9503: Science policy

LEARNING LOG

Class 1: Intro to Science Policy

**Reflection/Participation**

* I loved sharing my elevator pitch and hearing about the different stories my peers had to offer
* Learnt about jobs other than medicine and academia
* This first lecture was definitely a bit overwhelming because this is all new information, but I am excited to learn and expand my knowledge
* It’s my first time writing an environmental scan and literature review, so this is something scary and new but exciting
	+ Love that I’ll be able to develop the skill

**Lecture**

**Science careers in the Government: Developing a science strategy**

Developing a strategy

* + Identify the need/ purpose of the strategy
		- Purposes vision
		- Worth investing in
	+ Research to identify challenges/ barrier
		- Data collection, environmental scan, lit search, consultation
	+ Design/ develop solutions to challenges/ barriers identified by data
		- Implement strategies – comms, timelines, resources, monitoring
	+ Consult on strategy component / update strategy
		- Complete cycle again and again as required
		- Validates the research already done
		- Help you get nuances
		- Get stories 🡪 go a long way
	+ Launch strategy (different solutions will have different templates
		- Ensure stakeholder feedback mechanism in place, continuous improvement: performance measurement collection: data collection to ensure solution is having the desired effect
		- How are you going to address the barriers

Strategy outline

* Purpose 🡺increase access to safe and effective drugs for children in Canada
* Vision 🡺 children have access to the drugs they need in age-appropriate formulations
* Mandate 🡺TBD
* Identify challenges/ barriers through data collection
	+ Data collection
	+ Environmental scan
	+ Lit review
	+ Consultations
* Organization’s levers (solution blocks)
	+ New/ updates program
	+ New/ updated policy
	+ New data collection
	+ New/ updated legislation
	+ Awareness campaign etc.
* Put it all together
	+ Strategy portion

**Overview of our strategy**

SGBA Plus in the Drug Lifecyle’s

SGBA Plus

* + GBA Plus is an analytical process used to assess how diverse groups of women, men and non-binary people may experience policies, programs and initiatives.
	+ Within the Health portfolio, sex is an important factor in our work, so we use the term SGBA Plus.
	+ The “plus” in (S)GBA Plus acknowledges that GBA goes beyond biological (sex) and socio-cultural (gender) differences. We all have multiple identity factors that intersect to make us who we are

Terminology: sex and gender

* + Sex: Biological attributes of humans and animals,
	including physical features, chromosomes, gene expression, hormones, and anatomy
	+ Gender: Socially constructed roles, behaviours, expressions and identities of girls, women, boys, men and gender diverse people

Why do we care about SGBA Plus in health research, drug development and drug regulation

* + Biological (and social) differences can impact the way that drugs and devices function in different populations
	+ To this day, “male” is the default for health research (male cells, male animals, male research participants)
	+ Accounting for sex, gender and all intersectionalities has the potential to make health research more rigorous, more reproducible and more applicable to everyone

Zolpidem (Ambein)

* + Men metabolize the 10 mg standard formulation of zolpidem at approximately double the rate of women; AUC averaged 40% to 50% higher in females than in males receiving the same dose.
		- Zolpidem clearance is lower in females than in males
	+ The sex effect was incompletely explained by body weight.
	+ Poorer automobile driving was shown in women than men following
	middle of the night zolpidem administration

Plus, oximeters

* + Oximeters function by transmitting red and infrared light and measuring
	how much gets absorbed by oxyhemoglobin and deoxyhemoglobin. Skin
	pigmentation affects light absorption
	+ in two large cohorts, Black patients had nearly three times the frequency of occult hypoxemia (i.e., an arterial oxygen saturation of <88% despite an oxygen saturation of 92-96% on pulse oximetry) that was not detected by pulse oximetry
	+ Reliance on pulse oximetry to triage patients and adjust supplemental oxygen levels for COVID may place Black patients at increased risk of delayed treatment

Certain populations continue to be underrepresented in trails

* + Numerous studies have indicated frequently / chronically underrepresented populations that fail to reflect the diversity of the North American population:
		- Sex: Females underrepresented in early phase trials, essentially parity in later stage trials; transgender and intersex underrepresented or excluded
		- Race / Ethnicity: Black, Latinx/Hispanic, Asian, and Indigenous populations
		- Age: Pediatric populations (including adolescents) and older adults (aged ≥65 years)
		- Social: Low socioeconomic status, live in rural areas
* There are a number of factors that can lead to underrepresentation



Pregnant people are excluded from the majority of trails, but many will still require prescription medication and/or use of a device during or throughout the pregnancy

