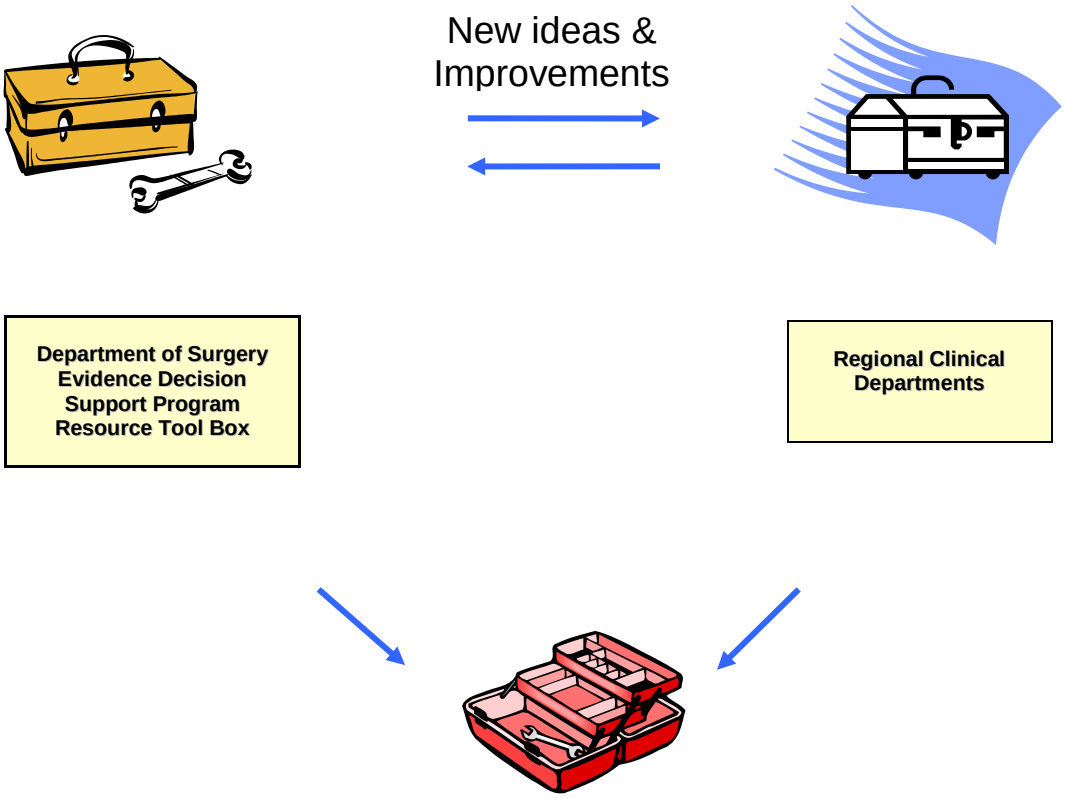
SURGERY STRATEGIC CLINICAL NETWORK

EVIDENCE DECISION SUPPORT PROGRAM

Evaluation & Decision Guides

2014 Revision (v3)



New and Improved Evidence Decision Support Program to support the needs of various clinical departments

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The Department of Surgery and Surgical Services, and the Calgary Health Research Portfolio
Alberta Health Services-Calgary and the University of Calgary

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INTRODUCTION

This packet of Evaluation & Decision Guides (Forms, Worksheets/Appendices) accompanies the Evidence Decision Support Program (EDSP). Please read the full EDSP to understand how the evaluation & decision guides (forms and worksheets/appendices) can be used.

The following evaluation & decision Forms and Worksheets/Appendices are included:

	Form Title	Technology Request Pathway	EDSP Pathway
H	EDSP Recommendation	—	√
I	EDSP Executive Decision	—	√

	Appendix Title	Description
I	Technology Evaluation Screening Guide	Gives guiding questions to help determine whether evaluation of a technology should follow the Technology Request Pathway or the EDSP Pathway
II	Levels of Evidence	Gives an explanation of the strength (level) of evidence. Used in Form E when providing evidence for a technology's clinical efficacy.
III	Criteria for Technology Evaluation	Gives a set of pre-determined criteria to help evaluate the merits of a new technology being considered for funding or purchase.
IV	Technology Evaluation Worksheet	Gives a worksheet for members of the EDSP Advisory Committee for reviewing and making recommendations on a technology
V	Decision Guideline Tool	Gives guidelines recommendations and decisions regarding new technologies. For use by the EDSP Advisory Committee and Departmental Executive Committee.
VI	Presentation Template	Gives a template for presenting a technology at Departmental Executive meeting to ensure all evaluation criteria are addressed in a consistent and systematic manner. For use by the EDSP Advisory Committee.
VII	Progress Report	Provide a template for reporting significant follow-up outcomes measures to document the performance (benefits) of a technology. For use by the Applicant.
VIII	One-Off Urgent/Emergent Evaluation Process	Gives a draft process for evaluating requested technologies for patients with few alternatives.
IX	Technology Prioritization Tool	Gives a structured process for rating and ranking several technologies, e.g., when determining which of several technologies should be submitted for funding.

For more information, email edsp@ahs.ca or paule.poulin@ahs.ca

FORM H: EDSP *RECOMMENDATION*

To be completed by EDSP Advisory Committee

Name of Applicant:		*(Office use only)* **EDSP ID:**
Department:	**Division:**	**Phone:**
Email:		**Pager:**
A-1. Name of proposed technology (or trade name if applicable)**:**		

Each committee member should evaluate the technology using ***Appendix IV: Technology Evaluation Worksheet.***

H-1. ☐ **RECOMMENDATION** [See ***Appendix V: Decision Guideline Tool***]:

1. ☐ **NOT Recommended**

2. ☐ **Recommended**

3. ☐ **Conditionally recommended**
   [Check all that apply]
   - **a.** ☐ **Clinical trial**
   - **b.** ☐ **Audit**
   - **c.** ☐ **Pending funding**
   - **d.** ☐ **Pending training protocols**
   - **e.** ☐ **Other**

4. ☐ **Recommend request for further evidence review and/or HTA Reports from independent HTA agency or knowledge synthesis services**

H-2. **Conditions of approval:** [If applicable, please describe any recommended conditions of approval. For example, how many cases are allowed, Timeline and significant Outcomes Measures to report to Executive Committee, others] _____

