Deloitte.

Breaking Down Barriers to Student Success

Expanding a High-Performance Workforce

July 2012

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List of abbreviations

Below is a list of abbreviations used in the report.

ADHD	Attention Deficit Hyperactivity Disorder
AODA	Accessibility for Ontarians with Disabilities Act
CICE	Community Integration Through Cooperative Education
EI	Employment Insurance
ESL	English as a Second Language
FTE	Full-time equivalent
LINC	Language Instruction for Newcomers to Canada Program
MTCU	Ontario Ministry of Training, Colleges, and Universities
ODSP	Ontario Disability Support Program
OECD	Organization for Economic Cooperation and Development
OSAP	Ontario Student Assistance Program
OSSD	Ontario Secondary School Diploma
OW	Ontario Works
PSE	Post-secondary education
UK	United Kingdom
US	United States of America

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1.0 Executive summary

Post-secondary education is a cornerstone of Ontario's continued prosperity. The Ontario government realizes this and confirmed its commitment to expanding post-secondary education in the 2010, 2011 and 2012 provincial budgets. The government announced funding allocations in all three budgets to support enrolment growth in the post-secondary sector. The 2011 budget committed the province to creating 60,000 more spaces in colleges and universities.

Colleges have a strong role to play in this equation, ensuring that students are not only attracted to post-secondary education, but also retained until graduation. However, Ontario colleges play an even more vital role in that they tend to attract students who do not usually pursue post-secondary education due to real or perceived barriers and challenges in accessing and succeeding in higher education. These students often come from underrepresented groups and, due to their unique circumstances, face a number of risks to completing their credential, unless they receive additional support through services and programs.

It is increasingly becoming the case that these students at risk are a part of the core population of Ontario colleges. As a result, Ontario colleges spend a growing amount of funding to support students at risk of not attending or graduating from college, through various programs and services. These programs and services are important to students' success, but they come at a significant cost to colleges' operating budgets.

In response to this situation, Colleges Ontario engaged Deloitte to conduct a cost-benefit analysis of the programs that colleges provide to support students at risk. As part of this analysis, Deloitte also conducted a number of interviews with various stakeholders, including current students and graduates who had either accessed or were accessing support programs; senior college officials; and employers who hire these students once they graduate from college.

Based on this analysis, Deloitte identified five over-arching findings:

- **Colleges are diverting funding from other purposes to provide support services to students at risk.** Financial data received from colleges illustrates that a sizeable portion of funding is used to serve students at risk across various support programs and services. The total value of this spending significantly exceeds the value of targeted grants from government specifically geared toward at risk populations. As a result, colleges spend an additional 8% of their total grant funding, some $107 million, to deliver these supports to students at risk.

- **Colleges produce a skilled labour supply that will ensure Ontario's economy remains robust, by providing support services to students at risk and increasing graduation rates**. By supporting students to stay in college and succeed, programs and services for students at risk increase graduation rates by an estimated 35 percentage points among students at risk. Graduates in turn contribute to a labour force that is shrinking and requires an increasing number of skilled workers to meet labour demand. These graduates generate returns to government in terms of increased income tax revenue and reduced payments for social assistance and EI. The return on investment to government is estimated at 14%, including a significant reduction in social assistance costs. From a private perspective, these graduates benefit from a lifetime of higher earnings due to graduating from college with the support of various programs and services, and enjoy an internal rate of return of 11% on the investment of time and money to attend college. Individuals and society experience additional benefits not captured in these calculated returns, such as improved health, intergenerational benefits, and increased civic participation.

- **Providing support services for students at risk has become part of the core business of colleges**. The mandate of colleges is to be institutions of access. As such, colleges are seen to be much more inclusive and open to the profile of students at risk. Colleges have increasingly sought to increase enrolment among underrepresented populations in order to increase the educational attainment of the population. As a result, colleges have undergone a fundamental shift as the profile of students entering college today is very different compared to five to ten years ago. Students increasingly require not only more types of support services, but also more intensive and personalized assistance to ensure that they remain in the system until they graduate.

- **Government and colleges should support all individuals in accessing a post-secondary education**. Post-secondary education is considered by many to be "the best investment you can make" given that it increases one's employment opportunities, lowers the duration and likelihood of unemployment, and increases earnings.[1] However, various studies show that not all students consider post-secondary education upon graduating from high school, and many sub-populations are underrepresented in the post-secondary educated population.

  Given this, a more concerted effort should be made to reach these populations so that all Ontarians may benefit from post-secondary education. An efficient way of doing so is to support colleges in attracting and retaining these populations. For many underrepresented groups, colleges are a much more popular route to post-secondary education than universities.

[1] TD Economics, 2011.

- **To meet the stated goal of an additional 60,000 spaces in Ontario's post-secondary education institutions , a concerted effort will need to be made to support colleges in recruiting and retaining students at risk**. Assuming that colleges expand their enrolments by 30,000, the institutions will have to invest over $20 million annually on support programs and services for students-at risk. Support services for students at risk have demonstrated a capacity for working with diverse groups of students, supporting different learning and career pathways, retaining students in the system, and ultimately ensuring students transition from 'at risk' to contributing members of society with meaningful employment. By continuing to strengthen these programs, colleges and government can be confident that they are taking the right steps to ensure that individuals from all walks of life have the ability to attend and graduate from post-secondary education. This joint commitment will ultimately help to secure the future prosperity of Ontario and advance equality among its citizens.

Each of these findings is explored in more detail throughout the body of this report.

2.0 Introduction

2.1. Background

In 2010 the Ontario government committed to raising Ontario's post-secondary education rate to 70%, and to creating 20,000 additional spaces in Ontario's colleges and universities.[2] The Ontario government continued its commitment to expanding post-secondary education in the 2011 budget, announcing over $64 million in 2011-2012, and $309 million in 2013-2014, in additional operating grants to colleges and universities in order to create 60,000 more spaces .[3]

Raising post-secondary education attainment rates in Ontario is a sound strategy to maintain a strong and growing economy. With the retirement of the Baby Boomer generation and an increasing proportion of jobs requiring skilled workers, Ontario will face a skilled worker shortage without concerted action. As well, a more educated population is associated with higher personal incomes, higher income tax revenue, lower transfer payments, improved health, and stronger civic engagement— benefits for individuals, government, and society as a whole.

Many Ontarians who do not pursue post-secondary education have done so because they face barriers and challenges to accessing and succeeding in college or university. To increase the province's education levels, some, if not all, of the gains will have to come from these underrepresented groups. This requires institutions to support students in overcoming the challenges that would otherwise prevent them from completing post-secondary education.

Ontario's colleges have made concerted efforts already to support students at risk of not attending or graduating from programs, through various programs and services. Support is offered to students through all phases of the college experience, including: informing prospective students about college programs and helping them decide whether to apply; helping students navigate the application and enrolment process; orienting students to college; ensuring they are prepared for success; and helping students overcome any personal and academic challenges they face while in college. These programs and services are important to students' success, but they come at a significant cost to colleges' operating budgets. Specific government grants have been provided to support certain services, but core funding is also diverted from general programming to sustain these initiatives.

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[2] Ontario Office of the Premier, "Speech from the Throne- Open Ontario Plan," March 8, 2010, http://www.premier.gov.on.ca/news/event.php?ItemID=11282&Lang=EN
[3] Ontario Ministry of Finance, "2011 Ontario Budget Chapter 1: Ontario's Plan for Jobs and Growth," March 29, 2011, http://www.fin.gov.on.ca/en/budget/ontariobudgets/2011/ch1a.html

Four major questions arise from this current situation. First, how much is Ontario's college system currently spending to support students at risk? Second, from the government's perspective, is it a sound investment of taxpayer's funds to provide these programs and services? Third, what significance, if any, does increasing college graduation rates among students at risk have for Ontario's short-term and long-term economic future? Finally, what does this all mean for the government's commitment of adding 60,000 additional post-secondary spaces in Ontario?

Colleges Ontario therefore commissioned Deloitte Inc. to assess the costs and benefits of Ontario college programs for students at risk, and provide recommendations to the Ontario government and colleges.

2.2. Scope of the analysis

The analysis focused on the role that Ontario's 24 public colleges are playing, and could play in helping students at risk to achieve their educational and career goals, by offering various support programs and services, and the associated costs and benefits to government and private individuals. The analysis also considered the importance of supporting students at risk for Ontario's economy. Based on this investigation, recommendations were developed for government and Ontario's colleges.

2.3. Purpose and objective

The purpose of this analysis was to assess the role Ontario's public colleges are playing to support students at risk to achieve their educational and career goals, and thereby contributing to increased employment rates and increased competitiveness of Ontario's employers in the global economy. The analysis also aimed to assess the costs and benefits of the efforts of colleges to support students at risk.

The findings of this analysis have been presented in the following report. The objectives of the report are to:

- Assess the extent to which providing support to students at risk is central to colleges' missions:
- Estimate how much the college sector spends to support students at risk, and how many students are helped;
- Highlight and describe challenges and solutions faced, and estimate a range of per-student costs incurred, to assist students at risk;
- Report on the views of college representatives and other stakeholders as to the importance colleges place on addressing the needs of students at risk as part of their mandates;
- Describe the views of employers on the reported skills shortage facing Ontario, the role of non-traditional skilled workers in their business, and their interest in colleges' efforts to support students at risk;
- Examine the differences in educational and career prospects for students at risk from obtaining post-secondary educational credentials;
- Assess the return on investment of spending to support students at risk;

- Describe new and/or particularly effective approaches to serving students at risk and increasing retention and graduation rates; and,
- Assess the importance of supporting colleges as they deliver programs and services to students at risk, from the perspective of government facing a tough fiscal climate.
- Assuming that colleges add 30,000 spaces in support of the government's target, estimate the proportion who may be at risk and the annual incremental system costs.

2.4. Overview of approach

Deloitte collaborated with an Advisory Committee formed by Colleges Ontario throughout the project. The Advisory Committee included representatives from a cross-section of Ontario's public colleges, as well as representatives from Colleges Ontario. The purpose of the Advisory Committee was to advise Deloitte and provide expertise on various matters, including:

- Definition and understanding of 'students at risk' and applicable programs and services;
- Detailed insight into the funding, operations, and current challenges of Ontario's colleges;
- Up-to-date data from the college sector on student enrolment levels, college spending, funding levels, and student profiles;
- Identifying and reaching out to interviewees for stakeholder consultations;
- Questions for consultation sessions; and,
- Analysis and interpretation of findings.

Deloitte relied on multiple sources of qualitative and quantitative evidence, including primary and secondary sources, to conduct the analysis. Specifically, the analysis involved the following components:

1. Document/literature review and external research
2. Primary research on college spending levels to support students at risk and the inventory of programs and services delivered
3. Consultations with stakeholder groups
4. Cost-benefit analysis of programs and services for students at risk

To analyze the costs and benefits of programs and services to support students at risk, Deloitte administered the financial cost survey to Vice-Presidents of Finance for all 24 Ontario colleges (see Appendix B – College financial survey). The response rate was 100%. To calculate the benefits associated with these programs and services, Deloitte relied on the expertise of college administrators and statistics from reliable sources, such as census data. An overview of the methodology is provided in Section 4.2 of this report, and details on the approach and assumptions are provided in Appendix D. Results of the cost-benefit analysis were validated with Subject Matter Experts in the fields of post-secondary education and returns on investments in higher education.

Stakeholder consultations were conducted with four different groups—college administrators, employers, students, and government officials. With respect to the colleges, 8 colleges were chosen to visit that represented a sampling of geography, size and language. The site visits were conducted from July to September 2011, and included a day of interviews with senior level officials, and individuals responsible for programming aimed at students at risk. Further detail with respect to consultations can be found in Appendix E.

The information collected across sources of evidence enabled Deloitte to develop an in-depth understanding of the role of the college sector in today's economy, and the challenges facing students at risk in terms of graduating from college and contributing to the skilled labour force. Deloitte also acquired a deep appreciation of the range of programs and services colleges offer to support students, their impact, and the challenges colleges face to delivering these programs on a sustainable basis. Conclusions were drawn based on evidence gathered across multiple lines of evidence and detailed analysis of findings.

Based on these findings and conclusions, recommendations have been made to government and Ontario's colleges. Findings are interdependent and should be considered holistically. Taken together, a collaborative framework is proposed for government and colleges to strengthen post-secondary education in Ontario and achieve government targets for the province's level of educational attainment.

3.0 Overview findings

This assessment of costs and benefits of programs targeted to students at risk is intended to identify those practices, models, and ideas that result in positive educational outcomes. The analysis highlights a range of valuable practices across the college sector within the constraints of current resources provided to colleges by MTCU. The innovative and effective practices outlined are evidence of the importance colleges have placed on effectively serving students at risk.

As discussed in section 4.0, there is a solid case to be made for continuing to support colleges to provide the resources dedicated to recruiting and retaining students at risk of not graduating. Deloitte's analysis revealed that, as reported from college administrators, the sector invests considerably in programming for students at risk. Over $144 million of MTCU/post-secondary grant funding was spent on serving students at risk with targeted programs and services in 2010-2011. This represents just over one-tenth of operational and special purpose grant funding to colleges across the province.

While the cost of these programs and services is high, it is a worthwhile investment of government funding. Programming for students at risk is associated with a 35 percentage point increase in the graduation rate for students at risk. These graduates generate gains to the government in terms of increased income tax revenue and reduced transfer payments, resulting in a 14% internal rate of return for government. Individual students will experience an 11% return on investing the time and money to attend and graduate college with the support of these services, due to associated increases in earnings. Moreover, there are the intangible benefits in being able to provide students who were once at risk the opportunity to change their life course and become productive citizens of the province and country. This was emphasized in the interviews conducted with students and graduates who underlined the importance these programs and support services played in helping them stay in college, graduate and ultimately find meaningful employment. This outcome is beneficial not just for the individual, but also for their families, community, and ultimately society as a while.

Deloitte also concluded that supporting students at risk is a reasonable strategy to increase the post-secondary education attainment rate in Ontario and avoid an impending skilled labour shortage. Various economic analyses, including work from the Conference Board of Canada and TD Economics, underline the need for governments to focus on populations that are currently underrepresented in post-secondary education institutions in order to increase the post-secondary attainment rate in the population. Increasing education levels in Ontario will mitigate the impending skilled labour shortage, and help maintain Ontario's advantage in the global economy. This conclusion is supported by our interviews with students and graduates who have accessed these programs and, consequently, have been successful in their studies and in finding employment. Employers also told Deloitte that because of the efforts from colleges, students at risk graduate from college as skilled, competitive workers in the labour market.

It is among at risk populations where potential gains in educational attainment can be made, provided the appropriate supports are in place to attract them to college and help them overcome barriers they face. Deloitte estimates that in order to fulfill half of the Ontario government's commitment to creating an additional 60,000 post-secondary education

spaces, Ontario colleges will have to spend an additional $22 to $37 million annually on targeted programming. This range is based on a lower bound of 30% of the new students being at risk (the same as amongst the current student population) and an upper bound of 50% of the new students being at risk (based on an assumption that these new students may be somewhat more likely to be at risk than current students). College administrators assert that the government should consider the costs of offering these programs and services when setting funding levels, as this programming is necessary for so many students to attend and graduate from college.

To increase post-secondary educational attainment among students at risk requires a joint effort between colleges and government. Five key themes describing the current situation and a recommended approach for government and colleges are provided below. The themes take into consideration Ontario's geographic size and economic and cultural diversity, but also reflect the fact that colleges as a whole are in the shared business of serving a wide range of students with complex needs. If acted upon, these themes will support the continued viability and success of programming targeted to students at risk, will enhance the programming available, and will ensure even more students graduate from post-secondary education institutions and join the skilled labour force.

3.1. Colleges are diverting funding from other purposes to provide support services to students at risk

Ontario's college system plays a major role in developing skills and increasing the skilled labour supply by assisting underrepresented and marginalized populations in accessing post-secondary education. They do so primarily through providing skills enhancement programs and a range of support services to ensure students at risk of not graduating remain in college and succeed. However, this is not without a significant cost.

The findings of the financial survey and cost-benefit analyses raise important considerations in light of the government's commitment to raising post-secondary attainment rates. The financial data received from colleges illustrates that a sizeable portion of funding is used to serve students at risk across various support programs and services. The total value of this spending significantly exceeds the value of targeted grants from government specifically geared toward at risk populations. Consequently, colleges spend an additional 8% of their total grant funding, some $107 million, to deliver these supports to students at risk.

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3.2. Colleges produce a skilled labour supply that will ensure Ontario's economy remains robust, by providing support services to students at risk and increasing graduation rates

In consultations with current students and graduates of college programs who accessed support services while at college, it is very evident that these programs played an integral, if not essential role in ensuring students remained in the college system until graduation. A number of students who demonstrate at risk characteristics faced challenging life circumstances before entering college, and after years of low self-esteem, require support and a personal connection for them to stay. In interviews with colleges, it was noted that students need to feel supported within the first three to six weeks of them starting their program. As a result, colleges have invested heavily into their orientation programs to serve this need. A sampling of specific solutions includes:

- Proactive approaches for orientation

- Providing orientation three times a year as opposed to just in the fall semester
- Consolidating support services in one location to create a 'one-stop-shop'
- Developing approaches for more individualized and one-on-one services for high needs students
- Providing flexible hours for services

Drawing on Vincent Tinto's model of student departure, these services promote academic and social integration for students at risk. Academic and social integration work together to influence a student's ongoing commitments to the institution and to reaching their personal goals – which in turn, influences the decision to remain in, or to leave, college.

By supporting students to stay in college and succeed, these programs and services increase graduation rates by 35 percentage points among students at risk. Graduates then contribute to a labour force that is shrinking and that requires an increasing number of skilled workers to meet labour demand. These graduates generate returns to government in terms of increased income tax revenue and reduced payments for social assistance and EI. The return on investment to government is estimated at 14%. From a private perspective, these graduates benefit from a lifetime of higher earnings due to graduating from college with the support of various programs and services, and enjoy an internal rate of return of 11% on the investment of time and money to attend college. Individuals and society experience additional benefits not captured in these calculated returns, such as improved health, intergenerational benefits, and increased civic participation

Another strong benefit of investing in underrepresented groups is that these individuals who were once thought of as 'at risk' are now viewed as fully functional individuals of society. Employers noted that colleges succeed in helping students move from 'at risk' to valuable employees.

In the coming years Ontario faces a serious skills shortage as greater number of workers prepare to retire and fewer young people enter the workforce. Ontario should continue focusing on post-secondary education retention and graduation rates, to ensure the province has enough skilled individuals for the current and future labour demands of the economy. This skilled labour shortage is already taking place in some sectors and professions, such as health care and welding.

3.3. Providing support services for students at risk has become part of the core business of colleges

The mandate of colleges is to be institutions of access. As such, colleges are seen to be much more inclusive and open to the profile of students at risk. Colleges have also increasingly sought to increase enrolment among underrepresented populations in order to increase the educational attainment of the population. As a result, colleges have undergone a fundamental shift as the profile of students entering college today is very different compared to five to ten years ago. Students increasingly require not only more types of support services, but also more intensive and personalized assistance to ensure that they remain in the system until they graduate.

College administrators informed Deloitte that delivering these services is increasingly part of the "core business" of colleges, and requires a considerable investment of operating funds. Deloitte's analysis substantiates reports from college administrators that the costs of support programs and services—which are essential for an increasing proportion of their student populations—take away resources needed to deliver quality academic programs. For

example, smaller class sizes in remedial math and English courses mean larger class sizes for students who do not fall into the 'at risk' category.

The increasing population of students who are at risk of not graduating is a point that has already been acknowledged by the government, but in the context of the K-12 education school system. As seen through the various Student Success initiatives in the K-12 education system, the Ontario government has acknowledged that in order to increase graduation rates, specific initiatives needed to be put in place to help helps students in grades 7 to 12 by tailoring their education to their individual strengths, goals, needs and interests. Through specific programming and additional funds provided to school boards, the province has been able to increase its graduation rate from 68% to 81%, an increase of 13%. This was done through a sustained and dedicated effort both through human and financial resources, including putting in a number of programs such as additional English and math courses to help build foundations in core literacy and numeracy, the implementation of Student Success Teams (principal, student success teacher, guidance counselor, special education teacher and other educators) in high schools to provide extra attention to students who need it, and credit rescue and credit recovery programs to help students regain lost learning to stay on track to graduate.

These additional programs targeted to students who were at risk of not completing high school has proven to be an extremely successful way of increasing graduation rates. Similar programming is currently taking place within colleges; however, dedicated financial and human resources need to be allocated if it is to have a major impact.

Given this, funding allocations should consider the significant costs of increasingly essential support services to a changing student population. This is particularly important given that at risk populations are the population among whom gains in educational attainment can be realized, as proven by the impact of Student Success initiatives the government has supported in the secondary school system.

3.4. Government and colleges should support all individuals in accessing a post-secondary education

Post-secondary education is considered by many to be "the best investment you can make" given that it increases one's employment opportunities, lowers the duration and likelihood of unemployment, and increases earnings.[4] This is a point that is not lost on the Ontario government, which has committed to post-secondary education both through their policy and budgetary platforms.

However, various studies show that not all students consider post-secondary education upon graduating from high school, and many sub-populations are underrepresented in the post-secondary educated population. These include:

- Aboriginal persons
- Persons with disabilities
- Individuals living in rural areas
- Students from low-income families
- Students whose parents did not attain post-secondary education
- Delayed entrants
- Individuals caring for dependents

[4] TD Economics, 2011.

