

# ACCOUNTABILITY FRAMEWORK

OFFICE OF RESEARCH  
DEPARTMENT OF ANESTHESIA  
DALHOUSIE UNIVERSITY



**DALHOUSIE  
UNIVERSITY**

*Inspiring Minds*

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## EXECUTIVE SUMMARY

In 2006, Dalhousie University's Department of Anesthesia embarked upon a strategy to enhance the culture of research and the level of support for staff with a passion for research. There was widespread support for the initiative and it exposed an imperative to develop an accountability framework that would serve to establish clear goals, to identify processes by which research performance and productivity might be measured and communicated to stakeholders, and to satisfy the reporting requirements of the academic funding plan (AFP) agreements with the provincial government.

There is little consensus on the best way to measure research productivity though commonly reported indicators are tied to funding and publications. With this research accountability framework, the department attempts to recognize the value of the full scope of scholarly activity, from engaging in the process of creativity, to implementing research projects, to communicating the results and influencing clinical best practice.

The result is an innovative research accountability framework that articulates research activities and establishes clear expectations against which performance can be identified, measured, reported and evaluated. The need for an accountability framework is described; the results chain which ties resources to outcomes is presented; the measurement and reporting plan which includes indicators, targets, and how to measure and report the results is outlined; and the evaluation strategy that describes the process for on-going learning from results is illustrated.

The research accountability framework was developed by a working group of departmental researchers and research management staff in a collaborative process. It was adopted by the Department of Anesthesia in December, 2008.

# INTRODUCTION TO THE MODEL

## What is an accountability framework?

An accountability framework is a written document that articulates activities and establishes clear standards and expectations against which we can measure our achievements and evaluate the results. The Office of Research has adapted its model from the Treasury Board of Canada Secretariat's *Guide for the Development of Results-based Management and Accountability Frameworks* (August 2001). We simplified the model to best meet our needs.

### Our accountability framework has four sections:

1. **Profile** – the need for an accountability framework in the context of the Office of Research and description of our governance structure
2. **Results chain** – a flow chart that ties resources devoted to research to the outcomes through a logical sequence of activities and outputs
3. **Measurement and reporting plan** – identification of the most appropriate indicators of research activity and productivity, our current targets, how to measure the indicators and how to report the results
4. **Evaluation strategy** – a cyclical, iterative strategy for on-going learning from our results and adjusting our strategy as required

## Our approach

Over the course of the late fall 2008, department researchers and administrative staff formed a working group (see Contributors) that met regularly to identify the accountability framework model that would work best for the Office of Research, to reach consensus on a governance structure and to develop the Indicators Overview (see Appendix C). Meetings were characterized by collegiality and a collaborative approach to developing the framework. The working group reviewed and approved the accountability framework before it was shared with the department as a whole.

# PROFILE

## Why an accountability framework<sup>1</sup>?

The Department of Anesthesia initially identified the need for a research accountability framework during a departmental strategic planning exercise in 2007 and again in 2008. It is cited as an action in our Strategic Directions document (3.13). The accountability framework serves many purposes:

- It supports our values of transparency and accountability by explaining our work, establishing clear standards and establishing expectations against which actual performance is reported.
- It enhances the credibility of our academic research program with stakeholders.
- It supports a management culture based on on-going learning and results while offering the flexibility of regular revisions and updating.
- It supports our academic funding plan (AFP) requirements to the Department of Health. The IWK Health Centre and the QEII Health Sciences Centre AFPs stipulate that the development and implementation of an approved accountability framework is an important component of the respective Agreements. It positions the department positively for future negotiations with the Province of Nova Scotia.

## Background / context for the Office of Research

The Department of Anesthesia is an academic department of the Faculty of Medicine at Dalhousie University. As such, its mandate is to develop “highly competent, caring and socially responsible physicians and researchers through programs of the highest academic quality, within a diverse clinical and research-rich environment.” (Faculty of Medicine Mission Statement).

The department consists of 95 full and part time anesthesiologists working at the following sites:

- QEII Health Sciences Centre
- IWK Health Centre
- Hants Community Hospital
- Saint John Regional Hospital

At present, ten physicians have dedicated protected time to devote to their programs of research (three at the IWK and seven at the QEII). Other anesthesiologists have been supported through protected time on an ad hoc basis to engage in stand-alone research projects. Core areas of research include bench, translational and clinical research, with emphasis on the following areas:

- Chronic and acute pain
- Airway management
- Sepsis and inflammation
- Organ protection and anesthetic action
- Patterns of ventilation induced lung injury

To advance the academic agenda of the department in the area of research, the organizational structure of the department was adapted to include the Office of Research in 2008. New positions were developed to facilitate the strategic directions for research, including a senior director, a managing director and a research facilitator position.

