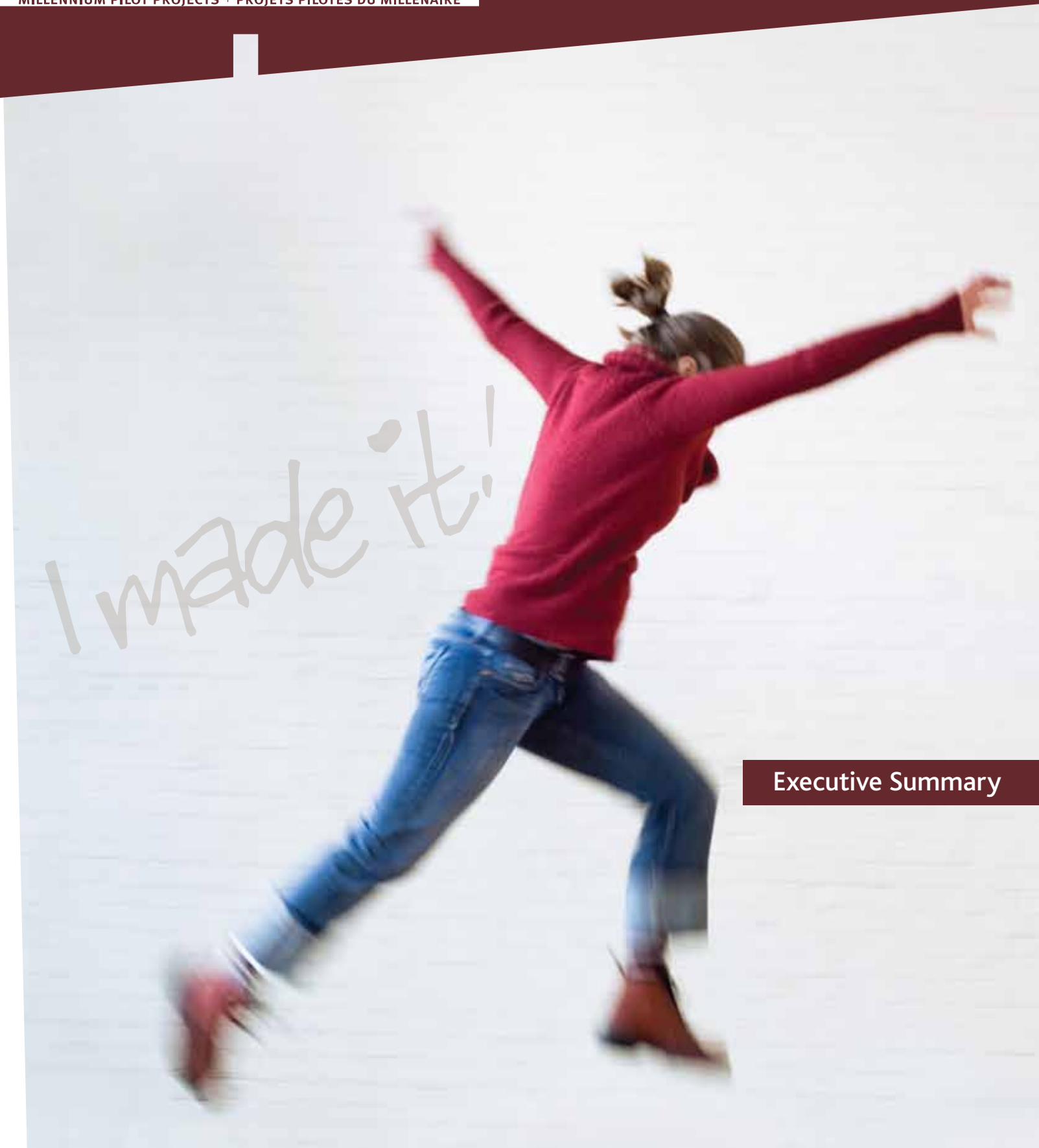

Executive Summary

Future to Discover:
[Post-secondary Impacts Report]

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***Future to Discover*: Post-secondary Impacts Report (Executive Summary)**

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Future to Discover:
[Post-secondary Impacts Report]

EXECUTIVE SUMMARY

Future to Discover

Future to Discover (*FTD*) is a pilot project testing the effectiveness of two interventions designed to help students overcome certain barriers to post-secondary education, namely lack of career clarity, misinformation about post-secondary education, and lack of financial resources. This report presents post-secondary impacts of the project, which has involved 5,429 students at 51 high schools in Manitoba and New Brunswick since 2004.

The project's two interventions are the following:

- *Explore Your Horizons* (*EYH*), which offers students enhanced career planning and better information about post-secondary programs, and their costs and benefits, early in the high school years. It was implemented between 2004 and 2008 while project participants were still in high school; and

- *Learning Accounts* (*LA*), which, during the early years of high school, promises up to $8,000 of non-repayable financial aid to students from lower-income families should they go on to pursue post-secondary education. Deposits into the accounts accumulated during 2004–2008 while project participants were still in high school. Payments to participants who made the transition to post-secondary studies were made between 2007 and 2011.

The project set out to test whether these interventions, offered either separately or in combination, would increase high school students' chances of enrolling in post-secondary education. While various programs offer information and financial assistance relating to post-secondary education, *Future to Discover* is distinct in its design to help those youth traditionally least likely to attend post-secondary education, and in its very early promise of financial assistance.

Explore Your Horizons facilitates participants' development of their own post-secondary plans, based on their passions and interests. It engages parents as allies and existing post-secondary students as role models, providing enhanced career education beginning in Grade 10.

Learning Accounts promises students funding for post-secondary education as they enter Grade 10, long before they can apply for regular student financial assistance programs, and at a time when it may still be possible to influence their decision about whether or not to continue their studies past high school. It makes up to $8,000 available to lower-income students when they participate in full-time post-secondary education. Unlike other programs that make early commitments of aid, access to *Learning Accounts* is unconditional on students' educational achievement in high school, other than successful completion of each academic year.