H-3. **Comments:** _____

H-4. ☐ **PRESENTATION TO EXECUTIVE COMMITTEE** [See ***Appendix VI: Presentation Template***]:

- **a.** ☐ **Presentation by Applicant**

- **b.** ☐ **Presentation by EDSP Advisory Committee Chair or Designate**

EDSP Advisory Committee	**SIGNATURE:**
(Committee chair or designate)	*(electronic signature and pdf file submission is recommended)*
	PRINT NAME:
	DATE:

FORM I: EDSP *EXECUTIVE DECISION*

To be completed by Department Executive Committee

Name of Applicant:		*(Office use only)* **EDSP ID:**
Department:	**Division:**	**Phone:**
Email:		**Pager:**
A-1. Name of proposed technology (or trade name if applicable)**:**		

I-1. Decision of the Department Executive Committee [See ***Appendix V: Decision Guideline Tool***]

1. ☐ **NOT Approved**

2. ☐ **Approved**

3. ☐ **Conditionally approved**
   [Check all that apply]
   - a. ☐ **Clinical trial**
   - b. ☐ **Audit**
   - c. ☐ **Pending funding**
   - d. ☐ **Pending training protocols**
   - e. ☐ **Other**

4. ☐ **Request further evidence review and/or HTA Reports from independent HTA agency or knowledge synthesis services**

I-2. Conditions of approval: [Describe conditions of approval. For example, how many cases are allowed, Timeline and significant Outcomes Measures to report to Executive Committee] _____

I-3. Comments: _____

Department Head (Executive Committee chair or designate)	**SIGNATURE:** *(electronic signature and pdf file submission is recommended)*
PRINT NAME:	
DATE:	

Submit Decision letter to Applicant
Name: E-mail address:

APPENDIX I: TECHNOLOGY EVALUATION SCREENING GUIDE

INFORMATION FROM TECHNOLOGY REQUEST FORM

Column 1	Is this technology a change from current practice? If so, answer the following questions (some questions may not be applicable):	Column 2
Content Experts: Patient Impact Questions		
☐ Yes	1. Have the clinical safety and/or rate of adverse events of this technology been clearly described in Form A (or demonstrated elsewhere)?	☐ No
☐ Yes	2. Have the enhanced health benefits of this technology over the current technology been clearly described in Form A (or demonstrated elsewhere)?	☐ No
☐ Yes	3. Has this technology been widely adopted elsewhere?	☐ No
☐ Yes	4. Have the advantages or important features of this technology over current practice been clearly described in Form A (or demonstrated elsewhere)?	☐ No
☐ No	5. Has this technology been categorized as "Innovative/Experimental New" (#A-4) or "significant change from current practice" (#A-11)?	☐ Yes
☐ No	6. Will the addition of this technology require the removal of old technology to minimize the number of choices and the potential for mismatch or error?	☐ Yes
☐ Yes	7. Has the quality of the technology (such as component materials) been demonstrated to be the same or better as that currently used?	☐ No
Content Experts: Health Care Provider Impact Questions		
☐ Yes	8. Are other providers in the Region also in agreement about adopting the technology?	☐ No
☐ No	9. Will the technology require new training for any health care staff?	☐ Yes
☐ No	10. Does the operation of the technology require certification or significant mentored practice time?	☐ Yes
Resource Experts: Resource Impact Questions		
☐ Yes	11. Is the technology compatible with existing infrastructure, such as sterilization equipment or information technology systems?	☐ No
☐ No	12. Will the technology require new maintenance routines?	☐ Yes
☐ No	13. Will the technology require new cleaning routines?	☐ Yes
☐ No	14. Will the technology require more infrastructure (space)?	☐ Yes
☐ No	15. Will the technology require more human resources (staff time)?	☐ Yes
Costing Experts: Cost Impact Questions		
☐ Yes	16. Does the technology fit within the existing budget?	☐ No
☐ No	17. Does the technology require more consumable materials (operational costs)?	☐ Yes
☐ No	18. Will information regarding costing in other areas of health care be needed to determine whether the technology will or will not impact budget?	☐ Yes

All answers in Column 1

Minor change from current practice.
Technology Request Pathway may be sufficient**.**

One or more answers in Column 2

Significant change from current practice.
Expedited/Full EDSP Pathway may be required**.**

APPENDIX II: LEVELS OF EVIDENCE

Levels of Evidence for Primary Research Question[1]				
	Types of Studies			
	Therapeutic Studies—Investigating the Results of Treatment	**Prognostic Studies—Investigating the Effect of a Patient Characteristic on the Outcome of Disease**	**Diagnostic Studies—Investigating a Diagnostic Test**	**Economic and Decision Analyses—Developing an Economic or Decision Model**
Level I	• High-quality randomized controlled trial with statistically significant difference or no statistically significant difference but narrow confidence intervals • Systematic review[2] of Level-I randomized controlled trials (and study results were homogeneous[3])	• High-quality prospective study[4] (all patients were enrolled at the same point in their disease with ≥80% follow-up of enrolled patients) • Systematic review[2] of Level-I studies	• Testing of previously developed diagnostic criteria in series of consecutive patients (with universally applied reference "gold" standard) • Systematic review[2] of Level-I studies	• Sensible costs and alternatives; values obtained from many studies; multiway sensitivity analyses • Systematic review[2] of Level-I studies
Level II	• Lesser-quality randomized controlled trial (e.g., <80% follow-up, no blinding, or improper randomization) • Prospective[4] comparative study[5] • Systematic review[2] of Level-II studies or Level-I studies with inconsistent results	• Retrospective[6] study • Untreated controls from a randomized controlled trial • Lesser-quality prospective study (e.g., patients enrolled at different points in their disease or <80% follow-up) • Systematic review[2] of Level-II studies	• Development of diagnostic criteria on basis of consecutive patients (with universally applied reference "gold" standard) • Systematic review[2] of Level-II studies	• Sensible costs and alternatives; values obtained from limited studies; multiway sensitivity analyses • Systematic review[2] of Level-II studies
Level III	• Case-control study[7] • Retrospective[6] comparative study[5] • Systematic review[2] of Level-III studies	• Case-control study[7]	• Study of nonconsecutive patients (without consistently applied reference "gold" standard) • Systematic review[2] of Level-III studies	• Analyses based on limited alternatives and costs; poor estimates • Systematic review[2] of Level-III studies
Level IV	Case series[8]	Case series	• Case-control study • Poor reference standard	• No sensitivity analyses
Level V	Expert opinion	Expert opinion	Expert opinion	Expert opinion

