Costing Framework:
Third-Party Delivery of
Outpatient Specialized Diagnostic Imaging

Saskatchewan Ministry of Health

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# Table of Contents

1.0 – Introduction.................................................................................................................. 3

2.0 – Context.......................................................................................................................... 3

3.0 – Principles....................................................................................................................... 3

4.0 – Costing Methodology and Framework...................................................................... 4
   Direct Costs....................................................................................................................... 5
   Indirect Costs.................................................................................................................... 5
   Capital Construction Avoidance Costs............................................................................. 6

5.0 – Total Procedural Cost Determination........................................................................ 6
1.0 INTRODUCTION

Beginning in 2010-11, third party health facilities will be permitted to provide out-patient specialized diagnostic imaging within Saskatchewan’s publicly funded and administered system.

This document provides the framework for determining Saskatchewan Regional Health Authorities’ costs for performing specialized diagnostic imaging procedures. This will allow for a comparison of public system costs with those of third-party provider prices and for public accountability and stakeholder transparency.

2.0 CONTEXT

The Saskatchewan Surgical Initiative plan, entitled Sooner, Safer, Smarter: A Plan to Transform the Surgical Patient Experience, was released March 29, 2010. The plan is based on five measureable objectives:

1. Shorter wait times for surgery
2. A better experience for patients and families
3. Safe, high quality care
4. Support for good health
5. Patient and family centered providers.

A key strategy for improving access for patients is the introduction of third-party delivery of specialized diagnostic imaging (CT/MRI). The purpose of this approach is to add capacity to the publicly delivered health system, not replace existing services outside of overall capacity expansion. The Saskatchewan government remains committed to the principles and values of the Canada Health Act, and the principles of a publicly funded and publically administered health system.

Selection of third party providers will be done through a Request for Proposal process managed by RHAs, in collaboration with the Ministry of Health.

3.0 PRINCIPLES

The following principles will guide the development of the third party delivery of publicly funded, publicly administered health services:

1. Third party delivery must support a patient first approach to health care through improving access, quality and choice for patients and their families.

2. Third party delivery must fully comply with the principles and guidelines of the Canada Health Act, and all relevant provincial legislation and regulations.

3. Third party delivery must be fully integrated within the publicly funded, publicly administered health system.
4. Third party delivery must meet all necessary health system safety and quality standards.

5. Third party delivery must be implemented through an open, consistent, equitable and fully transparent selection process.

6. Third party delivery must be financially responsible and the cost of the services must be equal to, or less than, what is offered by the publicly delivered health system.

4.0 COSTING METHODOLOGY AND FRAMEWORK

A costing methodology is required to determine Regional Health Authorities’ cost of publicly delivering specialized diagnostic imaging services in the health system. The demonstrated cost would ensure any decisions made on third party delivery meet the principle that the cost to the region of the third party services is equal to or less than the cost of delivering the service in the publicly delivered health system. The costing model used for this purpose is not related to Ministry of Health (MoH) funding arrangements with RHAs or for other purposes.

There is strong agreement on the need for a provincial costing methodology that applies to all health regions and, to the greatest extent possible, applies to surgery and specialized diagnostics. A working group, comprised of clinical and financial representatives of Regina Qu’Appelle (RQHR) and Saskatoon (SHR) health regions and the Ministry, was formed to determine a costing methodology or framework that would assist in determining comparative costing of services with third party providers. The working group has conducted its work and made decisions on a consensus basis.

CT COSTING METHODOLOGY

Factors that were considered in choosing a methodology included:

• Need to capture most accurately the actual regional costs for a procedure;
• Need to be simple to understand, calculate and repeat in the region for any of the third party procedures;
• Can be used by both outpatient surgical services and outpatient specialized diagnostic imaging; and
• Long-term stability is inherent in the model.

