Innovation and Experimentation at the Canada Revenue Agency

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The Innovation Imperative

- **Innovation** – helps us discover new ways to tackle old issues and to meet our business objectives and the evolving expectations of Canadians

- Foster a **culture** of innovation, experimentation and intelligent risk taking (Corporate Business Plan 2018-19 – 2020-21)

  - Refine our use of **behavioural insights** and **experimental designs**

  - Continue **in ethnographic research** to gain additional insights into taxpayer behaviour

  - Explore the use of **new technologies** (such as artificial intelligence, cloud computing, blockchain, and robotics process automation)

Canada Revenue Agency

28.8 million individual and **2.4** million corporation tax returns filed

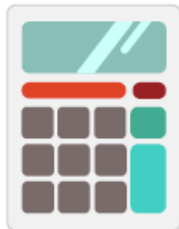**12.4** million benefit recipients

86% of individual tax returns and **89%** of corporation returns filed digitally

$499.8 billion in tax processed

$31.8 billion in benefits paid

$4.205 billion planned spending for 2018–2019

Workforce of approximately **40,000** employees

Opportunities to improve outcomes through innovation are great

Accelerated Business Solutions Lab

- **Accelerated Business Solutions Lab** – dedicated space to experiment with new approaches to improve service and compliance

- **Strong focus on using an experimental approach** to innovation to find out what works and what doesn't – fundamental to intelligent risk-taking and providing sound advice

Accelerated Business Solutions Lab

INNOVATION

Advanced Analytics

Using advanced analytics to improve compliance and service

- Data mining, algorithms and models
- Predictive modeling and beyond
- Random control trials/experimental design
- Visualization

Taxpayer Behaviour

Leading nudge experiments and qualitative research

- Understanding the needs of our clients by conducting ethnographic research
- Nudge to increase take-up of benefits
- Nudge to increase online filing

Tax Gap

Leading research on tax gap estimation

- Tax Gap in Canada: A Conceptual Study
- GST/HST Gap
- Tax Assured and Tax Gap for the Federal Personal Income Tax System
- International Tax Gap

Experimentation at the Lab

Strong focus on using an experimental approach to innovation to find out what works and what doesn't

- Experimentation – explore, test and compare the effects and impact of policies, interventions and approaches in order to inform evidence-based decision-making

- It helps us identify interventions that should be scaled up, and others that should be reconsidered

Lab's Experiments

- Increasing benefits uptake

- Increasing use of digital services

- Strengthening compliance

- Promoting honesty in tax reporting

- Using SMS to reduce appointment no-shows

Importance of a Framework

Identification

Ensure the problem and question is specific, measurable, and underpinned by accessible data

Discovery

What are the causes of the problem? Is the problem important?

Design

How do we design an intervention to fix the problem?

Analysis

Did our intervention help fix the problem?

Deployment

Should we scale up the intervention? And if so, how?
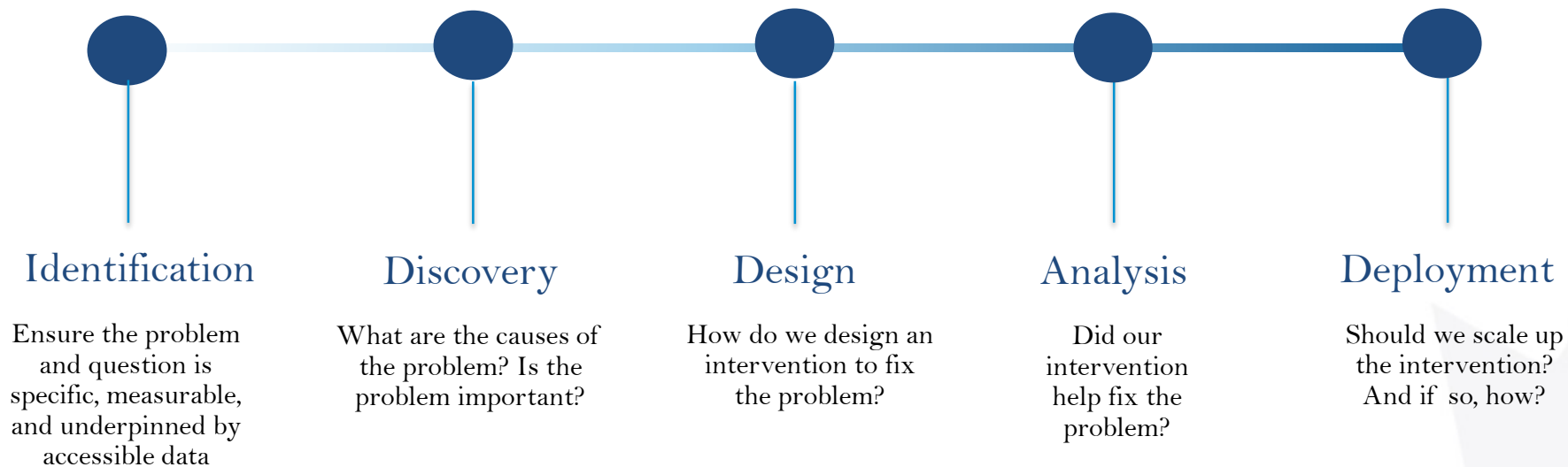
Lessons from the Lab at three-year mark