1. A complete evaluation of the quality of individual studies requires critical appraisal of all aspects of the study design.
2. A combination of results from two or more prior studies.
3. Studies provided consistent results.
4. Study was started before the first patient enrolled.
5. Patients treated one way (e.g., with cemented hip arthroplasty) compared with patients treated another way (e.g., with cementless hip arthroplasty) at the same institution.
6. Study was started after the first patient enrolled.
7. Patients identified for the study on the basis of their outcome (e.g., failed total hip arthroplasty), called "cases," are compared with those who did not have the outcome (e.g., had a successful total hip arthroplasty), called "controls."
8. Patients treated one way with no comparison group of patients treated another way.

This chart was adapted from material published by the Centre for Evidence-Based Medicine, Oxford, UK. For more information, please see www.cebm.net.

APPENDIX III: CRITERIA FOR TECHNOLOGY EVALUATION

The following criteria can be used for evaluating a new technology for funding or purchase.

DOMAIN	CRITERIA	Sub-Criteria Clarifying Questions
Health Gain	**1. Efficacy** (Evidence Based Medicine, Clinical Outcomes & Quality of Life)	1.1 Is there evidence that the technology will improve individual patient short-term (< 5 years) gain in health (clinical outcomes and/or quality of life) as compared with the current practice?
		1.2 Is there evidence that the technology will improve individual patient long-term (> 5 years) gain in health or reduce the likelihood of further disease or complications as compared with the current practice?
		1.3 Can the technology, including risk of adverse events, benefit cases with few alternatives?
	2. Population Health (Burden of Disease)	2.1 Does the technology address a condition with significant incidence and/or prevalence (burden of disease)?
		2.2 Is the incidence or prevalence projected to increase or decrease over the next 5 years?
	3. Standard of Care	3.1 Has the technology become the Standard of Care in other health regions?
		3.2 Will the technology establish a new Standard of Care?
Service Delivery	**4. Safety**	4.1 Is the technology at least as safe as current practice for the patients?
		4.2 Is the technology at least as safe as current practice for the health care providers?
	5. Training	5.1 Will the technology require health care provider training?
		5.2 What is the expected time frame for more health care providers to acquire the expertise to use the technology?
	6. Access	6.1 Will the technology improve accessibility (i.e., shift services closer to where patients reside; geographic equity)?
		6.2 Will the technology provide services to under-served population(s)?
		6.3 Will the technology improve the provision of services at the most appropriate time or decrease wait times? (Timeliness; service efficiency)?
	7. Service Coordination	7.1 Will the technology improve coordination and collaboration with other clinical services or reduce or increase impact on other services (service coordination)? Will the technology reduce load or positively impact other services?
	8. Sustainability	8.1 How many health care providers are demanding this technology?
		8.2 Will the technology be well utilized? How many health care providers have the expertise to use the technology upon acquisition? Will additional human resources be required?
Strategic Fit	**9. Strategic Fit**	9.1 Is the technology aligned with internal (Department/Division) strategic goals?
Innovation	**10. Knowledge & Research**	10.1 Will the technology improve the generation, transfer, and/or application of new knowledge to patient care services? (innovation characteristics)
Financial	**11. Cost** (Resources, Infrastructure)	11.1 Will the technology have Direct costs (purchase of technology)?
		11.2 Will the technology have One Time & Start Up Costs?
		11.3 Will the technology have Ongoing costs?
		11.4 Will the technology impact Other Services Areas?
		11.5 Will the technology have Alternative or Partial Funding Sources?
		11.6 Will the technology have Environmental costs?
	12. Economic Analysis (Cost-Effectiveness, Cost-Benefit)	12.1 Is there evidence to support the cost-effectiveness of the technology?
		12.2 Is the cost-effectiveness threshold the same for all (e.g., children vs. adults)?
		12.3 Is there evidence to support the cost-benefit ratio of the technology?
		12.4 Are any potential cost increases associated with the technology offset by significant improvements in quality of life or other patient outcomes?

APPENDIX IV: TECHNOLOGY EVALUATION WORKSHEET

To be completed by EDSP Advisory Committee or External Expert

Name of Applicant:		*(Office use only)* **EDSP ID:**
Department:	**Division:**	**Phone:**
Email:		**Pager:**
A-1. Name of proposed technology (or trade name if applicable)**:**		

The EDSP Advisory Committee will use this evaluation when assessing the applicant's request. The Canadian Privacy Act stipulates that, in response to a specific request by the applicant, we must make available a copy of the evaluation.

Reviewer: ☐ **EDSP Committee Member** ☐ **External Expert**

Name: _____ [Please complete Parts A-C]

Part A: Evaluate the **QUALITY AND COMPLETENESS** of the information provided:

(A) Adequate (IN) Inadequate (NA) Not Applicable.

Domain	Criteria	(A) (IN) (N/A)
Technology Description	Is the technology well described (name, type, category) (#A 1-5))?	
Health Gain	**Efficacy** (Evidence-based medicine, Clinical Outcomes, QoL) • Is the number of patients/ devices/ procedures per year clearly estimated? (#A-5) • Are patient characteristics and indications for use, evidence of efficacy clearly described? (#A-6, #E-1) • Are the advantages and health benefits *over current practice* clearly described? (#A-6)	
	Population Health (Burden of Disease, Prevalence) Is the condition incidence/prevalence adequately projected over the next 5 years? (#E-2)	
	Standard of Care Is the potential to establish a new standard of care clearly described? (#E-3)	
Service Delivery	***Safety:*** Are the potential complications or risks to patient or health providers over current practice clearly addressed? (#A-7, #E-4)	
	Training: Are the training implication including number, cost, and time frame clearly described? (#A-9, #E-5).	
	Access / Location for Use: Will the technology improve access to care? Are all potential location for use (services, sites) adequately addressed? (#A-10, #E-6)	
	Service Coordination: Will the technology reduce load or positively impact other services? #E-7	
	Sustainability / Users: How many providers will use this technology & will additional human resources be required? (#A-8, #E-8)	
Strategic Fit	**Strategic Fit**: Does the technology fit with internal (*Department/Division*) *strategic goals*? (#B-1)	
Innovation	**Knowledge & Research**: Are the *innovation characteristics* clearly described? (#E-9)	
	Are the significant O***utcomes Measures*** to document the performance (benefits) of this technology over current practice clearly described? (#E-10)	
Financial	**Cost** (Resources/Infrastructure): Is the information on ***resources and infrastructure impact*** complete? (Form F)	
	Economic Analysis (Cost-Effectiveness, Cost-Benefit): Is the evidence to support the cost-effectiveness or cost-benefit of the technology clearly described? (Form G)	

Part B: a) **Score** the **SIGNIFICANCE and IMPACT** of the technology according to the criteria listed below.