* + Over the course of a pregnancy 3/5 will use 4-5 medications, the majority of which are not labelled for use during pregnancy.
		- The labeling information for pregnant people and fetuses is based primarily on nonclinical
		data
	+ The frequent lack of clinical data often leaves the health care provider and the patient reluctant to treat the underlying condition, which may result in more harm to the pregnant person and the fetus than if they had been treated.
	+ A recent study concluded that, of 558 Phase IV trials, only 1% were designed purposely for pregnant people

Drug development is a global endeavor, so any changed made to regulatory requirements should be harmonised internationally

Pediatric Drugs

Challenges in development and regulation

* + There is a lack of authorized medicines for children
		- Up to 80% of medicines are prescribed off-label to children in Canada
	+ Developing medicines for children is expensive
		- Small market with little or no profit
		- Drug compounding is cheaper than reimbursing authorized pediatric
		formulations
	+ Conducting clinical trials in children is difficult
		- Ethical and additional safety concerns
		- Parental consent and agreement (assent) from child
		- Logistical barriers to enrollment for pediatric trials (especially for rare
		diseases)
	+ Additional challenges for Canada
		- Comparatively small pediatric population
		- Insufficient infrastructure for conducting pediatric clinical trials
		- No regulatory requirement for submitting pediatric data

International context

* + Health Canada works closely with international partners to support access to health products for children globally. Examples include:
		- WHO Paediatric Regulatory Network: mandate to address global pediatric issues around access to medicines for children. Health Canada elected vice-chair of the network in 2020.
		- EMA-Health Canada Collaboration (via Regulatory Cooperation Forum): Health Canada and the European Medicines Agency (EMA) work together to address issues related to pediatric medicines.
		- Enpr-EMA (European Network of Pediatric Research at the EMA): enables networking and collaboration with members from within and outside the European Union (EU), including academia and the pharmaceutical industry.
		- Pediatric Cluster: Discussion between regulators on pediatric drugs

Class 2: Government Levers, Solutions, and Engagement

**Reflection/ Participation**

* I’m reminded of how much goes into managing government responsibilities, especially when it comes to public health and budgeting. It's interesting to see the different levels of accountability and how decisions are made with a focus on serving the public interest. The balance between regulation, stakeholder engagement, and change management seems key to making everything work smoothly.

**Lecture**

Federal Government 101

Delegated authorities and accountabilities

* Government makes decisions on what is in the public interest and acts on them
* There is a chain of delegated responsibility and direct accountability to achieve this
* Canadians select members of parliament
* MP are accountable to Canadian
* PM and Cabinet ministers are accountable to parliament
	+ They make decisions about hoe to take action in the public interest
* Deputy ministers
	+ PM and Cabinet Ministers delegate responsibilities to deputy heads

Branches of the Canadian government

* Important feature of our system is the separation and independence of powers among 3 branches of government
* Executive Branch has the power to propose action and follow through when the
related spending is approved. Parliament oversees the Executive Branch, keeping a check on its power.
* Legislative Branch (Parliament) has the power to pass laws, including laws that allow for the spending of money.
* Judicial Branch has the power to interpret the law and determine whether actions are in compliance with the law, is comprised of various levels of provincial and federal courts, is independent from other Branches (key).

Setting porosities 🡪 how the work gets done

* As the leader of the government, the prime minister establishes its priorities, otherwise known as the “Government’s Agenda”, which are communicated in the Speech from the Throne.
* Responsibility for the agenda’s various priorities is assigned to individual ministers in “Mandate Letters” from the prime minister.
* The Budget is the plan for allocating money to deliver the agenda

Federal budget

* Happens once a year in march
* Different ways different groups feed into the budget making process
* What are the 4 main things for the budge 🡪 minister 🡪 cabinet 🡪 they decide what’s included in budget
* Main Estimates: (tabled in March) outline the detailed budgets for each government organization
* Supplementary Estimates: (tabled up to three times a year) outline adjustments to departmental “reference levels” (i.e., budgets)
* Supply Bill: (tabled as part of the Estimates process), the draft law allowing spending or changes to taxation
* Once approved, the supply bill becomes an Appropriation Act giving authority to individual ministers to spend money for specific purposes

When an election is called

* Parliament is dissolved and unable to hold the government to account
* While Ministers retain their positions, their involvement in making decisions is reduced
	+ Allows them to participate in the election
	+ Avoids unfairly influencing the outcome of the election
* The public service must respect the democratic process and guard against unduly influencing the election outcome → “caretaker period”
* During the election period, the public service readies for the transition to the new government, preparing for all likely election outcomes

What it means to be a public servant

* Governments change; the public service is steady (provides context, history, advice)
* Fearless advice, loyal implementation
* Governments are elected by the people of Canada; public servants are hired to serve the people of Canada
* Limitations to what can be shared outside of government, limitations on what can be said about elected officials and the decisions they make
* Public servants are NON-PARTISAN – party agnostic; hiring process is also free from political involvement to support this function

