

North Island Hospitals Project Concept Paper

January 2010

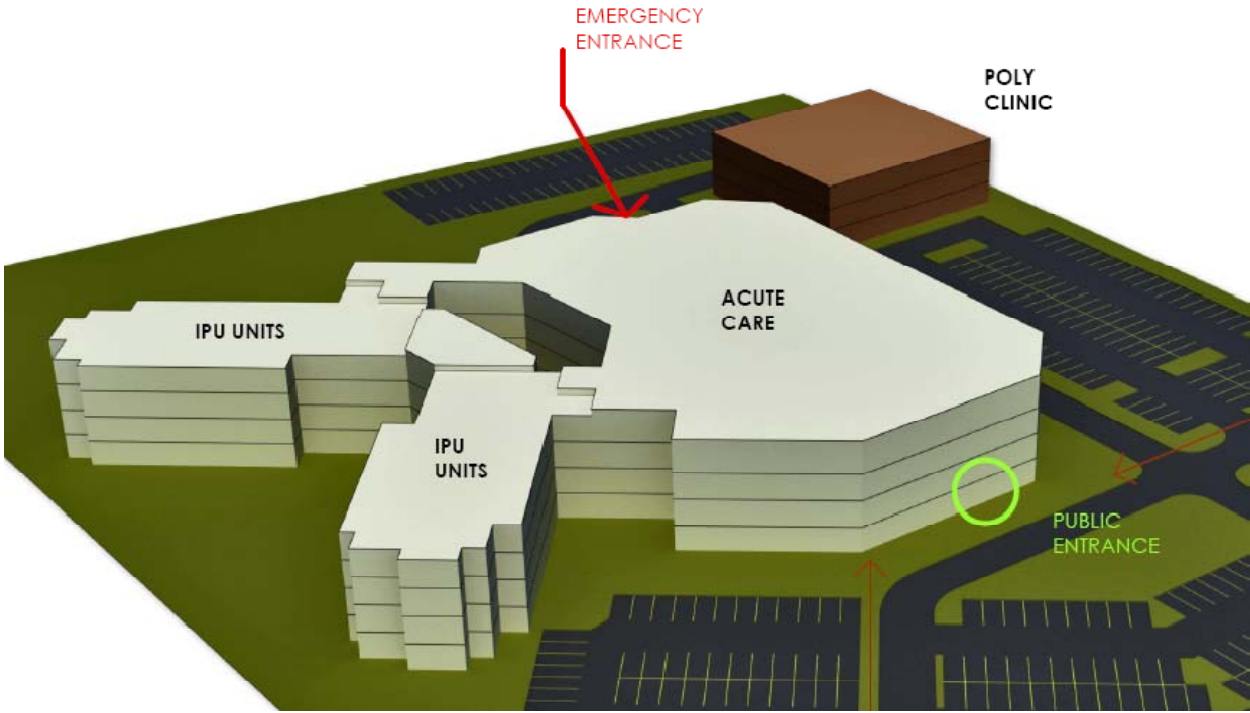


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Introduction

On May 27, 2009 the Board of the Vancouver Island Health Authority (VIHA) approved a plan to build two new, state-of-the-art, acute care hospitals in Campbell River and the Comox Valley (the Project). The Comox-Strathcona Regional Hospital District (CSRHD) has passed a motion to support the Project scope as well to raise 40% of the capital cost for the new hospitals.

Finding the right solution: Improved hospital care for the North Island

One of the most pressing priorities facing the Vancouver Island Health Authority is the need to establish a sustainable network of hospitals to meet the region's acute care needs today and into the future.

As we developed our Five-Year Strategic Plan in 2005, we went through an extensive public consultation process with residents, staff, physicians, community partners, aboriginal leaders and other stakeholders, across every region of VIHA. Through this process, we identified a need for enhanced specialty services for North Island communities and residents.

A diverse geography and population

The North Island service area covers an enormous geographic area, extending from the northern tip of Vancouver Island, to south beneath the mid-Island cities of Campbell River, Courtenay and Comox, as well as a substantial stretch of the mainland opposite Northern Vancouver Island, including communities north of Powell River and south of Rivers Inlet. The geography is large, covering approximately 40,322 square kilometers, which makes access to health care services more challenging than for residents in urban settings.

The need for renewal

There are currently two hospitals serving this large and diverse area; the Campbell River and District General Hospital and St. Joseph's General Hospital. Both hospitals are nearly 50 years old and their physical infrastructure is deteriorating. In the past number of years, each hospital has submitted requests for substantial capital investments to upgrade their facilities to approach current standards.

Before undertaking upgrades requested, we assessed our current and projected future delivery of acute care services. We wanted to make a wise investment; one that would meet the needs of residents today and well into the future.

Assessing the options

In 2006, VIHA commissioned Turnkey Management Consulting to undertake an options appraisal for future acute care service delivery in the Comox-Strathcona area. The firm looked at four options, including refurbishing and expanding the existing facilities and building a new regional hospital that would serve both major communities including providing services similar to those available at Nanaimo Regional General Hospital. Turnkey's recommendation to VIHA was to build a new Regional Hospital at a site between Comox and Campbell River.

