Understanding and Communicating the Value of Workplace Retirement Plans

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The Pension Centre of Excellence (PCE) at the National Institute on Ageing is a non-partisan, research-informed and action-oriented platform focused on strengthening the retirement financial security of Canadians. The PCE brings together diverse stakeholders and experts to generate practical insights and innovative solutions. Through best-in-class research, convening, and knowledge sharing, the PCE provides objective analysis to inform policy, industry practice, and public understanding.

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Report in Brief

The full value proposition of workplace-based retirement plans is too often underappreciated — at least until a person retires and becomes the beneficiary of the financial decisions they made over the course of their working career.

Retirement planning is complex and requires making decisions about outcomes that feel distant and uncertain. This challenge is compounded by behavioural and psychological biases that cloud judgment and make it hard to prioritize long-term benefits over immediate financial demands.

As a result, many workers instinctively value and choose "cash today" over the deferred compensation that workplace retirement plans deliver. This dynamic appears at several critical points across an employee's career, such as when:

- Job candidates focus on starting pay rather than total rewards;

- Employees contribute less than required to receive the full employer match;

- Workers select cash instead of deferred savings in flexible benefit programs; and

- Retirees with defined benefit (DB) plans opt for lump-sum settlements instead of secure lifetime pensions.

This report examines why these patterns occur and how we can change them. Its purpose is to provide insights and solutions that employers,

plan sponsors, trustees, administrators and others involved in the delivery of workplace-based retirement plans can adopt to help workers better understand and appreciate the value proposition of these plans.

Drawing on leading behavioural economics research and new Canadian evidence — including findings from the NIA's 2025 *Ageing in Canada Survey* — it highlights the consequences of failing to account for fundamental cognitive biases when crafting pension communications. These biases lead people to undervalue lifelong income and overlook the significant intangible value of their workplace retirement plans.

Building on the NIA's 7 Steps Toward Better CPP/QPP Claiming Decisions paper series, this report extends and translates three evidence-based strategies to workplace retirement plans:

1. Shift from an accumulation to a decumulation mindset;

2. Make the full value of these plans visible (including intangible benefits); and

3. Equip Canadians with better decision-making tools.

Underlying these strategies is a central insight: when "money later" is given sufficient priority over "money now", members see their plan as personally relevant. This shift can be reinforced through tools and communications that foster active engagement, which in turn deepens understanding of plan provisions — forming a reinforcing cycle of appreciation and better planning.

Solution #1: Adopt the NIA's Retirement Income Framework to shift from an accumulation to a decumulation mindset

Decades of saving condition workers to focus on account balances and investment returns — an accumulation mindset that persists into retirement and distorts how they evaluate their options. Through this lens, retirement resources are judged by their size rather than their capacity to sustain spending throughout retirement, making it difficult for workers to fully appreciate the role workplace plans play in their long-term financial security.

The NIA's Retirement Income Framework reframes retirement resources from the retiree's perspective, organizing them by function rather than source, and emphasizing the need for an appropriate balance between reliable lifelong income and flexible spending resources.

NIA Retirement Income Framework

SPENDING BUCKETS
Flexible financial resources for **non-routine** spending

RRSPs, RRIFs, & other tax-deferred savings	TFSAs	Home equity	Other savings

INCOME FOUNDATION
Lifelong monthly income for **routine** spending

Workplace pensions & annuities

CPP/QPP

OAS, GIS and other government benefits
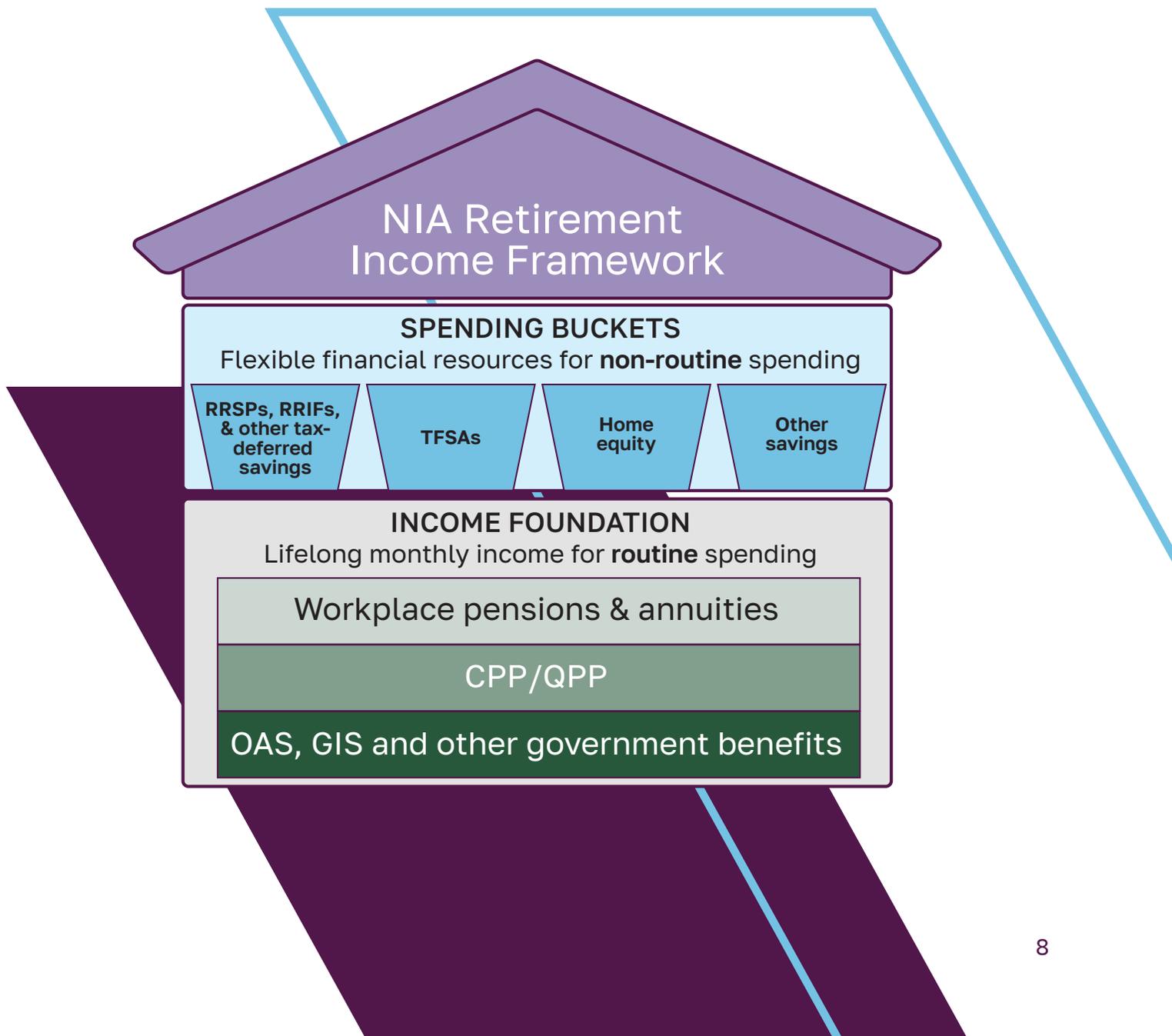
For plans offering lifetime income options, the framework highlights their contribution to a retiree's income foundation. For capital accumulation plans (CAPs), it helps members understand how their savings complement other retirement resources. Either way, it supports clearer communication, better decision-making and greater appreciation of the workplace plan's role in enhancing retirement financial security.

Solution #2: Make the full spectrum of value visible, including the intangible benefits

Lifelong income does more than replace earnings; it reduces stress, promotes confidence and well-being, stabilizes families and lowers vulnerability to financial exploitation. These benefits matter deeply to retirees, yet they are rarely communicated to workers.

Highlighting the **5 Key Benefits of Retirement Income Security** offers a concrete way to articulate this broader value and reshape how workers perceive their workplace plans. For plans that directly provide lifetime income, this means helping members see beyond the dollar amount to the emotional, health and social value. For capital accumulation plans, it means helping members better appreciate — and anticipate — cost-effective ways to convert savings into lifelong income.

5 Key Benefits of Retirement Income Security

1
Lifetime Financial Security
"A guaranteed paycheque for life."

2
Freedom and Confidence in Retirement
Lets retirees enjoy their savings now, without hoarding out of fear.

3
Peace of Mind and Better Health
Protects against the emotional toll of market swings or uncertain futures.

4
Reduced Burden on Families
Simplifies financial management as retirees age.

5
Protection Against Financial Exploitation
Reduces exposure to fraud and family disputes over assets.

Solution #3: Equip Canadians with better decision-making tools

Most Canadians lack clear integrated tools that show how their workplace pensions, savings, taxes and public benefits fit together, leaving them vulnerable to mental shortcuts and biased decisions. Modern, well-designed tools can make the long-term consequences of choices more visible and intuitive, improving confidence, engagement and understanding.

This report proposes a tiered approach: basic plan estimators that provide accurate personalized projections; integrated tools that layer workplace and public pensions with taxes and transfers to show net spendable income at the household level; and access to sophisticated planning support for workers with significant assets. By meeting members where they are, employers and plan sponsors can help workers understand trade-offs and recognize the true value of workplace retirement plans in strengthening their financial security after retirement.

Together, these solutions offer a high-impact pathway to improving retirement thinking, strengthening plan engagement and clarifying the value proposition of workplace plans. By offering well-crafted, research-informed communication and decision support that aligns with how people actually think, stakeholders can close the perception gap, build trust and reap the rewards of better member appreciation.

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Introduction

In the NIA's 2025 *Ageing in Canada Survey* **(Box A),** we asked Canadians ages 50 and older, "How important is your defined benefit (DB) pension income to your total household income at this time?" More than nine in 10 respondents (92%) receiving DB income said it is an important source, including two-thirds (66%) who said it's essential — something they couldn't live without.

While this question focused on DB plans, the underlying principle applies more broadly. Older adults clearly recognize the value of workplace retirement plans, yet this appreciation often comes only in hindsight. Employers, plan sponsors and administrators struggle to help those who are still working to see what retirees now understand.

What strategies can help employees feel the same appreciation for their future financial security that retirees express? What stands in the way of effectively communicating the value of workplace retirement programs?

Clarifying the Value Proposition

Retirement financial security depends on adequate savings and an individual's (or household's) ability to deploy those savings in the form of:

1. **Lifetime income streams** to cover predictable, recurring expenses; and

2. **Flexible spending buckets** to support non-routine or unexpected spending.

Well-designed workplace retirement plans help individuals achieve these goals. They provide the structure and incentives to save; offer cost-effective ways to convert savings into lifetime income; and support workers in making informed decisions about the mix of lump sum savings and secure lifetime income that best aligns with their needs.