<sup>1</sup> The model for this accountability framework is adapted from Treasury Board of Canada Secretariat, *Guide for the Development of Results-based Management and Accountability Frameworks*, August 2001

In academic circles in general, there is little consensus on the best way to measure research productivity. The most common reported indicators include:

- number, source and value of research grants and contracts
- number of publications and presentations (peer reviewed vs. non-peer reviewed)
- impact value of published works
- number of graduate students supervised

There are generally no indicators reported for research activity that do not result in funding or publications. Our research accountability framework attempts to address this gap by recognizing the value of the full scope of scholarly activity, from engaging in the process of creativity, to implementation of a research project, to communicating the results and influencing clinical best practice.

### **Governance structure**

The chair of the Department of Anesthesia has overall accountability for the academic mandate of the department and reports to the dean of the Faculty of Medicine. Concurrently, the chair also serves as the chief of the Department of Anesthesia for the Capital District Health Authority. In this role, the chief is responsible to the Province of Nova Scotia through the academic funding plan Agreement between the QEII Health Sciences Centre and the Department of Health to manage the research deliverables outlined therein.

The department plans to constitute an anesthesia research advisory committee responsible to advise the executive director and the Office of Research on research issues.

Currently, researchers are accountable to the chair on academic matters and communicate through the Office of Research on administrative matters (e.g. budget, staff, annual reporting) (see Appendix A for an organizational chart for the research infrastructure).

The senior director of research reports to the chair and is responsible to lead, develop, implement, evaluate and facilitate the research activity within the department. Reporting through the executive director, the managing director of research is responsible for managing day-to-day operations and operationalizing the strategic plan for the office. The research facilitator reports to the managing director and is responsible for assisting researchers in preparing research proposals and associated submissions (see Appendix B, Snapshot of Roles and Responsibilities).


Researchers are also supported by other departmental research staff and are able to supplement departmental staffing support by hiring staff directly with research funding secured through grants and contracts.

# RESULTS CHAIN

The results chain is a logic model (or flow chart) that identifies the linkages between the activities of the Office of Research and the achievement of our outcomes. It serves as a succinct roadmap that shows the chain of results connecting the resources devoted to research (inputs), to key activities and outputs, and identifies indicators that would demonstrate progress and final outcomes.

The resources committed to research in the department include staff time (number of people, protected time for researchers and associated value of salaries (\$)), equipment and space. The latter, equipment and space, have not been measured to date and are, therefore, to be determined. Research time is also difficult to quantify for those anesthesiologists who participate in research activities without dedicated protected time, as well as for those who have intermittent protected time for the duration of a specific project.

The balance of the results chain (activities, outputs, indicators) is more fully explored in the Indicators Overview (see Appendix C).

<b>RESULTS CHAIN</b> <b>OFFICE OF RESEARCH STRATEGIC DIRECTION</b> A cadre of well-supported and renowned researchers supported by an Office of Research with an appropriate infrastructure that facilitates research endeavors, is transparent and is accountable				
AREA OF INFLUENCE: INTERNAL TO THE ORGANIZATION		PRODUCTS OR SERVICES	AREA OF INFLUENCE: EXTERNAL TO THE ORGANIZATION	
				
<b>Money</b> \$1.45 M (CDHA & IWK)  <b>People</b> 10 researchers 8 support staff (research assistants, coordinators, managers)  <b>Time</b> Protected: 22.25 days/wk  Non-protected: TBD  Intermittent Protected: 1/2 day/week  <b>Sq, Footage</b> TBD  <b>Equipment</b> TBD	Engage in process of creativity, research, reflective critique  Seek collaborations & partnerships  Conduct multicentre trials  Participate in scientific and organizing committees  Engage in administrative process  Link theory to practice  Write and publish  Prepare and deliver presentations  Mentor and teach	Proposal bank, new research questions  Manuscript & other publications  Scientific event  New collaborative relationships  Research project or trial  Research plan  Presentations, posters  Student theses	Scholarly Curiosity  Scholarly Synthesis  Scholarly Translation  Scholarly Communication	Culture of research excellence  Known for scholarly activities; reputation for research excellence  Research being transferred to practice

Refer to Appendix C for complete listing



## MEASUREMENT AND REPORTING PLAN

A key element of the research accountability framework is the plan for how information will be collected, the timing of reporting, the office responsible for data collection and the associated cost.

A comprehensive overview of research activities and indicators has been categorized according to the Carnegie Model, e.g. Scholarly Curiosity, Scholarly Synthesis, and is found in Appendix C. From that document, key indicators were selected for inclusion below that are most representative of the activity of researchers and are consistent with the requirements of the academic funding plans. Although the department intends to focus on these indicators initially, the intent is that all indicators may be measured and reported in the future.

**Reporting will be made at least twice per year in June and December.** Key stakeholders for reporting purposes include: the department chair, the Nova Scotia Department of Health (AFP reports), the board of directors of Anesthesia Nova Scotia Inc. and the public (through the annual report).