- The importance of a clearly defined mandate

- Leveraging program experience

- Measure, measure, measure... and RCTs are not the only tool

- Moving towards the user perspective and co-creation

- Diversity in perspectives yields dividends

- Innovation requires adaptability

- The work environment supports collaboration

Behavioural Insights Experiments

Environmental Messaging Nudge

Working Income Tax Benefit Nudge

Behavioural Insights

- Behavioural insights focuses on individuals' behaviours and choices in real-life situations

- BI recognizes that people aren't fully rational

Impulsive preferences
Short attention span
Overconfident
Herd mentality
Mental accounting
Overconfident

Limited attention span

Overconfident

Herd mentality

Mentical

Power broking

Suboptimal decisions

Nudge

- Nudges seek to overcome barriers that lead to suboptimal choices

- Nudges change how choices are presented to facilitate better decisions (choice architecture)

- Nudges should:
    - not forbid any options
    - be cheap and easy to avoid
    - not significantly change economic incentives

Environmental Messaging Nudge

- Can letters encourage paper filers to file online? Are any messages more effective than others?

- Stratified randomization

- Control group (no letter)

- Treatment groups
  - Typical CRA messaging
  - Environmental message
  - Picture of a tree
  - Promise to plant a tree

Environmental Messaging Nudge

Online Filing Rate of Paper Filers by Control/Treatment
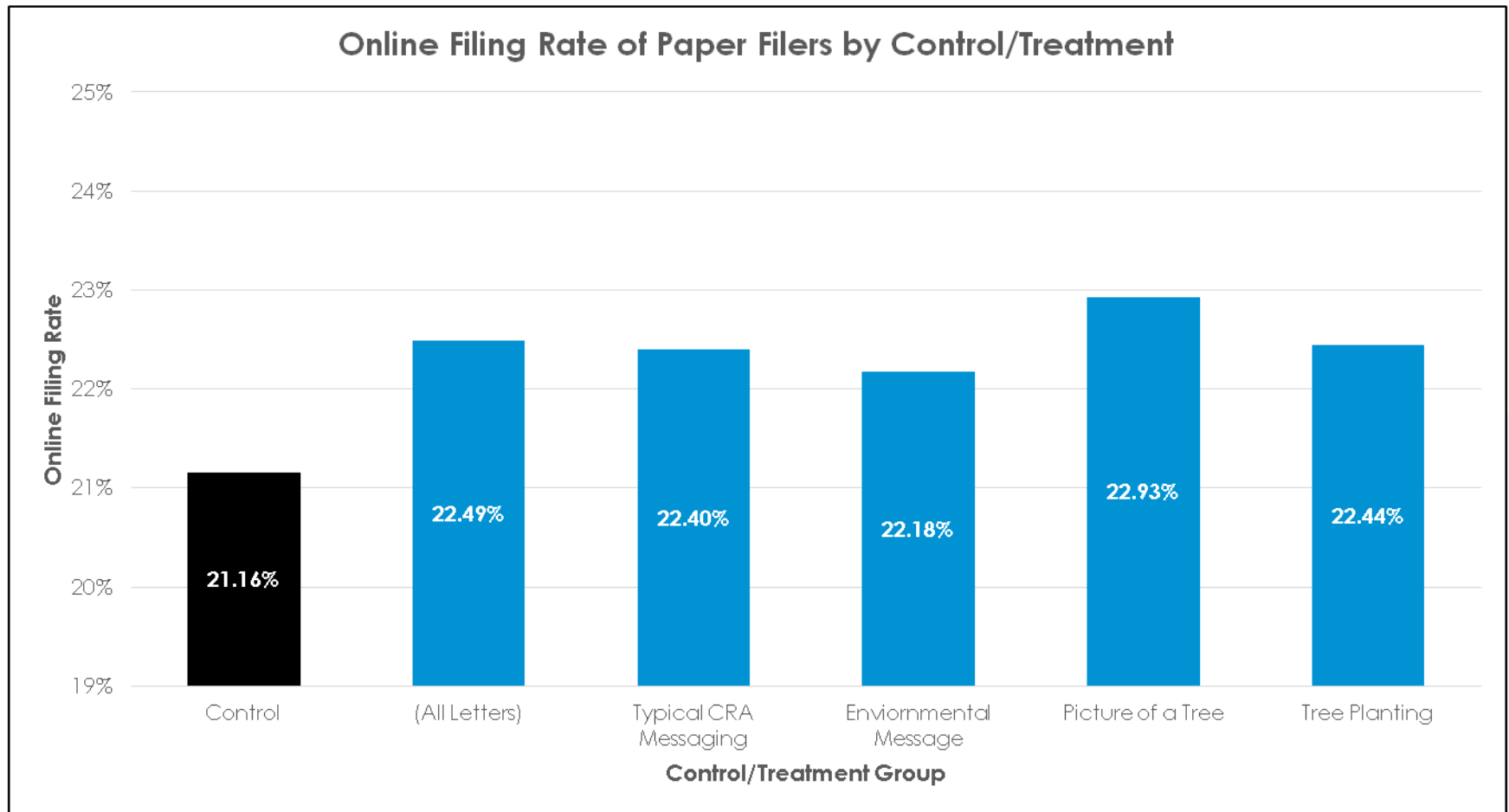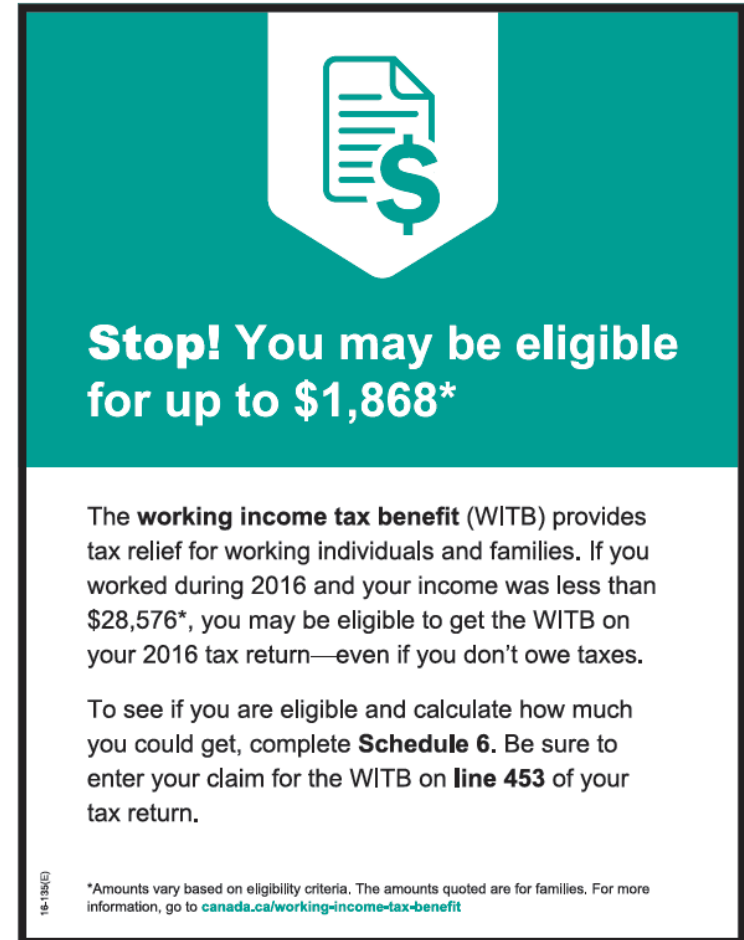
Working Income Tax Benefit Nudge

- Working Income Tax Benefit: **up to $1,868 per year**

- Less than **50%** of eligible paper filers **do not apply**

- Can an insert in the paper forms book encourage these eligible paper filers to apply?

