



Advocis 

# PFA Study Group

## CHAPTER PROGRAM

PRACTICE DEVELOPMENT SERIES

Module 6  
Needs Analysis

**Table of Contents**

Module 6: Needs Analysis .....1

    Needs Analysis and the Client Relationship Cycle .....2

    Financial Management .....7

        What information do you need to collect from your client? .....7

        What financial planning analysis tools will you use? .....7

        What analysis does the advisor perform? .....7

    Education Savings..... 14

        What information do you need to collect from your client? ..... 15

        What financial planning analysis tools will you use? ..... 15

        What analysis does the advisor perform? ..... 15

    Retirement Funding..... 28

        What information do you need to collect from your client? ..... 31

        What financial planning analysis tools will you use? ..... 31

        What analysis does the advisor perform? ..... 31

    Providing for Family Members Upon Death (Life Insurance) ..... 50

        What information do you need to collect from your client? ..... 50

        What financial planning analysis tools will you use? ..... 50

        What analysis does the advisor perform? ..... 51

    Putting It All Together ..... 76

    Debt Reduction..... 79

        What information do you need to collect from your client? ..... 80

        What financial planning analysis tools will you use? ..... 80

        What analysis does the advisor perform? ..... 80

    Reviewing the Options ..... 85

# Module 6: Needs Analysis

## Learning Objectives

In *Practice Development Module 5, Discovery*, you learned about the discovery process, the collection and recording of client quantitative and qualitative information. In *Practice Development Module 6, Needs Analysis* you will learn how to use the information you gathered to analyze your client's current situation to reveal the gap between where the client is today and where she needs to be to satisfy her goal(s). The quality of your analysis will help set you apart from other advisors.

In this module, we will examine four typical financial planning goals; the data you need in order to analyze a client's current situation to accomplish these goals; the financial planning tools you need to complete the analysis; how to analyze a client's situation and interpret your findings; and real-life examples of client scenarios to demonstrate these skills in action.

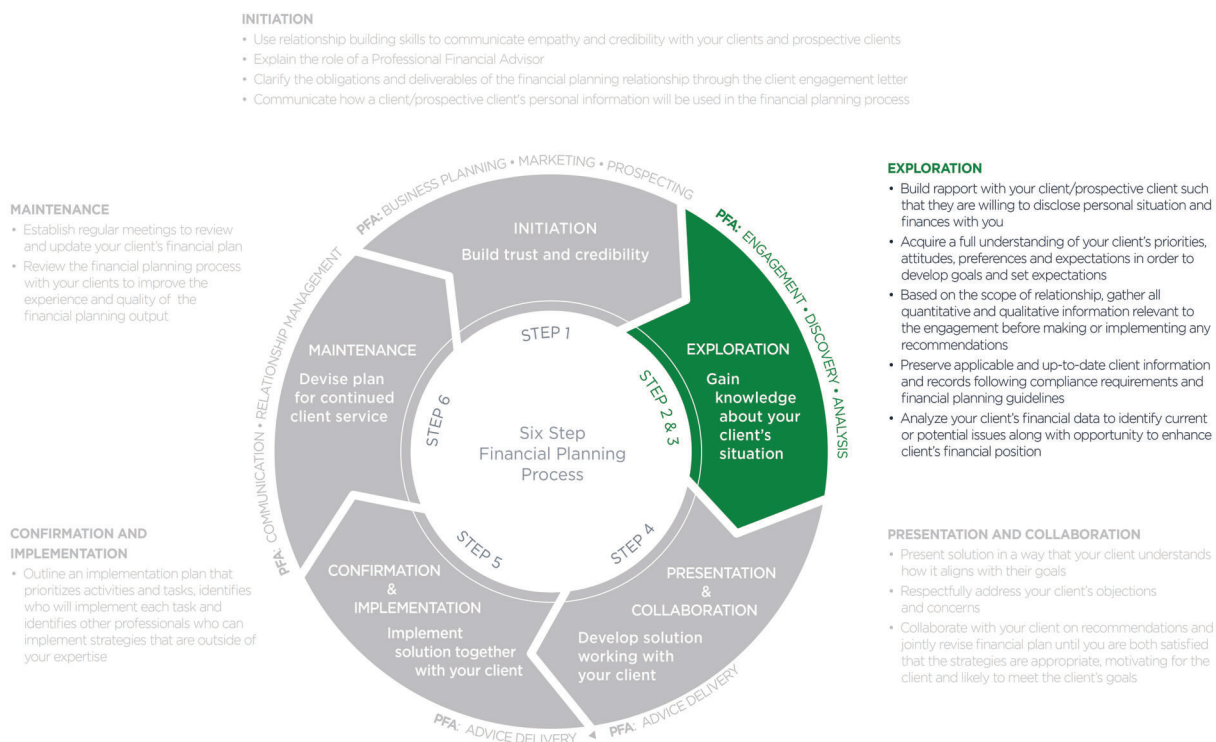
Upon completion of this module, you will be able to:

- Construct a net worth and cash flow statement for a client
- Conduct a thorough needs analysis for four common financial planning goals, including:
  - debt reduction
  - saving for education
  - saving for retirement
  - protecting one's family using life insurance
- Identify gaps between a client's current situation and their goals
- Identify potential solutions to improve a client's financial situation and help them progress towards their goals
- Give full and adequate disclosure of all assumptions made in the analysis

# Needs Analysis and the Client Relationship Cycle

Needs analysis is closely linked to the Exploration stage of the Client Relationship Cycle. If you recall, the Exploration stage involves building further rapport with the client and collecting all of the relevant financial data to gain a full understanding of a client or prospective client’s financial situation.

## Advocis Client Relationship Cycle



An effective financial plan does not just comprise financial data – it is based on obtaining an accurate and relevant picture of the clients’ goals, needs, priorities, values, preferences and attitudes. During this Exploration stage, you have to analyze the quantitative and qualitative information you

collected as part of the discovery process. Quantitative information includes personal and financial data while qualitative data includes insight into the client's values, expectations and aspirations. It is important for an advisor to have all of the information she needs to produce a thorough analysis (the scope of which is determined in the client engagement letter) that results in the identification of current and future needs and opportunities that will help improve a client's unique situation.

The data that you collect and analyze during this stage can help you make recommendations that bring the client closer to her financial goals. As this information is gathered in many different ways – including open-ended questioning and analysis of quantitative data sources – you have to exercise the fact-finding, questioning and active listening skills you learned in *Practice Development Module 5, Discovery*.

Needs Analysis also aligns with Step Three of the Financial Planning Process: Clarifying and Identifying. In this step, a financial planner's skill and ability to identify issues and opportunities specific to a client's situation is integral. During this dynamic step, it may be necessary to review the goals, needs, and priorities; revise the scope of the engagement; and/or obtain further information based on the findings of the evaluation.

The breadth of the analysis will cover areas specific to the client's situation, but may include:

- Financial management
- Risk-management
- Investments
- Taxation
- Retirement
- Estate planning

In addition, it is essential that the planner consider special needs, again specific to the client's situation, which could include:

- Divorce or remarriage considerations
- Charitable planning
- Adult dependant needs
- Disabled child needs
- Education needs
- Terminal illness planning
- Closely held business planning

There are often multiple areas of need or opportunity that arise during needs analysis. The four financial planning goals we will examine in this module include:

1. Debt reduction
2. Education funding where a client wishes to fund a specific percentage of their children's post-secondary education
3. Retirement funding where a client wishes to retire at a stated age on a specified lifestyle
4. Life insurance protection to provide for family members upon death

Recall that during your Discovery meeting with your client you worked with her to establish her financial goals. You will likely have also assisted your client to revise the goals to make sure they are specific, measurable, achievable, relevant, and time-based (SMART). When you wrote your business goals in *Practice Development Module 1, Business Planning* you applied SMART goal-setting principles. Now it is time to apply what you learned to coach your clients and help them set SMART goals. Let's get started.



## Example

---

### Meet Lois and Bernadette

Throughout this module, the case of Lois and Bernadette will be used to demonstrate how analysis is conducted in a financial planning context for clients who have multiple, and sometimes competing, goals.

Lois and Bernadette are 32 year old spouses who live and work in Ottawa, Ontario. They met at the college where Lois teaches classes in landscape painting and art history. Bernadette was a student in her Tuesday evening art history class. They fell in love and moved in together shortly afterward. Lois and Bernadette were married three-and-a-half years ago.

Lois has been teaching at the local college since graduating with a master's degree in fine arts six years ago. Bernadette is a marketing specialist and commutes into the city where she works with the marketing team of a craft brewer. Soon after they adopted their rescue dog, Tucker, Lois and Bernadette learned they were expecting a baby.

With the new additions to their family, they needed to find a larger home. After having exhausted their savings to become pregnant, they did not have sufficient funds for a down payment so Lois' and Bernadette's parents gifted them enough money to allow them to purchase the townhouse they currently live in. One of the conditions that Bernadette's parents insisted on was that Lois and Bernadette work with their financial advisor, Jacqueline, to develop a financial plan.

They agreed and met with Jacqueline to discuss their situation. Their first meeting lasted almost two hours. Jacqueline described in detail her approach to financial planning, how she works with her clients, and how she is compensated. She went through the Client Engagement Letter in detail, answering all of Lois and Bernadette's questions as she went. Lois and Bernadette were surprised by all the areas of financial planning that Jacqueline could assist them with. They agreed that Jacqueline would provide advice on the couple's financial management (net worth and cash flow), education, retirement, and life insurance needs.

Jacqueline then outlined the time commitment to take Lois and Bernadette through the Discovery and Needs Analysis process and advised them that they may need to meet several times before she was ready to present them with a financial plan. She also let them know that Lois and Bernadette would have to supply her with all their financial details and gave them examples of what she would require. Jacqueline explained that as part of her discovery process she would ask them some very personal questions. Lois and Bernadette agreed to proceed with the discovery meeting that day.

Jacqueline began by asking them open-ended questions that helped Lois and Bernadette consider what it was that they wanted out of life. Jacqueline helped them to work through what they hoped to achieve financially in the short and long term. Following that, she asked them some very practical questions such as the value of their assets and liabilities, as well as their earnings. When they were finished defining their financial goals they were left with four statements that described in detail what they hoped to achieve. They felt they could achieve these goals because they were relevant to their lives, and contained the details (such as deadlines) they could use to measure their progress.

Lois and Bernadette's financial goals include:

1. We want to pay off credit cards and student loans in five years.
2. We want to fully fund a four year undergraduate degree for our daughter, beginning in 16 years.
3. We want to retire at age 65 on an after-tax income that supports our current lifestyle plus an additional \$1,000 per month for entertainment and travel.
4. We want to ensure that in the event of a pre-mature death, there is sufficient life insurance proceeds such that the survivors are able to fund our current lifestyle and are able to live in our townhouse.

Lois and Bernadette went into the meeting not knowing what to expect, but they left with some clarity about their practical and realistic goals.



# Financial Management

The basis of financial planning is to help a client achieve their goals. To do so, an advisor is tasked with building the pathway from where the client currently is to where they want to be in the future (their goals). Once an advisor and their client have determined where the client would like to be in the future (by determining and documenting the client's goals), they can begin to work on understanding where (financially) the client is currently. They do this through the building of a net worth and cash flow statement.

## What information do you need to collect from your client?

- Bank statements
- Payroll information
- Tax returns and / or Notice of Assessments for last five years (for self-employed clients)
- Statements from loan, mortgage, credit card companies indicating outstanding balance, interest rate, minimum payment, regular (monthly, bi-weekly) payment amount
- Investment statements, including registered (RRSPs, TFSAs, pensions, RESPs, etc.) and non-registered investments
- Approximate market values of any real estate owned by the client

## What financial planning analysis tools will you use?

Net worth statement, cash flow statement

## What analysis does the advisor perform?

The advisor focuses their attention on analyzing the client's current financial health (using the net worth statement) and the client's abilities to fund her goals (using a cash flow statement).

The net worth statement (for an example, please see Appendix 7, FP 241, Module 2) compares what the client *owns* (assets) with what the client *owes* (liabilities). The number that results (positive or negative) is known as her net worth.

To prepare a net worth statement, list all the client's assets (description and current market value) and all the client's debts (description and the current outstanding balance). To arrive at the net worth, subtract the total liabilities (debts) from the total assets. The difference, which could be a positive or a negative number, is the client's net worth. When a client is young and just starting her career, you can expect her net worth to be quite low (or even negative).

Early in a client's career, debts may outweigh assets. For instance, if your client purchases a car using a car loan, this increases debt. However – unlike mortgage debt – the asset will not exceed the value of the debt in the future as the car loses value the moment it is purchased. Clients paying off debt from post-secondary education, such as student loan debt from university or college, will not show an asset but they will have the debt. Net worth grows as savings plans are implemented and/or market values on invested assets rise. Over time and with a savings plan implemented, a client's net worth should increase. The exercise of completing a net worth analysis at each annual review is a meaningful way to measure a client's progress towards her financial goals. As your client progresses towards retirement, she should be working to grow her net worth.

A cash flow statement (for an example, please see Appendix 8, FP 241, Module 2) provides you and your client with a good understanding of where the client's money is going and how much of it (if any) is being retained to fund future financial goals. A cash flow statement compares the money the client receives with the money spent on living expenses – both discretionary and non-discretionary. Some of these expenses will be fixed (i.e., they don't change from one month to the next or are payable every month) while others will be variable and fluctuate from month to month.

To prepare a cash flow statement, list a client's sources of income over a defined period of time – usually a month. This approach works for most clients, however, it will not work for others who receive an irregular stream

of income payments (such as a bi-weekly or semi-monthly payroll). For clients like this, as well as clients whose income is received in lump sums – for instance, at the end of a contract – you will have to collect income data over a longer period – such as a year – and then average it out to determine the monthly income.

Cash inflows include the gross amount from all paycheques as well as lump sum payments from employment contracts (if any). The gross income is reduced by income taxes and source deductions (such as CPP and EI Premiums, group RRSP or pension contributions, and employee benefit fees) to arrive at the net income, the amount that the client is able to spend.

Other sources of income could include income received from dividends and interest from investments held in a non-registered trading account. This source of dividend and interest income can be included as cash inflows as long as they are received as cash and not re-invested as part of a dividend reinvestment program. Royalties from the publication of a book or trust income are also sources of income that should be included on a cash flow statement as these are regular inflows of cash for a client.

Irregular cash inflows, such as one-time bonus incentives, should not be included in a personal cash flow statement.

Cash outflows include discretionary and non-discretionary expenses. Non-discretionary expenses are necessities that cannot be deferred or avoided, and include such costs as mortgage, rent, utilities, insurance, basic groceries, transportation, retirement savings and minimum credit card and loan payments. On the other hand, discretionary expenses are outflows that pay for wants rather than needs, and can include clothing, dining out, gym memberships, magazine subscriptions, entertainment and travel expenses. As a guideline for a strong financial position, non-discretionary expenses should be less than 65% of client (or household) income while discretionary expenses should fall below 10%.