In the summer of 2006, VIHA's Board of Directors asked staff to take the consultant's recommendation back to the community to get input and feedback. We held a series of town hall meetings, open houses, and smaller meetings with a wide range of stakeholders, including municipalities, First Nations leadership, physicians, and other health providers.

Through this process, we identified an additional option and refined the existing options, and included those changes for the Board's consideration. Although the intent of our consultation process had been to discuss how best to provide regional hospital services in the North, we discovered there was an overwhelming interest in discussing potential sites if the board recommended a single site regional hospital.

The Board considered four options: a new regional hospital in the Campbell River area, a new regional hospital in the Comox area, regional hospital services delivered through both existing hospitals, and a phased investment process. In considering the options presented, the board considered public input and feedback, quality and safety issues, service sustainability, financial sustainability and access.

In September 2006, the Board voted to support the creation of a new North Island regional hospital located along the Island Highway within the Comox Valley. In this model, a somewhat reduced range of community hospital services would have been provided in Campbell River. The Board believed this option provided the greatest opportunity to deliver sustainable acute care services for the residents of the North Island.

Listening to the community

While originally supported by the Comox-Strathcona Regional Hospital District (CSRHD), the Board's decision met with significant concern. Concerns that were raised included: lack of basic infrastructure services at the proposed location, reduced local hospital services in Campbell River and the distance, time and environmental impact of travel to the proposed site. These concerns continued to grow in the months following the announcement and in response the CSRHD ultimately withdrew its support.

To try and move the issue forward, the CSRHD established a task force of area physicians to propose a North Island acute care service delivery model that would meet the concerns expressed. It was unable to achieve consensus and disbanded.

VIHA continued to work towards finding a solution that would work for North Island communities, and that would help create the network of sustainable hospital services our residents need and deserve.

Assessing options

During the summer and fall of 2008, we undertook further discussions and consultation with physicians, staff and municipal leaders from both Comox and Campbell River. Based on these discussions, four options for acute care in the North Island area emerged:

- A single regional hospital between Campbell River and the Comox Valley
- Build a new hospital in the Comox Valley and renovate Campbell River Hospital
- Build a new facility in the Comox Valley and a new facility in Campbell River
- Expand Nanaimo Regional General Hospital to provide regional services for the North Island population, and maintain current bed base and services at Campbell River Hospital and St. Joseph's Hospital, with necessary upgrades to both sites

After listening to the concerns of residents, physicians and other stakeholders and considering these options carefully, VIHA's Board endorsed proposing two new hospitals be built, one in Campbell River, the other in the Comox Valley.

Adding more beds, preserving existing services, providing better care

Combined the two hospitals would have about 250 beds, a total increase of 80 beds for the region. Both hospitals would continue to provide the same acute care services currently delivered with new services available at the Comox Valley hospital and additional mental health and addictions services available at Campbell River.

Campbell River:

- New 90-95 bed hospital delivering the same services currently provided at Campbell River General Hospital
- This is an addition of 30-35 beds to the current bed base at Campbell River General Hospital
- All currently provided services will continue at the new hospital
- The new Campbell River facility will be built at the currently owned site at 2nd Avenue, subject to site and planning approvals

- Additional Services to be provided in Campbell River:
 - North Island Regional Centre for Mental Health and Addictions will be located at the new hospital site and include beds and ambulatory services. The Centre will have a particular focus on the provision of culturally sensitive and appropriate services to the Aboriginal population on North Island

Comox Valley:

- New 150-160 bed hospital delivering the same services currently provided at St. Joseph's General Hospital, replacing the 110 beds at this facility
- Services currently provided will continue
- The new Comox Valley Hospital will be built on a suitable site on a site yet to be determined
- In addition, the Comox Valley Hospital would have 40-50 beds for regional hospital programs, serving all residents of the Comox-Strathcona/Mt. Waddington area. These services, which are currently not available on the North Island, include but may not be limited to:
 - MRI
 - Trauma Level 3
 - Inpatient Renal Services
 - Cardiac Medicine
 - Enhanced Cancer Care
 - Specialized Maternity and Nursery
 - Enhanced Seniors Care

Bringing new regional services to the North Island

In addition to preserving all existing health care services in each community, we will be able to provide enhanced and new services to the region as a whole. This means:

- Providing some services at both sites and others at one site having a single, integrated, medical, nursing and support service staff working across two sites
- Establishing common and consistent clinical and patient safety standards at both sites
- Creating flexible designs that ensure both new facilities can be adapted to changing community needs and medical practices

Better health care—better health outcomes

New acute care facilities in the North Island offer VIHA and the Province the chance to create a new future for acute care on the North Island and set a new standard for acute care facilities.