These benefits are enormously valuable to long-term financial security, but they are often underappreciated. This lack of appreciation surfaces in many key decisions workers make throughout their careers, including:

- Weighing total compensation when considering a job offer;
- Deciding whether to enroll in an optional workplace retirement plan;
- Choosing contribution levels in a CAP;
- Selecting investments in a CAP that balance short-term stability (money now) against long-term growth (income adequacy later);
- Assessing whether to purchase past service in a DB plan;

- Choosing between a lump sum and a deferred lifetime pension; and

- Deciding when to start claiming pension benefits.

The level of appreciation of workplace retirement plans can be increased — and, in some cases, retirement outcomes can be improved — by addressing workers' priorities, engagement and understanding. To foster better appreciation, stakeholders can help workers:

- Thoughtfully consider the trade-offs between "money now" and "money later," balancing current needs with future security;

- Actively take part in retirement planning; and

- Understand the projected retirement income their workplace plan is likely to generate for them.

These are the preconditions for genuine appreciation, but behavioural biases make them difficult to achieve. Present bias, complexity aversion and loss aversion (discussed later in this report) tend to push individuals toward short-term choices that favour cash today over income tomorrow and frequently lead to disengagement. Communications and decision-making tools can inadvertently reinforce these biases and fall short of fostering true understanding and engagement.

Traditional financial education alone isn't enough to address these biases (Willis, 2011). Research consistently shows that decisions are shaped far more by how choices are framed and presented than by information alone (Thaler & Sunstein, 2021; Brown et al., 2008). Effective communication must therefore align with real-world decision-making patterns.

Harnessing Lessons from Behavioural Economics

This report explores how behavioural economics can be applied to increase understanding and appreciation of workplace retirement plans. It begins by outlining the psychological and structural obstacles that contribute to short-term thinking and disengagement. It then examines research-backed behavioural interventions that make the advantages of workplace-based retirement plans clearer and more tangible.

The solutions proposed build on the NIA's 2024 paper series on the Canada Pension Plan (CPP)/ Quebec Pension Plan (QPP) — 7 *Steps Toward Better CPP/QPP Claiming Decisions* (MacDonald, 2024) — which explains why Canadians often claim these benefits early and fail to maximize the value of these programs.[1]

Here, the findings are extended and translated into concrete actions that organizations involved in the delivery of workplace-based retirement plans can adopt to help workers better appreciate their benefits, including:

- **Employer** human resource (HR) departments;

- Businesses, unions, industry associations, governments and other entities that **sponsor** pension plans; and

- Insurance companies, financial institutions, consulting firms and other third-party pension **plan administrators**.

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[1]   This program of research focused on identifying promising solutions that would help shift toward more informed decision-making relating to CPP/QPP claiming behaviour (MacDonald, 2024). It proposed behavioural interventions – such as boosting decision-making competence and designing nudge-based supports – that stakeholders such as HR leaders, policymakers and the financial services industry at large could realistically adopt to help Canadians make more informed, unbiased CPP/QPP claiming decisions. The full paper series is available at: https://www.niageing.ca/cpp-qpp

While these three types of stakeholders are the primary intended audience for this report, other stakeholders in Canada's retirement income system — such as regulators, government policy makers, financial planners and even individuals — may also find our insights helpful.

It's important to understand that the solutions presented here focus on improving communication and enhancing existing tools — practical steps that can be implemented rapidly to help workers better understand their retirement plans. This report does not address benefit reforms: while enhancing or redesigning plans to better address the needs and risk tolerances of contributors and beneficiaries can certainly improve their value and appeal, such measures require a different kind of undertaking. Nor does it focus on default-based interventions like auto-enrollment and auto-escalation, which can improve retirement outcomes but operate without requiring workers to engage with or understand their benefits.[2]

Strengthening workers' understanding and appreciation of workplace retirement plans has the potential to improve choices and thereby indirectly improve retirement outcomes. It can also create tangible benefits for employers — improving talent attraction, retention and workforce management, increasing productivity, helping organizations maintain stable staffing patterns and supporting smoother retirement transitions and succession planning.

Box A: 2025 NIA Ageing in Canada Survey

Launched in 2022, the NIA's annual *Ageing in Canada Survey* tracks the experiences, expectations and perspectives of older adults across 10 indicators of ageing well (Qureshi et al., 2026).

The 2025 survey was conducted online, with a representative sample of 6,000 Canadians ages 50 and older. Developed in partnership with Abacus Data, the survey was stratified by region and education, and weighted by age, gender, region and educational attainment to reflect the national population based on the 2021 census. Results reflect the experiences of adults living in the community and exclude those in institutional settings such as long-term care homes or nursing homes.

For this report, survey findings were combined with focused questions on the importance of employer-based pension income.

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[2] While some behavioural interventions are designed to enhance understanding, such as financial tools and targeted education programs that demonstrably improve financial competence (Drexler et al., 2014; Lusardi et al., 2017; Bateman et al., 2016), others like defaults and anchoring are designed to influence behaviour, prompting earlier enrollment, higher contributions or later claiming age (see Box E) without requiring members to actively engage with understanding their retirement benefits. Though these interventions can improve retirement outcomes for employees (and bring related benefits and goodwill to employers in the future), they do little to build appreciation of workplace retirement plans before retirement. They also carry risks when nudged behaviours are not well aligned with the circumstances and constraints of particular subgroups – for example, when higher default contribution rates increase retirement savings among financially vulnerable members at the expense of liquidity, leading to greater financial fragility and increased reliance on high-interest debt.

Biases and Barriers: A Closer Look at the Obstacles

Before exploring solutions, it's critical to understand the forces that shape individuals' priorities, engagement levels and understanding when it comes to retirement planning. These forces don't exist in a vacuum; they are shaped by powerful psychological biases, external pressures from other stakeholders, outdated communication norms and collective inertia.

Together, these factors create a landscape where short-term thinking dominates, making it hard for employees to recognize the long-term worth of workplace retirement plans. That's why targeted interventions, such as those outlined in this report, are essential.

Know Your Members: Navigating Complexity and Human Biases

"As humans, we have a remarkable capacity to sacrifice for the future, and an equally remarkable capacity to shortchange it, leaving our future selves to pay the price."

— Bethany Burum (2014, p. iii)

Many workers struggle to prioritize long-term retirement security while managing immediate financial pressures. Even those who are financially able to prepare for the future will find their progress disrupted by powerful behavioural and psychological biases.
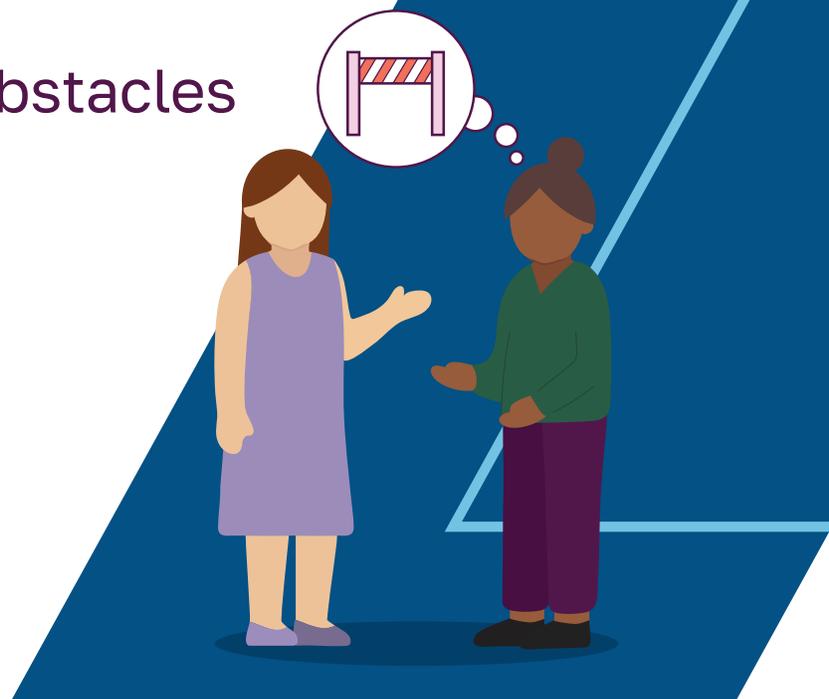
Retirement plans are complicated — often including technical features like contribution matching, investment options, portability rules, survivor benefits, pension start dates and bridge benefits — and this is compounded by the complex financial environment in which these decisions are made.

Retirement planning requires individuals to determine whether their resources will support not only their own expenses, but also those of their dependents, for the rest of their lives. This means juggling uncertain factors such as inflation, employment patterns, health changes and life expectancy. Providing for those expenses also means anticipating taxes, government benefits and investment returns. These variables shift and interact in unpredictable ways, making proper planning a dynamic and daunting task.

In addition to complicated rules in a complex world, another significant barrier is that

retirement decisions are typically made without the benefit of personal trial and error. Unlike everyday decisions like choosing a flavour of ice cream, retirement choices offer no basis for judgment drawn from prior experience, no timely feedback and few opportunities for learning (Thaler & Sunstein, 2021). Once retirement begins, there are few chances for recovery if things don't go as expected.

Psychologists have shown that decisions involving high complexity, long time horizons and limited feedback — typical of those encountered in retirement planning — are among the most difficult choices for individuals to navigate alone. Without proper support, this complexity can lead to disengagement and cognitive shortcuts [building on the foundational work of Simon (1955); see Thaler & Sunstein (2021)].

One reason for this response is that humans experience what psychologists refer to as "bounded rationality" when preparing for retirement (see **Box B**). When it comes to processing the intricate, often unfamiliar decisions required for long-term financial security, humans aren't computers; we are limited by time, access to information and cognitive capacity.

A natural reaction to cognitive overload is not to engage at all. As Gandhi & Yik (2019, p.24) summarized, "Several studies/research papers have found that when faced with the complexity of the retirement landscape, people were prone to 'switch off' and defer decision-making or simply chose the path of least resistance."

While some people disengage or fail to act, others attempt to engage but fall prey to natural

Box B: What is Bounded Rationality?

Nobel laureate and cognitive psychologist Herbert Simon challenged the assumption of fully rational decision-making (Simon, 1955). He argued that the issue isn't intelligence, but the mind's limited ability to process complex decisions under constraints like time, information and cognitive capacity.

To cope, people use mental shortcuts or heuristics: what Simon (1990, p. 11) called "methods for arriving at satisfactory solutions with modest amounts of computation." These shortcuts are essential for daily decision-making, but they can hinder the careful thought needed for choices with long-term consequences, resulting in suboptimal outcomes.

Gigerenzer and Goldstein (1996) expanded this concept through their work on "fast and frugal" reasoning, showing how people make decisions quickly using limited information.