Considered as a whole, the *Future to Discover* pilot project provides much needed evidence about the effectiveness of such early intervention policies. This report presents work done by the Social Research and Demonstration Corporation (SRDC) on the evaluation of its two components, *Explore Your Horizons* and *Learning Accounts*.[1] Evidence on the implementation of these two interventions and their impacts is derived from the analyses of a variety of quantitative and qualitative sources, including surveys, administrative data, focus groups, and observation of workshops.

The current report presents the primary impacts of interest to the study — students' participation in post-secondary education. It also presents results from a cost–benefit study, a summary of the implementation results, and includes results from the National Longitudinal Panel, or NLP (a qualitative study of a sub-sample of participants' decision-making, intended to gain insight on the mechanisms underlying the pattern of program impacts).

The Interventions

Participants in *Explore Your Horizons* were invited to take part in 40 hours of after-school project activities over a three-year period (Table ES.1).[2] These activities provided enhanced career education and focused information on post-secondary studies beyond what was otherwise available in Manitoba and New Brunswick high schools. The package of sequentially and developmentally appropriate material was designed by leading experts, both researchers and practitioners, in the field of career development. The information was delivered through workshops facilitated by project staff, including guidance counsellors or educators and post-secondary students serving as role models. A project magazine and a Web site were also available to students to provide different forums for the review of workshop content alongside focused information on post-secondary studies. The *Explore Your Horizons* curriculum as a whole was designed to permit other jurisdictions to integrate the materials within provincial curricula.

1 This is the third in a series of three *Future to Discover* reports. The first two are the Future to Discover *Early Implementation Report* (SRDC, 2007) and the Future to Discover *Interim Impacts Report* (Smith Fowler et al., 2009).

2 The decision to offer *Explore Your Horizons* only in after-school sessions was made early in the project design phase for multiple reasons, including curriculum overload, inclusivity, and the desire for parental involvement. Some provincial officials initially wished to avoid adding to existing school curricula. Others were reluctant to make interventions available to only a sample of research participants rather than to all students during compulsory school hours. Finally, after-school sessions were thought more conducive to parental attendance.

Explore Your Horizons activities aim to help students understand the range of occupational and post-secondary choices and to estimate their benefits and costs. The intent is to help overcome any informational or motivational barriers to higher education that under-informed or misinformed students might have so that they might make meaningful decisions about their futures. The intervention involves exploration of all post-secondary paths — apprenticeships and vocational training, as well as college and university. A full description of *Explore Your Horizons* Year 1 activities may be found in the *Future to Discover Early Implementation Report* (SRDC, 2007, Chapter 5).

Learning Accounts promised, at the beginning of Grade 10, a bursary of up to $8,000 to students in New Brunswick high schools with a family income at or below the provincial median, should they participate in a post-secondary program. They were told that by attending a New Brunswick high school and successfully completing each consecutive school year until graduation, and by successfully enrolling in a post-secondary education program (recognized by the Canada Student Loan Program) they would receive up to $4,000 in each of two years of post-secondary study. At the end of both Grade 10 and Grade 11, participants in *Learning Accounts* still attending a New Brunswick high school received deposits in their accounts of $2,000 for each year successfully completed. *Learning Accounts* participants had another instalment of $4,000 deposited into their accounts upon graduation from a New Brunswick high school. The accumulation of funds over time in *Learning Accounts* was intended to recognize each participant's continued commitment to education and to encourage reflections on life after high school. Eligibility for the *Learning Accounts* intervention was determined using data from income tax returns provided by each of their parents.

Those lower-income students who receive the offer of a Learning Account may realize earlier than they otherwise would have that pursuing post-secondary education is an affordable and realistic option. In turn, this may lead them to undertake better planning for the future. Alternatively, or in addition, the accumulated funds may help students overcome financial barriers by reducing the costs associated with post-secondary education.

Table ES.1: The Six Components of *Explore Your Horizons*

Component	Rationale	Frequency in Grade 10	Frequency in Grade 11	Frequency in Grade 12
Career Focusing	To help high school students explore career and education options and develop suitable career education plans. Parents are invited to attend the orientation session and the final session.	6 workshops of 2 hours (12 hours) plus an orientation session		
Lasting Gifts	To help parents understand career development and how to support their children through the process. Parents and students are invited to attend all sessions together.		4 workshops of 2 hours (8 hours)	
Future in Focus	To help students manage transitions and build resilience to overcome challenges, such as through support networks. Parents are invited to attend the orientation session and the final session.			4 workshops of 2 hours (8 hours) plus an orientation session
Post-secondary Ambassadors	To promote career exploration and education planning by establishing connections between high school students and students currently enrolled in a range of post-secondary education and training programs.	2 workshops of 2 hours (4 hours)	2 workshops of 2 hours (4 hours)	2 workshops of 2 hours (4 hours)
Future to Discover Web site	To provide information about career- and education-planning to encourage education and training after high school. Profiles, articles, and quizzes are presented in a colourful format designed to be appealing to youth.	Accessible throughout *Explore Your Horizons*. Participants gain sequential access to more site information over the three-year period.		
F2D Magazine	Same as for the *Future to Discover* Web site above.	2 issues	2 issues	2 issues

Data Used to Estimate the Interventions' Impacts

Many outcomes were measured by the *FTD* 66-month student survey (such as post-secondary aspirations, use of own savings to finance post-secondary education, knowledge of government aid) The survey was conducted between October and May of what would normally be the third year of post-secondary studies, assuming continuous school attendance and progression.