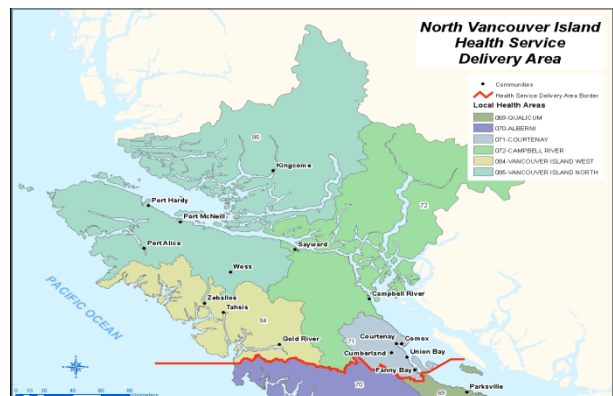
In particular, the North Island Hospitals will:

- Demonstrate support for the history of forestry on the North Island by the inclusion of BC wood into the acute care structure and environment;
- Potentially utilizing wood as a primary material in the construction of these new facilities thereby creating more jobs for North Island communities as well as setting a new benchmark for the use of wood in a hospital facility;
- Incorporate “lean” design and construction resulting in a new level of sustainability for health care by reducing resource consumption, capital cost, operating costs and ongoing human resource requirements;
- Establish a new level of sustainability by setting LEED Gold as the minimum requirement for Campbell River; and
- Leverage opportunities to partner with post secondary institutions to create a new collaborative model for fostering the development of health care professionals.

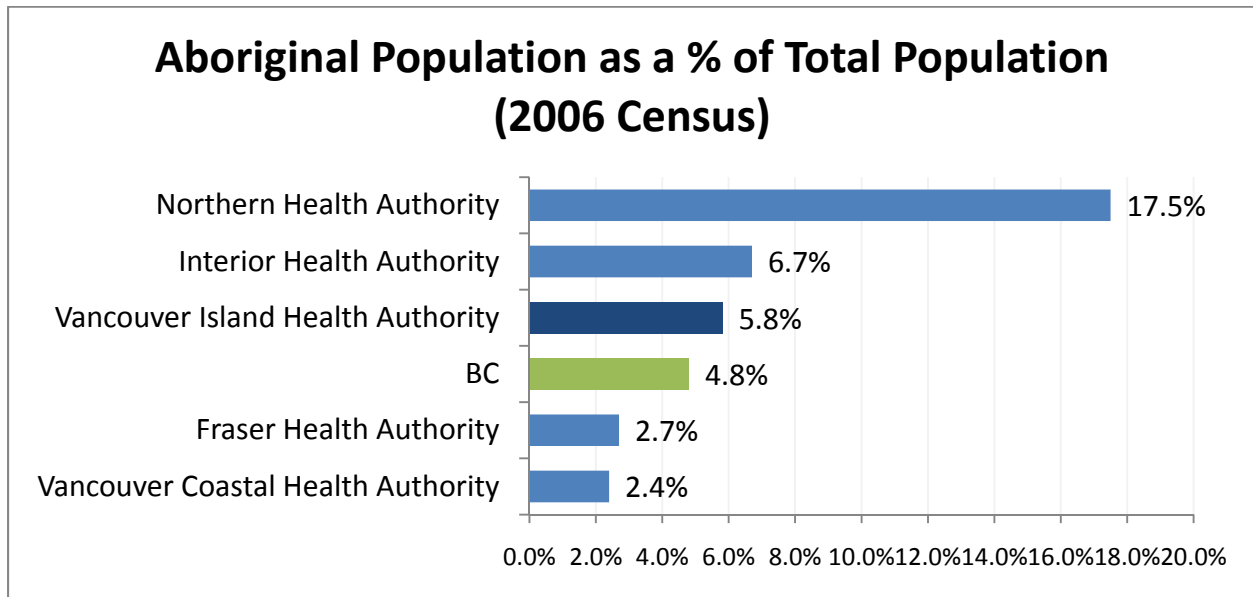
North Island

VIHA serves approximately 750,000 people and is organized into three Health Service Delivery Areas: South Vancouver Island (370,000), Central Vancouver Island (258,000), and North Vancouver Island (122,000).

BC Stats is projecting a 12% population growth in the North Island to a total of 137,000 with the majority (83%) of the net growth occurring in the Comox Valley. The growth in the older adult population is projected to be even more pronounced - the forecast to 2013 for the population aged 75 and over is for a growth rate almost three times that of VIHA overall.



About twice as many residents in the North Area identify as Aboriginal compared to VIHA as a whole. This population is slightly younger than in the whole of VIHA, with a relatively small population aged 75 and over.



Compared to the rest of VIHA, the North Island region has the poorest health status. Teenage pregnancy rates are high and life expectancy is approximately one year shorter than for more southern residents of the Health Authority. The overall death rate is also higher than in VIHA, with a significant number of deaths due to suicide and alcohol abuse. Lower education levels and high unemployment rates likely contribute to the poorer health status of the population. People who live on the North Island are admitted to hospital more frequently than elsewhere in the Health Authority.