- Secondary school students with low grades
- Secondary school students who are uncertain about their career direction

Given this, a more concerted effort should be made to reach these populations so that all Ontarians may benefit from post-secondary education. An efficient way of doing so is to support colleges in attracting and retaining these populations. For many underrepresented groups, colleges are a much more popular route to post-secondary education than universities. For example, the gap in participation rates is much higher in university participation than college participation for populations such as First Nations, persons with disabilities, and students from low-income families.

Moreover, providing educational opportunities for all individuals helps equalize economic and social outcomes across the populations. This is particularly true given that employers increasingly require post-secondary education among employees. If underrepresented groups are not supported in applying for, attending, and succeeding in post-secondary education, social and economic disparities will only increase as the labour market increasingly demands skilled workers.

3.5. To meet the stated goal of an additional 60,000 spaces in Ontario's post-secondary education institutions , a concerted effort will need to be made to support colleges in recruiting and retaining students at risk

If governments seek to increase enrolment in post-secondary education, their efforts should be targeted towards those individuals who are at risk of not attending post-secondary education. It is among these populations where gains can be made. To do so, however, requires that colleges are supported in their numerous efforts to attract students at risk to college and assist them in overcoming various barriers and challenges. Supporting colleges will also enable the sector to improve upon the programming that is currently in place across the province, so that students at risk are served even more effectively. The cost-benefit analysis shows that there is a solid business case for government to invest in increasing the number of students at risk in college, through expanding support services and programs.

Support services for students at risk have demonstrated a capacity for working with diverse groups of students, supporting different learning and career pathways, retaining students in the system, and ultimately ensuring students transition from 'at risk' to contributing members of society with meaningful employment. By continuing to strengthen these programs, colleges and government can be confident that they are taking the right steps to ensure that individuals from all walks of life have the ability to attend and graduate from post-secondary education. This joint commitment will ultimately help to secure the future prosperity of Ontario and advance equality among its citizens.

4.0 Costs and benefits of at risk programming

Ontario's colleges have made a considerable investment to reach out to and support students at risk, which is a core priority across the sector. Deloitte conducted a financial survey of colleges as well as a cost-benefit analysis of programs and services for students at risk to determine how much these supports cost the sector, and whether or not it is a sound investment of government funds. Deloitte also conducted a cost-benefit analysis from the perspective of students themselves, to determine whether attending and graduating from college with the assistance of these interventions is financially beneficial. Deloitte's analysis concludes that supporting students at risk represents a good financial investment of government funding, generating a positive return, and that college is a good investment for individual students. As well, supporting students to graduate from college is associated with various other economic and social benefits that are of value to individuals, communities, and government, but that are difficult to quantify and have not been included in rate of return calculations.

Key Findings:

- The total cost associated with supporting students at risk is $211,862,000
- The cost of programs and services associated with supporting students at risk, excluding financial aid administration and programs not funded through MTCU/post-secondary funding, is $ $144,193,000
- This represents approximately 11% of the total funding received by colleges from MTCU in operating and special purpose grants in 2010-2011
- These interventions produce an estimated 35 percentage point increase in graduation rates for students at risk
- From the perspective of government, the use of MTCU/post-secondary funding to offer these supports generates an **14% internal rate of return**
- From the perspective of an individual student, attending college and graduating with the support of these services generates an **11% internal rate of return**
- Increasing graduation rates is associated with other benefits to government and society at large, such as improved health, improved civic participation, economic growth and intergenerational benefits.

4.1. Costs of programs and services for students at risk

The Vice-Presidents of Finance at all of Ontario's 24 colleges were asked to complete a financial survey outlining the costs associated with programs and services offered to students at risk in the 2010-2011 academic year. See Appendix B for a copy of the survey. Respondents were instructed on the definition of 'students at risk' for the purposes of the study, and were provided with a list of applicable programs and services. Respondents were required to list and briefly describe the supports they offer that fall within the scope of the survey. The survey then required college administrators to report on the estimated direct program operating budget for each program/service, as well as the estimated proportion of the operating budget allocated to serving students at risk. Indicated costs included departmental overhead costs on a pro-rated basis. College-wide overhead costs were excluded from the survey.

Results of the survey reveal that Ontario's colleges spent ***$$211,862,000*** to serve students at risk with support programs and services in the 2010-2011 academic year. This total includes funding for programs and initiatives that are outside of the MTCU/post-secondary grant funding structure. Examples of such funding programs include :

- Second Career
- Dual Credit Initiative
- School Within a College
- School-College-Work-Initiative
- Apprenticeship Training
- Literacy and Basic Skills Program and Academic Upgrading

One student's story

Sarah has successfully completed two college diplomas, in public relations and business administration, thanks in large part to the tutoring services offered at her college. She was required to complete four accounting courses as part of her studies; at mid-term in her first accounting course, she was failing. If she had failed the course, she would have been a semester behind in her program in order to re-take the course. While her teachers were very willing to help, Sarah needed the additional assistance a tutor could provide. Fortunately, Stephanie could access tutoring services. Without her tutor, she believes she would have failed accounting.

Sarah is also the mother of a young son. She had support from her family to ensure she could attend college during the day. She told Deloitte that her college used to offer day care services for student parents, but that the day care closed a few years ago because of financial problems. She knew of students who could not find other means of child care and had to leave college for a semester because of the closure.

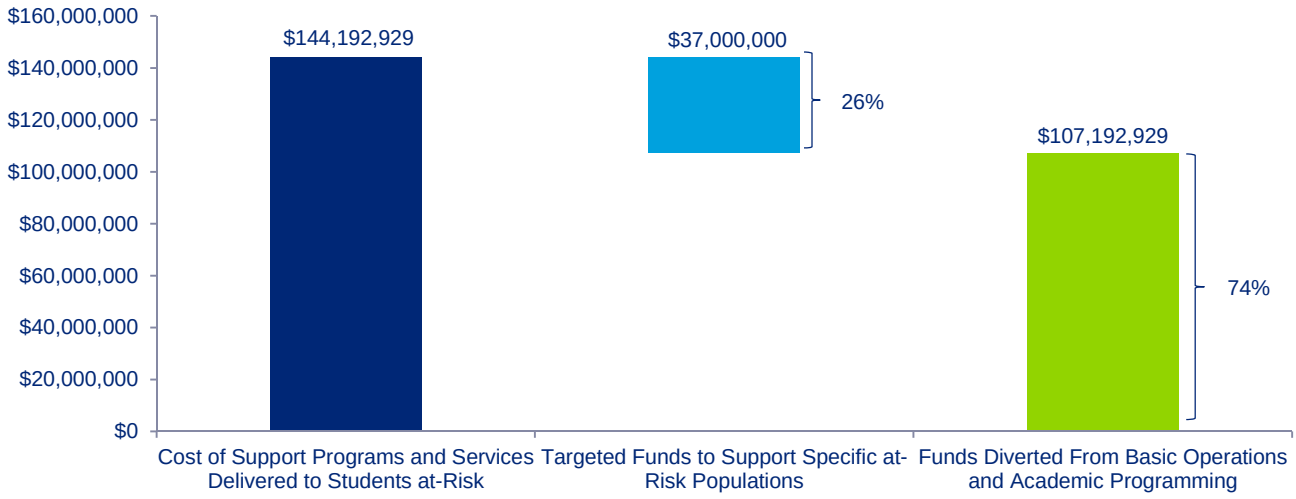
This total also includes funding to administer financial aid supports to students at risk. For the purposes of the cost-benefit analysis, however, non-MTCU/post-secondary funded programs and initiatives were excluded from the total cost of supporting students at risk, to focus on services offered by colleges funded through MTCU/post-secondary grants. Financial aid administration and assistance was also excluded since this could be considered a core function of college administration, rather than a support program or service designed to address specific needs of students at risk.

With these exclusions, the total cost of programs and services delivered to students at risk is ***$144,193,000.*** This represents 11% of the total operating and special purpose grant allocations to colleges in Ontario in 2010-2011. In other words, colleges spend just over one-tenth of funding allocations from government to attract, retain, and promote the success of students at risk. A summary of the total costs to each college, both including and excluding financial aid administration and non-MTCU/post-secondary programs, is provided in Appendix C.

Within the funding allocations to colleges are targeted funds to support specific at risk populations. Colleges received approximately $37 million of such targeted funding.[5] Compared to the approximately $144 million spent on support programs and services delivered to students at risk, this leaves a difference in $107 million. Colleges are therefore diverting over $100 million of funding from basic operations and academic programming to deliver a range of supports to students at risk. This represents 74% of at risk student funding – and 8% of the total $1.348 billion in funding delivered to colleges in 2010-2011 (see Figure 1 below).

These results confirm what Deloitte heard during consultations with colleges: supporting students at risk is part of the core business of colleges that requires a substantial investment of college resources above and beyond what the MTCU targeted funding. Administrators also told Deloitte that as the proportion of students who are at risk rises, the costs of meeting their needs through additional programming have grown considerably. Colleges must divert funding to meet this need. There is concern that the quality of academic programs will suffer as a result. For example, class sizes in programs have increased in order to accommodate the rising costs of remedial and preparatory programs, which are increasingly becoming a standard part of students' college education.

Figure 1 – Breakdown of costs & funding for students at risk



4.2. Cost-benefit analysis approach

Evidently, programming to assist students at risk is costly for colleges. As described in section 5.0, Deloitte learned from college administrators, students, employers, and secondary research that these supports are necessary to ensure success for an increasing proportion of the student population. From a financial perspective, however, do the benefits outweigh the costs?

A cost-benefit analysis was performed to determine whether the public costs of programs and services for students at risk are worthwhile from the perspective of government. As well, Deloitte performed an analysis to determine whether attending and graduating from college is a worthwhile investment for students at risk.

[5] Based on 2010-2011 data on MTCU funding to colleges, provided by Colleges Ontario. Targeted funds included in the $37 million total include: Aboriginal PSE Action Plans; Accessibility Fund for students with disabilities; Interpreters Fund; Support Services for Hearing Impaired; and First Generation Access.

Framework of analysis

To calculate the costs and benefits from the government's perspective, Deloitte used the total cost of MTCU/post-secondary funded programming delivered to students at risk: $144,193,000. An additional cost to government to supporting students at risk is the operating funding to colleges to educate students who would otherwise have dropped out, but instead remain in college and graduate thanks to these programs and services. As well, government faces a cost of lost income tax revenue from students attending college who otherwise would have worked and earned income.

With respect to benefits accrued by government, various economic and social benefits are associated with increasing college graduation rates. For the purposes of the analysis, however, a conservative approach was taken to estimating the benefits of increased graduation rates for government. That is, total gains to government were calculated based on direct monetary benefits in terms of increased tax revenue and reduced transfer payments.

In addition to calculating the return to government from funding used for programs and services to support students at risk, the study also considered the private perspective: is it beneficial for the individual student at risk to attend college, access these support services, and graduate? The private cost-benefit analysis considers how the out-of-pocket and opportunity costs associated with attending college compare to the benefits realized over one's lifetime. Again, there are numerous financial and non-financial benefits associated with higher educational attainment, and non-financial benefits may be associated with financial gain. For example, improved health may translate into lower out-of-pocket health care costs. However, a conservative approach was taken to calculating private returns, and benefits were calculated based on employment and income gains associated with higher education levels. below summarizes the costs and benefits taken into account to calculate the return on investment from both the government and private perspectives.

Figure 2 – Cost-benefit analysis framework

	Public (government) perspective	**Private (students) perspective**
Costs	• Spending by colleges for programs/services for at risk students • Funding to colleges for higher enrolment due to retention impacts of programs/services • Lost income tax revenue while students are in college	• Tuition costs • Lost after-tax income while in college
Benefits	• Increased income tax revenue from graduates' increased earnings • Social assistance and EI savings	• Increased annual after-tax income due to increased earnings

A complete list of assumptions used in the analysis is given in Appendix D, along with a detailed description of how various costs and benefits were calculated.

Estimating the impact of programming for students at risk on graduation rates

In order to estimate the benefits of these programs and services, it was necessary to first determine the impact of these interventions on graduation rates. In other words, it was first necessary to identify the population of students at risk who graduate with the assistance of these interventions, who otherwise would not have attended or completed college. To do so, Deloitte used an informed and conservative estimation based on primary and secondary research.

Ontario colleges were asked to provide an estimate of the percentage of students who are at risk and access at least one of the programs and services indicated in their survey responses over the course of their college experience. The median and average of responses from colleges exceeded 58%. External research sources estimate the percentage of students who access various support services to be lower than what was reported by colleges.[6] However, these sources do not indicate the percentage of all students who have accessed at least one of several support programs or services, and define services differently than this analysis. The estimate from colleges may also be higher from data in other studies because colleges may not be able to distinguish the number of unique students who access multiple programs, and may double-count students who access more than one service. Deloitte also reviewed data from the province-wide Student Satisfaction Survey and individual college surveys. Therefore, a conservative estimate of 30% was used, which was validated with college administrators on the Advisory Committee.

Colleges were also asked to estimate the percentage point increase in graduation rate for students at risk as a result of these programs and services. In other words, colleges were asked to identify what percentage of students at risk would not have attended and graduated from college without support from programs and services. An informed estimate from colleges was used because available data on the impact of support programs and services are slim,[7] and are generally focused on only specific initiatives, rather than the combined impact of programs offered to students, beginning from outreach to graduation. Furthermore, available data report the impact on students in general, rather than on a particular population of students—in this case, students at risk.

One student's story

When Kristin began a two-year college program, she turned to support from counseling and disability services to help her pursue her studies. While she found the services very helpful, she was still struggling in her courses and suffering from panic attacks. Her teachers and counselors suggested she transfer to the Community Integration through Cooperative Education (CICE) program. This program, designed for students with intellectual disabilities and other major barriers to learning, integrates co-operative education and additional learning supports. Kristin found the cooperative element to be very engaging. The program helped her to understand how she learns best, and she learned techniques for learning more effectively. Kristin believes the CICE program enabled her to overcome her challenges to learning and successfully complete her diploma.

[6] For example, the Pan-Canadian Study of First-Year College Students conducted by HRSDC found that 14.8% to 31.1% of students accessed various support services. Based on responses to the Ontario College Student Engagement Surveys from 2006 to 2009, approximately 20% of students access critical services like academic advising, literacy, and learning skills services (Peter Dietsche, 2011). It is important to note, however, that these access rates are for individual programs and services, while our study sought to identify the percentage of students who are at risk and access at least one of a range of services. Therefore, it is reasonable to presume a higher percentage than those reported in various surveys.

[7] Quantifying the impact of support services faces numerous hurdles. In addition to the logistical and ethical challenges of designating control groups who do not have access to services, it is very challenging to control for all other factors that influence whether a person successfully graduates. Furthermore, students often access more than one service at a time, thereby making it difficult to isolate the impact of any particular program. For further discussion on the challenges of measuring program impacts, please see: Richard Wiggers and Christine Arnold, 2011.

Based on responses from colleges, it was estimated that programs and services produce a 35 percentage point increase in graduation rates for students at risk. In other words, without such services, there would be a 35 percentage point drop in the number of students at risk graduating.

Using these two informed estimates, approximately 10,700 of students at risk entering college each year will graduate because of accessing various programs and services, who otherwise would not have. It was this population of students for whom associated benefits to government were estimated.

4.3. Cost-benefit analysis results

From the perspective of government, the benefits of programs and services for students at risk outweigh the costs in terms of program spending, increased retention of students, and lost income tax revenue. ***The investment generates an internal rate of return of 14***%.

Below is a summary table (see Figure 3) of costs and benefits to government. It is important to note that the indicated benefits may appear modest in comparison to annual costs, but they are accrued annually over the total working years for college graduates.

Figure 3 –Summary of government cost-benefit analysis calculations	
Annual cost of programs/services for students at risk	$144,192,929
Average annual cost of funding higher enrolment due to increased retention of students at risk	$29,484,295
Annual cost of lost income tax revenue	$1,591,399
Average annual benefit of increased income tax revenue due to higher graduate earnings	$18,533,298
Annual social assistance savings	$15,225,262
Annual EI savings	$ 189,798

From the perspective of students at risk who attend college and graduate with the support of these programs and services, higher education is also a sound investment. For a relatively short period of time, and the associated costs of tuition, fees, books, supplies, and lost income, the student benefits from a lifetime of higher annual earnings. From an individual's perspective, ***the investment generates an internal rate of return of 11%.*** Below is a summary table (see Figure 4) of costs and benefits for an individual student. Again, while the average annual benefit is modest, over the course of one's working lifetime, it generates a significant positive internal rate of return compared to the relatively short time frame when costs are incurred.

Figure 4 – Summary of private individual cost-benefit analysis calculations	
Annual cost of tuition, fees, books, and supplies, and opportunity cost of lost earnings	$15,282.00
Average annual increase in income with college education[8]	$4,972.40

[8] The increase in income is based on a comparison of the average earnings for a college-educated worker compared to a worker with a secondary school education. 'College' does not include trade certification. The earnings income varies across age groups,

4.4. Additional evidence of benefits

The results of the cost-benefit analysis reinforce findings in previous research on the public and private benefits of increasing educational attainment rates in the population. An expansive literature demonstrates the advantages to individuals, government and society of supporting individuals to graduate from college through interventions to attract and support students at risk. A summary of these findings is provided below. Several of the benefits listed, such as improved health, would likely result in private and public cost savings, therefore only increasing the return on investments to support students at risk.

Employment and earnings benefits

Numerous studies demonstrate that earning a college credential is associated with improved employment and earnings, compared to those with only a secondary school education. Statistics Canada data from 2010 reported that the percent of the population employed increased significantly as educational attainment increased—61.7% of high school graduates were employed, compared to 70.8% of those with a post-secondary certificate or diploma below a Bachelor's degree.[9] In Ontario specifically, increased educational attainment is associated with more job opportunities and lower unemployment rates. MTCU reported that in the first six months of 2011, job gains were entirely realized by adults with post-secondary credentials, while jobs for adults without post-secondary education declined, as outlined in Figure 5. Consequently, the unemployment rate for adults without post-secondary credentials was 8.7% during the first half of 2011, compared to 6.1% for those with a post-secondary certificate or diploma below a university degree

One student's story

Amin is in the second year of business administration diploma program, despite the challenges presented by his 'invisible disability'—kidney failure. He requires regular dialysis, which makes attending classes and writing exams difficult. He has relied on his college's disability services since starting his program to assist him with scheduling classes and tests. He also finds disability services very helpful in informing him of employment opportunities and connecting him with employers. Amin originally began his program with an interest in accounting; however, his part-time job piqued his interest in finance. He has also decided to focus on finance after seeing how many graduates of his college now work full-time at his employer, a major Canadian bank.

and this was taken into account when calculating the internal rate of return. The average presented in this table is the average annual earnings increase over the lifetime of a worker aged 21 to 65.

[9]Statistics Canada,"Summary Table: People employed, by educational attainment," January 28, 2011, http://www40.statcan.ca/l01/cst01/labor62-eng.htm

Post-secondary education also helps protect individuals from unemployment during times of economic hardship.

The OECD observed that since the start of the most recent global economic downturn in 2007, the employment rate for workers with a college or university degree dropped 1.2 percentage points, while it dropped 2.8 percentage points for those with only finished high school. According to the OECD, "Workers in Canada…were less likely to lose their job during the global economic downturn when they were holding a college or university degree instead of just a high school diploma or another non-tertiary degree." [16]

Figure 5 – Ontario job gains/losses by highest level of educational attainment, January to June 2011[10]

Without post-secondary credentials	-45,400
Post-secondary certificate or diploma	+97,100
University degree	+80,600
NET gain in jobs	+132,200

In addition to increasing one's likelihood of finding employment, increased educational attainment is also associated with greater likelihood of securing full-time employment and earning higher incomes. Using 2006 data, Statistics Canada reports that 79.7% of employed persons with a high school diploma were employed full-time, compared to 86.5% of those with a post-secondary certificate or diploma.[17] Once employed, college graduates are likely to earn higher incomes compared to those with only a high school diploma. Numerous studies have estimated the "earnings premium" of graduating from college, and are summarized in Figure 6. It is important to consider that these benefits "tend to be reaped by those who traditionally face inferior opportunities" in the labour market, such as the sub-populations of students at risk in colleges.[18]

Figure 6 – Earnings benefits of graduating from college compared to secondary school-level education: Summary of research findings

Source	Estimated benefit
Martin Prosperity Institute, 2011[11]	$9,200 average increase in income
CD Howe Institute, 2010[12]	17% earnings premium
Statistics Canada, "Education and Labour Market Transitions in Young Adulthood," 2009.[13]	$3,700 average increase in income for adults aged 26 to 28
OECD Educational Indicators, 2010[14]	11% average increase in earnings for adults aged 25-64
Marc Frenette et al, 2011[15]	Approximately $7,000 higher earnings for adults who attended post-secondary education after job loss compared to displaced workers who did not pursue post-secondary education

While it is commonly accepted that the earnings benefits are greater for a university degree than a college diploma, recent evidence reveals that for certain occupations, this does not hold true. The Martin Prosperity Institute recently investigated the earnings premium for college and university certifications for a range of occupations across sectors. For certain service occupations, such as chefs, cooks, child

[10] Ontario Ministry of Training, Colleges and Universities, "Ontario Labour Market Statistics for June 2011," July 2011, http://www.tcu.gov.on.ca/eng/labourmarket/currenttrends/docs/monthly/201106.pdf
[11] Martin Prosperity Institute, "The Value of Education Part One: Changing Returns to Education," September 7, 2011, http://martinprosperity.org/images/stories/jmc/cache/mpi-changing-returns-to-education.pdf
[12] Daniel Boothby and Torben Drewes, "The Payoff: Returns to University, College and Trades Education in Canada, 1980-2005," CD Howe Institute, August 24, 2010, http://www.cdhowe.org/pdf/ebrief_104.pdf
[13] Danielle Shaienks and Tomasz Gluszynski, "Education and Labour Market Transitions in Young Adulthood," Statistics Canada, July 9, 2009, http://www.statcan.gc.ca/pub/81-595-m/81-595-m2009075-eng.htm
[14] OECD, "Education at a Glance 2010: Indicators," Indicator A7.1. Data downloaded from http://www.oecd.org/document/52/0,3746,en_2649_39263238_45897844_1_1_1_1,00.html
[15] Marc Frenette et al, "The Long-Term Earnings Impact of Post-Secondary Education Following Job Loss," Statistics Canada, March 2011, http://www.statcan.gc.ca/pub/11f0019m/11f0019m2011334-eng.pdf
[16] OECD, "Education at a Glance 2011 Country Note- Canada," http://www.oecd.org/dataoecd/7/20/48687311.pdf
[17] Raj K. Chawla, "Provincial Labour Force Differences by Level of Education," Statistics Canada, May 2008, http://www.statcan.gc.ca/pub/75-001-x/2008105/article/5203926-eng.htm
[18] TD Economics, "Special Report: Post-Secondary Education is a Smart Route to a Brighter Future for Canadians," May 17, 2010. http://www.td.com/document/PDF/economics/special/ca0510_pse.pdf

care workers, home support workers, and sales professionals, a college education leads to a higher income premium than a university education. This pattern is likely because "for many of these jobs, colleges offer specialized training or there are specialized certificates that are needed to hold the job." The study also found that for about half of working occupations, such as construction, trades, machining, utilities, and mechanics, the earnings premium of a college education is approximately three times as high as that of a university education.[19]

Tax revenues and transfer payments benefits

Given that college graduates have higher rates of employment and earnings, increased educational attainment is also associated with increased government tax revenues and reduced transfer payments such as EI and social assistance.[20] Tax revenue benefits are particularly significant given the progressive nature of Ontario's and Canada's income tax system, where higher earners are taxed at higher rates provincially and federally.