Contemporary research explores the exact mechanisms that constrain decision-making, including dual-process theories (Stanovich & West, 2000; Valerjev et al., 2023), evolutionary accounts (Haselton & Nettle, 2006; Fox, 2025), emotion-based theories (Lerner & Keltner, 2001; Lerner et al., 2015; Bartholomeyczik et al., 2022), neuroeconomic accounts (McClure et al., 2004; Lin & Feng, 2024), and motivated reasoning (Kunda, 1990; Hutmacher et al., 2025).

psychological biases and behavioural patterns that distort long-term planning. These include favouring short-term gratification and struggling to empathize with one's future self (discussed below and explored in detail in Appendix A). The result is that despite the widely expressed desire for financial security in retirement, many fail to take the actions needed to achieve it.

Evidence of this paradox is well-documented. For example, many Canadians fear financial vulnerability in old age, yet their decisions don't tend to align with that fear. In the NIA's 2025 *Ageing in Canada Survey*, the top financial concerns among Canadians ages 50+ were the rising cost of living (31%) and the risk of running out of money (16%). When asked about retirement priorities, 8 in 10 respondents selected goals tied to income security, with "feeling financially secure for the rest of your life" ranking highest. By contrast, goals tied to liquidity — "leaving an inheritance" or "enjoying the money while you can" — ranked lowest.

Similar preferences for steady lifetime income have been identified in other research in Canada (Baldwin, 2017) and the U.S. (Society of Actuaries, 2021; Retirement Research Center, 2022). Yet despite these stated preferences, behaviour tells a different story. When given options to convert savings into lifelong income, most Canadians choose not to — whether by electing lump sum commuted value settlements from DB pension plans, holding onto savings rather than using them to secure higher lifetime income through delayed CPP/QPP benefits, or declining to annuitize.[3] The gap between what

people say they want and the choices they make highlights the key role of behavioural biases in decision-making.

Box C summarizes several key psychological barriers — optimism bias, subjective survival bias, loss aversion, present bias, lump sum bias and herding effect — that can significantly undermine pension plan engagement and retirement financial planning.

Essentially, the human brain is not well-suited to long-term thinking — especially when it requires contemplating uncomfortable realities such as ageing, frailty or the potential need for long-term care. This challenge is further compounded by a tendency to underestimate future expenses, such as the substantial health-related costs that can arise later in life.

If left unaddressed, these well-established psychological barriers can derail even the most well-intentioned decisions, leading people to undervalue programs specifically designed to reduce financial risk, mitigate future financial vulnerability and support long-term retirement security. Without deliberate interventions to foster a more informed perspective, workplace retirement plans may be perceived as a reduction in take-home pay rather than as a vital long-term financial asset.

A related emerging challenge is the generational shift in economic and demographic realities. Many Canadian workers grew up watching older generations retire comfortably based on lifelong employment and secure DB pensions. These older generations often had shorter life

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[3] The most studied example of this gap is the persistently low rate of voluntary annuitization — known as the "annuity puzzle." Although actuaries and economists have long highlighted the advantages of converting savings into annuities at retirement (Yaari, 1965), and despite this aligning with retirees' expressed preferences for secure lifetime income, voluntary annuitization rates remain strikingly low: an estimated 1% in Australia (Agnew, 2013) and, based on our analysis, similarly low in Canada (MacDonald et al., 2020). This pattern is increasingly attributed to psychological biases (Bateman et al., 2016; Brown et al., 2017). For comprehensive reviews of the annuity puzzle literature, see Brown (2009), Benartzi et al. (2011), MacDonald et al. (2013) and Li et al. (2022).

spans and received informal, unpaid support from adult children to help with long-term care, which helped sustain their financial security in retirement.

Current generations of workers face a different reality: lower job security, higher housing costs and greater pressure on day-to-day finances. They will also likely face greater financial demands in retirement due to longer lives, fewer DB pensions and reduced family support (MacDonald et al., 2019). Workers who anchor their retirement expectations to the past are likely to underestimate their exposure to retirement risks, leading to gaps in planning and less value attributed to workplace retirement plans.

Know the Influencers: External Biases & Conflicts

In addition to natural human biases, other forces may unintentionally undermine employees' perception and appreciation of the long-term financial security that workplace retirement plans provide.

Shared biases — Those in a position to influence employees' decisions are prone to the same behavioural tendencies and biases described earlier. For example, recommending a commuted value over staying in a DB plan can seem rational if the advisor expects average annual returns of 10% or more and doesn't give consideration to volatility over the investment time horizon and the full range of potential long-term outcomes.

Competing incentives — Influencers — including both financial advisors and family members — can face competing incentives that may impact the guidance they offer.

Box C: Psychological Barriers Preventing Members from Prioritizing Retirement Planning and Later-in-life Financial Security

Optimism Bias: People tend to be overly — and unconsciously — optimistic about their future.

Subjective Survival Bias: People tend to underestimate their lifespan. In the context of retirement planning, this is consistent with optimism about the adequacy of one's retirement assets (see optimism bias above).

Loss Aversion: People tend to feel the pain of loss more intensely than the pleasure of an equivalent gain.

Present Bias: People generally prefer immediate gratification over future benefits.

Lump Sum Bias: People frequently choose large one-time payouts over stable income, even when periodic payments provide greater value.

Herding Effect: People have a natural tendency to follow the crowd when confronted with unfamiliar or complex decisions.

See **Appendix A** for more details on each of these biases.

- **Industry incentives:** Financial advisors play a valuable role in helping Canadians navigate complex retirement decisions. However, prevailing compensation models — which often tie fees and commissions to assets under management — can create structural tensions. When funds are directed into workplace retirement plans, especially those offering low-cost or guaranteed lifetime income, advisors may have fewer opportunities to be involved in personalized retirement planning. It's important to note that this is a systemic challenge, not a reflection on individual advisors — and one the industry is working to address. Fee-for-service and flat-fee advisory models are emerging as alternatives that better align advisor and client interests around lifetime income planning.

- **Simplicity over accuracy:** Balancing accuracy with affordability and clarity is a real challenge. In practice, this pressure can lead to oversimplified advice that favours quick, generic explanations over nuanced, personalized guidance.

- **Family financial incentives:** Because of lump sum bias, invested assets feel more substantial than promised income (Hu & Scott, 2007; Goldstein et al., 2016). This bias can affect the families of retirees, for whom the prospect of a larger inheritance may overshadow the less direct value of pension benefits.

Framing practices — Industry communication practices can reinforce existing biases. For example, lump-sum bias and loss aversion can be triggered when advisors present commuted values as a "safer" alternative to remaining in a DB plan. By portraying lifetime income as risky — since it only "pays off" if you live long enough — some advisors may be inadvertently encouraging individuals to undervalue the protection it offers against longevity risk (i.e., the risk of outliving your assets). This framing underpins the widely used "break-even" approach to deciding when to claim CPP/QPP benefits (see **Box D**) or purchase an annuity, known as the "annuity gamble."[4]

Mainstream practices in the retirement planning industry today can entrench, rather than reduce, behaviours that prioritize short-term benefits. The irony is, the choices that feel financially responsible now are often those that create financial fragility in the future. For example, choosing a lump sum instead of a deferred pension may seem harmless in the present, but it can cause challenges later in life such as insufficient income and declining living standards.

Know Yourself: Overcoming Barriers to Change

Employers, retirement plan sponsors and plan administrators are uniquely positioned to guide members in balancing short- and long-term financial priorities, encourage them to engage in retirement financial planning and increase their understanding of workplace retirement plans.

Research shows employees perceive their employer as a trusted source of information. For example, a 2019 survey by Eckler Ltd. found 80% of Canadians would like financial education provided through the workplace (Eckler Ltd., 2019).

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[4] Rephrasing the key insight of Brown et al. (2008), Thaler (2011) wrote: "Rather than viewing an annuity as providing insurance in the event that one lives past 85 or 90, most people seem to consider buying an annuity as a gamble, in which one has to live a certain number of years just to break even."

Employers also have other strong reasons to act, such as the following:

- Retirement plans and planning assistance are priorities when choosing where to work (Morgan Stanley, 2025);

- Employees are stressed due to concerns about their financial health and want employer help (Global Business Advisors, n.d.; Financial Consumer Agency of Canada, 2025); and

- Retirement preparedness is linked to better succession planning and workforce management (Thomas, 2025).

Communications play a vital role in helping ensure better understanding and appreciation of retirement plans. However, communication policies and administrative practices can become ingrained due to status quo bias: the psychological tendency to prefer the current state over change, even when better alternatives exist (Samuelson & Zeckhauser, 1988; Xiao et al., 2021).

This resistance is more than just inertia. As Anderson (2003) explained, several powerful psychological forces drive it:

- **Selection difficulty:** Evaluating change requires effort and cognitive energy.

- **Anticipated blame or regret:** The status quo is often seen as safer, with less risk of blame if something goes wrong.

- **Costs of action and change:** Individuals may have personal or professional stakes in preserving existing systems.

These forces can outweigh compelling evidence for improvement, reinforce outdated practices and inhibit change.

Box D: The "Break-Even" Shortcut and Why We Need a New Approach

"You'll be better off taking CPP/QPP benefits at age 60 if you die before your break-even age."

The break-even approach is a financial planning shortcut that compares two claiming ages by calculating when cumulative payouts from delaying will match those from starting benefits earlier. People are then implicitly encouraged to "bet" on whether they will live to that age. This framing promotes a gambler's mindset, focusing on short-term survival rather than on the more relevant risk of outliving savings and its financial consequences.

Brown et al. (2016) found the break-even method to be the most damaging of several approaches studied, in terms of presenting when to claim U.S. Social Security pension benefits. It detaches the claiming decision from broader financial planning by presenting early claiming as the "safer" choice. It also feeds into biases like loss aversion and discourages retirees from supporting their long-term financial well-being — especially among the financially vulnerable, who are most influenced by this framing (ibid).

For a detailed critique of the break-even approach, see Step #3 of the NIA's CPP/QPP paper series (MacDonald & Chandler, 2024a).

And they don't just affect individuals. Entire organizations — including HR departments, advisory networks and financial institutions — can fall victim to "collective conservatism" or "group think", which Thaler and Sunstein (2008, p. 58) described as "the tendency of groups to stick to established patterns even as new needs arise. Once a practice [...] has become established, it is likely to be perpetuated, even if there is no particular basis for it."

When communicating with retirement plan members, complexity combines with constant change, requiring strategies that adapt to shifting systems, demographics and populations. Yet organizations may hesitate to act, fearing that offering clearer guidance could expose them to liability or be misinterpreted as financial advice.