As with some cash inflows, some expenses may not be incurred on a monthly basis. To include expenses such as annual insurance premiums and property taxes, divide the value by 12 to get the monthly expense amount.

If you are completing a cash flow analysis for a household, then cash flow data from all members of the family are included. The same is true for the household's expenses.

Net cash flow is determined by subtracting the total expenses (outflows) from the total income (inflows) and results in either a positive or a negative number. If net cash flow is positive, then the client appears to be in a situation where she can direct surplus cash flow towards funding her goal(s), such as investing for the future, paying down debt or accumulating savings for an emergency fund.

If your client's net cash flow is negative, then she may need your help to identify possible solutions to bring her cash flow into the positive, including finding sources of additional income, paying off debts with assets, consolidating debt, and/or identifying any expenses that she could either reduce or eliminate. Ideally, all members of the household would participate in these important discussions. Your client may need your help in understanding her choices, such as spending versus investing and short-term sacrifice versus long-term security. Learning to live within one's means by managing discretionary expenses diligently is critical to improving cash flow and ensuring long-term financial security. More details on how to present and discuss this topic with your client will be discussed in *Practice Development Module 7 – Advice Delivery*.



## Example

---

As you examine Lois and Bernadette's net worth and cash flow statements (on the following pages), consider the following questions:

What do you notice about Lois and Bernadette's net worth?

Is their net worth positive or negative?

Is their net worth dominated by fixed assets that may take time to liquidate if needed or does it contain a balance of fixed assets and investable assets, the latter of which can be liquidated quickly if needed?

Does their net worth have the sufficient types and amounts of assets that can be accessed in the event of an emergency?

Does their net worth contain investment assets that can be used to fund their goals?

What do you notice about Lois and Bernadette's cash flow?

Do they have a monthly surplus or deficit?

Based on their cash flow, do you expect them to build wealth or sink further into debt?

What options are open to them to increase their cash flow? Could they increase their earnings? Could they pay off debt with liquid assets to reduce cash outflows? Can they consolidate their debts to lower their debt payments? Are there expenses they could reduce or eliminate?

What are some open-ended questions you might ask Lois and Bernadette to address their net worth and cash flow statements?

**Personal Net Worth**  
**for Lois Smith and Bernadette Thompson**  
**as of December 31, 20\*\***

**Assets**

	Lois	Bernadette	Joint	Total
<b>Personal Assets</b>				
Chequing Account	\$ -	\$ -	\$ 3,412	\$ 3,412
Savings Account	\$ 1,000	\$ -	-	\$ 1,000
Registered Retirement Savings Plan (RRSP)	\$ 18,124	\$ 22,388	-	\$ 40,512
Jewelry	\$ 1,000	\$ 6,000	-	\$ 7,000
Principal Residence	\$ -	\$ -	\$ 400,000	\$ 400,000
<b>Total Assets</b>	<b>\$ 20,124</b>	<b>\$ 28,388</b>	<b>\$ 403,412</b>	<b>\$ 451,924</b>

**Liabilities**

<b>Liabilities</b>				
Credit Card	\$ 9,806	\$ 7,100	\$ -	\$ 16,906
Line of Credit	\$ -	\$ -	\$ 22,347	\$ 22,347
Mortgage	\$ -	\$ -	\$ 312,358	\$ 312,358
<b>Total Liabilities</b>	<b>\$ 9,806</b>	<b>\$ 7,100</b>	<b>\$ 334,705</b>	<b>\$ 351,611</b>

**Net Worth**

<b>Net Worth</b>	<b>\$ 10,318</b>	<b>\$ 21,288</b>	<b>\$ 68,707</b>	<b>\$ 100,313</b>
------------------	------------------	------------------	------------------	-------------------

**Monthly Cash Flow**  
**for Lois Smith and Bernadette Thompson**  
**as of December 31, 20\*\***

**Cash Inflows**

	Lois	Bernadette	Combined
Gross Income	\$ 6,000	\$ 6,500	\$ 12,500
Income Taxes (Installments)	\$ 1,215	\$ 1,365	\$ 2,580
CPP and EI	\$ 530	\$ 530	\$ 1,060
<b>Net Income</b>	<b>\$ 4,255</b>	<b>\$ 4,605</b>	<b>\$ 8,860</b>

**Cash Outflows**

**Fixed Expenses**

<b>Home Expenses</b>			
Mortgage	\$ 842	\$ 842	\$ 1,684
Property Taxes	\$ 87	\$ 87	\$ 174
Condo Fees	\$ 105	\$ 105	\$ 210
Insurance	\$ 96	\$ 96	\$ 192
Utilities (heat, hydro, water, gas)	\$ 125	\$ 125	\$ 250
Food and Personal Items	\$ 400	\$ 400	\$ 800
Childcare Expenses	\$ 542	\$ 542	\$ 1,084
<b>Insurance Expenses</b>			
Life Insurance	\$ 50	\$ 50	\$ 100
Health Insurance	\$ 100	\$ 100	\$ 200
Communications Expenses (Cell phone, internet)	\$ 183	\$ 144	\$ 327
<b>Transportation Expenses</b>			
Automobile Insurance	\$ 102	\$ -	\$ 102
Automobile Maintenance	\$ 120	\$ -	\$ 120
Transit Pass		\$ 200	\$ 200
Automobile Gas	\$ 165	\$ -	\$ 165
Pet Expenses	\$ 50	\$ 50	\$ 100
<b>Total Fixed Expenses</b>	<b>\$ 2,967</b>	<b>\$ 2,741</b>	<b>\$ 5,708</b>

**Debt Payments**

Credit Card	\$ 175	\$ 129	\$ 304
Line of Credit	\$ 336	\$ 336	\$ 672
<b>Total Debt Expenses</b>	<b>\$ 511</b>	<b>\$ 465</b>	<b>\$ 976</b>

**Discretionary Expenses**

Entertainment (Alcohol, Eating Out, Activities)	\$ 300	\$ 200	\$ 500
Gifts	\$ 150	\$ 150	\$ 300
Vacation	\$ 150	\$ 150	\$ 300
<b>Total Discretionary Expenses</b>	<b>\$ 600</b>	<b>\$ 500</b>	<b>\$ 1,100</b>

<b>Total Expenses</b>	<b>\$ 4,078</b>	<b>\$ 3,706</b>	<b>\$ 7,784</b>
-----------------------	-----------------	-----------------	-----------------

<b>Surplus/(Deficit)</b>	<b>\$ 177</b>	<b>\$ 899</b>	<b>\$ 1,076</b>
--------------------------	---------------	---------------	-----------------

# Education Savings

Most Canadians appreciate the importance of higher education, yet many are unaware of, and unprepared for, the rising costs of education. It is generally accepted that there is a high correlation between education and future earnings potential.

In Canada, post-secondary tuition fees vary significantly, based on province, and other factors such as the program of study, and the school or institution. According to Statistics Canada, the average tuition for undergraduate programs for Canadian full-time students was \$6,838 for the 2018 academic year. This represents a 3.3% increase from the previous academic year 2017. Graduate programs are slightly more expensive, with an average cost of \$7,086, which represents a 2.4% increase over the previous academic year 2017/2018<sup>1</sup>.

Furthermore, although tuition is a very significant portion of the cost of post-secondary education, a more comprehensive view of overall costs include:

- Student fees
- Books and other resources
- Technology requirements
- Rent / residence expenses
- Meal plans / food expenses
- Commuting expenses

Depending on a client's values and financial situation, she may want to fund anywhere from 0% to 100% of her child's post-secondary education. The cash flow analysis will help a client identify possible sources of new income. It could also identify some expenses that could be reduced or eliminated, making it possible to fund a portion or all of her children's post-secondary education costs.

---

<sup>1</sup> Statistics Canada, "Tuition fees for degree programs, 2018/2019," The Daily, September 5, 2018, access date: 4 February 2019, <https://www150.statcan.gc.ca/n1/en/daily-quotidien/180905/dq180905b-eng.pdf>  
Copyright © 2019 The Financial Advisors Association of Canada



## What information do you need to collect from your client?

The data you collected above when analyzing your client's net worth and cash flow will be helpful in the education analysis as well. However, there are some inputs required in the calculation that can only be included after a detailed discussion with your client. We will discuss these shortly.

## What financial planning analysis tools will you use?

Projections (time value of money calculations) on a business calculator or with financial planning software.

## What analysis does the advisor perform?

With this analysis, you will be performing a projection (or a series of projections) and will be using time value of money calculations. Please see TK Module 4 for a refresher on time value of money concepts and calculations. If you have financial planning software, these calculations take place behind the scenes, however, it is necessary to understand how to make these calculations so that you use realistic inputs for the software and can determine if the output provided by the software is reasonable. Here are the inputs required to perform the analysis:

### **Current value of education assets**

The amount of assets your client has earmarked for education. Your client may have established an RESP for her children, however, she may also hold assets in a non-registered account, TFSA, or an informal in-trust account.

### **Inflation rate for education**

This is the rate at which you and your client expect the cost of post-secondary education to increase from now until the child begins her education. The inflation rate associated with the cost of post-secondary education varies depending on the province and tends to be different from inflation rates based on the Consumer Price Index (CPI).

### **Savings amount**

The amount per year or per month that your client can put towards her goal of saving for her children's post-secondary education.

### **Rate of growth**

The annual rate at which your client's education funds are expected to grow. This growth rate will be determined by working through a risk tolerance survey with your client. The period of time between now and the date the funds are required will play a key role in this survey as well as the expected rates of return under the FP Canada Projection Assumption Guidelines.<sup>2</sup>

### **Number of years**

The period of time between now and when your client's child begins her post-secondary education

### **Future cost of a four-year post-secondary education**

The tuition, living, and ancillary costs associated with education. Most parents will not have any idea what area of study their children will pursue when they finish their secondary educations, especially when their children are quite young. Through discussion, you can determine the type of program the client would like to fund, as well as what percentage of it they would like to fund. If your client is unsure, you can ask her if it would be okay to run a projection based on a four-year university undergraduate degree program.

---

<sup>2</sup> FP Canada Projection Assumption Guidelines is available at <https://www.fpcanada.ca/resources>  
Copyright © 2019 The Financial Advisors Association of Canada

### ***(i) How much will post-secondary education cost for your client's child?***

The first calculation that you will perform will be to determine how much money your client will need when her child begins their post-secondary education studies. After you've completed this calculation, adjust the amount based on the percentage of the education that your client wanted to fund in her goal statement.

<b>Variable</b>	<b>Description</b>	<b>Notes</b>
PV	Current cost of one year of education	In this case, the cost of the first year of a four-year university education.
I/Y	Inflation rate for education	This can differ from the regular inflation rate as education costs tend to rise faster than the general rate of inflation.
P/Y	Payments per year	This is usually annual given the cost of education generally increases annually.
C/Y	Compounding frequency	This is usually annual given that the cost of education generally compounds annually.
N	Number of years	The number of years over which the current cost of education will be impacted by inflation.
PMT	Payment amount	This is generally zero given that that no additional payments are being added to the original present value cost of education.

Calculate:		
FV	Future cost of one year of education	In this case, the future cost of one year of a four-year university education.



### Example

Gracie turned two last month. It is very difficult for her moms, Lois and Bernadette, to believe their baby will ever be old enough to go to university. However, this is Lois and Bernadette’s dream for Gracie.

Lois and Bernadette’s financial advisor, Jacqueline, will work through the projections with them. Lois and Bernadette do not know how much a university education costs and turn to Jacqueline for guidance in answering this question. Fortunately, Jacqueline’s son started his first year of university last year so these costs are top of mind for her. To start, Jacqueline suggested using the average cost of tuition for the 2018 academic year, \$6,838 in their calculations. She suggests the average – and not the amount of her son’s program – as this cost is highly dependent on the program of study and the university. Little Gracie does not yet know what she wants to be when she grows up. Jacqueline spent \$5,304 for a meal plan and \$7,506 for residence last year for her son. She then suggested adding another \$2,000 for books and other fees. These costs total \$21,648.

If Jacqueline uses the same costs as she incurred, the cost in today’s dollars of one year of post- secondary education is \$21,648. The average cost of tuition (\$6,838) for the 2018 academic year is 3.3% higher than it was for the 2017 academic year. Jacqueline suggests using the 3.3% to estimate the cost of each of Gracie’s four years of undergraduate studies.

*Estimated Cost of Gracie's First Year of Post-Secondary Education*

$$PV = \$21,648$$

$$I/Y = 3.3\%$$

$$C/Y = 1$$

$$P/Y = 1$$

$$N = 16$$

Calculate FV

$$FV = \$ -36,393.42$$

*Estimated Cost of Gracie's Second Year of Post-Secondary Education*

$$PV = \$21,648$$

$$I/Y = 3.3\%$$

$$C/Y = 1$$

$$P/Y = 1$$

$$N = 17$$

Calculate FV

$$FV = \$ -37,594.41$$

*Estimated Cost of Gracie's Third Year of Post-Secondary Education*

$$PV = \$21,648$$

$$I/Y = 3.3\%$$

$$C/Y = 1$$

$$P/Y = 1$$

$$N = 18$$

Calculate FV

$$FV = \$ -38,835.02$$

*Estimated Cost of Gracie's Fourth Year of Post-Secondary Education*

$$PV = \$21,648$$

$$I/Y = 3.3\%$$

$$C/Y = 1$$

$$P/Y = 1$$

$$N = 19$$

Calculate FV

$$FV = \$ -40,116.58$$

When the future value of each of the four years of education is added together, the amount of money that Lois and Bernadette will need in order to achieve their goal of funding 100% of Gracie's four-year undergraduate program can be found.<sup>3</sup>

$$\text{Required funds} = \$ 36,393.42 + \$ 37,594.41 + \$ 38,835.02 + \$ 40,116.58$$

$$\text{Required funds} = \$152,938.43$$

***(ii) What future value will your client's current savings produce?***

The second calculation that you will perform will be to determine how much money your client will have saved when her child begins their post-secondary education studies.

---

<sup>3</sup> This approach assumes that the funds required to fund Gracie's education will be liquidated from the portfolio they are invested in and held in a non-interest bearing liquid savings vehicle. While this is not likely to be the case, since most savings accounts provide some form of interest, the calculation provides the most convenient and conservative estimate of the funds required to fund Gracie's education.

<b>Variable</b>	<b>Description</b>	<b>Notes</b>
PV	Current value of savings available for education.	Generally found on the net worth statement as a Registered Education Savings Plan (RESP).
I/Y	Expected net <sup>4</sup> rate of growth for investments	Generally found by calculating the net rate of return based on the asset allocation of a portfolio determined through the use of a risk tolerance questionnaire.
PMT	Amount of savings being contributed towards education	The amount of savings the client is saving towards education each period. This can generally be found on the cash flow statement or through discussion with the client.
P/Y	Payments per year	The number of times the client contributes savings towards education.
C/Y	Compounding frequency	The number of times the savings compounds per year. This is dependent on the type of investment used for the education funds.
N	Number of payments	The total number of payments the client is expected to make

---

<sup>4</sup> For the purposes of this calculation (and all calculations in this module), the expected rate of growth is assumed to be net of fees. It is important that the expected net rate of return be used in these calculations given the large impact that the deduction of fees can have in determining whether a client has enough funds to fully fund her goals.

		towards savings for education before they reach their goal. Determined by multiplying P/Y and the number of years until the goal.
Calculate:		
FV	Future value of savings available for education.	In this case, the future amount of savings available for education.