For the primary outcomes in this report — those related to post-secondary attendance — the most reliable data sources are post-secondary administrative data files. In New Brunswick, this includes college enrolment data for New Brunswick Community College (NBCC), Collège communautaire du Nouveau-Brunswick (CCNB), and the New Brunswick College of Craft and Design provided by the Department of Post-secondary Education, Training, and Labour and university enrolment from the Maritime Provinces Higher Education Commission (MPHEC). In Manitoba, the data are provided separately by each of the public universities and colleges.[3]

Although administrative data contain accurate information on post-secondary enrolment, they are somewhat incomplete. First, students who attend private career colleges or vocational institutes or who are registered apprentices would not be covered by the available administrative data. Second, college students outside of New Brunswick or Manitoba, as well as university students outside of the Maritime Provinces or Manitoba would not be covered. In such cases, the study uses the *FTD* 66-month student survey. In some instances, students could not be contacted directly, in which case the study uses a proxy survey of parents or guardians (survey response rates are discussed in Appendix 1).

The enrolment outcomes in this report are based on two measures: enrolment in PSE and enrolment in specific types of PSE (university, community college, private college or vocational institute, and registered apprentice).

- **University** enrolment is defined as being enrolled at a university in a program leading to a degree, certificate or diploma at the bachelor's degree level or higher. This includes a teaching certificate, bachelor's degrees (e.g., B.A., B.Sc., B.Ed., B.Eng., LL.B., etc.), any certificate above a bachelor's, master's degrees (e.g., M.A., M.Sc., M.B.A), degrees in medicine, dentistry, veterinary medicine, or optometry, doctorate or post-doctorate programs, professional association diploma, certificate or license (e.g., accounting, banking, insurance). University enrolment also includes being enrolled at a college in a program that leads to a bachelor's degree.
- **Community College** enrolment is defined as being enrolled in a community college or technical institute in a program leading to a degree, certificate, or diploma, below a bachelor's degree level, excluding any programs that would normally last five weeks or less and apprenticeship programs. College enrolment includes CEGEP, university transfer programs, certificate or diploma programs in cosmetology, business administration, radiology, certificate of bricklaying, and so on. College enrolment also includes being enrolled at a university in a program that leads to a diploma or certificate below a bachelor's degree, excluding any programs that would normally last five weeks or less.
- Enrolment at a **private college or vocational institute** involves programs leading to a diploma or certificate, excluding programs that would normally last five weeks or less. These institutions normally offer job-oriented training programs lasting no more than two years. Examples of these include certificate programs in cosmetology, hairdressing, automotive mechanics, computer technology, and so on.
- **Registered apprentices** include survey respondents who said they had registered with a provincial or territorial apprenticeship authority for training in a trade leading to a journey-person certificate. It also includes sample members enrolled in a New Brunswick or Manitoba community college in an apprenticeship program.

The Evaluation

Recruitment for *Future to Discover* took place in 2004 and 2005 when the participants were in Grade 9. Two cohorts were recruited in New Brunswick (in Spring 2004 and Spring 2005), as well as a single cohort in Manitoba (in Spring 2005). The 5,429 participants who consented to take part in Grade 9 were randomly assigned to one of three experimental groups or to a comparison group receiving no new intervention. The project thus involved four groups, as follows:

- *Explore Your Horizons* participants who were offered only access to the after-school guidance workshops.
- *Learning Accounts* participants who were promised only funding for post-secondary studies.
- Participants who were offered both *Explore Your Horizons* and *Learning Accounts*.
- A comparison group of participants who were offered neither intervention.

3 In New Brunswick, the administrative data had to be linked to the *Future to Discover* baseline survey data by the Social Insurance Number (SIN) when this was available. When it was not available, the date of birth, first and last name, and sex were used to match. In Manitoba, students are issued a Manitoba Education and Training (MET) Number, which is maintained throughout elementary, secondary and post-secondary school. Thus, matching the post-secondary administrative files to the *Future to Discover* baseline survey was based on the MET and, when necessary, the SIN, date of birth, first and last name, and sex.

By randomly assigning students into groups whose outcomes would be compared over time, it is likely that they were initially (at "baseline" when recruited at the end of Grade 9) very similar since it was only chance that determined who was offered the program. The influence of remaining chance differences that could be observed in baseline data were controlled for by a statistical procedure called a "regression adjustment." As a result, differences in program and comparison group outcomes can be reliably attributed to the offer of the intervention, and termed "program impacts."

The evaluation primarily concerns the effectiveness of the interventions in improving participation in post-secondary studies. The project's experimental design has allowed for a comparison of impacts between those receiving *Explore Your Horizons* plus *Learning Accounts* and those receiving only *Explore Your Horizons* or *Learning Accounts*. In other words, the project is able to report on the effectiveness of both interventions, offered either individually or jointly.

Information about the early implementation of *Explore Your Horizons* and *Learning Accounts*, including design, selection of schools, and baseline characteristics of project participants, can be found in the *Early Implementation Report* (SRDC, 2007). Its analysis found recruitment and random assignment for the project to be successful. The demographic and socio-economic characteristics of the students recruited for the *Future to Discover* pilot project were statistically identical across the four groups to be compared in the analysis.

SRDC has concluded from its implementation research that *Explore Your Horizons* and *Learning Accounts* have been successfully delivered. Both received a "fair test." The success of the random assignment and project implementation permits a detailed analysis in which 15 different experimental contrasts can be examined (see Table ES.2).