VIHA is responding to these challenges by improving services and focusing on providing high quality, easily accessible and culturally sensitive healthcare to the residents of the North Island.

SITE INFORMATION

Existing Facility Capability to Provide Quality Care

The physical structures at both Campbell River and District General Hospital and St. Joseph's General Hospital cannot meet the future need for patient care and are currently preventing staff from providing the highest care possible. Both of these aging facilities currently provide a poor functional workspace for staff and physicians and contribute to the challenge of delivering continuous specialty services, particularly at Campbell River due to the difficulty we have experienced in recruiting necessary staff and physicians.

St Joseph's General Hospital

St Joseph's General Hospital (SJGH) serves the area from Bowser to Oyster River – an estimated population of 65,000 people (2008). As the only acute-care hospital in the area, it also receives patients from highway, air and marine accidents in the vicinity and from CFB Comox Search and Rescue, and is equipped with a Transport Canada Certified Helipad.



SJGH provides specialist services to the local health area in Dermatology, General Surgery, Gastroenterology, Internal Medicine, Obstetrics/Gynaecology, Ophthalmology, Orthopaedics, Paediatrics, Palliative Care, Pathology, Psychiatry, Radiology, and Urology. It also provides specialty services as a referral centre for a regional population of 120,000 (North Vancouver Island and West Vancouver Island) in Dermatology, Nuclear Medicine, Ophthalmology, Psychiatry, and Urology.



St Joseph's General hospital is situated in downtown Comox with access from the Old Island Highway (19A), and adjacent to the Inland Island Highway (19). The location of this hospital has raised access issues for North Island patients.

SJGH is an old facility, with an average building age of 40 years, and is in need of many upgrades and renovations. These include seismic upgrades, new operating rooms, and an upgraded centralized sterilization room and obstetric unit. Additional beds are needed to meet growing population needs, as well as an enhanced emergency room and space for more diagnostic and hospital day services.

The current location and small campus size of this hospital limits its ability to provide regional hospital services benefitting all residents of the North Island into the future. Limited available land for additional buildings and seismic concerns about existing buildings restrict opportunities for expansion.

St. Joseph's Hospital is operated by the Archdiocese of Victoria through an Affiliate Agreement with the Vancouver Island Health Authority. VIHA funds, but does not "own" SJGH and its staff and physicians are not VIHA employees, though many excellent relationships are in place to ensure continuity of care for patients.

A future role for SJGH would be determined by the SJGH Board of Directors.

Campbell River and District Regional Hospital

The Campbell River and District General Hospital (CRDGH) was originally built in 1956 with a total of 59 patient beds. The North main floor wing and south main floor wing were added in 1973, and in 1991 the Depew Wing, which houses the medical imaging and operating rooms was added. The hospital currently has 5 intensive care beds, 11 medical beds, 15 surgical beds, 10 medical/surgical beds, 3 obstetrics beds, 1 pediatrics bed, and 14 transitional care beds.



The core of the hospital was built in 1956, with additions in 1966, 1972, and 1990. The 1956 and 1966 structures and services require significant upgrading in order to accommodate current clinical programs. Similarly, the 1972 structures will require upgrading to accommodate relocated clinical programs resulting from other work. A previously conducted report states that the 1956 building is dysfunctional and seismically deficient. The dysfunction is particular to the area of inpatient rooms and lack of bathrooms. The Emergency Department is also functionally challenging due to its fragmented plan. Further, the existing ambulatory care spaces do not support current and projected outpatient workload, and compromise staffing efficiencies. One of the primary objectives of the North Island Hospitals Project is to improve staff efficiency and workflow by implementing



evidence-informed design principles. Construction of a new hospital at the CRDGH site provides an opportunity to develop more effective and efficient spaces designed to meet best practices, allow for optimal workflow and improve health outcomes.

Recent studies by external consultants have repeatedly highlighted significant physical structure and resource challenges for CRDGH given contemporary standards. These issues and challenges are the consequence of increases in clinical workload, changes in clinical practice, advances in medical technology, building code changes and building fatigue.

ALIGNMENT AND SCOPE

Strategic Plan Alignment

VIHA's Five-Year Strategic Plan¹ is focused on the delivery of coordinated health care service delivery by broad geographic area across five care sectors. The plan for the North incorporates population demographics and health needs, as well as service needs in Primary Health Care, Acute Care, Mental Health and Addictions Services, and Home and Community Care. A key challenge is optimizing patient flow, both within and between sectors.

VIHA's Five-Year Strategic Plan identifies three overarching goals:

1. Improved Health and Wellness of VIHA Residents;
2. Quality, Patient Safety and Client-Centered Care and Service; and
3. A Sustainable, Affordable, Publicly Funded Health System.

