Development of Alternate Career Information for CSMLS Internationally Educated MLT Applicants: When the Fit is Not Quite Right

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Canadian Society for Medical Laboratory Science
Société canadienne de science de laboratoire médical

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Overview: The Case for "Alternate Careers"

The importance of immigration to Canada's labour market growth has been well documented[1,2,3]. A flexible and accommodating approach to foreign credential recognition is acknowledged to be good for immigrants and good for the economy,[4,5] yet fewer than half of the professionally trained new Canadians who arrived in 2002 were able to work in their field of expertise in Canada.[6]

To address this issue, both federal and provincial governments have commissioned a number of projects aimed at expediting the integration of immigrants into key sectors of the economy – many of these in professionally regulated environments. However, indications of underemployment of immigrants are increasing in frequency and urgency[7]. Underemployment constitutes an enormous burden. The underutilization of immigrants skills alone costs the Canadian economy $2.4 billion to $5.9 billion yearly.[8,9] The issue of underemployment is particularly evident among the internationally educated medical laboratory technologists' (IEMLTs) cohort and serves as a main impetus for the work described herein.

Also significant in the context of this project, has been the implementation of the "Pan-Canadian Framework for the Assessment and Recognition of Foreign Qualifications". Released in 2009 and authored by the Forum of Labour Market Ministers (FLMM), the framework "describes the ideal steps and processes that governments aspire to build in order to address the current gaps to successful immigrant labour market integration"[10]. Central to this document are the inclusion of discrete "Pathways to Recognition in Canada" that exist as part of the framework (see Appendix A). For regulated professions, the provision of "alternative pathways to related occupations" is regarded as advisable where "licensure in the intended occupation may not be a viable option for the applicant if significant gaps are identified in his or her qualifications."[11]

The Canadian Society for Medical Laboratory Science (CSMLS) provides a single point of access for prior learning assessment (PLA) to internationally educated medical laboratory technologists (IEMLTs) who are seeking Canadian certification. It performs this function (and administers the national certification exam) for all regulated provinces in Canada except for Quebec.

Over the past decade, CSMLS has assessed an average of 200 IEMLTs annually to determine the comparability of their skills, abilities and education relative to the national competency profile[12]. This

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[1] Citizenship and Immigration Canada. (2003). *Immigrant Occupations: Recent Trends and Issues*. Ottawa: CIC.
[2] Ruddick, E. (2000). *Trends in international labour flows to Canada*. Ottawa: Citizenship and Immigration Canada.
[3] Denton, F. T., & Spencer, B. G. (2003). *Population change and economic growth: The long-term outlook. QSEP Research Report 383*. Hamilton ON: McMaster University Research Institute for Quantitative Studies in Economics and Population.
[4] Alboim, N. (2002). Fulfilling *the promise: Integrating immigrant skills into the Canadian economy*. Ottawa: Caledon Institute of Social Policy.
[5] Bloom, M., & Grant, M. (2001). *Brain gain: The economic benefits of recognizing learning and learning credentials in Canada.* Ottawa: Conference Board of Canada.
[6] Delaney, J. (2005). *Doors opened for Canadians with foreign credentials*, The Epoch USA Inc., New York. Available: http://english.epochtimes.com/news/5-5-1/28344.html [2009 March 17].
[7] T. Slack & L. Jensen (2007), Underemployment across immigrant generations," *Social Science Research 36*(4), 1415-1430.
[8] Reitz, J. (2001). Immigrant skill utilization in the Canadian labour market: Implications of human capital research. *Journal of International Migration and Integration, 2*(3), 347-348.
[9] Bloom & Grant (2001), Ibid.
[10] Forum of Labour Market Minsters (2009), "A Pan-Canadian Framework for the Assessment and Recognition of Foreign Qualifications".
[11] FLMM, Ibid. pg. 16.
[12] See CSMLS website: http://www.csmls.org/Certification/Competency-Profiles.aspx

standard represents the competencies a medical laboratory technologist (MLT) is expected to demonstrate at entry-to-practice and also serves as the blueprint for the national certification exam[13].

In most cases (90% of all assessments) internationally educated practitioners do not meet Canadian standards immediately; that is to say "Prior Learning Assessors" typically identify gaps in their education/experience which must be remediated before they become eligible to sit the certification exam. To this end, each of these applicants receives a customized "learning plan", detailing subject deficiencies and potential avenues of remediation. These individuals are given a period of time to remediate these gaps and become eligible to challenge the CSMLS certification exam.