With higher earnings, dependency on government transfers decreases. The impact of post-secondary educational attainment on social assistance dependency is apparent when examining the education levels of Ontario Works (OW) and Ontario Disability Support Program (ODSP) recipients. While 23% of OW recipients in November 2010 had post-secondary education, 32% had only a high school diploma and 45% had less than a high school education. The impact of educational attainment for ODSP dependency is even more notable: 18% of recipients had post-secondary education; 30% had only a high school diploma; and 52% had less than high school education.[21]

Economic growth and spillover benefits

Of course, increasing college graduation rates not only impacts individual earnings, but has ripple effects throughout the economy. First, a more highly-skilled and educated workforce will increase productivity, which is crucial to maintaining Canada's competitive edge in the global economy.[22] Second, increased college graduation rates and skill levels among the Canadian population supports innovation and progress, and helps prepare workers to adapt to technological advancements.[23] Third, more educated individuals have a 'knowledge

One student's story

Bryan is a graduate of a general arts and science pre-health program, which is a bridging program into the Bachelor of Science- Nursing program he attends at a nearby university. His long-term employment plans are to attend medical school after completing his nursing degree, and specialize in cardiac medicine. Attending the pre-heath bridging program enabled him to get into his university program, and confirmed his long-term career goals. A key component of his success in the bridging program was the support he accessed from the college's Aboriginal services department. These services were crucial in helping Bryan and other Aboriginal students integrate into the college atmosphere and transition successfully from high school to post-secondary studies. Aboriginal services also helped foster a connection between the students and the institution, as well as connections among students, by organizing informational sessions and social activities. While attending college, Bryan helped other students as a peer tutor, and still continues to tutor at the college even after graduating.

[19] Martin Prosperity Institute. "The Value of Education Part Three: Variation in Returns to Education by Occupation," September 21, 2011, http://martinprosperity.org/images/stories/jmc/cache/mpi-the-value-of-education-part-3.pdf
[20] W. Craig Riddell, "The Social Benefits of Education: New Evidence on an Old Question," Paper prepared for the conference "Taking Public Universities Seriously", University of Toronto, December 3-4, 2004, http://www.utoronto.ca/president/04conference/downloads/Riddell.pdf
[21] Commission for the Review of Social Assistance in Ontario, "A Discussion Paper: Issues and Ideas," June 2011, http://www.socialassistancereview.ca/uploads/File/A-Discussion-Paper---Issues-and-Ideas---English.pdf
[22] TD Economics, 2010.
[23] Conference Board of Canada, "Education and Skills: College Completion," January 2010, http://www.conferenceboard.ca/hcp/details/education/college-completion.aspx; W. Craig Riddell,

spillover' effect in the workplace, sharing their increased skills to those with whom they interact, thereby increasing the productivity of others.[24]

Health benefits

Increasing the educational attainment rate of Canadians leads to several non-economic benefits, such as improved health. The Public Health Agency of Canada identifies education as one determinant of health, given that more educated individuals have greater ability to access health-related information. Indirectly, education also contributes to better health by increasing earnings and thus quality of life, and by increasing one's sense of control over their life situation.[25]

Several studies demonstrate this link between education and health. Statistics Canada has identified low educational attainment as one of the characteristics of Canadian regions with the lowest life expectancy in the country.[26] Furthermore, among adults aged 25 to 34, men and women with a post-secondary diploma have higher health utility index scores than adults with lower education levels. The health utility index measures eight aspects of general health: vision, hearing, speech, ambulation, dexterity, emotion, cognition, and pain. The index ranges from 1.0 to -0.36, with 0.0 indicating a health state equivalent to death. Figure 7 below summarizes the improvement in overall health associated with increased educational attainment.[27]

Figure 7 – Mean health utilities index scores for Canadians aged 25 to 34, by highest level of educational attainment, 2000-2001

Educational Attainment	Health utilities index score (men)	Health utilities index score (women)
Less than secondary school education	0.868	0.835
Secondary school education	0.912	0.895
Postsecondary diploma	0.934	0.916
University degree	0.946	0.942

Correlation between educational attainment and improved health does not necessarily mean causation; however, a body of research—primarily from the US—has demonstrated a causal connection between education and health. Research to identify the specific causal pathways has determined that increased education does not influence the level of health knowledge individuals have, but how effectively this information is used.[28]

2004.
[24] W. Craig Riddell, 2004.
[25] Public Health Agency of Canada, "How does education affect health?" September 15, 2008, http://www.phac-aspc.gc.ca/ph-sp/determinants/qa-qr3-eng.php
[26] Lawson Greenberg and Claude Normandin, "Health at a Glance: Disparities in Life Expectancy at Birth," April 15, 2011, http://www.statcan.gc.ca/pub/82-624-x/2011001/article/11427-eng.htm
[27] Cameron M. McIntosh et al, "Income Disparities in Health-Adjusted Life Expectancy for Canadian Adults, 1991 to 2001," November 18, 2009, http://www.statcan.gc.ca/pub/82-003-x/2009004/article/11019-eng.htm#a1
[28] W. Craig Riddell, 2004.

Civic participation benefits

A more educated populace is not only healthier, but more civically engaged. The OECD's examination of the social outcomes of education concludes that higher educational attainment is associated with increased civic engagement across member countries, in terms of voting, volunteerism, political interest, and interpersonal trust. Looking specifically at Canada, data from the 2008 General Social Survey demonstrate a link between education levels and voter turnout. The percentage of respondents who reported voting in national elections increased from 63.4% of those without secondary school education, to 78.4% for those with post-secondary education. While these percentages are higher than actual voter turnout rates—likely due to voluntary selection bias and response bias—they demonstrate the connection between civic participation and education.

In addition to increased voting behavior, post-secondary education is also associated with greater non-voting political activity. This includes searching for political information, volunteering for a political party, joining a political party, and writing to a newspaper or politician to express opinions. A 2009 study of Canadians aged 19 to 64 concluded that "the most important personal characteristics to influence involvement in non-voting political activity is level of education."[29] A college diploma is associated with a 16 percentage point increase in non-voting political participation (from 18% to 34%). In contrast, income levels, marital status, region of residence, place of birth, and urban/rural residence were not statistically significant when controlling for other factors. According to Statistics Canada, "[n]on-retired 19- to 64-year-olds with some postsecondary education or a college diploma were 1.9 times more likely to engage in political activity than those with a high school education."

Intergenerational benefits

The benefits of increasing educational attainment among today's population are felt in future generations, given the positive impact of higher parental education levels for their children. Higher parental education is associated with rates of lower child abuse and neglect, greater investments of time and money into children, less criminal behavior among children, and improved child health.[30] Thus, educating today's adults leads to personal and public benefits for future generations of Ontarians.

[29] Leslie-Anne Keown, "Canadians and their Non-Voting activity," Statistics Canada, 2009, http://www.statcan.gc.ca/pub/11-008-x/2007002/9646-eng.htm
[30] W. Craig Riddell, 2004.

5.0 Students at risk and government priorities

Deloitte's analysis reveals that while the costs of programming to support students at risk are substantial, they generate a positive internal rate of return from the perspective of government, due to the associated higher college graduation rates, and thus increases in income tax revenue and decreased transfer payments. Furthermore, a large body of research speaks to the various social and economic benefits of increasing educational attainment rates, which these programs and services promote among students at risk

In the current economic context, the Ontario government has committed to strengthening Ontario's recovery and growth, through increasing post-secondary education attainment rates among other strategies. What is the significance of supporting college students at risk to advance these priorities? Deloitte's analysis reveals that the Ontario government's economic and post-secondary education goals can only be achieved by considering the additional supports required by students at risk in Ontario's colleges.

Key Findings:

- The Conference Board of Canada predicts a labour force shortage of 364,000 by 2025 and 564,000 by 2030, with much of this shortage being for skilled labour
- The Ontario government has committed to increasing post-secondary education attainment rates in order increase the skilled labour force
- Increasing post-secondary education rates requires focusing on the at risk population, who are more likely to attend college as opposed university
- Supporting colleges to attract, retain, and assist students at risk in college is therefore a sound strategy for the government to fulfill its economic and education goals
- To fulfill half of the government's commitment of creating an additional 60,000 post-secondary education spaces, colleges will require an additional **$22 to $37 million** of MTCU/post-secondary funding each year for support programs and services. This funding is in additional to the regular enrolment growth funding that would be allocated
- Colleges argue that the Ontario government must consider these costs when calculating additional funding required to expand post-secondary enrolment.

5.1. Post-secondary education and Ontario's economy

The Ontario government has committed to ensuring Ontario's ongoing economic strength and recovering from the 2008 economic recession. The five-year *Open Ontario Plan* introduced in 2010 is designed to attract investment, create jobs, and foster strong economic growth. The selection of the cabinet following the 2011 election was designed to bring experience to "guide Ontario through an uncertain global economy by focusing on job creation and economic growth."[31]

Crucial to Ontario's economic strength is increasing the skilled labour force. Ontario's Workforce Shortage Coalition—a coalition of business, education and labour leaders—argues that a skilled workforce is necessary to revitalize manufacturing and resource sectors, to support small businesses, and to attract investment.[32]

However, Ontario's skilled labour supply is at risk of not meeting demand. A recent report by Miner describes the highly problematic impact of two current trends in the labour force: a shortage of workers as Baby Boomers retire and population growth slows; and a shortage of skilled workers to meet the demands of an increasingly knowledge-based economy. The proportion of Ontario's population of working age (15 to 64) will decline from 70% in 2010-2011 to 61% by 2030. Assuming a low or medium population growth rate, this will lead to a shortage of 1 to 1.8 million workers in the labour force. This shortage will be for skilled jobs, which will represent an estimated 77.1% of jobs by 2031.

While there will be an overall labour force deficit, there will be a higher deficit of skilled workers and a surplus of unskilled workers. Miner estimates that there will be well over 500,000 unskilled workers by 2021 who will not qualify for skilled job openings and a deficit of over one million skilled workers, generating an overall labour market deficit of over 500,000. The skilled labour and overall labour force deficits will only grow beyond 2021. Without concerted action, Ontario will face a situation with a shortage of skilled workers to meet demand, and a surplus of unskilled workers.[33] The Conference Board of Canada similarly projects an impending labour force shortage, albeit of a lesser degree. Estimates from 2007 predict a labour force shortage of 364,000 by 2025 and 564,000 by 2030.[34]

In order to avoid future labour market shortages, particularly with respect to skilled workers, the labour force must be expanded through increased participation rates, and must include more skilled workers. Expanding post-secondary education attainment is a reasonable strategy to achieve both objectives.[35]

The Ontario government recognizes the need to expand the province's skilled labour force. To match the estimated 70% of all new jobs that will require a post-secondary education, the 2010 Open Ontario Plan announced the target of a 70% provincial post-secondary attainment rate.[36]

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[31] Ontario Office of the Premier, "Strong, Experienced Cabinet to Focus on Jobs and Economy," October 20, 2011, http://www.premier.gov.on.ca/news/event.php?ItemID=19509&Lang=EN
[32] Ontario's Workforce Shortage Coalition, "Workforce Requirements: Recession and Recovery," http://www.workforcecoalition.ca/downloads/report-workforce-requirements.pdf
[33] Rick Miner, "People Without Jobs, Jobs Without People: Ontario's Labour Market Future," Miner Management Consultants, February 2010, http://www.collegesontario.org/research/research_reports/people-without-jobs-jobs-without-people-final.pdf
[34] Conference Board of Canada, "Ontario's Looming Labour Shortage Challenges: Projections of Labour Shortages in Ontario, and Possible Strategies to Engage Unused and Underutilized Human Resources," September 25, 2007, http://www.workforcecoalition.ca/downloads/conference_board_report.pdf
[35] Rick Miner, 2010; TD Economics, 2010.
[36] Ontario Office of the Premier, "Speech from the Throne," March 8, 2010.

5.2. Supporting students at risk to graduate from college

If the post-secondary rate is to increase, however, who will comprise the new population of college and university graduates, and where will they study?

It is generally agreed that to increase the education level of our population and address projected skills shortages, the focus should be placed on those groups that are underrepresented in the post-secondary system. According to the Conference Board of Canada, Ontario must expand its human capital resources and grow a larger, more competitive labour supply by bringing underrepresented groups into education, training and skilled employment. In other words, "Ontario's post-secondary education…system has a major role to play in developing skills and increasing the skilled labour supply by assisting the underrepresented populations."[37]

The Conference Board is not alone in this line of reasoning. A 2010 Special Report from the TD Economics also asserts that there is strong evidence to support increasing the supply of skilled labour to avoid a shortage of skilled workers, which requires increasing post-secondary education and labour force participation rates among underrepresented groups.[38] Similarly, a study by King et al concluded that efforts are necessary to encourage post-secondary education among those who do not attend after secondary school, to offset the retirement of skilled Baby Boomers and to meet changing skill requirements in the labour market.[39]

As is examined in section 6.0 of this report, underrepresented populations who are at risk of not attaining post-secondary education are better represented in college than in university. Colleges have proven to be a more accessible, and widely accessed, option for pursuing higher education. If Ontario is to increase its skilled labour force, supporting students at risk to attend college is a sound strategy. It is also in line with colleges' mission to attract and retain students at risk, and leverages the existing structure of supports and initiatives that colleges have already put in place.

Furthermore, colleges have historically played a major role in producing a high post-secondary education rate in Ontario and Canada. Although Canada ranked second highest on post-secondary educational attainment of OECD countries, Canada placed only eleventh out of OECD countries for bachelor's and master's level educational attainment—colleges are what pulls Canada up in the international rankings of educational attainment.[40]

In summary, to achieve the Ontario government's objectives of increasing the population's skill level to support the economy, the focus should be placed on those who are presently underrepresented in post-secondary education. These students at risk are more likely to access college as opposed to university. Yet, college administrators and students point out that additional supports are necessary for these students to succeed in college. Assisting colleges to offer these interventions to students at risk is therefore a sound strategy to advance the government's economic and post-secondary education goals.

[37] Conference Board of Canada, "Ontario's Looming Labour Shortage," September 25, 2007.
[38] TD Economics, 2010.
[39] A.J.C. King et al, 2009.
[40] TD Economics, 2010.

5.3. The costs of expanding post-secondary education

With the data used to calculate the public return on investment, Deloitte is able to estimate the incremental costs of providing the necessary support programs and services to realize this government commitment.

It is assumed that half, or 30,000, of these new places will be in the college sector, and that this translates into 15,000 additional college students per year. It is unknown how many of these future students will be considered 'at risk.' However, we believe a reasonable estimate is that between 30% and 50% of students are likely to be considered at risk. This estimated range is based on a lower bound of 30% of the new students being at risk (the same as amongst the current student population) and an upper bound of 50% of the new students being at risk (based on an assumption that these new students may be somewhat more likely to be at risk than current students). Based on these figures, to support the increase in post-secondary spaces the college sector will have to spend an additional $22 to $37 million per year on dedicated programming to support students at risk,. This is in addition to the increased spending on academic programs and overhead costs associated with higher enrolment. Of course, while there are costs associated with increasing the post-secondary education attendance rate, this analysis has demonstrated that these costs bring substantial benefits to government and individuals alike.

Economic experts concur with colleges that students from underrepresented groups require greater support services to meet their specific and individualized needs. As more of these students enter post-secondary education, the required growth in public funding to match rising enrolment may consequently be higher than current projections.[41]

[41] TD Economics, 2010.

6.0 College programs and services for students at risk

College administrators report that Ontario's colleges have focused in recent decades on widening the participation of students who would not normally choose a post-secondary route. This focus, in turn, has resulted in a considerable investment into programs catered to students who are at risk of not attending or graduating from college. Consequently, colleges report a shift in their organizational mandates and core business toward attracting and supporting students at risk. The impact of these efforts is felt by students themselves. Their personal stories illustrate that without this institutional focus on supporting students, numerous Ontarians would be unable to access or succeed in post-secondary education.

Key Findings:

- While students at risk are underrepresented in the post-secondary educated population, colleges provide a more accessible, and widely utilized, avenue to post-secondary education for these populations
- In recent years colleges have worked on developing strategies and allocating additional funding to increase participation of underrepresented students in college
- Serving students at risk is part of the core business of colleges, who have developed effective and innovative programs and services to attract and retain these students
- As a result, there has been an evolution in the profile of students who now enter college
- While considerable efforts have been made by colleges, students at risk enter colleges with a unique set of needs that may put them at a higher risk of failure if those needs are not understood or responded to in a meaningful and relevant way
- Students at risk often face multiple challenges and barriers, which increases the complexity of serving them. This in turn impacts the efficiency, cost, and delivery structure of support services
- The impact of these support services is felt directly by students who report being able to succeed in college because of the assistance they received in overcoming major challenges
- From the perspective of employers, these programs and services are necessary to transition students from being 'at risk' to becoming competitive workers in the job market
- Colleges, students, government officials and employers note that there are opportunities to make these programs and services even more effective so that colleges can better fulfill their new organizational missions of attracting and supporting students at risk
- The capacity of colleges to improve supports to students at risk is constrained by the costs of these programs and limited government funding.

6.1. Post-secondary educational attainment among students at risk

The level of post-secondary educational attainment in Canada, particularly in Ontario, is a key factor in the province's economic strength. According to Statistics Canada, 50% of 25-64 year olds in Canada in 2010 had either a college or university-level education. In Ontario, the percentage is even higher, at 57%.[42] This is well above the OECD average of 30%, and only Korea outranks Canada among OECD countries, at 64%.[43] However, several sub-populations of Ontarians are underrepresented among post-secondary graduates. These underrepresented groups are students at risk that are the focus of this study.

Aboriginal peoples

There is a persistent and considerable gap in the educational attainment levels of Aboriginal peoples compared to non-Aboriginal peoples. Responses to the Statistics Canada Youth in Transition Survey reveal only 56.5% of Aboriginal youth had attained a post-secondary credential, compared to 82.6% of the non-Aboriginal population.[44] First Nation secondary school graduates are also less likely to apply directly to college or university compared to other students. As a result, while a majority of Ontario's adults have a post-secondary education, only 38% of Aboriginal adults do.[45]

Individuals with disabilities

Youth in Ontario with a cognitive or physical disability are also less likely to participate in post-secondary education. Data from the Youth in Transition Survey reveals that the rate of post-secondary education participation is 15 percentage points lower for those with a disability.[46] Consequently, the rate of educational attainment for persons with disabilities in Canada is lower than the non-disabled population. Census data from 2006 show that 34% of persons with disabilities had a college or university credential, compared to 45% of persons without disabilities. The gap is noticeably smaller for colleges than universities, however—3 percentage points compared to 8.[47]

Students from low-income families

Ontario youth who come from a family with a total annual income of under $50,000[48] have a post-secondary education participation rate 10 percentage points below other youth. The gap is even larger looking only at university attendance rates, at 14 percentage points. [49]

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[42] Statistics Canada. " Education Indicators in Canada: Report of the Pan-Canadian Education Indicators Program." April 2011. http://www.statcan.gc.ca/access_acces/alternative_alternatif.action?l=eng&loc=/pub/81-582-x/2011001/excel/d6.3-eng.xls
[43] OECD. "Education at a Glance 2011 Country Note- Canada." http://www.oecd.org/dataoecd/7/20/48687311.pdf
[44] Ken Norrie and Huizi Zhao, *An Overview of PSE Accessibility in Ontario* (Toronto: Higher Education Quality Council of Ontario, July 6, 2011).
[45] Ontario Ministry of Aboriginal Affairs, "Aboriginal Education," July 11, 2011, http://www.aboriginalaffairs.gov.on.ca/english/services/datasheets/education.asp
[46] Ross Finnie, Stephen Childs, and Andrew Wismer, *Under-Represented Groups in Postsecondary Education in Ontario: Evidence from the Youth in Transition Survey*, (Toronto: Higher Education Quality Council of Ontario, 2011.)
[47] Martin Prosperity Institute, "Releasing Constraints: Projecting the Economic Impacts of Increased Accessibility in Ontario," June 14, 2010, http://martinprosperity.org/media/ReleasingConstraints_June22.pdf
[48] The authors of this study note that this is an "arbitrary cut-off," but represented a total pre-tax income level just above the lowest quartile of parental income among survey respondents. This is validated by data from Statistics Canada that reported the median total family income in Ontario, 2009, to be $69,790.
[49] Ross Finnie, Stephen Childs, and Andrew Wismer, 2011.

