2008/2009 : Report 6

OFFICE OF THE
Auditor General of British Columbia

Interior Health Authority

Working to Improve Access to Surgical Services

August 2008

Library and Archives Canada Cataloguing in Publication Data

British Columbia. Office of the Auditor General.

Interior Health Authority : working to improve access to surgical services : Office of the Auditor General of British Columbia.

(Report ; 2008/2009: 6)

ISBN 978-0-7726-6036-7

1. British Columbia. Interior Health Authority - Auditing.
2. Public health administration - British Columbia - Auditing.
3. Health services administration - British Columbia - Auditing. 4. Surgery - British Columbia. I. Title.
II. Series: British Columbia. Office of the Auditor General.
Report ; 2008/2009: 6.

RA185.B7B74 2008 353.6'243909711 C2008-905482-2

OFFICE OF THE
Auditor General
of British Columbia

LOCATION:
8 Bastion Square
Victoria, British Columbia
V8V 1X4

OFFICE HOURS:
Monday to Friday
8:30 a.m. – 4:30 p.m.

TELEPHONE:
250 387-6803
Toll free through Enquiry BC at: 1 800 663-7867
In Vancouver dial 604 660-2421

FAX: 250 387-1230

E-MAIL: bcauditor@bcauditor.com

WEBSITE:
This report and others are available at our website, which also contains further information about the Office: www.bcauditor.com

REPRODUCING:
Information presented here is the intellectual property of the Auditor General of British Columbia and is copyright protected in right of the Crown. We invite readers to reproduce any material, asking only that they credit our Office with authorship when any information, results or recommendations are used.

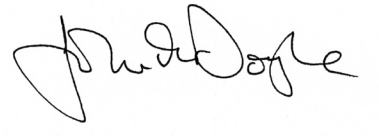
OFFICE OF THE
Auditor General
of British Columbia

8 Bastion Square
Victoria, British Columbia
Canada V8V 1X4
Telephone: 250 387-6803
Facsimile: 250 387-1230
Website: http://bcauditor.com

The Honourable Bill Barisoff
Speaker of the Legislative Assembly
Province of British Columbia
Parliament Buildings
Victoria, British Columbia
V8V 1X4

Dear Sir:

I have the honour to transmit herewith to the Legislative Assembly of British Columbia my 2008/2009 Report 6: Interior Health Authority: Working to Improve Access to Surgical Services.



John Doyle, MBA, CA
Auditor General of British Columbia

Victoria, British Columbia
August 2008

copy: Mr. E. George MacMinn, Q.C.
Clerk of the Legislative Assembly

Table of Contents

Auditor General's Comments

John Doyle
Auditor General

B.C. residents in need of surgery want access to healthcare that is high quality, timely, and close to home. As our population grows there are more elderly and access to healthcare is of increasing importance. Demands for surgery increase, not only with age, but as the ability to treat improves with advances in medical technology. As a result concerns over wait lists for elective surgery have been heard all over Canada.

There are numerous factors that impact surgical access which B.C. residents should be aware of. Four of these underscore the provision of access to surgical services: demand for surgical services, efficiency of surgical services, surgical patient safety, and accountability of the surgical services. This report investigates these factors and in providing it I hope to make British Columbians more aware of these issues.

I have a keen interest in matters of health, not only because of personal experience with the healthcare system, but because healthcare deeply affects every person in their lifetime—often at several points.

In addition, health is the number one expense of the B.C. government and increasing as a proportion of provincial spending. Health related expenses are the largest share of the B.C. budget topping 40%.

Interior Health is funded at over $1B per year. It has a population over 700,000 representing about 17% of the B.C. population. There are two major referral hospitals and four service area hospitals offering acute care and full surgical programs. In addition, there are smaller acute care sites providing some level of surgical service. In 2006 Interior Health treated over 80,000 surgical cases in total. It was the right size and location for this audit.

I chose to examine Interior Health as it provides a broad mix of surgical services to both a rural and urban population. Through this audit I hope to draw attention to the efficiency gains in surgical services that can be had through attention to patient flow and through effective surgical services management.

I expected to find a comprehensive framework for surgical services; effective surgical services management; information systems to support surgical services; and reports on the performance of surgical services. What I found was a work in

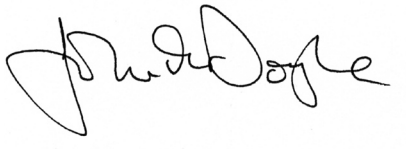
Auditor General's Comments

progress with some very good work accomplished, and more yet to be done.

This report is a nudge in the direction of greater efficiency and effectiveness, to a health authority that is already moving in this direction. Interior Health has accepted all the recommendations provided in this report and already implemented some of them.

The fact that Interior Health knew of the need for these recommendations, and intends to implement all them, is a testament to the health authority's knowledge of its business, and to the relevance of the report. If every health authority takes note and pays attention we will not need to do this audit again and all B.C. residents will benefit.

In the past years my Office has examined many topics related to health, healthcare, and surgery. During my tenure I expect we will examine many more. Health matters.



John Doyle, MBA, CA
Auditor General of British Columbia

Victoria, British Columbia
August 2008

Audit Team

Morris Sydor, Assistant Auditor General

Jo-Ann Youmans, Director

Reed Early, Manager

Brenda Marin-Link, Manager

Executive Summary

Executive Summary

Healthcare is a public expense. The Ministry of Health Services is the steward of the health system, setting direction, funding all aspects of the system and monitoring results. Health service delivery is the responsibility of the province's six health authorities. Approximately $13.7 billion, or 38% of the 2007/08 budget for the Province of British Columbia, is allocated to health. The Ministry of Health Services transferred about $8 billion to health authorities to provide services, including surgery.

Nearly half a million surgeries are performed in the operating rooms of British Columbia each year, including emergency surgery resulting from trauma or illness, as well as elective surgery. Emergency surgery is provided on a first-available basis while elective surgery is scheduled in advance. Wait lists may be created for elective surgery but not for emergency surgery.

More people are requiring surgery as the population ages and the medical conditions needing surgery continue to increase due to improving technology and an expanding ability to treat. Yet access to elective surgery (for example, hip and knee replacements) is a concern across the country. The 2005 Canadian Community Health Survey found wait times, including waits for surgery, were the number one barrier to health care in Canada.

In 2007, 459,388 surgeries were performed in British Columbia. Yet many British Columbians are waiting for elective surgery. According to the Ministry of Health Services, as of January 31, 2008, there were 72,846 patients waiting for surgery.

Audit Purpose and Scope

The effective management of surgical services is a significant part of minimizing wait times. Our audit examined the delivery of surgical services, focusing in particular on the management and accountability of surgical resources. In order to keep the project manageable, we focused on one health authority—Interior Health.

The purpose of our audit was to assess whether the Interior Health Authority has systems in place to optimize the use of resources to provide safe, efficient and effective surgical services. Specifically, we assessed whether Interior Health:

1. has a comprehensive framework for surgical services;
2. demonstrates effectiveness in surgical services management;

3. has information systems support in place for surgical services management; and
4. reports internally and externally on the performance of surgical services.

We selected the Interior Health Authority because it has a mix of rural and urban populations, as well as providing a broad spectrum of surgical specialties. We did not audit the other four geographically defined health authorities, the Provincial Health Services Authority, physicians' offices or the Ministry of Health Services.

We conducted our audit fieldwork in the fall of 2007, analysis in winter, and writing during spring and early summer of 2008. The audit was carried out in accordance with the standards for assurance engagements established by the Canadian Institute of Chartered Accountants.

Audit Conclusion

Overall, we concluded that the Interior Health Authority does not have all necessary systems in place to optimize the use of resources to provide efficient and effective surgical services. There is a lack of clear direction, integrated human resource planning and defined roles, responsibilities and accountabilities. However, the health authority is taking steps to improve effectiveness for example, through the introduction of pre-surgical screening and standardized operating room booking.

In addition, Interior Health has an information system in place to manage surgical services. The authority has also established a suite of indicators for monitoring and reporting on the performance of its surgical services. Although performance reports are available to Interior Health and the Ministry, there is no public reporting.

Executive Summary

Key Findings and Recommendations

A comprehensive and fully integrated framework for surgical services is not in place

In response to an external review of its surgical services, Interior Health set up a Surgical Council (staff and physicians) in 2004 to help the authority move towards a more integrated and standardized surgical service. The Council has had success in a number of areas, such as pre-surgical screening, standardized booking forms, information systems, and reporting indicators.

All of these initiatives are important means of improving surgical service delivery. However, the Senior Executive has not provided clear direction for the surgical program. In addition, key aspects such as human resource planning and budgeting are not looked at from a regional perspective and roles, responsibilities and accountabilities for surgical services are not clear. Without clarity in these areas, Interior Health will have difficulty developing a comprehensive and integrated framework.

We recommend that the Interior Health Authority:

- ***put in place a focused approach to human resource planning for surgical services, including succession planning; and***
- ***provide direction for surgical services by clarifying the Surgical Council's role in developing a regional surgical program.***

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

Effective and efficient surgical services require a complex interplay of many components: adequate numbers of appropriately trained staff in a variety of professions; policies and standards; booking and scheduling systems; suitable equipment and facilities; and systems for monitoring and safety.

We concluded that Interior Health is not managing surgical services as effectively as it could. However, Interior Health is currently putting in place the infrastructure intended to do so. For example, it is developing authority-wide policies, standardizing equipment and care protocols, and monitoring practice and overall service.

A number of these initiatives are in the early stages and need to be expanded and strengthened. As well, regional coordination and standardization in other areas needs attention to help ensure and improve the effectiveness of the surgical services delivered. These areas include staff orientation and training needs; performance reviews; processes to allocate surgical time; and tracking and reporting of patient incidents.

We recommend that the Interior Health Authority:

- ***assess the adequacy of the various methods used at individual sites to allocate surgical time;***
- ***standardize equipment and surgical policies and practices as appropriate across all sites that provide surgical services;***
- ***develop a standardized basic orientation program for surgical services staff;***
- ***undertake a formal assessment of training needs of surgical services staff and use the results to support continuing education;***
- ***develop and implement an authority-wide continuing medical education program;***
- ***ensure that all surgical services staff receive regular performance reviews;***
- ***implement a standardized patient incident tracking and reporting system; and***
- ***clarify the role of the Surgical Council in advancing patient quality and safety and how that role integrates into the quality management structure.***

Interior Health has information systems in place to support surgical services management

Interior Health has substantially finished implementing an information system for surgical services management, and data quality is being monitored and improved. Extensive consultation and planning was conducted before the information system was implemented. This system is producing reports useful to surgical service management. However, integration with other related hospital information is incomplete.

We recommend that the Interior Health Authority:

- ***assess and implement strategies using PICIS OR Manager information to better inform bed management.***

Interior Health reports on surgical services performance internally and to the Ministry of Health Services, but not to the public

Interior Health delivers important health services directly to British Columbians, and has an obligation to be accountable to the Ministry of Health Services and to the public is serves. Reports on the performance of surgical services are readily available to key stakeholders within Interior Health. The Authority is also meeting the requirements of the Ministry of Health Services for reporting on the performance of surgical services. What Interior Health is not doing is reporting to the public on its performance, including surgical services.

We recommend that the Interior Health Authority:

- ***report to the public on their performance including that of surgical services.***

Interior Health Response

The Interior Health Authority (IHA) is pleased to provide a formal response to the Office of the Auditor General's review entitled, *Working to Improve Access to Surgical Services*.

We would like to express our appreciation to the audit team for their professionalism, attention to detail and commitment to obtaining a thorough understanding of the complex systems and processes involved in providing surgical services to the citizens of Interior Health. We are pleased by the recognition that our health authority is conscientiously working towards improving the delivery of healthcare service for our population and that we have systems in place or being implemented to ensure the provision of safe, efficient and effective surgical care.

This audit report observes that IHA continues to work towards improving access to surgical services through our information management and information technology systems, authority-wide pre-surgical screening program, indicator monitoring and performance reporting.