### Example

Lois has put \$1,000 from Gracie’s birthday cheques into a bank account and plans to use this money to start saving for her post-secondary education in 16 years. Jacqueline has not yet completed the analysis on Lois and Bernadette’s net worth and cash flow but the couple think they could save \$200 per month towards Gracie’s education. With each contribution the couple makes (up to \$2,500 per year) toward a Registered Education Savings Plan (RESP), they will receive the Canada Education Savings Grant (CESG), increasing their monthly savings amount by 20% to \$240<sup>5</sup>.

Based on the risk tolerance questionnaire that Jacqueline used to assist her in assessing Lois and Bernadette’s comfort with risk, the couple would be comfortable with the investment risk associated with a portfolio that is projected to earn a net rate of return of 4.5%. They agreed that this growth rate, compounded annually, should be used in Jacqueline’s calculation to understand if this savings regime will be enough to achieve their goal to fund 100% of the cost of Gracie’s post-secondary education in 16 years.

$$PV = - \$1,000$$

<sup>5</sup> Please note that this extra \$40 from the CESG will only occur for the first 180 payments (15 years). After that time, they will cease receiving the \$40 of grant money and their periodic investment amount will reduce to \$200 as Lois and Bernadette will have maximized their allowable lifetime CESG. While applying the \$40 over all payments will overestimate the amount of savings the couple will have to fund their daughter’s education, it provides a close enough estimate that outweighs the time and effort required to compute the actual amount that Lois and Bernadette will receive.



$$\text{PMT} = - \$240$$

$$\text{P/Y} = 12$$

$$\text{C/Y} = 1$$

$$\text{N} = 12 \times 16 = 192$$

$$\text{I/Y} = 4.5\%$$

Calculate future value (FV)

$$\text{FV} = \$68,792.86$$

### ***(iii) Will the clients be able to meet their education goal?***

The third action you will perform will be to compare the cost of your client's post-secondary education goal (i) with the future value of your client's current education savings plan (ii).



#### **Example**

Comparing the expected future cost of Gracie's four-year university degree with the expected future value of Lois and Bernadette's savings, we can determine if the clients will have a surplus or deficit of funds to cover the cost of Gracie's education. If the resulting number is positive, then the clients will likely have a surplus of funds and are likely to achieve their goal. In this case, they may be able to reduce their savings amount or fund more of the cost. If the number is negative, then the clients will likely face a deficit of funds and are unlikely to achieve their goal without saving more funds.

Future value of Lois and Bernadette's savings	\$ 68,792.86
<u>- Future cost of required funds to fund Gracie's education costs</u>	<u>- \$152,938.43</u>
Surplus / (Deficit)	- \$ 84,145.57

Because the gap is negative, the couple face a deficit of savings and are unlikely to be able to reach their goal of fully funding Gracie's education costs when saving \$200 per month.

***(iv) What amount of savings does your client need to contribute to achieve their goal?***

The fourth calculation you will perform will be to calculate the savings amount required to meet the clients' education goal.

<b>Variable</b>	<b>Description</b>	<b>Notes</b>
PV	Current value of savings available for education.	Generally found on the net worth statement as a Registered Education Savings Plan (RESP).
I/Y	Expected net rate of growth for investments	Generally found by calculating the net rate of return based on the asset allocation of a portfolio determined through the use of a risk tolerance questionnaire.
FV	Future cost of education	The amount of funds required by the time the child commences their first year of post-secondary education.
P/Y	Payments per year	The number of times the client will contribute savings towards

		education. Generally, this is monthly to match up with the cash flow statement.
C/Y	Compounding frequency	The number of times the savings compound per year. This is dependent on the type of investment used for the education funds.
N	Number of payments	The total number of payments the client is expected to make towards savings for education before they reach their goal. Determined by multiplying P/Y and the number of years until the goal.
Calculate:		
PMT	Amount of savings required to be contributed towards education	The amount of savings the client will need to save towards education each period.



## Example

---

$$PV = - \$1,000$$

$$FV = \$152,938.43$$

$$P/Y = 12$$

$$C/Y = 1$$

$$N = 12 \times 16 = 192$$

$$I/Y = 4.5\%$$

Calculate payment (PMT)

$$PMT = - \$542.61$$

The amount of \$542.61 does not take into account the CESG that Bernadette and Lois will qualify for when they contribute to an RESP. To estimate the amount of money they will need to contribute to an RESP, the maximum amount of grant per year (\$500 or \$41.67 monthly) can be deducted from the couple's savings amount. Again, this is only an estimate and used as a matter of convenience, knowing that the couple will maximize the CESG prior to achieving their goal. Therefore, the couple will need to save approximately \$500.94 (\$542.61 - \$41.67) per month toward Gracie's education to be likely to achieve their goal.

When viewed in isolation and compared against the cash flow statement where Bernadette and Lois have a monthly surplus of \$1,076, this goal is likely achievable given they can afford to save the \$500.94 per month required to fund their goal.

### *Further Interpretation of the Analysis*

If Lois and Bernadette had insufficient cash flow to close the gap between their savings and the required amount of money to fund their goal, additional calculations could be completed to showcase the options available to the clients, including modification of their goal to cover a lower amount of Gracie's education. Where gaps exist, it is important to ensure that clients do not simply forego their goal because they feel it is not possible to meet. Starting to save towards a goal

is important given that so many variables can impact the analysis. Additionally, clients' circumstances can change as time progresses, which can alter their ability to meet a goal. For instance, Lois or Bernadette may receive promotions and/or salary increases in the future, while Gracie may also contribute to the cost of her post-secondary education with summer job earnings. There are myriad possibilities and options for addressing any gap in goal funding. Most importantly, as an advisor you should discuss these options with your clients and encourage them to progress towards their goals. Very often, your clients already have some relevant ideas to address the gap.

In addition, you should inform your client about the deadlines for receiving the Canada Education Savings Grant (CESG) or the Canada Learning Bond (CLB). It's worth putting these dates in their calendar to keep them top of mind.

## **TIP**

Remember the following tips from TK Module 4 when calculating time value of money problems:

- TVM calculations are naturally concerned with the inflow and outflow of money.
- **IMPORTANT!** The rule of thumb for using the +/- button is to enter amounts paid or invested as a negative number, and amounts accumulated or received as a positive number. Cash inflows are positive, and cash outflows are negative numbers.
- The appearance of the words "Error 5" on the display screen is usually associated with an error in the entry of the positive and negative values for the money inflows and outflows. Re-check the positive and negative values assigned to the variables.

# Retirement Funding

Many clients struggle to understand how much money they will need in retirement. There have been many guidelines over the years to assist in the calculation, including the rule of thumb that an individual requires 60% to 70% of her current income to comfortably fund her retirement. Similarly, the accumulation of a retirement portfolio equal to \$1 million was considered an adequate portfolio to fund an individual's retirement. Neither of these standards links what a retiree wants to do in retirement with the amount of money she requires. These rules of thumb put both the individual and the advisor at risk since they do not take into account the personalized needs of the client.

A pattern of expenditures in retirement is common across many income levels. Retirees tend to spend more money in the earlier years (age 60 to 75) of retirement as they travel, renovate home or cottage, and assist children and grandchildren. Between 75 and 85 years, retirees' spending tends to decrease as they travel less and reduce or eliminate some activities. Beyond age 85, retiree spending can increase again as they spend money on healthcare and age-related life adjustments.

The answer to 'how much money do I need in retirement?' is very much dependent on what your client wants to do after she stops working. How does she want to spend her time? Many clients are able to answer this question because they have put a lot of thought into it. Others really have no idea – often because they are very busy living their current lives. For those who have put a lot of thought into their expectations for retirement, they may be able to quantify the lifestyle they want into an annual income. Others will not yet be able to do that. However, this is where you can help.

It is a financial planning best practice to frame your client's retirement income goal in the following way if they know how much money they need or want annually in retirement:

"I want to retire at age \_\_\_\_\_ on an after-tax income of \$\_\_\_\_\_ (in today's dollars)."

If your client has not been able to quantify that figure, an alternative retirement income goal can be expressed as follows:

“I want to retire at age \_\_\_\_\_ on an after-tax income comparable to my current lifestyle.”

Without a well-defined dollar amount to quantify her retirement lifestyle, most clients are likely to agree that they would like to be able to continue their current lifestyle in retirement. As you know, in order to perform any sort of analysis you will need a number. With a little work, you and your client can arrive at a number that reflects her current lifestyle.

One way to estimate your client’s lifestyle in retirement is to add up all of the fixed and discretionary expenses they currently have and subtract the ones that will disappear in retirement, while adding any additional expenses they are likely to have at that time.

When your client retires, she can expect to reduce or eliminate many of her current expenditures. However, depending on what she wants to do in retirement, some expenses could increase and new ones will be added. There are as many different expenses as there are clients. This very much requires a discussion with your client. Your use of open-ended questions will assist your client in thinking about some of the possibilities for her retirement, and will help her consider what expenses she thinks could change. Let’s examine some common expenses that clients are often able to reduce or eliminate at retirement.

One of the largest expenses for your clients is their mortgage payments. It is a common assumption that clients want to retire debt-free when they stop working. This substantial expense will be eliminated for most of your clients upon their retirement.

Your client may not have to pay for some of her insurance policies. For many clients, their need for temporary insurance (income replacement or debt repayment) has been eliminated by the time they retire. Disability insurance policies are valid only as long as the policyholder is working; some may also have expiry dates, such as age 65. Your client will, however, want to continue paying the premiums for her permanent life insurance policies, her long-term care policy, and possibly her critical illness policy (if none of these are already paid up). Always check policy contracts to verify details such as payment requirements.

If your client is currently caring for children or supporting young adults in their post-secondary education, expenses associated with these endeavours could (but, not always) be eliminated or reduced. If your client is currently putting money aside to assist her children (or grandchildren) with the costs of their post-secondary education, this expense may also disappear around the time she retires.

Another expenditure clients can eliminate in retirement is their monthly or annual retirement savings contributions. These could be regular contributions to RRSPs, TFSAs, non-registered investment accounts or a combination of all three. It also includes pension contributions; however, these are usually done through payroll deduction.

Your client's transportation costs could also decrease in retirement. A regular commute requires regular fill-ups of gasoline (or electricity) and vehicle maintenance. Oftentimes, couples eliminate one of their vehicles in retirement, eliminating some of their insurance and maintenance costs.

All of the expenses discussed so far have been reductions or eliminations of costs. In some cases, additional expenses may occur in retirement. One such example is when clients commonly respond to the request, "Tell me about your retirement plans," with "I/we would like to travel (more)". Although the goal to travel more needs to be flushed out in more detail, including details about where, how often, and in what level of comfort the client would like to travel, etc., this type of expense will only add to your client's retirement expenses.

Another common response to the same request produces the response that your client wishes to move to a new city or town to be close to family members in retirement, to care for elders or to help raise grandchildren. There could be many costs (apparent and hidden) associated with this goal. The most (least) attractive scenario is the client who moves to a smaller (larger) city where real estate market values are substantially lower (higher) than in her current location. Depending on other expenses related to the move, this client could experience a substantial net inflow (outflow) of cash.

As you can see, there are many things to consider when discussing retirement lifestyle with your client. The most important thing to remember



though is to have the discussion and to make optimal use of open-ended questions to prompt the most thoughtful responses from your client.

## What information do you need to collect from your client?

The data you collected above when analyzing your client's net worth and cash flow will be helpful in the retirement analysis as well. However, as we discussed above, there are many inputs required in the calculation that can only be included after a detailed discussion with your client. We will discuss these shortly.

## What financial planning analysis tools will you use?

Projections (time value of money calculations) on a business calculator or with financial planning software.

## What analysis does the advisor perform?

With the retirement analysis, you will be performing a projection (or a series of projections) and will be using time value of money calculations. Please see TK Module 4 for a refresher on time value of money concepts and calculations. If you have financial planning software, these calculations take place behind the scenes, however, as always, it is necessary to use realistic inputs. While financial planning software is accurate and fast, it is necessary to understand how to make these calculations so that you use realistic inputs and can determine if the output provided by the software is reasonable. Here are the inputs required to perform the analysis:

## **Current value of retirement assets**

The amount of assets your client has earmarked for retirement. Your client may have a collection of accounts, including RRSPs, TFSAs, non-registered investment accounts, pension plans, etc. that she has identified as having a retirement purpose).

## **Inflation rate**

This is the rate at which you and your client expect her desired retirement lifestyle to increase due to rises in the Consumer Price Index from now until your client begins retirement.

## **Savings amount**

The amount per year or per month that your client can put towards her retirement goal

## **Rate of growth**

The annual rate at which your client's retirement funds are expected to grow. This growth rate will be determined by working through a risk tolerance survey with your client. The period of time between now and the date the funds are required will play a key factor in this survey. For up-to-date and reasonable growth rates, see the FP Canada Projection Assumptions.<sup>6</sup>

## **Number of years**

There are two periods of time that are relevant in retirement projections:

1. The period of time between now and when your client would like to retire (as stated in her goal); and

---

6.The FP Canada Projection Assumption Guidelines are available at <https://www.fpcanada.ca/resources>  
Copyright © 2019 The Financial Advisors Association of Canada

2. The period of time your client expects to be retired – i.e., the time between when she retires and she expects to die. Because no one is certain when they will die, clients can use their life expectancy<sup>7</sup> to help determine this factor.

### ***(i) How much will your client's retirement cost?***

The first set of calculations that you will perform will be to determine how much money your client will need on the day she retires. In other words, what is the lump sum that will fund her retirement lifestyle for the remainder of her life?



#### **Example**

Lois and Bernadette do not have any idea what income they would like to retire on, nor do they know what their 'current lifestyle' costs. They do know that they would like to engage in more travel and social activities when they retire. They estimate they will spend an additional \$300 and \$700 per month on entertainment and vacationing, respectively. Jacqueline suggests that the couple estimate the cost of their current lifestyle and use this number, plus their additional entertainment and travel expenses, as the basis of their targeted retirement income.

When reviewing the couple's current cash flow statement, Jacqueline determines that the following expenses are unlikely to continue once the couple retires:

- Mortgage payments
- Childcare expenses
- Term life insurance expenses
- Bernadette's transit pass
- Debt payments

---

<sup>7</sup> Life expectancy is available in the FP Canada Projection Assumption Guidelines, available at <https://www.fpcanada.ca/resources>

Based on this analysis, Jacqueline creates a projected cash flow statement (please see next pages) for the couple during their first year of retirement which shows that their total expected expenses during their first year of retirement will be \$4,740 per month or \$56,880 each year (in today's dollars).