HEALTH GAIN	0 points	1 point	3 points	5 points
Efficacy (#A-6, #E1) Short term health gain Long term health gain Benefits cases with few alternatives	No improvement in patient health gain ☐	Minimal improvement in patient health gain ☐	Moderate improvement in patient health gain ☐	Vast improvement in patient health gain ☐
Population Health (#E-2) Prevalence / Incidence 5-year projected prevalence	The technology address a condition with very low prevalence (rate/ 100,000 < 1) ☐	The technology address a condition with low prevalence (rate/ 100,000 btw 1-10) ☐	The technology address a condition with moderate prevalence (rate/ 100,000 btw 10 -1000) ☐	The technology address a condition with high prevalence (rate/ 100,000 btw 1,000-10,000) ☐
Standard of Care (#E-3) In other Health Regions New Standard of Care	The technology does not represent the Standard of Care in other health regions in Alberta ☐	The technology represents standard of care in some health regions in Alberta ☐	The technology represents standard of care in most health regions in Alberta ☐	The technology represents new standard of care in our health region or Alberta ☐
SERVICE DELIVERY	**0 points**	**1 point**	**3 points**	**5 points**
Safety (#A-7, #E-4)	Controversial documentation of safety ☐	Minimal documentation of safety ☐	Moderate documentation of safety ☐	High degree of documentation of safety ☐
Training (#A-9, #E-5)	Significant training required in terms of cost, time, and number of individuals ☐	Moderate training required in terms of cost, time and number of individuals ☐	Minimal training required in terms of cost, time and number of individuals ☐	No training required ☐
Access (#E-6)	No improvement in access ☐	Minimal improvement in access ☐	Moderate improvement in access ☐	High degree of improvement in access ☐
Service Coordination (#E-7), Reduces load on other services	No reduction in load on other services ☐	Minimal reduction in load on other services ☐	Moderate reduction in load on other services ☐	Vast reduction in load on other services ☐
Sustainability (#E-8) Additional human resources required	High level of additional human resources required ☐	Moderate additional human resources required ☐	Minimal additional human resources required ☐	No additional human resources required ☐
STRATEGIC FIT	**0 points**	**1 point**	**3 points**	**5 points**
Strategic Fit (#B-1**)**	Does not fit department strategic goal ☐	Minimal fit with department strategic goal ☐	Moderate fit with department goal ☐	Fully support department goal ☐
INNOVATION	**0 points**	**1 point**	**3 points**	**5 points**
Knowledge & Research (#E-9)	Not innovative ☐	Small gains in innovation ☐	Moderate gains in innovation ☐	Large gains in innovation ☐
Outcomes Measures (#E-10)	No documentation of follow-up outcome measure ☐	Minimal quality documentation of follow-up outcome measure ☐	Moderate quality documentation of follow-up outcome measure ☐	High quality documentation of follow-up outcomes measure ☐
FINANCIAL	**0 points**	**1 point**	**3 points**	**5 points**
Cost (Resources, Infrastructure; Form F)	Not sustainable or adverse impact on health system funding over time (next 5 years) ☐.	Technology requires significant resource investment in order to be viable and sustainable. ☐	Technology requires start-up funds, but will be viable and sustainable following initial investment. ☐	Technology is viable and sustainable within available resources and/or creates new capacity in the local health system. ☐
Economic Analysis (Cost-effectiveness & Cost-benefit; Form G)	No evidence of cost-effectiveness and/or cost-benefit ☐	Minimal evidence of cost-effectiveness and/or cost-benefit ☐	Moderate evidence of cost-effectiveness and/or cost-benefit ☐	Clear evidence of cost-effectiveness and/or cost-benefit ☐

Part B: b) Please **summarize** the **QUALITY and SIGNIFICANCE and IMPACT** of the technology according to the Domain criteria listed below

DOMAIN Criteria	Overall Information Quality (Score)	Overall Significance and Impact of Technology (Points)	Reviewers' Comments
Health Gain:			
Service Delivery:			
Strategic Fit:			
Innovation:			
Financial:			
Overall			

Part C: RECOMMENDATION

Please give a recommendation on the technology

Technology Request Pathway (See *Appendix I: Technology Evaluation Screening Guide*)		
1. ☐	**EDSP Pathway recommended** (further evaluation required)	
2. ☐	**Approval**	
EDSP Pathway (See *Appendix V: Decision Guideline Tool*)		
1. ☐	**Not Recommended**	
2. ☐	**Recommends Approval**	
3. ☐ **Recommends Conditional Approval**	**a.** ☐	**Clinical Trial**
	b. ☐	**Audit**
	c. ☐	**Pending Funding**
	d. ☐	**Pending Training Protocol**
	e. ☐	**Other**
4. ☐	**Request for Independent knowledge synthesis or HTA Report**	

