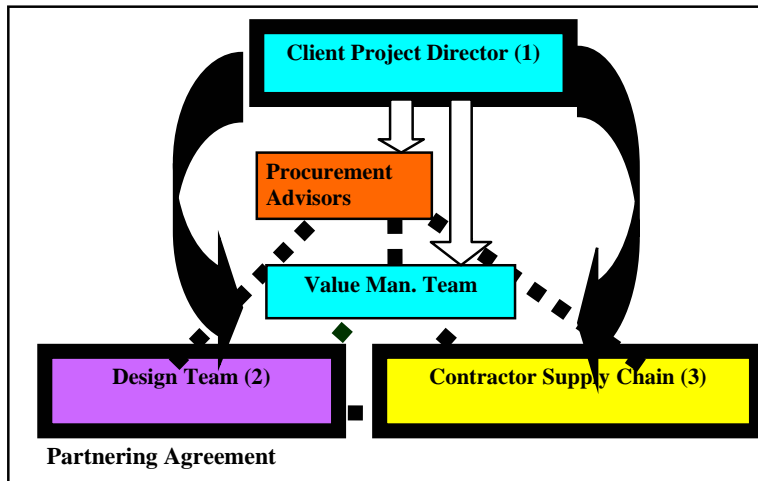
THE PROCESS

The PRP is a three stage process capturing the principles of the Partnering Agreement.

Stage 1: A statement of quality objectives is established between the Client Project Director, the Procurement Advisers, and the Client Value Management Team. This stage produces project preliminary brief, sets budget works cost and established pre-determined fee for design team. Six integrated design teams short-listed from applicants receive briefing package including statement on fees. Competitive design interviews held and highest scoring against weighted criteria offered commission.

Stage 2: Two Way Partnering

Selection of design team is based on best quality against pre-determined budgets. Preferred solution established to final sketch scheme stage and quality defined through full performance specification. All information incorporated into “Clients Requirements” document.



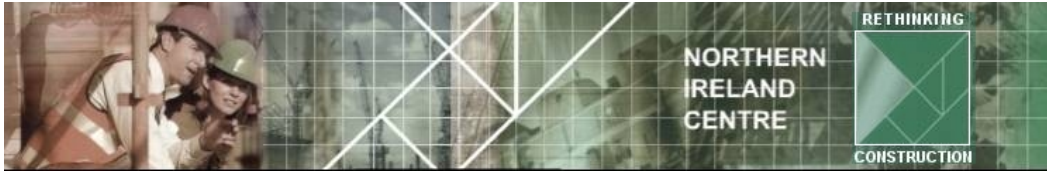
Stage 3: Three Way Partnering

Client/Design Team set ‘Works Cost Limit’ as part of Client’s Requirements and issued to six short listed Construction Supply Chains (CSC) who are then invited to submit contractor’s proposals. All main participants (mechanical, electrical, cladding etc.) in each integrated CSC to be identified prior to short-listing. Only those who commit to delivering project to required quality as per design within Works Cost Limit are invited to final assessment stage. CSC scoring highest marks against weighted criteria appointed preferred bidder.

Fundamental features of the Royal Hospital PRP include:

- Innovation in design and construction is encouraged.
- Good performance is rewarded.
- Good practice developed and standardised.
- Supply chain is identified at tender stage.
- Regular structured value engineering workshops with supply chain involvement.





- Savings put forward by contractor and accepted which further reduce the cost below the Works Cost Limited is shared.
- Cost and time efficiencies built into Works Cost Limit for subsequent projects (approx - 5%).
- Successful delivery of project will result in potential second and third projects (Phase II and III) at the client discretion.
- Failure to meet performance targets likely to result in appointment of new partnering contractor.
- Formal post-review of design and construction processes by all participants as mandatory requirement.

BENEFITS AND ACHIEVEMENTS OF TARGETS

The PRP arrangement facilitated the development of partnering feedback and improvement from Phase I to Phase II in regard to the organisation and dissemination of information, buildability and the fabrication/assembly of components. The new structures and relationships developed as a result of the PRP initiative meant that there were less design teams and contractors doing more work which itself led to the creation of an identity with and loyalty to the project by the whole team. There was a tangible reduction in the traditional adversarial roles, better lines of communication and a real team approach to problem solving. John Cole, Director of Health Estates stresses: “Only those who are prepared to invest in and commit to this process will succeed.” PRP places the onus to perform well at the door of the design and contractor teams. John Cole adds: “Northern Ireland is a very small parish – bad news travels like wildfire – the risk of bad performance does not make good business sense.” In any event the PRP process is set up to facilitate alternative partnering teams in the unlikely event of poor performance of selected partner.