Health Canada 101/ how drugs are regulated in Canada

Federal health portfolio

* Review board 🡪 set mas pricing
* The Minister of Health (Honourable Mark Holland) is responsible for the following government departments
* Health Canada
* Public Health Agency of Canada
* CFIA
* CIHR
* Patent medicine prices review board

Health Canada

* Vision: Health Canada is committed to improving the lives of all of Canada 's people and to making this country's population among the healthiest in the world as measured by longevity, lifestyle and effective use of the public health care system.
* Mandate: Health Canada is the federal department responsible for helping the people of Canada maintain and improve their health.
* Functions:
‒ Guardian/Regulator
‒ Leader/Partner
‒ Funder
‒ Service Provider
‒ Information Provider Structure
* 2 deputy minister

Canada’s regulatory framework for health products

* Emphasis on food and drugs
* Authorized to be sold but not use
* The Food and Drugs Act
* There are six sets of regulations under the Act:
‒ Food & Drugs
‒ Cosmetics
‒ Medical Devices
‒ Semen for Assisted Conception
‒ Natural Health Products
‒ Cells, Tissues & Organs for Human Transplantation
* Part C of the Regulations deals with pharmaceuticals (prescription and non-
prescription), biologic and radiopharmaceutical drugs and provides the following
3 lines of intervention:
‒ Product Review and Standards
‒ Manufacturing Controls & Establishment Licensing
‒ Conditions of Sale

Food and drug regulations

* 3 and 4 product of interest have specific requirement
	+ Division 4 is being modernized by the end of the year
	+ Agile lisencing🡪 regulatory amendment
* 8 is everything else
* 5
	+ Interesting
	+ Not open in Canada
	+ No pieces about ethics
	+ Safety for the people
* Moderning a number of the pieces
* The FDA is old

Drug development process in Canada

* Phase 1 = health volunteer
	+ Looking for safety and dosage
* Phase 2
	+ Always safety
	+ Bigger
	+ Start looking at efficacy
	+ Confirming dose selection
* Phase 3
	+ Conformity
	+ Do the drugs work
* Wrap up and sent to regulatory

Drug product lifecycle

* Really is a lifecycle process as long as the drug is on the market

Consultation/ engagement: importance and tools for managing partners and relationships

Stakeholder Engagement

* Stakeholder: term used in most instances to refer to individuals or groups who have an interest or role in the project or are impacted by it.
	+ Stakeholders typically exist both within and outside the organisation that is
	investing in the project
* Engagement: the systematic identification, analysis, planning and implementation of
actions designed to influence groups.
* Engagement Strategy: identifies the needs of key groups and how the sponsor
(owner of the project) will engage with different groups throughout the project. The
degree of engagement is generally proportional with the identified degree to which
they may become a help or hindrance, e.g.:
‒ the relative power of the group to change how things are done;
‒ the degree of interest that the group is likely to demonstrate actively;
‒ the likelihood of the group supporting the project.

Principles of Engagement

* 1. Understand your stakeholders
2. Consult → early and often
3. Remember the human factor (humans do not always behave in a
rational, reasonable, consistent or predictable way)
4. Invest in Planning
5. Relationships are key (invest in developing these relationships)
6. Simple, timely engagement
7. Critical part of managing risk
8. Compromise
9. Understand what success is for your stakeholders
10. Take responsibility

Developing an engagement

* Identify your partners / stakeholders (registry)
* Determine potential impact of all groups (will determine what kind of engagement is appropriate):
• R → Responsible
• A → Accountable
• C → Consulted
• I → Informed
* Identify engagement goals for each group and determine success
criteria
* Determine the likely reaction of each group to the development of a
strategy in this area
* Define method of communication for each group

Setting Priorities 🡪 How the work gets done

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Terminology

* Legislation: A law made through a legislative process (“Act”).
* Regulations: Also known as subordinate legislation, regulations are made by persons or bodies (e.g., a minister, administrative agency) to whom Parliament has delegated its authority in an Act. Regulations are a form of law — they have binding legal effect and usually set out general rules rather than specific ones that are directed toward persons or situations.
* Guidance Document: An official document providing information that helps external stakeholders to follow Acts and Regulations or to harmonize with international
guidance documents and standards. Guidance documents increase understanding of policy for all stakeholders. Guidance documents also provide assistance to staff on how the legislation / regulation should be implemented in a manner that is fair, consistent and effective.
* Standing Operating Procedures: A specified way to carry out an activity or a process. Procedures are internal documents used by government. Procedures may be made publicly available