Comments: _____

APPENDIX V: DECISION GUIDELINE TOOL

RECOMMENTATION OR DECISION		CRITERIA & RATIONALE
1. Not Recommended/Approved		• Negative, poor, or no data on efficacy • Insufficient evidence of safety • Decreases or worsens service delivery
2. Recommended/Approved		• Efficacy and safety well established • Enhanced population health is likely • Sufficient evidence for safety • Will likely improve service delivery • Financial Impact is likely the same or better than current practice • Cost-effectiveness is likely the same or better than current practice • Strategic fit is strong
3. Conditional	**a. Clinical Trial**	• Efficacy has uncertain or controversial evidence • Safety is uncertain • Population health benefit is uncertain • Effect on service delivery is uncertain • May be innovative
	b. Audit	• Efficacy has limited evidence • Good evidence for safety • Cost-effectiveness is uncertain • Advantage over current practice needs to be established • Cost within budget
	c. Pending Funding	• Technology is very expensive • Technology is approved in principle but additional funding is required
	d. Pending Training Protocol	• Detailed training protocol is required • Cost of training needs to be clarified
	e. Other	• Other issues are present that are not already captured (e.g. requirement for detailed clinical use guidelines; approve research protocol, etc.)
4. Request for Independent knowledge synthesis or HTA Report		• Efficacy is controversial or insufficient and summary and interpretation of evidence is necessary • Safety is controversial or insufficient • Cost-effectiveness is controversial or uncertain • May be innovative

APPENDIX VI: PRESENTATION TEMPLATE

Summary for Advisory and Executive Committee Presentation
When a technology request represents a significant change of practice**,** the request requires an **EDSP** and must be presented to the Department Executive Committee for decision. To ensure all important issues are being addressed in a consistent and systematic manner, please discuss the strengths and weaknesses of the proposed technology over current practice using the presentation outline below. Information to be presented can be extracted from the Technology Request (Form A), Clinical Information (Form E), Financial Impact (Form F), and Economic Analysis (Form G).

APPLICANT: Please address the following:

1. **Technology Description**
- **Name** of technology (#A-1); **Type** (#A-3) and **Category** of technology (#A-4):

2. **Health Gain** (#A-6, #E-1, #E-2, #E-3)
- Give a brief summary of clinical efficacy by describing: its important features and the reasons for change, patient characteristics and indications for use, advantages and health benefits **over current practice**, incidence and prevalence of the condition projected over the next 5 years, number of patients/ devices/ procedures **per year.**
- If this is a replacement, upgrade, addition, or discard of an existing technology, describe the existing technology (comparison product) and the reason(s) for change.

3. **Service Delivery**
- **Safety:** (#A-7, #E-4) Please list all known or potential complications, adverse events, contraindications, product warnings, or potential risks to patient or health providers.
- **Training:** (#A-9, #E-5) How many health care practitioners already have the expertise to use this technology? If applicable, describe training implication including number, cost, and time frame.
- **Location for use / Access:** (#A-10, #E-6) List Services and Sites and describe whether it will improve access.
- **Users / Service Coordination** (#A-8, #E-7) List all potential users and whether it will impact other services.
- **Sustainability** (#E-8) Will adoption of the technology require additional human resources?

4. **Innovation**
- Knowledge & Research: Describe the innovation characteristics (#E-9).
- What Outcomes will be measured to document the performance/benefits of this technology? (#E-10)

FINANCIAL EXPERT: Please address the following:

5. **Financial**
- **Financial Impact Information** (*Form F*)
- **Economic Analysis** (*Form G*) Summarize

EDSP ADVISORY COMMITTEE CHAIR: Please address the following:

6. **EDSP Advisory Committee Recommendation (*Form H*)** [EDSP Committee only]
- Summarize (if applicant is not presenting) and describe Committee Recommendations

Return an electronic copy of the presentation to the EDSP Advisory Committee by e-mail.
Name: E-mail address:

APPENDIX VII: PROGRESS REPORT

Name of Applicant:		*(Office use only)* **EDSP ID:**
Department:	**Division:**	**Phone:**
Email:		**Pager:**
A-1. Name of proposed technology (or trade name if applicable)**:**		

Progress Report for Executive Committee Review
When the introduction of a technology has been approved by Executive Committee, the applicant must provide a Progress Report to document the performance (benefits) of the technology. To ensure all important issues are being addressed in a consistent and systematic manner, please address the following using the report outline below.

2. Has the technology been introduced?

☐ Yes [give start date]: _____
☐ No [give reasons]: _____

3. Is the technology continuing to be used?

☐ Yes
☐ No [give reasons]: _____

4. How many procedures have been performed to date? _____

5. Have significant Outcomes been measured?

☐ Yes [Give a summary of key outcomes measured and results – use as much space as needed]: _____

☐ No, give reasons: _____

6. Have there been any adverse outcomes or significant problems?

☐ Yes [Give details – use as much space as needed] _____
☐ No

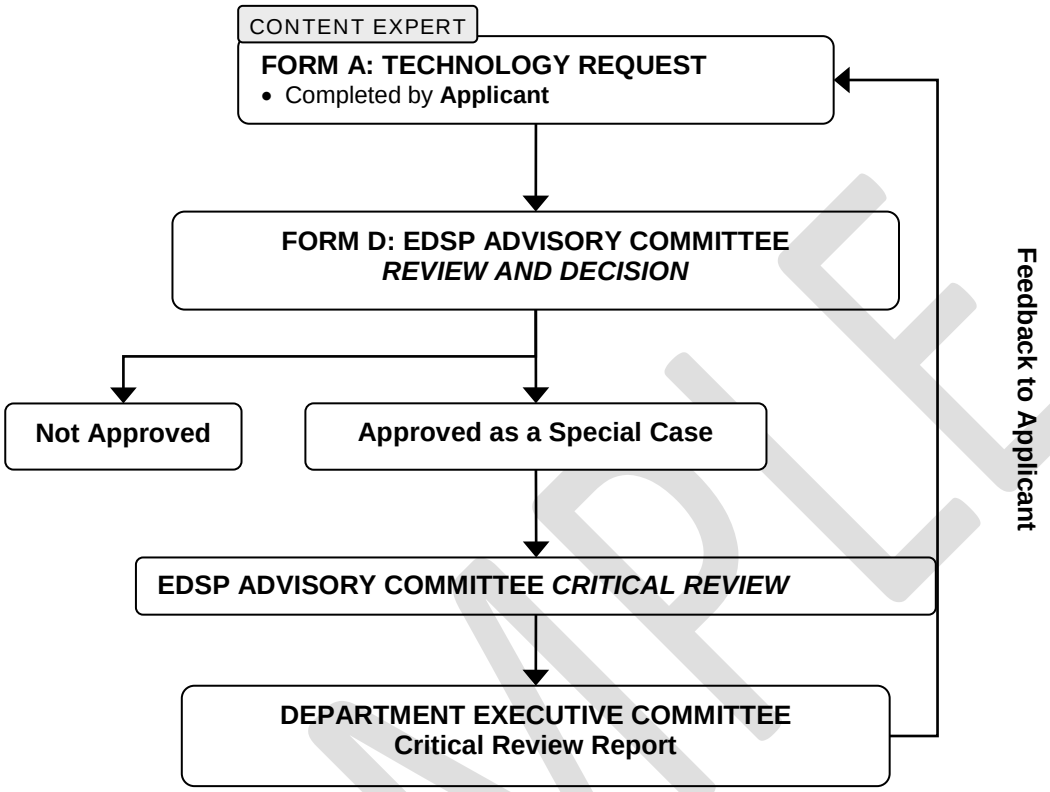
7. Do you plan to continue using this technology for permanent use?