Jacqueline explains that she has not yet accounted for Canada Pension Plan (CPP) and Old Age Security (OAS) benefits that Lois and Bernadette will be eligible to receive in retirement. As self-employed individuals, Lois and Bernadette are fully responsible for their annual contributions to CPP. Because both Lois and Bernadette earn more than the Year's Maximum Pensionable Earnings (YMPE), Jacqueline suggests that they can assume that both Lois and Bernadette will receive the maximum CPP and OAS benefits at age 65 when they retire. Jacqueline uses the current year's maximum monthly CPP Retirement Pension benefit of \$1,155 and monthly OAS Pension benefit of \$601 for both Lois and Bernadette to calculate the amount of income that Lois and Bernadette's retirement portfolio must produce each year. Because each of these benefits are taxable, Jacqueline reduces them by the couple's 30% expected tax rate in retirement.

Target Retirement Lifestyle	\$56,880
Less: Annual CPP Retirement Pension Benefit Payments <sup>8</sup> [\$1,155 X 2 X 12 X (1 - 0.30)]	19,404
Less: Annual OAS Pension Benefit Payments <sup>8</sup> [\$601 X 2 X 12 X (1 - 0.30)]	10,097
<b>Income at age 65 required from Lois and Bernadette's retirement portfolio</b>	<b>\$27,379</b>

<sup>8</sup> Please review the income and residency requirements for CPP and OAS benefits. You can find this information in TK Module 11 – Government Benefit Retirement Plans. This scenario assumes that both Lois and Bernadette are going to receive the maximum CPP Retirement Pension benefit payment at age 65. In order to achieve this, both Lois and Bernadette must continue to work in Canada until retirement earning incomes above the YMPE. The maximum CPP benefit payment for 2019 is \$1,154.58 and the average is \$723.89 per month. For greater accuracy in her calculations, Jacqueline should request Lois and Bernadette's Canada Pension Plan Statement of Contributions produced by the Government of Canada.

**Monthly Cash Outflows**  
**for Lois Smith and Bernadette Thompson**  
**Projected for First Year of Retirement**

**Fixed Expenses**

Home Expenses

Mortgage	\$ -	\$ -	\$ -
Property Taxes	\$ 87	\$ 87	\$ 174
Condo Fees	\$ 105	\$ 105	\$ 210
Insurance	\$ 96	\$ 96	\$ 192
Utilities (heat, hydro, water, gas)	\$ 125	\$ 125	\$ 250
Food and Personal Items	\$ 400	\$ 400	\$ 800
Childcare Expenses	\$ -	\$ -	\$ -
Insurance Expenses			
Life Insurance	\$ -	\$ -	\$ -
Health Insurance	\$ 100	\$ 100	\$ 200
Communications Expenses (Cell phone, internet)	\$ 183	\$ 144	\$ 327
Transportation Expenses			
Automobile Insurance	\$ 102	\$ -	\$ 102
Automobile Maintenance	\$ 120	\$ -	\$ 120
Transit Pass	\$ -	\$ -	\$ -
Automobile Gas	\$ 165	\$ -	\$ 165
Pet Expenses	\$ 50	\$ 50	\$ 100
<b>Total Fixed Expenses</b>	<b>\$ 1,533</b>	<b>\$ 1,107</b>	<b>\$ 2,640</b>

**Debt Payments**

Credit Card	\$ -	\$ -	\$ -
Line of Credit	\$ -	\$ -	\$ -
<b>Total Debt Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**Discretionary Expenses**

Entertainment (Alcohol, Eating Out, Activities)	\$ 400	\$ 400	\$ 800
Gifts	\$ 150	\$ 150	\$ 300
Vacation	\$ 500	\$ 500	\$ 1,000
<b>Total Discretionary Expenses</b>	<b>\$ 1,050</b>	<b>\$ 1,050</b>	<b>\$ 2,100</b>

**Total Expenses**

<b>Total Expenses</b>	<b>\$ 2,583</b>	<b>\$ 2,157</b>	<b>\$ 4,740</b>
-----------------------	-----------------	-----------------	-----------------

We now have the lifestyle amount that Jacqueline will target in the projections for Lois and Bernadette's retirement. Before she moves on to the calculations, there are some critical pieces of information Jacqueline needs to discuss with Lois and Bernadette, including:

- Their desired retirement ages
- Their life expectancies
- The projected long-term inflation rate
- The expected growth rate for their retirement portfolio

When asked during the discovery meeting, neither Lois nor Bernadette had thought a lot about when they want to retire. They each assumed they would work to the age of 65, giving them 33 years to save for this goal.

Jacqueline also needs to know how long the couple's retirement expenses will need to be funded. This requires that she determine their life expectancy, not an easy number to determine because no one really knows when they might die. But because it's a critical piece of information, to ensure the clients don't risk outliving their retirement savings, she asks them a number of questions to ascertain the information. When Jacqueline asks about Bernadette's and Lois' family health histories and the length of time their parents and grandparents have lived, they share with her that both of their parents are alive and well, as are some of their grandparents. No one in their families have had major health issues, including Bernadette and Lois. Jacqueline explains the risk of outliving their retirement savings – also known as longevity risk – and suggests that they use the Probability of Survival table found in the FP Canada Projection Assumption Guidelines.<sup>9</sup>

The authors of the FP Canada Projection Assumption Guidelines recommend advisors “**assume a projection period for clients where the probability of outliving their capital is no more than 25%**”<sup>10</sup>. This means that for Lois and Bernadette, their life expectancy for the purposes of the retirement projections should be age 97. The authors go on to say that “Forecasting a longer projection

---

<sup>9</sup> The Probability of Survival Table is available in the FP Canada Projection Assumption Guidelines, available at <https://www.fpcanada.ca/resources>

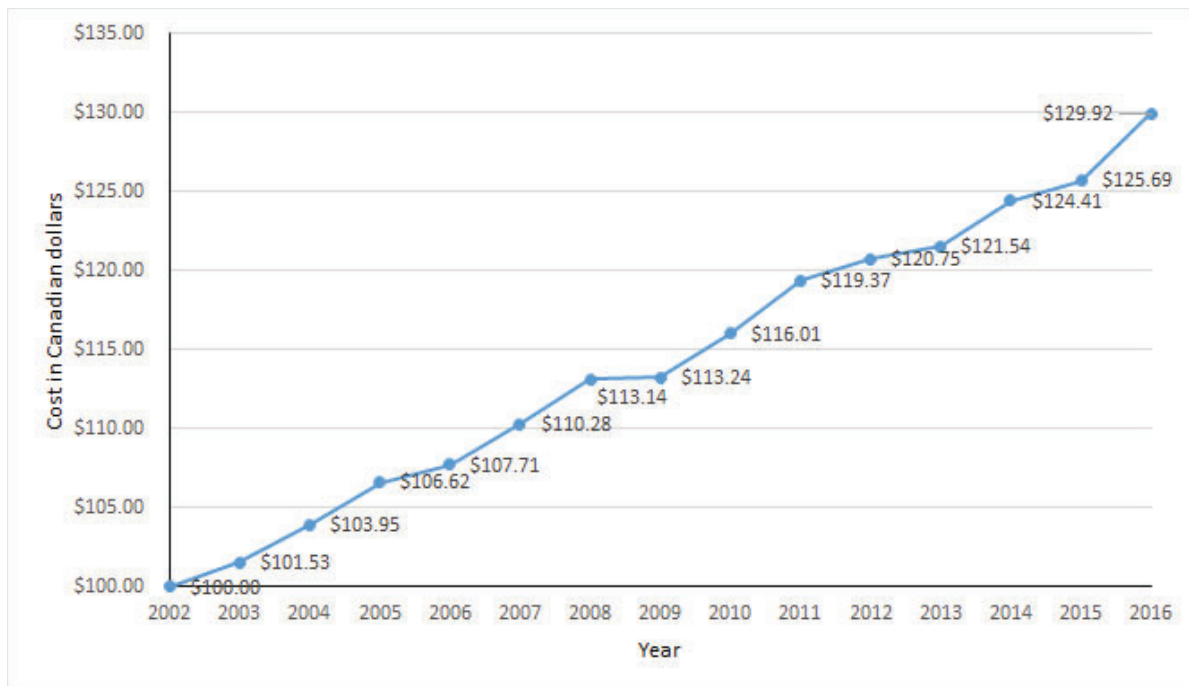
<sup>10</sup> Ibid.

period offers protection from future improvements in mortality and accounts for the greatest financial risk to an individual: longevity risk.”<sup>11</sup>

When considering retirement, Jacqueline cannot ignore the impact of inflation on Lois and Bernadette’s future income. Inflation measures the cost of consumer goods and services and is calculated by tracking the price of a basket of common goods and services purchased by Canadians (known as the Consumer Price Index). The average rate of inflation in recent years has been 2% per year, which means the cost of goods and services rose by 2% every year.

To help Bernadette and Lois better understand the potential impact inflation can have on their retirement, Jacqueline shares the graph shown below with Lois and Bernadette.

### How much a \$100 item increases in cost over time because of inflation<sup>12</sup>



Jacqueline explains that inflation can have a large impact on retirement income needs. While inflation may have averaged 2% per year from 2002 to 2016, it

11 Accessed on 21 May 19, <https://www.fpcanada.ca/docs/default-source/standards/2019-projection-assumption-guidelines.pdf> Authors: Nathalie Bachand, A.S.A., F.Pl. Derek Dedman, CFP®, CFA Martin Dupras, A.S.A., F.Pl., M.Fisc., ASC Daniel Laverdière, A.S.A., F.Pl. A. Kim Young, CFP®, FCIA]

12 Retrieved on 9 April 2019 from: <https://www.canada.ca/en/financial-consumer-agency/services/retirement-planning/money-to-retire.html>

caused prices to increase by almost 30% in total over the same period. This means that something that cost \$100 in 2002 cost \$129.92 in 2016. When Lois and Bernadette express concern about the impact of inflation on their retirement, Jacqueline advises them that their government pensions, Canada Pension Plan (CPP) and Old Age Security (OAS), are protected against inflation. This means that as the cost of living goes up, so will the value of the income benefits they receive from these pensions. Jacqueline explains further that retirement savings vehicles such as RRSPs, TFSAs, and non-registered investment accounts do not have direct protection against inflation. She advises Lois and Bernadette that their savings need to grow by at least the rate of inflation to maintain their desired lifestyle in retirement<sup>13</sup>. If not, the amount of things their savings can buy in the future will be less than what they can buy now.

Jacqueline explains that just because inflation has averaged 2% over the recent past, it does not necessarily mean that the same average will continue. She suggests that the couple use the projected rate of inflation provided in the current FP Canada Projection Assumptions Guidelines<sup>14</sup> because it is forward looking and based on a number of variables that are used for making long-term pension income projections.

Jacqueline also uses another risk tolerance questionnaire to help her to determine Lois and Bernadette's comfort with risk for their retirement savings. In the education example explored earlier, the time horizon for Lois and Bernadette's education savings was 16 years with the funds being used over the following four years to pay for Gracie's education. Because there are much longer time horizons associated with retirement (33 years until the couple retires and then another 32 years when retirement income will be distributed from the portfolio), the couple are better able to handle greater amounts of risk in their retirement portfolio. Based on the answers supplied by Lois and Bernadette and an analysis by Jacqueline, they agree that they would be comfortable investing their assets earmarked for retirement in a portfolio that is expected to grow at an annual rate of 6.0% (compounded annually).

---

<sup>13</sup> There are several ways to protect a portfolio against inflation however generally the simplest way to do so is to include an equity component. You can read more about this in TK Modules 9 and 10.

<sup>14</sup> The 2019 FP Canada Projection Assumption Guidelines that are available at <https://www.fpcanada.ca/docs/default-source/standards/2019-projection-assumption-guidelines.pdf> have been used in this calculation.



With the appropriate variables now available, Jacqueline can now determine how much money the couple will need to draw from their retirement portfolios at the beginning of the first year of their retirement.

<b>Variable</b>	<b>Description</b>	<b>Notes</b>
PV	Current cost of one year of retirement	In this case, the cost of the first year of the client's retirement.
I/Y	Inflation rate	This is generally the long-term projection for the inflation rate.
P/Y	Payments per year	This is usually annual given the costs associated with retirement increase annually.
C/Y	Compounding frequency	This is usually annual given that the costs associated with retirement generally compound annually.
N	Number of years	The number of years over which the current cost of the first year of retirement will be impacted by inflation.

PMT	Payment amount	This is generally zero given that that the client will need their full retirement income at the beginning of the year with no additional income required throughout the year. In some instances, this calculation may occur with a monthly income, in which case, the present value would become zero.
Calculate:		
FV	Future cost of one year of retirement	In this case, the future cost of the clients first year of retirement.



## Example

### Estimated Cost of Lois and Bernadette's First Year of Retirement

$$PV = \$27,379.00$$

$$I/Y = 2.1\%_{15}$$

$$C/Y = 1$$

$$P/Y = 1$$

$$N = 33$$

$$PMT = \$0$$

Calculate FV

$$FV = - \$ 54,358.45$$

15 From the 2019 FP Canada Projection Assumption Guidelines, available at:  
<https://www.fpcanada.ca/docs/default-source/standards/2019-projection-assumption-guidelines.pdf>  
 Copyright © 2019 The Financial Advisors Association of Canada

Based on the above calculation, Lois and Bernadette's retirement portfolio must be able to produce \$54,358.45 at the beginning of their first year of retirement when they are 65. However, given that their income must keep pace with inflation (2.1%), their portfolio must be able to provide them with \$105,703.85 when they are 97 years old and in their final expected year of retirement. In order to account for this, we must use the 'inflation-adjusted' or 'real' rate of return, as demonstrated below. Remember that the Government of Canada adjusts both CPP and OAS benefit payments annually for inflation leading up to and during retirement, so their incomes are already 'inflation-adjusted' or 'real'.

The real rate of return is calculated as:

$$\text{Real Rate of Return (RRR)} = [(1 + \text{nominal rate of return}) / (1 + \text{inflation rate}) - 1] \times 100$$

For example, Bernadette and Lois' portfolio is expected to earn a real rate of return of:

$$\text{Real Rate of Return (RRR)} = [(1 + 0.06) / (1 + 0.021) - 1] \times 100 = 3.82\%^{16}$$

Jacqueline must also account for the fact that the annual income the couple will need will be after-tax. Because this income will be withdrawn from their respective RRSPs, Jacqueline must ensure that she grosses up their after-tax income by their expected tax rate in retirement to determine the amount of money that will need to be withdrawn from their RRSPs to provide the appropriate after-tax income. In this case, the first year of after-tax income (\$54,358.45) will be divided by the percentage of the RRSP withdrawals that they get to keep after tax has been deducted (1 - 0.30).

With this information available, Jacqueline can now determine how much money Lois and Bernadette's portfolio will need to have accumulated by the time they retire in order to provide an 'inflation-adjusted' or 'real' after-tax income of \$54,358.45 every year for 32 years, starting when the couple retire at age 65.