The North Island Hospitals Project supports all three goals:

- Modern and efficiently designed hospitals will facilitate improved patient safety and client centered care;
- The incorporation of re-engineered processes through lean design will improve quality and reduce resource consumption and reduce pressure on future staffing requirements;
- The Project will improve our capacity for infection control;
- LEED Gold (or higher) certification will reduce the ecological footprints of the new facilities and reduce environmental hazards;
- Extended service life of new facilities, expanded capacity and process redesign-based innovation will support operation within available operating budgets; and
- The Comox-Strathcona Regional Hospital District will provide 40 percent of the total capital cost.

¹ Vancouver Island Health Authority *Strategic Plan 2013*, available at www.viha.ca

VIHA's Five-Year Strategic Plan has identified a need for enhanced specialty services in the Northern area of the Health Authority. Many specialized services are not currently available in the Comox-Strathcona area, requiring North Island patients travel to Nanaimo and Victoria for specialized services.

Alignment with Ministry of Health Services Strategic Priorities

In spring 2006, the Ministry of Health Services initiated a process with the regional health authorities to review and further develop capital planning process for health projects. The context for this process included emerging demographic shifts, increasing pressures on the health system, and opportunities available as a result of evolving clinical models.

Key directions emerging from this process include:

- The need to optimize the continuum of care through greater investment in public health, primary care and ambulatory care;
- The recognition that the future role of hospitals will be focused on treating the most acute medical and surgical cases, such as trauma or complex cases with multiple co-morbidities;
- Recognition that there are deferred maintenance issues in many health facilities, and there is a need to invest in capital assets that will play a key role in the future system;
- The need to link investments with improved patient outcomes, and for new investments to be affordable and sustainable;
- The need to support investments with evidence-based demand modeling and comprehensive planning;
- The need to improve the quality, safety and efficiency of care through greater use of information technology;
- The need to carefully consider health human resource constraints due to an ongoing and increasing shortage of qualified and experienced health care professionals as we develop plans; and
- The requirement that new facilities should be safe, environmentally sustainable and elder-friendly.

Both the VIHA Five-Year Strategic Plan in general and this Project in particular, are aligned with these strategic directions:

- VIHA has a comprehensive strategic plan which has included public consultation on health needs and feedback on the services that are currently provided;
- The Project is part of an integrated service delivery plan, and is supported by service delivery plans across the continuum, including the areas of primary care, mental health and addictions and residential care and assisted living;
- There is a clear need for CRDGH to continue to function as a community hospital in the VIHA service delivery plan. This necessitates the renewal of the inpatient bed capacity to meet modern standards for a high quality, efficient environment; and
- VIHA has completed evidence-based demand modeling to establish the number of beds needed in Campbell River and the Comox Valley, taking into account demographic factors (such as growth and aging) as well as the evolving continuum as new models of care are developed and implemented.

Project Objectives

The overarching goal of the Project is to provide modern, effective, and appropriate inpatient and outpatient services to the communities of the North Island at two new state-of-the-art hospitals. This goal is supported by the following four objectives:

1. Enhance North Island acute care capacity to meet growing and changing needs;
2. Enhance quality of care for patients, especially elderly and Aboriginal populations;
3. Improve access to services for all North Island communities; and
4. Maximize staff and physician recruitment and retention potential.

In addition, the Project will provide new regional-level services including: enhanced palliative and cancer services; enhanced renal services (dialysis and kidney care clinic); geriatric assessment team; Level 2A perinatal services; Level 3 trauma services; and enhanced capacity in specialty and sub-specialty services.

Service Delivery Model

VIHA's Acute Care Demand Model

In 2003, VIHA developed an Acute Care Projection Model to help identify future service requirements. Since then, we have continued to update and refine the model. Inputs to this model include historic utilization, population projections, population health status, and anticipated changes in service delivery. The model uses the most recent years' inpatient data and is updated on an annual basis to ensure it is as reflective of current service delivery as possible. The model projects acute care inpatient capacity requirements for all VIHA facilities to the year 2025.

Data Sources

The model uses data sources including a subset of hospital data from the Discharge Abstract Database obtained from the Ministry of Health Services; the most recent release of PEOPLE² population estimates and projections developed by BC Stats; and the five-year average

² Population Extrapolation for Organization Planning with Less Error.

Standardized Mortality Ratios obtained from BC Vital Statistics Agency. These data sources are updated annually, as updates become available.

Model Deliverables

Model results may be presented through two separate lenses: by Local Health Area of residence or by facility of discharge. For purposes of facility planning, we generate results at the facility level. The model projects numbers of days by four service categories (medicine, surgery, psychiatry and maternity) for each VIHA inpatient facility. We apply service-specific occupancy rates to days generated by the model, to estimate the number of beds required.

Model Adjustments

The model provides decision makers with a range of beds required, rather than a single point estimate of bed needs. We establish the range by applying a number of scenarios, simulated through model adjustments and varying occupancy rates. The following graphic illustrates, at a high level, the types of adjustments performed in the model.