Table ES.2: The Experimental Contrasts in the *Future to Discover* Pilot Project

Sample	Experimental contrast(s) of randomly assigned groups	What do we learn from impact analysis?
New Brunswick *LA*-eligible sample (separately for Anglophone and Francophone linguistic sectors)	*EYH* versus comparison group	Impact of offering *EYH* to lower-income families
	LA versus comparison group	Impact of offering *LA* to lower-income families
	EYH plus *LA* versus comparison group	Impact of offering a combined intervention of *EYH* with *LA* to lower-income families
	EYH versus *LA*	The relative impact of offering one intervention to lower-income families compared to the other
	EYH plus *LA* versus *LA*	The incremental impact of offering *EYH* in addition to a Learning Account to lower-income families
	EYH plus *LA* versus *EYH*	The incremental impact of offering a Learning Account in addition to *EYH* to lower-income families
New Brunswick (separately for Anglophone and Francophone linguistic sectors) *LA*-ineligible sample combined with *LA*-eligible sample	*EYH* versus comparison group	Impact of offering *EYH* to all students
Manitoba	*EYH* versus comparison group	Impact of offering *EYH* to all students

Future to Discover's Target Population

The *Future to Discover* project is especially concerned with improving post-secondary participation outcomes for two sub-groups of students who are commonly identified as under-represented in post-secondary education, as discussed in detail in the *Future to Discover Early Implementation Report* (SRDC, 2007):

- Those whose parents have income at or below the provincial median and no credential from post-secondary study of two or more years in duration. This group — labeled lower-income, lower-education — is of particular interest because research has shown that the combination of family income and parental education to be strongly correlated with young people's academic achievement and participation in post-secondary education (Barr-Telford et al., 2003; Bowlby and McMullen, 2002; Frenette, 2007; Knighton and Mirza, 2002; Looker, 2001; and Tomkowicz and Bushnik, 2003).

- Those from "first generation families" (FGF), comprising participants whose parents have no post-secondary experience (that is, the highest education level of both parents was "high school or less" at the time of joining the study), who may be particularly disadvantaged in seeking information and advice on post-secondary transitions.

Youth whose parents have lower incomes and lower educational attainment are the main groups of interest to the *Future to Discover* pilot project. According to the literature, these youth are less likely to undertake studies at the post-secondary level. Several mechanisms were used to increase the proportion of these students within the research sample, including:

- Preference given to high schools with a greater share of lower-income families in their catchment areas.

- Only those students whose parents' income fell at or below the provincial median were eligible to receive *Learning Accounts*, either on its own or in combination with *Explore Your Horizons*.

In Manitoba, the only intervention offered to students was *Explore Your Horizons*. Students from lower-income and lower-education families were included primarily through site selection. At the end of project recruitment, roughly 30 per cent of the Manitoba participants belonged to the targeted groups.

In New Brunswick, both *Explore Your Horizons* and *Learning Accounts* were offered (whether separately or combined). All students recruited for the project, regardless of family income or their parents' educational attainment, were eligible to be offered *Explore Your Horizons*. On the other hand, only students whose family income was at or below a given threshold were eligible to be offered *Learning Accounts* (either on its own or in

tandem with *Explore Your Horizons*). The income threshold used was the provincial median (the exact threshold depended on family size). At the end of project recruitment, roughly 50 per cent of the New Brunswick participants belonged to the targeted lower-income, lower-education group.

The outcomes for the project's two main target groups will be presented in this report: students from "first generation families," and students from families with both lower income and lower education.

Another group of interest in recent years is boys. Frenette and Zeman (2007) document that boys are far less likely than girls to attend university, largely due to academic reasons. This is the first *Future to Discover* report to include boys and girls sub-groups.[4] In a limited number of cases, sample sizes also allowed for the analysis of Aboriginal youth, which is another group that is less likely to attend university (Frenette, 2011). Again, this is the first *Future to Discover* report to include separate results for this group.

Despite the focus on these groups, the evaluation was designed also to determine the effectiveness of *Explore Your Horizons* on all participants, regardless of the income or educational attainment of their parents.

Participation in *Explore Your Horizons* and *Learning Accounts*

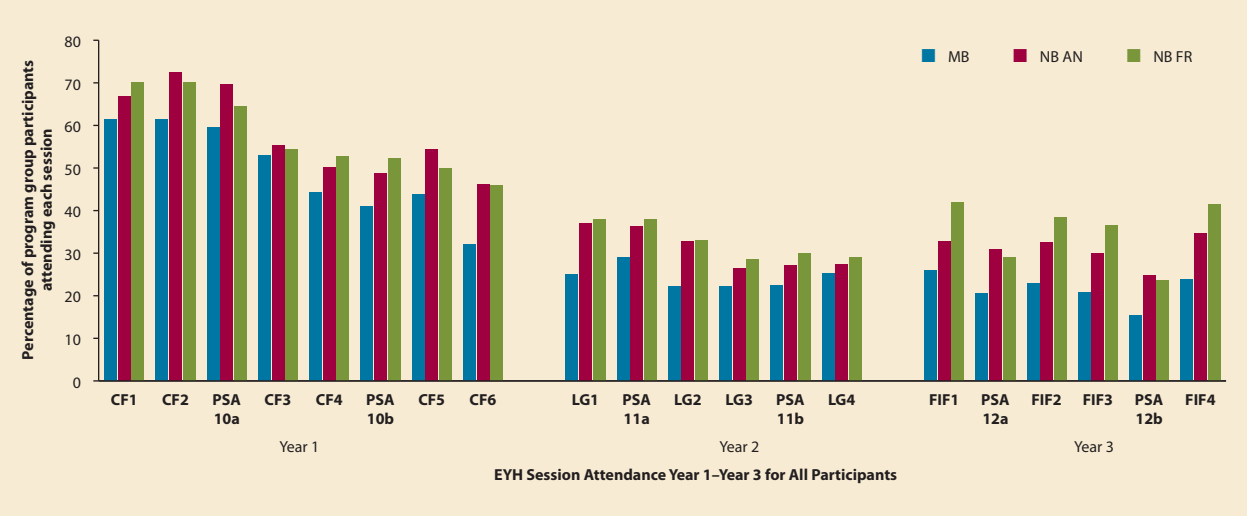
Explore Your Horizons

Future to Discover staff in both provinces used a variety of methods to encourage participation in *Explore Your Horizons* components. Most participants attended at least one *Explore Your Horizons* workshop, and many attended multiple workshops. Attendance declined over time, typically reaching its lowest level in Grade 11, when the Lasting Gifts component, offered jointly to participants and parents/guardians or a significant adult, was offered during evening sessions (see Figure ES.1). Given the design of *Explore Your Horizons* as an after-school intervention, it is unlikely that more could have been done to increase participation.