Slide 45

* Information program
* Data collection

Slide 46

* Legislation

Slide 47

* Grant and contribution
* Service
* Enagement🡪 not exactly a lever
	+ Need to do to better understand something

Slide 48

* Services
* Grant and contribution

Slide 49

* Potentially services
* Grants and contribution
	+ Funding research, intervention, best practice, policies

Slide 50

* Grant and contribution (500 mill)

Slide 51

* Grants and contribution

Slide 52

* Elements of information
* Services
* Not clear but some grants and contribution
* Information program 🡪 data collection

Slide 53

* Grants and contribution

Slide 54

* Legislation

Slide 55

* Grants and contribution

Class 3+ 4: project and change management

**Reflection:**

I realize how important it is to manage projects and change effectively, especially in a government setting. It’s clear that having a solid plan and understanding the human side of change can make all the difference in achieving success. By staying organized and being mindful of how people react to change, we can navigate challenges more smoothly and keep things on track.

**Lecture:**

Government levers

* Legislation
* Regulation
* Grant and contribution programs
* Information programs
* Enforcement programs
* services

Project management

* Unique and non repetitive
* Why is it important
	+ Need to show good stewardship in finance
* Definition of a project (in government): an activity or series of activities that has
a beginning and an end; required to produce defined outputs and realize specific
outcomes in support of a public policy objective, within a clear schedule and
resource plan; undertaken within specific time, cost and performance parameters
* Characteristics of a project
	+ It generally has its own predetermined access to resources (financial, human
	resources, tools, etc.)
	+ It is carried out by a team of people with the specific knowledge and skills
	required to successfully complete it
	+ It is fairly unique
	+ It has a beginning and an end
	+ It requires constant planning throughout its life cycle
* Project management: The systematic planning, organizing and control of
allocated resources to accomplish identified project objectives and outcomes.
Project management is normally reserved for focused, non-repetitive, time-limited
activities with some degree of risk.
* Why is project management important?
	+ Project management aligns project activities with the broader goals and
	objectives of businesses and governments, including change and
	transformation.
	+ It helps the organization meet its objectives and priorities in a more timely,
	accurate, relevant, measurable and complete way.
* What constitutes a successful project?
	+ Client requirements are met and accepted by business owners
	+ Stays on budget
	+ Completed on schedule
	+ It adds tangible and measurable value

Project roles

* Project Sponsor (“the boss”): person who initiates and is responsible for the
project
	+ Determine whether there is a problem that needs to be solved through a project.
	+ Determine feasibility of the project, provide the necessary resources and support
	and approve the project outputs.
* Project Manager: person who is responsible for implementing the project on time
and on budget.
* Project Team: all the people participating in the project, including the project manager.
The role of team members is to do the work in accordance with the project plan. Team
members must:
	+ Know what action they are to take and when;
	+ Regularly consult the schedule in order to complete their tasks on time;
	+ Keep the project manager informed of their progress;
	+ Let the project manager know about any delays or problems as soon as possible.
* End Users: use the project outputs
	+ Will be consulted during the needs analysis to determine the real problem (and
	throughout depending on the nature of the project).
	+ May be members of your organization (the public service), other organizations or members of the general public

Project lifecycle

* All projects have a beginning and an end. This is what sets them apart from an
ongoing activity.
* A project, therefore, has a lifecycle, which includes all the project phases, the start-up
and the close-out.

Starting project

* Identifying a need often leads to the decision to start a project in order to meet the need
* Throughout the starting phase, the following questions must be considered
	+ Is the project really necessary
	+ What need does it meet
	+ What is the output
	+ What is the value added
	+ What could help the project succeed
	+ What are the risks
	+ Who will fund the project
	+ What resources are needed
	+ What are the project milestones
* Information gathered in the starting phases will help you determine the project relevance and decide whether or not to carry it out

Project charter

* Document that authorised the project
* Communication tool between the project sponsor and project manager
* Document is indispensable to completing a project, it contains information
	+ Purpose
	+ Scope
		- What are you going to accomplish
	+ Outputs
		- What activities do you need
	+ Constraints
	+ Activities
	+ Required resources
		- People, finance, system, special additional
	+ Risks
		- Identify and mitigation strategies
	+ Benefits

Organizing and preparing

* Once project is approved 🡪 next step is to plan and organize its execution
* Planning involves
	+ Diving the activities into tasks to produce output
	+ Organizing the task sequence of accomplishments
	+ Estimating the time, risks, quality, and required resources for each task
	+ Setting up an effective communication mechanism, which is necessary to meet objects
	+ Determining how the activities will be followed up
		- Performance measurement
* The more effort you put into tour planning, the easer it will be later when you implant the project
* Project management plan describes how the project will be executed, supervised and controlled, and includes
	+ How information will be collected from key stakeholders
	+ Project cope
	+ Work breakdown structure
	+ Project activities defined
	+ Project activities sequences
	+ Activity duration
	+ Hoe resources will be assigned to work packages and activities
	+ Contingency plans
		- Plans rarely go as planned
		- Identify internal and external risks
	+ Performance measurement baseline so that you can measure and manage performance
	+ All subsidiary plan