The cost associated with reporting activities totals approximately \$47,000 per year in the form of staff time.

THEME/ACTIVITY	INDICATOR	TARGET	MEASUREMENT TOOL	RESPONSIBILITY
<b>SCHOLARLY CURIOSITY</b>				
Engage in process of creativity	Number of new proposals that are developed into research endeavours	At least 3 new research endeavours / projects annually	Internal record-keeping	Resident research director / Office of Research
Engage in the process of research (act as leader, innovator, change agent)	Number & value (\$) of grants & contracts received	Trending reflects maintenance or increase from previous years relative to protected research time	Reporting through Internal Information System	Office of Research
	Number of associate and full professors	50% of researchers will be at professor level, 30% at associate level; and 60% of research related promotion applications are successful	Personnel files	Chair
	Number of recognition awards	Trending reflects maintenance or increase from previous years relative to protected research time	Reporting through Internal Information System	Office of Research



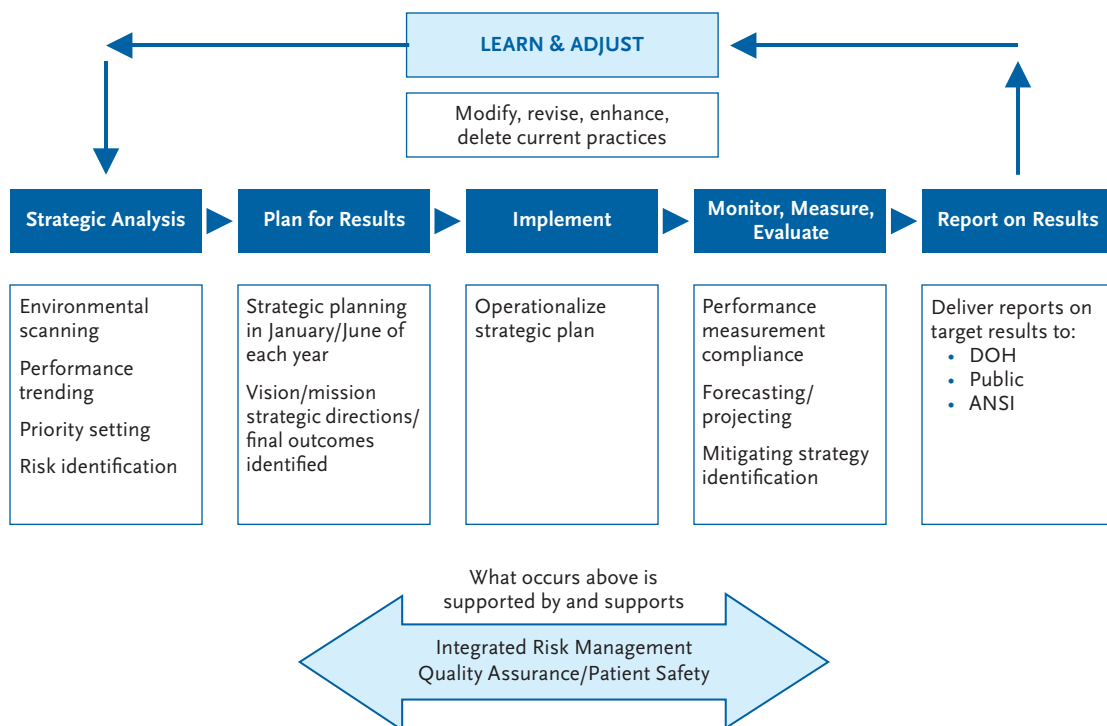
THEME/ACTIVITY	INDICATOR	TARGET	MEASUREMENT TOOL	RESPONSIBILITY
<b>SCHOLARLY SYNTHESIS</b>				
Actively seek out collaborative opportunities with interdisciplinary colleagues	Number of collaborative projects, proposals and manuscripts	80% of all projects are collaborative	Reporting through Internal Information System	Office of Research
Sit on scientific organizing committees	Number of researchers who serve as members or reviewers for REBs, editorial boards, professional associations, granting agencies, scientific journals	40% of researchers are reviewers / members locally, 30% nationally, 10% internationally	Reporting through Internal Information System	Office of Research
	Number of researchers invited to review, organize, chair and offer expert opinion	50% of researchers invited to review, organize, chair and offer expert opinion	Reporting through Internal Information System	Office of Research
Engage in the administrative process	Engage in planning activities to advance the research mission	80% of action items completed from strategic plan each year	Annual review of strategic plan	Executive director
	Researcher satisfaction with services provided by office of research	90% researcher satisfaction rate with services provided by office of research	Annual survey	Executive director
<b>SCHOLARLY TRANSLATION</b>				
Linking theory to practice activities	Number of initiatives (e.g. programs, conferences, educational sessions) targeted at applying or translating research	30% of researchers are engaged in knowledge translation activities	Reporting through Internal Information System and researcher reporting	Office of Research
<b>SCHOLARLY COMMUNICATION</b>				
Writing & publishing	Number of submitted and accepted publications (peer reviewed & non-peer reviewed)	Trending reflects maintenance or increase from previous years relative to protected research time	Reporting through Internal Information System	Office of Research
Preparing and delivering presentations	Number of presentations (local, national, international)	Trending reflects maintenance or increase from previous years relative to protected research time	Reporting through Internal Information System	Office of Research