	POPULATION	HEALTH NEEDS	SERVICE DELIVERY		
	2020 Population	SMR	Admission Rates	Alternate Level of Care (ALC)	Length of Stay (LOS)
Adjusts for:	Age groups that need more services (e.g., elderly)	Variation in health status	Relatively high rates by LHA	High % of ALC days	Relatively high

Occupancy Rates

We use occupancy rates to show the actual utilization of an acute care facility for a given time period (e.g., reporting period, year). In VIHA, we typically report occupancy rates at the facility, Health Service Delivery Area, and Health Authority levels. Rates may also be reported at the level of service (e.g., Psychiatry, Medical, Surgical, or Maternity). We calculate occupancy rates by dividing the number of patient days by the number of bed days available.

In fiscal year 2007/2008, the North Island hospitals collectively operated at 91.3 per cent occupancy; in 2008/2009, occupancy was slightly higher at 92.3 per cent. Occupancy rates such as these, compromise an inpatient facility's ability to respond to fluctuations in bed demand – scheduled surgeries may be cancelled to accommodate more urgent cases; and pressures in emergency departments escalate.

There is no single optimal occupancy rate for all types of hospitals and services. Factors such as hospital size, number of non-substitutable beds, and relative variation in service demand (e.g., emergency services) all influence a hospital's occupancy rate. Research has shown that occupancy rates above 85 per cent greatly increase the risk of periodic bed crises (Bagust et al., 1999)³. In addition, higher occupancy rates have been correlated with higher rates of MRSA infection (University of Ulster Research, 2006)⁴.

Introducing a higher proportion of single-patient rooms permits greater flexibility for patient placement (i.e., characteristics such as gender, personality, behavioural considerations and contagion will have less influence on patient placement). In turn, this permits a facility to operate safely and effectively at higher occupancy rates. Bobrow and Thomas (2002), identify that while occupancy rates in multi-patient rooms reach an average of 80 to 85 per cent, single-patient rooms have the capacity to reach an occupancy rate of 100 per cent without significant implications.⁵

Our service capacity projections to date have employed a range of target occupancy rates to establish bed requirements for the North Island Hospitals. Occupancy rates of 85 per cent for Medical services, 90 per cent for Surgical and Psychiatric services, and 75% for Maternity services have been applied to capacity projections.

Model Results

³ Bagust A, Place M, Posnett JW. Dynamics of bed use in accommodating emergency admissions: stochastic stimulation model. *BMJ* 1999; 319:155-8.

⁴ Retrieved from the World Wide Web: <http://news.ulster.ac.uk/releases/2006/2280.html> September 12, 2006.

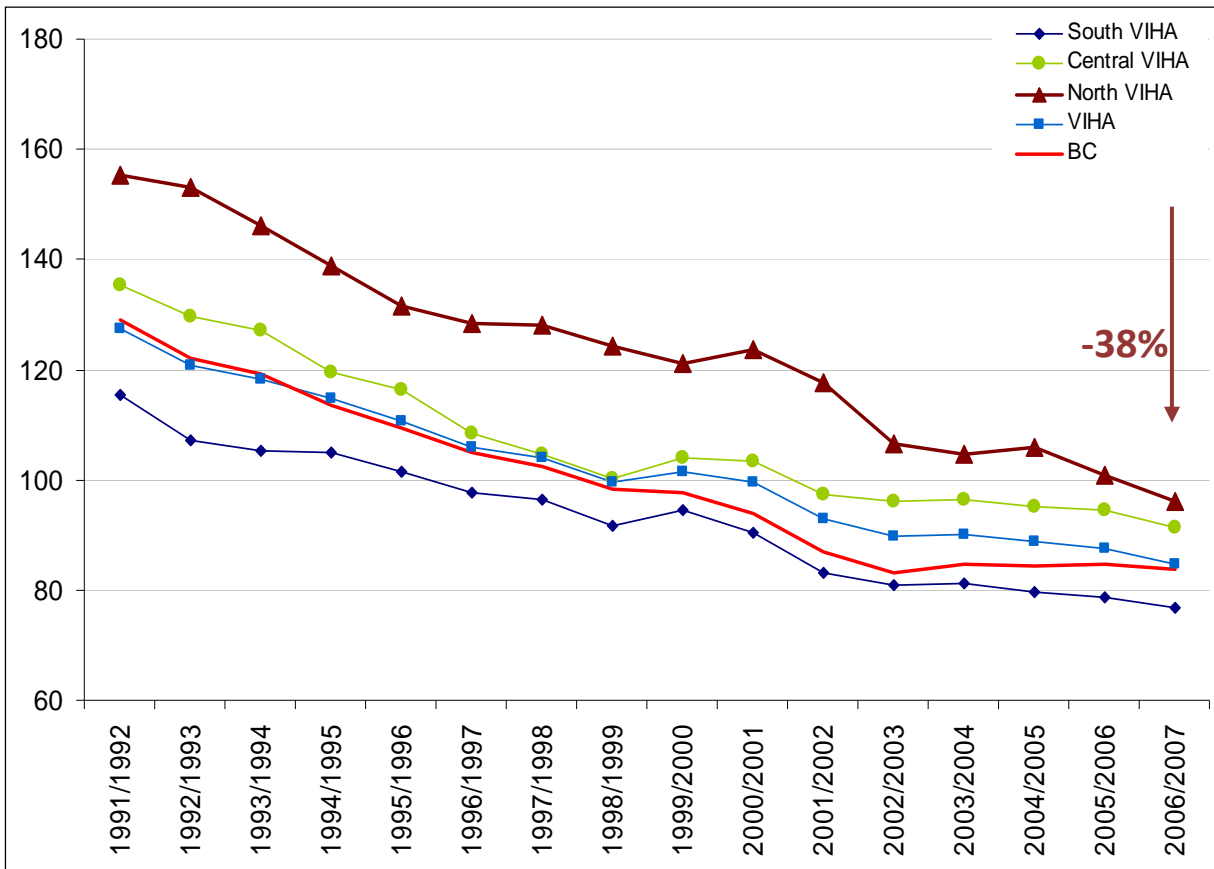
⁵ Bobrow, M., & Thomas, J. (2000). Multibed versus single-bed rooms. In Kobus, R. et al., *Building type basics for healthcare facilities* (pp. 145-157). New York: John Wiley & Sons.

