

Step 1: Identify

- What health risks do the systems face?
- Identification involves looking for
 - Bad outcomes you want to avoid
 - Factors that hinder the good outcomes you want to achieve

Office of the State Actuary
Investigative Services Unit

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Step 2: Measure

- After you've identified health risks, *how often* will they occur in the future?
- Probability can be measured using actuarial assumptions and models
- Knowing *when* health risks occur and *how likely* it is that they occur in the future can be a powerful tool for decision-making



Step 3: Analyze

- The "how" and "why" step
- Analysis informs
 - Gives you a better handle on health risks
 - Helps you target options for managing risks
- Answers questions such as
 - How do the risks show up?
 - Are there *underlying factors* causing the risk?
 - Are risks interacting to compound the effect?
 - Are the risks or the underlying factors controllable? To what extent?
- Uncovering *root causes* and knowing the *level of control* brings to light possible options for managing risks

Step 4: Manage

- Once risks are identified, measured, and analyzed, they can be managed
- Managing risk involves
 - Deciding how much controllable risk to live with
 - Planning for risk beyond your control
 - Avoiding risks you can't survive
- Some risk management already in place
 - WSIB manages investment risk
 - Are there other risks to manage?
- Who looks out for the retirement system as a whole?

Suggested Plan For Risk Study

- Goals
- Deliverables
- Roles
- Timelines
- Outcomes

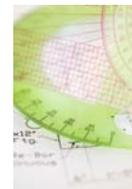
Suggested Goals For Risk Study

- Educate stakeholders and improve understanding of health risks faced by retirement systems
- Develop new tools
 - Measure and manage health risks
 - Evaluate future changes to the systems
- Identify root sources of risk
- Identify options to manage future health
- Inform future budget discussions



Suggested Deliverables

- Baseline health measures
- Actuarial risk model
- Decision tool
- Analysis and options



Sample Decision Tool

Risk Measure	Value	Score	Weight
Plan 1 Insolvency			
Chance	15%	35	20%
Amount (\$ in millions)	\$20,000	30	20%
Plan 2/3 Funded Status			
Average Funded Status	93%	90	15%
Chance Below 80%	70%	30	15%
Employer Contributions			
Average Biennial Change	15%	40	10%
Years Above Sustainable Levels	10	35	10%
Percentage Above Sustainable Levels	20%	30	10%
Overall Score (Scenario)		41.5	
Overall Score (Status Quo)		55.1	

Suggested Role Of SCPP

- Receive reports on study
- Provide input and guidance to OSA
- Make policy decisions
 - Health measures and risk measures
 - Options for managing risks
- Communicate results of analysis and make recommendations to Legislature



Suggested Role Of OSA

- Report to SCPP on study
- Build risk model and perform analysis
- Create preliminary decision tool
- Identify possible options for managing risk

Suggested Risk Study Timeline



Desired Outcomes Of Study

- Improve the financial health of the state's retirement systems
- Ensure long-term sustainability
- Develop new tools to increase understanding of how policy changes impact system health
- Institutionalize lessons learned
- Create shared ownership in maintaining system health in the future