## EVALUATION STRATEGY – LIFE CYCLE MODEL<sup>2</sup>

The life cycle approach to evaluation aims to establish a culture firmly rooted in results, ongoing evaluation and learning.

The life cycle approach to evaluation and delivering results supports:

- Results that are clearly defined and aligned with departmental priorities
- Early detection of variances requiring adjustment/modifications
- Clear reporting of results
- Use of data/results to inform strategic analysis and priority setting



<sup>2</sup> Adapted from Treasury Board of Canada Secretariat *Results Based Management and Accountability Frameworks*, 2003

## CONTRIBUTORS

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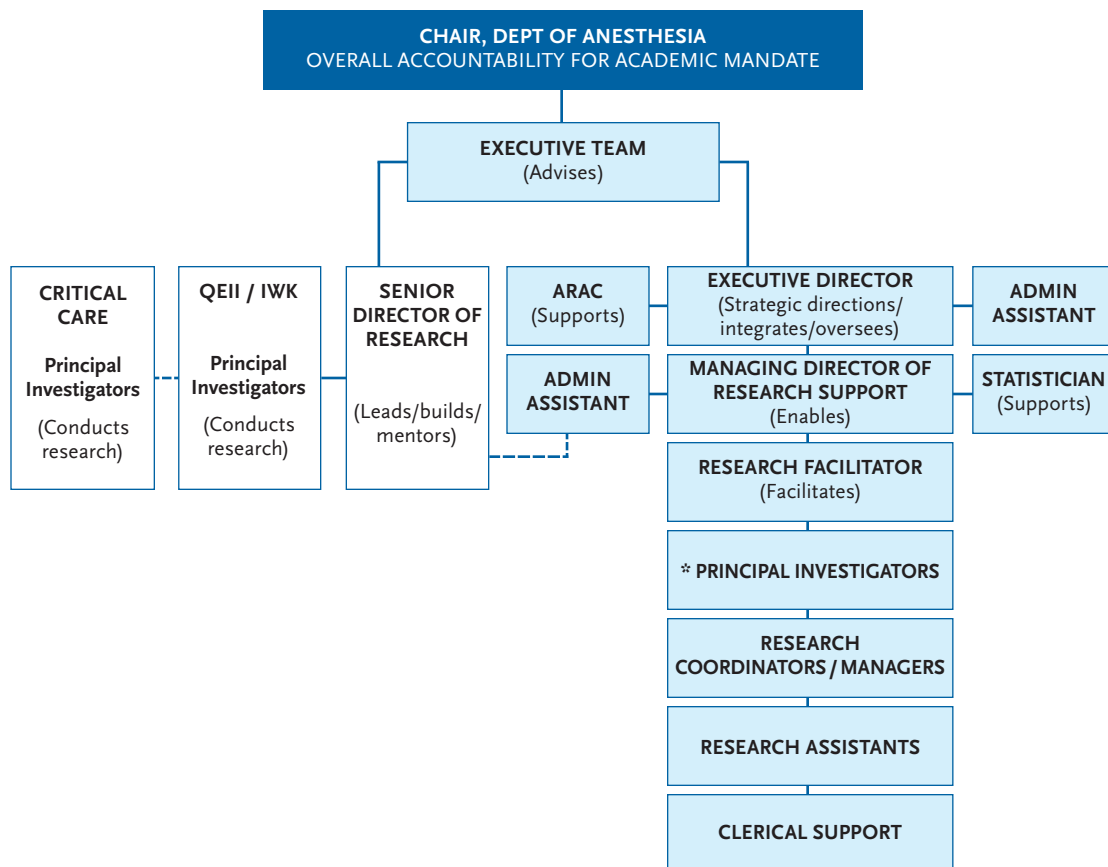
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# APPENDIX A

## OFFICE OF RESEARCH ORGANIZATIONAL CHART



\* Principal Investigators communicate through to the Office of Research on administrative matters  
ie. budget, people, data necessary for various reports (AFP, Annual Report)