We have completed further modeling and analysis to assess what impact upgrading to a regional facility will have on inpatient bed requirements, and the effects of repatriating a number of cases that are currently referred out of the region, on bed requirements. The effects of these changes bring required bed estimates to 90-95 for Campbell River and 150-160 for Comox Valley.

If approved in 2010, the hospitals could open as early as the fourth quarter of 2014; therefore, we have a period of flexibility within which to select a variety of routes through which we can achieve the target bed numbers on, or before, 2025. It is imperative that the Project accommodates some of the potential variance from 90-95 and 150-160 beds (most critically, variation above the bed target). VIHA is currently working on a variety of projects in the North Island to meet the changing needs of the population, including various IM/IT initiatives that have been deployed in order to better integrate this rural area with the rest of the health authority.

In addition, VIHA will support and promote the ongoing shift away from acute inpatient treatment to ambulatory care, and is introducing accessible and integrated primary health care services and supports.

These initiatives were built on current trends that show a steady decline in inpatient case rates (by 2.1 per cent per year since 1991/92 in VIHA), and gradually reducing alternate level of care days (as provision for residential care has increased). The following graph illustrates this trend:



Demand for alternate level of care beds may be managed in a number of ways: by reducing preventable admissions to hospital, implementing patient care practices targeted towards alternate level of care patients in hospital, and by building community supports that allow patients to leave hospital. Currently, VIHA is undertaking a system-wide initiative to promote better patient care for those who are identified as vulnerable to significant health decline in hospital to ensure they receive appropriate care and a safe return home as soon as possible. We anticipate that this initiative will enable VIHA to improve our ability to ensure patients receive the right care in the right environment, usually outside of the acute care setting.

Demand Model Validation

VIHA's demand model assumptions have been validated by the Ministry of Health Services and results compared to those of the InfoQuest model used by other Health Authorities. The output of the model has been found to be consistent with these third party benchmarks.

VIHA has completed evidence-based demand modeling to establish the number of inpatient beds needed in Campbell River and the Comox Valley, taking into account demographic factors, health needs and the evolving continuum of care. This demand model has been validated by the Ministry of Health Services and is comparable to other best practice efforts by Health Authorities.

The Project is an integrated regional service delivery model with a new 150-160 bed hospital in the Comox Valley and a new 90-95 bed facility in Campbell River. It will maintain existing hospital services in both communities, provide additional beds in Campbell River and provide access to regional level services. A single, integrated medical, nursing and support service staff team will work across the two sites to ensure seamless service.

In addition to preserving existing services, the new hospital in the Comox Valley will provide enhanced regional health services, benefitting all residents of the North Island by reducing the need for people to travel to Victoria or Nanaimo for these services. Specifically, new services proposed for the regional hospital include:

- An increased number of core specialists to ensure sustainable on-call services in general surgery, internal medicine, anesthesia, obstetrics/gynaecology, paediatrics, psychiatry and orthopaedics;
- New or additional capacity for the following sub-specialties: urology; otolaryngology; plastic surgery; and ophthalmology;
- Enhanced palliative and cancer care services;
- Expansion of renal services, including a kidney care clinic and additional dialysis capacity;
- Cardiac medical unit for non-invasive assessment and treatment of heart disease;
- Level 2 critical care unit and additional critical care beds;

- Inpatient rehabilitation capacity;
- Psychiatric emergency service integrated with the emergency department and a psychiatric intensive care unit (psychiatry services will be available at both the new Campbell River facility and the Comox Valley regional hospital);
- Level 2A perinatal services to accommodate higher risk pregnancies within the North Island;
- Level 3 trauma centre to provide the ability to stabilize and treat secondary level trauma for the entire North Island, and assessment and stabilization capacity for multi-system trauma before transfer to VIHA Level 2 trauma centre at Victoria General Hospital; and
- Magnetic Resonance Imaging.