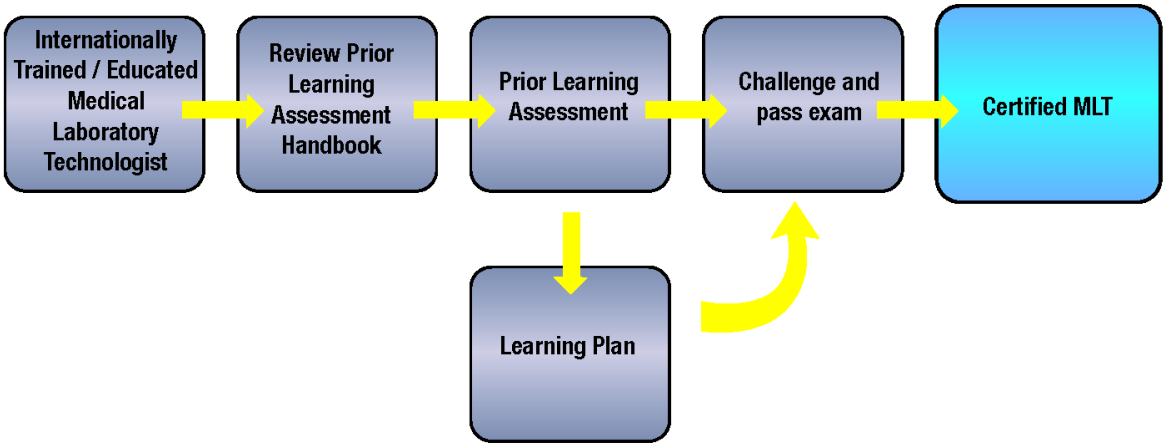


Figure 1 - CSMLS PLA Process

With that said, many individuals who apply to the CSMLS have education and skills considerably different than that of a Canadian graduate. In some cases, significant (i.e. several years worth of)[14] remediation is required before these applicants become eligible to sit the certification exam. During this time, individuals are often unemployed or working in subsistence jobs, until they become certified. Many simply drop out of the assessment process altogether. While there are likely a number of reasons for this occurrence, it is possible that many come to the realization that the practice of laboratory science in Canada is considerably different than they experienced in their home country. As such, the job of a licensed/registered MLT may not be the most practical and fulfilling choice for these individuals.

A recent quantitative analysis of PLA assessment illustrates this point. In 2007, the CSMLS received a total of 187 applications from IEMLTs. Of these, 158 PLA assessments were conducted; some applicants withdrew from the process at the outset or were unable to provide necessary supporting documentation (diplomas, transcripts, etc.) to proceed. The majority of those who met the application requirements (87%) were issued a learning plan to remediate gaps which existed relative to Canadian entry-to-practice standards. Of these, only 103 successfully completed their learning plans and went on to challenge the certification exam. It can be reasonably speculated that the significant PLA attrition

[13] See CSMLS website: http://www.csmls.org/Certification/Exam-Information-and-Resources.aspx
[14] See Appendix B – Length of PLA Process

experience at this stage can be attributed to a number of factors potentially including: a lack of success in meeting learning plan objectives, frustration with the additional time and work involved in meeting requirements, atrophy of professional skills, and interest in the profession.