First-generation students

First-generation students are understood as those who are the first in their families to either attend or graduate from a post-secondary institution. First-generation students face distinct challenges to accessing and succeeding in higher education. Parental education levels influence students' decisions to pursue further education, and first-generation students may require more guidance in applying to post-secondary institutions.[50] Indeed, data demonstrates that first-generation students are considerably less likely to attend a post-secondary institution, particularly university. In Ontario, the post-secondary participation rate among youth is 18 percentage points lower for first-generation students. The gap for university participation is much greater—14.3 percentage points.[51]

Rural populations

Whether an individual is from a rural or urban environment also influences their likelihood of attending post-secondary education institutions. Post-secondary participation rates of rural Ontarians is 10 percentage points lower than that of urban Ontarians. Interestingly, the rural-urban gap is larger in Ontario than for Western Canada, Quebec, or Atlantic Canada. It is believed that this gap is due to the higher travel costs of attending post-secondary education, and the possible cultural effects.[52]

Academically challenged and under-prepared students

Ontario students who take less academically rigorous secondary school courses are also less likely to attend post-secondary education. Of Ontario high school students who completed a university-preparation OSSD, 84% directly attended a post-secondary institution, compared to just 46% of students completing a college-preparation OSSD.[53]

Students who struggle with core competencies, such as mathematics, are also more likely to face challenges with succeeding in post-secondary education. Looking at records from first-year college students who took a mathematics course, those who did well in high school mathematics were more likely to have done well in college mathematics. Students who took no grade 12 mathematics course were less likely to achieve good grades in college mathematics than the general college population.[54] Furthermore, poor academic performance is associated with early exit from post-secondary studies. In a study of underrepresented groups in post-secondary education (Aboriginal students, students with disabilities, first-generation students, and delayed entrants), students with low high school grades (below 75%) were more likely to have left their post-secondary program of study before completion than their academically stronger counterparts.[55]

Research has also demonstrated that youth with low literacy skills are much less likely to pursue post-secondary education. While 54% of students with low reading ability at age 15 did not pursue any post-secondary education,

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[50] Ontario Undergraduate Student Alliance, "Breaking Barriers: A Strategy for Equal Access to Higher Education," February 2011, http://www.ousa.ca/wordpress/wp-content/uploads/2011/03/Breaking-Barriers.pdf
[51] Ross Finnie, Stephen Childs, and Andrew Wismer, 2011.
[52] *Ibid.*
[53] A.J.C. King et al, "Who Doesn't Go to Post-Secondary Education? Final Report on Findings," Prepared for Colleges Ontario, October 20, 2009, http://www.collegesontario.org/research/who-doesnt-go-to-pse.pdf
[54] York-Seneca Institute for Mathematics, Science and Technology Education, "College Mathematics Project 2010: Final Report-Executive Summary," 2011, http://collegemathproject.senecac.on.ca/cmp/en/pdf/FinalReport/2010/CMP%202010%20Executive%20Summary%20-%20English.pdf
[55] Peggy Sattler, Academica Group Inc., *From Postsecondary Application to the Labour Market: the Pathways of Underrepresented Groups,* (Toronto: Higher Education Quality Council of Ontario, 2010.)

75% of students with high reading skills had completed some post-secondary education by age 25.[56] These findings suggest that students with weak skills in key subjects like mathematics and literacy will be less likely to pursue and complete a post-secondary program.

ESL students

Students for whom English is not their first language are also under-represented in post-secondary participation rates. Looking at Ontario secondary school students, only 62.6% of ESL students completed an OSSD, compared to 75.7% of non-ESL students. ESL students are also less likely to enroll in college or university after graduating from secondary school. 14.9% of ESL students enrolled in college compared to 17.1% of other students, and 26.3% of ESL students enrolled in university compared to 30.6% of non-ESL students. Interestingly, post-secondary participation rates vary across language groups. Among ESL students, those whose main language originated from China, Korea, Russia, and South Asia had highest rates of OSSD completion and post-secondary attendance, and those who spoke Spanish or Portuguese at home were least likely.[57]

One student's story

Eric first enrolled in college in a one-year general arts and science program, which enabled him to enroll in an applied Bachelor's degree in biotechnology. Eric began his studies with the intention of pursuing veterinary medicine, but developed an interest in biotechnology while in college. He plans on pursuing his Master's degree after graduation, and then a doctorate in bioethics. As a First Nations student, Eric was initially hesitant about attending college, but quickly reached out to the First Nations Centre for support. The Centre provided peer tutoring, counseling services, and sessions with representatives from other student services. Eric described how these services are critical for Aboriginal students, who often experience culture shock when leaving their communities and starting college. Aboriginal students may also struggle with social and cultural barriers in the classroom and among their peers. For first-generation Aboriginal students in particular, supports are needed because these students lack a role model for succeeding in college. Eric credits a great deal of his success to his involvement with the First Nations Centre and the First Nations Student Association. As a student leader, Eric helps other students by working to promote awareness of support services, and by serving as a peer tutor.

Students without necessary information or career direction

In addition to various demographic, socioeconomic, and skills-related factors influencing post-secondary participation rates, research suggests that having clear career goals increases one's likelihood of pursuing post-secondary education. Interviews and focus groups with students who did not attend post-secondary institutions after high school graduation revealed that confusion about career direction and goals was a major reason for this choice. On the other hand, students who delayed entrance to post-secondary education and subsequently attended college reported that their decision was influenced by a greater understanding about career opportunities associated with further education, and developing more focused career goals.[58]

Delayed entrants

Looking specifically at Ontario's colleges, only 38% of students in 2007-2008 entered directly from secondary school, while 23% did not attend post-secondary education after completing secondary school and were considered 'delayed

[56] Statistics Canada, "Life-path Outcomes Associated with Reading Ability," The Daily, June 27, 2011, http://statcan.gc.ca/daily-quotidien/110627/dq110627b-eng.htm
[57] A.J.C. King et al, 2009.
[58] *Ibid.*

entrants.' The remainder of students had already attended post-secondary education before beginning their current college program. Delayed entrants are more likely to possess certain characteristics that are associated with lower post-secondary attainment rate and success in their programs. Specifically, delayed entrants include a higher proportion of Aboriginal students, students whose first language is not English or French, and students with an overall average in their last year of secondary school below 80%.[59]

Students with dependents

Students with dependents—either children or adults in need of care—face various challenges to pursuing post-secondary education, particularly related to the investments of time and money required. This population is therefore at risk of not attending or completing a post-secondary credential. Adults who had a child by age 26 were twice as likely to have never attended a post-secondary institution as those without children.[60]

Other students at risk

Qualitative information gathered throughout the course of this analysis also identified several additional factors that would negatively impact the ability of students to attend and succeed in post-secondary education. These include:

- Facing health challenges (including mental health);
- Having an undiagnosed disability (including learning disabilities);
- Having a full-time or part-time job, and specifically working more than 20 hours per week; and,
- Newly-arrived immigrants (i.e. having lived in Canada for six years or less) who may struggle with communication and other skills required in the Canadian education system (e.g. time management, and study skills)

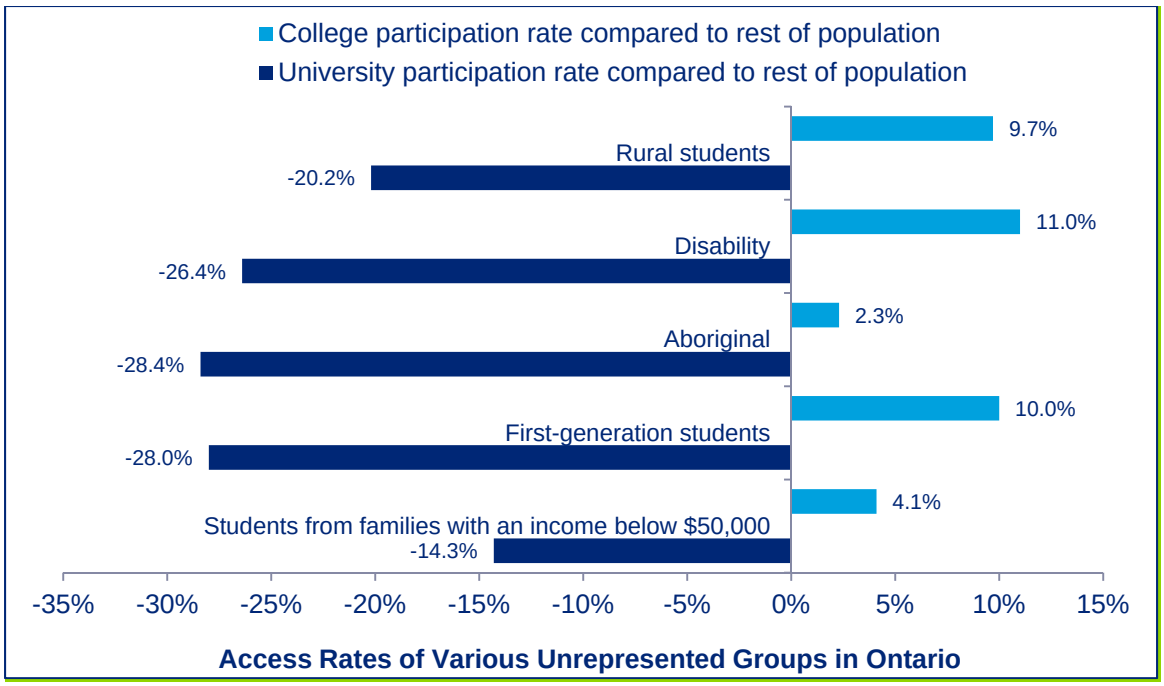
During the course of interviews with college officials it was apparent that students at risk frequently show a multiplicity of these factors. In other words, having one of these characteristics was often not enough for a student to be at risk of not staying in the system; however students that exhibited a number of these factors were at risk of leaving prior to graduating.

6.2. The role of colleges in educating students at risk

Within the post-secondary education sector, colleges play a unique role in serving underrepresented populations. Looking at data from the Youth in Transition Survey, the gap in post-secondary education attainment rates disappears, and even reverses, when looking at rates of accessing colleges, as seen in Figure 8 below.[61] For populations that are underrepresented in post-secondary education, colleges have proven to be a more widely accessed option for pursuing higher education.

[59] Colleges Ontario, "Profile of Non-Direct Entrants to Ontario's Colleges, 2008," June 2008, http://www.collegesontario.org/research/school-college-transition/CO_Non-Direct_Entrants_2008.pdf
[60] Ontario Undergraduate Student Alliance, 2011.
[61] Ross Finnie, Stephen Childs, and Andrew Wismer, 2011.

Figure 8 – University and college access rates of various underrepresented groups in Ontario



The role of Ontario's colleges in expanding access to post-secondary education to underrepresented groups is not surprising given the original intent of Canada's college system. Many colleges were founded in the 1960s with the goal of providing more widespread and geographically diverse opportunities for higher education. Colleges across Canada share a common goal of responding to and reflecting their community.[62]

Consultations with college administrators across the province revealed that Ontario's colleges not only aim to expand higher education opportunities in their communities, but to expand access to students at risk in particular. Attracting, retaining and educating students at risk is now part of the organizational mission in many colleges, and is part of the "core business" of the Ontario college system.

6.3. Programming for students at risk

Evidently, students at risk require special supports if they are to overcome the barriers that prevent them from attending and graduating from college, and ultimately join the skilled labour force. In order to expand enrolment and success in colleges among students at risk, higher education institutions have adopted a wide range of programs and services to address barriers these students face. The range of strategies and initiatives can be understood using the Beatty-Guenter typology as outlined in Figure 9.[63]

[62] Canadian Council on Learning, *Navigating Post-secondary Education in Canada: The Challenge of a Changing Landscape,* (Ottawa: 2010.)
[63] Beatty-Guenter (1994), as cited in: Social Research and Demonstration Corporation, "Post-Secondary Access and Retention Strategies: Literature Review," Prepared for the Canada Millennium Scholarship Foundation, June 9, 2009, http://www.srdc.org/uploads/PAR_Literature_review.pdf

Figure 9 – Beatty-Guenter typology of interventions for students

Retention strategy category	Definition	Examples of programs
Sorting	Matching students to programs, services and resources that best suit their needs	Marketing, outreach, assessment and placements, early intervention programs, advising
Supporting	Helping students with non-academic challenges	Child care, health services, counseling, food banks, disability services
Connecting	Promoting connections among students and between students and the college	Orientation, peer tutoring, faculty mentorship/advising
Transforming	Influencing the student to become more involved, committed, and likely to succeed, and changing the institution to become more proactive about student success	Academic and career counseling, remedial courses, preparatory courses, learning skills centres, professional development, institutional policies, tutoring

In addition to these interventions, institutions may engage in important outreach and awareness efforts such as partnerships with community organizations and primary and secondary schools. These initiatives focus on ensuring students are informed of post-secondary education opportunities and are adequately prepared academically. Institutions also form community partnerships as a means to connect students with additional resources and support off-campus.[64] In other words, programs and services for students at risk follow them through their college experience, from initial awareness of opportunities to graduation.

Through consultations with colleges and a province-wide survey, Deloitte found that Ontario's colleges offer a wide range of support programs and services geared to students at risk throughout the course of the college experience, from outreach and recruitment through to graduation. Ontario's 24 public colleges collectively demonstrate best practices and strategies for serving students at risk, through effective and innovative programming.

The range of programs and services offered across Ontario's college is wide, and includes those that have been identified in research as particularly effective, namely:

- Pre-enrolment remedial, academic transition, or academic preparedness programs;
- Personalized academic and career coaching;
- Peer mentoring;
- Personal counseling;
- Targeted programs and efforts for specific groups of students at risk;
- Community partnerships; and,
- Partnership and bridging programs with high schools.

This programming is not ancillary or optional from the perspective of college administrators. Students at risk comprise a growing proportion of student populations. To succeed, these students require support to overcome the barriers they face to accessing and graduating from college. In response, Ontario's colleges have invested considerable resources—time, staff, research, and funding—into designing innovative and effective support programs and services. A summary of particularly notable and innovative programming is provided below.

[64] Social Research and Demonstration Corporation, 2009.

Institutional commitments to serving students at risk

It is commonly emphasized among research that colleges must make an institutional commitment to promoting the success of students at risk. This involves making student success a long-term priority, incorporating this priority into their mission, and reviewing faculty hiring, orientation, and development practices to better serve students at risk. It is also important that institutions use data on outcomes to continually monitor, evaluate, and improve the services they offer. [65]

Many of Ontario's colleges demonstrate such an institutional commitment to serving students at risk. **George Brown College** is pursuing a five-year Student Success Program to improve retention, academic performance, and student satisfaction, focusing on first-year students. As part of the initiative, the college has developed an evaluation framework to review the program's performance on these stated goals. **Centennial College** has also introduced initiatives to monitor and improve student support services. The Dean of Community and Health Studies recently completed a review of the student withdrawal process. As a result of the review, the college will refine the process of identifying students at risk of failing, connecting them with advising and counseling, and providing alternative options to students. Centennial also uses a Retention Data Tool to provide information on student retention, attrition, and graduation levels across the college. This tool helps to identify emerging issues, trends, and impacts of initiatives. The commitment to understanding retention issues is also prevalent at **St. Clair College**. The college has developed and implemented retention strategies and various research projects related to retention issues in preparatory programs, and with certain student populations.

With respect to promoting an institution-wide commitment to student success, **Canadore College** has introduced a Circle of Care Model whereby all student services departments communicate to effectively coordinate services delivered to students. Using this strategy, the 'whole student' is supported in an integrated manner. **Georgian College** also promotes an integrated approach to supporting students, through organizing Student Experience Workshops for faculty and staff. These workshops focus on brainstorming strategies and ideas to improve students' experiences and outcomes.

Outreach and orientation services

Colleges told Deloitte that for youth in communities with low post-secondary education rates, attending college may seem like an impossible goal. These youth often struggle to understand how to go about applying to college, and to overcome the barriers they face.

To improve access to college for youth at risk in the community, **Centennial College** developed a program called HYPE, Helping Youth Pursue Education. HYPE is a six week, on campus, post-secondary education experience for youth 13-29 years of age who reside in priority neighborhoods. Barriers to participation are reduced or eliminated through free tuition, transportation, meals and learning materials. Students are also eligible to access all support services free of charge including advising, tutoring, counseling and advocacy with the ultimate goal to open up the possibility of entering college full time.

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[65] Association of Canadian Community Colleges, "Opportunities for Everyone: Programs and Services for Disadvantaged and Low Skilled Learners offered at Colleges and Institutes- Final Report," May 2008, http://www.accc.ca/ftp/pubs/studies/200805Disadvantaged.pdf; Lynda Wallace-Hulecki, "Creating a Sense of Belonging: Strategies for Enhancing Student Diversity and Success," SEM Works, April 2009, http://www.semworks.net/papers/wp_Creating-a-sense-of-belonging-strategies-for-enhancing-student-diversity-and-Success.pdf

For their part, **Lambton College** has embarked as a key stakeholder on an innovative program titled 'Bridges out of Poverty.' This initiative, adopted in 2008 by Lambton County Council, aims to reduce child poverty in Sarnia-Lambton by pairing members of the community who agree to serve as supports and resources with individuals who are working to move beyond poverty. Senior officials from Lambton College are both partners to impoverished individuals, and also provide learning workshops for individuals enrolled in the program.

Orientation services that are targeted to students just beginning their college programs are also a large area of investment. Although there are some variations, the majority of colleges provide both academic orientation conducted by faculty, and student services orientation that is dedicated to ensuring students are aware of all the support services in place to help them succeed. Colleges reported that if a connection is not made with a student within three weeks of them starting, "you lose them". That is to say, that if a student does not feel a personal connection to the institution they have enrolled in, they are more likely to leave. As a result, colleges have increased both the funding levels and scope of orientation services offered. Many colleges conduct orientation sessions in the fall, winter and spring sessions to ensure that they are reaching students regardless of when they begin their studies.

For example, **Cambrian College** delivered a mandatory one-week orientation program that students reported to be particularly effective in informing students of resources and fostering a connection to the college. 77% of participants found student services workshops helpful, and 91% better understood resources available to them at the college.

To enhance access to orientation services, **Loyalist College** has leveraged social media to offer Virtual Orientation to new students. Built on a Facebook platform, Virtual Orientation comprises four modules that deal with main transition concerns facing new students, and allow students to connect with each other and ask questions before the start of their program.

Confederation College has recognized and addressed a need for additional support to Workplace Safety and Insurance Board (WSIB) clients returning to the academic environment after an extended period. To assist them in getting oriented, the college offers a specific summer transition program.

Proactively identifying students at risk

A major challenge to supporting students at risk is that many students in need of services do not access them.[66] Therefore, it is emphasized in research that colleges proactively identify students in need of support services and connect them with resources. For example, a majority of Ontario's college report formal language proficiency assessment for all incoming students.[67] A passive, so-called "build it and they will come" approach is not effective; an almost "intrusive" approach to delivering services is promoted by researchers.[68] To encourage the use of support services, research also emphasizes a seamless, integrated delivery model, and centralizing services in one location to facilitate access.[69]

Deloitte's review found that Ontario's colleges are increasingly taking proactive approaches to identifying students at risk and connecting them with supports. **Mohawk College's** Assessments for Success program requires post-

[66] Peter Dietsche, "Use of Campus Support Services by Ontario College Students," submitted for publication to the Canadian Journal of Higher Education, 2011.
[67] Roger Fisher and Whitney Hoth, *College-Level Literacy: An Inventory of Current Practices at Ontario's Colleges*, (Toronto: Higher Education Quality Council of Ontario, 2010).
[68] Peter Dietsche, 2011.
[69] *Ibid*; Davis Jenkins, "What Community College Management Practices are Effective in Promoting Student Success? A Study of High- and Low-Impact Institutions," Community College Research Center, Columbia University, October 2006.

admission testing in math, reading and writing for all students beginning certificate, diploma, and advanced diploma programs. Results from the assessment are communicated to students along with recommendations for developmental work if needed.

Lambton College also seeks to identify struggling students early-on through the Day 11/28 Program. During the third week of the term, students are notified if they have never attended a class, or rarely attended the class. During the seventh week of the term, students are informed if their grade is below 40%, if they are borderline failing, or if their attendance level is poor. Students who receive notifications are given suggestions on where to turn for assistance. Students with multiple alerts will receive telephone calls from counselors to provide support and suggestions.