At this time, we would like to convey that IH is already in the process of implementing the recommendations in this report.

Some initiatives have been implemented since the completion of the audit field work. These include:

- **Role of Surgical Council:** The Senior Executive Team supports the direction of the IH Surgical Council, including maintenance of programs already in place, and expansion into other priority areas. Regional programming initiatives focus on access to services, efficiency/effectiveness of the system, patient safety and enhanced communication. The IH Surgical Council is responsible for high level planning for surgical services, including the development of standards, monitoring and evaluating programs, and reporting and communicating information to stakeholders and the public. The Surgical Council provides clinical advice and recommendations to the Senior Executive Team and implementation of new regional initiatives are communicated and facilitated by the geographic Chief Operating Officers in each health service area. The role of Surgical Council will continue to be evaluated along with other similar regional programs to ensure the goals of the organization are being met.

- **Integration of Information Systems:** The information system for surgical services management (PICIS OR Manager) has been integrated with the larger IH Data Warehouse development. This enables the health authority to produce reports using data from several systems and report on key indicators. The Data Warehouse links the OR Manager system information with the following applications: admissions, abstracting, Medical Records Index and the Management Information System Provider Dictionary. Future linkages include the PICIS Quality Manager Enterprise application. Reports are being developed that will provide meaningful information on average length of stay, postponements and delays due to bed issues and other pertinent information to inform bed management initiatives.

Other recommendations are being included in existing project and program initiatives in the health authority. Detailed information is included in the Action Plan documentation. These include:

- **Human resource planning, including succession planning:**
  - The Human Resource Planning group has recently completed a workforce planning session with the Surgical Services OR/PAR group. This group is moving towards the development of a comprehensive surgical workforce action plan that addresses attraction, retention and productivity.
  - The Medical Administration department has hired a Leader, Physician Recruitment in order to centralize and coordinate high priority recruitment efforts across Interior Health. This position is responsible for the collation of the authority-wide Physician Human Resource Plans and ultimate presentation to the Health Authority Medical Advisory Committee (HAMAC) for approval. The Rural Strategy is one area that will be used to inform service needs and gaps in physician human resources.
- **Orientation:** The IH Human Resources Department offers Regional Orientation for all new hires, while clinical orientation is the responsibility of the Units or Departments at each site. The Operating Room Managers Committee is incorporating a regional focus to surgical multidisciplinary orientation (including physicians) in the development of Clinical Practice Standards for the Operating Room (OR),

Post-Anaesthetic Recovery (PAR), Booking and Day Care Surgery areas.

- **Training and Education Plans:** Interior Health is moving into a 5 year planning cycle that will outline demand projections and service expansions, and development of action plans to address these needs. Staff training and continuing education is a key component of this activity.
- **Continuing Medical Education:** Interior Health has designated a task force, reporting to HAMAC, to plan for an authority-wide continuing medical education program. This program will use information from peer review activities and incident report trends to determine targeted education needs for physicians.
- **Regular Performance Reviews:**
  - Staff: Currently, all excluded staff receives annual performance reviews as part of IH performance planning. IH has recently developed a Performance Management process for bargaining unit staff across Interior Health. Pending evaluation of the process, the system will be rolled out across Interior Health.
  - Physicians: Interior Health is in the process of reviewing its credentialing process. It is recognized that there are inconsistencies with this process from site to site. Education for the Chiefs of Staff at each site regarding their roles and responsibilities specifically related to quality assessment has begun.
- **Allocation of OR Time:** Surgical Council plans to evaluate methods used to allocate surgical time at individual sites and provide high level policy and guidance on this process. In the meantime, OR Booking guidelines are being developed and will be applicable to all sites across the health authority.
- **Standardizing Equipment & Surgical Policies/Practices:** Interior Health maintains a Surgical Product Advisory Committee that is currently working on a significant number of product standardization initiatives. Regional equipment lists are maintained by the OR Manager Committee to capitalize on further standardization as funding becomes available. With the development of the BC Health Authorities Shared Services Supply Chain, product standardization efforts will move into high-cost, clinically sensitive products.

In addition, a process has been implemented for sharing of OR equipment between IH sites in partnership with IH Biomedical Engineering and Materials Services departments. Regional Clinical Practice Guidelines have been, and continue to be, developed in the areas of operating room, pre-surgical screening, Booking, post-anaesthesia recovery and day care surgery.

- **Patient Quality and Safety Linkages:** Interior Health has created several new Patient Safety positions, including a Patient Safety Coordinator, Surgical. This position has matrix reporting through Quality Improvement and Patient Safety and the IH Surgical Council and is responsible for supporting local implementation of agreed upon and resourced quality and safety initiatives across the region.
- **Standardized reporting/tracking of adverse events and near misses:** IH is embarking on a new approach to transparency and learning from adverse events and near misses. New regional policies have been developed to support uniform incident management processes and open disclosure of these events. In addition, the new BC Patient Safety Learning System (PSLS) is being implemented across Interior Health and will provide staff with a method for identifying and recording patient safety events. PSLS captures data related to all patient safety events, including near-misses, safety hazards, patient complaints and claims.
- **Public Reporting on Surgical System Performance:** The IH Surgical Council has set a priority to develop public website reporting on surgical waiting times. To date, Interior Health has begun consultation and partnership with the BC Ministry of Health, the Provincial Health Services Authority and other health authorities on a consistent and viable approach to provincial reporting to the public. Further information and reporting is being planned for sharing with various stakeholders throughout IH, including surgeons and their office staff.

In conclusion, we concur with the findings and recommendations of the Auditor General's report and are committed to continue the implementation of strategies to strengthen the way we deliver surgical services to our patients and their families.

General Comments

Interior Health is pleased to submit the following Action Plan for implementation of the recommendations in the Office of the Auditor General's review entitled, *Working to Improve Access to Surgical Services*. At this time we would like to report that implementation of changes to support a majority of the recommendations has already begun as part of ongoing improvements and initiatives in the Health Authority. The Action Plan outlines specific initiatives aimed at achieving progress in the areas of developing a fully integrated framework for surgical services delivery, demonstrating effectiveness in surgical services management, utilizing information systems to support surgical services management and reporting on surgical services performance.

The Interior Health Surgical Council will monitor the progression of the following Action Plan and report to the Senior Executive Team.

Detailed Action Plan for Implementing the Recommendations

OAG Finding: A comprehensive and fully integrated framework for surgical services is not in place.

	Actions Taken To Date	Status (see note)	Actions Planned
Recommendations: We recommend that the Interior Health Authority: ■ Put in place a focused approach to human resource planning for surgical services, including succession planning; and	■ The Human Resource Planning group is working with the operating divisions as well as 14 pan-Interior Health Planning and Standards Networks [of which Surgical Services is one]. A workforce planning session was held on July 20th 2008 with the Surgical Services OR/PAR group. This group is moving towards the development of a comprehensive surgical workforce action plan that addresses attraction, retention and productivity.	**P**	■ September meetings have been established to develop action plans, timelines for implementation and delineate responsibilities. ■ Further meetings will be held with working groups representing surgical units, Pre- Surgical Screening and CSR to review HR data and develop action items. These will be followed up with group discussion on development of plans, implementation and responsibilities as above. ■ Target date for completion of these activities and working groups is December 31 2008. Implementation of action plans will begin in January 2009 and is anticipated to take up to 5 years to complete.
	■ The Medical Administration department has hired a Leader — Physician Recruitment to centralize and coordinate high priority recruitment efforts across Interior Health. This position is responsible for the collation of the authority-wide Physician Human Resource Plans. In the past, information about physician recruitment needs was not shared across the health authority which led to competition between sites and often the loss of candidates.	**P**	■ Interior Health has a physician resource plan in place, building on work completed in April 2007. An expanded and enhanced plan to cover the period December 2008 through to March 31, 2010 will be completed in November 2008. ■ In addition to this work, Interior Health is updating the Rural Health Plan which will, among other things, identify service needs and gaps in physician human resources. The Rural Health Plan, including community consultation, will be completed by March 31, 2010.

Note: Status of Implementation

I – Recommendation has been fully or substantially implemented
P – Recommendation has been partially implemented
AA – Alternative action has been undertaken, general intent of alternative action addresses OAG finding
NA – No substantial action has been taken to address this recommendation

Detailed Action Plan for Implementing the Recommendations

	Actions Taken To Date	Status (see note)	Actions Planned
Recommendations: Provide direction for surgical services by clarifying the Surgical Council's role in developing a regional surgical program.	■ The Senior Executive Team (SET) reviewed the IH Surgical Council role and mandate as part of a larger Planning Review in April/May 2008. SET supports the direction of the IH Surgical Council as articulated in this process. The Surgical Council mandate will continue to be reviewed regularly as part of Interior Health's process for all regional programs. ■ Implementation linkages to Health Service Area hospitals is facilitated through SET geographic COO's and regular updates and agenda items are included as required on the SET agenda for approval.	I	■ IH Surgical Council to continue moving initiatives forward in the areas of efficiency/effectiveness of service delivery, access to service, patient safety and communication. The timeframe for this activity is dependent on the specific initiative being implemented. Surgical Council has already begun functioning in its new capacity.

OAG Finding: Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve.

	Actions Taken To Date	Status (see note)	Actions Planned
Recommendations: We recommend that the Interior Health Authority: ■ Assess the adequacy of various methods used at individual sites to allocate surgical time;	■ A preliminary literature search has been completed to determine surgical block time allocation methodologies in other jurisdictions.	NA	■ Review of current site processes to be complete by February 2009. ■ Regional Program team to develop guidelines and policy alternatives for review by the OR Managers Committee, Site Administrators, and Surgical Council by June 2009. ■ Recommendations for standardized policies and guidelines to be presented at SET in September 2009. ■ Implementation and application of policies and guidelines will be facilitated as appropriate by each individual hospital.

Note: Status of Implementation

I – Recommendation has been fully or substantially implemented
P – Recommendation has been partially implemented
AA – Alternative action has been undertaken, general intent of alternative action addresses OAG finding
NA – No substantial action has been taken to address this recommendation

Detailed Action Plan for Implementing the Recommendations

	Actions Taken To Date	Status (see note)	Actions Planned
■ Standardize equipment and surgical policies and practices as appropriate across all sites that provide surgical services;	■ IH has a Surgical Products Advisory Committee that meets regularly to review and work to standardize products used in the OR. This group also oversees product trials and evaluations. ■ IH also participates in the MedBuy and Health Pro Group Procurement Organizations.	P	■ Ongoing trial and evaluation and selection of standard equipment/ products for IH surgical services. ■ IH will participate in the new provincial Shared Services Organization (SSO) which will facilitate ongoing standardization of products and supplies across the province. IH began sharing data and aligning contracts to facilitate this participation in May 2008.
	■ A regional equipment list for minor and major capital equipment items is maintained by the OR Managers' Committee. ■ In 2007/08, IH purchased an additional $2.3 million in equipment for the OR's, with a focus on recommendations contained in the recent CSR audit and dental equipment concerns. Efforts were made to standardize items and ensure critical risk areas were covered. ■ Under the leadership of the OR Managers' Committee, with input from physicians and HAMAC, IH continues to develop standards for all areas of surgical services. To date, approximately 50% of desired standards have been drafted and are in various stages of review. ■ OR Booking standards have been completed in draft.	P	■ Maintenance of the Regional Equipment List will ensure site needs are articulated and economies of scale can be gained should further funding be available into the future. ■ Complete development of standards for surgical services. ▪ Finalize OR Booking standards by February 2009. ▪ PSS standards in development (initial stages) — to be complete by March 2009. ▪ PAR standards in development (initial stages); to be completed by June 2009. ▪ Day Care Surgery standar 2009. ■ Implementation and application of standards will be managed as appropriate by each individual hospital as the standards become finalized.