WITB Take-Up by Filing Method, 2012

Agent	Tax Software	Paper
94%	86%	49%

INNOVATION
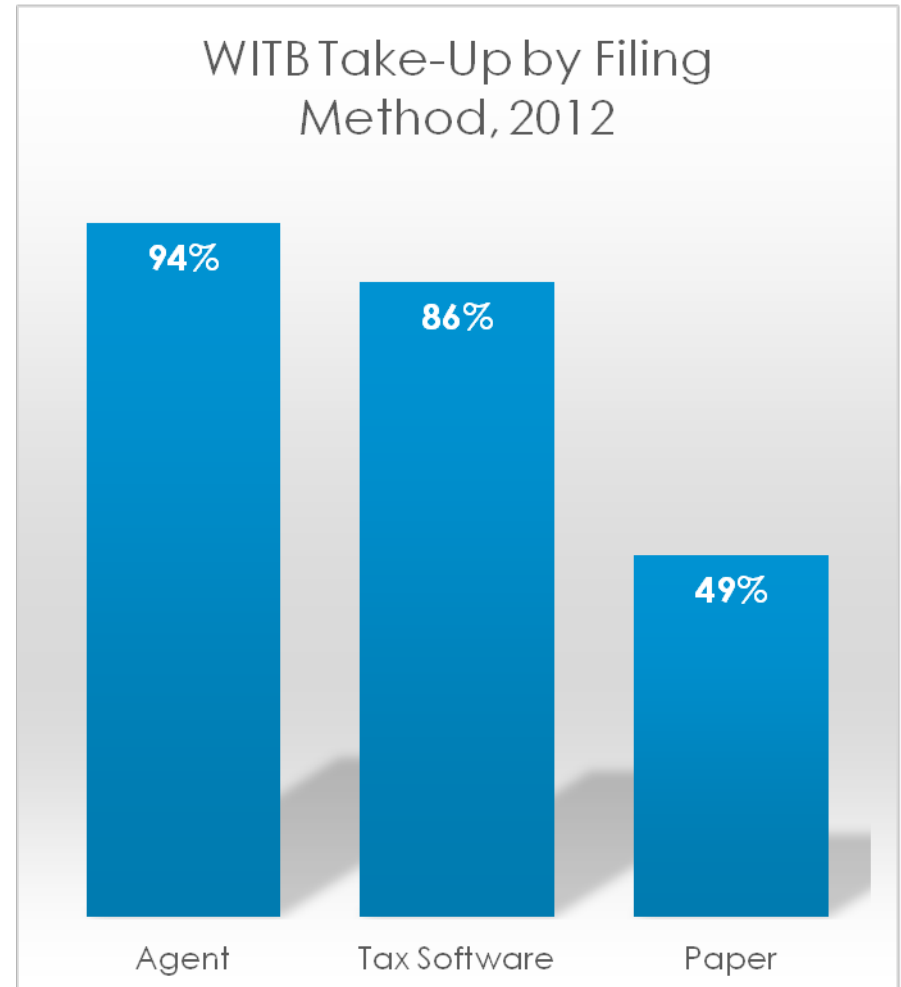
Working Income Tax Benefit Nudge

- We could not randomize the paper forms books that contained/did not contain inserts

- So we included the insert in all paper forms books in New Brunswick, and had no insert in every other province

Stop! You may be eligible for up to $1,868*

The **working income tax benefit** (WITB) provides tax relief for working individuals and families. If you worked during 2016 and your income was less than $28,576*, you may be eligible to get the WITB on your 2016 tax return—even if you don't owe taxes.

To see if you are eligible and calculate how much you could get, complete **Schedule 6**. Be sure to enter your claim for the WITB on **line 453** of your tax return.