---

<sup>16</sup> It is important that the nominal rate of return and inflation rate be entered in this formula in decimal format. For example, 6% should be inputted as 0.06 and 2.1% should be inputted as 0.021

<b>Variable</b>	<b>Description</b>	<b>Notes</b>
BEG	Time frame when payments are received	The payments need to be received at the beginning of each year.
N	Number of years	The number of years that the client's retirement portfolio will have to support the withdrawal of the inflation-adjusted retirement income the client needs. This is generally equal to the difference in the client's life expectancy and their age at retirement. <sup>17</sup>
I/Y	Inflation rate	This is generally the long-term projection for the inflation rate.
PMT	Payment amount	The value of income the client requires at the beginning of their first year of retirement.
P/Y	Payments per year	This is usually annual given the costs associated with retirement increase annually.
C/Y	Compounding frequency	This is usually annual given that the costs associated with retirement generally compound annually.
FV	Future value of the client's retirement portfolio	The expected value of the client's retirement portfolio

<sup>17</sup> Where the couple have different ages, the calculation should focus on the difference between the younger person's life expectancy and the age at which they plan to retire, assuming they retire at the same time as the older member of the couple.

		after the last withdrawal in their last expected year of retirement. This should be zero unless they are leaving a portion of their portfolio as an estate.
<b>Calculate:</b>		
PV	Present value of the client's retirement portfolio	The value of assets that the client's need to have accumulated by the first day of their retirement to fund their retirement income over the course of their retirement period.



### Example

Mode = BEG

$N = 97 - 65 = 32$

$I/Y = RRR = [(1 + 0.06) / (1 + 0.021) - 1] \times 100 = 3.82\%$

$PMT = - \$54,358.45 / (1 - 0.30) = - \$77,654.93$

$P/Y = 1$

$C/Y = 1$

$FV = \$0$

Calculate PV

$PV = \$1,474,599.06$

***(ii) What future value will your client's current savings produce?***

The second calculation that you will perform will be to determine how much money your client will have saved when they begin retirement.

<b>Variable</b>	<b>Description</b>	<b>Notes</b>
PV	Current value of savings available for retirement.	Generally found on the net worth statement as a Registered Retirement Savings Plan (RRSP), non-registered Investment Plan or Tax-Free Savings Account (TFSA).
I/Y	Expected net rate of growth for investments	Generally found by calculating the net rate of return based on the asset allocation of a portfolio determined through the use of a risk tolerance questionnaire.
PMT	Amount of savings being contributed towards retirement	The amount of savings the client is saving towards retirement each period. This can generally be found on the cash flow statement or through discussion with the client.
P/Y	Payments per year	The number of times the client contributes savings towards retirement.
C/Y	Compounding frequency	The number of times the savings compounds per year. This is dependent on the type of investment used for the retirement funds.

N	Number of payments	The total number of payments the client is expected to make towards savings for retirement before they reach their goal. Determined by multiplying P/Y and the number of years until the goal.
<b>Calculate:</b>		
FV	Future value of savings available for retirement.	In this case, the future amount of savings available for retirement.



### Example

Lois and Bernadette estimate that they can continue to save \$200 to each of their RRSPs going forward. Recall that their portfolio is expected to earn 6% annually in net returns.

The assumption that savings are contributed after money has been earned is shown by using the END function in this calculation.

$$PV = - \$40,512$$

$$I/Y = 6\%$$

$$PMT = - \$400$$

$$P/Y = 12$$

$$C/Y = 1$$

$$N = 33 \times 12 = 396$$

Calculate FV

$$FV = \$757,087.29$$

### ***(iii) Will the clients be able to meet their retirement goal?***

The third action you will complete will be to compare the cost of your client's retirement goal (i) with the future value of your client's current retirement savings plan (ii).



#### **Example**

Comparing the expected future cost of the couple's retirement with the expected future value of Lois and Bernadette's savings, we can determine if the clients will have a surplus or deficit of funds to cover the costs of their retirement. If the resulting number is positive, then the clients will likely have a surplus of funds and are likely to achieve their goal. In this case, they may be able to reduce their savings amount or fund more of the cost. If the number is negative, then the clients will likely face a deficit of funds and are unlikely to achieve their goal without saving more funds.

Future value of Lois and Bernadette's savings	\$757,087.29
- Future cost of required funds to fund retirement costs	- \$1,474,599.06
Surplus / (Deficit)	- \$ 717,511.77

Because the gap is negative, the couple face a deficit of savings and are unlikely to be able to reach their goal of fully funding their retirement costs when saving \$200 each per month.



***(iv) What amount of savings does your client need to contribute to achieve their goal?***

The fourth calculation you will perform will be to calculate the savings amount required to meet the clients' retirement goal.

<b>Variable</b>	<b>Description</b>	<b>Notes</b>
PV	Current value of savings available for retirement.	Generally found on the net worth statement as a Registered Retirement Savings Plan (RRSP), non-registered Investment Plan or Tax-Free Savings Account (TFSA).
I/Y	Expected net rate of growth for investments	Generally found by calculating the net rate of return based on the asset allocation of a portfolio determined through the use of a risk tolerance questionnaire.
FV	Future cost of retirement	The amount of funds required by the time the client commences their retirement.
P/Y	Payments per year	The number of times the client will contribute savings towards retirement. Generally, this is monthly to match up with the cash flow statement.
C/Y	Compounding frequency	The number of times the savings compounds per year. This is dependent on the type of investment used for the retirement funds.

N	Number of payments	The total number of payments the client is expected to make towards savings for retirement before they reach their goal. Determined by multiplying P/Y and the number of years until the goal.
<b>Calculate:</b>		
PMT	Amount of savings required to be contributed towards retirement	The amount of savings the client will need to save towards retirement each period.



### Example

$$PV = - \$40,512$$

$$I/Y = 6.0\%$$

$$FV = \$1,474,599.06$$

$$P/Y = 12$$

$$C/Y = 1$$

$$N = 33 \times 12 = 396$$

Calculate payment (PMT)

$$PMT = - \$997.97$$

When viewed in isolation and compared against the cash flow statement where Bernadette and Lois have a monthly surplus of \$1,076, this goal is likely achievable given they can afford to save the \$997.97 per month required to fund their goal.

## Further Interpretation of the Analysis

If Lois and Bernadette had insufficient cash flow to close the gap between their savings and the required amount of money to fund their goal, additional calculations could be completed to showcase the options available to the clients, including modification of their goal to cover a lower amount of retirement income or retire at a later date. Where gaps exist, it is important to ensure that clients do not simply forego their goal because they feel it is not possible to meet. Starting to save towards a goal is important given that so many variables can impact the analysis. Additionally, clients' circumstances can change as time progresses, which can alter their ability to meet a goal. For instance, Lois or Bernadette may receive promotions and/or salary increases in the future, or they may reinvest their tax refunds from contributing to their RRSPs back into their RRSPs. There are myriad possibilities and options for addressing any gap in goal funding. Most importantly, as an advisor you should discuss these options with your clients and encourage them to progress towards their goals. Very often, your clients already have some relevant ideas to address the gap.

In addition, ensure you inform your client about the deadlines for contributing to RRSPs and TFSAs. It's worth putting these dates in their calendar to keep them top of mind.

### ***TIP***

Remember the following tips from TK Module 4 when calculating time value of money problems:

- TVM calculations are naturally concerned with the inflow and outflow of money.
- **IMPORTANT!** The rule of thumb for using the +/- button is to enter amounts paid or invested as a negative number, and amounts accumulated or received as a positive number. Cash inflows are positive, and cash outflows are negative numbers.
- The appearance of the words "Error 5" on the display screen is usually associated with an error in the entry of the positive and

# Providing for Family Members Upon Death (Life Insurance)

A life insurance needs analysis evaluates the financial situation your client's survivors would face if she died prematurely.

## What information do you need to collect from your client?

- Bank statements
- Payroll information
- Tax returns and/or Notice of Assessments for the last five years (for self-employed clients)
- Statements from loan, mortgage, credit card companies indicating outstanding balance, interest rate, minimum payment, regular (monthly, bi-weekly) payment amount
- Investment statements, including registered (RRSPs, TFSAs, pensions, RESPs, etc.) and non-registered investments
- Approximate market values of any real estate owned by the client

## What financial planning analysis tools will you use?

While there are several ways to determine the amount of life insurance a client needs (such as the Multiple of Earnings and Human Value models), the method that produces the most accurate dollar figure is the Capital Needs Analysis model. This analysis takes into account a client's current assets and liabilities, government benefits, and goals and objectives. The approach identifies all of the capital and income needs that arise upon an individual's death and converts them to a capitalized amount. We will only describe and demonstrate the Capital Needs Analysis model in this module.

It is a more meaningful exercise to work through the life insurance needs analysis side by side with your client. Many pieces of information go into a life insurance needs analysis as well as several important assumptions. If a client works directly with an advisor and they collaborate on these inputs, the result is more meaningful and more likely to be accepted.

## What analysis does the advisor perform?

The amount of life insurance required by a client is calculated using the following formula:

**Insurance Needed = Total Capital Needs Upon Death – Available Assets – Existing Life Insurance**

The approach starts by identifying all of the lump sum needs that may arise as a result of death, to ensure that the estate has enough liquidity to meet these needs. Following that, calculations should be completed to determine the amount of money required today that can be invested to fund the client's goals. Lastly, the amount of income that needs to be replaced to ensure the surviving family can continue the lifestyle they wish to have should be determined.

### *Total Capital Needs Upon Death*

#### *a) Cash needs at death*

##### **Final Expenses**

The first costs that come to mind for most people are the funeral and final expenses. Funerals range from very simple affairs to lavish events; it depends upon the desires of the deceased and her family. As reported in an April 2011 MoneySense article, the average cost in Ontario for the services of a funeral home is approximately \$4,100 plus \$2,200 for a casket or container. Flowers, a representative from the deceased's place of worship, a burial plot and death notices are additional costs.<sup>18</sup>

---

<sup>18</sup> Retrieved on 5 April 2019 from: <https://www.moneysense.ca/spend/shopping/how-to-plan-a-funeral/>  
For additional information on burial costs, please see the information at: <https://lsminsurance.ca/life-insurance-canada/2017/11/funeral-cost-canada>

It is important to ask your client what she would like to set aside for her last expense fund. You can help her with this question by listing these funeral and related expenses:

- Burial or cremation
- Casket, vault, or grave liner
- Opening and closing grave fees
- Storage costs (in winter)
- Representative from deceased's place of worship
- Transportation costs out of province
- Funeral home services
- Uncovered medical bills may or may not be an expense. Most people die after a period of illness. Out-of-country medical treatment or experimental drugs and procedures may add thousands or tens of thousands of dollars in uninsured costs.

### **Legal and Executor Fees**

Depending upon the size and complexity of the estate, your client's executor may have to consult with lawyers for the distribution of the estate and accountants to prepare final tax returns. Your client is not likely to be able to set a price for legal and executor fees. To guide the conversation, you can let your client know that provincial statutes set a schedule for executory fees to be charged, normally up to 5% of the value of assets to be distributed by a will. Depending on your client and her current financial situation, you may want to add an additional 5% to 10% of the value of her assets subject to probate fees to cover legal and tax fees.

## **Probate Fees (Estate Administration Tax)**

Probate or Estate Administration Taxes vary by province. Ontario has the highest fees in Canada at 0.5% for the first \$50,000 and 1.5% thereafter. You can estimate this for your client by identifying the client's current assets that will be subject to probate fees.

## **Mortgage Repayment Fund**

Most clients would want the mortgage to be paid off upon the death of the first spouse. This is especially true if the couple have dependents. The prospect of being forced to sell the family home upon the death of a spouse is daunting for most. The upheaval of moving after a death can cause significant delays in the grief process. However, the question should be asked, as it provokes thought and discussion, if the couple has never considered the dilemma.

People rent instead of own for many reasons. It may not be safe to assume that a client rents because she cannot yet afford to purchase a home. This again is a topic for discussion. If the client does not own, you can ask her if he would like to include a lump sum to purchase a house for her survivors or to set up a pool of funds to cover the cost of rent. You may want to run some projections for your client to compare the cost of a new home versus the pool of money to cover rent for the rest of her partner's life. In the long term, owning rather than renting is likely to be more financially and psychologically advantageous.

## **Debt Repayment Fund**

Clients will have other debts that they would like repaid upon their death: lines of credit, car loans, business loans, credit card debt, student loans, etc. Life insurance can be used to repay these upon a client's death.

## **Emergency Fund**

Most financial planners suggest that an emergency fund of between three to six months' expenses be maintained in case of emergencies. Emergencies may be unexpected expenses caused by major uninsured events, loss of income, illness or accident, or family emergencies. Having an emergency fund is even more important when there is only one income earning person in the family.

## **Income Tax Liability**

For less complicated financial planning situations, if there are income tax liabilities at death that were identified during the fact find, you can make a rough calculation for these clients. However, for more complex cases, it is best to have your client request an estimate from her accountant to determine the amount that will be owing at death. Note that there may be methods to reduce, delay, or limit the amount of income tax payable at the death of a client.

There are provisions in the Income Tax Act to enable a spouse to roll over some income tax liabilities at death. For example RRSP, RRIF, or LIF proceeds may be transferred to the surviving spouse at death if he or she is named as a successor annuitant or beneficiary. In some cases, this rollover provision, if exercised, may actually compound the tax problem for future generations if the property continues to appreciate in value. This calculation is intended to provide an estimate of potential income tax payable at death. Clients should seek professional advice to gain an understanding of their tax situation upon death.





## Example

---

When Jacqueline first sat down with Lois and Bernadette a few weeks ago, she asked them “What are the things that are most important to you in life?” Both of them immediately answered, “Gracie and my partner.” When Jacqueline went through the Client Engagement Letter describing each of the areas of financial planning, neither Lois nor Bernadette felt an insurance analysis would be needed as they already had \$100,000 of insurance on each of their lives. Jacqueline congratulated them on having already obtained \$100,000 of coverage. When she followed that by asking them “What lifestyle would you want for your family if you died last night?” Lois and Bernadette looked at each other and agreed they should review their life insurance coverage.

Jacqueline introduced the life insurance needs analysis by going over the information that she needs to conduct her assessment and warned them that she would continue to ask them some questions that would feel quite personal and probing.

### **Final Expenses**

Lois and Bernadette have never had a conversation about their personal funeral arrangements and turn to Jacqueline for guidance. Jacqueline agrees that it is a difficult subject and hard to know when you’re in your 30s exactly what your wishes might be. Jacqueline admits that very few of her clients are able to tell her exactly what they expect their funeral costs to be so she suggests using a lump sum of \$20,000 for each of them.

### **Legal and Executor Fees**

At this time of their lives, Lois and Bernadette have a relatively simple estate that is not complicated by factors such as a family business or blended families. Jacqueline agrees that at this time, their executor should be able to settle the estate with minimal professional assistance. She suggests though they use \$5,000 in the calculation of cash needs upon death in the event the surviving

spouse chooses to use the services of an accountant or lawyer to assist in the settlement of the deceased's estate.