Note: Status of Implementation

I – Recommendation has been fully or substantially implemented
P – Recommendation has been partially implemented
AA – Alternative action has been undertaken, general intent of alternative action addresses OAG finding
NA – No substantial action has been taken to address this recommendation

Detailed Action Plan for Implementing the Recommendations

	Actions Taken To Date	Status (see note)	Actions Planned
■ Develop a standardized basic orientation program for surgical services staff;	■ The OR Managers Committee is working to include orientation needs in the development of Clinical Practice Standards for the OR, PAR, Presurgical Screening, Booking & Scheduling and Day Care Surgery areas. These standards are in draft form at this time. ■ In addition, standards for orientation have been completed for dental assistants, new surgeons/ anesthetists, and non-OR staff; ■ Draft orientation standards are under review for vendors and nursing and implementation plans are complete.	**P**	■ Substantial completion of Clinical Practice Standards for each area is anticipated to be completed by September 2009. As they are approved, the standards will be located on the intranet and communicated to staff. Sites will implement any required changes in practice at this time. ■ Implementation of completed standards will be by December 31, 2009.
■ Undertake a formal assessment of training needs of surgical services staff and use the results to support continuing education;	■ Formal assessment of training needs has been included as part of the HR process with the Surgical Health Planning and Standards Network, as indicated in the first recommendation. The first meeting of this group occurred in June 2008 to discuss OR and PAR issues.	**P**	■ Action plans will be completed and shared with the OR Managers' Committee by December 2008 (dependent on timeline indicated above).
	■ A cost benefit analysis of four OR Nursing education programs has been completed.	**P**	■ Final recommendations for OR Nursing Education programs will be completed by December 2008.
	■ IH Surgical Program, the IH Professional Practice Office and Organizational Development are designing an OR Manager development program. Initial discussions are complete and a development opportunity posting has been drafted.	**P**	■ IH will complete and post this developmental opportunity for general duty nurses to apply for the pilot program in September 2008. ■ Pilot Evaluation: September 2009 ■ Next Phase rollout: pending evaluation

Note: Status of Implementation

I – Recommendation has been fully or substantially implemented
P – Recommendation has been partially implemented
AA – Alternative action has been undertaken, general intent of alternative action addresses OAG finding
NA – No substantial action has been taken to address this recommendation

Detailed Action Plan for Implementing the Recommendations

	Actions Taken To Date	Status (see note)	Actions Planned
	■ A graduate nurse education program is in place which provides 4 weeks supernumerary time as a student transitions to a registered nurse. This program is year-round as hiring occurs throughout the calendar year.	**P**	■ Students: A student capacity assessment to evaluate potential in mentoring up-and-coming surgical service staff is planned for implementation by September 2008. In addition, a universal student placement policy was established in January 2008, with completion of implementation scheduled for October 2008. This will ensure there is a standardized approach to students joining the health authority. ■ Staff: To support staff, a link to a provincial preceptorship website has been established and will be rolled out to IH Educators at the October 15/16th 2008 Educators' Forum. ■ New IH Clinical Education policy development is in final draft having been postponed until Labour Relations language was determined. The policy is scheduled for endorsement stages in October 2008.
■ Develop and implement an authority-wide continuing medical education program;	■ A task force has been created to plan for an authority-wide continuing education program. This task force reports to HAMAC.	**P**	■ Targeted education needs for physicians will be determined by July 2009. The task force will base decisions on information from peer review activities and incident report trends.
■ Ensure that all surgical services staff receive regular performance reviews;	■ Excluded staff receive performance reviews as per the IH Performance Planning process.	**P**	■ Completed annually.
	■ IH has recently developed a Performance Management process for bargaining unit staff. The system was piloted in May and June 2008 and an evaluation of the pilot sites has been completed.	**P**	■ Organization-wide roll out of the Performance Management System will commence in September 2008 with a target completion of December 2008.

Note: Status of Implementation

I – Recommendation has been fully or substantially implemented
P – Recommendation has been partially implemented
AA – Alternative action has been undertaken, general intent of alternative action addresses OAG finding
NA – No substantial action has been taken to address this recommendation

Detailed Action Plan for Implementing the Recommendations

	Actions Taken To Date	Status (see note)	Actions Planned
■ Implement a standardized patient incident tracking and reporting system; and	■ A new Regional Policy has been developed to support uniform incident management processes (AK0400).	**P**	■ A new Regional Policy to support open disclosure of adverse events is expected to have final approval in August 2008. ■ Ongoing policy development as required and as knowledge is gained from the BC PSLS. ■ IH will be monitoring reporting through the PSLS to ensure more timely and effective responses to adverse events & near misses.
	■ Implementation of the new BC Patient Safety Learning System (PSLS) is complete at Royal Inland, Kootenay Boundary Regional, East Kootenay Regional and Penticton Regional hospitals.	**P**	■ Kelowna General and Vernon Jubilee hospitals will finalize their implementation of PSLS by October 2008 and March 2009 respectively. ■ Data will be used to analyze trends and assess current practices toward developing strategies for improving patient safety and quality of care at healthcare facilities. Reports should be available for all 6 IH participating hospitals by April 2009. Initial reports for participating sites are in draft and will be available in October 2008.
■ Clarify the role of the Surgical Council in advancing patient quality and safety and how that role integrates into the quality management structure.	■ Interior Health has created the position of Patient Safety Coordinator – Surgical. The candidate starts September 2008. This position has direct reporting through Quality Improvement and Patient Safety (QIPS) and matrix to the Clinical Leader of Surgical Services, with participation and reporting at the IH Surgical Council meetings. ■ The IH Surgical Council role is to advance initiatives in 4 areas, including patient safety.	**P**	■ Future initiatives that this position will be leading include surgical site infection monitoring and accreditation rollout, as well as introduction of other Safer Healthcare Now and quality initiatives (time and workload permitting). ■ This position will provide regular reporting and updates to the IH Surgical Council and will be an integral member of the Regional Surgical Program Team, as well as the IH Quality Improvement and Patient Safety committee.

Note: Status of Implementation

I – Recommendation has been fully or substantially implemented
P – Recommendation has been partially implemented
AA – Alternative action has been undertaken, general intent of alternative action addresses OAG finding
NA – No substantial action has been taken to address this recommendation

Detailed Action Plan for Implementing the Recommendations

OAG Finding: Interior Health has information systems in place to support surgical services management.

	Actions Taken To Date	Status (see note)	Actions Planned
Recommendation: We recommend that the Interior Health Authority: ■ Assess and implement strategies using PICIS OR Manager information to better inform bed management.	■ As of February 2008, IH has linked the PICIS OR Manager information to other information systems through the Data Warehouse development program. This enables IH to create reports from several data sets in one convenient location. ■ Postponement and delay reasons are reported and can be stratified to indicate bed capacity issues at a site and health authority level.	**P**	■ Initial indicator reports have been drafted for review by the OR Managers' Committee and IH Surgical Council. Further indicator development and a report dashboard will be completed by December 31, 2008. ■ Additional bed management indicators will be developed in the second phase of report creation and will be available by February 2009.

OAG Finding: Interior Health reports on surgical services performance internally and to the Ministry of Health, but not to the public.

	Actions Taken To Date	Status (see note)	Actions Planned
Recommendation: We recommend that the Interior Health Authority: ■ Report to the public on their performance including that of surgical services.	■ Consultations have begun with the Ministry of Health Services and other Health Authorities in BC on the redesign of the provincial public surgical website information. This will be a first step to public reporting of surgical program performance.	**NA**	■ IH will continue to participate in this consultation and planning process and align with Ministry timelines for completion of the new patient reporting on the provincial website, rather than create a stand-alone IH reporting structure.

Note: Status of Implementation

I – Recommendation has been fully or substantially implemented
P – Recommendation has been partially implemented
AA – Alternative action has been undertaken, general intent of alternative action addresses OAG finding
NA – No substantial action has been taken to address this recommendation

Detailed Report

Background

Access to surgery is a concern across the country and provincially. The 2005 Canadian Community Health Survey found wait times were the number one barrier to health care in Canada. In 2007, 459,388 surgeries were performed in British Columbia. Yet many British Columbians are waiting for surgery. According to the Ministry of Health, there were 72,846 patients waiting for surgery as at January 31, 2008.

Recent initiatives in support of surgical services

In recent years, both the federal and provincial governments have provided additional funds to improve access. Some of these initiatives have been targeted to specific procedures. Others have been more broadly available.

Federal Wait Times Strategy

The Federal Wait Time Strategy (2003) directed the provinces to address wait lists. Under this strategy, British Columbia was allocated $559.9 million from the Wait Times Reduction Fund and $131 million from the Canada Health Transfer Fund, to be spent between 2005/2006 and 2008/2009. These funds were part of the $5.4 billion over a 10-year period that was promised to British Columbia.

First Ministers' Meetings

In 2004, the First Ministers agreed on a Health Accord called the 10-Year Plan to Strengthen Health Care. Benchmarks were to be established by December 2005 in five areas: cancer treatment, cardiac surgery, sight restoration, hip and knee replacements, and diagnostic services. Multi-year targets in these same areas were to be in place by December 2007.

In British Columbia, the Ministry of Health Services outlined what it expected of the health authorities in these five areas. According to the Government Letter of Expectation between Interior Health and the ministry (for the period April 1, 2007, to March 31, 2008), "the Health Authority will work to achieve the national benchmarks established by the First Ministers. To this end, the Health Authority will participate in government initiatives such as the Provincial Wait Times Strategy." The letter further details specific performance measures to be used to monitor the health authority's progress. Interior Health incorporated these into its Service Plan (see Exhibit 1).

Background

Exhibit 1

Performance measures related to surgery used by the Interior Health Authority in 2007/2008

Performance Measure	Long-term target, March 2010	2007/08 target
Percentage of hip replacement cases waiting longer than 26 weeks	Not to exceed 10%	Improvement toward target

Performance Measure	Long-term target	2007/08 target
Percentage of hip fracture fixations completed within 48 hours	100%	100%

Performance Measure	Long-term target, March 2010	2007/08 target
Percentage of knee replacement cases waiting longer than 26 weeks	Not to exceed 10%	Improvement toward target

Performance Measure	Long-term target	2007/08 target
Percentage of cataract surgeries waiting longer than 16 weeks	To be determined, spring 2007	TBD

Performance Measure	Long-term target	2007/08 target
Percentage of cardiac bypass surgeries waiting longer than the established time frame: Priority 1: Within 2 weeks Priority 2: Within 6 weeks Priority 3: Within 26 weeks	To be determined, spring 2007	TBD

Source: Interior Health Authority 2007/08–2009/10 Service Plan

Background

Western Canada Waiting List Project

This project was funded through Health Canada's Transition Fund from 1999 to 2004. Partners in the project included the Ministries of Health from the provinces of Manitoba, Saskatchewan, Alberta and British Columbia, medical associations, health authorities and health research centres. The specific focus of the project was to develop, implement and evaluate priority criteria tools for five specific wait-listed services: children's mental health, cataract surgery, general surgery, hip/knee replacement surgery, and Magnetic Resonance Imaging (MRI) scanning.

Centre for Surgical Innovation

The Ministry of Health Services funds collaborative efforts in surgical innovation. The Provincial Health Services Authority, with ministry support, piloted the Centre for Surgical Innovation in 2006, located at the University of British Columbia Hospital (within the Vancouver Coastal Health Authority). The centre is pioneering surgical methods and practices in the province to increase efficiencies and reduce surgical waits, with a particular emphasis on hip and knee replacements. Surgeons and patients from all the health authorities have access to the Centre.

Productivity Review

In 2004, the Provincial Health Services Authority coordinated work with Sullivan Healthcare Consulting to conduct a surgical productivity review as a joint initiative among the six health authorities. In total, 42 hospitals were studied, including six in Interior Health. The review covered a number of areas, including admitting, pre-operative holding, operating rooms, post-anaesthesia recovery, scheduling, instrumentation, non-clinical leadership and resource management.

The results showed high variability across the health authorities. For example, on-time start for first case of the day varied from a low of 33% in one authority to a high of 90% in another. Case duration accuracy varied from 13% to 94%. Efficiency opportunities were identified in areas such as admitting and post-anaesthesia recovery, as well as creating better surgical definitions.

