



Project Report:
**Interior Heart and
Surgical Centre**

October 2012

Purpose of this Report

The purpose of this report is to provide key information to the public about the Interior Heart and Surgical Centre Building (IHSC Building or the Building). This report describes the need for the Building and how it will be delivered. The report explains how different procurement delivery methods were analyzed, and how project benefits and innovations are expected to be achieved. A summary of the key aspects of the project agreement is also provided.

In all of its procurement processes, the Province of B.C. is committed to a high standard of disclosure as part of its accountability for the delivery of public projects. Ministries, Crown Corporations and other government agencies are publicly accountable for projects through regular budgeting, auditing and reporting processes.

The Interior Heart and Surgical Centre Project Board, which includes representatives from the Ministry of Health, the Ministry of Transportation and Infrastructure, the Interior Health Authority, and Partnerships BC, is accountable for the contents of this project report.

Defined Terms and Abbreviations

Capitalized terms are defined in the glossary at the end of this report.

Abbreviations are defined in the table below:

CORHD	Central Okanagan Regional Hospital District
CSBC	Cardiac Services BC
CSICU	Cardiac Surgery Intensive Care Unit
DBB	Design Bid Build
DBFM	Design Build Finance Maintain
IHSC	Interior Heart and Surgical Centre
KGH	Kelowna General Hospital
MDR	Medical Device Reprocessing
NPC	Net Present Cost
NPV	Net Present Value
OR	Operating Room
PARR	Post-Anaesthetic Recovery Room
PCI	Percutaneous Coronary Intervention
PPP	Public Private Partnership
RFP	Request for Proposals
RFQ	Request for Qualifications
VFM	Value for Money

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IHSC Building Indicative Design

1 Executive Summary

In September 2007, the Province announced that a cardiac revascularization (angioplasties and cardiac surgery) program would be developed in Kelowna. The cardiac program was designed to support the educational, diagnostic and treatment programs necessary to meet the challenge of delivering cardiac care to the Southern Interior region of B.C.

A concept brief developed in 2008 recommended construction of new buildings and renovation of existing spaces to improve delivery of cardiac care at the Kelowna General Hospital (KGH). In 2010, the Province approved the business case and funding for the IHSC Project.

The IHSC Project includes two new buildings (the IHSC Building and the Dr. Walter Anderson Building), renovations to two existing buildings (the Royal Building and the Strathcona Building), and a fifth and sixth floor fit out of the Centennial Building.

Some cardiac intervention procedures were launched at KGH in 2009. Previously, percutaneous coronary interventions (PCIs) were only performed at four other hospitals in B.C. (Royal Columbian Hospital, Royal Jubilee Hospital, St. Paul's Hospital and Vancouver General Hospital). Since its inception, more than 2,000 individuals have received PCIs at KGH.

In 2012, following a competitive selection process based on the principles of openness, transparency and fairness, Interior Health entered into a performance-based, fixed price project agreement with Plenary Health Kelowna Limited Partnership (Plenary Health or the private partner). Plenary Health will design, build, finance, and maintain the IHSC Building for a term of 33 years, which includes the construction period. The total nominal

cost of the IHSC Building will be \$169.1 million. This number includes capital costs plus equipment, procurement and implementation costs and contingencies.

The decision to use the design build finance maintain (DBFM) partnership delivery method was based on a thorough analysis of procurement options. The analysis clearly indicated that the Project objectives could best be met by using the DBFM partnership method.

The IHSC Building evaluation team used a unique evaluation methodology to rank proposals from three proponents. The methodology included scored criteria based on the achievement of measurable operating outcomes as defined by the experience of the health authority and peer-reviewed research. These criteria led to numerous improvements over the indicative design and will result in a coronary care facility that supports enhanced patient safety, healing environment features, and greater degrees of staff satisfaction.

The Plenary Health proposal included an innovative site preparation plan and compressed construction schedule that will see the Building completed 13 months earlier¹ than anticipated and at significant capital cost savings.

Once the Building is constructed, Plenary Health will provide a range of facilities management services including plant, utility management, and environmental sustainability. Interior Health will pay Plenary Health a monthly service payment. Those payments will be based on performance, facility availability and service quality. Service payments can be reduced if Plenary Health does not meet the quality standards contained in the project agreement.

¹ At Financial Close.

The final partnership agreement between Interior Health and Plenary Health is estimated to achieve a net present cost (NPC) value for money of \$33 million compared to the traditional procurement method. Additional benefits from the DBFM delivery model include:

- Competition and innovation
- Schedule certainty
- Cost certainty
- Integration
- Life cycle maintenance

The Interior Heart and Surgical Centre Building will be the province's fifth cardiac critical care centre. It will encompass more than 14,000 m² and include: two cardiac operating rooms, six cardiac surgery intensive care unit beds, six inpatient operating theatres, a post-anaesthetic recovery room, and Medical Device Reprocessing (MDR) department.

Combined with the other project construction and renovation, the IHSC Building will ensure that British Columbians living and working in the Southern Interior have access to the same level of services for diagnosing and treating heart disease as do residents in other areas of the province. At the same time, creation of a new cardiac critical care centre in Kelowna will also reduce pressure in the Lower Mainland's centres, where Interior Health residents have historically gone for cardiac treatment.

Interior Health will retain responsibility for all health care delivery at the new facility and all health care services will continue to be publicly funded in accordance with the Canada Health Act. Interior Health will own the facility over the life of the Project.



IHSC Building Indicative Design

2 Project Benefits and Key Features

The IHSC Building will be a 14,162 m² three-storey building that houses a Cardiac and Inpatient Surgical Suite, Cardiac Surgery Intensive Care Unit, Pre- and Post-Operative Care Unit, and the new Medical Device Reprocessing (MDR) department at Kelowna General Hospital. The Building will be designed to allow future expansion to accommodate approximately 32 medical/surgical inpatient beds on a fourth floor.

The IHSC Building will support Interior Health's efforts to close a gap in the access to cardiac services available to Interior Health residents. The new facility will better serve the residents of B.C.'s southern interior region where a growing and aging population is expected to significantly increase the number of coronary revascularization procedures over the coming years.

The development of a new coronary revascularization centre in Kelowna will also reduce pressure on B.C.'s four existing cardiac centres, allowing them to meet current and future demand for cardiac procedures in the Lower Mainland and on Vancouver Island.

2.1 Optimal Patient Safety

Current research demonstrates that specific outcomes such as reduced adverse surgical and medication events, hospital-acquired infections, and patient falls can be correlated to certain design considerations. The design innovations planned for the IHSC Building offer numerous features that have been empirically proven to enhance efficiencies and achieve optimal patient safety. These include:

- efficient critical patient transport routes;
- efficient access routes for surgical staff to patients, enabling staff to feel less rushed, to quickly retrieve items needed for patient care and to more closely monitor patients throughout their surgical process;
- standardized rooms that ensure needed equipment and supplies are always found in the same place; and
- increased key sight lines from care stations to patient bays that allow staff to better monitor patients.

2.2 Healing Environment

The new IHSC Building will also include interior design features that provide natural and calming environments, which improve patient, family and staff well-being and reduce patient length of stays. These design features include significant access to natural light for both patients and staff, views of nature or natural features, access to courtyards/natural environments, ease of way finding, and access to the Building.

2.3 Staff Satisfaction

The new IHSC Building will house some of the most highly trained professionals in the health care industry. Recruiting and retaining such professionals is often difficult and costly for Interior Health and there is incentive to promote an environment that enhances staff health and happiness. The building design aims to reduce the costs associated with recruitment and retention, sick time, Long Term Disability/WorkSafeBC claims, and operating room delays by fully incorporating the same wellness features as those in patient areas. These include:

- natural and borrowed light in key staff areas;
- comfortable lounges and areas of respite;
- ease of access to patients and supplies through additional staff-only staircases and segregated public/logistic/patient traffic flows; and
- standardized room layouts that ensure equipment and supplies are always found in the same place.