In Manitoba:

- 76 per cent of all participants attended at least one workshop;
- 48 per cent attended six or more workshops; and
- attendance reached its peak at 66 per cent of participants.

Figure ES.1: Attendance at *Explore Your Horizons* by Session — All Participants



Source: Program Management Information System (PMIS) data.
Notes: CF = Career Focusing; PSA = Post-secondary Ambassadors; LG = Lasting Gifts; FIF = Future in Focus; numbers following acronyms refer to number in the workshop sequence (in the case of CF, LG, and FIF) or the grade a workshop is offered (in the case of PSA).

4 The interventions' interim impacts on boys and girls were reported in supplementary tables available from SRDC's Web site (SRDC, 2009).

In New Brunswick:

- 84 per cent of both Anglophone and Francophone participants attended at least one workshop;
- 60 and 61 per cent, respectively, attended six or more workshops; and
- attendance reached its peak at 73 and 71 per cent of participants, respectively.

Explore Your Horizons was tested as an after-school intervention. Many students have other commitments after the school day is over. When asked in the Grade 12 survey why they had not attended *Explore Your Horizons* sessions more often, the reasons given reflected the fact that sessions were outside of school time:

- 27 per cent of respondents cited scheduling conflicts with work;
- 14 per cent cited conflicts with sports; and
- 13 per cent indicated more generally that the timing of the sessions was not good.

The survey also asked the students about the reasons their parents had not attended Lasting Gifts sessions, which were offered as evening sessions in the hope that parents might be more available. Again, among the reasons given, timing was the most frequently cited barrier:

- 37 per cent cited a conflict with work;
- 10 per cent cited other family responsibilities; and
- 10 per cent said the timing of sessions didn't suit their needs.

Given the anticipated difficulty of sustaining participation in all of the intervention activities, the *F2D* magazine and dedicated Web site were used to offer information on career education and post-secondary planning as complements to the workshops. When readership of the *F2D* magazine and usage of the *Future to Discover* Web site are taken into account alongside workshop attendance, virtually every student assigned to the *Explore Your Horizons* intervention received some exposure to components of the program. A majority of participants said they had read at least one article in the *F2D* magazine. However, the *Future to Discover* Web site was not used by the majority of participants and usage declined considerably over time. Rates of use — while low overall — were highest among New Brunswick Anglophone students, followed by Manitoba participants.

Learning Accounts

In total, 1,097 students were randomly assigned to receive *Learning Accounts*, either by itself or in combination with *Explore Your Horizons*. By the end of Grade 10, 93 per cent of participants had signed their participant declaration (which made clear the program requirements) and were meeting the high school attendance requirements necessary to receive their first $2,000 instalment. More than nine out of ten participants were meeting these requirements after their Grade 12 year. After completing high school, *Learning Accounts* participants could draw from the accumulated funds in their account if they successfully enrolled in a post-secondary education program. *Learning Accounts* participants could request a $2,000 payment twice per academic year once their enrolment status had been confirmed, up to a maximum of $8,000 over a two-year period. The check on active enrolment was performed by New Brunswick Student Financial Services or the New Brunswick Apprenticeship Bureau (for registered apprentices), and all funds were to be claimed within six years of the account being offered at the end of Grade 9. Participants were eligible to request withdrawals from their Learning Account until May 2011.

Following their notification of assignment and declaration, each student subsequently received annual statements informing them of the amount accumulated in their Learning Account. Thus, the amount of contact between *Learning Accounts* participants and the *Future to Discover* Office was limited. During the fall of their Grade 12 year, when they responded to the Grade 12 survey, *Learning Accounts* participants reported low awareness of actually having a Learning Account. Awareness was lower for the Anglophone sector (38.6 per cent) than for the Francophone sector (58.4 per cent). Among those *Learning Accounts* participants who reported that they had a Learning Account, most were aware of the salient features of the program. In particular, the total amount of $8,000 was recalled by the majority both of Francophone (83.8 per cent) and Anglophone participants (77.3 per cent) who reported having an account. Calls from the *Future to Discover* Office reminding Learning Account holders of their status, which took place after the survey was completed, may have altered account holders' levels of awareness of their accounts.

Both *Explore Your Horizons* and *Learning Accounts*

Participants randomly assigned to both *Explore Your Horizons* and *Learning Accounts* had a markedly higher participation rate in *Explore Your Horizons* workshops than those assigned to *Explore Your Horizons* alone. (It should be noted that participants in *Explore Your Horizons* plus *Learning Accounts* were not obliged to participate in *Explore Your Horizons* to access their Learning Account).

- In the Anglophone sector, the offer of a Learning Account increased the proportion of lower-income *Explore Your Horizons* participants attending more than half the sessions (11 or more) from 30 to 48 per cent.

- In the Francophone sector, the impact on attendance was even more dramatic, from 28 to 58 per cent.

This combined intervention was only available in New Brunswick. As such, this impact helps to explain why attendance at *Explore Your Horizons* workshops in both linguistic sectors in New Brunswick was higher than that in Manitoba, both initially and over time.