Background

Provincial Surgical Services Project

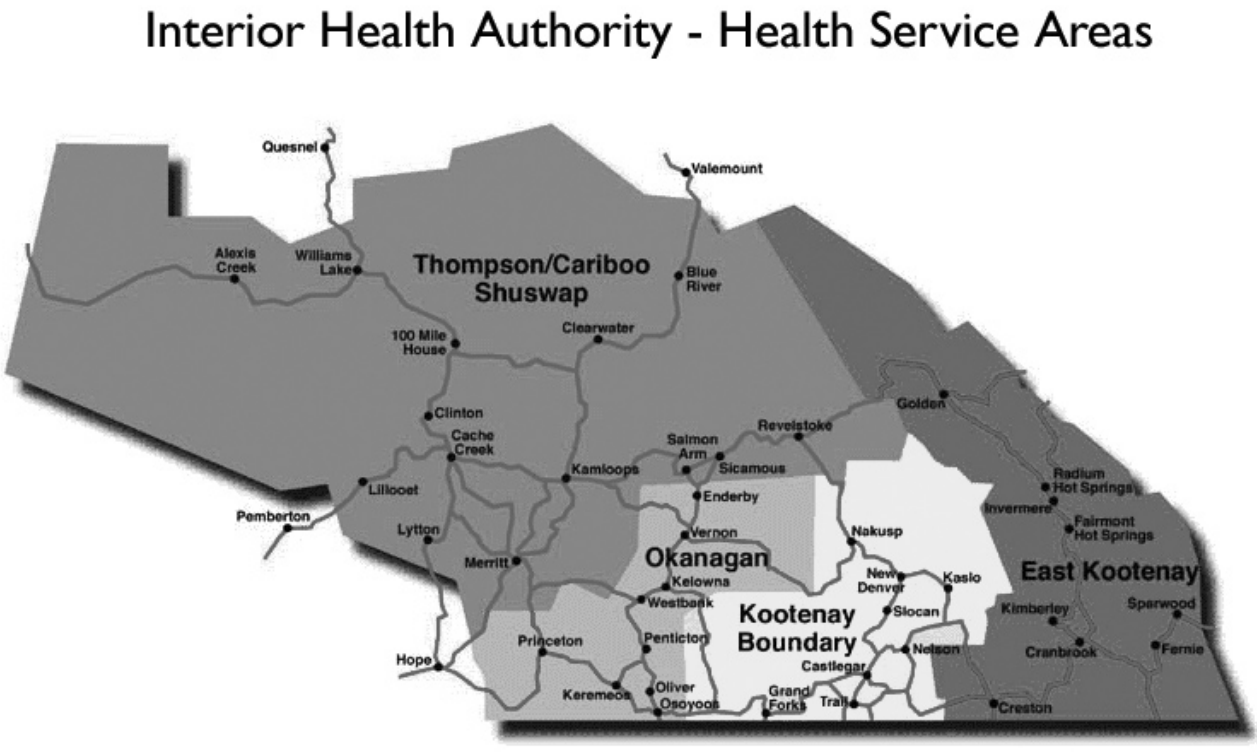
The Provincial Surgical Services Project was initiated in 2005 by the Ministry of Health Services in conjunction with the health authorities. The Provincial Health Services Authority is managing the project, which consists of the:

- development and implementation of clinical assessment tools for prioritizing surgeries within 14 surgical specialties;
- implementation of a web-based Surgical Patient Registry across the health authorities; and
- follow-up of a 2004 Productivity Review conducted by Sullivan Healthcare Consulting across the province.

As a provider of surgical services, Interior Health has been involved in, and impacted by, their results.

Interior Health Authority

Interior Health Authority serves a large region from the Alberta border to the Cariboo. The population served was 725,000 in 2006. The region is divided into four health service areas, geographically oriented around British Columbia's mountain ranges and population centres: Thompson-Cariboo-Shuswap, Okanagan, Kootenay Boundary, and East Kootenay. In Interior Health, there are two major referral hospitals and four service area hospitals offering acute care and full surgical programs. In addition, there are smaller acute care sites providing some level of surgical service (see Appendix A).



In 2006, Interior Health facilities completed about 81,848 surgical cases—representing about 18% of all surgical cases in the province. The 2007/2008 budget allocated by the Ministry of Health Services to Interior Health was approximately $1.1 billion. Of this, the health authority allocated $739 million to acute care services, which includes surgical services. Interior Health does not report the amount allocated to surgical services. However, work done by the Surgical Council estimated that approximately $60 million was provided to support operating theatres, post-anaesthetic recovery rooms, presurgical screening, sterile processing departments and operating room booking across the region. This is an estimate only. As explained above, surgical services are operationally delivered by the health service areas and managed through their normal budget process.

Background

Our Expectations

Surgical services use significant resources to provide access to a large population base for a broad spectrum of surgeries. We expected Interior Health to have systems in place to optimize the use of these resources to provide safe, efficient and effective surgical services. Specifically, we expected Interior Health to:

1. have a comprehensive framework for surgical services;
2. demonstrate effective surgical services management;
3. have information systems support in place for surgical services management; and
4. report internally and externally on the performance of surgical services.

A comprehensive and fully integrated framework for surgical services is not in place

We expected to find an overarching comprehensive framework for surgical services that encompassed capacity planning (human resource planning for staff and physicians), clear roles and accountabilities, and resource allocation to optimize use across the health authority.

We concluded that this framework is not yet comprehensive or fully integrated. Interior Health is, however, making considerable progress in coordinating and standardizing surgical services. A Surgical Council was set up in 2004 and has had success in a number of areas, such as pre-surgical screening, standardized booking forms, information systems, and reporting indicators. However, key aspects such as human resource planning and budgeting are not looked at from a regional program perspective and the roles, responsibilities and accountabilities for surgical services are not clear.

There are components of a framework

In 2003/04, Interior Health hired Sullivan Healthcare Consulting to undertake a review of its surgical services. In the year following the review and based on its findings (see Appendix B), the Interior Health Surgical Council was formed, made up of physicians and staff. The Council's June 2005 Terms of Reference highlight that its initial focus was to "liaise with other committees, departments and processes throughout the Interior Health Authority to ensure a coordinated and integrated effort towards improving surgical services throughout the authority." For its first three years the Council was chaired by the Senior Medical Director. Since 2007, a surgeon and anaesthetist have co-chaired it, highlighting continued physician involvement in the Council.

Specifically, the Council's responsibilities were to:

1. develop and guide the implementation and enforcement of consistent policies and guidelines in all surgical sites relating to all aspects of surgery;
2. provide input into the annual budgeting process by setting targets and policy; and
3. establish policies regarding the ideal location for services and procedures consistent with the mission of Interior Health.

A comprehensive and fully integrated framework for surgical services is not in place

The commitment of the physicians and staff on the Surgical Council has enabled it to fulfill its responsibilities in a number of areas and to initiate action in others. These initiatives include the establishment of pre-surgical screening clinics at 11 sites, with all sites using a common patient screening tool; the implementation of the PICIS OR Manager system (described later); and the initial development of some regional policies. The Council's terms of reference expired in 2007 and the revised terms of reference have yet to be approved by the Senior Executive Team, nor has the Senior Executive Team articulated a clear vision for surgical services. Under the proposed new terms, the Council would build on its work to date, continuing to push greater integration and standardization of surgical services across Interior Health. Senior management support will be needed if the Council is to succeed.

The health authority clearly identifies surgical services as a key area in its Service Plans (previously referred to as Health Service and Budget Management Plans and Health Service Plans). The focus of its 2005/06–2006/07 plan included implementation of pre-surgical screening, an operating room information system (including data standards and definitions) and patient safety initiatives, as well as the development of regional standards for perioperative nursing. For each focus, measures of progress, challenges and funding implications were identified. Subsequent plans (2006/07–2008/09 and 2007/08–2009/10) have continued to include performance measures relevant to surgical services. However, those measures are now based solely on national indicators for hip and knee, cataract and cardiac bypass surgeries, which do not necessarily provide a comprehensive and robust picture of the surgical services at Interior Health.

Human resources planning

Interior Health's People Plan provides high level strategic human resources direction. The plan's aim is to create an organizational climate that will help to attract and retain staff. It also notes that tactical initiatives will be developed based on this direction. A separate document highlights the People Plan Objectives and Commitments for 2008–2011. The focus is on three areas: physical work environment, individual health environment and work environment. Each portfolio/department in the health authority is to develop enabling objectives for the core objective in each of the three areas. Exhibit 2 provides an example.

A comprehensive and fully integrated framework for surgical services is not in place

Exhibit 2

Portfolio Objective

Work Environment	
Core Objective: Build a culture of ownership and engagement by managing organizational job factors such as communication and management practices and processes, which foster positive relationships amongst employees and medical staff	**Examples of enabling objectives:** 1. *Manage vacancy rates for difficult-to-fill positions by 2% for nurses and allied professionals.* 2. *Organizational Learning: A learning plan will be implemented for critical workforce groups and high potential employees identified through Talent Management (Succession Planning) by the end of the first quarter.*

Source: Interior Health: People Plan Objectives and Commitments 2008/2011

The Human Resources Department tracks the number of people leaving the workforce for reasons other than retirement, both voluntary and involuntary. They also track vacancies over 90 days: position, location and profession. A Vacancy Activity Report is published monthly by Human Resources' Strategic Services—Talent Acquisition and Marketing. It provides the Senior Executive Team and the Health Service Area Leadership Teams with information both at the corporate and operating division levels.

This People Plan is high level and does not address the specific human resource needs of surgical services. In the absence of a human resource plan for surgical services, the Surgical Council has attempted to do some planning for human resources. For example, at its inception, the Surgical Council did an analysis of a number of documents such as the Sullivan Healthcare Consulting review to assess staffing levels from a safety and standards perspective. This analysis identified a number of nursing and support positions that needed to be augmented across surgical services. Approval was given to hire additional staff. The Operating Room Managers Group continues to monitor staffing across perioperative services for the health authority as a whole in addition to their individual site level responsibilities.

However there is limited succession planning for key positions, and where such planning occurs it is individual rather than general. There is no Succession Plan.

A comprehensive and fully integrated framework for surgical services is not in place

Physician resource planning

Physician resource planning is carried out in a partnership between Interior Health and the medical staff organization. One of the purposes of the latter, according to the Medical Staff Bylaws, is to make recommendations to the Board of Directors and the CEO concerning medical staff human resource needs. This requirement is further defined in the Medical Staff Rules, which states that the Health Authority Medical Advisory Committee (HAMAC) must submit an annual medical staff resource plan. Physician resource planning starts at the local level through the Health Service Area Medical Advisory Committees to the HAMAC who in turn provides an authority-wide plan to the board for approval. These plans identify needs by specialty thus providing an indication of current and pending vacancies for surgeons or anaesthetists and the potential impact on surgical services both at a specific site and IH as a whole.

In 2005, Interior Health contracted with a consultant to assist the Physician Resource Planning Steering Committee in identifying a suitable methodology for physician resource planning. As a result of the consultant's work, the steering committee adopted a need-adjusted population-based demand model. Applying that analytical tool indicated that a total of 830 full-time equivalent (FTE) positions would be required—equal to 83 physicians (new and replacement) each year from 2006 to 2015 and result in a net growth of 266 FTE positions. The analysis also identified the need by specialty. In response to this work, a rolling physician resource plan was to be produced by Interior Health and be updated twice yearly. This has been slow to happen. However, with the hiring of a Leader Physician Recruitment, (a new position responsible for working closely with medical staff structures across the health authority) IH is developing a more comprehensive approach to physician recruitment. Responsibilities of this position include coordinating the recruitment process for physician vacancies and managing and organizing the overall marketing component of the recruitment process.

The Medical Staff Rules also note that an application for appointment of all specialists and general practitioners providing specialist services requires the completion of an impact analysis in accordance with the Medical Staff Bylaws. This means identifying

the effect the new or replacement position would have on all associated staffing, equipment, supplies and resources.