Carrying out the work

* Ince the starting and planning phases have been properly carried out, we have all the tools to execute, monitor and follow up on the project
* Following up on activities include
	+ Gathering information on the status of the work to ensure that deadlines are met
	+ Checking the effectiveness of existing resources and making adjustment as needed
	+ Tracking all expenditures to prevent cost overruns
* Gathering information throughout the execution phase will keep you informed as to whether the project is on tract to meet it s goal and will be useful in the closing project phase, allowing you to control the project and make adjustment, as needed to achieve the expected outcomes

Closing out the project

* Used to present the project update and make recommendations based on lessons learned
* Evaluation report: include a summary of the various stages, the problems encounters and the lessons learned
	+ Reminder of the objectives set when project was identifies
	+ Results obtained
	+ Any discrepancies between expected results and the results obtained
	+ The caused and explanations for the discrepancies
	+ A conclusion that contains lessons learned for future projects

Change management

What triggers change

* Internally driven changed
	+ Meet long term objectives, increase, impact, new ideas from staff
* Externally driven change
	+ Happens as a responses/solution to immediate and external circumstances, solves short term problems
	+ Usually a response to a change in legislation, bad publicity, customer complaints/ feedback, competition from rivals

Types of organizational change

* Strategic adjustment
	+ Least intrusive
	+ Minor day to day adjustments in how an organization operates such as changes that make things work more smoothly
* Strategic reorientation
	+ More intrusive
	+ Significant reform of existing practices, essential for health organization
	+ Employee will likely need to learn new skills, some jobs descriptions may change
* Transformational change
	+ Risky and difficult, rare
	+ Fundamental shift in ways of thinking and working
	+ Has widespread impacts on a company’s products, systems, customers, employees and capabilities
	+ Very rare, lots of upheaval, difficult, hard to implement

How people experience change

* Shock
	+ Numb not taking it in
* Denial
	+ Refuse to accept change
* Anger
	+ Resist or attack the change
* Passive acceptance
* Exploration
	+ Take an interest in/ become curious about he change, able to think about how it will impact them
* Challenge
	+ Enthusiastic about change believe in its value, and may begin to try to implement/integrate into work

Initial reaction to change can shape outcomes

* Change is upsetting and can cause dear and anxiety
* Peoples initial reaction to change are usually shock, denial, anger
* Initial response
	+ Negative
	+ Instigative
	+ Passive aggressive
	+ Neutral
	+ Positive
	+ Initial responses dictates the number of stages needed to go through

Change agents – critical to stress

* Change agents
	+ People who are prepared for change
	+ Look to the future and re organize for change in personal and professional lives
	+ Self motived, keep focused on the task at hand, even when others are struggling
	+ Feel positive about change 🡪 enthusiasm cab help inspire other to look at the change more positively
	+ Able to understand others, so can persuade and encourage collages to accept the change
* How change agents can help others
	+ Share how they feel about the change, share this info with these who are responsible for the change
	+ Willing to take risks
	+ Staying open to the unknown
	+ Encourage urge use of support system in times of change
	+ Friends and family cant act as a safety net and fill you back up, making it easier to for back and face the change

Managing change in an organization

* Organizational change management
	+ Leadership competency for enabling change within an organization
	+ A strategic capability designed to increase change capacity and responsiveness
* Project change management
	+ The application of a structured process and set of tools for leading the people side of change to achieve a desired outcome

Value of change management

* Study looking at when change management was done well vs poorly
* Looking at the percent of projects that met of exceeded objectives
* Excellent = significant amount of success in your project
* Fair = even a little helps a lot

Change triangle

* Governance
	+ Leadership / direction = Decisions and actions
	+ How much buy in
	+ Help with approvals
	+ Are they helpful
	+ Wil they help with engagement
* Change management
	+ People side = engage, adopt, use
* Project management
	+ Technical side = time, cost, scope, design develop, deliver
* Project success
	+ Benefits, objects, units of measure

Aspects of change

* Process
* Systems
* Tools
* Job roles
* Critical behaviours
* Mindset, attitudes, beliefs
* Reporting structure
* Performance reviews
* Compensation
* Location