The costing methodology working group considered various options and agreed to a costing model based on procedural activity-based costing. The advantages of the model include:

• Provides procedure-specific costing of the service, and allows for more accurate comparison of the cost of providing the service in the public and private sector. Although this model requires significant time and effort on the part of the clinical and support staff (Finance, Materials Management, Human Resources, etc), many of the elements are the same across all specialized diagnostic imaging procedures, so only the costs for procedure specific items must be determined for each individual procedure.
• Similar to methodology used in case costing hospitals in other jurisdictions (i.e. Ontario and Alberta), which can allow for external benchmarking of costs.
The following components are included in the determination of procedural activity base costing:

1. **DIRECT COSTS:** Includes those costs that are directly impacted by the type of procedure.
   - Direct labour and benefit costs (including non-productive time) for all categories of clinical and non-clinical professional and non-professional staff involved in direct patient care activities. Non-productive time includes but is not limited to: patient transition time, cancelled procedures leading to unused capacity, overtime premium required to fill vacant shifts and holiday time. For each type of CT procedure, CT and DI staffing costs (salary and benefits), were calculated using CIHI MIS defined workload units per procedure multiplied by CT and DI per unit staffing cost. Nursing costs for contrast procedures only were determined using total nursing costs divided by total contrast exams, yielding a per contrast procedure nursing cost.
   - Direct labour and benefits for non-DI staff (e.g. Admitting) were determined by calculating the number of minutes the staff were dealing with patients/patient information multiplied by the hourly rate. An additional 20% was then added to this to factor in non-productive time for these categories of staff.
   - Physician remuneration, as per contractual agreement.
   - Supplies and consumables in common to all procedures, additional costs for oral and IV contract supplies specific to those procedures, and supply wastage factor.
   - Minor equipment and computer hardware, including all required components and accessories, amortized over an average life cycle of the equipment. Regional experience has estimated this to be five years.
   - Capital Equipment, determined by the following formula:
     \[
     \frac{\text{Purchase Price}}{\text{Expected Life (Years)}} + \frac{\text{Annual Maintenance Costs}}{\text{Estimated Number of Annual Procedures}} 
     \]
     Regional experience has estimated the expected life of specialized diagnostic imaging equipment to be eight years.

2. **INDIRECT COSTS:** Includes those costs that support the operation of the organization as a whole, and the facility. Indirect costs encompass the following areas:
   - General Administration and Board
   - Finance
   - Human Resources
   - Information Technology, Communications
   - Material Management (Procurement, Inventory, Supply Chain, Sterile Processing)
   - Physical Plant (Maintenance, Housekeeping, Grounds, Utilities, Security, Parking)
   - Centralized Health Records

Indirect costs are calculated by taking the total costs for these functional areas, divided by the total organizational budget, to determine the percentage of organizational costs attributable to these areas. This percentage is then applied to the total direct cost of the specific procedure, to determine a per procedure indirect cost.

A review of the case costing literature and benchmarking against other jurisdictions indicate that these costs attribute to an average of 15-20% of direct costs. For Regina Qu’Appelle and
Saskatoon health regions, the indirect costs were calculated to average 17%, determined from the following:

- The Patient First review conducted last year in Saskatchewan determined that the average combined expenditures for areas under General Administration, Finance, Human Resources and Information Technology was 6.51% of total operating expenditures.
- Total combined expenditures for all other areas averaged 10-12% of total operating expenditures.

3. CAPITAL CONSTRUCTION AVOIDANCE COSTS

If a regional health authority is required to construct new capacity or renovate existing space in order to increase internal capacity for specialized diagnostic imaging procedures, the cost of this construction must be factored into the activity based costs for procedures contemplated for third party delivery in the immediate future. The per procedure cost for this is determined by the following formula:

\[
\text{Per Procedure Cost} = \left( \frac{\text{Total Construction Cost}}{\text{Expected Life (Years)}} \right) \div \text{Estimated Number of Annual Procedures}
\]

If no public land is available for construction, and land must be purchased for expansion purposes, the land costs for buildings and parking lots are added to construction costs.

Regional experience has estimated the life cycle of the capital construction and land to be twenty years.

5.0 TOTAL PROCEDURAL COST DETERMINATION

The per procedure cost is calculated by adding the direct cost per procedure, the indirect cost per procedure, and the capital construction cost avoidance cost per procedure, if applicable, as demonstrated by the following formula:

\[
\text{Total Procedural Cost} = \text{Direct Costs} + \frac{\text{Indirect Cost}}{\text{Procedure}} + \frac{\text{Capital Cost Avoidance}}{\text{Procedure}}
\]


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