2.4 Time and Cost Savings

Plenary Health proposed creative solutions to both site preparation and construction challenges, resulting in a proposed schedule that is 13 months shorter than anticipated,² resulting in a significant cost savings. As well, the accelerated construction schedule will provide Interior Health patients full access to sophisticated cardiac care facilities much earlier than anticipated.

2.5 Other Features

As part of the Province's commitment to environmental sustainability and green buildings, the new IHSC Building will be designed and built to achieve Leadership in Energy and Environmental Design (LEED®) Gold certification.

It will also maximize the interior and exterior use of wood, in keeping with the Wood First Act. The design features many visible wood elements, both structural and decorative, resulting in a warm and natural aesthetic that supports the form and function of the IHSC Building. Wood will be used strategically to support the image of the IHSC Building as both a high-tech surgical centre and a warm and welcoming place dedicated to healing.



IHSC Building Indicative Design

² At Financial Close.

3 Project Background, Guiding Principles, and Scope

3.1 Background

Research conducted by both Cardiac Services BC (CSBC) and Interior Health in 2006-08 indicated that residents in B.C.'s Southern Interior have less access to services for diagnosing and treating heart disease compared to the rest of the province. It was also identified that these residents currently face lower levels of access to the current standards of care for acute myocardial infarction and the follow-up drug treatments that significantly reduce the likelihood of heart failure. With an aging population and expected population growth for the region, there was a clearly identified need for improved services and CSBC recommended the development of a new coronary revascularization centre at Kelowna General Hospital.

In 2008, a concept brief was developed recommending construction of new buildings and renovation of existing spaces to facilitate current industry standards and best practice delivery of care for the Coronary Revascularization Program at Kelowna General Hospital. In 2009, Treasury Board approved the Cardiac Transition Plan to bring the Cardiac program to Kelowna General Hospital and in 2010 Treasury Board approved the Business Case for the Interior Heart and Surgical Centre Project, a permanent home for the Cardiac Program on the site.

The IHSC Building is the major component in the larger IHSC Project, which also includes:

- Fifth and sixth floor fit out of the Centennial Building – completed
- Dr. Walter Anderson Building (Clinical Support Building) – completed
- Royal Building renovations for a new Catheterization Lab – underway
- Strathcona Building renovations for cardiac inpatient units and related support services – scheduled to begin in 2015

The fifth and sixth floor fit-out of the Centennial Building was completed in January 2012 and open for patients in May 2012 as a part of the Kelowna Vernon Hospitals Project. The Dr. Walter Anderson Building began construction as a design-build in December 2010 and was substantially completed in April 2012.

3.2 Guiding Principles

Interior Health developed guiding principles for the IHSC Project, including the IHSC Building, as follows:

- Provide infrastructure to support the Coronary Revascularization Program and Surgical Centre at the KGH Site;
- Provide an achievable, economic and efficient solution for the placement of the components included in this Project;
- For departments that require relocation, provide a space and environment that meet operational efficiencies and required standards for the component spaces;
- For departments included within the scope of this Project, consider options for future growth in placement of the department;
- Address clinical adjacencies and Lean³ principles in the placement of all departments and components within;
- Design to consider patient safety, respect and quality of care;
- Recognize the KGH site is a fully functioning campus that is to maintain full operations of existing services throughout the placement, development and implementation of the Project;
- Design to encourage energy and green building opportunities and requirements;
- LEED® Gold will be the building standard for all new buildings; and
- Use of wood construction, inside and out, to be supported where practical and possible by the BC Building code.

³ "Lean," is a production practice that considers the expenditure of resources for any goal other than the creation of value for the end customer to be wasteful, and thus a target for elimination.

3.3 Scope

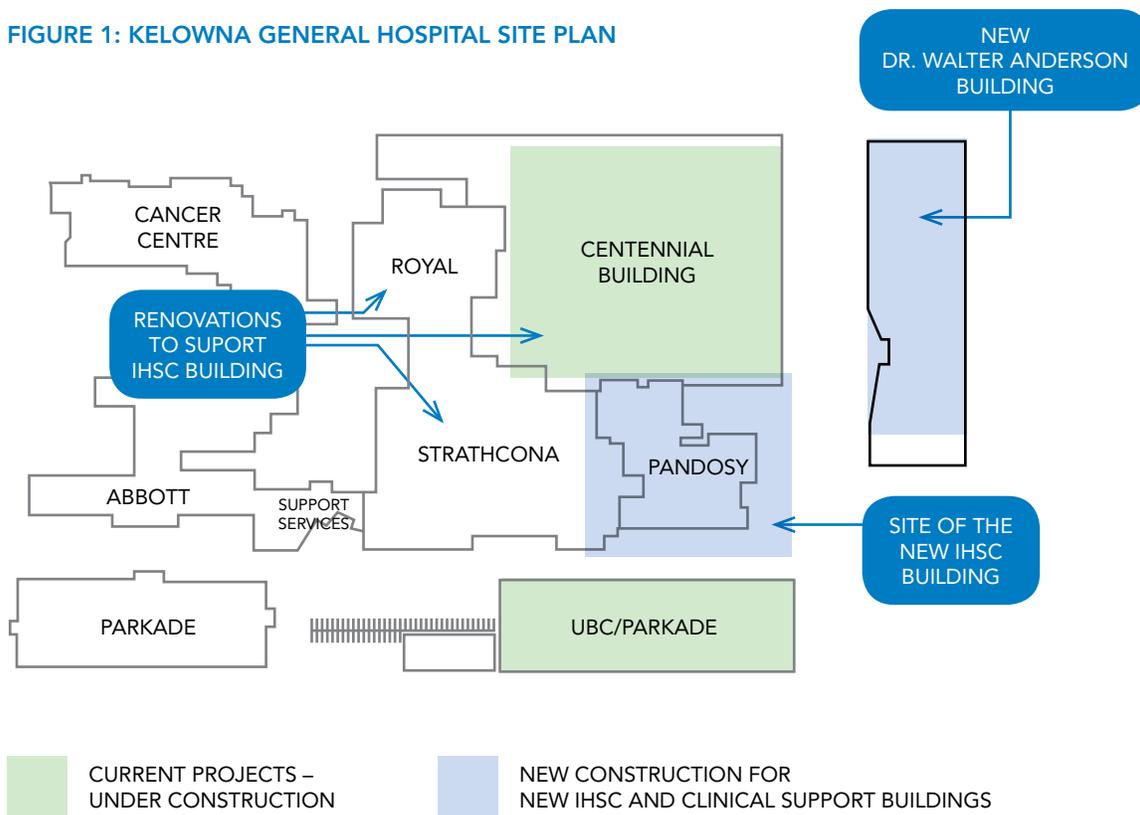
The IHSC Building includes the demolition of the existing Pandosy Building and construction of a new acute care building.

The IHSC Building will be connected to the existing campus buildings via a network of links and bridges. On-site vehicular and pedestrian traffic patterns will be simplified to assist with public way finding. Figure 1 below shows the location of the new IHSC Building on the Kelowna General Hospital campus.

The final building will encompass more than 14,000 m² and will include the following:

- Two cardiac operating rooms;
- Six cardiac surgery intensive care unit beds (plus space for two future CSICU beds);
- Six inpatient operating theatres (plus space for seven future operating rooms);
- Post-anaesthetic recovery room;
- Medical Device Reprocessing (MDR);
- Provisions for constructing a future 32-bed inpatient unit; and
- Demolition of the existing three-story Pandosy building.