ADKAR Model: Managing individual change

* Awareness
	+ Of the change
	+ Of the nature of the change
	+ Announce change
	+ Opportunity in change
	important reasons in change
	+ Provide opportunity to ask questions
* Desire
	+ To support the change
	+ To participate and engage
	+ Communicate beliefs
	+ Identify risks involved
	+ Build momentum
	+ cause reactions to changes
	+ Identify champions
* Knowledge
	+ On how to change
	+ Give to implement new skills and behaviours
	+ Provide training
	+ Address skills gaps
	+ Offer job aids
* Ability
	+ To implement the change
	+ To demonstrate performance
	+ Schedule practice runs
	+ Monitor performance
	+ Set reasonable gaols and metrics to start
	+ Adjust process as needed
* Reinforcement
	+ To sustain change
	+ To build a culture and competence around the change
	+ Monitor people have integrated change over time
	+ Reinforce to sustain change
	+ Learn from early mistakes

Class 5: Risk management

**Reflection**

Thinking about risk management, I realize how important it is in everyday situations. By understanding potential risks and planning ahead, I can handle challenges more smoothly and avoid last-minute scrambles. This approach helps me stay on track and build a stronger, more resilient mindset.

**Lecture**

Risk Management Fundamentals

* What is risk management
	+ Risk 🡪The uncertainty that surrounds future events and outcomes
		- Likely hoods of occurring
		- Impacts of risk
	+ Risk management 🡪 the use of logically and systematic process for managing risk to achieve objects at the enterprise level
		- Plan to address or mitigate
		- Reduce negative impact
	+ Reports
		- Avoid, minimize, mitigate risks
* Why practice risk management
	+ Gives your foresight
		- Identify events they could prevent you from meeting your objects
	+ Allows you to proactively address them
		- It’s easier to prevent something then to respond to it
	+ Help you prioritize workload
		- Workload and resources
	+ Serves as a communication tool
		- With your colleges, stakeholder, and senior management
		- Enabling a proactive response
		- Prevent what we can
	+ Risk is inevitable
		- Risk of doing nothing 🡺 biggest risk of all
		- Understand and knowing how to manage
* Risk culture
	+ How risk management contribute to a stringer culture
		- Improves resource decisions
		- Increase positive outcomes and reduces negative surprises
		- Strengthen on organization resiliency
			* Establish relative and effective controls
			* Prevent and detect
			* Benchmarks of good control in terms of mitigating risk
			* Correcting any gaps
			* Knowing and preparing >>> reacting and hoping
		- Increase horizontal collaboration
		- Increases transparency
		- Increase opportunities to innovate
* Common project risks areas
	+ Planning and delivery
		- Risk associated with the overall planning and delivery of a project
	+ Human resources
		- Risk associated with the recruitment, retention and staffing of employees as well as training and capacity building
	+ Information Technology
		- Risk associated with development of an IT solution
	+ Stakeholders
		- Risk associated with those who have a vested interest in the project
	+ Legislative consideration
		- Risk associated with the management legislative and litigation activities
	+ Privacy
		- Risk associated with the project’s protection of personal information and intellectual property
	+ Performance measurement
		- Risk associated with the ability to measure the benefits of a project delivered

Risk Management in Practice

* Risks in your work
	+ The existing conditions in the environment 🡪 drivers
	+ Uncertainty about future events and outcomes 🡪 risk
	+ Protentional outcomes if the risk materializes 🡪 impacts
	+ Drivers 🡪 risk 🡪 impacts
		- Control risks (means of reducing the risk)
	+ How do we manage enterprise risk at the CRA
		- Step 1 establish the context 🡪 step 2 identify risk 🡪 step 3 asses risks 🡪 Step 4 address risk 🡪 Step 5 report and monitor
		- More issues with step 2 🡪 unable to correctly identify risks

Risk Management Enablers

* What skills help you to better manage risks
	+ Foresight and scanning
	+ Strategic thinking
	+ Knowing your thresholds
	+ Understanding goals and horizonal

Risk Tolerance

* What is tolerance? How much risk can we accept
	+ The maximum amount of residual risk exposure that an organization is willing to bear for a given risk
	+ Maintain controls
	+ Caution zone
		- Government priority
		- Sensitivity
		- Interconnectivity
		- Span of control
		- Base factor
	+ Mitigate
* Why should we care about tolerance
	+ Highest residual risk exposure level verse risk approaching or exceeding an establish threshold
	+ Facilitates discussion on risk response
	+ Promotes consistency in discussion making
	+ Critical informational internal audit
* Impact of errors
	+ What can happen if risk management fails

Class 6: Performance Management

**Reflection**

* I really enjoyed doing the activity and I like how some of the prompts were really relatable
* it's clear that using logic models and performance measurement really ties everything together when you're trying to run a program or manage something big.
* Logic models are super handy because they lay out everything you plan to do and show you how one step leads to the next.
	+ This makes it way easier to keep everything on track and makes sure you're not just doing things without a clear reason
* When you look at how governments and big organizations use these tools, it’s all about getting better results and making sure they're doing what they promised. This approach isn't just for the big shots, though. Even planning a family trip can get a boost from thinking this way—like figuring out if everyone had a good time or what you could do better next time.