☐ Yes _____
☐ No

Applicant Signature:	**Date:**

(electronic signature and pdf file submission is recommended)

APPENDIX VIII: SINGLE CASE (ONE-OFF) URGENT/EMERGENT EVALUATION PROCESS - *DRAFT*



Suggested process for dealing with Single-Case Urgent/Emergent Requests

- The intent of this process is to allow for legitimate emergency requests while preserving accountability.
- *Form A: Technology Request* should be completed by the requester, preferably prior to the process.
- *Form A* should be is delivered directly to the EDSP Advisory Committee (or designate) for review and approval as a special case (thus by-passing Forms B and C).
- The EDSP Advisory Committee completes *Form D.*
- After the procedure is completed, the EDSP Advisory Committee conducts a Critical Review to assess 1) the outcome with regard to patient safety and clinical effectiveness and 2) whether there was a real emergency as opposed to procrastination.
- The Critical Review is presented to the Department Executive Committee for review and possible follow-up action with the Applicant.
- Note that paperwork for the Critical Review is not yet built into this version of the EDSP.

APPENDIX IX: TECHNOLOGY PRIORITIZATION TOOL

The following "Technology Prioritization Tool" was adapted from Dr. Craig Mitton prioritization tool (personal communication) for use with our decision-making criteria presented in *Appendix III*. It provides one method by which competing technologies can be scored in a way that is consistent and transparent. Technologies can then be prioritized for funding or purchase based on the score received. Please, note this represents a framework to guide a prioritization process and each group should review and revise the list of criteria for their specific needs.

Overview of Steps

Step 1. Compliance Screen. Technologies are screened for their compliance with relevant laws, regulations, and contractual agreements using the Technology Request Form. Only compliant technologies move forward (Form C).

Step 2. Criteria Review. The criteria to be used for prioritization are reviewed and agreed upon (See Appendix III).

Step 3. Criteria Weighting. Some criteria may be deemed to be more important than others, and this relationship may be given a numerical value.

Step 4. Criteria Rating Scales. To assess how well a technology is filling out each criterion, for each criterion, a numerical point scale is developed with clear definitions.

Step 5. Technology Scoring. All technologies are graded on a "matrix", where they are given points for each of the criteria. An overall score is then calculated by using the criteria weights and criteria rating points.

Step 6. Technology Ranking

From here, there are two major streams of analysis, depending on whether costs are considered up front as criteria **(Step 6A)** or whether the criteria consist only of "benefits" and costs are considered later **(Step 6B)**.

Step 6A. Overall Score Used to Prioritize the Technologies. In this case, the cost of the technology is one of the criteria under consideration.

Step 6B. Overall Score Used to Calculate a Cost-Benefit Ratio. In this case, the cost of technology is NOT one of the criteria used to generate the final score. Costs are considered at the final stage, where a calculation of the "cost impact per benefit point" is made.

Whether you used "Step 6A" or "Step 6B", the technologies can now be rank-ordered for funding according to their overall score.

Step 7. Additional Checks

Additional checks, Step 7A and Step 7B can be optionally completed.

Step 7A. System Readiness Check. The technology is checked against four "hurdles" (department capacity, interdependency, risk, and health system impact).

Step 7B. Estimating Success. An estimate of the probability of adoption can be made by considering the System Readiness and System Benefit scores.

TECHNOLOGY PRIORITIZATION DETAILS

STEP 1. Compliance Screen

Technologies are assessed to ensure their compliance with relevant laws or regulations and relevant contractual agreements.

Does the technology request violate any relevant laws, regulations or contractual agreements (See *Form C: Technology Request Contract-Costing Check*)?

☐ **No [PASS – Go to Step 2]**

☐ **Yes [FAIL]**

STEP 2. Criteria Review

It is important that the criteria used be agreeable to all decision-makers. In this regard, the criteria developed for use in evaluating a new technology for funding or purchase and implementation can be used as a starting point (*Appendix III: Criteria for Technology Evaluation*). These criteria are repeated in **Table 1** below**.**

Ideally, the criteria should be independent and non-overlapping, to avoid double-counting. The criteria also should be complete, feasible, and not excessive in number. Please review and revise as needed.

Table 1. Criteria for Technology Evaluation and Prioritization

(repeated from *Appendix III Criteria*)