## APPENDIX B

### OFFICE OF RESEARCH ROLES & RESPONSIBILITIES: A SNAPSHOT

	<b>RESEARCH FACILITATOR</b> <ul style="list-style-type: none"> <li>Assists in making things happen</li> <li>Departmental/institutional</li> <li>10,000 ft view</li> <li>"Trees"</li> </ul>	<b>MANAGING DIRECTOR</b> <ul style="list-style-type: none"> <li>Responsible for making things happen</li> <li>Departmental/provincial</li> <li>15,000-20,000 ft view</li> <li>"Trees and forest"</li> </ul>	<b>SENIOR DIRECTOR</b> <ul style="list-style-type: none"> <li>Makes new things happen</li> <li>National/international</li> <li>30,000 ft view</li> <li>"Forest"</li> </ul>
<b>QUALIFICATIONS</b>	Professional designation/ bachelor degree  Dal position	Master degree  Dal management position	PhD  Faculty position
<b>RESPONSIBILITIES</b> <ul style="list-style-type: none"> <li>Strategic plan</li> </ul>	Assists in the implementation as directed	Responsible for operationalizing  Ensure staff knows contribution/role	Lead  Environmental scanning  Identifies new trends, issues, legislation
<ul style="list-style-type: none"> <li>Staff</li> </ul>	<b>Supervises</b> individuals  Assists in the development and implementation of a performance management system	<b>Manages</b> all research staff in support of the vision  Accountable for development and implementation of a performance management system	<b>Leads</b>
<ul style="list-style-type: none"> <li>Budget</li> </ul>	Assists in the preparation of individual research budgets	Determines overall budget for office of research  Completes forecasts; projections	Pursues new funding opportunities for the office of research
<ul style="list-style-type: none"> <li>Grant writing</li> </ul>	Assists in the completion of grant proposals	Ensures processes in place to support researchers in successfully securing grants eg. internal review committee	Mentors PI's  Conducts own research
<ul style="list-style-type: none"> <li>Meetings</li> </ul>	Attends meetings	Chairs meetings  Conducts regular staff meetings	Chairs senior level meetings
<ul style="list-style-type: none"> <li>Teaching</li> </ul>		Occasionally	CME related workshops

# APPENDIX C

## INDICATORS OVERVIEW<sup>3</sup>

ACTIVITIES	OUTPUTS	INDICATORS	TARGETS <sup>4</sup>
<b>1. SCHOLARLY CURIOSITY</b> Contributes to stock of knowledge and to intellectual climate of an institution. Scholarly investigation (research) that confronts the unknown and creates new knowledge. Includes outcomes, process and passion.			
<b>(a) Engage in the process of creativity</b> which includes: <ul style="list-style-type: none"> <li>Engaging in creative modeling</li> <li>Attending exploratory meetings/ discussions</li> </ul>	<ul style="list-style-type: none"> <li>Proposal generation/ proposal bank/proposal warehouse</li> <li>New companies (spin offs)</li> <li>Marketable devices</li> </ul>	<b>Activity Indicators</b> <ul style="list-style-type: none"> <li>Number of new proposals in proposal bank</li> <li>Number of patent applications</li> <li>Number of spin offs/companies</li> </ul> <b>Success Indicators</b> <ul style="list-style-type: none"> <li>Number of (new) proposals that are developed into research endeavors</li> <li>Marketable device brought to market (sales)</li> </ul>	<ul style="list-style-type: none"> <li>90% of researchers contribute/ participate/ provide ideas to proposal bank</li> <li>60% of patent applications are successful</li> </ul>
<ul style="list-style-type: none"> <li>Contemplation/ reflections</li> <li>Reading</li> <li>Engaging in reflective critique</li> </ul>	<ul style="list-style-type: none"> <li>Research plans/ self study report/ assessment</li> <li>Modifications / improvements to research endeavors</li> </ul>	<b>Activity Indicator</b> <ul style="list-style-type: none"> <li>Number of researchers developing research plans</li> </ul> <b>Success Indicator</b> <ul style="list-style-type: none"> <li>Number of research endeavors undergoing review process</li> </ul>	<ul style="list-style-type: none"> <li><b>At least 3 new research endeavors/ projects annually</b></li> <li>30% of researchers have research plans guiding their work</li> <li>20% of research endeavors reflect modifications/ improvements</li> </ul>

<sup>3</sup> Categories of scholarship and their definitions are adapted from Ernest Boyer's *Scholarship Reconsidered: Priorities of the Professoriate*, Carnegie Foundation, 1990