FIGURE 1: KELOWNA GENERAL HOSPITAL SITE PLAN



4 Project Delivery Options

The B.C. Ministry of Finance has mandated through the Capital Asset Management Framework (CAMF) that the following principles guide all public sector capital procurement:

- Fairness, openness and transparency,
- Allocation and management of risk,
- Value for money and protecting the public interest, and
- Competition.

In accordance with CAMF, Interior Health and Partnerships BC undertook a procurement options analysis to determine an optimal procurement method for the IHSC Building.

4.1 Methodology

The evaluation of procurement options is mainly concerned with identifying the method of delivering the project that will result in the greatest value for money on both a financial (quantitative) and qualitative basis. In financial terms, value for money is established by calculating the estimated cost of a project, based on a particular partnership procurement method, and comparing it to the estimated cost if the project were procured using another method.

The evaluation of procurement options involves two main steps. The first step identifies key procurement objectives, and provides a qualitative assessment of a wide range of available procurement options including both traditional and partnership methods. The assessment of these procurement options is intended to identify the two procurement methods most appropriate to the project which then form the basis of comparison.

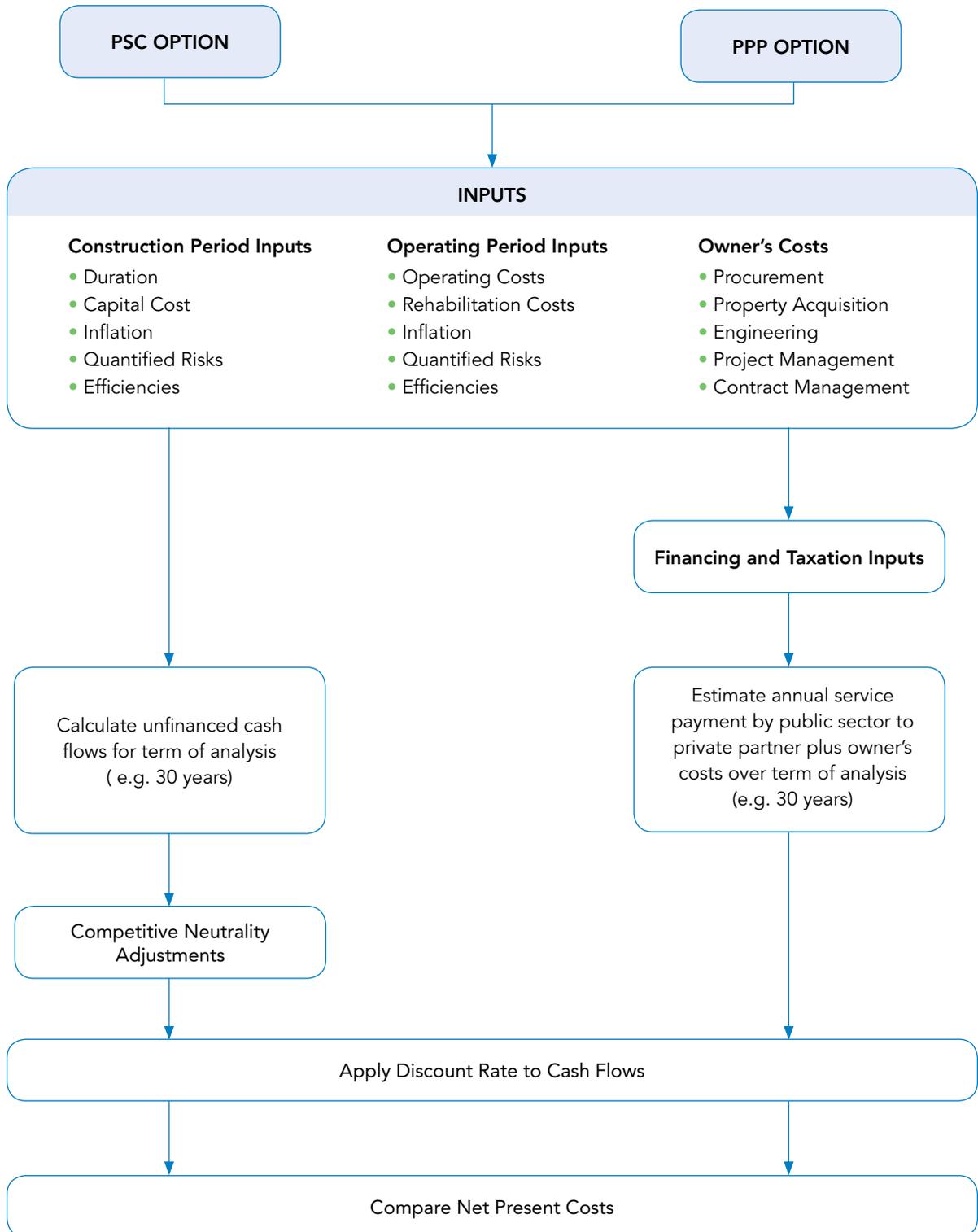
The second step in the assessment involves a more detailed, quantitative analysis that compares the two methods. A comprehensive risk analysis is conducted and financial models representing the two procurement methods are developed and compared. Both procurement methods consider detailed financial inputs that reflect key project components during the construction and operating periods, as well as associated public sector costs under each option.

To ensure that a complete comparison is being made, the analysis also considers inputs that address financing and taxation issues along with adjustments to ensure competitive neutrality that include items such as how each model accounts for insurance costs. Without these adjustments, the traditional procurement method may be understated in some areas and consequently would not reflect the true cost to government. A discount rate is applied to the projected future cash flows to facilitate an accurate comparison of the two approaches in present day dollars. Discounting allows procurement methods with different cash flow impacts—such as all payments made in the first year of a 30-year period versus payments spread over the 30 years—to be compared on a like-for-like basis. Comparing competing options in this way provides an objective means of determining the approach that provides the best value in terms of cost.

The results of this quantitative comparison between the two procurement methods, together with the qualitative criteria, are used to determine the method that is expected to provide the best potential value for money.

The following graphic illustrates the financial modeling approach used to compare a traditional procurement method and a public private partnership method.

DETERMINING THE NET PRESENT COST (NPC) OF ALTERNATIVE PROCUREMENT APPROACHES - SUMMARY



4.2 Project Procurement Objectives

Procurement options were carefully considered through the development of procurement objectives based on the project objectives. The following procurement objectives were developed by Interior Health to provide guidance in the selection and analysis of procurement options.

- (1) **Availability of Service:** Complete the Project in a timely manner to meet commitments and replace the transition services with permanent services as soon as possible.
- (2) **Contract Package Allocation:** Allocation of the Building components into optimal contract packages while ensuring good overall project coordination and schedule certainty.
- (3) **Cost Certainty:** The ability to obtain a high level of cost certainty at the appropriate time in the process, as well as the ability to avoid risks such as cost overruns, and costly life cycle expenses such as repairs and renovations.
- (4) **Life Cycle Considerations:** Opportunities to lever guaranteed service levels, and transfer life cycle risks.
- (5) **One Facilities Maintenance Provider:** The procurement process should result in only one on-site facilities maintenance service provider on the site for site-wide services to the greatest extent possible.
- (6) **Efficient Allocation of Risk:** Ensure an efficient risk allocation (design, construction, financing, rehabilitation and maintenance) between Interior Health and the contractor/private partner.
- (7) **Flexibility and Innovation:** Ability to provide both flexibility and opportunities to lever innovation through the procurement process.
- (8) **Overall Value for Money:** Deliver the best quality facility for the best price.

4.3 Procurement Options Analyzed

Interior Health and Partnerships BC analyzed two procurement delivery options for the project: Design Bid Build (DBB) and Design Build Finance Maintain (DBFM). The two options are described below.