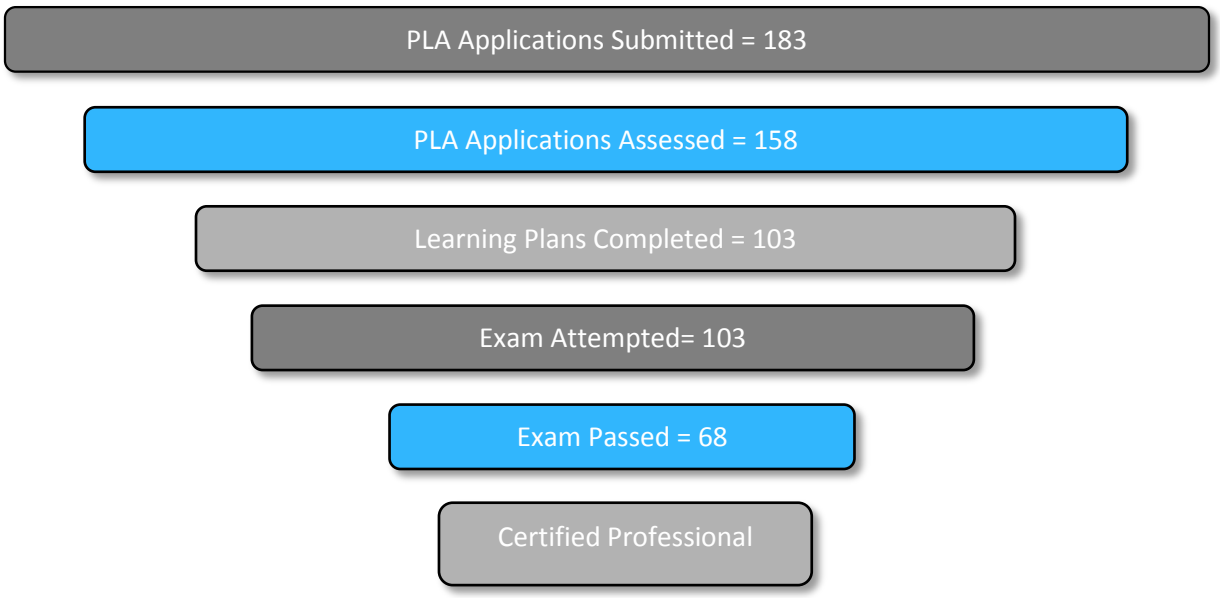


Figure 2 - 2007 PLA Applicants: Outcomes

Ultimately, of the 187 IEMLTs who originally applied to CSMLS in 2007, 68 (just over one-third) went on to pass the certification exam and become eligible to practice. Previous research conducted in collaboration with other health professions (including medical laboratory science) indicates that once licensed, these individuals are thriving in the workforce. In 2011, a survey of internationally and Canadian educated health professionals (CEHPs) was undertaken to gauge the degree of workforce integration of newcomers. As illustrated in the table below, internationally educated health professionals (IEHPs) show very high levels of job satisfaction. After becoming licensed and participating in the workforce, the same proportion of both groups indicated overall "satisfaction" with their current job (87%); when asked about their career as a whole, only slightly fewer IEHPs claimed overall satisfaction (85% relative to 90% of Canadian educated health professionals). Moreover, about four in ten (39%) of IEHPs who were employed in their home countries feel that their Canadian employers do an "excellent" job of integrating their international skills into the Canadian environment; 30% feel the employers do a "good" job in this regard[15].

[15] Johnson K., Baumal B (2011), Assessing the Workforce Integration of Internationally Educated Health Professionals. The Canadian Society for Medical Laboratory Science.

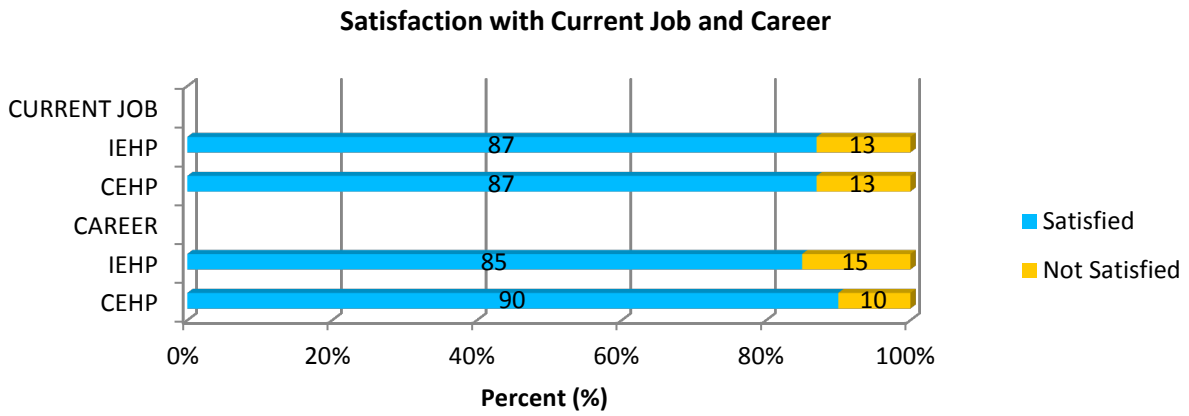


Figure 3 - Job/Career Satisfaction (IEHP & CEHP)

Two general conclusions can be inferred from the research cited above. Firstly, the current PLA process appears to be performing well in its ability to assess and recognize the skills and abilities of qualified practitioners. Once certified, these individuals generally become well integrated into the workforce and experience strong levels of job/career satisfaction. Secondly, there is a significant pool of applicants to the profession whose education and skills are markedly different than Canadian entry-to-practice standards. Years of remediation coupled with high attrition rates suggest that directing these applicants early in the assessment process of potential alternate careers would be beneficial. These alternate careers can make better use of their skill sets, may help to reduce the number of those who are lost in the system, and decrease levels of unemployment and underemployment among applicants. This group is the focus for this project and is the intended audience for alternate career communication materials and interventions.