<sup>4</sup> Bolded targets are included in the Measurement and Reporting Plan

ACTIVITIES	OUTPUTS	INDICATORS	TARGETS
<b>1. SCHOLARLY CURIOSITY (CONTINUED)</b>			
<p><b>(b) Engage in the process of research</b> which includes:</p> <ul style="list-style-type: none"> <li>• Preparation</li> <li>• Formulating the question</li> <li>• Screening the literature for previous/similar work (knowledge acquisition)</li> <li>• Designing/analyzing study</li> <li>• Writing proposals/grant applications</li> <li>• Applying for REB approval/peer reviews</li> <li>• Applying for resources (collaborators /funding/ people)</li> </ul> <p><b>Implementation</b></p> <ul style="list-style-type: none"> <li>• Experimentation</li> <li>• Data collection</li> <li>• Analysis</li> </ul> <p><b>Evaluation</b></p> <ul style="list-style-type: none"> <li>• Feedback/input</li> </ul> <p><b>Communication</b></p> <ul style="list-style-type: none"> <li>• Communication of findings (refer to 4)</li> </ul> <p>• Act as an innovator/ change agent/leader</p>	<ul style="list-style-type: none"> <li>• Questions</li> <li>• Literature searches</li> <li>• Study proposals</li> <li>• Completed grant submissions</li> <li>• New knowledge/ breakthroughs</li> <li>• Manuscripts</li> <li>• REB protocols/ submissions</li> <li>• Completed applications for operational funding</li> <li>• Research projects</li> <li>• Internal peer review submissions</li> </ul> <ul style="list-style-type: none"> <li>• Committee memberships</li> <li>• Leadership roles eg. committee chair/principal Investigator</li> <li>• Keynotes, grand rounds presenter; visiting scholar sessions</li> <li>• Provide expert opinion/ advice eg. scientific review committee, editorial board consultations</li> <li>• Promotion files</li> </ul>	<p><b>Activity Indicators</b></p> <ul style="list-style-type: none"> <li>• Number of submissions to REB, grant funding agencies, industry and operational funding partners</li> <li>• Number of principal investigators</li> <li>• Number of protocols developed</li> <li>• Number of internal peer reviewed submissions</li> </ul> <p><b>Success Indicators</b></p> <ul style="list-style-type: none"> <li>• Dollars procured in grant and contract research</li> <li>• Dollars procured from national/international sources</li> </ul> <p><b>Activity Indicators</b></p> <ul style="list-style-type: none"> <li>• Number of research related committees</li> <li>• Number of invited speaking engagements/ lectureships/visiting professors/book chapters</li> </ul> <p><b>Success Indicators</b></p> <ul style="list-style-type: none"> <li>• Number of associate professors/ professors</li> <li>• Number of committees in a senior executive/chair role</li> <li>• Number of committees at national/international level</li> <li>• Number of recognition awards</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Trending reflects maintenance or increase from previous years relative to protected time committed to research</b></li> <li>• Consistent support from peer reviewed granting agencies</li> <li>• Consistent support from national/international/ peer reviewed granting agencies</li> </ul> <ul style="list-style-type: none"> <li>• 80% of all researchers are members of research related committees</li> <li>• 70% of all researchers are invited to speak at external events</li> <li>• <b>50% of all researchers will be at the professor level, 30% at associate level</b></li> <li>• <b>60% of research related promotion applications are successful</b></li> <li>• 50% of researchers chair committees</li> <li>• 80% of researchers are members of national/ international committees</li> <li>• <b>Trending reflects maintenance or increase from previous years relative to protected time committed to research</b></li> </ul>



ACTIVITIES	OUTPUTS	INDICATORS	TARGETS
<b>2. SCHOLARLY SYNTHESIS</b> Serious disciplined work that seeks to interpret, draw together and bring new insight to bear on original research. Interpretation, fitting one's own research or research of others into larger intellectual patterns.			
(a) Actively seek out <b>collaborative opportunities</b> with interdisciplinary colleagues	<ul style="list-style-type: none"> <li>Collaborative projects, proposals, manuscripts</li> </ul>	<b>Activity Indicator</b> <ul style="list-style-type: none"> <li>Number of internal/ external collaborative projects, proposals and manuscripts</li> </ul> <b>Success Indicator</b> <ul style="list-style-type: none"> <li>Number of collaborative projects receiving peer reviewed support</li> </ul>	<ul style="list-style-type: none"> <li><b>80% of all projects are collaborative</b></li> <li>Trending reflects maintenance or increase from previous year relative to protected time committed to research</li> </ul>
(b) Participate in/conduct <b>multicenter</b> trials	Multicenter trials (completed/in progress)	<b>Activity Indicators</b> <ul style="list-style-type: none"> <li>Number of multicenter trials in progress</li> <li>Number of trials completed</li> <li>Number of investigator-initiated trials</li> <li>Number of industry-initiated trials</li> <li>Dollar value of trials</li> </ul> <b>Success Indicators</b> <ul style="list-style-type: none"> <li>% of projects meeting recruitment targets</li> <li>% of repeat industry initiated trials</li> </ul>	<ul style="list-style-type: none"> <li>Trending reflects maintenance or increase from previous years relative to protected time committed to research</li> <li>80% meet recruitment targets</li> <li>40% of industry-initiated trials are from companies that have conducted trials with Department of Anesthesia previously (repeats)</li> </ul>
(c) Actively seek out <b>partners/partnerships</b>	<ul style="list-style-type: none"> <li>Partners/partnerships</li> </ul>	<b>Activity Indicator</b> <ul style="list-style-type: none"> <li>Number of partners/ partnerships</li> </ul> <b>Success Indicator</b> <ul style="list-style-type: none"> <li>Number of partnerships concluding in research endeavours</li> </ul>	<ul style="list-style-type: none"> <li>Trending reflects maintenance or increase from previous years relative to protected time committed to research</li> </ul>
(d) Sit on <b>scientific and organizing committees</b> at the local, national and international level <ul style="list-style-type: none"> <li>Participate on REB, editorial boards, CAS, etc.</li> <li>Conduct peer reviews within the discipline</li> <li>Conduct peer reviews for other disciplines</li> </ul>	<ul style="list-style-type: none"> <li>Committee membership</li> <li>Event</li> <li>New relationships</li> </ul>	<b>Activity Indicators</b> <ul style="list-style-type: none"> <li>Number of researchers who serve as members / reviewers</li> <li>Number of scientific review committees, editorial boards, REB's, scientific meetings, granting agencies and/ or scientific journals at the local, national and international level</li> </ul> <b>Success Indicator</b> <ul style="list-style-type: none"> <li>Number of researchers invited to review, organize, chair and offer expert opinion</li> </ul>	<ul style="list-style-type: none"> <li><b>40% of all researchers are reviewers / members locally; 30% nationally; 10% internationally</b></li> <li><b>50% of researchers invited to review, organize, chair and offer expert opinion</b></li> </ul>