Courts have found employers have a special responsibility when it comes to communicating pension benefits (Laporte & Neudorf, 2010) and may be "bound by statements that were made in communications materials that were not intended to have legal effect" (O'Reilly, 2000, p. 4). As a result, some employers and plan administrators have potentially compromised member understanding and appreciation in favour of a 'minimum compliance' approach to employee benefits communication.

While the desire to mitigate risk is rational and understandable, the issue with the minimum compliance approach that prevents more fulsome communications is that the current communications are *already* influencing members' choices. The idea that any individual or organization can present choices neutrally without influencing behaviour is a myth.[5] As explained earlier, framing shapes decision-making. Even basic information can be

perceived as "implied endorsements", signalling recommended actions.

As Alonso-García et al. (2021) explained, implied endorsements are powerful because they carry the stickiness of defaults, which have been shown to exert major effects on behaviour. The presentation of information can also anchor preferences: when facing uncertainty, people tend to rely too heavily on the first number or reference point they see, regardless of how arbitrary it may be (Neale & Bazerman, 1992). (See **Box E** for a discussion of how defaults and anchors influence decisions.) The point is - even when all options are presented clearly and effectively, elements such as timing and ordering can powerfully impact decisions.

Clinging to the status quo in member communication may feel safe, but to truly support financial wellness and make the value of workplace retirement plans more visible, employers, plan sponsors and administrators — along with other stakeholders in Canada's retirement income system — must challenge current norms and take deliberate, purposeful action.

Different stakeholders will approach this work with different motivations. Employers may prioritize alignment with HR objectives (Guzzo & Nalbantian, 2025); administrators may focus on regulatory compliance; third-party providers may see opportunities to strengthen client relationships. Plan design and governance structures will also shape how changes are implemented.

But whatever the motivation, the goal is the same: communication and decision-support that helps workers genuinely understand and appreciate their workplace retirement plans.

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5 See Thaler and Sunstein (2008) for a comprehensive review.

Box E: How Defaults and Anchors Shape Retirement Decisions

Two of the most powerful influences on retirement decision-making are defaults (what happens if you do nothing) and anchors (the reference points that frame your choices). Both operate largely below conscious awareness and shape outcomes, whether they are intended or not.

The Power of Defaults

Defaults strongly influence member behaviour in workplace plans. As Sunstein (2014, p. 585) observed, "Default rules may well be the most effective nudges", and they are "to date, the most common nudge examined in the pensions litera-ture" (Alonso-García et al., 2021, p. 812).

One of the most successful applications to retirement planning is automatic enrollment in workplace savings plans. Pioneering research (Madrian & Shea, 2001; Choi et al., 2004) demonstrated that making enrollment the default option dramatically increases retirement plan participation. This approach — later refined through initiatives like *Save More Tomorrow* (Thaler & Benartzi, 2004) and supported by subsequent findings (Benartzi & Thaler, 2013) — leverages inertia and defaults to overcome common barriers to retirement saving. By shifting the structure from *opt in* to *opt out*, automatic enrollment is very effective at getting employees to start saving earlier and contribute more consistently toward their retirement goals.

Beshears et al. (2009, p. 171) noted the influence of defaults goes well beyond encouraging plan participation: "Similar effects have been documented for almost every aspect of retirement saving, including asset allocation, contribution rates, pre-retirement cash distributions, and

annuitization". Subsequent research continues to demonstrate the power of defaults in retirement financial planning and decumulation (Bateman et al., 2016; Dobrescu et al., 2018). While positive examples of the use of defaults abound, it is a tool to be wielded with care, as unintentional default stickiness can be particularly dangerous.

Anchoring in Action

Anchoring plays a strong role in retirement benefit claiming behaviour. In fact, research has shown that simply designating a certain retire-ment age as "normal" can significantly influence when people choose to start claiming benefits.

In Canada, past CPP/QPP benefit claiming patterns have shown clear anchoring effects. Service Canada labels age 60 as the "qualifying age" and age 65 as the "standard age", and claiming rates spike accordingly. In 2021, six in 10 new claimants started their benefits at either age 60 or age 65, despite the full 10-year claiming window available — clustering that isn't explained by labour force exit trends (MacDonald & Chandler, 2024b). These anchoring effects are well-documented internationally, with similar patterns observed in the U.S. and Europe (Knoll, 2011; Behaghel & Blau, 2012; Brown et al., 2016; Seibold, 2021; Lalive et al., 2024).

Perez-Arce et al. (2023) tested alternative, more transparent terms to reduce these anchoring effects and found they lead to more informed choices at minimal cost: "Overall, the results of this study suggest micro-changes in information policy can have measurable effects on people's retirement decision-making and, potentially, on their financial security" (p. 19).

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The Need for Intentional Intervention

Unfortunately, traditional financial education — which focuses on transferring factual information — is unlikely to produce meaningful change. While these programs may raise awareness, they don't protect members from powerful psychological biases (Fernandes et al. 2014; Finseras & Jakobsson, 2014; Mastrobuoni, 2011; Miller et al., 2014; Willis, 2011).

What's more, poorly designed education and communications can be worse than doing nothing. When people are confronted with evidence that contradicts their current behaviour, they can experience cognitive dissonance: a psychological discomfort that can cause them to dismiss or resist the information. Instead of motivating change, this can harden existing beliefs and make people even more entrenched in poor decisions (see **Box F**).

The three solutions proposed in this section are designed to help employers and retirement plan sponsors guide employees through the complexities of retirement financial planning. They reframe retirement resources, make intangible benefits visible, and equip workers with better decision-making tools. By helping people connect their values and goals to their financial choices before decisions are made, these strategies work against the behavioural biases that undermine engagement and understanding — ultimately improving workers' appreciation of the value of workplace retirement plans.

Box F: Being Cognizant of Cognitive Dissonance

Influenced by external pressures, psychological biases and mental shortcuts, the complexity of retirement planning can lead to decisions that contradict people's true needs and desires (Simon, 1955). This contradiction can trigger cognitive dissonance: the psychological discomfort experienced when one's actions clash with one's beliefs or values (Festinger, 1957).

Cognitive dissonance is one of the most well-established theories in social psychology (Harmon-Jones & Mills, 2019). Rather than confronting the inconsistency, people often reshape their thinking to relieve the discomfort. Common coping strategies include:

- Rationalizing or justifying past choices;
- Discrediting or downplaying opposing evidence; and
- Seeking only information that supports prior views (also known as "confirmation bias").

This type of self-deception is a natural defense, but it can prevent even highly capable individuals from accepting new information — including sound financial planning advice. Logical arguments may be rejected and may even reinforce flawed decisions.

The stronger the perceived threat to one's self-concept, the greater the urge to resolve it (Festinger, 1957). This reaction is particularly intense after making a difficult or irrevocable high-stakes decision — such as choosing a lump sum distribution of retirement assets or deciding when to start claiming pension benefits.

Recognizing cognitive dissonance is essential to supporting better retirement decisions. Empathetic, evidence-based strategies that reframe choices around what genuinely matters to the individual can help people better align their actions with their long-term goals, reducing defensive rationalization and the long-term risks of misaligned decisions.

Moving Forward with Practical, Evidence-based Solutions

The three solutions that follow are extended and adapted from the NIA's *7 Steps Toward Better CPP/QPP Claiming Decisions* paper series (MacDonald, 2024), which applied behavioural economics to understand why Canadians often fail to maximize the value of public pensions.

Here, those insights are translated to the workplace context — focusing on increasing individuals' motivation to engage with retirement financial planning, helping them better balance short-term and long-term priorities, and fostering a deeper understanding of the projected income their workplace retirement plan will provide. Although deliberate communication strategies are important for all plan members, they are especially important for those who are financially vulnerable and at greater risk of disengaging or making poor choices (Brown et al., 2016; Franklin et al., 2019; Perez-Arce et al., 2023).

Solution #1: Adopt the NIA's Retirement Income Framework to Shift from an Accumulation to a Decumulation Mindset

Earlier sections explored cognitive biases that distort retirement decision-making. Just as important, however, is how mindsets are shaped. This is a key area where employers, plan sponsors and administrators can help.

Intentional communication, education and framing strategies can shape how employees perceive, value and engage with their workplace retirement plans, helping them feel more confident, motivated and personally invested in their long-term financial outcomes.

Changing the Frame

Workers approach retirement with a mindset shaped by decades of saving and investing — a focus on wealth accumulation, maximizing returns and growing net worth. But retirement isn't about how much you *have*; it's about how much you can *spend securely* for the rest of your life.

Approaching retirement financial planning with an accumulation mindset can lead to a preoccupation with account balances and investment growth, distorting key choices — such as when to claim CPP/QPP or Old Age Security (OAS) benefits, whether to buy an annuity and whether to accept a lump sum settlement of a DB pension.

For example, Brown et al. (2008) found annuities were widely rejected when framed as investments, but preference jumped from 20% to 70% when framed as consumption (i.e., emphasizing how much secure monthly income they provide). Later, Brown et al. (2017) warned that the dominance of the accumulation frame continues to distort choices, causing individuals to undervalue pensions and annuities.

The NIA Retirement Income Framework

The Canadian retirement income system is traditionally described using the "three pillar" model:

1. **Government programs** (OAS, GIS, CPP/QPP);

2. **Workplace retirement programs**; and

3. **Private savings** [registered retirement savings plans (RRSPs), tax-free savings accounts (TFSAs), etc.].

This model usefully highlights diversification in funding approaches: OAS/GIS is paid from general revenues on a pay-as-you-go basis; CPP/QPP is partially funded independently; and workplace plans and private savings are fully funded outside government accounts. For international comparisons and high-level policy discussions, it remains a suitable paradigm (see Brown, 2024).

But the three-pillar model reflects a provider's perspective — emphasizing funding sources rather than how each source functions in meeting retirees' needs. It obscures critical trade-offs between predictable and flexible income and fails to help individuals evaluate whether their resources will sustain their living standards over time.

Research from psychology and behavioural economics shows that abstract, system-level descriptions encourage analytical processing rather than personal engagement — increasing psychological distance and making retirement feel less personally relevant (Trope & Liberman, 2010; Hershfield, 2019). Consequently, employees may find such system-level explanations of retirement income less relatable than communications focused on their future income and lifestyle.

Complementing (or replacing) pillar models with personally relevant, consumption-focused messaging can improve engagement and understanding. With this in mind, MacDonald, Chandler and Hodder (2024) proposed a

reframing of the Canadian retirement income system from the *retiree's* perspective, using a simple visual framework that organizes retirement resources by their function (see Figure 1):

- **Income Foundation —** Providing predictable, lifelong monthly income for routine expenses (i.e., CPP/QPP, OAS/GIS, DB pensions, annuities); and

- **Spending Buckets —** Offering flexible assets for non-routine expenses [i.e., RRSPs/ registered retirement income funds (RRIFs), TFSAs, home equity, other savings].