There is no standard template for such analyses across Interior Health and the quality and completeness of these analyses vary significantly.

We recommend that the Interior Health Authority:

- ***put in place a focused approach to human resource planning for surgical services, including succession planning.***

Roles, responsibilities and accountabilities for surgical services need clarification

Within the health service areas (HSA) of the Interior Health Authority, the Chief Operating Officers have overall responsibility and accountability for surgical services. Below them, the structure varies by HSA. All have managers at the site level responsible for surgical services, although the responsibilities of these managers sometimes differ. For example, some are responsible for surgery bookings and others are not. No standard position description exists across the health authority for surgical services managers. This can result in inconsistent practices across surgical services.

The medical staff organization in Interior Health is determined by the Board of Directors on the advice of the Health Authority Medical Advisory Committee. The Medical Staff Bylaws and Medical Staff Rules further define how the medical staff organization will function; and the rules define the medical departments, including surgery and anaesthesia. Each department must have a Department Head. The responsibilities of that position, clearly outlined in the Medical Staff Rules, include establishing a quality assurance/quality improvement program and advising the HAMAC and the Health Service Area Medical Advisory Committees on medical care.

At the hospital site level, several committees have some responsibility for the functioning of surgical services. The names and membership of these committees vary. At one site, for example, it is referred to as the Operating Room Management Committee and its members include the Chief of Surgery, Chief of Anaesthesia and the Manager, Perioperative Services.

A comprehensive and fully integrated framework for surgical services is not in place

Surgical Council

Overlaid on this structure is the Surgical Council. As described earlier, the Council was set up to improve surgical services across the health authority through coordination and standardization.

However, important to note is that the Surgical Council has no line authority over surgical services at the HSA or hospital site level. Much of its success has therefore had to rely on its members' ability to build relationships, model best practices and demonstrate success. This has presented some challenges. The Council has not been fully involved in the budgeting process nor has it necessarily been consulted on capital planning projects thus limiting the ability of IH to make allocations from a broader surgical program perspective.

Furthermore, the Council has not had a clearly defined role in quality and safety initiatives. Such issues stand to limit the ability of Interior Health to create an integrated and comprehensive regional surgical program.

We recommend that the Interior Health Authority:

- ***provide direction for surgical services by clarifying the Surgical Council's role in developing a regional surgical program.***

Surgical program resourcing is being managed as efficiently as possible and challenges are recognized

The budgeting process builds from the health service area level, with final budget authority resting with the Senior Executive Team. Interior Health annually produces a Health Service Plan and Budget Management Plan that specifies major financial allocations for operating budgets.

Surgical services across Interior Health face several resource challenges. The vast size of the region makes sustainability of surgical programs in smaller centres expensive and logistically difficult. Recruitment and retention of both general staff and medical staff are difficult in today's highly competitive labour market. One-time funding allocations for surgeries (such as hips and knees) may require the health authority to increase capacity to meet ministry requirements—capacity that becomes excess once the funding runs out.

A comprehensive and fully integrated framework for surgical services is not in place

Interior Health has a mix of mechanisms in place to assist with resource planning and management:

- A Capital Asset Management Plan Summary in the health authority's 2007/08–2009/10 Service Plan outlines key projects.
- A Capital Outlook sets out asset needs based on longer-term forecasting: 10 years for expensive equipment, 5-10 years for major construction, and 5 years for information management technology.
- A planning framework for items over $100,000 is administered by Material Services, the Operating Room Managers Group and the Senior Executive Team.
- For equipment that is more costly and required outside of the normal budget cycle issues, discussion papers are presented and assessed by the above groups.
- Capital purchases under $100,000 are prioritized within the health service areas through a committee process that includes physician involvement.

We also noted that Interior Health is making efforts to equalize equipment allocations between large and small hospitals to improve allocations to the smaller hospitals.

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

One of the dimensions of service quality identified in Interior Health's 2007/08–2009/10 Service Plan is effectiveness of service delivery. Therefore, we expected Interior Health to demonstrate effectiveness of surgical services management as a major component of acute care.

We concluded that Interior Health does not fully demonstrate effectiveness in surgical services management but is putting in place the infrastructure necessary to do so. For example, it is developing authority-wide policies, standardizing equipment and care protocols, and monitoring practice and overall service.

However, a number of these initiatives are in the early stages and need to be expanded and strengthened to improve the effectiveness of the surgical services it delivers. Regional coordination of other initiatives also needs attention, including staff orientation and training needs; performance reviews; processes to allocate surgical time; and tracking and reporting of patient incidents.

The need for regional policies and standards is recognized and being addressed

Policies and standards are important in providing staff guidance in the work that they do. We found that policies and standards are available to surgical staff where they work, although many of these are site-specific rather than region-wide. However, with the introduction of the Surgical Council and the work it has undertaken, there is a greater emphasis on the development of regional policies and standards. These are important to promote consistency of policy implementation across the health authority.

The regional Operating Room Managers Group is taking the lead on this and has established a working group to develop authority-wide policies and standards for perioperative services. The working group has identified seven policies as a starting point. As the policies are developed, they are circulated to stakeholders for input and, in some instances, approval. Stakeholders may include the Surgical Council, operating room committees, resource nurses, nurse-educators, surgeons, anaesthetists, other departments (e.g., respiratory therapy, housekeeping, sterile processing), and medical advisory committees. This process helps to ensure that the broad impacts of policies are considered and addressed.

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

When developing surgical standards and clinical practice guidelines, Interior Health draws on authoritative sources, such as the Operating Room Nurses Association of Canada, the Canadian Standards Association, and the Canadian Council on Health Services Accreditation. The nature of the policy or standard determines the sources that are used.

Other departments with a connection to surgical services also have their own policies. These vary by site, but the need for regional policies (e.g., for sterile processing departments) is recognized and beginning to be addressed.

Policies and policy updates are distributed electronically (via the Intranet and email) and in paper format. Many department managers also require staff to sign off that they have reviewed new polices and standards.

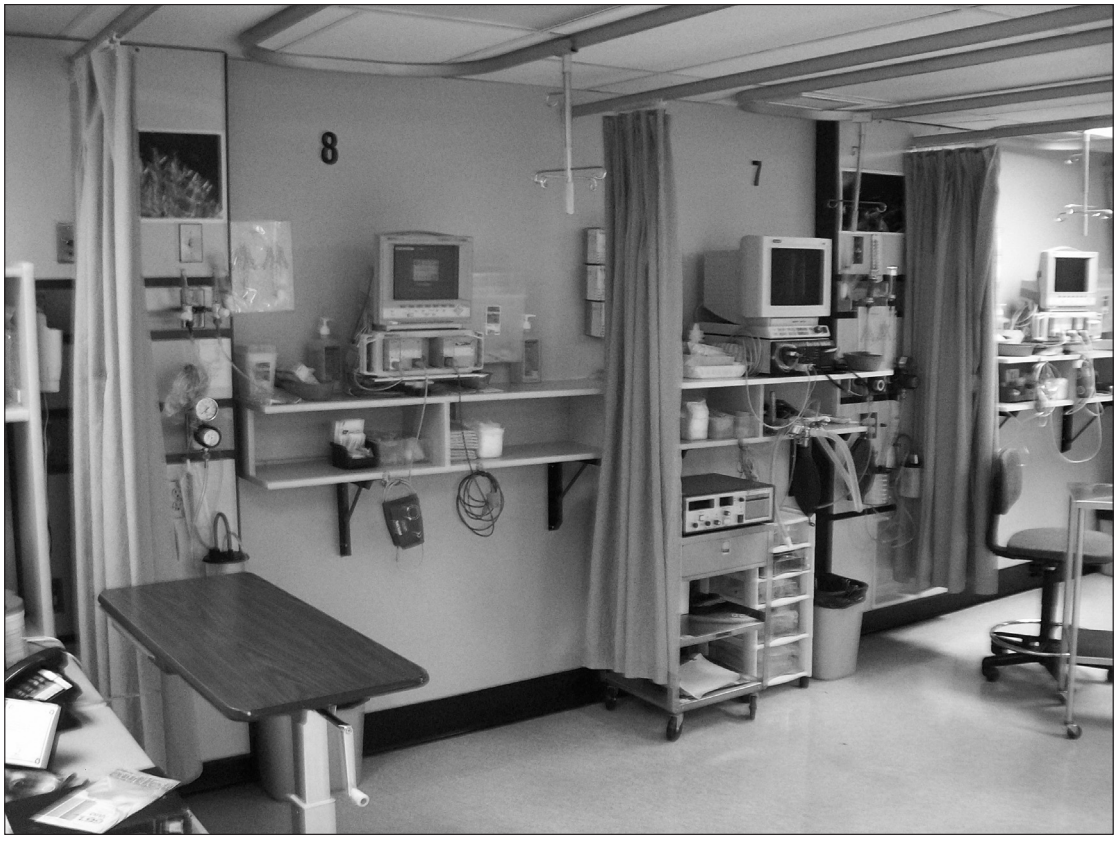
A central repository for policies exists on the Intranet. Printed copies are flagged with a note that they may not be the most recent version and that the official version is located on the Intranet.

Processes are in place to optimize surgical patient flow from admission screening to recovery room discharge, but work remains to be done

A number of surgical services' resources and processes must work together efficiently and effectively to help ensure optimal patient flow: staff, equipment, facilities, operating room time allocations, support services, and others.

Interior Health has put a number of processes in place to optimize surgical patient flow. For example, initiatives that are intended to help improve operating room efficiency are pre-surgical screening, implementation of common assessment tools, and standardization of some equipment and procedures. Still, there is room to improve staffing, training, work space, storage capacity, equipment, and scheduling for instance.

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve



Pre-surgical screening

The establishment of pre-surgical screening clinics at all major sites within Interior Health was one of the initial undertakings of the Surgical Council through a working group. The goal of the pre-screening program is to have all elective patients pre-screened either in person at a clinic or by telephone. This pre-screening helps to reduce surgery cancellations due to an unforeseen medical condition of patients. The screening is conducted by nurses and anaesthetists and may also involve diagnostic testing prior to surgery. Currently, approximately 95% of elective patients across Interior Health are being pre-screened.

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

The pre-screening process is standardized across the clinics. All use a standard assessment tool, as well as the National Institute for Health and Clinical Excellence's guidelines as the basis for pre-operative testing.

The Surgical Council conducted a satisfaction survey of pre-screening clinic patients in 2006. About 43% were returned and ratings indicated a high degree of satisfaction with the pre-screening process. Surgeons, anaesthetists and clinic staff were also surveyed. We were told by some interviewees that the number of surgeries cancelled because of patients not being properly screened has decreased. The systems were not previously in place to monitor this authority-wide, however, the number of cases cancelled for medical reasons is now being monitored as a performance indicator.

Booking and scheduling

The process for booking surgical cases varies across Interior Health by site and surgical service. As well, bookings may be done by a hospital booking office, the surgeon's office or a blend of both. However, a standardized booking form in all situations is used throughout the health authority. The form requests basic demographic information, type of case (e.g., day surgery), information on other health problems (e.g., diabetes) and the level of urgency. The urgency rating scale denotes within what timeframe the case should be booked: urgent—two weeks; semi-urgent—six weeks; elective—12 weeks, and greater than three months. Emergency cases are handled differently, as discussed later.

The process for allocating operating room time also varies across sites and surgical specialty. Decisions about allocating operating room time may be made by a Manager of Perioperative Services in conjunction with the Chief of Surgery, by an operating room committee, or by the Department of Surgery. In general, regardless of who is making the decisions, blocks of time are allocated by specialty (e.g., general surgery), which then determines how much time each surgeon within the specialty receives. There is no standard in place for how frequently the time allocated to each of the specialties should be reviewed. Interior Health should assess whether the current allocation methods used at individual sites are providing the most efficient and effective use of the operating rooms.

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

The operating room schedule (the "slate") at most sites is developed by a booking clerk under the Manager of Perioperative Services or other supervisory personnel. Development of the slate is a complex task, based on many factors such as case type (e.g., urgent or elective, day surgery or inpatient), surgeon's average case time, special equipment or room requirements, and staffing. Most sites try to have a slate finalized two weeks in advance, although this is not always achievable.