Project Objectives

In 2013, CSMLS received funding from Health Canada to conduct primary and secondary research into the concept of providing appropriate alternate career information to select IEMLT applicants.

The fundamental objectives of this project were to arrive at a working definition for what constitutes an "alternate career", determine at what point in the assessment process (and to whom) to provide information in this regard and develop supporting communication materials for applicants. A number of specific activities were undertaken in support of these goals.

- Conduct an environmental scan/literature review of best practices in the field of alternate career pathway development and communication;
- Have an employment expert review laboratory science competency profiles and essential skills and recommend a list of suitable, potential alternate careers not necessarily confined to the health sector;

- Hold focus groups and surveys with IEMLTs who are i) currently in the assessment process, ii) have become licensed and iii) "dropped out" of the assessment process and gather their feedback on the type(s) and potential utility communication materials related to alternate careers;
- Develop a list of alternate career pathways/communication materials for IEMLTs and associated protocols for how and when this information should be provided to applicants; and
- Revise elements of the PLA process as necessary (i.e. define appropriate intervention points and develop communication materials)

Methodology

The project activities were carried out in an iterative fashion such that findings from one phase could be used to inform the approach taken in the next phase. Much of the research and development work was carried out by a team of contracted experts. Specific roles included:

1. *Researcher (Colette Peters):* An external researcher was retained to conduct a literature review and environmental scan related to alternate careers. Presently, CSMLS (and most other regulatory bodies) have conducted fairly limited work in this regard. The only two "alternate careers" CSMLS have identified (biotechnology sector, medical laboratory technology assistant) have come about in an *ad hoc* manner as opportunities presented. The researcher examined best practices in the field of alternate career generation so that a more systematic approach could be implemented as part of this project.

2. *Essential Skills Experts (Gail Hall and Mary-Ann Bennett):* A key component of the project relates to determining what MLT skills are transferrable to other unregulated careers. CSMLS retained two experts with experience in reviewing competency profiles and translating them into practical workplace terms. From their work, 11 suitable alternate careers were determined. Fact sheets outlining the fundamentals of each of these professions were developed such that interested IEMLTs could access additional information and take actionable steps towards alternative career employment.

3. *Focus Group Facilitator (Brian Baumal):* Themes and content generated from the activities above were refined and validated via a series of primary research tools. Focus groups and an online survey conducted with IEMLTs across Canada to determine the utility of alternate career information from the prospective of potential users (i.e. IEMLT applicants). Adjustments to the content and delivery of communication materials were made as a result of these consultations.

As part of their work, each expert (or team) prepared a written account of the research conducted, associated findings and recommendations for future action. These reports are publically available on the CSMLS website (http://altcareers.csmls.org/finalreport). A brief summary of each is provided later in this executive summary.

A multidisciplinary Advisory Committee was recruited to provide ongoing guidance and project support. These individuals are owed great thanks for generously donating their time and insight. Project successes could not have been realized without their contributions.

Advisory Committee Members

Name	Affiliation
Wayne Oake	HealthForce Ontario
Janelle Bourgeois	New Brunswick Society of Medical Laboratory Technologists
Aruna Kolhatkar	The Michener Institute for Applied Health Sciences
Adam Chrobak	College of Medical Laboratory Technologists of Manitoba
Mary Golba-Bylhouwer	Mohawk College
Svitlana Yaremenko	Professional Standards Council
Siobhan Williams	BioTalent Canada
Ossayed (Ozzy) Al Awor	Victoria General Hospital
Beatrice Traub-Werner	**Jewish Vocational Services**
Christine Nielsen	Canadian Society for Medical Laboratory Science
Bessie Carydis	Canadian Society for Medical Laboratory Science

Preliminary Research

Primary and secondary research were carried out at the outset of the project with the purpose of better understanding the current application of alternate careers within other regulated professions. Specific areas of interest included views on the appropriate timing in the provision of alternate career information and best practice related to the delivery and presentation of that information. Dr. Colette Peters was retained to conduct this research. Associated findings summarized below are taken from her report titled, “Development of Alternate Career Information for CSMLS Internationally Educated Medical Laboratory Technologist Applicants”.

Two major investigations were undertaken as part of this work. The first consisted of a literature review on the current topic with a focus on the treatment of alternate careers within an immigrant and/or regulated profession context. The second involved an environmental scan aimed at capturing current practices in the area of alternate careers that could help to shape the approach taken by CSMLS in this area.

A thorough literature review focused on both academic literature and grey literature (unpublished reports, government literature and online resources, etc.) suggested very little research had been undertaken in this specific area. A notable exception was a report prepared by Lim and Associates for the Foreign Qualifications Recognition (FQRWG); a body which reports to the Forum of Labour Market

Minsters[16]. This piece in particular helped to inform the development of a working definition of "alternate careers" adopted for use as part of this project.