ACTIVITIES	OUTPUTS	INDICATORS	TARGETS
<b>2. SCHOLARLY SYNTHESIS (CONTINUED)</b>			
<b>(e) Office of Research engages in the administrative process</b> <ul style="list-style-type: none"> <li>Engage in planning activities to advance the research mission</li> <li>Develop and implement policies and procedures</li> <li>Engage in research measurement and reporting</li> <li>Plan and hold meetings to share information and coordinate activities</li> <li>Identify funding opportunities, professional development opportunities, research events and communicate</li> <li>Identify resource requirements and allocate appropriately</li> <li>Engage in staffing and performance management activities with departmental research staff</li> </ul>	<ul style="list-style-type: none"> <li>Strategic plan</li> <li>Accountability framework</li> <li>Policies and procedures</li> <li>Measurement tools (i.e. IIS modules)</li> <li>Reports</li> <li>Meeting minutes, decisions</li> <li>Notices on IIS, database of annual funding competitions, funding agencies and sponsors</li> <li>Staff work plans</li> <li>Successful hires</li> </ul>	<b>Activity Indicators</b> <ul style="list-style-type: none"> <li>Hours devoted to planning activities, development and implementation of policies and procedures</li> <li>Regular measurement and reporting each year</li> <li>Regular meetings between supervisors and staff</li> </ul> <b>Success Indicators</b> <ul style="list-style-type: none"> <li>Progress on action items from strategic plan</li> <li>Measurement indicates positive trending over previous years</li> <li>Planning informs management decision-making each year</li> <li>Staff have performance management plans and engage in development activities</li> <li>Staff retention</li> <li>Staff recognition (i.e. awards)</li> <li>Researcher satisfaction with services provided by office of research</li> </ul>	<ul style="list-style-type: none"> <li><b>80% of action items completed from strategic plan each year</b></li> <li>Annual update of strategic plan and accountability framework</li> <li>Meet 80% of performance targets identified in accountability framework each year.</li> <li>Staff retention rate of 80% each year.</li> <li>80% of staff engage in professional development activities each year</li> <li><b>90% researcher satisfaction rate with services provided by office of research</b></li> </ul>
<b>(f) Researchers engage in the administrative process</b> which includes managing fiduciary responsibilities, human resources and business functions	<ul style="list-style-type: none"> <li>Research projects</li> <li>Clinical trials</li> <li>Office of research planning</li> </ul>	<b>Activity Indicators</b> <ul style="list-style-type: none"> <li>Number of funded research projects/clinical trials</li> <li>Number of staff supervised</li> <li>Participation in planning activities</li> </ul> <b>Success Indicators</b> <ul style="list-style-type: none"> <li>Balanced budget</li> <li>Staff retention</li> <li>Adherence to hiring/procurement practices</li> <li>Positive audit findings</li> <li>Repeat clinical trials from sponsors</li> </ul>	<ul style="list-style-type: none"> <li>Trending reflects maintenance or increase from previous years relative to protected time committed to research</li> <li>90% of all researchers participate in planning activities</li> <li>95% of all researchers maintain a balanced budget, competent staff and follow Dalhousie/CDHA/IWK policies</li> <li>100% compliance upon audit</li> </ul>
<b>3. SCHOLARLY TRANSLATION</b> Dynamic process of creating new intellectual understandings arising out of theory and practice. Theory and practice renew each other.			
<b>(a) Linking theory to practice</b> activities: eg. convene local, national, international gatherings  <b>(b) Develop indicators/ outcome measures</b>	<ul style="list-style-type: none"> <li>Policies, protocols, care</li> <li>Conference/program development</li> <li>Patents</li> <li>Indicators/outcomes</li> <li>Quality assurance process development</li> <li>Safe patient care</li> </ul>	<b>Activity Indicators</b> <ul style="list-style-type: none"> <li>Number of initiatives eg. programs, conferences, educational sessions, targeted at applying/ translating research</li> <li>Number of inquiries from quality assurance</li> </ul> <b>Success Indicator</b> <ul style="list-style-type: none"> <li>Inform/change clinical care, public policy, best practices</li> </ul>	<ul style="list-style-type: none"> <li><b>30% of all researchers are engaged in knowledge translation activities</b></li> <li>Department of Anesthesia's quality assurance program is evidence-based</li> </ul>