The majority of the benefits of the innovation are focused on the comparison of performance between Phase I and Phase II. As a result the final achievement of these targets cannot yet be determined. The targets are:

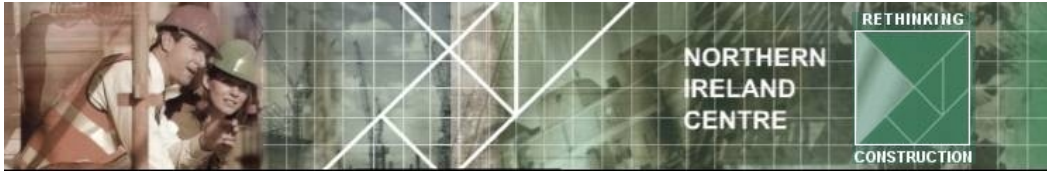
- Reduction in real cost terms 3-5% - A fee reduction of 15% against Phase I has already been agreed.
- To achieve a 15% reduction in construction.
- To reduce defects at handover by 20%.
- To settle the final account within 2-3 months of practical completion.

“The principle of continuous improvement is built into PRP,” comments John Cole. This is a fundamental to the continuing success and evolution of the PRP model. While Egan provided the vehicle for change in the industry one gets the impression from John Cole that PRP, in some form or other, would have evolved due to historical inefficient procurement process being experience in the Health Estates. “Egan gave focus and provided a coat hook to hang it on,” says John Cole.



THE FUTURE

Health Estates Agency is committed to implementing PRP across the agency where appropriate on major health care projects. The system is currently being used by 5 hospital trusts for major, medium and small projects. The process is constantly changing and continual improvement is built into the PRP model. “The process has created a frantic energy between design team, client and contractor supply chain,” concludes John Cole. It is no surprise to find that the client is at the centre of this statement. PRP at the Royal Hospitals is committed to building on that 3-way partnering model and developing a more sophisticated client-design team-contractor relationship.



INNOVATION 2 – ALTERNATIVE PROCUREMENT ROUTES IS BENCHMARK FOR SUCCESS

Historically the Royal Hospitals Trust experience has shown that the success of a project revolves around the capability of the design team and the contractor. Ineffective design teams and inefficient contractors have invariably yielded poor outcome. To ensure better results, methods have been developed based on partnering to appoint consultants and contractors through the application of price and quality selection criteria for measured term works. The objective is simple, instead of picking the cheapest consultants, Royal Trust pick only the best and work with them to deliver the optimum project solutions. Once appointed the consultant/contractor will operate in a partnering framework, which includes monthly performance meetings, shared information on the RVH database, and dispute resolution procedures. The expectations are focused on delivering:

- ALTERNATIVE PROCUREMENT
- PARTNERING FRAMEWORK
- PRICE AND QUALITY SELECTION
- INVESTING IN PARTNERS
- QUALITY EFFICIENT SERVICE

- High quality every time – project design
- Better service every time – responsiveness
- More efficient every time – cheaper
- Working closer together – real learning

Eamon Malone, Royal Hospital Trust Health Estates Officer explains the partnering strategy: “We had to accept that only by investing in our partners properly, could we meet our expectations.”

THE PARTNERING PROCESS

The principles of the innovation are centred on Performance Related Partnering (PRP) whereby two teams of consultants are appointed using a combination of company profiling and in-depth interviews. These teams comprise a designer, a quantity surveyor, and an M&E Engineer. As well as experience the selected teams had to demonstrate a commitment to provide quality effective and efficient service. Quality is then monitored and poor service results in the team being de-selected. Each team is to self-form and be complete and there is a

focus on traffic light reporting for each project. Improvement over a longer period (3-5 years) is fundamental to success for all involved.

The selection criteria are focussed on one-to-one interviews which are devised to establish the culture of the team members. Eamon Malone insists: “We wanted to see the whites of their eyes and not the traditional shop front selection process. We deliberately asked the difficult and awkward questions to separate the men from the boys.”





BENEFITS AND FUTURE DEVELOPMENT

Response to the innovation has so far been good. Real learning has been achieved and the ability of the contractor to provide a high quality efficient service within an acute hospital environment has been enhanced. A hybrid procurement process is planned which will combine the best parts of the traditional measured term contracts procurement with the new PRP.

If there is a downside it is that the Royal Trust has found it difficult to match resources to maintain momentum on occasion. The process hasn't been without its pitfalls and obstacles. Herein lies a major cultural change for the client, some consultants are unhappy, cost basis is determined by client and the process is both complicated and time consuming. Where the process wins is in the quality of both the design and improved relationship with contractor. "The contractor is learning to think outside the box," says Eamon Malone. Historically contractors were picked from a rota with little or no quality assessment by the client. "Confidence in the contractor is now a fundamental element in the selection process," concludes Eamon Malone.



INNOVATION 3 – OPERATIONAL RISK STRATEGY PUTS PATIENTS FIRST

With the advent of National Health Service “corporate governance”, and “controls assurance”, the issue of how “risk” within operational estate management is managed, controlled and minimised is brought into sharp focus. Traditional risk management in the Royal Hospitals Trust estate meant a large maintenance backlog, mostly reactive maintenance and limited resource pool. Gordon McKeown, Head of Estates Department at the Royal Hospital elaborates: “The norm for the operational team was to do the urgent but not the important things. The real task was to not just fix the problems but close the circle.”