Centennial College is similarly in the process of developing a 'red flag' strategy to identify students who may be at risk of stepping out of studies in their first semester, based on both quantifiable data and a student self-reflection tool.

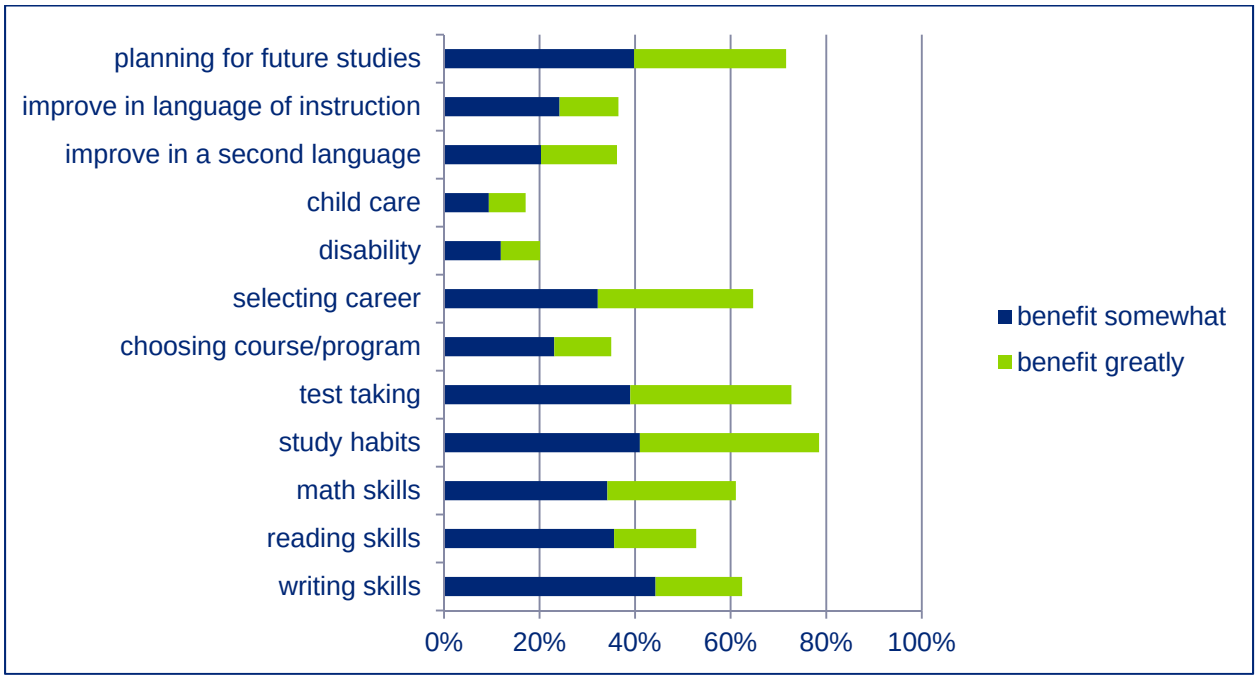
Using multiple approaches to identify and support students at risk early on in their studies is the strategy of **Collège Boréal.** The « sondage des Indicateurs de persévérance scolaire » (IPS) leverages multiple proven tactics to identify and support students at risk, including a personal approach, early detection, appropriate follow-up, and promoting a sense of belonging. As well, teaching staff host « réunions de réussite » with students two weeks before the course withdrawal date to strategize with the student on how to ensure their success.

An integrated and coordinated approach to student service delivery is emphasized at **Canadore College** through its Circle of Care Model. This Model fosters communication across student services departments so that relevant information about students can be shared. Students receive support in a holistic manner through this approach.

Academic supports and remedial programs

Colleges report that a major focus of support programming is addressing skills shortages among their students and developing foundational programs and remedial courses. The need for these academic supports is considerable. Through a 2007 survey of first-year college students, Human Resources and Skills Development Canada found that a significant percentage of students ranked their skill level as 'poor' or 'fair' in key areas at the start of the term: 18% for writing ability; 13% for reading ability; 36% for mathematical ability; 29% for time management; and 34% for study skills. An even larger percentage of students indicated at the end of their first term that they would benefit from additional support with academic and life challenges, as summarized in Figure 10.

Figure 10 – Perceived level of benefit from extra support among first-year college students [70]



More recent data, focusing specifically on Ontario college students, confirms the need for support services in the area of academic preparedness in particular. Results from the Ontario College Student Engagement Surveys from 2006 to 2009 show that a notable percentage of students identify their skill level as 'fair' or 'poor' in key academic skills, as summarized in Figure 11. Academic under-preparedness is an important contributing factor in college underachievement and dropping out.[72]

Figure 11 – Percentage of Ontario college students who self-rate their ability as 'fair' or 'poor' in skill areas[71]

Math skills	33%
Study habits	31%
Test taking skills	21%
Writing skills	15%
Reading skills	10%
Language comprehension	8%

The need for academic supports was heavily emphasized in site visits with colleges. In all the site visits, the need for— and major investments in—math and english remedial courses was highlighted as the most significant initiative in colleges to bring incoming students to a level where they can succeed in their regular classes. Some colleges provide these courses concurrently, while students are taking their other courses. Other colleges have developed a specific stream of studies titled General Arts and Science for students who wish to acquire a post-secondary education in the liberal arts and sciences, as well as the skills and competencies required in college and the workplace. The program allows students to explore subjects within various programs such as the Humanities, Social Sciences, Natural Sciences and Science and Technology; develop skills in critical thinking, oral and written communications and career development; and acquire knowledge and explore ideas in a range of disciplines to meet individual needs and interests. The majority of these programs also include a career counseling

[70] Human Resources and Skills Development Canada, "Pan-Canadian Study of First-Year College Students- Report 1: Student Characteristics and the College Experience," August 2007, http://www.hrsdc.gc.ca/eng/publications_resources/learning_policy/sp_787_08_07e/page14.shtml
[71] Peter Dietsche, 2011.
[72] As summarized in Roger Fisher and Whitney Hoth, 2010.

component which helps students consider their options for a vocationally-specific college education. Colleges also frequently offer 'pre' programs to academically prepare students for the requirements of specific streams of study, and offer peer tutoring and professional tutoring supports.

As an example of coaching supports for foundational program students, **Seneca College's** Success@Seneca's Coaching program connects first-year students with Coaches who are employees of the college. Coaches meet with students every other week to help with issues and connect students to appropriate services. The results showed a retention rate of 74% of students continuing to second year in the General Arts One Year Certificate and 80% in the Applied Science Fundamentals one year Certificate program.

Sheridan College has developed a mandatory course to improve the English skills of new students. The college offers an Essential Communication Skills course to help students develop written and verbal communication skills necessary to succeed in college. This course is a requirement for graduation. Students must first be assessed and, if necessary, must first complete a Basic Communication Skills course.

To assist students succeed academically, **Humber College** offers a range of academic support services, including peer tutoring, learning skills workshops, learning support centres, and academic advising. The learning support centres available to students include a writing centre, math centre, and accounting centre. Workshops on offer include sessions on time management, study skills, presentation skills, managing your money, and working effectively in groups.

Targeted supports to Aboriginal students

Evidence supports the assertion that support services should be targeted to specific populations of students at risk to have maximum impact.[73] Aboriginal students may face cultural and linguistic barriers to integrating effectively with their college, and are often first-generation students who require additional guidance in navigating the college environment.

To assist Aboriginal students feel settled in the college community, **Niagara College's** Aboriginal Services offers a computer lab for Aboriginal students to use with Internet access. The college also offers a library of Aboriginal resource materials, guidance, advice and support to new and returning Aboriginal

One student's story

Shelly works with Health Canada's First Nations and Inuit Health branch. She graduated from college after completing a pre-health program, and then a Bachelor of Science degree in nursing. She decided to attend college after working in the health services of her First Nations community, and realizing she wanted to make a bigger impact to improve Aboriginal health in Ontario. While enrolled in college, Shelly accessed services from the Aboriginal student centre, and found their computer and study facilities particularly helpful. She also relied on the college's disability services to adapt reading material, for writing tests, and for developing study techniques to cope with her learning disability. As she prepared to enter the job market, Shelly relied on career services to develop her resume. Whenever she had need for support, she knew she could turn to the Office of the Vice-President of Student Services for help. In her experience, "when students were lost or didn't know where to turn, they would go to that office." The various services offered at her college, as well as the supportive environment, were very important to her academic success and motivated her to become a student leader. Because of her involvement in student government, Shelly would like to one day work in the post-secondary education sector, and increase the representation of Aboriginal peoples within higher education institutions.

[73] Marni Squire, *Successful Strategies for Student Retention and Success: What we can learn from the UK, (*Ottawa: Algonquin College, 2005.)

students, and a designated study/lounge area for Aboriginal students.

Algonquin College has developed partnerships with local employers to connect Aboriginal students with employment opportunities. The college partnered with Tim Horton's, TD Canada Trust, and Kagita Mikam employment and training services to promote employment preparation and opportunities for Aboriginal students. To support Aboriginal culture at an institutional level, Algonquin College partnered with Ottawa University and Carleton University to host an Indigenous graduation ceremony. The college also held an Orientation Pow Wow for Aboriginal students, and has tripled the number of cultural events and workshops for these students. This has improved the participation and engagement of Aboriginal students at the college—crucial factors to student success.

Other Ontario colleges have initiatives that also serve to meet the needs Aboriginal students and to promote their integration into the institution. **Centennial College** has introduced two academic programs designed specifically for Aboriginal students—a two-year Business program and a three-year Business Administration Accounting program, which will incorporate Aboriginal culture and content. Centennial also delivered an Aboriginal upgrading program, Pimooteewin, from April 1, 2010 to March 31, 2011. This program focused on upgrading basic skills while incorporating traditional healing Elder teachings, discussions of current issues, and city outings.

Similarly, **George Brown College** has made a concerted effort to support Aboriginal students by integrating Aboriginal culture into the institution. The Aboriginal Elder-in-Residence position provides support and cultural education to the college's Aboriginal students and the wider community. **Sault College** has on staff a Native Student Recruiter to promote college education to Aboriginal students in First Nations communities and high schools. Sault College also offers the Anishinaabemowin Language Program, a one-year certificate program that immerses students in the Ojibwa language.

Targeted supports to newcomers

During the course of the interviews a number of urban colleges spoke of the increasing number of international students on their campuses. For example, Centennial College reported that many of their students are either immigrants or international students, which poses unique challenges around English language courses and effective communication. In response, colleges have developed specific programs geared to assisting students to develop their language skills. For example, **Fanshawe College** offers an English Language Studies stream in the General Arts and Science program, to help students improve their language skills in order to enter a college or university program.

One student's story

Michael first attended college over ten years ago to prepare for a career in manufacturing. Due to the 2008 economic recession, he lost his job over a year ago when his company moved operations to the US. He decided to pursue his interest in working with children, and enrolled in the Second Career program to study early childhood education. As a mature student, he initially struggled because he had been out of an academic environment for many years. Michael reached out to Disability Services, as well as services for first-generation students, to gain the support he required and the confidence to advocate for his needs. Michael's positive experiences in college have confirmed his decision to pursue a new career, and he plans on seeking employment in the child care sector.

Targeted supports to students with disabilities and mental health issues

Across all colleges, a growing support service area is assisting students with disabilities. The reason for this is two-fold. One, students are more open to disclosing their disability, which is of particular importance if the student is

facing a learning disability. Two, the new requirements of the Accessibility for Ontarians with Disabilities Act (AODA) is putting additional responsibilities on colleges to meet the needs of students with disabilities.

To support students with learning disabilities, La Cité collégiale offers a « Programme de transition pour étudiants avec troubles d'apprentissage » to assist students with learning disabilities as they transition from secondary school to post-secondary education. Likewise, **Conestoga College** has developed the PASS Summer Transition Program for recently-admitted students with learning disabilities. This nine-day program teaches students about the post-secondary environment, self-advocacy, and services that the college offers. Similarly, **St. Lawrence College** offers a two-day event in each spring for grade 11 and 12 students with learning disabilities or ADHD, and who intend on attending college. “Destination: St. Lawrence Transition Camp” gives students the opportunity to meet other students with disabilities and enjoy social and motivational activities. Participants also attend workshops specifically geared to students with learning disabilities, and meet the faculty and staff at St. Lawrence College.

Ontario’s colleges have developed innovative initiatives to support students struggling with mental health issues. Fanshawe College was the first educational campus in Canada to partner with the non-profit mental health program, mindyourmind, and offer students an online resource called ‘iCopeU.’ iCopeU offers information on mental health issues, as well as strategies for managing stress and anxiety. Fanshawe College has also forged partnerships in the community, with Leads Employment Services, Regional Mental Health Care London, and the University of Western Ontario, to provide supported education for students with mental health disabilities, leading to employment. The college also introduced a pilot project in 2010-2011 to partner with the London Health Sciences Centre to provide on-site psychiatric services to students referred by college counselors.

George Brown College has also leveraged community partnerships to address the needs of individuals struggling with mental health problems. In partnership with the Centre for Addiction and Mental Health (CAMH), the college delivers Augmented Education, an employment-focused, supported education program with modified delivery for students with histories of mental illness and addictions. The program also leverages other community agencies to provide support to students. As a result, the graduation and employment rate for these students at risk is on par with overall rates at the college. Similarly, Seneca College offers individuals with histories of psychiatric illness Work on Track, an employment preparation program that involves career planning, employment preparation, and work experience.

One student’s story

For Samantha, college support services have not only helped her to pursue higher education, but have helped her to function in everyday life. Samantha is enrolled in a two-year library and information technician program, and has struggled with depression and suicidal issues for years. Before beginning her program, she had been out of counseling for a year; after learning about college counseling services during orientation, she quickly sought out support. She credits counseling for enabling her to function in society and pursue her college diploma. During her program Samantha has refined her career goals because of career information sessions given as part of her program, and intends on becoming a cataloguer in a public library system.

Improving access to support programs and services

Students often struggle to access support services because of fear, stigma, and concerns about self-disclosure. Alternative delivery options, such as online resources, may facilitate access for students struggling with such concerns.[74] Accordingly, **Loyalist College** offers incoming students an eight-week online credit course, Online to Successful Learning. This course aims to ease the transition into college studies by helping students identify their areas of strength and challenges, and develop learning and self-advocacy skills.

Conestoga College is also leveraging technology to expand student support services. For 2011-2012, the college has developed a Virtual Learning Community project manager position to develop an enhanced service delivery model, which uses technology to reach out to students at risk and connect them with learning communities. This connection is intended to enhance academic support and student engagement. As part of the supports offered to first-generation students, **Fleming College** offers peer mentoring, which is also offered online through the E-Mentoring program. Support is offered from upper-year students through emails, e-newsletters, social media sites, and blogs.

Research also advocates that services should be centrally located in order to make it easy for students to access the various supports they need. **Northern College** has established a Student Success Centre that provides centralized access to peer tutoring, specific course assistance, general learning skills support, faculty mentoring, and access to professors. The Centre also provides a quiet study environment for students.

Connecting students to employment

Without sufficient support, students who successfully complete their college studies may struggle to find gainful employment and realize the benefits of higher educational attainment. Several Ontario colleges have made concerted efforts to connect students to employment in their field of study. **Durham College** has developed several initiatives to connect students to employment. The college's Career Services department hosted 56 employers at the college's annual job fair, and hosted trades employers at a trades-specific job fair. The department also created and moderated a focus group between the Communications faculty and employers to establish current entry-level hiring trends, so that graduates could be successfully positioned in the labour market. Career Services offers support to students through a series of webinars covering topics such as career exploration and interviewing skills. After graduation, students are contacted to inquire about their employment status and, if necessary, to advise them of available services and job postings in their field.

6.4. The impact of supports for students at risk

Employer perspectives

As part of the consultations, Deloitte spoke to a number of employers to understand the benefit of hiring college students who were at risk and their concerns with any upcoming or ongoing skill shortages. Interestingly, the perspective shared among all employers is that they do not see the students they hire as being 'at risk'; these students no longer fell into this category due to their college experience and successful completion of their studies.

[74] Peter Dietsche, 2011.

Adding to this point was the feeling among employers that colleges have a responsibility to provide support services to students in order to ensure they graduate. By doing so, colleges ensure that students graduate with the right skills to cope with the demands of the workplace, including communication, creativity, critical thinking and what one employer cited as the ability to 'teach people how to learn.' Employers who were specifically concerned about skill shortages, particularly in the technology, manufacturing and health care sectors, spoke to the benefit of hiring college students due to their cross-functional skillset. They also spoke to the idea that the majority of college students also graduate with practical and manageable expectations.

While employers are diverse, the common thread across all interviews was that colleges, and by extension governments that fund colleges, have a responsibility to provide supports to all students to ensure they graduate. Without these programs, employers felt that these students would have been less likely, if not entirely unable, to achieve their goals. From the perspective of employers, this would only compound the skill shortages they are facing in their specific industries.

Student perspectives

From the perspective of students, this wide range of support services and programs offered is critical to their success in college and then the workplace. They cited the various support programs and services as playing an integral role in enabling them to overcome various challenges they face to graduating and realizing their career goals. The individual stories of current students and recent graduates from colleges across the province are presented throughout this report. While the students and stories are diverse, the common theme heard across interviews was that without being able to access support programs to meet their needs, these students would have been less likely, if not entirely unable, to achieve their goals. In the words of one student who struggles with severe depression, without counseling "I don't think I would be able to succeed in my course."

One student's story

Three years ago, John enrolled in a business administration accounting program at a nearby college. Three years before that, he had lost his vision. In order to complete his studies, Disability Services worked with John to provide him with the necessary adaptive technologies and supports. His instructors often took proactive steps before the start of the semester to ensure he was accommodated. Even though John was a straight-A student, he also relied upon tutoring services when he needed someone to read materials to him. Even though John was still adapting to his disability, he was able to complete his program in the same time frame as his peers, and was elected Valedictorian. He is currently completing the second component of a double program. He is certain that student services, particularly Disability Services, were very important to his success.

Because of the supports offered to these students, many have pursued student leadership positions, becoming involved in student government, athletics, and peer tutoring. This has, in turn, empowered students to assist other students at risk. For example, Deloitte spoke to one student who began college as a parent of a small child. Because of the academic support services she accessed, she was able to excel in her studies and was elected as President of the college's student council. As President, she has introduced initiatives to strengthen the support given to mature students at her college. Students also emphasized that because of their supportive college experience, they are confident they will attain their long-term employment goals. Many graduates have realized their career ambitions after graduation.

Additional research also illustrates that different support programs and services positively impact student outcomes, although the level of research into colleges in particular is quite low.[75] As well, the experience of earlier research reveals that there "is seldom an easy or credible method that can quantitatively measure the positive impact on student engagement, academic achievement, or retention" from service or course-based interventions.[76] That being said, several studies (from Canada and the US) have identified benefits from such interventions. These findings are summarized in Figure 12 below.

Figure 12 – Summary of research into benefits of support programs and services

Study	Findings
Turner & Berry (2000)	Self-reported improved academic performance among students with personal problems and who accessed counseling supports.[77]
Graham & Gisi (2000)	Improved alumni satisfaction with their college and reported learning outcomes associated with improved satisfaction with academic advising, personal counseling, and other services.[78]
R.A. Malatest & Associates Ltd. (2009)	Students who participated in 12 or more hours of tutoring, mentoring or career clarification activities were approximately twice as likely to graduate as their peers.[79]
Bettinger & Baker (2011)	Students who were randomly assigned to receive coaching services in goal-setting, and skill development were more likely to succeed in college: a 15 percent increase in college retention was observed between the treatment and control groups.[80]
Grant-Vallone et al (2004)	Students who used support services and counseling more often reported better social adjustment, and consequently had greater commitment to complete their education.[81]
Porter (2011)	First-year college students who received personal counseling had a 7.6% higher rate of retention into second year compared to the general first-year college population.[82]

6.5. Areas of opportunity

Upon examination of the programs and services offered across Ontario's colleges and consultations with stakeholder groups, it is evident that colleges place great importance on supporting students at risk through effective and innovative initiatives. Opportunities exist, however, to improve the services offered to support students at risk and promote their success, according to consultations with colleges, students, and employers, as well as external research. It is important to note that many of these suggestions came from colleges themselves who emphasized that if additional resources were available, they would be able to move forward with recommendations listed below.

[75] Peter Dietsche, 2011.
[76] Richard Wiggers and Christine Arnold, *Defining, Measuring and Achieving 'Student Success' in Ontario Colleges and Universities*, (Toronto: Higher Education Quality Council of Ontario, 2011.)
[77] As cited in Peter Dietsche, 2011
[78] *Ibid.*
[79] R.A. Malatest & Associates Ltd, "FINAL Impacts Report: Foundations for Success Project," Prepared for the Canada Millennium Scholarship Foundation, December 2009.
[80] Eric P. Bettinger and Rachel Baker, "The Effects of Student Coaching in College: An Evaluation of a Randomized Experiment in Student Mentoring," Stanford University School of Education, March 2011.
[81] Elisa Grant-Vallone, "An Analysis of the Effects of Self-Esteem, Social Support and Participation in Student Support Services on Students' Adjustment and Commitment to College," Journal of College Student Retention, 5 (3): 2003-2004.
[82] Shirley Porter, "Personal Counselling at a Community College: Client Groups, Service Usage, and Retention," Paper presented at OCC Annual Conference, May 16, 2011.