The designated level of patient urgency is the primary factor for determining a surgery's placement on the operating room slate. With the recent development of the provincial Surgical Patient Registry, 14 standardized assessment tools for different surgeries are starting to be used by the various specialties in all health authorities. These tools developed with physician input and piloting, are intended to help ensure that a semi-urgent patient in Kelowna is classified on the same basis as a semi-urgent patient in Prince George. However, uptake of the assessment tools has been slow both at Interior Health and throughout the province. The Ministry of Health Services is taking steps to promote their greater use by, for example, offering financial incentives.

Despite the operating room schedules, planned surgeries may still be subject to delays and interruptions because of cases running late, equipment breakdowns, lack of patient beds and the need to accommodate an "add-on" (emergency case). How such cases are to be handled is based on the following definitions:

- E1 Emergent — to be handled immediately: life or limb threatening; will bump into first available room
- E2 Urgent — within 6 hours: done anytime day or night
- E3 Semi-urgent — within 24 hours: not after 11 p.m.
- E4 — within 48 hours: not after 11 p.m.

Some staff had concerns that the definitions were applied inconsistently and that cases were being done in time slots that were not necessary.

However, implementation of the PICIS OR Manager information system (discussed in the next section) is intended to allow for better monitoring of operating room usage and case postponements.

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

Bed availability on the inpatient units can have a significant impact on operating room time and cases. We therefore expected to find at Interior Health that bed management was integrated into operating room scheduling. This was not the case (see page 56 and the recommendation). Although some sites do have bed management and utilization processes in place, it is not clear how well they coordinate with operating room scheduling. Designated surgical beds on inpatient units, as a means of ensuring surgeries are not cancelled due to a lack of beds, are also little used.

We recommend that the Interior Health Authority:

- ***assess the adequacy of the various methods used at individual sites to allocate surgical time.***

Staffing

Availability of operating room nursing staff for perioperative services varies across hospital sites in the health authority. A shortage of staff at Vernon Jubilee Hospital in 2006, for instance, contributed to the closure of an operating room for two to three months. However, it is not just operating room staff who can affect surgery schedules: the availability of staff for the post-anaesthetic recovery room, intensive care, general surgery wards and sterile processing departments can have an impact as well. If staff are not available to fill in for short-term absences (because of illness, for example), there can be immediate effects on the scheduled cases.

On occasion, operating rooms are shut down to accommodate staff summer vacations. These pre-scheduled closures do not disrupt the daily schedule, but do affect the total number of cases that can be scheduled.

Surgeon and anaesthetist availability also affects scheduling, but to a lesser degree. This is due in part to surgeons and anaesthetists being available to do additional cases on short notice. As well, locums can generally be arranged to cover planned absences, although availability may vary by specialty.

As noted earlier, Human Resources tracks and reports on difficult-to-fill positions—those remaining vacant longer than 90 days. In its November 2007 report, it identified four such vacancies: three in the operating room and a manager in a sterile processing department.

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

The role of Operating Room Manager is crucial to the effective delivery of surgical services. This position has been difficult to fill at some sites in Interior Health. To help address the issue Interior Health developed a shared manager position between two sites. This was just being put into place at the time of our audit, so we were unable to evaluate how this arrangement is working.

In 2005, the Surgical Council allocated $800,000 in base funding to address safety issues in staffing at Interior Health. An analysis of several reports on surgical services—for example, the Operational Overview with Benchmark Analysis (2003) and the Surgical Services Review Quality Management Follow-up/Accreditation Standards (2005)—resulted in a recommendation that the funding go to assigning an additional 11.8 full-time equivalent staff across specific sites. The aim was both to address site-specific safety issues and to standardize use of perioperative staff throughout the health authority. The staff included registered nurses, ward clerks, operating room aides and respiratory technologists (anaesthesia assistants).

Space

Space for surgical services has a significant impact on patient flow through the service and on the accessibility of supplies and equipment. Most sites within Interior Health face significant space constraints. A tour of three sites, Vernon Jubilee Hospital, Penticton Regional Hospital and Royal Inland Hospital confirmed that space is an issue.

Inside operating rooms, there is limited space for equipment, monitors, diagnostic equipment, and supply carts. This is especially true in older, smaller operating rooms, some of which do not meet current space standards published by the Canadian Standards Association. Lack of space can impede turnover time between cases, with some equipment needing to be disconnected and moved out while other equipment is brought in and hooked up.

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

Outside operating rooms, space shortages are resulting in equipment and supply carts being kept in the hallways or, in some instances, in unused operating rooms. Sterile processing departments are frequently located some distance away from the operating rooms (in one hospital, a couple of floors down).

The area for holding patients before they enter the operating room is also small at some sites and provides very little privacy. And the post-anaesthetic recovery rooms are poorly designed to accommodate the increasing amount of equipment used in patient care or to afford much privacy. While these space shortages are not generally seen by those interviewed to be safety issues, their impact on efficiency is a concern.

Equipment and supplies

Costly surgical equipment and supplies are essential for modern surgery. These range from smaller instruments such as scalpels to large complex machines and from sutures to prostheses.

As noted earlier, purchases of equipment greater than $100,000 are coordinated across Interior Health. Equipment and instrumentation costing less than that amount is purchased at the health service area level—although there is an increasing effort to standardize and coordinate such purchases across the health authority. The examples below illustrate this effort:

- For the period 2004–2007, the Surgical Council allocated $3.8 million to instrumentation and equipment for all sites, with the goal of facilitating case scheduling and decreasing the need for "flash sterilization" of instruments between cases. (Flash sterilization is steam-sterilization needed last-minute to sterilize unwrapped surgical goods). The Operating Room Managers Group is now maintaining a common equipment list, which each manager uses to inform the budget process at their individual sites.
- The Materials Management Department ensures the availability of appropriate and adequate equipment and supplies for surgical services. This department works with the Operating Room Managers and others to promote standardization and to ensure best pricing. The standardization of equipment and supplies promotes more consistent training and maintenance as well as better

quality and efficiency. Orthopaedics is one area that has moved far on standardization, reducing the number of different prostheses used for hips and knees.

- A Surgical Products Advisory Committee, chaired by an operating room nurse who is part of the Materials Management Department, promotes standardization of equipment and supplies and helps to achieve economies through bulk purchasing pricing. The members of the committee also communicate changes in products to their respective work areas, as well as taking product concerns back to the Materials Management Department.
- Interior Health belongs to two group purchasing organizations in which health authorities and other provinces work together to purchase medical and surgical supplies.
- A conflict of interest policy is in place in Interior Health, and applies to all employees involved in or influencing purchases. Anyone involved in reviewing Requests for Proposals must also follow standards and confidentiality requirements.

We recommend that the Interior Health Authority:

- ***standardize equipment and surgical policies and practices as appropriate across all sites that provide surgical services.***

Orientation and ongoing training for surgical services staff varies by area and hospital

Any surgical service involves minor to major procedures, complex patient needs and the extensive use of equipment and instrumentation. As well, staff adaptation to rapid changes in some of the equipment and instrumentation is required. All of this makes staff orientation and ongoing training vital to maintaining a safe patient environment and ensuring the efficient use of resources.

Orientation

There is an authority-wide orientation for all new employees. The orientation focuses on how things work at the health authority and covers such topics as infection control and occupational health and safety. There is no standard orientation to surgical services specifically. For example, an experienced operating room nurse hired at one site in the region may receive four to six weeks

orientation, while the same nurse hired at another site may be provided three months' orientation. As there are many commonalities across the individual sites regarding surgical procedures, equipment and supplies, Interior Health has an opportunity to streamline and strengthen its orientation to surgical services.

Ongoing training

Ensuring that staff receives continuing education is important for the safety of patients and for the efficient and effective use of staff time, equipment, and supplies.

The availability of ongoing training for surgical service nursing staff varies by site within Interior Health. Not all sites have clinical educators for surgical services and therefore staff training falls to managers or peers. Some sites have created the position of Clinical Resource Nurse—nurses who focus on a surgical specialty and take on the responsibility of providing education to others. In addition, Clinical Resource Nurses may also maintain physician preference cards (equipment and supplies preferred) in their assigned specialty and monitor equipment.

Throughout Interior Health, some informal assessment of training needs is done. Staff may be asked as a group or individually what their needs are. In addition safety incidents may be used as a basis for training. However, no formal training needs assessment is carried out at the health authority level or at the site level. We think that such an assessment would help ensure that staff receive the training they need to remain current in their knowledge and skill.

Time to provide training is one of the biggest issues at most sites. As a result, training is often done in short periods before the start of the operating room schedule. The major sites start this schedule an hour later once or twice a month to do training in a more concentrated way. Most areas check attendance through sign-up sheets and checklists to ensure that all staff receive the necessary training.

The Surgical Council, in conjunction with the Operating Room Managers Group and Professional Practice Office, allocated funds to Specialty Nurse education to encourage and support nursing staff to enrol in operating room education programs through BCIT and Okanagan College. In addition, Interior Health was recently a pilot

site for training Licensed Practical Nurses to be Operating Room Technicians.

It is not only nursing staff that must be trained in surgical services: staff working in such diverse areas as housekeeping and sterile processing must also be trained. While it is true that all staff working in sterile processing must be certified, there is no health authority-wide, ongoing training program for them. A recent audit undertaken by Interior Health noted a need to ensure that staff working in this area receive ongoing training.

When new equipment is purchased for use in surgical services, staff training is usually provided as part of the purchase agreement.

We recommend that the Interior Health Authority:

- ***develop a standardized basic orientation program for surgical services staff; and***
- ***undertake a formal assessment of training needs of surgical services staff and use the results to support continuing education.***

Medical staff continuing education

The continuing education of medical staff practicing within surgical services, as with other medical services, is important to ensure up-to-date skills, current knowledge of equipment and appropriate use of resources. Such education is a requirement for licensees with the British Columbia College of Physicians and Surgeons which is why Interior Health does not ask physicians to submit this information. However, all physicians, as part of the annual renewal of their hospital privileges with the health authority, must provide evidence of licence renewal or registration with the College. Names of approved medical staff are forwarded to the board for approval.

Under the Medical Staff Bylaws, the Health Authority Medical Advisory Committee (HAMAC) provides advice to the Board of Directors and the CEO on the continuing education of members of the medical staff. Specifically, HAMAC advises on and assists with: developing formally structured programs in continuing medical education; continuing education of other health care providers in the facilities and programs operated by the health authority; and

making recommendations concerning the teaching and research role of the health authority.

Interior Health does not have an authority-wide medical staff continuing medical education program, although, implementation of such a program has been considered. In 2006, HAMAC minutes note the implementation of a pilot program in Kamloops, but at no other sites.

Currently, sites, departments or health service areas may have their own continuing medical education program. Responsibility for organizing the education also varies. Sometimes an individual is designated or it is a group responsibility. Medical staff education takes many forms, including attendance at conferences, medical rounds, and journal clubs.

We recommend that the Interior Health Authority:

- ***develop and implement an authority-wide continuing medical education program.***

Monitoring supports improvements in surgical services' processes and practices

Numerous aspects of surgical services need to be monitored both to support improvements in process and practice and to ensure the safety of both patients and personnel. Interior Health has a number of these monitoring mechanisms in place as described below.

Monitoring

Interior Health has increased its capacity for monitoring surgical services through such projects as the pre-surgical screening clinics, standardization of booking forms, and implementation of an operating room information system. Indicators of surgical efficiency—such as turnover time (the time to prepare an operating room between cases), case postponements and reasons (i.e., equipment problems, patient not properly prepared), start time for first case of the day, and average case time by surgeon—are monitored and reported. Analyzing this type of information should allow Interior Health to make changes in its processes and practices to help ensure resources are used as effectively as possible.

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

The Housekeeping Department also carries out audits regularly to help ensure a high standard of cleanliness in surgical services. Audit reports describe the area audited, the resulting score and who conducted the audit. Exhibit 3 provides an example of a housekeeping audit report from the surgical area at Royal Inland Hospital.