Faced with these challenging realities the Trust were forced to review their Operational Risk strategy and a policy which dealt with the real risk of building and engineering activity on the patient and health process was born. A fundamental feature of the new innovation in operational risk management was the emphasis that the strategy placed on the patient. The key objective of the innovation was to develop a methodology based on Patient Care Pathway which would assess, prioritise and monitor the risk generated from the main Royal Estate operational activities: engineering; design; medical; potential victims and; estate strategy. This approach allowed all players delivering the service to accept and deal with risk issues as a team and better utilise scarce resources.

- OPERATIONAL RISK
- CORPORATE GOVERNANCE
- CONTROLS ASSURANCE
- DEALING WITH REAL RISK TO PATIENT AND HEALTH
- PATIENT CARE PATHWAY
- RESOURCE TEAM APPROACH

THE PROCESS

The Royal Estates Department is working with Inventures currently part of NHS Estates/Department of Health to assess the risks associated with of the current Managerial and Technical Policies and Procedures practised within the Trust. This is achieved by comparing the departments present systems against those recommended by the NHS Executive policy and operational guidance that is issued via the NHS Estates executive agency through a series of publications of Health Technical Memoranda (HTM). The managerial and technical gaps that are generated from the study are then prioritised. The objective is to prepare an agreed action plan to close the ‘gaps’ and deal with the most pressing risks within the resources available. The gap analysis will identify the lack of suitable managerial and technical working practices that are:

- Exposing the Trust, staff and patients to totally unacceptable levels of risk
- Prohibiting the Trust board from exercising their *Corporate Governance* duties





THE METHODOLOGY

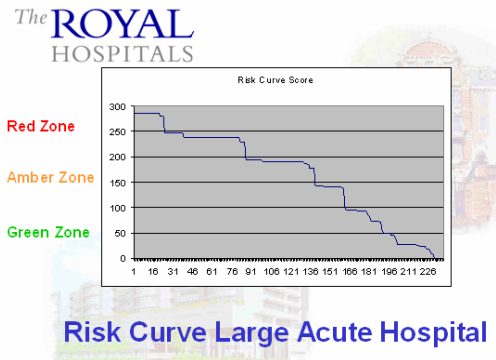
The process of implementation involved a 5 part methodology.

Part 1: 9 main service systems provided for patient care were identified (water, electricity, ventilation plant, fire, lifts etc.)

Part 2: Identify standards to be met (Building Regs, IEE Regs, British Standards, HASAW Regs etc.)

Part 3: Assessment of the existing installations and comparison with standards.

Part 4: Profile risk across Trust areas. Include building and medical risks. Produce a risk profile for each ward/dept. Combine profiles together. Produce total risk curve (see figure).



Part 5: Complete the risk assessment. Clinical input from whole team. Categorise into RED, AMBER, GREEN issues. Identify priorities for action. Identify resources.

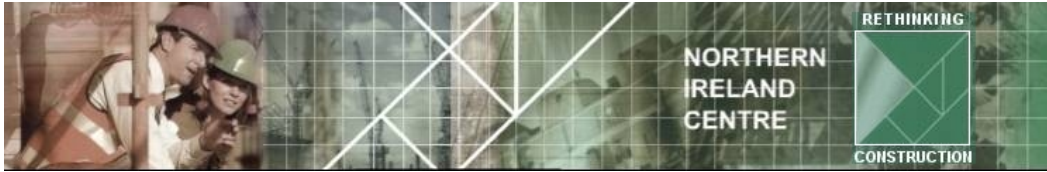
Within the scope of the innovation the process targets specifically red zone risks and low cost risks and then allocates appropriate resources.

BENEFITS AND FUTURE DEVELOPMENT

“We are currently working in the red zone,” says Gordon McKeown. A major water quality innovation has been implemented to reduce the risk associated with water borne infection in. The process identified the associated risks of adding a disinfectant to the water supply and its possible affect on patients undergoing kidney dialysis Steps were then taken to neutralize that risk. “A fundamental aspect of operational risk is that its crosses all disciplines and processes within the hospital,” adds Gordon.

Operational Risk control and management is fast becoming the governing mechanism for prioritising action in the Royal Estates. Results to-date has shown that the operational risk





initiative is safer for staff, patients and visitors. There is evidence of a better service provision across the board where risks are prioritised and acted on immediately.

The Operational Risk model provides the mechanism for risk management for any organisation or group dealing with complex or sensitive dependants. There is a plan for year-on-year improvement using the team approach to manage risk reduction. The process is subject to continuous review based on the philosophy that hospitals are ‘moving targets’ and clinical impact and technologies vary and evolve.

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THE RETHINKING CONSTRUCTION STRATEGY MODEL APPLIED TO THE 3 ROYAL INNOVATIONS