In addition to improved access to more specialized services, benefits will be realized in patient flow and quality of services due to better coordination and integration of services across the continuum of care. The additional capacity will support an estimated repatriation of 17 bed equivalents of secondary level inpatient activity. We also estimate that the new regional and specialty services will repatriate about half of the number of people currently accessing services in Victoria and Nanaimo. North island residents will continue to access tertiary level services in Victoria as required (such as the Heart Health program at Royal Jubilee Hospital).

Summary

In Summary:

- Existing inpatient facilities at Campbell River and District General Hospital and St. Joseph's General Hospital are in immediate need of renewal;
- Demand modeling supports the need for 90-95 beds in Campbell River and 150-160 beds in the Comox Valley;
- Renewal offers a unique opportunity to meet a range of objectives for improved care outcomes and an improved environment for patients and staff;
- The proposed renewal is strongly aligned with regional and provincial strategic objectives, and
- This Project is part of an integrated service delivery plan, and is supported by service delivery plans from across the continuum.

FACILITY DEVELOPMENT

Translating Demand into Physical Scope Development

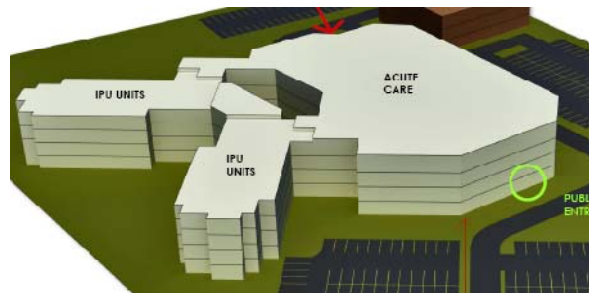
We developed physical scope requirements for the Project based on the following assumptions:

- Our projected bed requirement of 90-95 and 150-160 takes into account extensive redesign throughout the system;
- We will meet 2025 demand for inpatient beds in an appropriate, purpose-built environment;
- We will implement best practice standards of care, including infection control; and
- We will design patient flow and workflow to provide maximum operational efficiency.

Facility Space Requirements

To further develop the space and configurations required to meet best practice care and optimize effectiveness and operational efficiency, VIHA will undertake the following during the Business Case development phase:

- VIHA staff and third party experts will conduct a master planning exercise to review previous work, and determine how best to meet future capacity needs and replace substandard inpatient accommodation;
- Consult with clinicians to determine the most effective and efficient sizes, as well as the best ratio of single to double bed rooms to serve the unique patient population of the North Island; and
- Hold a competition among architectural design firms that specialize in healthcare facilities to find and implement efficient and effective inpatient layouts and best practices in inpatient design. We will then engage the successful firm to develop a concept design for the final Business Case.



We anticipate that the new Campbell River facility will be built on land available at the current hospital location, and we will finalize a location for the new regional hospital in the Comox

Valley in the coming months following the initial site identification process that has been completed. Three potential sites have been 'short-listed' for further investigation and consideration.

VIHA is committed to leveraging its extensive lean design experience as well as the lessons we have learned on other major acute care projects across the Province, to create a truly world class, innovative and cost effective design. The design will incorporate proven evidence-based design elements from around the world to improve quality, reduce length of stay and improve outcomes for patients, caregivers and the environment. Thoughtful incorporation of IM/IT will allow for cost-effective automation and reduction in error through the full implementation of the patient electronic health record.

Using a design build competition based on the proven design modules from other projects and using a performance based specification that leverages lean thinking, IM/IT, evidence-based design and sustainable design solutions will result in a hospital that will be world class. The opportunity to re-use a single design on two sites will further reduce costs.

Expected Benefits Resulting From Best Practice Design

The implementation of best practices into the design of new hospitals will deliver many important benefits. We expect these benefits at both new facilities in the North Island. These include:

- Reduced rates of nosocomial infection;
- Reduced adverse events – including medication errors;
- Reduced inpatient medication use;
- Increased staff productivity because of improved indoor environmental quality;
- Reduced patient falls;
- Reduced staff and physician travel time;
- Reduced patient transfer costs;
- Reduced need to provide way-finding assistance to visitors;
- Reduced recruitment costs and turnover; and
- Reduced sick time and rate of injury to staff.

APPROVAL REQUEST

1. Approval to proceed immediately with the North Island Hospitals Project Business Case as detailed in this proposal.
2. Funding of \$3m for a comprehensive Business Case in line with the Capital Asset Management Framework including:
 - a. Facility programming for both facilities;
 - b. Lean based process improvements;
 - c. Site related costs for two sites;
 - d. Development of two indicative designs;
 - e. Production of performance specifications; and
 - f. Delivery of a complete Business Case.