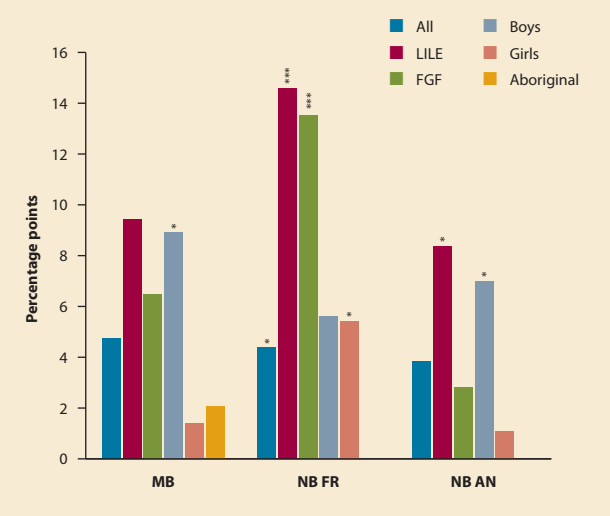
Participants from the lower-income, lower-education and first-generation families were typically less likely to attend *Explore Your Horizons* workshops than other students, in both provinces and in both linguistic sectors. However, attendance among these target groups was highest when participants were offered the combination of *Explore Your Horizons* plus *Learning Accounts*. These participants attended more sessions and in greater proportions than equivalent students offered *Explore Your Horizons* alone. As such, the offer of *Learning Accounts* encouraged more students in this group to attend sessions providing career education and more information about post-secondary options.

Similarly, participants offered *Explore Your Horizons* plus *Learning Accounts* were more likely to recall holding a Learning Account and its precise amount than *Learning Accounts*-only participants.

Impacts of *Explore Your Horizons*

Figure ES.2 shows the main impacts of *Explore Your Horizons* on post-secondary enrolment by jurisdiction and group.

Figure ES.2: Impacts of *Explore Your Horizons* on Post-secondary Enrolment



Source: *FTD* 66-month survey, *FTD* 66-month proxy survey, *FTD* administrative data.
Statistical significance levels are indicated as
* = 10 per cent; ** = 5 per cent; *** = 1 per cent.
LILE: Youth from lower-income, lower-education families.
FGF: Youth from first-generation families.

When the cross-section of all students offered the program is considered, the offer of *Explore Your Horizons* raised post-secondary enrolment in the Francophone sector in New Brunswick by 4.4 percentage points. This increase was concentrated at the university level. Although there was no significant impact overall in the Anglophone sector of New Brunswick or in Manitoba, *EYH* increased post-secondary enrolment rates for boys and among students from lower-income, lower-education families in New Brunswick.

Why was there such a difference in impacts in post-secondary enrolment between the Francophone and Anglophone sectors?

Post-secondary enrolment can be viewed in economic terms as the market outcome of supply and demand. Realistically, *EYH* can only be expected to have an influence on demand for post-secondary education, not supply. Data in the main report show how post-secondary applications increased in both linguistic sectors in New Brunswick as a result of *EYH*. However, data provided by the New Brunswick government suggest that at the time when *FTD* participants normally began their post-secondary studies, several programs in New Brunswick Anglophone community colleges were more likely to be oversubscribed than in the Francophone sector. Those in the Francophone sector were more likely to be undersubscribed than on the Anglophone side. This may explain why increased applications translated into increased enrolment in the Francophone sector, but not in the Anglophone sector.

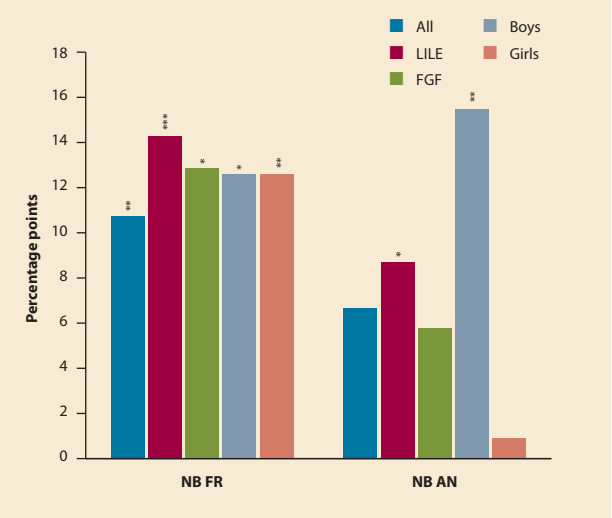
Nonetheless, educational attainment rose overall in all jurisdictions as a result of *EYH* when high-school achievement is taken into account alongside post-secondary enrolment. Thus — in addition to increasing post-secondary enrolment in New Brunswick's Francophone sector — *Explore Your Horizons* raised high-school graduation rates in Manitoba and in New Brunswick's Anglophone sector.

Explore Your Horizons was also successful in disseminating career information in New Brunswick. As a result of *EYH*, students in the Francophone and Anglophone sectors of New Brunswick were less likely to claim that they did not have enough information about their career options to make good decisions about their education while in high school.

Impacts of *Learning Accounts*

Figure ES.3 shows the main impacts of *Learning Accounts* on post-secondary enrolment by linguistic sector and group.

Figure ES.3: Impacts of *Learning Accounts* on Post-secondary Enrolment



Source: *FTD* 66-month survey, *FTD* 66-month proxy survey, *FTD* administrative data.
Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.
LILE: Youth from lower-income, lower-education families.
FGF: Youth from first-generation families.

The offer of *Learning Accounts* raised post-secondary enrolment in the Francophone sector in New Brunswick by over 10 percentage points. The increase was highly concentrated in college enrolment.

The impact of *Learning Accounts* on post-secondary enrolment occurred across all sub-groups in the Francophone sector. In the Anglophone sector, youth from lower-income, lower-education families and boys saw improvements in enrolment.

In addition to these effects on enrolment, post-secondary application rates were much higher among participants in both sectors offered *Learning Accounts*. This suggests that *Learning Accounts* raised demand for post-secondary education in both sectors. Once again, constraints in the

supply of college places in some Anglophone programs may have limited the program's effectiveness in the Anglophone sector.