By shifting the focus from where the money comes from to *how* it is used in retirement, the **NIA Retirement Income Framework** reduces mental effort, encourages long-term thinking and increases engagement.

The reframing also draws attention to different kinds of spending. People want predictability for routine, recurring costs — but flexibility for expenses that are variable or uncertain. The framework helps workers balance their desire for secure monthly income against the need for accessible savings to handle life's unknowns, both while working and in retirement. Finding the right balance between income foundation and spending buckets can improve plan participation and help workers make more informed long-term investment choices.

Why does this reframing matter? Decades of behavioural research show people rely on frames and heuristics when making complex decisions (Simon, 1955; Tversky & Kahneman, 1973). As Brown et al. (2008) observed: "Choices are not based solely on material consequences, but instead are filtered through the particular frame that individuals use to interpret the choices" (p. 304).

In retirement planning, shifting from an investment frame (e.g., "What return can I expect on my portfolio?") to a consumption frame (e.g., "How much can I safely spend each month?") helps workers connect emotionally with retirement and appreciate options that offer secure lifelong income (Brown et al., 2008).

This simple reframing acts as a psychological prompt, helping workers consider how to use their retirement assets effectively: how to convert savings into reliable monthly income; how to balance flexibility with security; and identify where gaps may exist in their retirement planning.

Figure 1: A Redefined Visual of the Canadian Retirement Income System
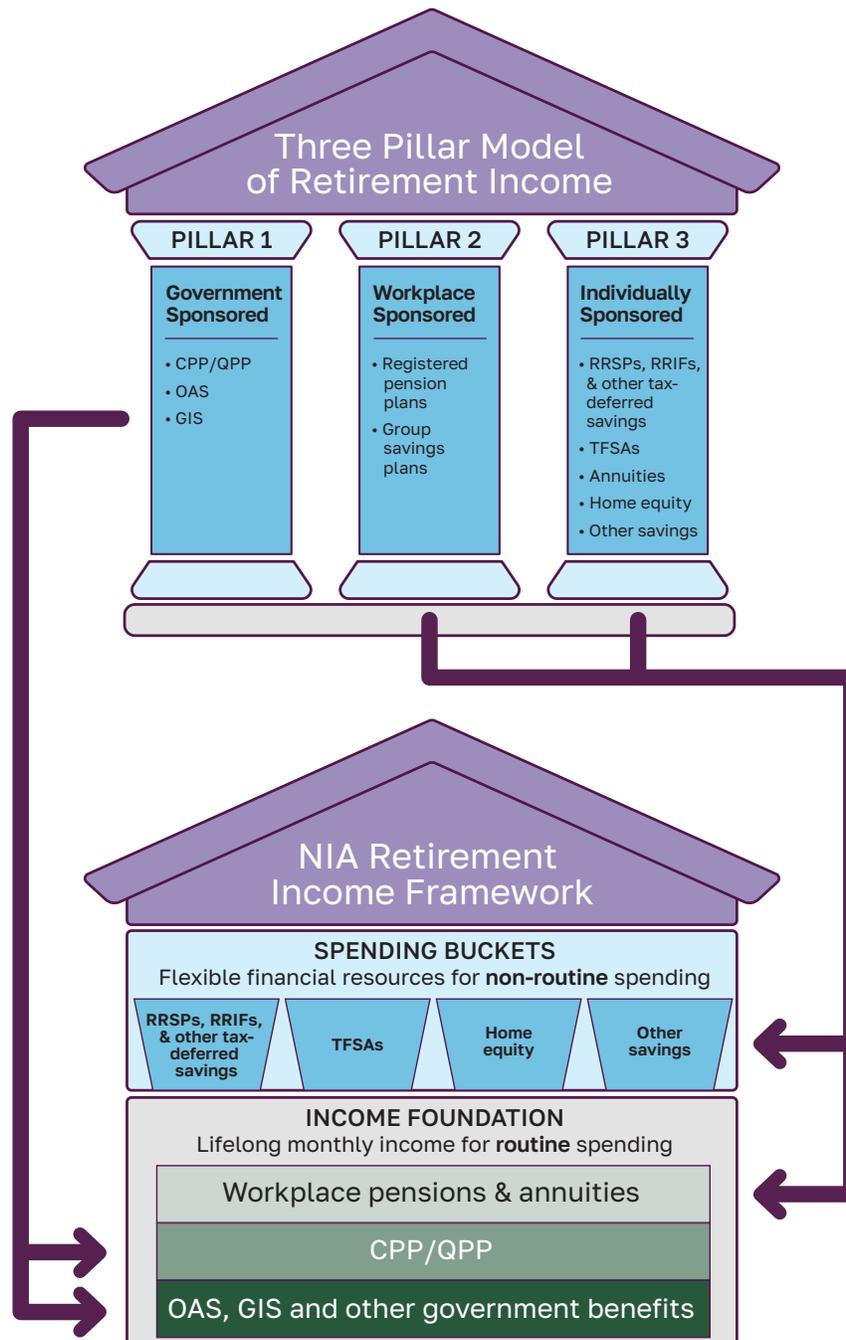
For employers, retirement plan sponsors and administrators, adopting this retiree-focused approach is a practical way to boost engagement and understanding. By offering a more holistic view of retirement income, it highlights the important role of workplace retirement plans in supporting retirement financial security.

Solution #2: Make the Full Spectrum of Value Visible, Including the Intangible Benefits

While Solution #1 shows how to showcase the tangible financial benefits of workplace retirement plans, Solution #2 highlights that secure, lifelong retirement income — the foundation of the NIA Retirement Income Framework — is more than just money. It provides peace of mind, supports better health and reduces family burdens: advantages often aren't visible until retirement, when people realize they "can't live without" the stability this income provides. Together, these solutions help broaden the conversation from retirement income adequacy to *quality of life.*

The challenge is, the most powerful advantages of lifelong income in retirement — the confidence to spend, the ability to age in place and the relief of knowing your family won't carry the burden — are difficult to recognize until they are experienced. As already discussed, retirees report that financial income security is their top priority, while workers tend to undervalue secure, predictable, lifelong retirement income when making financial choices.

The 5 Key Benefits of Retirement Income Security

Reframing workplace retirement plans that provide access to affordable, lifelong income as more than just financial products and presenting them as a foundation for freedom, health and well-being can help people better connect them with what truly matters. This section outlines five key benefits of secure lifelong income, helping people live longer and better lives.

5 Key Benefits of Retirement Income Security

1

Lifetime Financial Security

"A guaranteed paycheque for life."

2

Freedom and Confidence in Retirement

Lets retirees enjoy their savings now, without hoarding out of fear.

3

Peace of Mind and Better Health

Protects against the emotional toll of market swings or uncertain futures.

4

Reduced Burden on Families

Simplifies financial management as retirees age.

5

Protection Against Financial Exploitation

Reduces exposure to fraud and family disputes over assets.

1. Lifetime Financial Security — For retirees, secure income is far more than just monthly deposits; it's the cornerstone of financial independence. A predictable income for life shields individuals from market volatility and the risk of outliving their savings — risks they would otherwise need to grapple with on their own.

This foundation allows people to meet their essential needs with confidence, including the increasingly costly goal of ageing in place (see Appendix B). Research confirms lifelong income sources such as the CPP/QPP, OAS and DB pensions substantially insulate spendable income among older adults from economic downturns (MacDonald & Osberg, 2014).[6]

2. Freedom and Confidence in Retirement — Secure income allows retirees to spend more comfortably, knowing their future needs are covered. Without it, they face a precarious balance: overspending can lead to financial hardship, while underspending reduces quality of life.

While the focus is often on overspending, underspending is a less visible but significant issue. In the U.S., one study found retirees withdrew only 1% of assets annually, retaining over 80% of wealth after 20 years (Wolfe & Brazier, 2017). In Australia, the majority of retirees died with most of their savings intact, treating assets as capital to preserve rather than to draw down (Australian Government, 2020). These patterns are driven by fear of uncertain health and long-term care costs (SOA, 2016; Alonso-García et al., 2022), with retirees citing precautionary saving for health and long-term care as a key motive.

In contrast, Blanchett & Finke (2021) found retirees with secure pensions spend twice as much annually as those drawing on their savings. They explained that secure income effectively gives retirees a "licence to spend", without which they tend to hold onto their retirement savings. In short, predictable income empowers people to live fully in retirement rather than postponing enjoyment.

3. Peace of Mind and Better Health — Retirees who lack a sufficient secure income foundation remain highly vulnerable to market fluctuations and the risk of running out of money. As financial wellness expert Janice Holman noted, many retirees leave savings invested rather than converting them into predictable pension income, exposing themselves to the emotional toll of market volatility. Since people feel losses more acutely than gains (Kahneman & Tversky, 1979), "they end up subjecting themselves to a lifelong emotional roller coaster."[7]

Financial insecurity — uncertainty about having enough income when it's needed — has far-reaching consequences. It reduces day-to-day happiness and is consistently linked to poorer mental and physical health across all income levels (Akanni et al., 2022; Osberg, 2021; Rohde et al., 2017).

Unstable income creates worries about tomorrow that take their toll today. For example, a sudden

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[6] Using Statistics Canada's LifePaths microsimulation model, MacDonald & Osberg (2014) found the Canadian social pension system helps shield the retiree population as a whole from financial market risk. When income from personal savings drops due to unfavourable investment returns, the decline in net income is substantially mitigated by stable income sources like CPP/QPP, increased income-tested benefits (OAS/GIS) and lower taxes. Even if private savings income drops by more than half, net income declines by just over 20%.

[7] J. Holman, personal communications, May 6, 2024.

drop in income can trigger social isolation, unhealthy behaviours such as smoking and inactivity, and reduced spending on essentials (including health care), which harm well-being (Elfassy et al., 2019). These effects are especially severe for older adults who are already living with chronic health conditions.

Even in the absence of an actual drop in net worth, anxiety over whether income will be sufficient in the future causes persistent stress associated with higher rates of depression (Prause et al., 2009), cognitive decline (Grasset et al., 2019) and cardiovascular disease (Elfassy et al., 2019).[8]

In contrast, stable and predictable income not only secures financial independence, but it also supports health, reduces anxiety and allows retirees to focus on living well in later life. Prominent Canadian economist and expert on measuring well-being Lars Osberg (2021, p. 6) summarized this succinctly: 'Greater peace of mind is a direct benefit of greater economic security.'"

4. Reduced Burden on Older Canadians and Their Families — When retirees lack stable income, the financial and caregiving burden often shifts to adult children and family members, creating stress across generations. Conversely, predictable retirement income allows older adults to remain financially independent for longer, reducing pressure on families and improving overall household well-being. In this way, strong workplace retirement plans support not only retirees, but also the broader social and economic landscape.