Design Bid Build (DBB): Interior Health would engage an architect to develop a detailed design (working drawings) for the IHSC Building. Once the working drawings are complete, a tender call for a

construction contract would be issued. The lowest qualified price must be selected and an industry standard fixed price construction contract would be used. The construction contractor would take responsibility for construction to the specifications detailed in the working drawings developed for Interior Health by its architect. Interior Health would remain responsible for errors and omissions in the design and makes monthly progress payments to the contractor. Once the building is completed, Interior Health would take possession and be responsible for maintaining and operating the asset for its entire lifespan.

Interior Health would retain key design and construction risks, e.g., schedule, construction cost, and life cycle maintenance costs. Because separate parties design, build and maintain the various components of the Building, the process would not be integrated.

The DBB model would require extensive involvement in the design phase. In order for the model to succeed, Interior Health would need to coordinate the involvement of design and maintenance groups. Interior Health has successfully delivered projects on time and on budget using the DBB model in the past.

Design Build Finance Maintain (DBFM): This delivery model is a two-stage partnership procurement. The first stage is a Request for Qualifications (RFQ) whereby proponent teams would submit qualifications to be received and evaluated, resulting in a shortlist of respondents who would then be invited to submit proposals to the second stage of the process. The second stage of the process is the Request for Proposals (RFP). At the RFP stage, Interior Health would provide performance requirements and seek proposals from shortlisted RFQ respondents to design, build, finance, and maintain the facility.

The project team would evaluate these proposals to determine a preferred proponent with which to enter into a project agreement. Under the project agreement, the successful proponent would be required to design, build, finance and maintain the IHSC Building over the specified term of the agreement.

Performance payments would be made monthly to the private partner over the life of the agreement, at a fixed rate determined at contract close. Payments only commence once the asset is completed to the satisfaction of Interior Health. To ensure that the private partner receives full payment, they must meet defined and measurable performance and availability standards on a continuous basis. In other words, the DBFM approach provides a financial structure that aligns the incentives of the private partner and Interior Health.

Under the DBFM option, the private partner would be responsible for:

- Arranging project financing and/or equity for facility construction and maintenance over a specified term (usually 30 years);
- Designing and building the IHSC Building component of the Project; and
- Maintaining the IHSC Building component over the first 30 years of its life and handing it back at the end of the contract term in a prescribed condition.

4.4 Results of the Procurement Options Analysis

Based on the procurement options analyzed, the DBFM method was expected to result in a lower cost for the project compared to the DBB delivery method. In addition, the partnership method was considered the best choice to support the objectives of the project and is expected to achieve the greatest overall benefits.

4.5 Achieving Value for Money

Value for money is a broad term that captures both the quantitative and qualitative benefits that are expected to be achieved by the decision to deliver the project using the partnership method. Quantitative value for money is achieved through the lower project cost resulting from a particular procurement method. Qualitative value is achieved when a particular procurement method is best able to support the broader objectives of a project.

PARTNERSHIP PROJECTS TYPICALLY PROVIDE THE FOLLOWING QUALITATIVE BENEFITS

- **Competition and innovation:** The competitive nature of the bidding process encourages the private partner teams to develop innovative solutions in all aspects of the project from design and construction through to operations.
- **Schedule certainty:** The private partner receives a significant portion of their payment through monthly availability payments once the facilities are available for use, thereby providing a financial incentive to complete the project on time.
- **Cost certainty:** The project agreement is a fixed price contract.
- **Integration:** The private partner is responsible for the design and construction, long-term operations, maintenance and rehabilitation of the asset. This creates opportunities and incentives to integrate these functions to optimize performance of the facilities over the duration of the project agreement.
- **Life cycle maintenance:** The private partner is responsible and accountable for ensuring the facilities are maintained and rehabilitated over the duration of the project agreement otherwise the annual service payment may be reduced.

5 Competitive Selection Process

A two-stage competitive selection process was undertaken for the project.⁴ During the RFQ stage, respondents were asked to present their qualifications for the project. A shortlist of three teams was selected and invited to participate in the RFP stage process. The proponent teams invited to compete are described below.

PROPONENT	DESIGN LEAD	CONSTRUCTION LEAD	FINANCING LEAD	FACILITIES MANAGEMENT LEAD
Alliance Health Group	Stantec Inc.	Graham Design-Build Services	Lend Lease Canada Inc. Gracorp Capital Advisors Ltd.	Honeywell International Inc.
Jade Health	Kasian Architecture Interior Design and Planning Ltd. Arup Canada Inc.	VINCI Construction Ledcor Design/Build (BC) Inc.	VINCI Investments Limited	VINCI Facilities Black & McDonald
Plenary Health	HOK Architects CEI Architecture Planning Interiors	PCL Constructors Westcoast Inc.	Plenary Group	Johnson Controls Inc.

During the RFP stage, collaborative discussions were offered so that each team had the opportunity to discuss issues or concerns related to commercial, legal, design and construction, and facilities management matters. Prior to the closing date for submissions, a final draft project agreement was issued and it served as the common basis for all proposals.

The timeline of the competitive selection process is outlined in the table below.

PROCUREMENT STAGE	TIMING	OUTCOME
Request for Qualifications	February 2011 to June 2011	The project was marketed locally, provincially, nationally, and internationally. Submissions from six respondents were evaluated and a shortlist of three teams was announced on June 21, 2011: <ul style="list-style-type: none"> • Alliance Health Group • Jade Health • Plenary Health
Request for Proposals	August 2011 to March 2012	The three shortlisted teams submitted proposals.
Selection of Preferred Proponent	April 2012	After evaluation of the proposals, Plenary Health was selected as the preferred proponent.
Project Agreement Finalization	June 20, 2012	The Project Agreement was signed by Interior Health and Plenary Health.

⁴ The RFQ and RFP procurement documents are publicly available at www.partnershipsbc.ca

5.1 Evaluation of Proposals

The overall objective of the evaluation was to select the best proposal, taking into account the expected value for money provided by the proposal. Interior Health appointed an evaluation committee to evaluate the proposals based on the criteria set out in the RFP and to recommend a preferred proponent.

As part of the evaluation process, it was required that:

- (a) the net present cost of a proposal not exceed the Affordability Ceiling, and
- (b) the cost of a proposal not exceed the facility development and capital costs outlined in the RFP.

All three proposals met these requirements. After this component of the evaluation, proposals were evaluated to ensure they were compliant with the specifications developed for the Building. All three were compliant.

Finally, proponents were awarded points based on design features that were expected to result in operational efficiencies and improved health outcomes.

Peer-reviewed research and analysis⁵ has shown that improvements to building layout and design features can measurably improve health outcomes and ultimately result in operational savings. The IHSC Building project team used that research and the team's own experience to create scored evaluation criteria for the project that would incent proponents to focus their design innovations on areas that would ultimately meet the Authority's desired outcomes. Under these criteria, cost credits were awarded for evaluation purposes to proposals providing a facility design that would generate operational benefits beyond what the reference concept design provided.

In other words, proponents had to design a facility that is at least as functional as the health authority's indicative design and only received credit in the evaluation if their proposed facility was an improvement in the defined areas. The criteria used are described below.