ACTIVITIES	OUTPUTS	INDICATORS	TARGETS
<b>4. SCHOLARLY COMMUNICATION</b> Process that transforms and extends knowledge while transmitting an intelligible account of knowledge to learners.			
(a) Writing and publishing	<ul style="list-style-type: none"> <li>Manuscripts</li> <li>Abstracts, reviews, chapters, books, editorials, letters</li> <li>Scientific reviews</li> </ul>	<b>Activity Indicator</b> <ul style="list-style-type: none"> <li>Number of submissions</li> </ul> <b>Success Indicators</b> <ul style="list-style-type: none"> <li>Number of accepted/published submissions</li> <li>Number in peer reviewed journals</li> <li>Number of non peer-reviewed publications</li> <li>Number of invited editorials/reviews</li> <li>Relative contribution to intellectual idea and manuscript preparation (authorship)</li> <li>Book sales</li> </ul>	<ul style="list-style-type: none"> <li><b>Trending reflects maintenance or increase from previous years relative to protected time committed to research</b></li> </ul>
(b) Preparing and delivering <b>presentations</b> ; preparing communication aids	<ul style="list-style-type: none"> <li>Presentation (oral/electronic)</li> <li>Public lectures eg. National Public Awareness Week</li> <li>Posters</li> <li>Academic lectures</li> </ul>	<b>Activity Indicators</b> <ul style="list-style-type: none"> <li>Number of presentations</li> <li>Number of abstracts</li> <li>Number of academic lectures</li> </ul> <b>Success Indicators</b> <ul style="list-style-type: none"> <li>Number of accepted abstracts, posters</li> <li>Number of scientific presentations at the local, national, international level</li> <li>Number of community/public lectures</li> <li>Number of invited presentations</li> <li>Number of visiting professorships</li> </ul>	<ul style="list-style-type: none"> <li><b>Trending reflects maintenance or increase from previous years relative to protected time committed to research</b></li> </ul>
(c) Strategically <b>engaging with external stakeholders</b>	<ul style="list-style-type: none"> <li>Media/press coverage</li> <li>Research dinner</li> <li>Networking</li> </ul>	<b>Activity Indicator</b> <ul style="list-style-type: none"> <li>Number of invitations to speak to media</li> </ul>	<ul style="list-style-type: none"> <li>Department of Anesthesia positive reputation/profile</li> </ul>
(d) <b>Mentoring</b> , teaching, education	<ul style="list-style-type: none"> <li>Student thesis/degree</li> <li>Graduated student</li> <li>Future contribution of student</li> </ul>	<b>Activity Indicators</b> <ul style="list-style-type: none"> <li>Number of graduate students</li> <li>Number of fellows</li> <li>Number of research elective students (med students, undergrad)</li> <li>Number of journal club sessions</li> </ul>	<ul style="list-style-type: none"> <li>90% of all researchers are mentoring/ coaching/ supervising a student</li> <li>Department of Anesthesia mentored students achieve successful research careers</li> <li>75% of eligible participants attend journal club</li> </ul>
(e) Scientific advice to <b>biotech companies</b>	<ul style="list-style-type: none"> <li>Offering opinion (written or verbal)</li> </ul>	<b>Activity Indicators</b> <ul style="list-style-type: none"> <li>Number of invitations to offer scientific advice</li> <li>Number of members on advisory/review committees</li> </ul> <b>Success Indicator</b> <ul style="list-style-type: none"> <li>Number of opinions/ advice requested by peer-reviewed scientific organizations</li> </ul>	
(f) Offering <b>scientific opinion</b> /expertise		<b>Activity Indicator</b> <ul style="list-style-type: none"> <li>Number of opinions/advice requested by peer-reviewed scientific organizations</li> </ul> <b>Success Indicator</b> <ul style="list-style-type: none"> <li>Number of consulting requests</li> </ul>	