Identifying and tracking students at risk

During site visits, colleges noted to Deloitte that they struggled to identify students in need of additional support. While some colleges have taken steps to proactively identify students at risk, as outlined above, administrators admit that they can do a better job of identifying students at risk, using means such as both objective indicators and subjective self-assessments. Failing to identify students at risk creates two issues: first, colleges struggle to connect students with the services they need to proactively address any challenges or barriers; and second, colleges are unable to measure the success of programs and services in reaching students at risk and improving student achievement.

Students also reported to Deloitte that colleges could strengthen the level of outreach to identify students at risk and connect them with services. Students echoed researchers in encouraging colleges to take more proactive, interventionist approaches to connect students with supports.

In the same manner, colleges are encouraged to promote informal referrals to services, and challenge stigmas around accessing support. Research demonstrates that faculty referrals and interactions with peers promote the use of support services. Peer interaction can be facilitated through classroom group activities and collaborative learning. As well, institutions would benefit from challenging negative perceptions to accessing support, including: the stigma of seeking help; treatment fears; and concerns about self-disclosure.[83]

One student's story

Karuna is pursuing studies in family and social services, with the career goal of helping people with special needs or in palliative care. Karuna has relied on her college's disability services to succeed in her studies. It was not until she began college and sought out help that she was diagnosed with a disability. In her experience, "some people who get missed [as having a disability] in public school and high school get picked up by the college." Karuna has had very positive experiences with the support services offered to students, and has found that disability services provide "overall care" to students like her.

Data collection and analysis

Deloitte's research also identified a need for improved data collection and analysis to identify effective student services and opportunities for improvement. While college administrators observe many positive impacts of programs and services in the lives and outcomes of students, these impacts are not usually measured. Across the sector, it is acknowledged that colleges should strengthen systems to track students and student achievement. In particular, colleges must do a better job at tracking how student achievement varies for students at risk and for students who access support programs and services. Improved data collection and analysis would enable colleges to better identify effective supports, and identify services that can be improved in targeting and assisting students at risk.

Colleges encouraged the government to continue their effort in developing an Ontario Education number which will allow colleges to track the pathways of students. College officials also suggested that a mandatory survey for all college students to complete that would capture all support services utilized during their college education would be beneficial, as would a data system that allows colleges to capture real-time data on programming provided to students at risk, and corresponding results. They also suggested the need to fund research into understanding which programs specifically work to retain students at risk.

[83] Peter Dietsche, 2011.

This last point was also highlighted in Deloitte's consultations with government officials who reported that a lack of evidence-based monitoring and evaluation of support programs is a concern for government. Government officials are interested in understanding the impact of specific types of programs and supports that are offered by colleges to help students at risk. Improving the collection of this evidence is critical to securing additional funding for student supports.

Funding support services as well as academic programs

Deloitte's consultations with colleges revealed the challenge of covering the costs of support services and also covering academic program costs. Core programs will be cut if funding is reduced, and core programs are jeopardized by the rising costs of support programs. Specific funding issues around the process of applying for funding, enrolment data, and remedial courses were particularly acute and are summarized below.

First, a number of the programs provided through support services at colleges are done on a "pilot" basis. This is a resource-intensive process for colleges, which diverts both time and energy from serving the students themselves. In addition, when pilot funding is cut, it produces a detrimental effect on a group of students already at risk, as the college can no longer afford to provide a particular service. Colleges suggested that a more efficient route for all partners would be to provide sustainable funding for pilot programs that have proven to be effective. For programs that have demonstrated their value, government should make this part of the colleges' regular operating grants.

A second area of concern is the November 1st, February 1st and June 1st dates for calculating enrolment levels at colleges, which then inform funding levels. Basing funding on enrolment levels one to two months into the semester does not take into account the costs of outreach, pre-applicant and pre-enrolment advising, and orientation services that take place before the enrolment count date. Many more individuals are served by these programs than those who are counted each semester, and these programs are essential for many students to access and succeed in college. These programs are financially and human resources intensive, but are not captured in the current approach to calculating funding to colleges

Third, colleges emphasized the need for core funding for English and math remediation courses. Colleges struggle to fund remediation courses because these courses require smaller class sizes to be effective.

Collaboration among colleges and the broader education sector

Collaboration across colleges on effective practices and lessons learned would promote a consistent level of high-quality service across institutions. For example, Deloitte spoke to one student who initially struggled to secure adaptive technology support to manage his disability, because his small college had not had a visually-impaired student for numerous years. Collaboration across colleges would promote uniformity in the quality of supports offered and sharing of effective practices.

To facilitate the identification, implementation, and sharing of best practices, Ontario's colleges may consider developing common, system-wide strategies to supporting students at risk. Research supports the proposition that systemic approaches to address ubiquitous student challenges, such as low-literacy skills, are effective.[84] Evidently, however, a risk of this approach is that colleges will be less responsive to local needs. Preserving flexibility for

[84] Roger Fisher and Whitney Hoth, 2010.

colleges to customize initiatives to their environment is therefore an important consideration if a common strategy is established.

Collaboration across the broader education sector would also benefit students at risk. Increased opportunities for the Ministry of Education and college Presidents to collaborate would enable colleges to develop a clearer understanding of the risk factors high school students face. In turn, colleges could better determine the types of supports they will need to provide to the same set of individuals who will enter their institutions upon graduation.

Community partnerships

Deloitte learned that partnerships with community-based agencies enable colleges to connect students with a 'wrap-around' suite of support services when they are not able to directly fill the need. The wrap-around services approach provides opportunities for innovation, greater responsiveness to learner needs, learner empowerment, and, ultimately, personalization of services. However, the potential for community partnerships is not fully realized, partly due to a lack of resources (time and staff) to develop relationships. The upfront time required to develop relationships with community providers would pay off as community partners, rather than colleges, could provide supports to students. One example is colleges that have developed partnerships with various Canadian Mental Health Associations to provide sessions targeted to students with mental health concerns. Although these types of partnerships exist in some colleges to address some student issues, there is room to expand community partnerships to address the needs of students at risk and share the resource burden with community partners.

One student's story

Amira is a student in a Bachelor of Applied Science-Kinesiology program, with career aspirations of becoming a personal trainer and teacher. She is also a varsity athlete, and works two part-time jobs to finance her education. At the start of her program, she met with the academic advisor for varsity athletes and discussed her weakness in biology. She was informed of the college's peer tutoring services, and accessed tutoring during the first two years of her program. Having a peer tutor was particularly helpful because the tutor was an upper-year student in her program, and could provide insight into how introductory material would be relevant in more advanced courses. Having a tutor also ensured Amira had designated time in her busy schedule to review her coursework. She has also accessed the college's Math Centre when she needed help with her mathematics coursework. Because of her positive experience with tutoring, Amira is now a peer tutor for students herself.

Case management

Once students are connected to support services, effective practices include taking a student-centred, individualized approach to providing assistance and addressing the multiple needs of an individual. Literature frequently highlights the benefits of integrating the delivery of support across services and programs, so that information on each student is shared among support providers when necessary, and strategies are harmonized. Current students and graduates emphasized to Deloitte that programming was most effective when it was adapted to meet a student's needs and they felt that their unique scenario and abilities were recognized. Personal connections encouraged students to overcome barriers and develop a connection to their institution. Ontario's colleges are encouraged to continue to move from a siloed to a 'whole of student' perspective to delivering care.

Bridging to employment

Students, as well as employers, emphasized the need for greater focus on connecting graduates to employment. Students frequently commented that many of their peers struggle to find employment after graduation. Career services could be strengthened, according to students, by teaching students skills beyond simply writing a resume, and taking a personalized approach to helping students. Students also commented that they would benefit from more opportunities to gain work experience while in college. For example, one student reported that the co-op component of their program was cancelled after he enrolled, even though this was a major selling point of the program. Certainly, many colleges and specific programs have made concerted efforts to partner with employers and help students move on to employment. **Durham College,** for instance, contacts students after they graduate to see if they require help finding employment. Students across Ontario's colleges would benefit if these strategies were pursued more widely.

Employers highlighted to Deloitte their need for students to graduate with work experience, and were open to various partnerships to provide students with experience. Possible options include three-week work placements, co-op placements, and courses provided by employers at the college based on the real-life demands of the workplace. In the words of one employer, a college program should be "one-third individual course work, one-third group work, and one-third extracurricular." For some employers, in particular those in the manufacturing sector, the work experience students obtain from going to college was more valuable than the credential itself. Employers also requested to colleges that instructors be given the chance to visit employers in the fields they teach, to ensure that their curriculum is reflective of current workplace realities.

When asked if they are open to providing students with placements, all of the employers responded positively. However, one obstacle that some employers found in placing students for work placements was opposition by unions. To counter this fear, employers suggested that colleges should sit down with the heads of labour unions and negotiate an agreement regarding this issue. Colleges should emphasize that bringing in students for training is not competition for their current union employees but rather a way of preparing potential future employees. Employers also felt that government should be at the table for these discussions.

Promoting the value of a college education

Stakeholders, particularly employers, felt strongly that colleges should be promoted more heavily as a valid pathway to students, beginning in junior high school. Employers commented that the general public still does not view a college credential with the same credibility as a university degree, although from the perspective of employers the college credential was often much more valuable. Promoting college to student at an earlier age would also help deal with the lack of career clarity that leads many students to leave college prematurely.

In this regard, college representatives felt that there are untapped areas for better knowledge sharing and coordination with secondary and adult education schools to ensure guidance counsellors promote colleges as a pathway for students. Greater coordination is required so that teachers and students alike understand the requirements to be accepted and succeed in college. Coordination could be achieved through a model where MTCU spearheads an inter-Ministry initiative for serving students at risk, building on successful initiatives in the K-12 education system like the Learning to 18 and Student Success programming.

In addition, employers felt that the government should also highlight the value of the college system in Ontario when going overseas on trade trips. In particular, government officials should emphasize the applied areas of focus for

which colleges train students, including information and communication technology, gaming and system engineering, health sciences including genomics, and green technology, among others.

In summary, Ontario's public colleges provide an impressive array of support services to students at risk that exemplify many best practices described in research and literature. There are opportunities to expand and refine the services offered to students at risk in order to more effectively promote student success. Evidently, the ability of colleges to offer even more sophisticated and extensive support to students at risk is constrained by the costs of such services, and the level of funding received by government. The questions of costs to government of these programs, and associated benefits, are examined in section 4.0.

Appendix A – Interview guides

College representative interviews

Introduction

Colleges Ontario is conducting a major study of the role of Ontario's colleges in serving students at risk of not commencing or completing college studies. This study will examine the costs incurred by colleges in serving students at risk, outline the benefits to the individual and the economy of such investments and project the college sector financial needs for serving even greater numbers of students at risk in the future.

This study is an important component of the Colleges Ontario strategic plan. The research will provide critical information that will be needed to support advocacy efforts and in illustrating the fundamental role and costs associated with raising the province's educational attainment rate.

Colleges Ontario has hired Deloitte to undertake the study.

As part of the study, Deloitte will be conducting in-person interviews with senior administrative staff at colleges across all regions in Ontario, including Francophone colleges. This Interview Guide contains the questions the Deloitte team will draw from to consult with college representatives.

To ensure that the full breadth of expertise and insights regarding programs for students at risk are represented, we suggest that the following senior administrators may be present during the consultations (titles may vary based on organizational structure of your institution). Please note the consultations will be a combination of individual and group interviews.

- President
- Vice-President (Academic)
- Vice-President (Student Services)
- Vice-President (Finance/Administration)
- Dean of Students
- Senior administrator of admissions (Ex.: Registrar)
- Senior administrator of financial aid/scholarships
- Directors/senior administrators of services and programs for students at risk (Ex.: Disability Services, Math/Literacy Foundational Programs, Aboriginal Services, Access Programs, etc.)
- Director of Marketing/Communications

- Any other senior administrative staff who would provide expertise and insight to answer the questions in this Interview Guide

Please inform Deloitte at the beginning of the interview if you are willing to be quoted, if you are willing to be named as an interviewee in the report, and if you wish to receive an emailed PDF copy of the final report.

An APPENDIX lists the definition used in this study for 'students at risk' as well as the relevant college programs and services covered. *(appendix provided same definition as given in this report, section 3.2).*

Scope	Question
1. Opening questions	Please introduce yourself and your role in the college. Are you willing to be quoted, and named as an interviewee in the report?.
2. Definition of 'at risk'	Please turn to page 4 *(definition of students at risk)*. Do you have anything to add or any comments about the definition put forth?
3. Overview	Can you comment on your college's broad priorities, successes and challenges related to students at risk?
4. Program areas for this interview	Which program/service areas do you suggest we focus on in this session? Note: General list (Appendix has more detail) 1. Recruitment, outreach and marketing costs directed towards potential students at risk: 2. Targeted student orientation 3. Assistance with Accessing Financial Aid (total spend) 4. Academic supports, course and learning supports 5. Non-academic support services:
5. Challenges	What are the key challenges these programs/services are designed to address?
6. Employment success	What is your sense about how these programs/services contribute to employment success for the participants?
7. Other successes	What are some other measures of success for these programs/services ?
8. Innovative programs/ services	Are there particular programs/services or approaches that stand out as particularly innovative and successful? Do you have an example success story that would bring home to government officials just how these interventions help students succeed?
9. Partnerships	Are there key external partners you feel are or should be involved to increase the success of students at risk? What do you see as the ideal role for your college in relation to these other agencies?
10. Benefits	In your experience, what benefits do programs and services for students at risk provide? These may include: a .Higher retention rates b. Student achievement (grades) c. Higher graduation rates d. Increased post-graduation employment rate, earnings, and quality of jobs

Scope	Question
	e. Reduced dependency on income assistance (Ontario Works, Employment Insurance, other supports) and other government services f. Improved health (including lower smoking rates, alcohol abuse, and substance abuse); g. Increased community/civic engagement, including volunteerism and voting h. Benefits to college students' families and children
11. Unmet needs	What specific gaps or unmet needs does your college face in meeting the needs of students at risk? Why are these needs not being met? (Ex. fiscal constraints; student needs fall beyond the scope/mandate of the institution's services) What should be done to address these unmet needs - By your institution or the college sector in general, or by government or community partners?
12. Recommendations	What recommendations or comments would you offer to Ontario colleges and governments to increase graduation and employment rates for students at risk?
13. Final comments	Do you have any final comments or questions about the topics covered in this interview, or about the cost-benefit assessment Deloitte is conducting? Would you like to receive a PDF copy of the final report?

Current student interviews

Introduction

Hi, my name is XXX, and I am a senior consultant at Deloitte.

We at Deloitte have been hired by the college system to look at how colleges help students overcome challenges so that they can have successful careers. An important part of this study is hearing from current students like yourself about what support colleges provide to help you graduate and find a good job. We are also gathering recommendations on what colleges can do better I hope that your college has mentioned to you that we would be calling you, and that you are comfortable with my asking you some questions about your experiences in college and expectations about the workplace. The interview will take about 1/2 hour. I want to emphasize up-front that while I will be taking notes, your responses will be entirely confidential and your name will not be used in the report. We may use your suggestions and comments in the report, but not in a way which can be attributed to you.

[INTERVIEWEE AGREEMENT EXPECTED]

We are very interested in your story, told in the way that works best for you so my questions are open-ended. Of course, some of your answers could lead me to ask for a bit more detail.

Scope	Question
1. Opening question	Please tell me a little about yourself, including what college you are attending, and what is your program of study.
2. Current employment and plans	What are your long-term employment plans?
3. Initial employment plans	Looking back to when you applied to college, did you have pretty much the same employment goals you do now or have they changed?
4. College role in employment plans	Did your experiences in college confirm / change your employment plans?
5. Addressing barriers	Our study is trying to understand some of the challenges students face while in college, and how colleges help students be successful. While in college, have you accessed any programs or services to help you? For example, academic upgrading programs, extra help with English, math or study skills, peer tutoring, disability services, language training, counselling? Do you feel your needs were/are being met? What else would be helpful to you?
6. Recommendations	Looking at your experiences and those of your friends, what suggestions do you have for colleges to help students overcome challenges?
7. Final comments	Do you have any final comments or questions about the topics covered in this interview, or about the study in general? Would you like to receive a PDF copy of the final report via email?

College graduate interviews

Introduction

Hi, my name is XXXX and I am a senior consultant at Deloitte. We at Deloitte have been hired by the college system to look at how colleges help students overcome challenges so that they can have successful careers. An important part of this study is hearing from graduates like yourself about what support colleges provided to help you graduate and find a good job. We are also gathering recommendations on what colleges can do better I hope that your college has mentioned to you that we would be calling you, and that you are comfortable with my asking you some questions about your experiences in college and in the workplace. The interview will take about 1/2 hour. I want to emphasize up-front that while I will be taking notes, your responses will be entirely confidential and your name will not be used in the report. We may use your suggestions, comments and story in the report, but not in a way which can be attributed to you.

INTERVIEWEE AGREEMENT EXPECTED

We are very interested in your story, told in the way that works best for you so my questions are open-ended. Of course, some of your answers could lead me to ask for a bit more detail.

Scope	Question
1. Opening question	Please tell me a little about yourself, including what college you attended, and what was your program of study?
2. Current employment and plans	Can we talk about where are you are employed now, and how is it working out for you? What are your long-term employment plans?
3. Initial employment plans	Looking back to when you applied to college, did you have pretty much the same employment goals you do now or have they changed?
4. College role in employment plans	Did your experiences in college confirm / change your employment plans?
5. Addressing barriers	Our study is trying to understand some of the challenges students face while in college, and how colleges help students be successful. While in college, did you access any programs or services to help you? For example, academic upgrading programs, extra help with English, math or study skills, peer tutoring, disability services, language training, counselling? Did you feel your needs were being met? What else would have been helpful to you?
6. Recommendations	Looking at your experiences and those of your friends, what suggestions do you have for colleges to help students overcome challenges?
7. Final comments	Do you have any final comments or questions about the topics covered in this interview, or about the study in general? Would you like to receive a PDF copy of the final report via email?

Employer interviews

Introduction

Colleges Ontario is conducting a major study of the role of Ontario's colleges in serving students at risk of not commencing or completing college studies. This study will examine the costs incurred by colleges in serving students at risk, outline the benefits to the individual and the economy of such investments and project the college sector financial needs for serving even greater numbers of students at risk in the future. The study is particularly interested in learning about the views of employers.

Students at risk may be individuals who have had academic or other challenges in being successful in the school system or may come from groups that have not secured a post secondary education to the same extent as the general population. Two examples of such groups would be individuals with disabilities or aboriginal people.

This study is an important component of the Colleges Ontario strategic plan. The research will provide critical information that will be needed to support advocacy efforts and in illustrating the fundamental role and costs associated with raising the province's educational attainment rate.

Colleges Ontario has hired Deloitte to undertake the study. As part of the study, Deloitte will be conducting interviews with a number of employers. This Interview Guide contains the questions the Deloitte team will draw from to consult with employers.

Please inform Deloitte at the beginning of the interview if you are willing to be quoted, if you are willing to be named as an interviewee in the report, and if you wish to receive an emailed PDF copy of the final report.

Scope	Question
1. Opening questions	Please introduce yourself and your company. Where your company located and how many employees do you currently have in Canada? Are you willing to be quoted, and named as an interviewee in the report?
2. Education context	What level of education do you most commonly require from new employees? Does having a college diploma or trade certification impact an individual's opportunities in your company? Approximately what % of your company's new hires and current employees has a college diploma or trade certification?
3. Skills shortages	The Conference Board of Canada estimates Ontario will have a shortage of more than 360,000 skilled employees by 2025. Are you concerned about the skills shortage issue for your organization or your sector? What will be the benefit to your company if you can hire from a larger and more diverse pool of college graduates? What are the priorities colleges should address to ensure these students are ready for the workplace? Can you provide a practical examples that describes how hiring from a diverse pool of college graduates has led to economic benefits for your company?
4. Diverse workforce	Does your company actively pursue hiring a diverse workforce? Has your company partnered with external organisations to increase the diversity of your workforce (e.g. universities, colleges, industry association, etc.)?
5. Partnerships	Would your company be interested in future partnerships with colleges to hire graduates to increase the diversity of your workforce?
6. Unmet needs	What specific gaps or unmet needs do you foresee facing due to the upcoming labour shortage? What should be done to address these unmet needs - By your company or the colleges , or by government or community partners?
7. Recommendations	What recommendations or comments would you offer to Ontario colleges and governments to increase graduation and employment rates for students at risk? Any further comments in terms of how the college mandate should be strengthened?

Scope	Question
8. Final comments	Do you have any final comments or questions about the topics covered in this interview, or about the cost-benefit assessment Deloitte is conducting? Would you like to receive a PDF copy of the final report?

Government official interviews

Introduction

Colleges Ontario is conducting a major study of the role of Ontario's colleges in serving students at risk of not commencing or completing college studies. This study will examine the costs incurred by colleges in serving students at risk, outline the benefits to the individual and the economy of such investments and project the college sector financial needs for serving even greater numbers of students at risk in the future.

Colleges Ontario has hired Deloitte to undertake the study.

As part of the study, Deloitte will be conducting in-person interviews with senior government officials. This Interview Guide contains the questions the Deloitte team will draw from to consult with government officials.

Please inform Deloitte at the beginning of the interview if you are willing to be quoted, if you are willing to be named as an interviewee in the report, and if you wish to receive an emailed PDF copy of the final report.