A related and often overlooked element involves managing finances through an Enduring Power of Attorney in late life. Cognitive decline — which is projected to increase as life expectancy rises — impairs financial decision-making (Finke et al., 2017; Keane & Thorp, 2016). The Alzheimer Society of Canada projects a 65% increase in dementia cases by 2030, nearly doubling by 2050 (a 187% increase) compared to 2020. Around 2% of Canadians ages 65 to 69 live with dementia, with prevalence doubling roughly every five years to 33% after age 90.

Handling the investments and personal affairs of a parent or close relative can be stressful and divisive: family members may act too conservatively to avoid depleting savings or too liberally to avoid appearing self-serving. As well-known Québec pension actuary René Beaudry observed: "A system that allows retirees to choose less pension income was designed by people with no experience in helping the elderly manage their savings."[9] Foundational lifelong income removes the need for complex late-life financial decisions, reducing risk for retirees, and easing the emotional and logistical burdens on their families.

5. Protection Against Financial Exploitation — Accessible lump sums increase exposure to poor advice, fraud and even financial abuse. In the U.S., studies find that financial fraud is widespread, costly and disproportionately affecting older adults (DeLiema et al., 2018). Even more concerning, financial elder abuse is projected to become one of the major crimes of the 21st century (Roberto & Teaster, 2011).

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[8] Additional studies on the negative relationship between income volatility and health and well-being include Adeline et al. (2019); Bania & Leete (2022); Vanzella-Yang & Veenstra (2021).

[9] R. Beaudry, personal communication, April 6, 2023

Secure lifelong income mitigates these risks by providing a steady cash flow that's harder to mismanage or divert. By reducing the need for retirees to actively manage large sums — or for families to step in to oversee them — this isn't only a financial planning tool, but it's also as a built-in consumer protection mechanism, safeguarding family relationships and individuals, and lowering the potential for conflict and abuse.

In summary, the advantages encompass the five key benefits of retirement income security: lifetime financial stability; freedom and confidence in retirement; peace of mind and better health; reduced family burden; and protection against financial exploitation.

Employers, plan sponsors and administrators of workplace retirement plans should help plan members understand not only the parameters of secure retirement income ("how much can I expect to receive and when"), but also its emotional, health and social value. Helping members recognize these five key benefits from their own perspective and in ways that personally resonate is an impactful way to build appreciation.

While CAPs don't automatically provide lifelong income, there's still an opportunity to frame communication to show how plan savings can strengthen a retiree's income foundation. For example, members can use part of their balance to purchase an annuity or dynamic pension[10], or use it as an income bridge to defer CPP/QPP or OAS to secure higher lifetime benefits.

Solution #3: Having the Right Tools to Put It All Together

Solution #3 aims to help Canadians understand their workplace plans and engage actively in retirement planning by providing them with the tools to integrate the information and clearly understand the trade-offs.

The absence of accurate, personalized decision-making support tools limits people's ability to make good decisions and forces them into mental shortcuts (Simon, 1955; Tversky & Kahneman, 1974). This problem is visible in Canada's public pensions. An Employment and Social Development Canada (ESDC) evaluation revealed that while 87% of participants in their study *believed* they understood how claiming age affects CPP benefits, focus groups showed very few could quantify the actual impact of claiming before age 65 and many "don't know what they don't know" (ESDC, 2019).

Without integrated tools to show how different financial resources fit together, people are prone to "mental accounting" (Thaler, 1980, 1985), treating each financial "account" in isolation rather than more holistically weighing the trade-offs. For example, they may focus on maintaining a large, accessible emergency fund rather than on gaining the same short-term financial security through a line of credit and putting additional savings toward retirement.

Even financial advisors — who are trusted precisely for their expertise — aren't immune to compartmentalizing their advice. They can inadvertently highlight one short-term consideration (such as a tax credit) instead of

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[10] A dynamic pension — also known as a Variable Payment Life Annuity (VPLA) — is a decumulation option that allows retirees to convert savings into lifetime monthly income by pooling longevity and investment risk with other members. Unlike traditional annuities, dynamic pensions carry no insurance company guarantee; instead, investment returns and the capital of members who die are shared among survivors. This structure can deliver higher expected lifetime income at lower cost than retail annuities, though payments may fluctuate from year to year. For a full discussion, see MacDonald et al. (2021).

the longer-term consequences (such as the lasting value of staying in a pension plan). Unaware of what is being overlooked, people will often accept it at face value.

Without tools that allow individuals to see the long-term implications of their choices, people are not only more exposed to psychological biases, but they also become more dependent on selective advice. Even worse, when the alternatives are unclear, people often avoid making any decision at all and simply default to the status quo (Samuelson & Zeckhauser, 1988).

Leveraging the Power of Well-designed Tools

Knowing is half the battle, and effective tools can transform decision-making from passive acceptance to active understanding. Well-designed calculators and projection tools allow individuals to see the full picture, making the long-term benefits of today's financial choices visible and tangible.

A wide range of studies highlight the advantages of decision-making effort and clearer information in retirement contexts. Broader behavioural research also shows that when individuals invest more effort in understanding retirement decisions, both behaviour and well-being improve. For example, Bateman et al. (2016, 2018) found individuals who spend more time learning about retirement products are more likely to choose annuitized lifelong income, while overconfident individuals tend to favour lump sums.[11]

Well-designed tools also control the speed

of decision-making. Behavioural economics highlights the value of slowing people down when the choices are complex and consequential. Unlike nudges, which streamline decision-making, these "sludge" interventions (Thaler, 2018) deliberately slow the process so that individuals pause, investigate their options and seek help, leading to more confident and informed retirement choices. Kahneman (2011) explained that individuals must shift from automatic "fast" thinking to more deliberate "slow" thinking, which takes more effort but is less prone to error (Kushniruk, 2001; Kahneman, 2011). In fact, according to the "effort heuristic", people place greater value on decisions when they take longer to make (Kruger et al., 2004).

Evidence from international studies confirms how effective tools can counteract overconfidence and inaction, encouraging users to pause and reflect. For example, in Australia, Smyrnis et al. (2019) found interactive online retirement projections increased engagement and encouraged positive behavioural change.

Advancing Retirement Planning Tools in Canada

Accessible, user-friendly calculators act as behavioural interventions as well as information providers by prompting users to weigh options more carefully, reducing reliance on mental shortcuts and helping people avoid costly mistakes. And the benefits extend well beyond building member competencies; they also help individuals understand the value of working longer, recognize the importance of additional

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[11] Other examples abound. Liebman & Luttmer (2015) showed better understanding of U.S. Social Security benefits encourages people to work longer, which delivers financial, social and health gains (Waddell & Burton, 2006). Noone et al. (2009) linked stronger pre-retirement planning with better post-retirement well-being across multiple dimensions (life satisfaction, physical health and emotional health), even after accounting for health status and income levels. Cook et al. (2010) showed that clearer government communication on Social Security improved both knowledge and public trust. Rabinovich and Samak's (2018) survey of U.S. retirees revealed that access to adequate information when claiming Social Security benefits led to higher decision satisfaction, regardless of whether individuals claimed early or delayed benefits.

savings and determine appropriate levels of life insurance.

For pension administrators and policymakers, these tools are essential to build trust and demonstrate plan value. Yet Canada's track record is weak: most free retirement calculators available today — whether government-sponsored or commercial — are either simplistic or focused on other goals, such as selling financial products or gathering user data.

Mainstream retirement calculators typically ask individuals to input information and then produce deterministic projections of net worth or gross income based on average assumptions. The intended purpose is to answer basic questions like, "Am I saving enough?" or "Where will my income come from in retirement?" As discussed in detail in MacDonald & Chandler (2024b), these tools are limited in their ability to evaluate the complex trade-offs of retirement decisions. In fact, their design and presentation may subtly nudge users *away* from long-term financial security.

Several issues contribute to this effect:

- **Equating savings with secure income** — Projected RRIF withdrawals are presented as if they were as secure as indexed lifelong income, obscuring the key differences in risk.

- **Short time horizons** — Outputs often end at "life expectancy", reinforcing the misconception that planning beyond that point is unnecessary.

- **Deterministic financial market projections** — Most tools fail to capture the potential range of outcomes from investment risk, leading users to believe the outcomes of drawdown strategies are certain.

- **Anchoring effects** — Default assumptions about retirement age, rates of return and life expectancy anchor users to values that may not reflect their personal situation and investment plans.

- **Invalid metrics** — MacDonald et al. (2016) showed the longstanding "70% replacement rate" benchmark is invalid (see **Box G**), yet many calculators still rely on it, perpetuating misleading results.

- **Oversimplifying pension entitlements** — Projections often ignore complex plan rules such as bridge benefits, early retirement provisions or survivor options and don't account for how personal contribution or marriage breakdown history affects pension entitlements.

- **Gross vs. net income** — Results are often presented before taxes and transfers, ignoring OAS/GIS clawbacks and tax interactions that directly affect retirement outcomes.

While they are relatively user-friendly and easy to build, these types of calculators can feed into short-term behavioural biases, nudge people away from financially secure outcomes and undermine the perceived value of workplace pension plans. Showing a single projected outcome based on life expectancy and other such assumptions can:

- Anchor users to a misleading "average" scenario that is not a prediction of the future;

- Lead individuals to underestimate the risk of living longer than expected and the associated health-related costs of later life (optimism bias); and

- Distort perceptions of security by framing the results to equate income flows from savings with pensions.

Box G: Replacing the Replacement Rate with the Living Standards Replacement Rate (LSRR)

Although they may be well-intentioned, many common financial planning practices are rooted in outdated assumptions that ignore today's realities. Among these practices are the widespread use of deterministic projections in retirement financial planning, along with reliance on flawed metrics and benchmarks such as the 70% employment earnings replacement rate.

The 70% rate is a longstanding international benchmark used to determine how much is "enough" retirement income. Relied on by advisors, academics and public policy analysts around the world, it is entrenched in pension and tax systems, underlies financial planning software, drives the research that determines whether populations are prepared (or not) for retirement and has been the traditional basis for policy reform.

However, using Statistics Canada's sophisticated population microsimulation model, MacDonald et al. (2016) have demonstrated that the 70% rule has no predictive power. It fails to indicate whether the standard of living for retirees stays the same, improves or declines compared to their working years. In short, it's invalid, misleading and potentially harmful.

Enter the Living Standards Replacement Rate (LSRR). Rather than tracking income, the LSRR compares how much people can actually spend on personal consumption before and after retirement. This measure is more valid, robust and easier to understand. It also prompts people to take more time to reflect on their spending and saving habits.