**Prereading**

* Logic models are a systematic and visual way to present the relationships among the resources, activities, outputs, and outcomes of a program.
* They are widely used in program evaluation to communicate how a program is intended to work.
* **Inputs**: These are the resources needed to run the program, such as funding, staff, materials, and equipment.
* **Activities**: These are the actions or processes that are undertaken with the inputs to directly achieve the program's objectives. Examples include workshops, training sessions, and outreach activities.
* **Outputs**: These are the immediate results of program activities. Outputs can be quantified and typically include the number of services delivered or the number of participants served.
* **Outcomes**: These are the short-term, intermediate, and long-term effects of the program outputs. Outcomes are what the program ultimately aims to achieve and may include changes in behavior, skills, knowledge, attitudes, conditions, or other attributes.
* **Impact**: This refers to the broader, long-term effects of the program, which can involve societal, economic, or environmental changes.

**How to Use a Logic Model**

* **Planning**: Logic models help in planning a program by clarifying which resources are necessary and what activities need to be implemented to achieve desired outcomes.
* **Implementation**: They provide a roadmap for program staff, ensuring consistency and clarity in the delivery of activities.
* **Evaluation**: By clearly laying out what the program aims to achieve, logic models facilitate the evaluation process, helping stakeholders measure progress and determine effectiveness.

**Benefits**

* **Communication**: Logic models can effectively communicate the purpose and processes of a program to different stakeholders, including funders, staff, and partners.
* **Management**: They help managers oversee program implementation and make adjustments as needed.
* **Funding**: A well-constructed logic model can support funding applications by clearly showing how the intended use of resources will lead to the desired impacts

**Lecture**

What is performance measurement

* Is the process of quantifying, monitoring, and assessing the efficiency and effectiveness of an organization, program, policy, initiative or service
* PM seeks to collect data on
	+ Effectiveness
	+ Efficiency
	+ Quality
	+ Timeliness
	+ Productivity
	+ Coverage
* Can help us learn how to improve services and goals

Why does it matter?

* Performance measurement allows an organization to demonstrate accountability, support decision making and make improvements
* Helps an organization clearly determine and articulate what they are trying to accomplish, and whether they are accomplishing it
* Helps with accountability
* Enables evidence-based decision making
* Helps with making improvements
	+ How we are doing in the movement
	+ Where resources should be allocated to improve services

What does performance measurement look like in the government

* Since the early 1960s the government has been thinking about results-based management and performance measurement in a variety of ways
* Early efforts were primarily focused on outputs- tangible goods and services produced rather than on outcomes
	+ Today the focus is more on outcomes or real-world impact

What does this look like n practice

* Policy on results
	+ Improve achievement of results
	+ Enhance understanding the results and resource used to achieve results

Department results Framework

* Describe what departments do (Core Responsibilities)
* Describe what they’re trying to influence (Departmental Results)
* Describe how they’re going to assess progress (Departmental Result Indicators)
* Ministers required to obtain TB approval

Program inventory

* Should add up to 100% of the department’s expenditures and human resources (excluding internal services)
* Should speak to how the department plans to deliver its mandate and fulfill its core responsibilities
* PI requires TBS approval

Program information profiles

* Describe the programs in the PI
* Provide information on the program’s outcomes, outputs and indicators, including standardized indicators where appropriate
* Provide a source of other key information related to the program’s performance
* PIPs are provided to TBS for information purpose

Doing performance measurement: key concepts and tools

* Logic model
	+ One-page depiction of what the program does and what it intends to achieve
	+ Also includes inputs, outputs, and link to departmental results or organization’s
	priorities
	+ Visually depicts a programs performance story by linking together inputs, activities, and outputs to various levels of outcomes
		- Efficiency
			* Inputs
				+ Financial and non-financial resources used to deliver activities, produce outputs and accomplish outcomes
			* Activities
				+ The actions that a departmental organization undertakes to produce one or more outputs under the program
				+ Demonstrated the show of the program
			* Outputs
				+ Tangible things your program/ service does (activities) research’s (audience) or creates
				+ Demonstrates that what of the program
		- Effectiveness
			* Immediate outcomes
				+ An outcome that is directly attributes to the outputs delivered
				+ Short term
			* Intermediate outcomes
				+ Outcomes that are logically expected to occurrence one to more immediate outcomes have been achieved
				+ Describe behavioural changes
			* Ultimate outcomes
				+ These are the highest-level outcomes and are a consequence of one or more intermediate outcomes having been achieved
	+ Collaboration and discussion are the important part
* Performance measurement framework
	+ A “one-stop shop” where all the performance measurement information is captured
	+ Includes the outcomes to be achieved, and how they will be measured (their indicators)
	+ Methodology for each indicator: formula, variables, targets, thresholds, limitations, etc.
* Reporting
	+ A systematic review of the program
	+ Captures the results
	+ Shows what is working and what isn’t working based on the data collected