Enhanced Patient Safety

- Staff and patient travel distances
- Standardization of rooms
- Ability to safely monitor patients

Optimization of Clinical Utilization

- Location, orientation and access to medication rooms
- Location of storage rooms
- Separation and efficiency of flows: public, patients and materials
- Workflow within Medical Device Reprocessing (MDR)

Wellness Environment

- Access and quality of direct natural light for each room
- Access to outdoor spaces from staff lounges
- Interior design features which provide natural and calming environments

Enhanced Site Development Features

- Overall building design
- Ease of access and way finding
- Site parking and vehicular flows will enable efficient and friendly access and egress to the site

Further detail around this evaluation and its resulting benefits in the case of the IHSC Building can be found on page 20. Based on these criteria, the evaluation committee made its recommendation to the project board, the governing body that provides guidance and oversight for the implementation of the project. Based on that recommendation, Plenary Health was identified as the preferred proponent for the IHSC Building.

⁵ See Appendix A for a list of the reports referenced in developing evaluation criteria.

5.2 Fairness Advisor

A fairness advisor, Jane Shackell, Q.C. of Miller Thomson LLP, was engaged to monitor the competitive selection process and offer an assessment about the procedures and whether or not the selection process was carried out in a fair and reasonable manner. The fairness advisor was provided access to all documents, meetings and information related to the evaluation processes throughout both the RFQ and RFP stages. The fairness advisor issued reports for both the RFQ and the RFP stage of the competitive process. The report of the fairness advisor concluded that “the procurement process, and the decisions of the Project team related to the process, have been fair reasonable, and appropriate; and that the processes and decisions have been reasonably implemented and materially complied with by the Project team.” The fairness advisor’s reports are publicly available at www.partnershipsbc.ca.

5.3 Competitive Selection Costs

The cost of the competitive selection process is factored into the value for money analysis. The total competitive selection cost for the project from approval of the business case to financial close is \$6.3 million, including partial compensation of \$200,000 to each of the two unsuccessful RFP proponents. The decision to offer partial compensation is made on a case-by-case basis and can be used to: encourage competition; ensure the quality of proposals submitted; secure access to intellectual property; and mitigate costs incurred by proponents in developing their proposals. Other competitive selection expenses include the cost of developing performance specifications, preparing procurement documentation and obtaining advice from external advisors. Materials developed for this Project will be used to improve the efficiency and quality of the procurement process for future partnership projects.



IHSC Building Indicative Design

6 The Final Project Agreement

QUICK FACTS	
Private partner	Plenary Health
Facility owner	Interior Health
Central Okanagan Regional Hospital District contributions during construction	\$30.6 million (nominal dollars), including \$1.1 million in unrecoverable HST
Construction complete	Early 2015
Term of the project agreement	33 years, including construction
Net present cost of Annual Service Payments	\$96.7 million

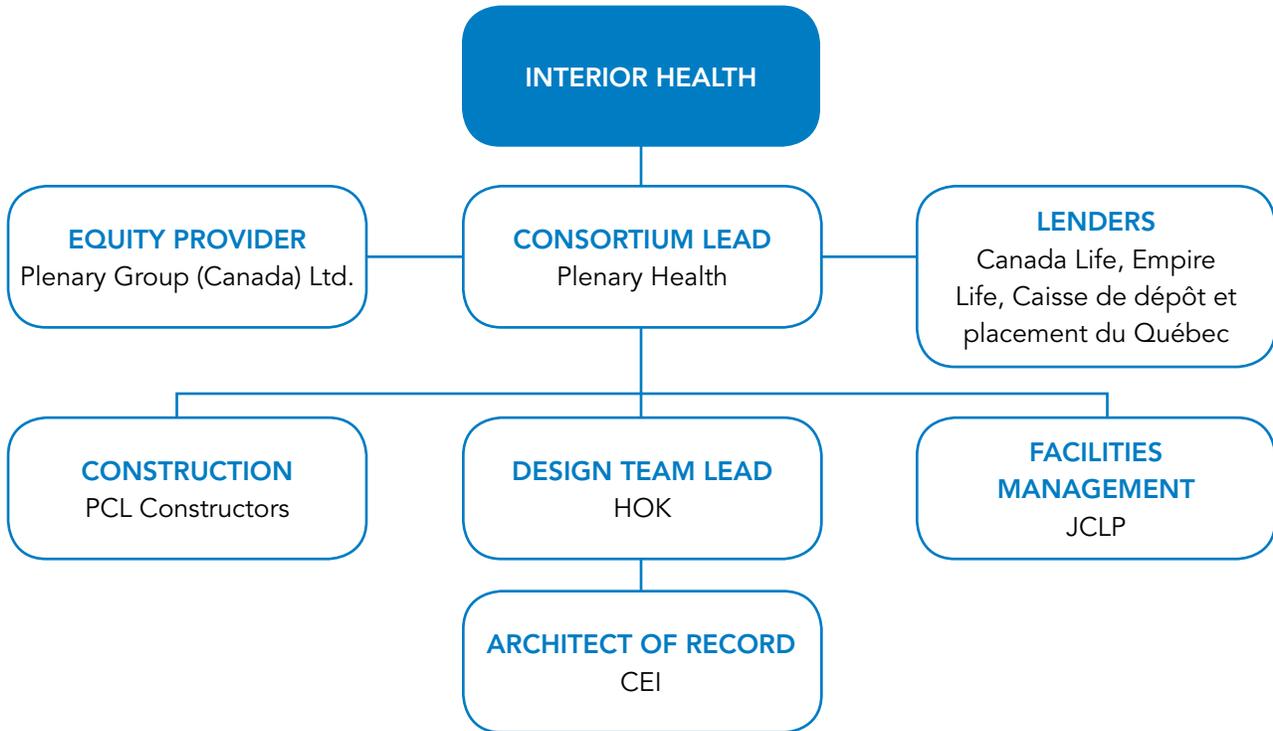
6.1 Profile of the Private Sector Partner

Plenary Health is the private partner for the IHSC Building. Plenary Health is a consortium of companies qualified through the RFO period and consisting of the following key members:

- **Consortium Lead – Plenary Health:** Plenary Health serves as the consortium lead, providing project management services in connection with the development of the Proposal and then as the manager throughout all phases of the IHSC Building Project.
- **Equity Providers – Plenary Group (Canada) Ltd.:** As the sole equity provider, Plenary Group (Canada) Ltd. will be the 100 per cent equity owner of Plenary Health.
- **Lenders – Canada Life, Empire Life and Caisse de dépôt et placement du Québec:** Caisse de dépôt et placement du Québec will provide 32.5 per cent of the debt amount. The Empire Life Insurance Company will provide 9.1 per cent of the debt amount.
- **Design – HOK and CEI Architecture (CEI):** As the design lead, HOK will be responsible for the clinical design of the facility. CEI will be the Architect of Record and will be responsible for the detailed design work.
- **Construction – PCL Constructors West Coast Inc. (PCL):** PCL Constructors Westcoast Inc. is the design-builder for the IHSC Building
- **Facility Management Services – Johnson Controls Limited Partnership (JCLP):** JCLP is the key service provider delivering facilities management services and life cycle deliverables throughout the life of the Building.

All companies within this consortium have established records in delivering projects of this nature.

FIGURE 2: RELATIONSHIP BETWEEN INTERIOR HEALTH AUTHORITY AND PLENARY HEALTH



6.2 Key Terms of the Project Agreement

Under the terms of the Project Agreement, Plenary Health is responsible for the following:

- Arranging a portion of financing for construction and facility management services for a 33-year term (inclusive of the construction period);
- Designing and building the facility⁶;
- Providing specified facility management services, including:
 - Plant services
 - Interface services
 - Help desk services
 - Utility management services
 - General management services
 - Environmental and sustainability services
 - Miscellaneous occupant request services
- Maintaining the facility for the 30-year operating phase and returning it in a fully-maintained condition at the end of project agreement term; and
- Obtaining LEED® gold certification within 36 months following completion of construction.

The Province owns and manages all programming and health care delivery.