### **Probate Fees (Estate Administration Tax)**

Lois and Bernadette's assets fall below the \$50,000 threshold for estate administration taxes in Ontario. For this reason, Jacqueline suggests calculating their estate administration tax by assuming the maximum would apply. In other words, 0.5% multiplied by \$50,000 or \$250.

### **Mortgage Repayment Fund and Repayment of Other Debt (Consolidation loan, line of credit, etc.)**

Lois and Bernadette bought their townhome when they knew they were expecting Gracie. They recognize that their mortgage represents a sizable debt that would be very difficult to carry on only one of their salaries. Neither Lois nor Bernadette want the other to be forced to sell the townhouse upon her death. Jacqueline inputs the outstanding balance into her spreadsheet. They also ask Jacqueline to add the outstanding balances of their other debts so that there are funds to pay these debts upon either of their deaths.

### **Emergency Fund**

When asked, Lois and Bernadette admit that they do not have an emergency fund. The townhouse is only four years old and they do not expect much to go wrong with it in the near future. Their line of credit was established for this purpose, even though they have since used it to pay off their student loans. Jacqueline suggests that in a low interest environment, this is acceptable however; she warns them of the interest costs that could be incurred should they experience an emergency and have to take several months (or years) to repay the debt. She also warns them to use the line of credit for only emergencies. She suggests that for the purposes of the life insurance needs analysis exercise, they plan for an emergency fund of approximately six months' expenses.

When reviewing the couple's cash flow statement, Jacqueline worked out Lois and Bernadette's current total expenses to be \$7,784 per month. However, debt payments (\$976 per month) should be removed as they will be paid off upon one

of their deaths, leaving \$6,808 of expenses each month. Six months' expenses is therefore \$81,696. While Jacqueline recommends that Lois and Bernadette should have this amount for emergencies, the couple believe it is too high and when asked by Jacqueline what they think is reasonable, they settle on approximately half this amount (\$40,000).

### **Income Tax Liability**

At this time, neither Lois nor Bernadette has any assets that would produce a future tax liability. All their assets are held in joint tenancy with rights of survivorship. There would be tax consequences upon the death of the second spouse or partner. At some time in the future, they may want to consider a permanent life insurance solution when they have acquired more assets.

### **Insurance Needs Analysis for Lois Smith and Bernadette Thompson as of December 31, 20\*\***

<b>Cash Needs Upon Death</b>	<b>Lois</b>	<b>Bernadette</b>
Final Expenses	\$ 20,000	\$ 20,000
Legal and Executor Fees	\$ 5,000	\$ 5,000
Estate Administration Taxes	\$ 250	\$ 250
Mortgage Repayment	\$ 312,358	\$ 312,358
Other Debt Repayment	\$ 39,253	\$ 39,253
Emergency Fund	\$ 40,000	\$ 40,000
Income Tax Liability	\$ -	\$ -
<b>Total Cash Needs Upon Death</b>	<b>\$ 416,861</b>	<b>\$ 416,861</b>

According to the insurance needs analysis, Lois and Bernadette would each need approximately \$417,000 in life insurance to cover the cash needs upon either of the other's deaths.

## *b) Goal funding*

### **Education Fund**

Refer back to your client's goal for funding her children's post-secondary educations. Does she feel the same when contemplating the possibility of an early and untimely death? It is possible that your client, who felt strongly about funding only a portion of her children's post-secondary education, would modify this goal to want to fund 100% of their education costs if she is not alive. You will have to revisit this conversation in the context of a life insurance needs analysis. Use your open-ended questions to probe into your client's wishes for her children's futures.

The education fund could also be used to pay for private elementary and secondary school for children. The surviving spouse or life partner could also set up an education fund to pay for needed or desired career retraining.

### **Retirement Fund**

Refer back to your client's goal for retirement. The death of a spouse should not derail the retirement they had been planning. Discussion with the client to confirm this belief should occur.

### **Charitable Bequests**

In your earlier discussions with your client about her hopes and dreams for her family's future, she may have expressed an interest in a particular charitable organization or educational institution. If not, this is the time to learn if your client has an interest in leaving a legacy.



## Example

### Education Fund

Both Lois and Bernadette feel quite strongly about the life insurance proceeds being adequate enough to fund at least a four-year undergraduate program for Gracie. Recall from the education needs analysis we conducted earlier that a four-year university program is expected to cost \$152,938 in 16 years.

Jacqueline reminds Lois and Bernadette that a life insurance needs analysis is completed using the assumption that the death occurred last night. Even though Lois and Bernadette plan to begin saving more toward Gracie's post-secondary education, they currently have \$1,000 put aside for that purpose. Jacqueline suggests they use \$151,938 (\$152,938 - \$1,000) for the pool of funds required for Gracie's university education.

If either of the couple were to die today, the surviving spouse could invest the proceeds of any insurance proceeds they receive, allowing it to grow until the time Gracie needs it to fund her education. By finding the present value of the \$151,938.43 future cost of education, Jacqueline finds how much they would need in insurance proceeds today to meet this need.

$$P/Y = 1$$

$$C/Y = 1$$

$$N = 16$$

$$I/Y = 4.5\%$$

$$PV = \$0$$

$$PMT = \$0$$

$$FV = \$151,938.43$$

Calculate present value (PV)

$$PV = \$75,128.89$$

## Retirement Fund

When Jacqueline explains that the death of one of the spouses can not only impact the family's current finances, but the surviving spouse's future retirement, Bernadette and Lois look concerned. Jacqueline explains that similar to funding the couple's education goal, insurance can be used to fully fund the surviving spouse's retirement.

To do so, Jacqueline explains that the insurance proceeds received must be enough to cover both the cost of the lost CPP Retirement Pension and OAS Pension benefits and the couple's required contributions.

To determine the insurance proceeds required to cover the lost CPP Retirement Pension and OAS Pension benefits, Jacqueline engages in a two-part calculation. She first determines the present value (at age 65) of the total pension benefits after-tax that the couple will have to replace and then finds the present value of that amount to determine how much insurance would be needed today to replace that lost income.

$$P/Y = 12$$

$$C/Y = 1$$

$$N = (97 - 65) \times 12 = 384$$

$$I/Y = 2.1\%$$

$$PMT = (\$1,155 + \$601)(1 - 0.30) = \$1,229$$

$$FV = \$0$$

Calculate present value (PV)

$$PV = \$344,404.75$$

$$P/Y = 12$$

$$C/Y = 1$$

$$N = 33 \times 12$$

$$I/Y = 6\%$$

$$PMT = \$0$$

$$FV = \$344,404.75$$

Calculate present value (PV)

$$PV = \$50,347.23$$

To determine the insurance required to fund Lois and Bernadette's retirement contributions, Jacqueline returns to the couple's retirement calculations and finds that they were responsible for saving \$1,474,599.03 in assets by the time they were 65. Because the couple has already saved \$40,512 in assets towards this goal, the insurance proceeds would have to fund the difference of \$1,434,087.03.<sup>19</sup> Jacqueline calculates the present value of \$1,474,599.03. She then determines the difference between the present value of \$1,474,599.03 and the current value of the couple's existing RRSP portfolio. This figure represents how much of the insurance proceeds would need to be invested today to fund this portion of the couple's retirement goal.

**Insurance Needs Analysis  
for Lois Smith and Bernadette Thompson  
as of December 31, 20\*\***

<b>Goal Funding Needs Upon Death</b>	<b>Lois</b>	<b>Bernadette</b>
Education Fund	\$ 75,129	\$ 75,129
Retirement Fund	\$ 225,401	\$ 225,401
Legacy Bequest	\$ 10,000	\$ 10,000
<b>Total Goal Funding Needs Upon Death</b>	<b>\$ 310,530</b>	<b>\$ 310,530</b>

<sup>19</sup> The death of one spouse would likely alter the tax rate of the surviving spouse in retirement given that their income would not be withdrawn fully from their assets, without the opportunity to split income and remain in a lower tax bracket. While this fact is not accounted for in this analysis, it does provide an appropriate estimate of the insurance required to fund the surviving spouse's retirement. If and when the insurance was received, proper tax planning (such as contributing to RRSPs, TFSA's and investing in tax-efficient investments outside of registered plans) should be completed.

$$P/Y = 1$$

$$C/Y = 1$$

$$N = 33$$

$$I/Y = 6\%$$

$$PMT = \$0$$

$$FV = \$1,474,599.06$$

Calculate present value (PV)

$$PV = \$215,566.07$$

The gap between the present value, calculated above, and the current value of the couple's RRSP portfolio is \$175,054 (\$215,566 - \$40,512). When combined with the present value of the lost CPP Retirement Pension and OAS Pension benefits, Jacqueline determines that the couple would need \$225,401 (\$175,054 + \$50,347.23) to fully fund their retirement upon either of their deaths.

### **Charitable Bequests**

When Gracie was only 10 months old, she became very ill with a rare infection. Lois and Bernadette rushed her to the local children's hospital where they spent the next two weeks. They were very impressed with the care that Gracie received and the expertise of the team that made a quick and accurate diagnosis. They both agree that they each want to leave \$10,000 to the local children's hospital upon their deaths

According to the insurance needs analysis, Lois and Bernadette would each need approximately \$345,000 in life insurance to fund their goals upon either of the other's deaths.

### ***c) Income needs after death***

After you've helped your client determine how much her family will need to cover the immediate expenses upon her death, you must now examine how much money her survivors will need to cover their lifestyle expenses going forward. Upon the death of your client, her family has lost the annual income she would have brought home from her employment.



Assuming that all your client's immediate cash needs at death are paid or funded, there are still ongoing expenses that must be paid. These items are generally found on the cash flow statement as expenses since these expenses must still be paid by the surviving spouse.

To determine how much these expenses might total, you can take your client through a similar exercise we completed earlier where we estimated the lifestyle expenses at retirement. Here, you will exclude regular expenses associated with those items for which a fund will be set up on death of the client (such as mortgage and debt repayment, post-secondary education savings, and retirement funding) as well as any expenses that will no longer be payable upon the death of the non-surviving spouse. You will add in other expenses that may commence or increase because of the death of one of the spouse (such as childcare, the need for a car, etc.).



## Example

Jacqueline asks Lois and Bernadette if they have thought about the lifestyle they would desire for each other in the event of premature death. Neither Lois nor Bernadette have any idea where to start. They are not alone as most clients will not know because they aren't likely to have given this much thought before. Jacqueline reminds them of the exercise they went through when they were estimating how much retirement income they would need when they retired from work. If they complete a similar exercise to understand the income required by the surviving spouse and children, some expenses will increase (e.g. childcare and children's activities), others might decrease (e.g. food, clothing), while some will remain the same (e.g. heating costs for the home), while others still will be eliminated (e.g. mortgage payments).

Jacqueline explains that she will remove from the surviving spouse's expenses those items for which a pool of funds will be generated when the insurance proceeds are paid out. At the same time, she will add expenses that were either not considered in the retirement scenario or those they expect they will incur upon one of their deaths. When asked about each of the expenses, Lois and Bernadette determine that any joint expenses will continue as they are now,

while any individual expenses will be eliminated. In addition, the couple have decided that \$1,000 per month should be included to cover the cost of obtaining and operating a car (including insurance, gas and maintenance) in the event one of them should die prematurely. For the purposes of the insurance needs analysis, Jacqueline has assumed that there will either always be a car payment or savings for a car.

Based on these assumptions, Jacqueline completes an analysis of the monthly expenses that Lois and Bernadette will face in the event of the other's premature death (Please see the cash outflows section for each of their monthly cash flow statements that are contained in the following pages.).

A key question in this step is whether the client's surviving spouse will return to work upon the death of their spouse. Moreover, if he or she does decide to continue to work, when she return to work (e.g. one week, one month, three months, six months, one year, or more) and when they do return, will they work part- or full-time? There are possible decreases and increases in expenses associated with this decision such as higher childcare, transportation and car maintenance costs.



## Example

---

Jacqueline gives Lois and Bernadette a few minutes to discuss their plans for returning to work after the other's death. After a lengthy discussion, the couple inform Jacqueline that they will both return to work in the same capacity as they had been working before the other's death.

If both Lois and Bernadette plan to continue working as they were doing so previously, then the insurance proceeds required will be equal to the difference between the surviving spouse's after-tax income and the expenses they will face.

Jacqueline notes Lois and Bernadette's wishes and determines that Lois will face a monthly deficit of \$988 upon Bernadette's death, while Bernadette will face a monthly deficit of \$799 upon Lois' death. (Please see each of their monthly cash flow statements that are contained in the following pages).

**Monthly Cash Flow  
for Lois Smith  
Upon Death of Bernadette Thompson**

**Cash Inflows**

	Lois	Bernadette	Combined
Gross Income	\$ 6,000		\$ 6,000
Income Taxes (Installments)	\$ 1,215		\$ 1,215
CPP and EI	\$ 530		\$ 530
<b>Net Income</b>	<b>\$ 4,255</b>	<b>\$ -</b>	<b>\$ 4,255</b>

	Lois	Bernadette	Total
<b>Fixed Expenses</b>			
Home Expenses			
Mortgage	\$ -	\$ -	\$ -
Property Taxes	\$ 174	\$ -	\$ 174
Condo Fees	\$ 210	\$ -	\$ 210
Insurance	\$ 192	\$ -	\$ 192
Utilities (heat, hydro, water, gas)	\$ 250	\$ -	\$ 250
Food and Personal Items	\$ 800	\$ -	\$ 800
Childcare Expenses	\$ 1,084	\$ -	\$ 1,084
Insurance Expenses			
Life Insurance	\$ 50	\$ -	\$ 50
Health Insurance	\$ 100	\$ -	\$ 100
Communications Expenses (Cell phone, internet)	\$ 183	\$ -	\$ 183
Automobile Expenses	\$ 1,000	\$ -	\$ 1,000
Pet Expenses	\$ 100	\$ -	\$ 100
<b>Total Fixed Expenses</b>	<b>\$ 4,143</b>	<b>\$ -</b>	<b>\$ 4,143</b>

<b>Debt Payments</b>			
Credit Card	\$ -	\$ -	\$ -
Line of Credit	\$ -	\$ -	\$ -
<b>Total Debt Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

<b>Discretionary Expenses</b>			
Entertainment (Alcohol, Eating Out, Activities)	\$ 500	\$ -	\$ 500
Gifts	\$ 300	\$ -	\$ 300
Vacation	\$ 300	\$ -	\$ 300
<b>Total Discretionary Expenses</b>	<b>\$ 1,100</b>	<b>\$ -</b>	<b>\$ 1,100</b>

<b>Total Expenses</b>	<b>\$ 5,243</b>	<b>\$ -</b>	<b>\$ 5,243</b>
-----------------------	-----------------	-------------	-----------------

<b>Surplus/(Deficit)</b>	<b>\$ (988)</b>	<b>\$ -</b>	<b>\$ (988)</b>
--------------------------	-----------------	-------------	-----------------