An APPENDIX lists the definition used in this study for 'Students At risk' as well as the relevant college programs and services covered. *(appendix provided same definition as given in this report, section 3.2).*

Scope	Question
1. Context setting	Many studies have shown that to achieve a high performance economy, Ontario must raise its per cent of the workforce with postsecondary (PSE) credentials. With the province committing to creating a further 60,000 spaces in postsecondary institutions to support achievement of the 70 percent PSE attainment goal, it is clear that many of these new students will come from under-represented groups and require additional forms of support through college programs/interventions. This includes students with disabilities, immigrants, aboriginals and women.
2. Questions	What are your thoughts on the reasons behind the government wanting to increase the PSE numbers? What are your views on the importance of colleges contributing to the increase in PSE rates? Do you feel there will need to be additional targeting of individuals in under-represented groups to achieve the 70 percent goal? What policies have you seen to work well in this regard?

Scope	Question
	What do you feel are the main challenges to targeting this group of potential students? What do you feel is the role of colleges in particular in addressing the skills shortage? What would success look like to you in reaching the 70 percent PSE attainment goal? Are there key external partners you feel are or should be involved to increase the success of under-represented students? In addition to key economic benefits of increasing the graduation rate (e.g. increased income, reduced unemployment, increased government tax revenue) there is also the argument that there are social benefits to investing in these programs (e.g. intergenerational benefits to children, lower crime, increased civic engagement). Is this an area MTCU considers when providing additional funding to colleges?
3. Final comments	Do you have any final comments or questions about the topics covered in this interview, or about the cost-benefit assessment Deloitte is conducting? Would you like to receive a PDF copy of the final report?

Appendix B – College financial survey

Colleges Ontario / Deloitte Survey - Estimating the Incremental Costs and Benefits of Publicly Funded Programs and Services to Help Students At-Risk

Please follow the instructions below for completing the worksheet. Please note this survey is to be submitted electronically. If you have any questions, please contac[redacted]. Date of Survey Completion: July 29th, 2011

Purpose of Survey:

To estimate the incremental costs and benefits incurred by Ontario's colleges in offering programs and services to help students at-risk of not commencing or completing college studies in 2010-2011. Please note this survey is collecting information related only to publicly funded activities.

Instructions to College Finance Representative

Part A) LIST

1. On the second sheet of this workbook (labelled "A) LIST"), please list and describe the programs and services offered by your institution in the 2010-2011 year (April 1st 2010- March 31st 2011) that have as one of their primary purposes to attract, retain, and promote the success of students at-risk. This list should be a compilation of the programs for which departments/units will complete and return cost breakdowns (as per Part B below).

Please refer to the defintion of 'Students At-Risk' and the list of Applicable Programs and Services that follow these instructions. Please note a program could include one or two semester programs, a series of courses, single courses or other learning supports.

Parts B) COSTS & C) BENEFITS

2. Please distribute a copy of these spreadsheets to a senior representative from each department or unit that offers programs/services to students at-risk, asking them to complete sheet B) COSTS & C) BENEFITS according to the instructions indicated on each sheet.

3. Please compile all received spreadsheets.

Page 1: Instructions (continued)

Part D) AODA

4. On the final spreadsheet of the workbook, labelled 'D) AODA' please list the costs to your institution associated with implementing the Accessibility for Ontarians with Disabilities Act.

Submission

5. Please return the completed excel file(s), including all cost and benefits tables received from departments and units, to Deloitte by **July 29, 2011.** Please email the files to: saebrahim@deloitte.ca

Definition of 'Students At-Risk'

Students who may be at-risk of not commencing or completing college studies may have some of the following characteristics:

a) Students needing academic skills preparation such as math and literacy remedial courses in order to be successful in their career programs;

b) Students who have been out of the system for an extended period of time;

c) Students with disabilities (e.g. learning disabilities and mental health issues);

d) Students from groups traditionally under-represented in post-secondary education, including:

- Students from low-income families;
- Students from families with no history of attending post-secondary education ("first generation" students);
- First- and second-generation immigrants, particularly non-English speaking immigrants;
- Those from single-parent (or other 'non-traditional') families or have dependents (children under 18 or adult dependents);
- Those of Aboriginal or First Nations ancestry; and

e) Students facing informational barriers (e.g. lack of knowledge about potential success or benefits of post-secondary education) and/ or advisement deficits (lack of access to counselling, lack of access to technology) resulting in a lack of clarity on career goals.

Applicable Programs and Services

1. Recruitment, outreach and promotion costs directed towards under-represented students
a) Promotion: targeted material and campaigns
b) Influencing particular groups: partnerships; market analysis; development of strategies
c) Outreach in the community
d) Partnerships with secondary schools
e) Academic assessment
f) Other (please specify)

2. Student orientation (only costs for targeted services)
a) Pre-admission advising;
b) New student orientation;
c) Assessment of needs (e.g. literacy skills assessments)
d) Student information services
e) Other (please specify)

3. Assistance with accessing financial aid (total spend for the financial aid office)

4. Programs, courses and learning supports
a) Literacy and math skill classes for students at-risk
b) Foundation and pre-programs
c) Other unique preparatory programs and courses
d) Peer tutoring and mentoring
e) Writing, math or learning skills centers
f) ESL/FSL/ LINC and vocational programs/ courses/ tutoring
g) Bridging programs for immigrants
h) Adapting course material or adapting teaching and learning methods (including materials for students with disabilities)
i) Academic advising
j) Counseling
k) Disability services/supports (including learning disabilities and mental health)
l) Targeted advising (e.g. career, pre-admissions, and other)
m) Other (please specify)

5. Retention and intervention strategies
a) Initiatives to identify and support students at-risk
b) Other (please specify)

Page 2: List of programs/services

Colleges Ontario / Deloitte Survey - Estimating the Incremental Costs and Benefits of Publicly Funded Programs and Services to Help Students At-Risk

For questions please contact [redacted]

Please note this form should be filled out by the Finance department to summarize its institution's response to Deloitte.

Please provide a list of Programs/Services for Students At-Risk offered by your institution. This list should be a compilation of the programs for which departments/units completed and returned cost breakdowns.

College Name:	
Finance Department Contact and Contact Information:	

FY10-11 revenue from any specific ancillary fees that support programs and services for students at-risk ($)	

	Summary List of Programs/Services for Students At-Risk
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Page 3: Costs

Colleges Ontario / Deloitte Survey - Estimating the Incremental Costs and Benefits of Publicly Funded Programs and Services to Help Students At-Risk

Please note this worksheet should be sent back to the college finance department once complete.

If you have any questions that your finance department contact is unable to answer please contact [redacted].

Instructions:

1. At the top of the table, please enter the College Name, Department/Unit Name, and the name and contact information of the person completing the table.
2. Please indicate the Department's total Operating Budget. This excludes any college-wide overhead costs and capital costs.
3. Complete the table by entering the data requested ONLY in the grey cells, as illustrated below. Please complete one line entry per program/service.

Data entry cells are shaded grey

Do not enter any data in cells of this colour. The table is formatted to automatically perform calculations in these cells

Please note we understand that many of these numbers will be estimates, but ask that you include only those where you have a reasonable level of confidence in the estimates.

Direct Program Operating Budget for each program and service may include the following costs:

i) Personnel costs: full salary costs (including an estimate of benefits) of personnel hired exclusively for the program/service (e.g. Aboriginal student counsellor), and partial salary amounts of other staff who devote some of their time to the program/service, in proportion to the amount of their time spent on the program/service (e.g. 10% of the salary of a math faculty member who spends 10% of time teaching a remedial math course).

ii) Supplies, equipment and instructional materials costs

iii) Other costs, excluding capital costs and college-wide overhead costs (e.g. maintenance costs for campus).

4. Given that the majority of programs and services will be funded by Post-Secondary grants and fees the cost table below is set up to default to 100% funding from this source. Only enter data in the 'other' funding field if this does not apply to that particular program/service.

5. Provide a brief description of each program/service in the second table provided.

5. Please save the excel file after you have entered the required data for B) COSTS and C) BENEFITS and send to the College Finance representative from whom you received the blank spreadsheet.

Costs & Participation Rates of Programs/Services for Students At-Risk

College Name:	
Department / Unit Name:	
Departmental / Unit Contact and Contact Information:	

	Total Department Operating Budget ($):						Primary Funding Source	
	Program/Service Name	Estimate total number of students served in 2010-11	Estimate total number of students at-risk served in 2010-11	Total Direct Program Operating Budget ($)*	Estimated proportion allocated to services for students at-risk (%)*	Budget allocated to services for students at-risk ($)	MTCU/Post Secondary (grants & fees)	Other government e.g. Employment Ont. (if applicable)
	Example program	100	10	$100,000	20%	$20,000	100%	0%
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
	Totals	0	0	$0	0	$0	0	0

*** Please note program cost estimates should include departmental overhead on a pro-rated basis**

	Brief Description of each Program/Service (by line item above)
1	
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Page 4: Benefits

Colleges Ontario / Deloitte Survey - Estimating the Incremental Costs and Benefits of Publicly Funded Programs and Services to Help Students At-Risk

Please note this worksheet should be sent back to the college finance department once complete.

If you have any questions that your finance department contact is unable to answer please contact [redacted]

Colleges may have undertaken some research which helps to quantify the benefits of programs and services which help students at-risk. If so please provide the findings from these.

Instructions:

1. On the top of the table, please enter the College Name, Department/Unit Name, and the name and contact information of the person completing the table.

2. Please indicate the overall tangible benefits (if known) of the programs and services you have identified on the Costs worksheet. Please indicate the benefits according to the following categories, and the source of this information (such as survey, college records, or estimates).

Student Retention Rate
Student Academic Performance
Student Graduation Rate
Post-Graduation Employment Rate
Other

3. Please describe any examples of additional or unique initiatives your institution has undertaken in this areas that you feel should be included in the study in the box indicated below the table.

4.Please save the excel file after you have entered the required data for B) COSTS & C) BENEFITS and send to the College Finance representative from whom you received the blank spreadsheet.

Benefits of Programs/Services for Students At-Risk

College Name:	
Department / Unit Name:	
Departmental / Unit Contact and Contact Information:	

Retention Rate	**Information Source**
Ex.: % increase in retention rate among Aboriginal students since implementation of Aboriginal peer tutoring program.	

Academic Performance	**Information Source**
Ex.: % increase in pass rate for first-year English class since expanding introducing literacy assessment and training services for incoming students.	

Graduation Rate	**Information Source**
Ex.:% increase in graduation rate for non-English immigrants since introduction of Bridging Program for Immigrants.	

Post-Graduation Employment Rate	**Information Source**
Ex.: Students with disabilities see increase in employment placements	

Other	**Information Source**
Ex.: Of the students who were low-income on entry, fewer rely on EI or OW one year after graduation.	

Are there any examples of additional or unique initiatives your institution has undertaken in this areas that you feel should be included in the study?

Page 5: AODA Programs

Colleges Ontario / Deloitte Survey - Estimating the Incremental Costs and Benefits of Publicly Funded Programs and Services to Help Students At-Risk

Please note this table is to be completed at the institutional level.

For questions please contact [redacted]

Please provide us with the costs associated with implementing the Accessibility for Ontarians with Disabilities Act in your institution.

AODA PROGRAMS	
Description of College Activities	FY10-11 Costs Incurred

Appendix C – Summary of financial survey methodology and results

Financial surveys (provided in Appendix B) were sent to Vice-Presidents of Finance for all 24 public colleges in Ontario. Upon receipt of completed surveys, Deloitte reviewed responses for completeness and to ensure the programs and services indicated fell within the scope of the study. Where Deloitte was uncertain about the accuracy or applicability of an entry, colleges were contacted to request additional information and clarification, and revisions were made where necessary. To ensure accuracy and consistency across all responses, Deloitte categorized the following programs and services as non-MTCU/post-secondary funded, based on provincial funding structures:

- Second Career Program
- Dual Credit Initiative
- School Within a College
- School-College-Work-Initiative
- Apprenticeship Training
- Literacy and Basic Skills Program and Academic Upgrading

Beyond these specific programs and services, Deloitte deferred to the expertise of college administrators and assumed the operating budgets, percentage of costs associated to serving students at risk, and funding sources were accurate and complete.

Below is a summary of the financial data provided by colleges on the costs of programs and services for students at risk. The middle column gives the total of costs associated with serving students at risk, including the costs of administering and assisting with financial aid, and the costs of programs that are not funded through MTCU/post-secondary grants, such as Second Career. The far right column excludes financial aid costs and non-MTCU/post-secondary grant funded programs. The costs in the far right column were used to perform the cost-benefit analysis.

The variation in total costs reported reflects the different student population levels across colleges, student body composition, and range of support programs and services offered. Colleges Ontario worked with individual colleges to ensure that the level of detail and scope of programs included was consistent across all colleges.

College	Cost of programs and services associated with serving students at risk (including financial aid assistance/administration, and non-MTCU/post-secondary funded initiatives	Cost of programs and services associated with serving students at risk (only MTCU/post-secondary funded programs)
Algonquin	$12,398,684.62	$ 7,847,352.49
Boréal	$13,315,218.74	$ 3,956,756.74
Cambrian	$ 6,943,973.10	$ 5,191,942.34
Canadore	$ 6,782,702.30	$ 5,481,195.30
Centennial	$ 4,337,857.39	$ 3,018,838.39
Conestoga	$10,623,923.40	$ 3,830,614.40
Confederation	$ 5,485,856.09	$ 2,453,164.89
Durham	$ 5,645,902.50	$ 4,426,392.64
Fanshawe	$12,455,236.12	$ 8,691,592.52
George Brown	$21,989,931.85	$15,727,845.28
Georgian	$ 9,045,105.49	$ 5,270,494.29
Humber	$14,155,315.00	$13,910,930.10
La Cité	$11,040,318.35	$ 7,532,237.35
Lambton	$ 2,951,011.95	$ 2,758,396.50
Loyalist	$ 1,960,258.20	$ 1,948,918.20
Mohawk	$ 7,996,989.50	$ 5,961,989.50
Niagara	$ 5,907,168.49	$ 2,835,860.49
Northern	$ 7,030,000.00	$ 3,929,500.00
Sault	$ 6,857,000.00	$ 5,830,480.90
Seneca	$16,372,145.63	$12,898,063.63
Sheridan	$17,257,295.36	$11,932,922.59
Sir Sandford Fleming	$ 2,678,128.40	$ 2,508,159.80

College	Cost of programs and services associated with serving students at risk (including financial aid assistance/administration, and non-MTCU/post-secondary funded initiatives	Cost of programs and services associated with serving students at risk (only MTCU/post-secondary funded programs)
St. Clair	$ 5,435,058.00	$ 3,099,960.25
St. Lawrence	$ 3,196,819.67	$ 3,149,320.67
TOTAL	$211,861,900	**$144,192,929**

Appendix D – Cost-benefit analysis assumptions and approach

In order to perform the cost-benefit analysis, assumptions were made as necessary due to limitations in available data and as required to perform a cost-benefit analysis of projected future benefits. Deloitte based these assumptions on available quantitative evidence and common practices in other cost-benefit analyses for post-secondary education. The approach to calculating various costs and benefits as well as assumptions were validated with Subject Matter Experts experienced in conducting cost-benefit analyses. Calculations were performed using publicly-available statistical data from credible sources, such as Statistics Canada census data. Below is a summary of the approach and assumptions used to calculate costs and benefits in the analysis.

General assumptions and scenario for calculations

- The number of students at risk was calculated using the total first-year college enrolment for the 2010-2011
- 30% of college students are at risk and access at least one program/service intended to attract, retain and promote the success of students at risk during the course of their study
- As a result of accessing these programs/supports, there is a 35 percentage point increase in the graduation rate of students at risk
- Students enter college with a high school diploma level of education
- Students are assumed to remain in college for 2 full-time years of study
- Students graduate at age 21, and work until retirement age of 65
- Male and female graduates earn the same income, and work without interruption until retirement age
- College graduates participate in the labour force until retirement age (i.e., they are employed for at least part of the year, and are actively seeking work when unemployed)
- Net present value is calculated with a real discount rate of 8%

Assumptions and approach to calculate the costs to government

Costs to government include the total costs of programs/services delivered to students at risk that are funded through MTCU/post-secondary funding, as well as the costs of providing increased funding to colleges because of the higher retention rate of students as a result of these programs. College financial

survey results were used to calculate the total program/service costs funded through MTCU/post-secondary funding.

To calculate costs from higher retention, Deloitte used the estimated funding per student per year based on data provided by Colleges Ontario. A key consideration is that colleges are funded based on enrolment levels reported as of November 1, February 1, and June 1. Therefore, Deloitte took into account the fact that students who would have otherwise dropped out before these dates each semester would not have cost the government additional funding, as they would have dropped out before enrolment counts were finalized. The following assumptions were made to calculate retention costs to government:

- The students who graduate as a result of accessing support programs and services would have otherwise dropped out of college at a constant rate over the course of two years of study
- Government would have to provide additional per-student funding for each student who did not drop out as a result of accessing program services, calculated using the MTCU/post-secondary funding level per FTE student in Ontario in 2010-2011
- While the increased retention of students at risk may, in reality, result in certain colleges requesting, and receiving, additional grants and funds to support these students (e.g. funds for students with disabilities, funding for Aboriginal services), these are not included

An additional cost to government is lost tax revenue from college students who would otherwise have been employed and earned income. To calculate this cost, the following assumptions were made:

- The employment rate of graduates, if they did not attend college, would have been equal to the employment rate of college applicants in the 2010-2011 year. These students would have earned the average income of a high school-educated Ontarian earner in their age bracket and paid the corresponding amount of federal and provincial income tax
- The cost of lost income tax revenue to government is offset by the fact that a considerable proportion of college students work while in college. It is assumed that the percentage of students at risk who work while in college is equal to the percent of underrepresented college students who are employed while enrolled, and their earnings are equal to the average earnings of a college student employed during their studies

Assumptions and approach to calculate the benefits to government

The benefits to government as a result of programs and services to support students at risk were calculated in terms of increased income tax revenue as a result of higher earnings for graduates. As well, government benefits include reduced OW, ODSP and EI payments due to lower dependency rates associated with higher educational attainment levels. To calculate these benefits, the following assumptions were made:

- Graduates earn the average income of college-educated income-earning Ontarians in their age bracket (e.g. 25-34, 45-54, etc.). If they had not graduated, they would have earned the average income of high school-educated Ontarians who earns income in their age bracket
- The percentage of college students who self-identified in 2010-2011 as accessing disability support services reflects the actual percentage of students who have a disability and access disability support services
- The education level distribution of Ontarians with disabilities is equal to the education level distribution of Canadians with disabilities
- The breakdown of OW/ODSP recipients with a post-secondary education, in terms of the proportion with a college education, is equal to the breakdown of the general Ontario post-secondary educated population
- All college students with a disability would receive ODSP as opposed to OW if they were to rely on social assistance
- The incremental cost per OW/ODSP recipient is equal to the average cost per OW/ODSP case
- Due to limitations on the availability of data, it is assumed that the monthly caseload of OW and OWDSP recipients is equal to the annual caseload of unique recipients
- College graduates without a disability will rely on OW at a rate equal to the calculated provincial probability of relying on OW among college graduates. Had they not attended college, they would have relied on OW at a rate equal to the calculated provincial probability of relying on OW among secondary school graduates
- College graduates with a disability will rely on ODSP at a rate equal to the calculated provincial probability of relying on ODSP for adults with disabilities with a college education. Had they not attended college, they would have relied on ODSP at a rate equal to the calculated provincial probability of relying on ODSP among secondary school graduates
- Students at risk who graduate experience unemployment at a rate equal to the provincial average unemployment rate for Ontarians with a college-level education in 2010. Had they not graduated from college, they would have been unemployed at a rate equal to the provincial average unemployment rate for Ontarians with a secondary school education in 2010
- Unemployed individuals—with college or high school level education-- qualify for Employment Insurance benefits at a rate equal to the Ontario qualification rate in 2010. These individuals actually receive benefits at a rate equal to the provincial receipt rate in 2009
- Unemployed individuals receive regular EI benefits in the amount equal to the national average weekly amount for 2009-2010, and for the average duration of claims

Assumptions to calculate the costs and benefits to individuals

To determine the costs and benefits to students who attend and graduate from college, the cost was calculated to include tuition, fees, books, and supplies, as well as the opportunity cost of lost earnings while studying. Benefits were calculated based on the higher income earnings associated with obtaining

a college diploma in comparison to having only completed secondary school. The following assumptions were used to perform the calculations:

- The private internal rate of return is calculated based on the scenario of one high school graduate beginning college at age 19 and completing their studies in two years
- The assumed individual will pay the average net tuition and fees per FTE student in Ontario for 2010-2011, plus an estimated $1,300 in books and supplies
- The student does not incur additional living costs as a result of attending college compared to what they would have otherwise incurred
- Had they not attended college, the individual would have earned the average income for income-earning Ontarians in their age bracket with a high school diploma, over the course of their working years. By attending college, the individual earns the average income for income-earning Ontarians in their age bracket with a college education

Appendix E – Project scope and approach

Who is a 'student at risk'?

The analysis focused on programs and services for students at risk of not commencing or completing college studies. The likelihood of an individual attending and graduating from college is ultimately based on their personal situation and abilities. Furthermore, being 'at risk' is a continuum, rather than an 'either/or' designation. However, there are characteristics associated with lower likelihood of attending college and greater difficulty in successfully completing a program of study. Students at risk frequently show a multiplicity of these factors. In other words, having one of these characteristics was often not enough for a student to be at risk of not staying in the system; however students that exhibited a number of these factors are often at risk of not succeeding in college.