Behaviourally, this matters because people think in terms of their living standards, not abstract income ratios. The LSRR aligns with this natural framing, helping them visualize what retirement will feel like day to day. By shifting the framing from, "How much income will I replace?" to "Will I maintain my lifestyle?", the LSRR supports more intuitive and meaningful decision-making.

The LSRR framework has been adopted by Canada's retirement services industry, integrated into actuarial training, and underpins new product design and policy evaluation internationally. Yet most Canadian calculators still rely on the outdated 70% rule, perpetuating misleading results.

Deterministic calculators not only underrepresent the risks of retirement income, but they also create a dangerous illusion of certainty. Retirees face a wide distribution of possible outcomes, each with personal financial consequences, and ignoring this variability leaves them exposed to the possibility of severe shortfalls. The result is an illusion of preparedness: people may believe they're financially secure when they aren't.

The Next Generation of Tools: A Tiered Approach

If Canadians are to engage actively and authentically with retirement planning, we need a new generation of high-quality calculators that:

1. **Reflect** the true complexity of retirement income and tax systems;

2. **Present** information in ways that align with how people really think and decide; and

3. **Recognize** the diversity of financial circumstances across the population.

This last point is critical. A single calculator can't serve both financially vulnerable retirees — who depend almost entirely on public pensions — and affluent retirees, who require much more sophisticated investment planning.

Recognizing this, MacDonald and Chandler (2024b) proposed a tiered approach to tool design that matches the right level of support to different groups of Canadians. A tiered approach is also sensible from the provider's perspective, since different plan designs and governance structures will lead to different service delivery models:

- Employer or union staff may be capable of providing some services directly;

- Third-party administrators can provide information and tools, including emerging engagement approaches such as gamification and visualization-based communication; and

- Independent financial planners can be engaged by the employer to provide top-tier services when necessary.

The tiered model is more than a technical design proposal. Without tiered tools, the lack of good information on benefit entitlements handicaps advisors for affluent Canadians, while vulnerable groups are left with simplistic calculators that ignore the most critical considerations of their retirement financial planning: income-tested social transfers, such as GIS.

Level 1: Plan-Specific Estimators

At a minimum, people should be able to get answers to straightforward questions about their workplace retirement plan entitlements — such as how different levels of contributions (if applicable) affect benefits, how benefits change with different commencement dates or how career earnings affect outcomes. These personalized calculations are too complex for individuals or most advisors to make reliably on their own.

These basic estimators would:

- Automatically incorporate plan administrator data while allowing user input for future earnings; and

- Provide accurate, clear, personalized entitlement projections for alternative career choices and decisions about savings rates and pension commencement dates in a format suitable for use in Level 2 and Level 3 calculations (see below).

Level 2: Net Spendable Income Projections

By layering workplace and public pensions and presenting results in terms of spendable income at a household level, these tools would provide clear practical answers to retirement transition questions. For lower- and middle-income Canadians — who depend heavily on public benefits and are most affected by their design — this level of support is especially important.

These Level 2 tools would:

- Integrate Level 1 estimates of benefits from workplace retirement financial plans with CPP/QPP, OAS, Guaranteed Income Supplement (GIS) and taxes for the individual and their spouse;

- Provide net spendable income projections (after taxes and transfers);

- Illustrate how decisions like deferring workplace pensions or electing optional forms of pension affect projected spendable income and long-term income security for the pensioner and their surviving spouse; and

- Distinguish between lifelong monthly income and flexible spending buckets, and focus attention on strategies that shift the balance between the two types of retirement financial security.[12]

Based on the 2023 Survey of Financial Security, 60% of Canadian households have non-registered and tax-deferred assets of less than $50,000 (Statistics Canada, 2024; author's calculations). This means a Level 2 tool would meet the needs of most Canadians. For this group, adding features that model a range of possible market outcomes would complicate results with little practical gain.

Level 3: Personalized Tools and Professional Advice

Those who rely heavily on their investment portfolios to fund their retirement will benefit from professional support from the financial services industry, as well as more sophisticated tools. With access to better data from the "basic" pension estimator, industry experts can deliver more accurate, individualized analyses and offer more targeted advice on investment and tax strategies.

These tailored tools and advice would:

- Serve Canadians with significant investment portfolios who need professional support;

- Use accurate plan-level data to inform personalized advice on investments, insurance and tax strategies; and

- Bridge the gap between plan administrators and the financial services industry by sharing accurate data on entitlements and options.

Employers, plan sponsors and administrators have learned through hard experience that low-quality projections and advice create risk. This tiered model also manages the cost, value, quality and risk of providing information to plan members.

For most members, the first two tiers provide sufficient factual and relevant information about how plans work and how different sources of retirement income fit together to fulfill their needs without overwhelming them — the complex stochastic projections can be reserved for plan members who truly need them.

From the Perspective of a Retirement Plan Sponsor

High-quality calculators aren't just planning aids; they're essential tools for improving the understanding and appreciation of the value of workplace retirement plans. By integrating accurate data, clear framing and behavioural design, they:

- Help workers reflect on their retirement plans;

- Reduce overconfidence and avoid costly mistakes; and

- Increase trust and engagement with workplace pensions.

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[12] For example, employees can visualize the effect of shifting the balance between their income foundation and their flexible spending buckets through mechanisms such as deferring CPP/QPP and OAS, without having to grapple with the longevity, inflation and investment risks associated with paying routine lifelong expenses from a RIF.

When Canadians see clear, personalized retirement scenarios that highlight the change in risks and outcomes attributable to the choices plan administrators are asking them to make, they can make more informed decisions and recognize their workplace retirement plan for what it truly is: a strong contributor to lifelong financial security.

Plan sponsors who choose to offer (or partner with plan administrators and others to offer) advanced retirement planning calculators can follow the recommendations of the Association of Canadian Pension Management (ACPM). In its 2022 report titled "Decumulation 2.0: Converting retirement savings to lifetime income — A prescription to help Canadians navigate their retirement income needs,"ACPM outlined the main attributes of these tools (see **Appendix C** for an excerpt), which provide a foundation for effective, unbiased decision support. Key features include modelling longevity and risk scenarios, accounting for taxes and income-tested benefits in detail; handling "what if" situations (e.g., later-life expenses or a spouse's death); and allowing household-level planning.

Plan sponsors who embrace these guidelines and features will be better equipped to deliver high-quality tools that meet members' needs across the spectrum of financial circumstances. In MacDonald & Chandler (2024b), Janice Holman, a principal consultant at Eckler specializing in CAPs, reviewed how to make these calculators attractive to users (see **Appendix D**).

Conclusion

Retirement planning is not simply a financial exercise; it's a human one. Workers face a complex system, limited feedback and psychological biases that tilt decisions toward short-term thinking and away from long-term security. At the same time, industry norms, framing conventions and outdated tools can reinforce these tendencies. The result is a hazy view of the value that workplace retirement plans provide.

Clarifying the value of these plans doesn't require sweeping reforms or costly new programs. It requires intentional, evidence-based communication strategies that align with how people think and make decisions. By changing the retirement income framework from an accumulation to a decumulation mindset; emphasizing the significant advantages of secure lifelong income; and equipping Canadians with higher-quality decision support tools, employers, plan sponsors and plan administrators can dramatically improve both understanding and appreciation of workplace retirement plans.

Ultimately, enhancing members' appreciation of workplace retirement plans depends on shifting perceptions on retirement saving:

- When "money later" is given sufficient priority over "money now", members are more likely to see their plan as personally relevant rather than abstract or distant.

- This shift in priority can be reinforced through tools and communications that foster engagement with retirement financial planning, encouraging members to actively explore their options, test scenarios and reflect on future needs.

- Sustained engagement also supports deeper understanding of plan provisions, including contribution structures, employer matching, investment options and retirement income features.

Together, **higher priority**, **stronger engagement** and **clearer understanding** form a reinforcing cycle that can enhance both the perceived value of workplace retirement plans and members' confidence in using them effectively.
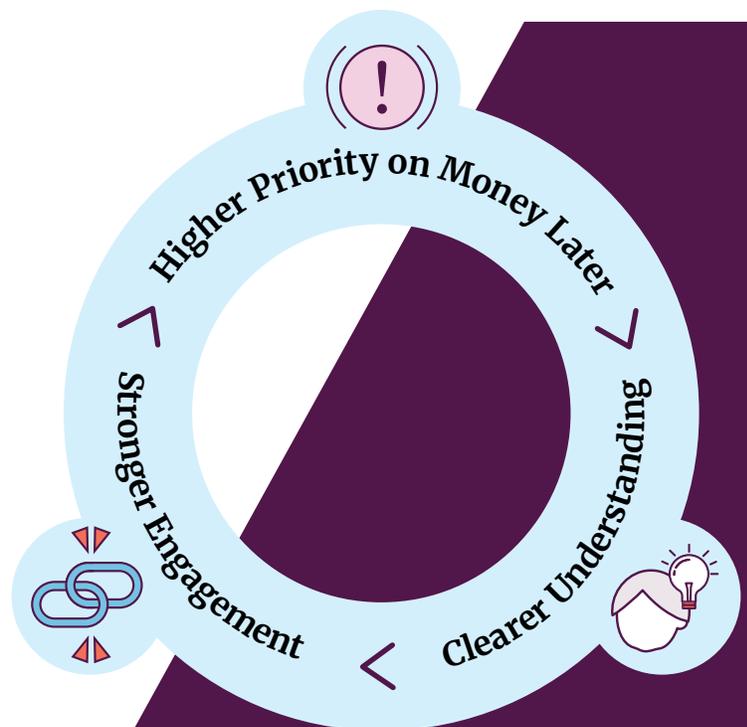
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Appendix A: An Overview of Psychological Barriers

Optimism Bias

People tend to be overly — and unconsciously — optimistic about their future. Nobel laureate Daniel Kahneman has described this as the most significant cognitive bias and one of the most difficult to moderate (Kahneman, 2011). While this bias can reduce stress by fostering a belief that only positive outcomes lie ahead (e.g., success, good health), it can also hamper proactive financial planning and derail effective retirement planning in several ways:

- **Assuming they'll "catch up later"**: Workers may assume they can delay saving without consequences, underestimating risks such as unexpected illness or job loss that may hinder their future saving capacity.

- **Underestimating future expenses**: People often underestimate how much they will need to cover future expenses (Howard et al., 2022), reducing their motivation to save.

- **Avoiding thoughts about negative ageing outcomes**: People tend to avoid thinking about financial challenges related to ageing, such as frailty or long-term care needs (Sharot, 2011; Wright 2024). This leads to a failure to appreciate how pensions and retirement savings programs protect against those later-life costs.

Overall, optimism bias leads individuals to underestimate future risks (e.g., illness, frailty and unemployment), ultimately causing them to delay or avoid important retirement planning activities. As a result, they may also undervalue and fail to take advantage of risk-mitigating opportunities — such as opportunities to increase their lifelong income foundation — that would help ensure financial security in later life.