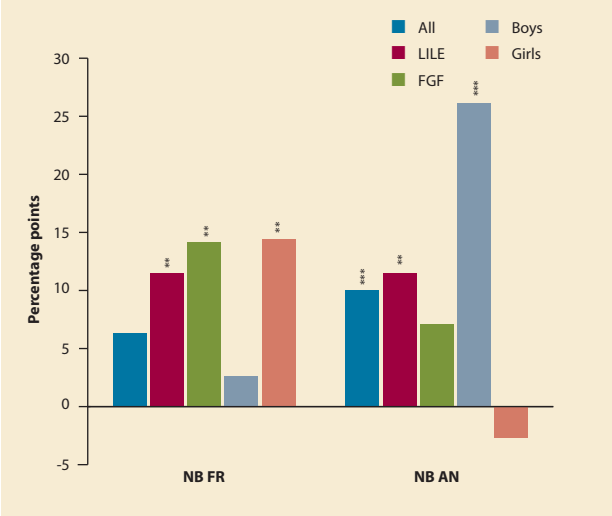
Learning Accounts may have displaced other non-repayable sources of post-secondary funds. Despite increased enrolment rates in the Francophone sector and no decline in the Anglophone sector, those offered *Learning Accounts* experienced a decrease in other non-repayable aid.

Learning Accounts significantly raised high-school graduation rates among all groups in the Anglophone sector, except for girls. In the Francophone sector, youth from lower-income, lower-education families and first-generation families registered an improvement in high-school graduation as a result of *Learning Accounts*. Tables detailing these findings on applications, financing, and high-school graduation appear in the main report.

Impacts of *Explore Your Horizons* Plus *Learning Accounts*

Figure ES.4 shows the main impacts of *Explore Your Horizons* plus *Learning Accounts* on post-secondary enrolment by jurisdiction and group. Some of the discussion to follow cites impacts that appear in tables or figures only available in the *Future to Discover* Post-secondary Impacts Report.

Figure ES.4: Impacts of *Explore Your Horizons* plus *Learning Accounts* on Post-secondary Enrolment



Source: *FTD* 66-month survey, *FTD* 66-month proxy survey, *FTD* administrative data.
Statistical significance levels are indicated as * = 10 per cent; ** = 5 per cent; *** = 1 per cent.
LILE: Youth from lower-income, lower-education families.
FGF: Youth from first-generation families.

The combination of *Explore Your Horizons* and *Learning Accounts* helped raise post-secondary enrolment among students in the Anglophone linguistic sector of New Brunswick by 10 percentage points. Surprisingly, there was no impact in the Francophone linguistic sector overall. Nevertheless, university enrolment increased as a result of offering the combined interventions in both linguistic sectors.

Explore Your Horizons plus *Learning Accounts* improved post-secondary and university application rates in both the Francophone and Anglophone linguistic sectors in New Brunswick. Application rates rose among youth from lower-income, lower-education families and first-generation families in both sectors.

Students in the Francophone linguistic sector in New Brunswick were more likely to report that they knew how to get information about student financial aid as a result of the combined interventions. No impacts were registered in the Anglophone sector.

The combination of *Explore Your Horizons* and *Learning Accounts* increased high school graduation rates and lowered drop-out rates in the Anglophone linguistic sector in New Brunswick. High school outcomes in the Francophone sector were unaffected by the combined interventions.

The combination of *Explore Your Horizons* and *Learning Accounts* was successful in disseminating career information. As a result of the combined offer, students in both linguistic sectors of New Brunswick were less likely to claim that they did not have enough information about their career options to make good decisions about their education while in high school.

Cost–Benefit Analyses of *Explore Your Horizons* and *Learning Accounts*

Future to Discover was evaluated for economic viability through cost–benefit analysis. Text box ES.1 describes the approach used in detail.

Text Box ES.1: Analytical Approach, Accounting Methods and Data Sources

Analytical Approach

The approach to cost–benefit analysis in the main report involves assigning dollar value to *Future to Discover*'s interventions' effects and resource costs, wherever possible, either through direct measurement or estimation. Costs and benefits are estimated from the perspective of the average participant (from the program group) and the perspective of all levels of governments. The sum of the net costs or benefits attributable to participants and governments is considered the net cost or benefit to society as a whole.

Positive and negative estimates of costs or benefits are derived by comparing program group to control group experiences in the analysis. All estimates are used, regardless of statistical significance, although the results of the analysis are qualitatively similar if only statistically significant estimates of costs or benefits are used. What the analysis does not include are estimates of the indirect benefits or intangibles, such as health improvement among participants or crime reduction resulting from increased high-school completion or enrolment in post-secondary education. It is very difficult to assign a credible dollar value to these benefits. Without including these intangible benefits in the calculation, the net present value of the program and the cost–benefit ratios presented in this analysis are bound to underestimate the true social value of the program.

Accounting Methods

The cost–benefit estimates consider a period, starting when each participant was 15 years of age (in Grade 9) up to the year when the participant would be 59 years old. This 45-year period includes the year of project preparation and the five and a half year observation period that covers the program operation and some post-program period.

All cost–benefit amounts are expressed in constant 2009 dollars, using an 8 per cent annual discount rate as recommended in the 2007 *Canadian Cost–Benefit Analysis Guide: Regulatory Proposals* (Treasury Board of Canada, 2007). The adopted discount rate appears high but reflects the accepted assumptions for dollars invested during the period of program implementation. The analysis is therefore very conservative in attributing a dollar value over the longer term to the programs' impacts on education. Following the principles in the 1998 *Benefit–Cost Analysis Guide* (Treasury Board of Canada, 1998), a sensitivity analysis using 5 per cent and 10 per cent annual discount rates is presented in the main report's Appendix Tables A5.3, A5.4 and A5.5.