## Monthly Cash Flow for Bernadette Thompson Upon Death of Lois Smith

### Cash Inflows

	Lois	Bernadette	Combined
Gross Income		\$ 6,500	\$ 6,500
Income Taxes (Installments)		\$ 1,365	\$ 1,365
CPP and EI		\$ 530	\$ 530
<b>Net Income</b>	<b>\$ -</b>	<b>\$ 4,605</b>	<b>\$ 4,605</b>

### Cash Outflows

	Lois	Bernadette	Total
<b>Fixed Expenses</b>			
Home Expenses			
Mortgage	\$ -		\$ -
Property Taxes	\$ -	\$ 174	\$ 174
Condo Fees	\$ -	\$ 210	\$ 210
Insurance	\$ -	\$ 192	\$ 192
Utilities (heat, hydro, water, gas)	\$ -	\$ 250	\$ 250
Food and Personal Items	\$ -	\$ 800	\$ 800
Childcare Expenses	\$ -	\$ 1,084	\$ 1,084
Insurance Expenses			
Life Insurance	\$ -	\$ 50	\$ 50
Health Insurance	\$ -	\$ 100	\$ 100
Communications Expenses (Cell phone, internet)	\$ -	\$ 144	\$ 144
Automobile Expenses	\$ -	\$ 1,000	\$ 1,000
Transit Pass	\$ -	\$ 200	\$ 200
Pet Expenses	\$ -	\$ 100	\$ 100
<b>Total Fixed Expenses</b>	<b>\$ -</b>	<b>\$ 4,304</b>	<b>\$ 4,304</b>
<b>Debt Payments</b>			
Credit Card	\$ -	\$ -	\$ -
Line of Credit	\$ -	\$ -	\$ -
<b>Total Debt Expenses</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>
<b>Discretionary Expenses</b>			
Entertainment (Alcohol, Eating Out, Activities)		\$ 500	\$ 500
Gifts		\$ 300	\$ 300
Vacation		\$ 300	\$ 300
<b>Total Discretionary Expenses</b>	<b>\$ -</b>	<b>\$ 1,100</b>	<b>\$ 1,100</b>
<b>Total Expenses</b>	<b>\$ -</b>	<b>\$ 5,404</b>	<b>\$ 5,404</b>
<b>Surplus/(Deficit)</b>	<b>\$ -</b>	<b>\$ (799)</b>	<b>\$ (799)</b>

In order to complete the calculation for your client's family income needs after death, assumptions about the net investment rate of return and the rate of inflation must be made. The net investment rate of return, the rate at which the insurance proceeds will grow, depends on how the funds are invested and is linked with the investor's time horizon for the money and her comfort level with investment risk. The assumption for the long term inflation rate should also be reviewed and confirmed.



## Example

Jacqueline reminds Lois and Bernadette that once again they need to use some assumptions for the long-term rate of inflation and the growth rate on the insurance proceeds in order to estimate the amount of insurance that will be required to fund the surviving family members' lifestyle. Jacqueline suggests that they use the same inflation rate (2.1%) and rate of return (6%) that they did for the retirement projections. Lois and Bernadette agree that that is reasonable.

If Bernadette were to die today, Lois would face a shortfall of \$988 per month until she retires at age 65. Lois could invest any insurance proceeds she receives, allowing it to grow and fund her monthly deficit. By finding the present value of the \$988 monthly deficit that Lois needs at the beginning of each month, Jacqueline determines how much Lois would need in insurance proceeds today to meet this need.

Mode= BEG

P/Y = 12

C/Y = 1

$N = (65 - 32)(12) = 396$

$I/Y = RRR = [(1 + 0.06) / (1 + 0.21) - 1] \times 100 = 3.82\%$

PMT = \$-988

FV = \$0

Calculate present value (PV)

PV = \$224,824.27

If Lois were to die today, Bernadette would face a shortfall of \$799 per month until she retires at age 65. Bernadette could invest any insurance proceeds she receives, allowing it to grow and fund her monthly deficit. By finding the present value of the \$799 monthly deficit that Bernadette needs at the beginning of each month, Jacqueline determines how much Bernadette would need in insurance proceeds today to meet this need.

Mode= BEG

P/Y = 12

C/Y = 1

$N = (65 - 32)(12) = 396$

$I/Y = RRR = [(1 + 0.06) / (1 + 0.21) - 1] \times 100 = 3.82\%$

PMT = \$-799

FV = \$0

Calculate present value (PV)

PV = \$181,816.39

When we combine all of the capital needs upon death, including the cash needs, goal funding needs and income replacement needs, we can determine how much capital a client needs if she were to die.



## Example

As you can see in the insurance needs analysis (shown below), Bernadette would require \$943,798 to take care of the family's needs upon Lois' death, while Lois would need \$986,806 to take care of the family's needs upon Bernadette's death.

**Insurance Needs Analysis  
for Lois Smith and Bernadette Thompson  
as of December 31, 20\*\***

<b>Cash Needs Upon Death</b>	<b>Lois</b>	<b>Bernadette</b>
Final Expenses	\$ 20,000	\$ 20,000
Legal and Executor Fees	\$ 5,000	\$ 5,000
Estate Administration Taxes	\$ 250	\$ 250
Mortgage Repayment	\$ 312,358	\$ 312,358
Other Debt Repayment	\$ 39,253	\$ 39,253
Emergency Fund	\$ 40,000	\$ 40,000
Income Tax Liability	\$ -	\$ -
<b>Total Cash Needs Upon Death</b>	<b>\$ 416,861</b>	<b>\$ 416,861</b>

<b>Goal Funding Needs Upon Death</b>	<b>Lois</b>	<b>Bernadette</b>
Education Fund	\$ 75,129	\$ 75,129
Retirement Fund	\$ 225,401	\$ 225,401
Legacy Bequest	\$ 10,000	\$ 10,000
<b>Total Goal Funding Needs Upon Death</b>	<b>\$ 310,530</b>	<b>\$ 310,530</b>

<b>Income Replacement Upon Death</b>	<b>Lois</b>	<b>Bernadette</b>
Income to Be Replaced	\$ 181,817	\$ 224,825
<b>Total Income Replacement Needed Upon Death</b>	<b>\$ 181,817</b>	<b>\$ 224,825</b>

<b>Total Capital Needs Upon Death</b>	<b>\$ 909,208</b>	<b>\$ 952,216</b>
---------------------------------------	-------------------	-------------------

The calculations completed so far provide your client with an idea of how much money she will need upon death to fund last expense and survivor lifestyle costs in the future.

### ***Assets Available Upon Death***

The next step is to identify all of the assets that would be available upon death to meet your client's estate needs. This should only include those assets that are already in the form of cash or cash equivalents, or that the family is willing to sell to meet those estate needs. Possible sources of funds include bank accounts, non-registered investments (guaranteed investment certificates, stocks, bonds, mutual funds, exchange-traded funds, etc.), TFSAs (if not earmarked for retirement), and the Canada Pension Plan Death Benefit.



You will have noticed that the family home is not included in this list. It is assumed that the surviving family members would continue to live in their home after the death of a parent. This won't always be true and it is best to ask your client about her preference. However, other real estate could be included here such as a family cottage (again, the preference will likely be that the surviving family members will continue to use it), rental properties, assets used to run the deceased's business, etc. You will also have noticed that RRSPs are not included in the list. Another assumption often used in a life insurance needs analysis is that the survivor will leave his or her partner's RRSP for retirement purposes.



## Example

Jacqueline worked with Lois and Bernadette to identify the assets that would be available to the surviving family. They both feel strongly that their RRSPs should be left to the survivor (as indicated by beneficiary designations) to fund retirement. As well, neither Lois nor Bernadette wants her partner to be forced to sell the family home upon her death. The assets that remain to fund their estate needs include their chequing account balance (\$3,412) and the Canada Pension Plan (CPP) Death Benefit (up to \$2,500).<sup>20</sup>

### Insurance Needs Analysis for Lois Smith and Bernadette Thompson as of December 31, 20\*\*

#### Assets Available for Estate Needs

Chequing Account	\$ 3,412	\$ 3,412
Savings Account	\$ 1,000	\$ 1,000
Canada Pension Plan Death Benefit	\$ 2,500	\$ 2,500
<b>Total Assets Available for Estate Needs</b>	<b>\$ 4,412</b>	<b>\$ 4,412</b>

<sup>20</sup> The Canada Pension Plan Death Benefit provides the estate of the deceased contributor with up to \$2,500. While the amount is dependent upon the contributions made by the deceased individual, \$2,500 is used given its small amount.

## Existing Insurance

The final part of your life insurance needs analysis should summarize your client's existing life insurance coverage. Your summary should include all life insurance policies including those offered as part of your client's group benefits. Make note of the term of the insurance contract, premiums, renewability and convertibility and, for permanent insurance, the cash surrender value and adjusted cost basis (ACB).



### Example

Both Lois and Bernadette have individual \$100,000 10-year term life insurance policies that name each other as beneficiary. Each policy is renewable and convertible until age 70. They each pay \$48.50 per month in premiums. The policies renew in eight years when Gracie turns ten. Neither has any group life insurance through their employers.

Jacqueline incorporates Lois' and Bernadette's existing life insurance into her analysis.

#### **Insurance Needs Analysis for Lois Smith and Bernadette Thompson as of December 31, 20\*\***

##### **Existing Life Insurance**

T-10 Life Insurance Policy	\$ 100,000	\$ 100,000
<b>Total Existing Life Insurance</b>	<b>\$ 100,000</b>	<b>\$ 100,000</b>

To complete your analysis, you are going to compare the total capital needs at death with the available assets and existing life insurance to cover those needs. The insurance needs analysis (shown on the next page) presents the numbers used in the insurance needs calculation:

## **Insurance Needed = Total Capital Needs Upon Death – Available Assets – Existing Life Insurance**

If the resulting number is positive, then based on the assumptions made in the analysis, your client needs to increase the amount of insurance coverage on her life. If the number is negative, then she may be over-insured and is likely able to reduce the amount of life insurance coverage.



### **Example**

---

Jacqueline now has enough information to estimate – based on the information provided and the assumptions they have made – Lois and Bernadette's life insurance needs.

Based on the complete life insurance needs analysis (shown on the next page), Lois needs an additional \$805,000 in life insurance and Bernadette needs an additional \$850,000 in life insurance.

Jacqueline explains to Lois and Bernadette that when the time comes to fill in a life insurance application, they will apply for these amounts and not the exact amounts shown on the life insurance analysis because life insurance tends to be purchased in multiples of \$5,000.

**Insurance Needs Analysis**  
**for Lois Smith and Bernadette Thompson**  
**as of December 31, 20\*\***

<b>Cash Needs Upon Death</b>	<b>Lois</b>	<b>Bernadette</b>
Final Expenses	\$ 20,000	\$ 20,000
Legal and Executor Fees	\$ 5,000	\$ 5,000
Estate Administration Taxes	\$ 250	\$ 250
Mortgage Repayment	\$ 312,358	\$ 312,358
Other Debt Repayment	\$ 39,253	\$ 39,253
Emergency Fund	\$ 40,000	\$ 40,000
Income Tax Liability	\$ -	\$ -
<b>Total Cash Needs Upon Death</b>	<b>\$ 416,861</b>	<b>\$ 416,861</b>
<b>Goal Funding Needs Upon Death</b>	<b>Lois</b>	<b>Bernadette</b>
Education Fund	\$ 75,129	\$ 75,129
Retirement Fund	\$ 225,401	\$ 225,401
Legacy Bequest	\$ 10,000	\$ 10,000
<b>Total Goal Funding Needs Upon Death</b>	<b>\$ 310,530</b>	<b>\$ 310,530</b>
<b>Income Replacement Upon Death</b>	<b>Lois</b>	<b>Bernadette</b>
Income to Be Replaced	\$ 181,817	\$ 224,825
<b>Total Income Replacement Needed Upon Death</b>	<b>\$ 181,817</b>	<b>\$ 224,825</b>
<b>Total Capital Needs Upon Death</b>	<b>\$ 909,208</b>	<b>\$ 952,216</b>
<b>Assets Available for Estate Needs</b>		
Chequing Account	\$ 3,412	\$ 3,412
Savings Account	\$ 1,000	\$ 1,000
Canada Pension Plan Death Benefit	\$ 2,500	\$ 2,500
<b>Total Assets Available for Estate Needs</b>	<b>\$ 4,412</b>	<b>\$ 4,412</b>
<b>Existing Life Insurance</b>		
T-10 Life Insurance Policy	\$ 100,000	\$ 100,000
<b>Total Existing Life Insurance</b>	<b>\$ 100,000</b>	<b>\$ 100,000</b>
<b>Total Proceeds Available Upon Death</b>	<b>\$ 104,412</b>	<b>\$ 104,412</b>
<b>Total Insurance Needed</b>	<b>\$ 804,796</b>	<b>\$ 847,804</b>

As part of her research, Jacqueline has discovered that Lois and Bernadette can purchase the following life insurance policies:<sup>21</sup>

Type	Term	Annual Cost/\$1,000
Single	T-20	\$0.53
Single	T-30	\$0.97
Joint, First-to-Die	T-20	\$0.95
Joint, First-To-Die	T-30	\$1.78

Based on Jacqueline’s calculations, the highest cost that Lois and Bernadette will face to fully insure their lives is \$140 per month, based on obtaining single T-30 policies for Lois and Bernadette.<sup>22</sup>

$$(\$805,000 + \$850,000)/\$1,000 \times \$0.97 / 12 \text{ months} = \$133.78$$

When viewed in isolation and compared against the cash flow statement where Bernadette and Lois have a monthly surplus of \$1,076, this goal is likely achievable given they can afford to spend the \$140 per month required to fund their goal.

---

<sup>21</sup> Insurance quotes calculated using [www.kanetix.ca](http://www.kanetix.ca)

<sup>22</sup> The maximum cost is used as a conservative estimate given that this is the analysis stage. The actual cost will be based on the insurance chosen after all of the options have been weighed and presented to the client.

# Putting It All Together

Financial planning is an iterative process that requires an advisor to work in a non-linear fashion. As you may have noticed, the analysis we have completed has been focused on determining if the client has gaps in funding her goals, and where this is the case, the amount of money required every month to close these gaps.

Through this analysis, we come back full circle to the client's cash flow statement. By inputting each of the monthly cash outflows required to fund the client's goal, we can determine if she can afford to fund her goals fully.



## Example

Jacqueline inputs the monthly savings that Lois and Bernadette will need to direct toward their goals to fully fund them, including:

\$501 to fund Gracie's education

\$998 to fund their retirement

\$134 to pay for their life insurance

When these cash flows are added to Lois and Bernadette's cash flow statement (shown on the next page), it becomes clear that they will be unable to fund their goals given their current cash flow. Achieving these goals will require them to run a monthly deficit of \$563, which over 33 years would require them to go into debt by \$229,948 ( $\$563 \times 12 \text{ months per year} \times 33 \text{ years}$ ). This is not feasible over the long term.