Subjective Survival Bias

It's well-documented that people tend to underestimate their lifespan,[13] and this can have a significant impact on their retirement decision-making. "If people underestimate how long they will live, they expose themselves to the risks of undersaving and overspending in retirement. It also means they will undervalue guaranteed lifetime payment offerings such as annuity contracts or workplace defined benefit pensions" (Club Vita, 2022, p. 3). This tendency to underestimate the risk of a long retirement is correlated with a lack of preparedness for retirement (op cit. p.7).

Loss Aversion

People tend to feel the pain of loss more intensely than the pleasure of an equivalent gain (Kahneman & Tversky, 1979, 1984). This aversion to losses can distort retirement-related decisions in several ways:

- Fear of short-term market losses may lead to overly conservative investment choices, reducing long-term growth potential; and

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[13] Club Vita is an analytics centre specializing in human longevity and is home to the largest and most up-to-date longevity dataset for Canadian pensioners with workplace pensions. In a 2021 survey conducted across Canada, the U.S. and the U.K., Club Vita (2022) found people underestimate their longevity by an average of 4.7 years compared to their longevity database and models. Similarly, a U.S. online survey by the Society of Actuaries (SOA) found that 43% of retired respondents underestimated their life expectancy by at least five years relative to the population averages for their age and gender (Perlman & Fauquier, 2020).

- When offered a choice between lifetime income and a lump sum, fear of "losing out" (e.g., by dying early) can outweigh the rational benefits of long-term income security.

Present Bias

This bias reflects a preference for immediate gratification over future well-being (Laibson, 1997). As Burum (2014, p. 4) explained: "research in psychology, behavioral economics, and cognitive neuroscience implies that (1) we regard our future selves as other people, and (2) our connection to our future selves influences how we make the decisions that will ultimately affect their well-being."

The disconnect between how we perceive our present and future self helps explain why individuals frequently choose smaller immediate rewards (e.g., spending now) over larger delayed benefits (e.g., saving for retirement). Early foundational work on intertemporal choice and future-self disconnect includes Thaler (1981), Akerlof (1991) and Ainslie & Haslam (1992). More recent research by Hershfield et al. (2011, 2019) has applied these insights specifically to retirement planning.[14]

This disconnect also helps explain why workers may see contributing to a retirement plan that benefits their "future self" as too abstract or distant, compared to the immediate and tangible impact on their current take-home pay. Pension contributions may be perceived as a loss of current income, with the corresponding gain in future security essentially benefiting a stranger.

Lump Sum Bias

Workers frequently choose large one-time payouts (e.g., lump sums) over stable lifetime income, even when periodic payments provide greater value. This tendency — known as lump sum bias — explains why individuals often prefer to retain their savings rather than convert them into lifetime pension income (e.g., through annuity purchases or delaying the start of CPP/QPP benefits) (Hu & Scott, 2007).

Lump sum bias is potentially reinforced by two illusions: **the illusion of wealth** — the perception of feeling wealthier with a lump sum than with a promised pension (Goldstein et al., 2016) — and the **illusion of control**, the belief people hold that they can better manage their money independently, despite evidence to the contrary. Referencing a large body of psychological research beginning with Langer (1975), Brown (2009) explained the illusion of control in the context of pension plans: "Individuals may well believe that they have more control over their financial future by holding wealth rather than receiving income" (p. 196).

Herding Effect

Humans have a natural tendency to follow the crowd when confronted with unfamiliar or complex decisions like those associated with retirement financial planning (Bursztyn et al., 2014). Faced with confusing pension options, many workers simply mimic the choices of their peers — often without evaluating whether those choices align with their own financial goals and circumstances. In the absence of intentional counterefforts, prevailing social norms can reinforce inertia and discourage informed decision-making.

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[14] Shin et al. (2019) further explored how narrow framing bias — the tendency to evaluate present consumption decisions in isolation from future needs — distorts long-term retirement choices. For a comprehensive analysis of how age influences intertemporal preferences, see meta-analysis of decision-making across the adult lifespan in Seaman et al (2022).

Appendix B: Ageing in Place and Long-Term Care

"One of the first things I ask after diagnosing dementia is whether the patient has family support or money — these are the strongest predictors of how well they'll manage."

— **Dr. Samir Sinha**, Canadian geriatrician and Director of Health Policy Research, NIA

Nearly all Canadians ages 65+ want to age in their own homes (NIA & Telus Health, 2020; NIA, 2021), yet financial and system barriers make this increasingly difficult to achieve. For example:

- The Canada Health Act doesn't cover long-term care, which is fragmented and strained. In 2021, more than 52,000 Canadians were on waitlists for long-term care facilities (Segel-Brown, 2021), and more than 430,000 had unmet home care needs (Gilmour, 2018).

- Families have traditionally filled this gap, providing 75% of care in the home for older adults (MacDonald et al., 2019) on an unpaid basis. But demographic shifts — including smaller families, more working women and greater global mobility — are eroding this support.

- Publicly funded long-term care costs are already under severe pressure and are projected to triple by 2050, rising from $22B to $71B. This figure grows to $98B if unpaid family care must be replaced — over a quarter of projected personal income tax revenue (ibid).

- Few retirees have sufficient savings. In 2019, two-thirds of households nearing retirement had registered savings, with a median of just $100,000 — an amount quickly exhausted by long-term care costs.

Lifelong retirement income provides critical support not only for day-to-day needs, but also for ageing safely at home as family and public support declines.

Appendix C: Industry Recommendations for Post-Retirement Financial Planning Modelling Tools

Source: Association of Canadian Pension Management (2022)

Post-retirement computer-based financial planning modelling helps CAP (Capital Accumulation Plan) members and retirees assess how long each savings account may last and the likelihood that basic income needs will be satisfied for the remainder of the member's life. While the retirement industry provides good decision-support tools for CAP members during the enrolment and accumulation phase, there is a growing need for robust modelling tools to support decision-making for CAP members who are exiting their plans (or starting retirement income from within the plan) and throughout the decumulation phase.

Many attributes of the best decumulation modelling tools include the following:

1. **User-friendly design:** Clear, meaningful, and customizable outputs.

2. **Robust economic assumptions:** Allow for differing assumptions about the economic environment — covering capital market expectations (including potential market shocks), inflation, and interest rates — that are continually revisited and used in a stochastic framework to show a distribution of outcomes.

3. **Realistic returns and spending:** Calculate investment returns on a net-of-fee basis and express spending needs in real (inflation-adjusted) dollars to provide more meaningful results and guidance.

4. **Net income focus:** Model spendable (after-tax) income rather than gross income, accounting for federal and provincial taxes, income-tested benefits (e.g., GIS clawbacks), and other provisions such as income splitting and mandatory withdrawal rules.

5. **Holistic personal data:** Include a member's complete financial picture, including all retirement assets (RRSPs, TFSAs, non-registered savings), housing equity, and outstanding debts (mortgages, loans, etc.).

6. **Phase-specific needs:** Adjust retirement lifestyle costs and cash flow needs for different phases of retirement, including late-life and end-of-life expenses (such as increased health care costs or estate considerations).

7. **Household basis:** Provide flexibility to model retirement needs and drawdown scenarios on a household (couple) basis rather than just an individual basis.

8. **Longevity guidance:** Offer guidance on developing longevity assumptions for the retiree and spouse, taking into account health status, family longevity, and other factors, and allow scenario analysis for different lifespans.

9. **Integration with public pensions:** Include the ability to input or modify government pension entitlements (CPP/QPP and OAS) for both member and spouse based on actual benefits earned, and show impacts of different start dates on annual incomes.

10. **Widowhood scenarios:** Provide flexibility to model adjusted retirement income needs and drawdown strategies following the death of a spouse.

11. **Spending shock tests:** Enable the capture of certain "retirement spending shocks" (e.g., sudden medical or long-term care costs) to test the retirement plan's sensitivity to such events.

12. **Compare drawdown strategies:** Allow identification and comparison of alternative drawdown strategies, illustrating how the outcomes from one strategy compare to those of another.

13. **Personalized to goals:** Address individual differences in goals and preferences, including risk tolerance, personal discount rate (preference for now vs. later), need for predictability versus flexibility, attitudes toward leaving a legacy, etc.

ACPM Recommendation: Regulatory guidance regarding CAP decumulation should direct CAP sponsors and providers to make modelling tools covering points 1 through 12 above available to their members (included in plan expenses), with point 13 being an additional benefit. *(ACPM, 2022, p. 20)*

Appendix D: The Other Half of the Battle – Using Computer-Based Financial Calculators

Janice Holman, CFA, CFP, personal correspondence, August 16, 2024

Based on my 25+ years of experience working with Canadians on capital accumulation plans (CAPs), as well as over a decade spent building an ideal financial planning tool for plan members, there is one important finding: just because you build it, it doesn't mean "they" will come. Even the best tools will be ineffective if they are not incorporated into everyday life events.

There is a significant range of usage of retirement calculators. For example, in 2023, a review of retirement calculator usage at three of Canada's largest CAP recordkeepers showed a significant range — from 14% of members on the low end to 55% on the high end. Factors affecting these statistics include the following:

- **Incorporation into key events** — Integrating the retirement calculator into other processes (such as plan enrollment or a nudged annual review) dramatically increases usage.

- **Proactive nudges** — Prompting users with personal messages (e.g., "You have not yet set a retirement goal; find out if you are on track" or "You haven't logged on in over a year; see how your retirement has changed.") encourages them to use the tool.

- **Automated inputs** — Ensuring the tool pre-fills available data and handles complex calculations behind the scenes makes the experience easy, accessible and accurate.

- **Easily digestible outputs** — Presenting information through intuitive graphs or illustrations significantly increases the likelihood of usage.

- **Trusted source** — A reliable, credible provider and transparency about how personal information will be used increase adoption.

- **Positive reinforcement** — Highlighting what the tool will help users with personally, the value it provides, and its ease of use fosters engagement.

- **Comprehensive scope** — Tools that address only a very narrow aspect of retirement planning have less value to members. Calculators need to put results in context and incorporate other significant pieces of information affecting the user's decision-making.

- **Promotion and awareness** — Even a great tool needs promotion. Ongoing encouragement and communication must highlight the tool's value to the user.

- **Accessibility** — Any tool must be easily usable on a mobile device or via an app. Use of desktop-only tools continues to fall, as on-the-go access via phones or tablets replaces it.

Finally, I can't stress enough how much trust is a major factor in the use of financial calculators and the adoption of the results they provide. In a survey Eckler Ltd. conducted in 2019, 90% of Canadians said the most important attribute of financial education is that it is "unbiased" (Eckler Ltd., 2019).

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