Data Sources

Administration and operational costs of *Future to Discover* were measured using accounting records and administrative data from *Future to Discover* Offices and the Canada Millennium Scholarship Foundation. *Future to Discover*'s impacts on high-school graduation, post-secondary education enrolment, grants, and student loans were estimated by using data collected from the participant baseline survey, the two follow-up surveys, and administrative data records from the ministries of education. Tuition and other fees, educational expenditures, non-educational expenditures, tax rates, and inflation rates were obtained or calculated from various publications, including Statistics Canada's CANSIM tables and analytic reports, the Canada Millennium Scholarship Foundation's *The Price of Knowledge 4th edition* (Berger et al., 2009), and a publication from the Canadian Council of Learning (Hankivsky, 2008). Forgone earnings and increases in life-time earnings were estimated using Statistics Canada's 2006 Census Public Use Micro-data File. *Future to Discover*'s interventions' effects on tax payments and Employment Insurance premiums were imputed from the estimated earnings.

Explore Your Horizons was found economically viable for sub-groups of participants in New Brunswick, particularly those from a lower-income, lower-education family. The program's variation in net benefits (or costs) reflects the heterogeneous impacts it had on various sub-groups. Delivering the program only to those sub-groups most likely to benefit from it could maximize the social benefits of the intervention.

Explore Your Horizons was not found economically viable in Manitoba. The combination of a higher program costs due to a smaller-scale operation and the lower impacts of the program in Manitoba resulted into a net loss in social benefit.

With a relatively low administrative cost, *Learning Accounts* was very effective. It generated $2.00 to $3.40 benefit for each dollar cost to government. Although *Learning Accounts* and *Explore Your Horizons* cost governments roughly the same to operate, *Learning Accounts* used less resources in society since most of the expenditures in the *Learning Accounts* program were transfers from the government to the participants. The program's cost-effectiveness was also driven by the large post-secondary participation impact achieved by the group of students from lower-income families.

Combining *Explore Your Horizons* with *Learning Accounts* did not increase the net social benefit. However, the combined *Explore Your Horizons* plus *Learning Accounts* program was still economically viable. It generated $1.51 to $1.75 benefit for each dollar cost to government.

The Role of *Future to Discover*'s Interventions in Students' Decision-making

The project's implementation research included a special additional study of decision-making among high school students that SRDC undertook to help explain the pattern of impacts seen from the interventions. This study analyzed qualitative interviews conducted with a small number of students in the *Explore Your Horizons* program and comparison groups to better understand how students discover and assess their post-secondary options during their time in high school. The focus of the study was on students within the lower-income, lower parental education group.

The sub-study readily found students in need of additional support of the type *Future to Discover*'s interventions offered. In line with some of the impact findings, the study found several instances of students previously not thinking of pursuing a credential early on in high school who felt *Explore Your Horizons* had made considering post-secondary education a potential reality for them. Students talked about how *Explore Your Horizons* had broadened the information available to them about their career options and helped them to select programs.

Conversely, the sub-study also found students for whom consideration of taking up post-secondary education within the project timeframe was not a realistic proposition. These students were navigating unexpected and important life circumstances such as their own or family ill health, which influenced the career education decisions they were making in high school. While virtually all the students interviewed for the sub-study saw post-secondary education somewhere in their future, specific preferences they expressed early on (for example, in Grade 10) were rarely realized within the period observed during the study. Students' accounts revealed a diverse set of influences on their decisions, ranging from high school to post-secondary education. No intervention could be expected to make a difference across all influences affecting students in *Future to Discover*'s target groups.

Policy Implications

Both *Explore Your Horizons* and *Learning Accounts* increased demand for post-secondary education. Depending on the sub-group and provincial/population setting, the programs increased high-school graduation or post-secondary enrolment or both. These results were seen for many sub-groups with lower access rates, such as boys and those from lower-income and first-generation families, making the programs of interest to policy-makers seeking increased access for these groups.

The programs' impacts on post-secondary applications may not always have resulted in impacts on enrolment due to insufficient supply of places in some programs. A clear policy implication for increasing access is to enable greater flexibility in the availability of popular programs so that demand can translate into actual enrolment.

At the same time, many of those offered *Explore Your Horizons* missed out by not attending workshops. Nearly one in ten offered *Learning Accounts* did not sign up and more failed to recall that they had an account, despite reminders. Future programming may be more effective if participation relied less on volunteering and more on automation. *Explore Your Horizons* workshops might form part of compulsory curriculum, and *Learning Accounts* might be initiated automatically for all participants (similar to Canada's Child Tax Benefit).

Nonetheless, the differences between provinces and linguistic sectors point to caution in generalizing from the findings. Even findings that were fairly robust across many groups in New Brunswick — for example, the finding that both interventions increased demand for post-secondary education among traditionally disadvantaged groups — did not hold for Manitoba. Program impact may vary by population and with existing policy environments and so should be tested carefully. Caution is also necessary in interpreting the impacts due to the relatively short period of outcomes observed.

Longer-term follow-up of students who participated in the main project may prove fruitful. Some students have put post-secondary education on hold and may revisit the idea at a later date. Such a follow-up could be feasible with administrative data.

In conclusion, the *Future to Discover* pilot project has demonstrated that interventions such as *Explore Your Horizons* and *Learning Accounts* can meet their objectives of raising post-secondary enrolment, especially among key groups who normally have lower rates of enrolment. This is despite the fact that attendance at *Explore Your Horizons* workshops and awareness of *Learning Accounts* were not as high as they could have been, and that supply constraints in the New Brunswick Anglophone college sector may have constrained some of the benefits of the programs. With more focused targeting, increased efforts to raise student engagement in the interventions, and perhaps in an environment with fewer supply constraints in the higher education system, the positive impact of such interventions and their economic viability would have been reinforced.

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