Activity – what’s the outcome

* Planning family vacation 🡪 family members enjoy vacation 🡪
* Developing a course outline/syllabus 🡪 student know the course requirements 🡪
* CRA educational outreach 🡪 Canadians file their taxes on time
* Managers organization- wide hold monthly in person meeting 🡪 government department X has a positive organizational culture
* The university develops industry relevant curriculum 🡪 students are employable upon graduation

After building a logical model, the next step is to develop valid and reliable performance indicators to determine where you are attaining the outputs…

What is a performance indicator?

* Indicators are the show of measurement they indicate how general information will become meaningful data about performance
	+ How do you know you are attaining your intended outputs and outcomes
* Outputs and outcomes ger indictors
	+ Output indications measure the products or services of the program, imitative, project
	+ Outcome indicators measure real changes that happen as a result of the programs outputs and activates
* Ideally you would have 1-2 indicators per output, and 2-3 indicators per outcome in your logic model
* Can be qualitative or quantitively

Creating a performance indicator



Indicators and target should be SMART

* Specific
	+ Clear and concise to avoid misinterpretation of what is to be
	measured
* Measurable
	+ Can be quantified and results can be compared to other data or benchmarks, and able to show trends if measured over time
* Attainable
	+ Practical, reasonable and credible
	+ Enables comparisons over time
* Relevant
	+ Informative, understandable and useful to the target audience
	+ Provides information the organization needs to manage, monitor
	and make decisions
* Time-based and targeted • Indicators should have time-related parameters built in, so
everybody knows how to stay on track within a designated time
frame.

Class 7: Careers in Government

**Lecture**

Typical competition process

* Apply for job as specified in the posting
* If your application is screened into the competition, you will likely be required to complete a written test
* If your written test is successful, you will likely be invited to an interview
* If you are successful in the interview, you may be required to get your language tested, consent to have a security clearance conducted, provide references
* If you are the person selected for the job, they will offer it to you in writing
* If you were successful in the competition but not ultimately selected for the job, you may be placed in a pool.

Relevant job categories:

* Economics and Social Science Services (EC)
* Biological Sciences (BI) / Medical Officer (MOF)
* Scientific Regulation (SG-SRE)

Sections of a government job posting:

* Important messages
* Intent of the Process
* Info you must provide
* Essential Qualifications
* Asset Qualifications
* Conditions of Employment
* Other Info

Critical advice when applying

* Read the instructions carefully. Every job posting is different.
* Answer each “essential experience” using specific examples and
make sure that you prove that you have the experience they are
looking for.
* Beware of “AND” and “OR”. If the essential criteria requires x AND y qualifications, make sure you provide specific examples for each.
* Watch the language profiles – some will require that the applicant be bilingual.

How you can use GEDS

* Search for potential areas in the government where you might be interested in working and reaching out to the manager to discuss the kinds of work the team does
* If you get in a pool and are looking for a job, you can reach out to managers of teams where you would be interested in working to let them know who you are and that you’ve qualified in a pool
* To find a manager’s email following an interview so that you can follow up and thank them for the opportunity (and later on, ask for feedback)

What you bring to your employers

* Critical thinking / analytical skills
* Curiosity and creativity
* Project-management skills
* Unique position to help business / government interface with universities (innovation, true KT!)
* Extremely hard working, driven, dedicated and focused
* Can take a huge problem and break it down into manageable steps to address it

Job description for CV

* Emphasize Project Management (using business language):
	+ Developed project plans for experiment xyz, including timelines, risk assessment, and mitigation strategies...
* Emphasize teamwork and collaboration:
	+ Worked with all relevant stakeholders to design and execute complex scientific analyses...
* Don’t shy away from talking about your results:
	+ Brought international recognition to xyz university / program as experiments / projects led by my team were among the first in the world to discover...
* Conferences:
	+ Represented the xyz university/program at national and international conferences...
* Emphasize leadership / HR / budget experience:
	+ Responsible for interviewing, training, mentoring, and designing research projects for new graduate and undergraduate students who joined our team
	+ Effectively managed a budget of $xxx...

Putting it all together

* Challenges
* Levers
* Drug product lifecycle
* Project life cycle
* Change management
* ADKAR
* Project Risk
* Performance management
* LOGIC