**Monthly Cash Flow**  
**for Lois Smith and Bernadette Thompson**  
**as of December 31, 20\*\***

**Cash Inflows**

	Lois	Bernadette	Combined
Gross Income	\$ 6,000	\$ 6,500	\$ 12,500
Income Taxes (Installments)	\$ 1,215	\$ 1,365	\$ 2,580
CPP and EI	\$ 530	\$ 530	\$ 1,060
<b>Net Income</b>	<b>\$ 4,255</b>	<b>\$ 4,605</b>	<b>\$ 8,860</b>

**Cash Outflows**

**Fixed Expenses**

**Home Expenses**

Mortgage	\$ 842	\$ 842	\$ 1,684
Property Taxes	\$ 87	\$ 87	\$ 174
Condo Fees	\$ 105	\$ 105	\$ 210
Insurance	\$ 96	\$ 96	\$ 192
Utilities (heat, hydro, water, gas)	\$ 125	\$ 125	\$ 250
Food and Personal Items	\$ 400	\$ 400	\$ 800
Childcare Expenses	\$ 542	\$ 542	\$ 1,084

**Insurance Expenses**

Life Insurance	\$ 50	\$ 50	\$ 100
Health Insurance	\$ 100	\$ 100	\$ 200

**Communications Expenses (Cell phone, internet)**

\$ 183	\$ 144	\$ 327
--------	--------	--------

**Transportation Expenses**

Automobile Insurance	\$ 102	\$ -	\$ 102
Automobile Maintenance	\$ 120	\$ -	\$ 120
Transit Pass		\$ 200	\$ 200
Automobile Gas	\$ 165	\$ -	\$ 165

Pet Expenses	\$ 50	\$ 50	\$ 100
--------------	-------	-------	--------

<b>Total Fixed Expenses</b>	<b>\$ 2,967</b>	<b>\$ 2,741</b>	<b>\$ 5,708</b>
-----------------------------	-----------------	-----------------	-----------------

**Debt Payments**

Credit Card	\$ 175	\$ 129	\$ 304
Line of Credit	\$ 336	\$ 336	\$ 672

<b>Total Debt Expenses</b>	<b>\$ 511</b>	<b>\$ 465</b>	<b>\$ 976</b>
----------------------------	---------------	---------------	---------------

**Discretionary Expenses**

Entertainment (Alcohol, Eating Out, Activities)	\$ 300	\$ 200	\$ 500
Gifts	\$ 150	\$ 150	\$ 300
Vacation	\$ 150	\$ 150	\$ 300
<b>Total Discretionary Expenses</b>	<b>\$ 600</b>	<b>\$ 500</b>	<b>\$ 1,100</b>
<b>Total Expenses</b>	<b>\$ 4,078</b>	<b>\$ 3,706</b>	<b>\$ 7,784</b>
<b>Surplus/(Deficit)</b>	<b>\$ 177</b>	<b>\$ 899</b>	<b>\$ 1,076</b>
<b>Goal Funding</b>			
Education			\$ 501
Retirement			\$ 998
Insurance			\$ 134
<b>Total Cash Flow Required to Fund Goals</b>			<b>\$ 1,633</b>
<b>Net Cash Flow</b>			<b>\$ (557)</b>



# Debt Reduction

Clients may be proactive in dealing with their debt by seeking out support to reduce the amounts they owe. Many clients may approach you with outstanding balances on one or more consumer debts (such as a credit card, car loan, line of credit, or student debt) and ask for help. The catalyst for seeking out this type of help may include the client:

- Having trouble accessing more credit (for instance, a mortgage application)
- Experiencing cash flow problems with difficulty making payments on one or more credit facilities
- Feeling stressed or anxious about carrying the debt

Your client might have already considered her goal of debt reduction and be able to express it using language such as “I want to be debt free as soon as possible” or “I want to halve my debt in 3 years.”

In many instances however, the client may not realize that there are more efficient opportunities to reduce her debt load and never seek out help for this issue. In these instances, an advisor can add great value by identifying this need and potential opportunities to help the client retire her debt faster.

In other instances, the cash flow being directed to debt payments may be the roadblock that is preventing a client from achieving her goals. In these instances, the advisor’s identification of this issue and analysis can mean the difference between a client achieving and not achieving her goals.

## What information do you need to collect from your client?

- Bank statements
- Payroll information
- Tax returns and / or Notice of Assessments for last five years (for self-employed clients)
- Statements from loan, mortgage, credit card companies indicating outstanding balance, interest rate, minimum payment, regular (monthly, bi-weekly) payment amount
- Investment statements, including registered (RRSPs, TFSAs, pensions, RESPs, etc.) and non-registered investments
- Approximate market values of any real estate owned by the client

## What financial planning analysis tools will you use?

Net worth statement, cash flow statement.

## What analysis does the advisor perform?

With this analysis, you will be performing time value of money calculations. Please see TK Module 4 for a refresher on time value of money concepts and calculations. If you have financial planning software, these calculations take place behind the scenes, however, it is necessary to understand how to make these calculations so that you use realistic inputs for the software and can determine if the output provided by the software is reasonable. Here are the inputs required to perform the analysis:

### **Current outstanding balances of debts**

The outstanding balances on debts, including loans, lines of credit, credit cards and other debts.

**Payment amounts**

The minimum monthly payment amount paid towards a debt.

**Interest rate**

The interest rate on your client's debt.

**Number of years**

The period of time between now and when your client's debt will be paid off.

**Future outstanding balance of debts**

The future outstanding balance of debt. This is generally zero to signify full repayment of debt, however could be a percentage of the client's current debt if they have a goal of paying off a specific portion of their debt load.

***(i) How much cash flow can your client free up through a credit consolidation?***

The calculation that you will perform will be to determine the payment of a loan that your client uses to consolidate and payout her existing debts.



## Example

---

From the net worth statement that Jacqueline created for Lois and Bernadette, she identifies that the couple owe a total of \$39,253 in credit card and line of credit debt.

Jacqueline also identifies that financial institutions are currently offering five-year consolidation loans at an interest rate of 7%.

If the couple consolidate their debts by applying for a new loan of \$39,253 and use the proceeds to pay out their existing debts, then their new monthly payment for their debt will be \$778.

$$P/Y = 12$$

$$C/Y = 12$$

$$PV = \$39,253$$

$$N = 5 \times 12 = 60$$

$$I/Y = 7\%$$

$$FV = \$0$$

Calculate present value (PV).

$$PV = \$778$$

Replacing the couple's line of credit and credit card payments with the new loan payment on a revised cash flow statement (shown on the next page) showcases that the couple can reduce their monthly cash deficit by \$198.

**Revised Monthly Cash Flow  
for Lois Smith and Bernadette Thompson  
as of December 31, 20\*\***

**Cash Inflows**

	Lois	Bernadette	Combined
Gross Income	\$ 6,000	\$ 6,500	\$ 12,500
Income Taxes (Installments)	\$ 1,215	\$ 1,365	\$ 2,580
CPP and EI	\$ 530	\$ 530	\$ 1,060
<b>Net Income</b>	<b>\$ 4,255</b>	<b>\$ 4,605</b>	<b>\$ 8,860</b>

**Cash Outflows**

**Fixed Expenses**

**Home Expenses**

Mortgage	\$ 842	\$ 842	\$ 1,684
Property Taxes	\$ 87	\$ 87	\$ 174
Condo Fees	\$ 105	\$ 105	\$ 210
Insurance	\$ 96	\$ 96	\$ 192
Utilities (heat, hydro, water, gas)	\$ 125	\$ 125	\$ 250
Food and Personal Items	\$ 400	\$ 400	\$ 800
Childcare Expenses	\$ 542	\$ 542	\$ 1,084
<b>Insurance Expenses</b>			
Life Insurance	\$ 50	\$ 50	\$ 100
Health Insurance	\$ 100	\$ 100	\$ 200
<b>Communications Expenses (Cell phone, internet)</b>	<b>\$ 183</b>	<b>\$ 144</b>	<b>\$ 327</b>
<b>Transportation Expenses</b>			
Automobile Insurance	\$ 102	\$ -	\$ 102
Automobile Maintenance	\$ 120	\$ -	\$ 120
Transit Pass		\$ 200	\$ 200
Automobile Gas	\$ 165	\$ -	\$ 165
Pet Expenses	\$ 50	\$ 50	\$ 100
<b>Total Fixed Expenses</b>	<b>\$ 2,967</b>	<b>\$ 2,741</b>	<b>\$ 5,708</b>

**Debt Payments**

Loan	\$ 389	\$ 389	\$ 778
<b>Total Debt Expenses</b>	<b>\$ 389</b>	<b>\$ 389</b>	<b>\$ 778</b>

**Discretionary Expenses**

Entertainment (Alcohol, Eating Out, Activities)	\$ 300	\$ 200	\$ 500
-------------------------------------------------	--------	--------	--------

Gifts	\$ 150	\$ 150	\$ 300
Vacation	\$ 150	\$ 150	\$ 300
<b>Total Discretionary Expenses</b>	<b>\$ 600</b>	<b>\$ 500</b>	<b>\$ 1,100</b>

<b>Total Expenses</b>	<b>\$ 3,956</b>	<b>\$ 3,630</b>	<b>\$ 7,586</b>
-----------------------	-----------------	-----------------	-----------------

<b>Surplus/(Deficit)</b>	<b>\$ 299</b>	<b>\$ 975</b>	<b>\$ 1,274</b>
--------------------------	---------------	---------------	-----------------

**Goal Funding**

Education	\$ 501
Retirement	\$ 998
Insurance	\$ 134
<b>Total Cash Flow Required to Fund Goals</b>	<b>\$ 1,633</b>

<b>Net Cash Flow</b>	<b>\$ (359)</b>
----------------------	-----------------

# Reviewing the Options

Recall that financial planning is an iterative process that requires an advisor to work in a non-linear fashion, sometimes returning to parts of their analysis already completed to determine what impact any changes may have on the client's ability to meet their goals.

In cases where a client's cash flow does not support the full funding of their goals, the client may have to make decisions about their priorities and choose between the alternatives, including altering their goal or increasing the time until they reach their goal.

Prior to requiring the client to make such choices, an advisor should look for ways that the client may be able to achieve their goals within the constraint of their cash flow. One such way is to review how the client's cash flow may change over time. For instance, will they receive increases in income larger than the cost of inflation, providing them with more money to save towards their goals? Are there expenses that can be reduced or will be eliminated in the future, such as debt payments? All options should be explored before providing a client with the recommended actions.



## Example

Jacqueline reviews the cash flow requirements to meet the couple's goals to see if there is a way that she can eliminate the monthly deficit while still helping the clients fund their goals.

She considers the education goal first. If she reduced the couple's savings towards this goal, she could reduce some of their cash flow deficit, however it would result in Lois and Bernadette funding only a portion of Gracie's education, and not the full amount as they hope to do. Even if this goal was to be eliminated, the cash flow deficit could not be eliminated. Plus, the couple would lose out on valuable grant monies provided through CESGs.

Next, Jacqueline considers the insurance protection she would recommend to the couple. Again, reducing or eliminating the coverage would not impact the couple's cash flow enough to eliminate their cash flow deficit. Furthermore, it would put them in dire straits if one of them were to die prematurely, potentially causing the surviving family members to have to move from their own and face financial disparity.

Finally, Jacqueline reviews the couple's retirement funding needs. With a monthly cash flow of almost \$1,000 required to meet this goal, reducing the savings towards it could eliminate the couple's cash flow deficit, allowing them to fund both the education goal and insurance needs they have, with a modified retirement goal.

Jacqueline decides to hone in further on the client's cash flow to determine what, if any, cash flows can be reduced or eliminated. The debt consolidation that she analyzed early will be fully paid in five years. This will free up \$778 per month in cash flow, which would more than cover the couple's cash flow deficit. She decides to run one more analysis to see if the couple reduces their retirement funding by \$563 for the next five years (to eliminate their cash flow deficit), will they be able to meet their retirement goal if they can then increase their savings towards that goal by \$778 when their debt has been paid off.

Jacqueline calculates that a reduction of \$563 will mean that the couple will contribute \$435 per month towards their retirement goal for the next five years. After five years, the couple will likely have \$84,440.51 in retirement savings.

$$P/Y = 12$$

$$C/Y = 1$$

$$PV = - \$40,512$$

$$PMT = - \$435$$

$$N = 5 \times 12 = 60$$

$$I/Y = 6\%$$

Calculate future value (FV).

$$FV = \$84,440.51$$

Jacqueline then determines that if the couple begins to redirect their debt payments of \$778 per month toward their retirement goal in five years, they will be contributing \$1,213 per month to their retirement savings. If they do this, they could expect to accumulate \$1,456,271.16 by their retirement. This falls slightly short of the funds required (\$1,474,599.06) to fully fund Lois and Bernadette's retirement. To fully fund their goal, they could save another \$21.70 per month starting in five years. Lois and Bernadette might find this easily achievable if they



receive pay increases or look to reduce their expenses. Such options should be presented to them.

$$P/Y = 12$$

$$C/Y = 1$$

$$PV = - \$84,440.51$$

$$PMT = - \$1,213$$

$$N = (33 - 5) \times 12 = 336$$

$$I/Y = 6\%$$

Calculate future value (FV).

$$FV = \$1,456,271.16$$

To fully fund their goal, they could save another \$21.70 per month starting in five years. Lois and Bernadette might find this easily achievable if they receive pay increases or look to reduce their expenses. Such options should be presented to them.

$$P/Y = 12$$

$$C/Y = 1$$

$$PV = - \$84,440.51$$

$$FV = \$1,456,271.16$$

$$N = (33 - 5) \times 12 = 336$$

$$I/Y = 6\%$$

Calculate payment (PMT).

$$PMT = - \$1,234.70$$

$$\$1,234.70 - \$1,213 = \$21.70$$

# Summary

In this module, we explored how to conduct an in-depth needs analysis for four common financial goals: debt reduction, education savings, retirement savings and life insurance. In each of these areas, you learned a consistent process or framework by which to gather relevant information from clients; identify which financial planning analysis tools to use; as well as practical formulas and tactics to conduct the analysis. We explored how to use quantitative and qualitative techniques to collect this information and probe for client needs, goals and objectives and identify opportunities. Ultimately, we used analysis to help reveal the gap between where a client is today and what she needs to do to achieve her goals. Ultimately, we saw how needs analysis can give rise to meaningful solutions through the examination of real-life scenarios.

You should now be able to:

- Construct a net worth and cash flow statement for a client
- Conduct a thorough needs analysis for four common financial planning goals, including:
  - Debt reduction
  - Saving for education
  - Saving for retirement
  - Protecting one's family using life insurance
- Identify gaps between a client's current situation and their goals
- Identify potential solutions to improve a client's financial situation and help them progress towards their goals
- Give full and adequate disclosure of all assumptions made in the analysis

In the next module, *Practice Development Module 7, Advice Delivery*, you will learn how to effectively communicate your recommendations to a client so that she is motivated to enact them.