6.3 Central Okanagan Regional Hospital District

The Central Okanagan Regional Hospital District (CORHD) is contributing \$30.6 million to the construction of the Building. This contribution will be paid monthly against construction progress and is part of the funding payments that Plenary Health will receive each month against construction costs as certified by an independent certifier.

⁶ Section 3.4 for details on project scope.

6.4 Performance-Based Payment Principles

Plenary Health is incented to perform through a payment mechanism that is based on the principles of performance, facility availability and service quality. Once construction is complete and service commencement has been achieved, Plenary Health will begin receiving an annual service payment from Interior Health. These payments will be made monthly and are based on the availability of the facility and the quality of facility maintenance services provided by Plenary Health. The performance of Plenary Health will be continuously monitored based on key performance indicators; if the performance standards in the project agreement are not met, Interior Health may apply deductions to the annual service payment.

Payment deductions are based on the severity of the failure to meet the performance indicator, the importance of the health care area affected and the level of unavailability. An unavailability deduction applies when a room or department fails to comply with the condition specified in the project agreement. For example, if a cardiac operating room was unavailable for one day, the payment to Plenary Health would be reduced by \$3,000 for each day of unavailability.

6.5 Adjustments to Payments

The Annual Service Payment may be adjusted to reflect specific circumstances as defined in the project agreement, including:

- **Indexation:** The capital component of the Annual Service Payment will not be indexed. The services component (e.g. facilities management) of the payment is indexed by the consumer price index (CPI) with periodic adjustments to the payment through benchmarking.
- **Variations:** If Interior Health requires Plenary Health to make a design change or amend the services, then Interior Health can either make a lump sum payment or have the cost of the change financed by Plenary Health. If Interior Health chooses to have the change financed, the cost will be reflected in an adjusted Annual Service Payment. Also, if a change has on-going impacts to the facilities management services or the life cycle of the facility, this will also impact the Annual Service Payment. The mechanism for developing and determining the cost of a variation is set out in the project agreement.
- **Change in Law:** If there is a discriminatory change in law, the Annual Service Payment may be adjusted to leave Plenary Health in no better or worse position than if that change in law had not occurred.
- **Compensation Events:** If an event occurs that warrants compensation to Plenary Health, the amount may be provided by adjustment to the annual service payment or as a lump sum payment.
- **Life Cycle:** the life cycle costs are not uniform throughout the term of the agreement and will fluctuate based on a pre-defined spending curve.

6.6 Risk Allocation Summary

The Project Agreement includes detailed risk allocation provisions over the 30-year operating term. This approach transfers key risks to Plenary Health—such as construction, cost and schedule—and adds value through design and private sector innovation.

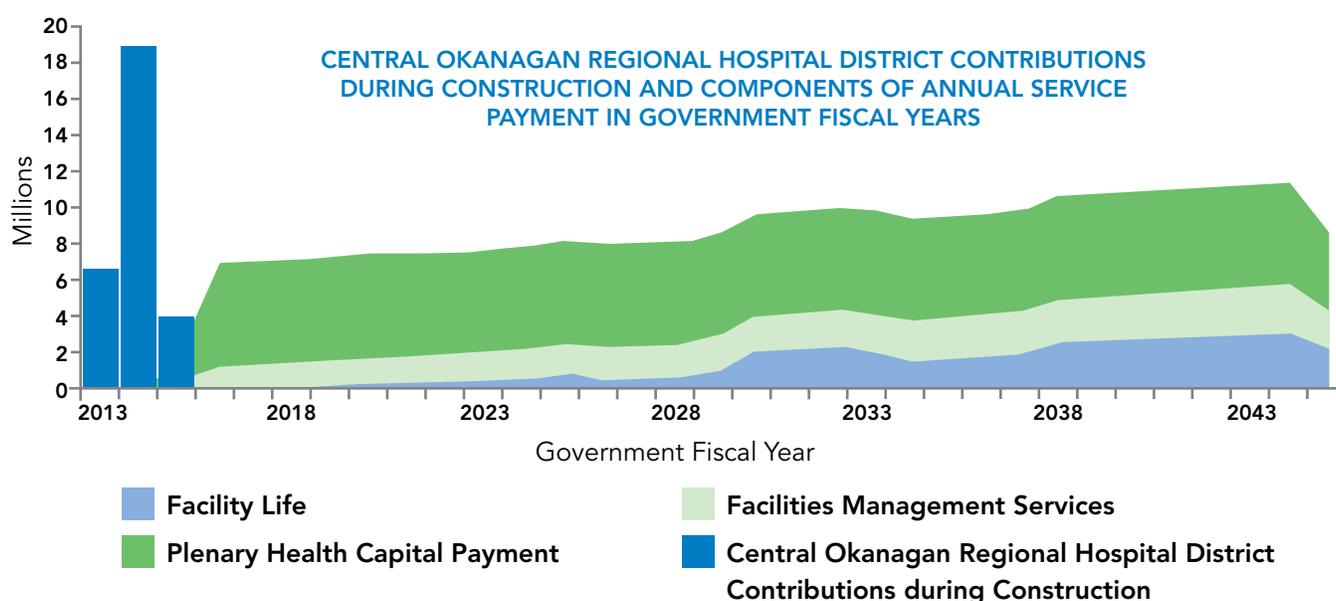
This risk allocation is supported by the following provisions in the Project Agreement:

- Plenary Health will start receiving service payments from Interior Health at the target substantial completion date, thus providing an incentive to complete the project on-time and on-budget.
- The expiry date of the Project Agreement is fixed, so any delays in completing construction will reduce payments to Plenary Health, providing them with a strong incentive for timely completion of the facility.
- Provisions are in place to reduce the Annual Service Payment if Plenary Health does not meet the performance standards in the Project Agreement for facility availability and maintenance.

RISK	RETAINED BY INTERIOR HEALTH	TRANSFERRED TO PLENARY HEALTH	SHARED
Change in law			•
Commissioning		•	
Construction		•	
Cost of equipment	•		
Design		•	
Existing site conditions	•		
Financing after contract execution		•	
Force Majeure			•
Geotechnical		•	
Labour costs during operations			•
LEED® gold certification		•	
Legislative change	•		
Life Cycle		•	
Maintenance		•	
Ownership	•		
Program delivery	•		
Schedule		•	
Scope changes	•		
Utility unit costs	•		
Utility Volume		•	

6.7 Financial Summary

The graph below demonstrates the cash flows to Plenary Health that meet the Affordability Ceiling as defined in the RFP. The graph is expressed in nominal dollars, which assumes two per cent inflation for facilities management services. Payment projections assume no penalties or deductions.



6.8 Quantitative Benefits

The estimated net present cost of the project delivered using traditional procurement is \$173.3 million. The estimated net present cost of the project delivered using Plenary Health’s proposal is \$140.0 million. A comparison of these numbers is provided below. In financial terms, the final project is estimated to achieve value for taxpayers’ dollars of \$33.4 million, when compared to the alternative procurement option.