DOMAIN	CRITERIA	Sub-Criteria Clarifying Questions
Health Gain	**1. Efficacy** (Evidence Based Medicine, Clinical Outcomes & Quality of Life)	1.1 Is there evidence that the technology will improve individual patient short-term (< 5 years) gain in health (clinical outcomes) and/or quality of life as compared with the current practice?
		1.2 Is there evidence that the technology will improve individual patient long-term (> 5 years) gain in health and/or quality of life or reduce the likelihood of further disease or complications as compared with the current practice?
		1.3 Can the technology, including risk of adverse events, benefit cases with few alternatives?
	2. Population Health (Burden of Disease)	2.1 Does the technology address a condition with significant incidence and/or prevalence (burden of disease)?
		2.2 Is the incidence or prevalence projected to increase or decrease over the next 5 years?
	3. Standard of Care	3.1 Has the technology become the Standard of Care in other health regions?
		3.2 Will the technology establish a new Standard of Care?
Service Delivery	**4. Safety**	4.1 Is the technology at least as safe as current practice for the patients?
		4.2 Is the technology at least as safe as current practice for the health care providers?
	5. Training	5.1 Will the technology require health care provider training?
		5.2 What is the expected time frame for more health care providers to acquire the expertise to use the technology?
	6. Access	6.1 Will the technology improve accessibility (i.e., shift services closer to where patients reside; geographic equity)?
		6.2 Will the technology provide services to under-served population(s)?
		6.3 Will the technology improve the provision of services at the most appropriate time or decrease wait times? (timeliness; service efficiency)?
	7. Service Coordination	7.1 Will the technology improve coordination and collaboration with other clinical services or reduce or increase impact on other services (service coordination)? Will the technology reduce load or positively impact other services?
	8. Sustainability	8.1 How many health care providers are demanding this technology?
		8.2 Will the technology be well utilized? How many health care providers have the expertise to use the technology upon acquisition? Will additional human resources be required?
Strategic Fit	**9. Strategic Fit**	9.1 Does the technology fit with internal (Department/Division) strategic goals?
Innovation	**10. Knowledge & Research**	10.1 Does the technology improve the generation, transfer, and/or application of new knowledge to patient care services?
Financial	**11. Cost** (Resources, Infrastructure)	11.1 Will the technology have Direct costs (purchase of technology)?
		11.2 Will the technology have One Time & Start Up Costs?
		11.3 Will the technology have Ongoing costs?
		11.4 Will the technology impact Other Services Areas?
		11.5 Will the technology have Alternative or Partial Funding Sources?
		11.6 Will the technology have Environmental costs?
	12. Economic Analysis (Cost-Effectiveness, Cost-Benefit)	12.1 Is there evidence to support the cost-effectiveness of the technology?
		12.2 Is the cost-effectiveness threshold the same for all (e.g., children vs. adults)?
		12.3 Is there evidence to support the cost-benefit ratio of the technology?
		12.4 Are any potential cost increases associated with the technology offset by significant improvements in quality of life or other patient outcomes?

STEP 3. Criteria Weighting

The Criteria Weighting Tool shown in **Table 2** (adapted from Dr. Craig Mitton, personal communication) uses linear weighting where weightings add up to 100. Other weighting strategies also exist.

Some criteria may be deemed to be more important than others, and this relationship may be given a numerical value (weights). Several methods can be used to determine these weightings:

a) Department members, staff, healthcare providers, and other stakeholders can complete **Table 2** on an individual basis. Weights allocated by respondents are then averaged to generate a Mean weight for each criterion.

b) Department members, staff, healthcare providers, and other stakeholders can meet together and work on a consensus basis to come up with a set of criteria weights for **Table 2** at the group level. This method may be preferable in instances where there are expected value-based disagreements in the weighting of the criteria.

c) If a direction has been given from government on where organizations should be focusing resources, then this may supersede Department decisions on weightings. This is acceptable so long as the rationale for weighting decisions is explicit and transparent.

d) Departments may choose to not weight the criteria. In this case, equal weightings are generated for each criterion in **Table 2**, which must add up to 100.

Table 2. Criteria Weighting Tool

- Allocate a total of 100 points between the criteria listed
- No more than 20 points can be allocated to a single criterion.
- Transfer the weights to Table 3.

Domain	Criteria	Weight
Health Gain	**Efficacy** (Evidence-based medicine, Clinical Outcomes, and Quality of Life)	
	Population Health (Burden of Disease, Prevalence)	
	Standard of Care	
Service Delivery	**Safety**	
	Training	
	Access	
	Service coordination	
	Sustainability	
Strategic Fit	**Strategic Fit**	
Innovation	**Knowledge & Research**	
Financial	**Cost (Resources & Infrastructure)**	
	Economic Analysis (Cost-Effectiveness; Cost-Benefit)	
	TOTAL	**100**

e) Once determined, the criteria weightings are entered into **Table 4**.

STEP 4. Criteria Rating Scales

A Criteria Rating Scale must be developed to allow technologies to be assigned a numerical value (points) based on how well they meet the various criteria. A sample 5-point criteria rating scale based on the criteria of **Table 1** is shown below in **Table 3. Criteria Rating Scale**

Domain	Criteria	0 points	1 point	3 points	5 points
Health Gain	**Efficacy** Short term health gain Long term health gain Benefits cases with few alternatives	No improvement in patient health gain compared with current practices	Minimal improvement in patient health gain compared with current practices	Moderate improvement in patient health gain compared with current practices	Vast improvement in patient health gain compared with current practices
	Population Health Prevalence / Incidence 5-year projected prevalence	The technology address a condition with very low prevalence (rate/ 100,000 < 1)	The technology address a condition with low prevalence (rate/ 100,000 btw 1-10)	The technology address a condition with moderate prevalence (rate/ 100,000 btw 10 - 1000)	The technology address a condition with high prevalence (rate/ 100,000 btw 1,000-10,000)
	Standard of Care In other Health Regions New Standard of Care	The technology does not represent the Standard of Care in other health regions in Alberta	The technology represents standard of care in some health regions in Alberta	The technology represents standard of care in most health regions in Alberta	The technology represents new standard of care in our health region or Alberta
Service Delivery	**Safety**	Controversial documentation of safety	Minimal documentation of safety	Moderate documentation of safety	High degree of documentation of safety
	Training	Significant training required in terms of cost, time, and number of individuals	Moderate training required in terms of cost, time and number of individuals	Minimal training required in terms of cost, time and number of individuals	No training required
	Access	No improvement in access	Minimal improvement in access	Moderate improvement in access	High degree of improvement in access
	Service Coordination Reduces load on other services	No reduction in load on other services	Minimal reduction in load on other services	Moderate reduction in load on other services	Vast reduction in load on other services
	Sustainability Availability of human resources required	High level of additional human resources required	Moderate additional human resources required	Minimal additional human resources required	No additional human resources required
Strategic Fit	**Strategic Fit**	Does not support department strategic goals	Minimal fit with department strategic goals	Moderate fit with department strategic goals	Strong fit with department strategic goals
Innovation	**Knowledge & Research**	Not innovative	Small gains in innovation	Moderate gains in innovation	Large gains in innovation
Financial	**Cost** (Resources & Infrastructure)	Not sustainable or adverse impact on health system funding over time (next 5 years).	Technology requires significant resource investment in order to be viable and sustainable.	Technology requires start-up funds, but will be viable and sustainable following initial investment.	Technology is viable and sustainable within available resources and/or technology creates new resource capacity in the local health system.
	Economic Analysis Cost-effectiveness & Cost-benefit	No evidence of cost-effectiveness and/or cost-benefit	Minimal evidence of cost-effectiveness and/or cost-benefit	Moderate evidence of cost-effectiveness and/or cost-benefit	Clear evidence of cost-effectiveness and/or cost-benefit

STEP 5. Technology Scoring

Once the criteria weightings and criteria rating point scales have been developed, each technology is evaluated for each criterion and given a score according to available evidence. **Table 4, Technology Scoring Tool** provides a tool for entering this information.