Below is the definition that was used to frame the analysis:

*A **student at risk** of not commencing or completing their studies may have some of the following characteristics:*

a) *Students needing academic skills preparation (e.g. math and literacy training, and services for delayed entry students) in order to be successful in their career programs;*
b) *Students who have been out of the system for an extended period of time;*
c) *Students with disabilities (including learning disabilities and mental health issues);*
d) *Students from groups traditionally under-represented in post-secondary education, including:*
    - *Students from low-income families;*
    - *Students from families with no history of attending post-secondary education ("first-generation" students);*
    - *First- and second-generation immigrants, particularly non-English speaking immigrants;*
    - *Students from single-parent (or other 'non-traditional') families or students with dependents (children under 18 or adult dependents);*
    - *Those of Aboriginal or First Nations ancestry; and*
e) *Students facing informational barriers (e.g. lack of knowledge about potential success or benefits of post-secondary education) and/or advisement deficits (e.g. lack of access to counseling or technology), resulting in lack of clarity on career goals.*

This definition was developed by Colleges Ontario and Deloitte based on research into post-secondary and college enrolment trends and barriers, as well as the Advisory Committee of this analysis. The

Advisory Committee included representatives from a cross-section of Ontario's public colleges, as well as representatives from Colleges Ontario.

Scope of programs and services included in the analysis

The analysis focused on the programs and services offered by colleges to help students at risk of not commencing or completing their college studies in 2010-2011. Specifically, Deloitte examined the programs and services offered by colleges which have *as one of their primary purposes* to attract, retain, and promote the success of students at risk. Colleges were provided with the following list of applicable programs and services for which to provide descriptions, cost data, and identified benefits. Deloitte informed colleges that this list was not exhaustive, and additional programs and services could be included, provided that serving students at risk was the focus.

Applicable programs and services for analysis:

1. Recruitment, outreach and marketing costs directed towards students at risk, including:
    a. Promotion: targeted material and campaigns;
    b. Influencing particular groups: partnerships; market analysis; development of strategies;
    c. Outreach in the community;
    d. Partnerships with secondary schools;
    e. Academic assessment;
2. Student orientation (only costs for targeted students)
    a. Pre-admission advising;
    b. New student orientation;
    c. Assessment of needs (e.g. literacy skills assessments);
    d. Student information services
3. Academic supports
    a. Literacy and math remedial classes for students at risk;
    b. Foundation and pre-programs;
    c. Other unique preparatory programs and courses;
    d. Peer tutoring and mentoring;
    e. Writing, math or learning skills centres;
    f. ESL/FSL/LINC and vocational programs/courses/tutoring;
    g. Bridging programs for immigrants;
    h. Adapting course material or adapting teaching and learning methods (including material for students with disabilities);
    i. Academic advising;
    j. Counseling;
    k. Disability services/supports (including learning disabilities and mental health);
    l. Targeted advising (e.g. career, pre-admissions, and other)
4. Retention and intervention strategies
    a. Initiatives to identify and support students at risk;
5. Other programs/services offered by the college with a primary purpose of serving students at risk.

Undoubtedly, initiatives undertaken by employers, industry groups, and secondary schools to promote college graduation and employment among students at risk have an impact. However, it is outside the scope of this analysis to assess mechanisms beyond college programs and interventions. As well, financial barriers are a major roadblock for many potential college students, but financial assistance was outside the scope of this study since financial assistance is generally outside the scope of colleges' control. The Ontario Student Assistance Program (OSAP) is administered by the Ministry of Training, Colleges and Universities (MTCU) on behalf of the federal and provincial governments.

Description of approach

Deloitte relied on multiple sources of qualitative and quantitative evidence, including primary and secondary sources, to conduct the analysis. Specifically, the analysis involved the following components:

1. **Document/literature review and external research:**
    - Review of research and literature from academic sources, college and post-secondary education associations, think-tanks, individual post-secondary institutions, and government (primarily Canadian sources)
    - Quantitative research using statistics from sources such as Statistics Canada and government Ministries

2. **Primary research on college spending levels to support students at risk and the inventory of programs and services delivered:**
    - Survey of Ontario's 24 public colleges to collect data on the range and total costs of programs/services to support students at risk (see Appendix B for a copy of the financial survey that was sent to colleges)

3. **Consultations with stakeholder groups:**
    - Site visits and consultations with eight colleges, ensuring representation across regions, urban and rural contexts, enrolment sizes, and language of instruction
    - Interviews with employers representing a range of industries and regions, and who rely on colleges to train future employees
    - Interviews with current students and recent graduates representing a variety of institutions, programs, courses of study, and 'at risk' profiles
    - Interviews with government officials of the Ontario Ministry of Education, the Ministry of Training, Colleges and Universities, and the Ministry of Finance
    - Interviews with Subject Matter Experts in post-secondary education, specifically the college sector, including administrators and academic researchers

4. **Cost-benefit analysis of programs and services for students at risk:**

- Comparison of costs and benefits of programs and services delivered to students at risk from the perspective of government
- Comparison of costs and benefits of attending and graduating from college from the perspective of students

Documents and literature were reviewed at the beginning of the process in order to frame the scope of the study, to inform the consultations with stakeholders, and to direct further analysis. Deloitte continually gathered documents and literature referenced during consultations with stakeholders, and monitored the field for the latest research and publications. Sources were catalogued according to the objective of the analysis for which they were relevant, and were used to inform the final analysis and recommendations. Appendix E provides a list of sources used throughout the project.

To analyze the costs and benefits of programs and services to support students at risk, Deloitte administered the financial cost survey to Vice-Presidents of Finance for all 24 Ontario colleges (see Appendix B). The response rate was 100%. To calculate the benefits associated with these programs and services, Deloitte relied on the expertise of college administrators and statistics from reliable sources, such as census data. An overview of the methodology is provided in Section 5.2 of this report, and details on the approach and assumptions are provided in Appendix D. Results of the cost-benefit analysis were validated with Subject Matter Experts in the fields of post-secondary education and returns on investments in higher education.

Stakeholder consultations were conducted with four different groups—college administrators, employers, students, and government officials. With respect to the colleges, 8 colleges were chosen to visit that represented a sampling of geography, size and language. The site visits were conducted from July to September 2011, and included a day of interviews with senior level officials, and individuals responsible for programming aimed at students at risk. The 8 colleges were:

- Algonquin College
- Cambrian College
- Canadore College
- Centennial College
- George Brown College
- La Cité collégiale
- Lambton College
- Mohawk College

The second group of stakeholder consultations were with employers who had demonstrated interest in recruiting college graduates, and who expressed interest to colleges in participating in this project. Colleges were asked to provide the names of individuals and companies who were subsequently interviewed by the Deloitte team.

A third and critical group of stakeholders are students and graduates themselves. To identify students and graduates to interview, colleges were asked to provide names of current students and graduate students who were either accessing, or had accessed, the programs and services under examination in this study. The colleges collected signed consent forms from potential interviewees to be contacted by Deloitte, who were then interviewed on the basis of complete confidentiality—neither their names nor their colleges are given in this report. Interviews with students and employers were conducted via telephone from July to September 2011.

The fourth group of consultations was with government stakeholders, and included a combination of individuals who were familiar with college sector trends and issues in Ontario. A list was provided by Colleges Ontario and included individuals from the Ontario Ministry of Training, Colleges and Universities, the Ontario Ministry of Education and the Ontario Ministry of Finance.

For all stakeholder consultations, Deloitte worked with the Advisory Committee to develop Interview Guides that were sent to interviewees in advance. These Interview Guides are included in Appendix A of this report.

As Deloitte analyzed results from research and consultations, Subject Matter Experts were consulted to validate preliminary findings and hypotheses. These Experts were identified in consultation with Colleges Ontario, and included college administrators, college researchers, and leading academic researchers in the field of post-secondary education.

The information collected across sources of evidence enabled Deloitte to develop an in-depth understanding of the role of the college sector in today's economy, and the challenges facing students at risk in terms of graduating from college and contributing to the skilled labour force. Deloitte also acquired a deep appreciation of the range of programs and services colleges offer to support students, their impact, and the challenges colleges face to delivering these programs on a sustainable basis. Conclusions were drawn based on evidence gathered across multiple lines of evidence and detailed analysis of findings.

Based on these findings and conclusions, recommendations have been made to government and Ontario's colleges. These recommendations are interdependent and should be considered holistically. Taken together, these recommendations propose a collaborative framework for government and colleges to strengthen post-secondary education in Ontario and achieve government targets for the province's level of educational attainment.

Appendix F – Sources

Association of Canadian Community Colleges. “Opportunities for Everyone: Programs and Services for Disadvantaged and Low Skilled Learners offered at Colleges and Institutes- Final Report.” May 2008. http://www.accc.ca/ftp/pubs/studies/200805Disadvantaged.pdf

Bettinger, Eric P. and Rachel Baker. “The Effects of Student Coaching in College: An Evaluation of a Randomized Experiment in Student Mentoring.” Stanford University School of Education, March 2011.

Boothby, Daniel and Torben Drewes. “The Payoff: Returns to University, College and Trades Education in Canada, 1980-2005.” CD Howe Institute. August 24, 2010. http://www.cdhowe.org/pdf/ebrief_104.pdf

Tyler J. Bowles, Adam C. McCoy and Scott Bates. “The Effect of Supplemental Instruction on Timely Graduation.” College Student Journal. 42 (30). 2008.

Canada Employment Insurance Commission. “Employment Insurance Monitoring and Assessment Report 2010.” Human Resources and Skills Development Canada. http://www.hrsdc.gc.ca/eng/employment/ei/reports/eimar_2010/annex/annex5.shtml

Canada Millennium Scholarship Foundation. *The Price of Knowledge: Access and Student Finance in Canada, 3rd Edition*. Montreal: Canada Millennium Scholarship Foundation, 2007.

Canadian Council on Learning. *Navigating Post-secondary Education in Canada: The Challenge of a Changing Landscape*. Ottawa: 2010.

Canadian Labour Congress, "The Duration of Employment Insurance (EI) Benefits: How Many Unemployed Canadians will Exhaust their EI claims?" http://www.cuhc.mb.ca/documents/Duration-of-EI-Benefits.pdf

Chawla, Raj K. “Provincial Labour Force Differences by Level of Education.” Statistics Canada. May 2008. http://www.statcan.gc.ca/pub/75-001-x/2008105/article/5203926-eng.htm

College Sector Committee for Academic Upgrading. “Prepared for Success 2009-2010.” October 2010.

Colleges Ontario. "Environmental Scan 2010: College Graduates in the Economy." http://www.collegesontario.org/research/2010_environmenatal_scan/2010_scan_college_graduates.pdf

Colleges Ontario. "Environmental Scan 2010: Colleges Resources.” http://www.collegesontario.org/research/2010_environmenatal_scan/2010_scan_college_resources.pdf

Colleges Ontario. "Environmental Scan 2010: Student and Graduate Profiles." http://www.collegesontario.org/research/2010_environmenatal_scan/2010_scan_student_grad_profiles.pdf

Colleges Ontario. “Profile of Non-Direct Entrants to Ontario’s Colleges, 2008.” June 2008. http://www.collegesontario.org/research/school-college-transition/CO_Non-Direct_Entrants_2008.pdf

Commission for the Review of Social Assistance in Ontario. “A Discussion Paper: Issues and Ideas.” June 2011. http://www.socialassistancereview.ca/uploads/File/A-Discussion-Paper---Issues-and-Ideas---English.pdf

Conference Board of Canada. “Education and Skills: College Completion.” January 2010. http://www.conferenceboard.ca/hcp/details/education/college-completion.aspx

Conference Board of Canada. “Ontario’s Looming Labour Shortage Challenges: Projections of Labour Shortages in Ontario, and Possible Strategies to Engage Unused and Underutilized Human Resources.” September 25, 2007. http://www.workforcecoalition.ca/downloads/conference_board_report.pdf

Dietsche, Peter. “Report of the Pan-Canadian Inventory of Exemplary Practices in College Student Learning.” Association of Canadian Community Colleges Canada Millennium Scholarship Foundation, 2005.

Dietsche, Peter. “Use of Campus Support Services by Ontario College Students.” Submitted for publication to the Canadian Journal of Higher Education, 2011.

Finnie, Ross Stephen Childs, and Andrew Wismer. *Under-Represented Groups in Postsecondary Education in Ontario: Evidence from the Youth in Transition Survey*. Toronto: Higher Education Quality Council of Ontario, 2011.

Fisher, Roger and Whitney Hoth. *College-Level Literacy: An Inventory of Current Practices at Ontario’s Colleges.* Toronto: Higher Education Quality Council of Ontario, 2010.

Frenette, Marc et al. “The Long-Term Earnings Impact of Post-Secondary Education Following Job Loss.” Statistics Canada, March 2011. http://www.statcan.gc.ca/pub/11f0019m/11f0019m2011334-eng.pdf

Grant-Vallone, Elisa. “An Analysis of the Effects of Self-Esteem, Social Support and Participation in Student Support Services on Students’ Adjustment and Commitment to College.” Journal of College Student Retention. 5 (3): 2003-2004.

Greenberg, Lawson and Claude Normandin. “Health at a Glance: Disparities in Life Expectancy at Birth.” April 15, 2011. http://www.statcan.gc.ca/pub/82-624-x/2011001/article/11427-eng.htm

Human Resources and Skills Development Canada. “Disability in Canada: A 2006 Profile.”2011 http://www.hrsdc.gc.ca/eng/disability_issues/reports/disability_profile/2011/fact_sheet/education.shtml.

Human Resources and Skills Development Canada. “Pan-Canadian Study of First-Year College Students- Report 1: Student Characteristics and the College Experience.” August 2007. http://www.hrsdc.gc.ca/eng/publications_resources/learning_policy/sp_787_08_07e/page14.shtml

Jenkins, Davis. “What Community College Management Practices are Effective in Promoting Student Success? A Study of High- and Low-Impact Institutions.” Community College Research Center,Columbia University. October 2006.

Keown, Leslie Ann. “Canadians and Their Non-Voting activity.” Statistics Canada. 2009. http://www.statcan.gc.ca/pub/11-008-x/2007002/9646-eng.htm

King, A.J.C et al. “Who Doesn’t Go to Post-Secondary Education? Final Report on Findings.” Prepared for Colleges Ontario, October 20, 2009. http://www.collegesontario.org/research/who-doesnt-go-to-pse.pdf

Lennon, Mary Catherine et al. *Educational Pathways of Youth in Ontario: Factors Impacting Educational Pathways*. Toronto: Higher Education Quality Council of Ontario, 2011.

Martin Prosperity Institute. “Releasing Constraints: Projecting the Economic Impacts of Increased Accessibility in Ontario.” June 14, 2010. http://martinprosperity.org/media/ReleasingConstraints_June22.pdf

Martin Prosperity Institute. “The Value of Education Part One: Changing Returns to Education.” September 7, 2011. http://martinprosperity.org/images/stories/jmc/cache/mpi-changing-returns-to-education.pdf

Martin Prosperity Institute. “The Value of Education Part Three: Variation in Returns to Education by Occupation.” September 21, 2011. http://martinprosperity.org/images/stories/jmc/cache/mpi-the-value-of-education-part-3.pdf

McIntosh, Cameron M. et al. “Income Disparities in Health-Adjusted Life Expectancy for Canadian Adults, 1991 to 2001.” November 18, 2009. http://www.statcan.gc.ca/pub/82-003-x/2009004/article/11019-eng.htm#a1

Miner, Rick. “People Without Jobs, Jobs Without People: Ontario’s Labour Market Future.” Miner Management Consultants. February 2010. http://www.collegesontario.org/research/research_reports/people-without-jobs-jobs-without-people-final.pdf

Norrie, Ken and Huizi Zhao. *An Overview of PSE Accessibility in Ontario*. Toronto: Higher Education Quality Council of Ontario, July 6, 2011.

OECD.“Education at a Glance 2010: Indicators.” Indicator A7.1. Data downloaded from http://www.oecd.org/document/52/0,3746,en_2649_39263238_45897844_1_1_1_1,00.html

OECD. “Education at a Glance 2011 Country Note- Canada.” http://www.oecd.org/dataoecd/7/20/48687311.pdf

Ontario Ministry of Aboriginal Affairs. “Aboriginal Education.” July 11, 2011. http://www.aboriginalaffairs.gov.on.ca/english/services/datasheets/education.asp

Ontario Ministry of Finance. “2011 Ontario Budget Chapter 1: Ontario’s Plan for Jobs and Growth.” March 29, 2011. http://www.fin.gov.on.ca/en/budget/ontariobudgets/2011/ch1a.html

Ontario Ministry of Training, Colleges and Universities. "Ontario Labour Market Statistics for May 2011."http://www.tcu.gov.on.ca/eng/labourmarket/currenttrends/docs/monthly/201105.pdf

Ontario Ministry of Training, Colleges and Universities. “Ontario Labour Market Statistics for June 2011.” July 2011. http://www.tcu.gov.on.ca/eng/labourmarket/currenttrends/docs/monthly/201106.pdf

Ontario Office of the Premier. “Speech from the Throne- Open Ontario Plan.” March 8, 2010. http://www.premier.gov.on.ca/news/event.php?ItemID=11282&Lang=EN

Ontario Office of the Premier. “Strong, Experienced Cabinet to Focus on Jobs and Economy.” October 20, 2011. http://www.premier.gov.on.ca/news/event.php?ItemID=19509&Lang=EN

Ontario Undergraduate Student Alliance. “Breaking Barriers: A Strategy for Equal Access to Higher Education.” February 2011. http://www.ousa.ca/wordpress/wp-content/uploads/2011/03/Breaking-Barriers.pdf

Ontario’s Workforce Shortage Coalition. “Workforce Requirements: Recession and Recovery.” http://www.workforcecoalition.ca/downloads/report-workforce-requirements.pdf

Porter, Shirley. “Personal Counselling at a Community College: Client Groups, Service Usage, and Retention.” Paper presented at OCC Annual Conference. May 16, 2011.

Public Health Agency of Canada.“How does education affect health?” September 15, 2008. http://www.phac-aspc.gc.ca/ph-sp/determinants/qa-qr3-eng.php

R.A. Malatest & Associates Ltd. “FINAL Impacts Report: Foundations for Success Project.” Prepared for the Canada Millennium Scholarship Foundation. December 2009.

Riddell, W. Craig. “The Social Benefits of Education: New Evidence on an Old Question.” Paper prepared for the conference "Taking Public Universities Seriously." University of Toronto. December 3-4, 2004. http://www.utoronto.ca/president/04conference/downloads/Riddell.pdf

Sattler, Peggy, Academica Group Inc. *From Postsecondary Application to the Labour Market: the Pathways of Underrepresented Groups.* Toronto: Higher Education Quality Council of Ontario, 2010.

Shaienks, Danielle and Tomasz Gluszynski. "Education and Labour Market Transitions in Young Adulthood." Statistics Canada, July 9, 2009. http://www.statcan.gc.ca/pub/81-595-m/81-595-m2009075-eng.htm

Social Research and Demonstration Corporation. "Post-Secondary Access and Retention Strategies: Literature Review." Prepared for the Canada Millennium Scholarship Foundation. June 9, 2009. http://www.srdc.org/uploads/PAR_Literature_review.pdf

Squire, Marni. *Successful Strategies for Student Retention and Success: What we can learn from the UK.* Ottawa: Algonquin College, 2005.

Statistics Canada. 2006 Census Topic-Based Tabulations, Education.

Statistics Canada. 2006 Census Topic-Based Tabulations, Income and Earnings.

Statistics Canada. " Education Indicators in Canada: Report of the Pan-Canadian Education Indicators Program." April 2011. http://www.statcan.gc.ca/access_acces/alternative_alternatif.action?l=eng&loc=/pub/81-582-x/2011001/excel/d6.3-eng.xls

Statistics Canada. "Employment Insurance Coverage Survey 2010." The Daily, Monday June 27, 2011. http://www.statcan.gc.ca/daily-quotidien/110627/dq110627a-eng.htm

Statistics Canada. "Life-path Outcomes Associated with Reading Ability." The Daily, June 27, 2011. http://statcan.gc.ca/daily-quotidien/110627/dq110627b-eng.htm

Statistics Canada. "Summary Table: People employed, by educational attainment." January 28, 2011. http://www40.statcan.ca/l01/cst01/labor62-eng.htm

TD Economics. "Special Report: Post-Secondary Education is the Best Investment You Can Make." September 12, 2011. http://www.td.com/document/PDF/economics/special/sf0911_education.pdf

TD Economics. "Special Report: Post-Secondary Education is a Smart Route to a Brighter Future for Canadians." May 17, 2010. http://www.td.com/document/PDF/economics/special/ca0510_pse.pdf

Treasury Board of Canada Secretariat. "Canadian Cost-Benefit Analysis Guide: Regulatory Proposals." 2007. http://www.tbs-sct.gc.ca/ri-qr/documents/gl-ld/analys/analys-eng.pdf

Wallace-Hulecki, Lynda. "Creating a Sense of Belonging: Strategies for Enhancing Student Diversity and Success." SEM Works. April 2009. http://www.semworks.net/papers/wp_Creating-a-sense-of-belonging-strategies-for-enhancing-student-diversity-and-Success.pdf

Wiggers, Richard and Christine Arnold. *Defining, Measuring and Achieving 'Student Success' in Ontario Colleges and Universities*. Toronto: Higher Education Quality Council of Ontario, 2011.

York-Seneca Institute for Mathematics, Science and Technology Education. "College Mathematics Project 2010: Final Report- Executive Summary." 2011. http://collegemathproject.senecac.on.ca/cmp/en/pdf/FinalReport/2010/CMP%202010%20Executive%20Summary%20-%20English.pdf