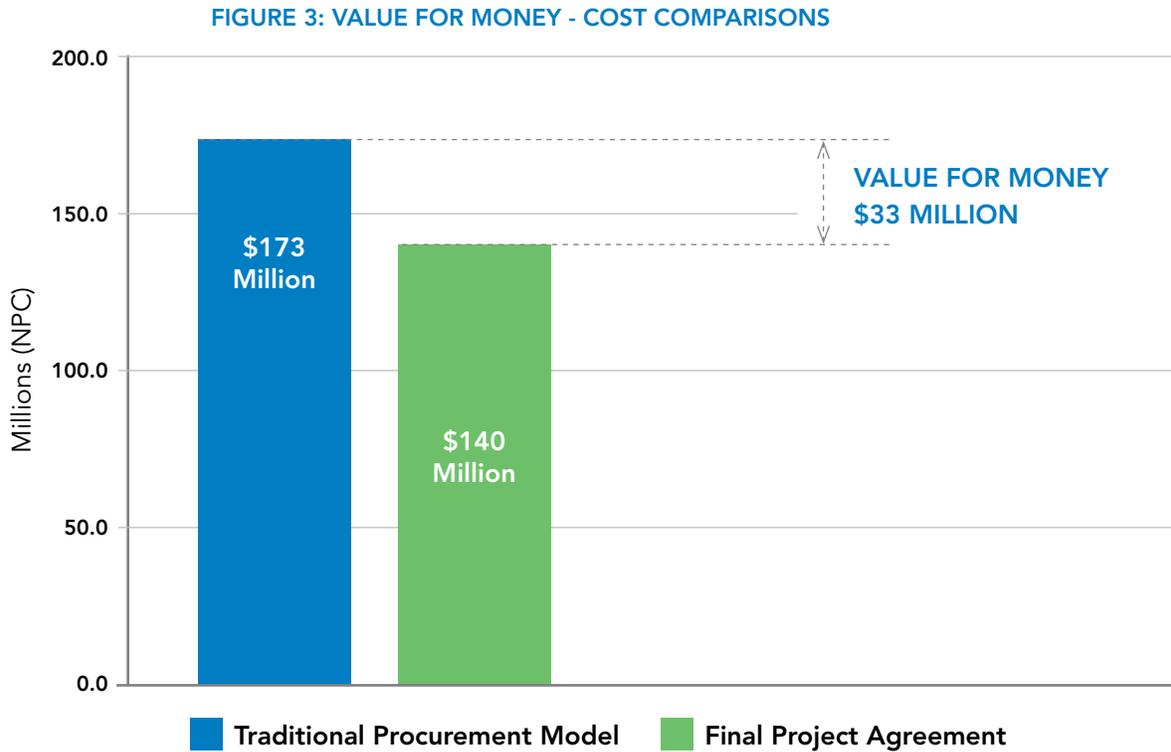
The value for money proposition is markedly narrower when comparing the NPC of the traditional procurement method to the proposals submitted by the two unsuccessful proponents, confirming the high degree of innovation and real savings in Plenary Health’s proposal.

TABLE 1: VALUE FOR MONEY TABLE

NET PRESENT COST (millions)	FINAL PROJECT COST	ESTIMATED PUBLIC SECTOR COMPARATOR
Annual Service Payments to Plenary Health	96.7	
Capital Costs		105.2
Central Okanagan Regional Hospital District Contribution to Capital Cost	27.2	
Life Cycle and Operating Costs		28.4
Risk Adjustment		28.1
Project management costs including HST, insurance and procurement	16.0	11.7
Total	140.0*	173.3*
Cost Differential		33.4
Percentage savings from PSC		19%

*Calculation results may not be exact due to rounding.

The significant value for money in this project is primarily due to the innovative proposal from Plenary Health, which offered significant cost savings compared to the competing proposals. The value for money analysis was made following established methodology.⁷ The net present cost of the figures described above were developed using a discount rate⁸ of 6.25 per cent at June 2012, which represents the costs of capital over time, taking into account factors such as inflation and interest rates.



⁷ Partnerships BC's Discussion Paper: Methodology for Quantitative Procurement Options Analysis is publicly available at www.partnershipsbc.ca

⁸ The discount rate used for the calculation of value for money (VFM) is 6.25 per cent. To test the impact of a change in the discount rate on the quantitative VFM proposition of the DBFM model versus the DBB model, the modeling results were re-calculated assuming a discount rate 50 basis points higher and 50 basis points lower than the base discount rate. It should be noted that no change in the estimated value of risks was undertaken in conjunction with the change in discount rates used in the sensitivity analysis. A change in the discount rate, either higher or lower, would require a reassessment of the risks of the project. The results of the sensitivity analysis of the discount rate showed that the NPC of the final project agreement would have been approximately \$30.6 million less than the PSC if the discount rate was 50 basis points lower, and about \$35.9 million less if the discount rate was 50 basis points higher.

6.9 Additional Benefits

Plenary Health submitted a proposal that was overall superior to the other proposals received, offering important improvements on the original concept design and significant cost savings. The key strengths of the Plenary Health proposal included a number of qualitative and quantitative benefits that are expected to meet or exceed the project objectives identified by Interior Health. The use of scored criteria based on measurable operating outcomes resulted in the following improvements over the indicative design:

INDICATIVE DESIGN	PLENARY HEALTH DESIGN	DESIGN BENEFITS
Anticipated four floors to accommodate the programmed space	Provided all program space in three floors	Reduced overall cost and shortened construction schedule
Required a minimum of 51 out of 62 standardized rooms	Provided standardization in 60 of the 62 rooms that were evaluated for standardization	Enhanced operational efficiencies
Achieved direct natural light in four of the CSICU rooms, half of the 22 Pre-Op/Stage II Recovery Bays, and none of the PARR Bays	Achieved direct natural light in all six of the CSICU inpatient rooms, all of the 22 Pre-Op/Stage II Recovery Bays, and 10 of the 20 PARR Bays	Improved healing environment for patients and a better working environment for staff
Allowed no access to the exterior or natural features from either of two staff lounges	Allowed access to the exterior and natural features from both staff lounges	Better opportunity for staff to relax and rejuvenate during breaks
Design that served as a baseline for the scored criteria	A superior design that created better adjacencies, way finding and patient/logistic flows	More efficient operations and a convenient environment for patients and their families
A 47-month construction period ⁹	A 34-month construction period	New facilities available to Interior Health patients 13 months earlier than anticipated

The design enhancements included in Plenary Health’s proposal are expected to bring added value to the Authority that are in addition to the value for money calculations. These include improved patient outcomes, greater degrees of staff satisfaction, and increased operating efficiencies

6.10 Accounting Treatment

B.C.’s Office of the Comptroller General, responsible for the overall quality and integrity of the government’s financial management and control systems, has established accounting guidelines for partnership projects. Based on accounting guidelines, the capital cost, for accounting purposes, for the construction of the IHSC Building is expected to be about \$108.2 million. This figure includes only the capital cost for the Building and does not include equipment, insurance, HST, procurement and implementation costs, or contingencies. These costs are accrued to the Province through the construction period as the costs are incurred.

⁹ The original construction schedules for the Indicative Design and for Plenary Health Design were 44 months and 31 months respectively. The subsequent discovery and abatement of hazardous materials adds three months to both construction schedules.

7 Ongoing Project Agreement Monitoring

The project agreement with Plenary Health includes specific provisions to ensure project delivery, performance and quality standards are met. Monitoring spans every phase of the project, from financial close through design and construction, facility operations and maintenance. There are a number of major phases in the project monitoring schedule, with roles and responsibilities assigned to project participants at each stage.

7.1 Design and Construction Phase

The Project Agreement stipulates that both Interior Health and Plenary Health must appoint design and construction representatives. The Interior Health representative has the authority to act on behalf of Interior Health during the design and construction phase of the project, and to review, approve, accept or confirm Plenary Health activities, in accordance with the Project Agreement. The Interior Health representative is supported by the Authority's compliance team of professionals. The Interior Health representative will have full access to the construction site, drawings and specifications, and will report observations to Interior Health. In addition, both Interior Health and Plenary Health have jointly appointed an independent certifier who will monitor and report on construction progress, and provide certification that the conditions for service commencement have been achieved.

7.2 Operations and Maintenance Phase

The Project Agreement stipulates that both Interior Health and Plenary Health must appoint a representative to serve as a member of the Operating Period Joint Committee over the 30-year operating term of the agreement. The committee is a formal forum for the parties to consult and cooperate on all matters related to the facility during the operational term.