Exhibit 3

Sample housekeeping audit report of the surgical area at Royal Inland Hospital

Date	Room Number	Room Name	Time	Auditor	Score
2007-12-17	RST 4039	Washroom Staff	10:28 pm	PHIM4	100
2007-12-17	RST 4013	Theatre 5	10:24 pm	PHIM4	94.0
2007-12-17	RST 4016	Theatre 6	08:44 pm	PHIM4	100
2007-12-17	RST 4049	Scrub Room	08:38 pm	PHIM4	100
2007-12-17	RST 4047	Hallway	08:33 pm	PHIM4	100
2007-12-17	RST 4045	Washroom Staff	08:25 pm	PHIM4	100
2007-12-17	RST 4044	Storage Area	08:23 pm	PHIM4	87.33
2007-12-17	RST 4043	Hallway	08:12 pm	PHIM4	100
2007-12-11	RST 4003	Sterile Area	10:39 pm	TEMP	85.33
2006-12-12	RST 4012	Anesthetic RM	06:42 pm	JOYS	100
2006-12-12	RST 4009	CSD Sterile Supply	06:40 pm	JOYS	100
2006-12-12	RST 4008	Theatre 1	06:37 pm	JOYS	88
2006-12-12	RST 4007	Substerile Area	06:35 pm	JOYS	100
2006-12-12	RST 4006	Sterile Area	06:34 pm	JOYS	100
2006-12-12	RST 4005	Theatre 2	06:30 pm	JOYS	88
2006-09-21	RST 4001	Theatre 4	05:10 pm	PHIM4	95.56

Source: Interior Health, January 2008

Interior Health contracts with an independent surgical centre for additional surgery capacity. Under the contract, the centre must meet several monitoring and reporting requirements, such as immediately reporting all critical incidents and all major

complications or outbreaks of infections, and providing evidence that the facility is certified for all aspects of mechanical design and that staff are appropriately licensed.

Performance Reviews — For unionized surgical staff, there is no one approach to performance reviews. However, the Human Resources Department has put a proposal forward to move to a three-year performance appraisal cycle. For non-union positions, an annual performance pay system is in place. The goals and objectives for individual managers are tied to the health authority's key strategies, as outlined in its Health Service Plan, and cascade down through each management level of the organization. This system has been fully in place for the past two years after having been piloted in the previous two years.

Physician performance is not monitored directly but there are processes that support performance monitoring. The credentialing process and medical rounds provide an element of performance review. Any specific concerns about physician practice are usually brought forward to the Chief of Staff, Department Chief or Medical Director at a particular facility. The HAMAC and Local Medical Advisory Committee minutes include discussions regarding physician performance as part of the credentialing process.

We recommend that the Interior Health Authority:

- ***ensure that all surgical services staff receive regular performance reviews.***

Critical Incidents Reviews — Critical incidents include actual or potential patient safety incidents that can occur at any point during a hospital stay. These incidents are tracked and used for performance management and quality improvement. However, the tracking process is not consistent and several different paper-based and computerized forms are in use. Thus Interior Health does not have an authority-wide picture of patient incidents to understand commonalities or trends.

Interior Health has a draft Critical Incident Management Policy that lays out roles, principles, and the process and procedures for reporting and acting on critical incidents. This policy highlights the necessity to disclose such incidents to the patient and links to the policy Disclosure of Adverse Events, which was under development. The health authority is also a pilot site for the

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

British Columbia Patient Safety and Learning System — an electronic tool for identifying and recording patient safety incidents. This system, an initiative of the BC Patient Safety Task Force, was created by the Ministry of Health Services in 2004 to emphasize quality and patient safety. These initiatives will allow the health authority to identify trends in incidents and to take appropriate actions.

We recommend that the Interior Health Authority:

- ***implement a standardized patient incident tracking and reporting system.***

Safety

The terms of reference of the Quality Committee (2003) states that the committee's purpose is to:

> "develop through management, and present to the Board for approval, the key performance measures required to provide a competent, reliable assessment of the quality of service being provided in all service sectors and at all locations within the scope of the Authority's mandate; and ensure through regular monitoring that current priorities and programs are providing consistent, quality service in all areas and that specific performance obligations set out in the Agreements (now the Government Letter of Expectation) are being met."

Safety during care is an integral part of Interior Health's mission statement "Promote healthy lifestyles and provide needed health services in a timely, caring and efficient manner, to the highest professional and quality standards" and the goals as outlined in its 2007/08–2009/10 Service Plan. We found a number of safety initiatives in place or underway.

The Quality Committee of the Board of Directors plays a role in ensuring safety standards are met (see sidebar).

Within Interior Health, responsibility and accountability for quality and safety is a matrix. The Performance Management portfolio is responsible and accountable for developing a regional approach and reporting framework for quality and safety. The Chief Operating Officers in each health service area are responsible and accountable for achieving quality and safety in their jurisdictions. However, the Surgical Council's role in quality and patient safety is not clear nor is its relationship to the Performance Management portfolio.

At the time of our fieldwork, a draft Quality and Patient Safety Framework 2007/08–2010/11 and Tactical Plan 2007/08–2008/09 was being circulated for discussion. The framework builds on the health authority's goal "to deliver quality and safe patient care" by identifying three goals:

1. engage and enable staff to provide safe patient care;
2. engage and enable staff to provide effective, efficient, patient-centred care; and
3. develop an organizational framework that supports quality improvement and patient safety activities.

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

The framework includes objectives for the above goals, as well as performance measures, reporting requirements and a proposed committee structure.

Interior Health also participates in a national initiative "Safer Healthcare Now!" and the six larger hospitals are involved in the Surgical Site Infection component. Through the work of the Surgical Council and the OR Managers Group, standards and practices are being introduced for greater patient safety. One example is the "time out" which takes place in the operating room once a patient is prepared for surgery. All team members pause to verify a number of items, including patient identification and surgical site on the body. The time of the verification is charted on the case record. Another example is the Smoke Plume Evacuation Standard, which requires a system be in place and used to remove smoke generated during electro or laser surgery.

Safety standards are also in place for other aspects of surgical services. For example, the Biomedical Engineering Department, responsible for equipment maintenance, uses the Meditech Equipment Service Program to track maintenance schedules. Essential equipment is given routine maintenance according to standards set by the manufacturer and provincial and national standard groups, and to Interior Health's specific experience. For the major sites, computerized systems monitor environmental conditions in the operating rooms. Conditions are maintained to the standards of the Canadian Standards Association (CSA) and the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

Most sterile processing departments are older and do not meet the current CSA specifications for size, humidity and air circulation.

The Internal Audit Department of Interior Health has also focused its attention on safety issues. In 2005, for example, it conducted an audit of safeguarding narcotics. As a result of that work, Pyxis Medstations were installed in a number of operating rooms and other departments such as Emergency. A recent follow-up audit notes that "overall, narcotic and controlled substances practices have improved controls."

Interior Health is not yet demonstrating effectiveness in surgical services management but is taking steps to improve

At the time of our fieldwork, the Internal Audit Department was just completing an audit of sterile processing practices across the health authority. The audit included sterile processing departments or other departments doing sterile processing.

The Medical Staff Bylaws define physician responsibility for quality of medical care, and the minutes of the medical advisory committees indicate that issues of quality and safety are discussed. Medical rounds are another mechanism for physician review of quality and safety issues.

We recommend that the Interior Health Authority:

- ***clarify the role of the Surgical Council in advancing patient quality and safety and how that role integrates into the quality management structure.***

Risk management

Risk management is well integrated into the business processes of Interior Health. The 2007/08–2009/10 Service Plan itemizes key risk and capacity issues and mitigation strategies. It also lists key financial risks and responses.

Interior Health also maintains a risk register by category that is reported to the Board of Directors, as well as one that is reported at the health service area and department level. The register includes, for example, a description of the risk, an assessment (consequence, likelihood and magnitude), and actions.

Implementation of the Surgical Patient Registry included a risk assessment and mitigation plan.

Interior Health has information systems in place to support surgical services management

Information systems can help integrate a number of complex surgical tasks, such as scheduling and monitoring cases, personnel, equipment, instruments and supplies. We expected Interior Health to have information systems in place to assist with efficient and effective management of surgical resources.

We found that Interior Health has substantially finished implementing an information system for surgical services management, and data quality is being monitored and improved. This system is producing reports useful for surgical services management. However, integration of the system with other related hospital information remains a challenge.

Interior Health has a system to manage surgical cases, facilities, staff and equipment

Interior Health put out a major effort from 2004 onwards to select and implement an operating room management system across the region. After extensive consultation, it chose OR Manager as part of CareSuite by PICIS Inc. Input to the design and functioning of the system came from the Information Management Steering Committee, an overarching group that guides systems development, and the Surgical Information Coordinating Committee. The system tracks exact times and usage for all resources, including facilities, personnel, supplies, instruments and equipment. Information Management Information Technology and software specialists have integrated the system with the BC Surgical Patient Registry, with updates to key information daily.

Preparation for implementation of the PICIS system involved creating and entering standardized procedure dictionaries, booking standards, surgeon pick lists, preference cards, clinical records and more. Hardware had to be installed in operating rooms and at operating room control desks. Sequential installation and training went on across the region for a year.

Operating room nurses, managers, educators and clerks were trained and coached on the PICIS system. Training was provided by Information Management Information Technology staff and by staff with special interest called "super users." Surgical and related staff were also educated on the purpose and utility of the system. Ongoing education is provided and new staff receive training as part of their orientation.

Interior Health has information systems in place to support surgical services management

Reports generated by the PICIS system can be used for management of the services as well as for accountability and efficiency improvement.

Overall, the system has been well accepted by personnel in the different hospitals in Interior Health. However, there are some issues. The system requires data entry during surgical procedures which, say some surgeons, can take operating room nurses away from patient care. Managers are looking for ways to improve the data entry process.

An ongoing challenge is integration of the PICIS system with other IH information. For example, the pre-surgical screening clinical assessment is not currently part of the patient's booking record. As well, utilizing PICIS information to better inform bed management processes may help streamline surgical flow.

In addition to the PICIS system, Interior Health has begun using Checklist software from the UK. It uses clinical priorities and modeling to gain efficiencies that should assist the health authority in capacity planning and wait list reduction.

We recommend that the Interior Health Authority:

- ***assess and implement strategies using PICIS OR Manager information to better inform bed management.***

Data quality assurance systems are being put in place

Quality surgical data is important to informed management decision-making. In a complex system such as surgical services, quality data can be difficult to achieve. Nevertheless, improving surgical data quality is a priority at Interior Health. The effort is being overseen by the Surgical Council in conjunction with the Information Management Steering Committee, Surgical Information Coordinating Committee and Information Management Information Technology.

In particular, these groups are involved with standardizing procedure dictionaries, codes and definitions for PICIS OR Manager. To improve data quality, they have created validation rules and automatic screening at data entry and upload. They are also working on data audits to clean up errors. In one such audit, phone calls were made to patients waiting on the surgical waitlist longer than twelve months and whose status could not be confirmed by the surgeons' offices.

Interior Health has information systems in place to support surgical services management

Error checking is also done routinely and problems are referred to data stewards to amend. The quality of data in surgical activity reports available from PICIS OR Manager has, we were told, improved since the implementation of the PICIS system.

Improved data quality allows database fields to be more compatible with external systems such as the Surgical Patient Registry and the Discharge Abstract Database. This compatibility should result in fewer errors and higher data quality when it is summarized.

Interior Health reports on surgical services performance internally and to the Ministry of Health Services, but not to the public

We expected Interior Health to be distributing reports on the performance of surgical services to key points within the health authority, to the Ministry of Health Services and to the British Columbia public at large.

We found that Interior Health is reporting surgical performance indicators regularly to key internal stakeholders, and providing performance and activity reports to the ministry. It is not, however, reporting to the public on the performance of surgical services.