For each criterion (1 to n), the points (P) times the weighting (W) is calculated to give a score for each criterion. The total score for each technology is then calculated as follows: $(P_1 \times W_1) + (P_2 \times W_2)\ldots + P_n \times W_n$.

STEP 6A. Overall Score to Prioritize the Technology

The top-ranking technologies can be rank-ordered by their overall score to move forward to the System Readiness Check in Step 7.

STEP 6B. Cost-Benefit Analysis to Prioritize the Technology

In order to calculate a cost-benefit ratio, the overall benefit score for each technology (total score excluding the cost criteria) can be divided by the total technology operating cost with an adjustment for scale by first dividing the operating cost by the total number of patients/ clients served by that technology. As in Step 6A, the top ranked technologies (lowest cost-benefit ratio to highest) would then move forward to the System Readiness Check in Step 7.

Table 4. Technology Scoring Tool

Technology Name:_____

Domain	Criteria	0 points	1 point	3 points	5 points	Rating Points	Weights	Score
Health Gain	**Efficacy** Short term health gain Long term health gain Benefits cases with few alternatives	No improvement in patient health gain compared with current practices	Minimal improvement in patient health gain compared with current practices	Moderate improvement in patient health gain compared with current practices	Vast improvement in patient health gain compared with current practices			
	Population Health Prevalence / Incidence 5-year projected prevalence	The technology address a condition with very low prevalence (rate/ 100,000 < 1)	The technology address a condition with low prevalence (rate/ 100,000 btw 1-10)	The technology address a condition with moderate prevalence (rate/ 100,000 btw 10 - 1000)	The technology address a condition with high prevalence (rate/ 100,000 btw 1,000-10,000)			
	Standard of Care In other Health Regions New Standard of Care	The technology does not represent the Standard of Care in other health regions in Alberta	The technology represents standard of care in some health regions in Alberta	The technology represents standard of care in most health regions in Alberta	The technology represents new standard of care in our health region or Alberta			
Service Delivery	**Safety**	Controversial documentation of safety	Minimal documentation of safety	Moderate documentation of safety	High degree of documentation of safety			
	Training	Significant training required in terms of cost, time, and number of individuals	Moderate training required in terms of cost, time and number of individuals	Minimal training required in terms of cost, time and number of individuals	No training required			
	Access	No improvement in access	Minimal improvement in access	Moderate improvement in access	High degree of improvement in access			
	Service Coordination Reduces load on other services	No reduction in load on other services	Minimal reduction in load on other services	Moderate reduction in load on other services	Vast reduction in load on other services			

Table 4. Technology Scoring Tool (continued)

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Domain	Criteria	0 points	1 point	3 points	5 points	Rating Points	Weights	Score
Service Delivery (continued)	**Sustainability** Availability of human resources required (physicians, nurses, and support staff)	High level of additional human resources required	Moderate additional human resources required	Minimal additional human resources required	No additional human resources required			
Strategic Fit	**Strategic Fit**	Does not support department strategic goals	Minimal fit with department strategic goals	Moderate fit with department strategic goals	Strong fit with department strategic goals			
Innovation	**Knowledge & Research**	Not innovative	Small gains in innovation	Moderate gains in innovation	Large gains in innovation			
Financial	**Cost** (Resources & Infrastructure)	Not sustainable or adverse impact on health system funding over time (next 5 years).	Technology requires significant resource investment in order to be viable and sustainable.	Technology requires start-up funds, but will be viable and sustainable following initial investment.	Technology is viable and sustainable within available resources and/or technology creates new resource capacity in the local health system.			
	Economic Analysis Cost-effectiveness & Cost-benefit	No evidence of cost-effectiveness and/or cost-benefit	Minimal evidence of cost-effectiveness and/or cost-benefit	Moderate evidence of cost-effectiveness and/or cost-benefit	Clear evidence of cost-effectiveness and/or cost-benefit			
						OVERALL SCORE		**/100**

STEP 7. System Readiness Check (Optional)

Mitton's scheme uses a "System Readiness Screen," in which technologies are checked against four "hurdles" (department capacity, interdependency, risk, and health system impact). Whereas these "hurdles" are already mostly embedded within our criteria (**Table 1**), a System Readiness Check is still a useful way of checking the impact of the criteria and predicting the probability of adoption.

- Department capacity: Does the Department have the needed material, financial, and health human resources to support this technology at this time? If the technology is sufficiently important, are there ways to leverage system resources to make the technology viable now or in the future?
- Interdependency: Does this technology depend on the completion of other projects? Are other high-priority projects depending on the introduction of this technology? Is this technology aligned with other projects that would need also to be funded in order for them to be viable?
- Risk: Is the level of risk involved acceptable? Have mitigation strategies been identified to address this risk and are they practical? What are the risks of not funding or endorsing this technology at this time?
- Health system impact: Does this technology raise any considerations of health system impact that were not addressed in the evaluation process? What impact would funding this technology have on other fundable projects in terms of material, financial, and health human resource?

Technologies satisfying the system readiness screen are eligible for funding as per the rank order identified through the scoring process.

STEP 8: Estimating Success (Optional)

Organizations may also want to use a simple probability matrix to estimate the probability of successful adoption using their System Readiness and System Benefit scores (**Table 4**).

System Readiness:

High: Proposal cleared all four hurdles on the System Readiness Check in Step 7
Medium: Proposals cleared two or three hurdles
Low: Proposals cleared zero or one hurdle

System Benefit:

High: Technologies scoring 70-100 in Step 5
Medium: Technologies scoring 40-70
Low: Technologies scoring 0-40

Table 4. Probability Matrix for Success

	Probability of Success		
High System Readiness	30%	60%	80%
Medium System Readiness	25%	50%	60%
Low System Readiness	15%	25%	30%
	Low System Benefit	**Medium System Benefit**	**High System Benefit**