7.3 Quality Management

The Project Agreement is designed to motivate the private partner to ensure delivery, performance and high standards of quality given the monetary consequences of not achieving these requirements.

Plenary Health is required to have a performance monitoring program during the operating period that will monitor the delivery of services. All reports generated from this program and supporting data are readily available to Interior Health at any time for audit purposes. Monthly reports delivered to Interior Health will contain a variety of information, including:

- Summary of calls made to the facilities management help desk and their resolution;
- Summary of unavailability events and service failures;
- Calculation of the monthly service payment owed to Plenary Health; and
- A summary of all life safety actions and statutory testing (e.g. fire extinguisher inspections).

There are strict penalties if Plenary Health misrepresents the monthly report, potentially leading to contractor default.

7.4 Hand-Back Requirements

At the end of the 30-year operating term, the facility must be in a condition that is consistent with the services and maintenance specifications in the project agreement. For example, it would not be acceptable for the building fabric to be failing, the flooring to be worn or the general environment to be unkempt. Plenary Health and Interior Health will jointly appoint and pay for an independent party to inspect and survey the condition of the facility in advance of the end of the project term. Plenary Health is responsible for meeting the hand-back requirements at the end of the project term.

7.5 Project Agreement Reviews

Interior Health and the Ministry of Health will work together to review the Project Agreement at appropriate intervals from the start of operations. This review will focus on whether the Project Agreement is functioning as intended and whether the expected benefits are being realized. The intent is to inform the project and ensure administrative elements are being applied correctly.

7.6 Project Board

A project board has been established to provide guidance and oversight for the implementation of the project, including the traditional capital components. Members of the project board include representatives from the Ministry of Health, the Ministry of Transportation and Infrastructure, Interior Health, and Partnerships BC.

Interior Health has assembled an integrated project management team that will be responsible for implementing the project through design, construction and implementation. The project team reports through the chief project officer to the project board.



IHSC Building Indicative Design

8 Glossary of Terms

Affordability Ceiling: The net present cost of the maximum government will pay in annual service payments over the life of the project.

Annual Service Payment (ASP): The mechanism by which a private partner in a PPP arrangement is often compensated. According to performance standards specified in a project agreement, an ASP is paid to the private partner for capital and operating costs, as well as their required rate of return, over the term of the agreement.

Business Case: Document prepared in British Columbia by a project owner demonstrating the need and cost/benefit of a project, in addition to supporting a procurement method and providing an overview of the accounting impacts that a project may have.

Competitive Neutrality: A circumstance where competitive advantages that typically accrue to government as a result of public sector ownership are neutralized through a series of adjustments that permit a fairer comparison of non-public sector alternatives.

Discount Rate: A rate used to relate present and future dollars. Discount rates are expressed as a percentage and are used to reduce the value of future dollars in relation to present dollars. This equalizes varying streams of costs and benefits, so that different alternatives can be compared on a like-for-like basis.

Financial Close: The point in the procurement process where negotiations with a preferred proponent are finalized and a project agreement is executed, allowing construction to begin.

Independent Certifier: Independent, third-party certifier engaged jointly by the owner and the private partner to verify and certify whether certain conditions of the project agreement are being satisfied.

LEED® Gold certification: Leadership in Energy and Environmental Design (LEED) consists of a suite of rating systems for the design, construction and operation of high performance green buildings, homes and neighbourhoods.

Life Cycle: The long-term requirements to maintain and rehabilitate an asset.

Net Present Cost (NPC): NPC refers to the value of periodic future cost outlays when they are expressed in current, or present day, dollars by discounting them using the discount Rate.

Operations: The ongoing processes or activities of a practical or mechanical nature that are involved in running a facility, such as janitorial services in a building or snow removal on a roadway.

Owner: Usually a provincial ministry, authority or agency that is undertaking a needs assessment and benefit analysis to determine if a project will satisfy service delivery requirements, and that will own the project and fund the annual service payments if a project proceeds as a PPP.

Partial Compensation: A payment made to unsuccessful short-listed bidders in a request for proposals process as partial compensation for expenses incurred in submitting a compliant proposal.

Performance Specification: Specifications developed by the owner that define the output and performance levels required in relation to construction and life cycle performance of an asset, to ensure the completed project satisfies the objectives of a project with respect to meeting the owner's service delivery needs.

Preferred Proponent: A proponent selected from a short-list of bidders to enter into negotiations with a project owner to reach financial close and deliver a project.

Procurement Decision: The decision by an owner to procure a project in a particular way to achieve value for money.

Project Agreement: The project agreement sets out the requirements for the delivery of an asset under a PPP in terms of cost, schedule and life cycle performance that typically govern the performance-based payment of the ASP to a private partner.

Public Private Partnership (PPP): Public private partnership whereby public sector infrastructure is procured using a long-term performance-based agreement with a private sector partner to deliver and maintain an infrastructure asset, including significant, upfront capital investment.

Request for Proposals (RFP): Document issued by an owner for qualified proponents to submit formal proposals to deliver a project.

Request for Qualifications (RFQ): Document issued by an owner inviting parties interested in participating in an RFP, to submit their qualifications for delivering a project.

Retained Risk: Risks associated with delivering a project that are not transferred to the private partner under a PPP, representing a cost to the project regardless of the procurement approach.

Service Commencement: The date upon which the following activities have been achieved: the architect certifies substantial performance of the facility; an occupancy permit has been issued; the private partner has delivered to the owner the LEED® project checklist; and, all construction commissioning activities are complete.

Shadow Bid: A financial model developed to represent the procurement of a project using a PPP approach. The shadow bid is used to develop a cost estimate to be compared to the public sector comparator as a means of evaluating potential differences in the present value of the risk adjusted costs between traditional and PPP procurement.

Traditional Procurement: Methods by which the public sector has traditionally procured projects in B.C, through design bid build (DBB), or a combination of DBB and design build (DB) contracts.

Transferred Risk: Risk associated with delivering a project that is typically borne by the public sector under traditional procurement that is transferred to the private sector under a PPP.

Value for Money (VFM): Also commonly referred to as value for taxpayer dollars, VFM describes the benefits to the public expected to be realized through a particular procurement method, and can be quantitative and/or qualitative in nature. Quantitative value for money is achieved through the lower cost of a project resulting from the procurement method, whereas qualitative value is achieved when a particular procurement method better supports the goals and objectives of a project without necessarily costing less.



IHSC Building Indicative Design

Appendix A: Research and Data Resources to Support Scoring Criteria

Research

- (a) Baker, R.S., Norton, P.G., et al, The Canadian Adverse Events Study: the incidence of adverse events among hospital patients in Canada, May 2004
- (b) Institute for Family-Centred Care, Patient and family centered hospital design: a self assessment inventory, 2004
- (c) Kohn, J., Corrigan, J., and Donaldson, M., To Err is Human: Building a Safer Health System, 2000
- (d) National Health System, Achieving Excellence Design Evaluation Toolkit (AEDETE Evolution), Jan 2008
- (e) Sadler, Berry, et al., Good Health Care by Design – The Hastings Centre Report, (The Fable 2 Hospital), January – February 2011
- (f) Ulrich, R. And Zimring, C., The Role of the Physical Environment in the Hospital of the 21st Century: A Once-in-a-Lifetime Opportunity, Sept 2004

Interior Health Data

- (a) Operational volume statistics
- (b) Patient Safety and Learning Systems (PSLS) incidents
- (c) KGH Operational Costing data
- (d) KGH WorkSafeBC and LTD claim costs for 2010
- (e) KGH Nursing and LPN Turnover Rates for ICU, OR, PARR, Day Care/SDA



partnerships
British Columbia