Reports of surgical performance are distributed internally

Several reports on surgical services have been produced within Interior Health for the Board of Directors, Senior Executive Team, Surgical Council, surgical committees and medical advisory committees. The first was the 2003/04 Operational Overview by Sullivan Healthcare, which the health authority commissioned. Subsequent benchmark studies on specific facilities were completed by Sullivan Healthcare. Interior Health then completed the Surgery Services Activity Report 2003/04–2005/06. These documents, we were told, were distributed to the key players, though we were not able to confirm this through the committee minutes.

The reports cover a variety of measures of surgical service productivity, efficiency and safety. For example, productivity measures include hip and knee surgical cases, first case of the day, case change over times and wait times. Efficiency measures include measures of on-time starts, operating room use and cancellations. Safety measures include patient incidents, re-admission rates and infection. To assist staff in accessing the most appropriate reports for their information needs, the Information Management Information Technology Department produces a Surgical Services Report Inventory annually. It lists all the relevant reports and provides title, classification and description of each.

The Surgical Council plays a key role in identifying which aspects of surgical services performance information are needed. The council is moving towards a standard reporting template of key surgical indicators. It created a "dashboard" that shows progress on 23 planned indicators, and began reporting on most of them in 2007. Those for which data was not available will be included starting in 2008 (See Exhibit 4). The value to be gained from this report will be in the analysis—examining the trends, determining what is impacting the trends and what actions need to be taken to reverse or accelerate the trends.

Interior Health reports on surgical services performance internally and to the Ministry of Health Services, but not to the public

Exhibit 4

Excerpt from Monthly Interior Health Surgical Services Indicator Report (Draft)

AUGUST 2007	TARGET	ACTUAL	TREND	INTERPRETATION
A. Access & Wait Times				
A.1 % of Patients Waiting >1 Year	0%	16%	⬇	Decreased by 2.2% from July to August 2007.
A.2 Net Impact on IH Wait List (i.e., waitlist turn-over)	Decrease	+42	⬅➡	The net impact fluctuates dramatically each month.
A.3 Months to remove Wait List Backlog	Decrease	Never	⬆	The net impact was positive, therefore, at this rate IH will not be able to clear the Waitlist backlog.
B. Access & Wait Times – Federal Benchmarks				
B.1 Total Hip Replacements waiting >26 Weeks	10%	37%	⬇	Decreased by 2% from the June 2007 stats.
B.2 Total Knee Replacements waiting >26 Weeks	10%	47%	⬇	Decreased by 5% from the June 2007 stats.
B.3 Hip Fracture Fixation completed Within 48 Hours	100%	96%	⬅➡	The current OR Manager/ Admissions data reports 91%.
B.4 Cataract Cases Waiting >16 Weeks	10%	32%		Decreased by 2% from the June 2007 stats.
C. Capacity – OR				
C.1 % Elective OR Time Used	100%			
C.2 % of First Case On-Time Starts (Anesthesia Start)	Increase			
C.3 % of Add-Ons	Decrease			
C.4 Wait Times for Add-Ons	Decrease			
D. Capacity – PAR				
D.1 Average Length of Stay in PAR	2 Hrs			
D.2 % of Surgical Case Postponements to PAR	0%			
E. Capacity – PSS				
E.1 % of Unscreened Patients	0%	2%	⬇	Decreased by 3.6% from the 2006 Average (5.6%).
E.2 % of Cancelled Cases due to Medical Reasons	0%			
E.3 % of Patients screened within 2 Days of Surgery	0%	18%	⬆	Increased by 2% from the 2006 Average (16.2%).

Source: Interior Health Surgical Council, 2007

Interior Health reports on surgical services performance internally and to the Ministry of Health Services, but not to the public

Interior Health provides performance reports to the ministry and others but not to the public

Since 2002 government organizations in British Columbia have been required by legislation to report publicly on their performance via Annual Service Plan Reports. This requirement applies to ministries but not to health authorities. The Ministry of Health Services requires health authorities to report only to the ministry on their performance against selected goals and objectives.

The Ministry of Health Service's goals and objectives are specified in the Government Letter of Expectations to Interior Health. These are used by Interior Health to ensure its service plan goals, objectives and measures are in alignment with those of the ministry.

Interior Health reports on surgical services measures to the ministry using standardized forms. It also provides performance information to the ministry through the Health Authority Management Information System and the Summary of Health Authority Reported Activities. As well, Interior Health submits data to the Surgical Patient Registry and Surgical Wait List Registry which can be used by the ministry to monitor federal benchmarks.

Because of the magnitude and importance of health services delivered to British Columbians by health authorities, we expected each health authority to report publicly on the performance of surgical services. In its Health Services Plan 2006/07–2008/09, the Interior Health Authority identified eight performance measures, indicators and targets under the "Redesign Initiative: Develop a coordinated regional Surgical Services program with common standards." However, the subsequent Service Plan 2007/08–2009/10 did not include an assessment of the previous year's achievements in reaching its targets. Neither does Interior Health publish a separate report on how well it is doing in achieving the targets in its Service Plans.

We recommend that the Interior Health Authority:

- ***report to the public on their performance including that of surgical services.***

Appendices

Appendix A

Interior Health Acute Care Levels

Community Health Centres & primary Health Care Centres

Community health centres offer a variety of services in one location. These facilities do not have acute care beds but may offer:

- Basic laboratory and radiology (X-ray) services.
- Urgent care.
- Outpatient ambulatory care procedures such as day surgery.
- Community services such as public health or physiotherapy.
- Long term residential care services.
- On-site doctor's offices.

Level 1 Community Hospitals

Level 1 community hospitals may provide:

- Laboratory and radiology (X-ray) services.
- Emergency services that may be available 24 hours per day, depending on the facility.
- Acute care beds for patient admissions for general medicine, observation, assessment, convalescence and palliative care.
- Low-risk obstetrical care in rural or remote areas.
- Outpatient ambulatory care procedures.

Level 2 Community Hospitals

Level 2 community hospitals provide the same services as Level 1 community hospitals, such as laboratory and radiology (X-ray) services and acute care beds. They also offer:

- 24-hour emergency services with registered nurse (RN) triage.
- Obstetrical care.
- Some core physician specialties such as internal medicine and low complexity general surgery, including ambulatory care day surgery.

Appendix A

Service Area Hospitals

Service area hospitals are regional facilities located in Cranbrook, Trail, Vernon and Penticton. These hospitals provide acute care beds, obstetrical care and all other services of level 2 community hospitals. They also offer:

- Laboratory (lab level 3) and radiology/diagnostic imaging services.
- 24-hour emergency services, ideally with in-house physicians. Emergency services at a service area hospital provide a higher level of trauma care than a community hospital.
- Core physician specialties such as internal medicine, general surgery, orthopedics, anaesthesia, obstetrics, gynecology, pediatrics, psychiatry, radiology, pathology and emergency medicine.
- Some sub-specialized, physician services for medical and surgical programs.

Interior Health Tertiary Referral Hospitals

There are two tertiary referral hospitals operating in Interior Health, Kelowna General Hospital and Royal Inland Hospital. These high-level, regional facilities in Kelowna and Kamploops respectively, offer every service provided by service area hospitals plus:

- 24-hour emergency services that may include trauma services.
- Advanced diagnostics such as magnetic resonance imaging (MRI), nuclear medicine and cardiac catheterization.
- Higher levels/sub-specialties of almost all medical and surgical services.
- Tertiary services for patients with multi-system failure and those requiring vascular surgery, thoracic surgery or neurosurgery.

Appendix B

Sullivan Healthcare Consulting Canada Co. Operational Overview, Interior Health Authority, 2004

Overall Findings and Conclusion

- While IHA is a relatively new entity, it remains a loose collection of hospitals and former regions. There is a lack of coordination, formal communication, or regional governance in place for the Surgery Program. For those hospitals which were part of the same region prior to the creation of IHA, there remains a considerable amount of independence and autonomy in the surgical areas. Where regional programs are in place (e.g., purchasing), individual hospitals or departments routinely circumvent or ignore the regional resource.
  - A regional Surgical Services Managers Committee has been established and was reported to be working well.
  - No other regional governance committee is currently in place for surgery.
- Practices, policies, definitions and guidelines, governance structures, and methods are very inconsistent among hospitals and, in many cases, within the hospital among surgical services. A clear example of this is the definition of scheduled start time for surgery. There is a complete lack of agreement within programs and across programs as to what this time means or what should be happening at this time.
- There is little consistency in the way patients are treated clinically in the surgical arena. Some patients are treated in a state-of-the-art manner while clinically similar patients in another IHA hospital are subjected to practices consistent with surgery in the 1970s.
- Overall, the Pre-surgery Screening Program (preadmission testing, preadmission clinic etc.) has wide variations in practice and, in general, either consumes excessive amounts of resources that could be re-directed at providing additional patient care or does little in preparing and screening the patient to ensure the patient is clinically ready for surgery. Internally at each site, there is also significant variation in practices among surgeons, anaesthetists, and primary care physicians. At several sites, each surgeon has completely

different standardized orders for pre-surgery testing for the same procedure.

- Anaesthesiology is not an active participant in the pre-surgery process at most sites.
- Surgery policies are very different from site to site. Enforcement of policies is also inconsistent among sites.
- "Silo thinking" is pervasive in IHA; this mentality results in Managers making decisions without regard to their overall impact.
  - — Incentives for change and innovation are not in place. Surgeons and anaesthetists reported that any efforts to change practice do not benefit them or their service, only the hospital.
  - — Changes that are perceived to benefit one hospital over another, regardless of the benefit to patients or the region, are actively resisted.
- Capacity to perform additional case volume exists in several locations.
- Several hospitals are above capacity and will require, in the short term, cases being decanted to other locations to meet their primary mission.
- Reports of increasing waitlists were also very common.
  - — Hospital-maintained wait lists (which are also submitted to the Ministry of Health per legislative requirements) are said to be inaccurate and are discounted by surgeons who prefer to maintain and manage their own wait lists.
    - ❖ The accuracy of the wait list data is suspect as it is all self-reported.
    - ❖ Clinical prioritization of the wait list does not occur.
    - ❖ Objective and retrospective audits of the wait list do not occur.
  - — Theatre access and block allocations are inconsistently managed across the region.
    - ❖ Only one hospital actively manages block allocation and utilization of the OR.
- Anaesthesiology practice is very inconsistent within each site and among all sites.

- Anaesthetists commonly reported that they do not see themselves as part of perioperative leadership.
- All sites maintain separate medical staff structures for all services. There are no regional medical staff departments.
- There is a widely-held perception that IHA is facing a critical shortage of operating room (OR) nurses.
    - Data analysis, consultant interviews, and national practices show that, in most cases, there is a sufficient supply of OR Nurses to accomplish the historical case loads and absorb projected increases in demand without the need to recruit additional OR Nurses. Operational changes in room staffing patterns, use of support staff, and redistribution of nursing in the perioperative environment will be required.
    - Significant investment in support staff must be made in most of IHA's surgical sites.
    - Many of the nursing protocols that are in place are outdated.
- Most IHA hospitals use nursing staff to accomplish activities that could be done by lower-cost staff (case picking, patient transport, etc.)
- Procedure names are inconsistent among sites and surgeons.
- While considerable effort has been made to standardize the information systems in surgery across IHA sites, there has been inconsistent implementation of that system. As a result, on program is forced to use a procedure and preference card file that was designed for another program.
- Many of the secondary sites have very low volumes of surgical cases. Most of them are below 500 cases annually and use inappropriate cases (vasectomies, endoscopies, minor procedures etc.) to fill OR time.
    - Rationale for the very small surgery programs is that they are needed to support the OB programs with emergency C-section capabilities.
    - Several of the programs have surgical volumes under 200 cases per year with less than 20 C-sections per year.

Appendix B

- Preoperative processes (day surgery) are inconsistent among sites. In most cases, these departments are organized with an inpatient mentality, by which all patients are treated as if they were sick. Thus is typified by patients being transported in beds, spending their preoperative stay in a bed, and having long pre-/postoperative lengths of stay.