*Amounts vary based on eligibility criteria. The amounts quoted are for families. For more information, go to **canada.ca/working-income-tax-benefit**

INNOVATION

The Insert

FORMS 2016

T1 General
New Brunswick

- Returns
- Schedules
- Provincial Information and Forms

Envelope available separately – take one if needed
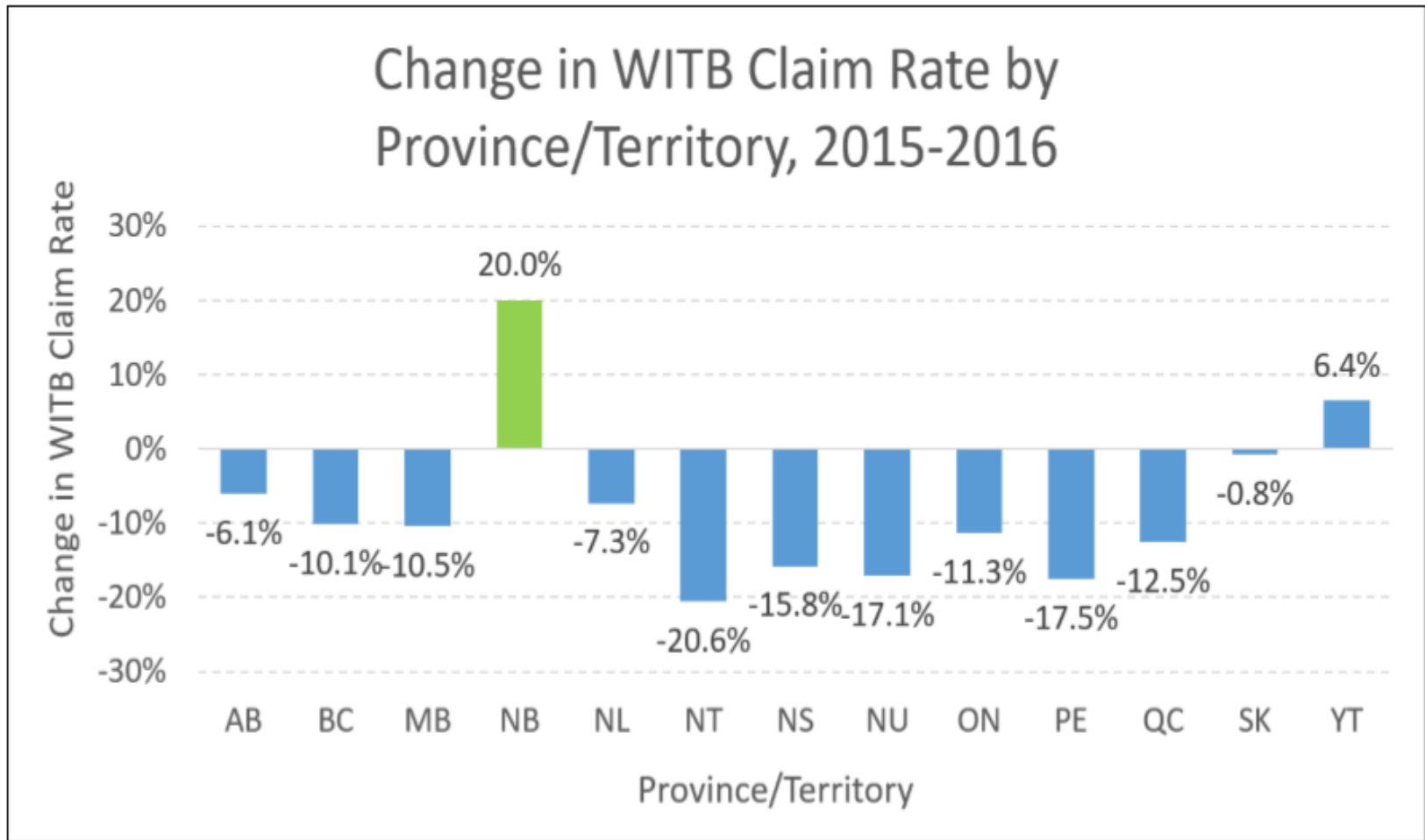
Save time—file online!
GO TO CRA.GC.CA/GETREADY

CANADA 150

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Canada

Working Income Tax Benefit Nudge

Change in WITB Claim Rate by Province/Territory, 2015-2016

Thank You

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