> "A full, permanent career option in an unregulated profession that may or may not be in a health-related field. The Alternate Career options offered by this project are intended for IEMLT applicants who have skills, education and/or experience that are different from Canadian entry-to-practice standards. Although unregulated, some Alternate Careers may require further training before entry."

Dr. Peters noted two other relevant themes emergent in current literature on the topic.

- It is a common theme in immigration-related literature that earlier information about the "on the ground" reality that an immigrant will face on arriving to Canada is preferable. As such, communication about alternate careers and the necessity for proactivity on the part of the individual needs to begin as early as possible before arrival to Canada. However, each person will vary in their openness to this concept along the certification journey. For this reason, the information needs to be repeated sensitively along the way.

- Sensitivity begins with respect for an individual's education and professionalism and must be based on an assessment of their readiness to engage with the topic of alternate careers. Sensitivity continues with a culturally informed approach to communicating with individuals about their realistic chances for certification and the options available to them. The best way to communicate about alternate careers and guide immigrants is through ongoing counselling and support.

The environmental scan results involved 16 interviews (conducted either in person or by phone or email), across the following categories:

- Organizations with recognized "best practices" in alternate careers
- Organizations with a regulatory, legislative focus or government role
- Organizations that specialize in the provision of pre-arrival information for internationally educated professionals
- Bridging education programs for IEMLTs
- Employers of IEMLTs, especially with partnerships with bridging education

Echoing the findings of the literature review, interviews with key informants suggested that for some immigrants, alternative careers are sought to support themselves while pursuing licensure in a profession that is regulated in Canada. For others who are unable to achieve recognition or unable to find employment in their field once qualified, the alternative career may be a stepping stone to other careers, or become the end goal of the immigrant.

As well, Dr. Peters noted that virtually all interviewees who commented on timing emphasized that earlier was better to begin offering information. However, this was tempered by their concerns that

[16] LIM Consulting Associates (2013). Foreign qualification recognition and alternative careers. Draft report submitted to the *Best Practices and Thematic Task team of the Foreign Qualifications Recognition Working Group*.

sensitivity be shown to the client, and that the person providing the information recognizes that arriving at the decision to pursue an alternate career was not a simple and sudden one.

Key informants also emphasized the importance of linking alternate career, to current labour market data. Where possible, data on the availability of jobs in a given sector along with salary expectations and opportunities for advancement may motivate certain applicants to explore other career options.

They also mentioned that known methodologies for identifying Alternate Careers are time-intensive and involve some or all of the following methods: analysis and/or development of competency profiles, interviews with individuals in the professions being explored, expert panels/expert input, breakdown and analysis of possible professions into discrete categories. With that said, no single, uniform approach to the identification of alternate careers is evident at this time.

Identification of Alternate Careers

A significant challenge to the work at hand involved identifying specific alternate careers which made direct use of the skills and attributes typically possessed by IEMLTs. This issue was compounded by the fact that no proven, dominant form of alternate career determination was found in the course of the literature review or environmental scan.

Gail Hall and Mary-Ann Bennett, experts in the field of professional competencies were retained to develop a deliberate methodology to the identification of alternate careers suitable for IEMLTs[17]. Hall and Bennett drew from a number of sources to create a generic essential skills profile of an IEMLT applicant.

- The CSMLS Competency Profile for Medical Lab Technologist (and Medical Lab Assistant);
- Exam blueprints for MLT certification;
- CSMLS staff members and their expertise and experience with IEMLTs in the certification process; and,
- Experience and expertise of the Advisory Committee and resources of the associations they represented.

From this, an iterative and systematic approach was used to select potential alternate careers (see Appendix C). Hall and Bennett began working with National Occupation Codes (NOCs) as the base unit for their analysis. Included occupations listed in NOC minor groups 221 (physical sciences), 222 (life sciences), 321 (medical technologists and technicians), 322 (dental health care) and 323 (other technical occupations in health care). Within these five minor groups there were 24 unit groups with specific occupational titles or occupational cluster titles. The list of over 200 potential alternate careers captured most occupations that appeared to have key competencies or personal traits (e.g. sample analysis, attention to detail) in common with MLTs.

[17] Hall G., Bennett, A.M. (2014). Identification of Alternate Careers and Related Fact Sheets for Internationally Educated Medical Laboratory Technologists. *The Canadian Society for Medical Laboratory Science.*

This list was refined based on a number of criteria including:

- Salary/wage comparability
- Limited need for additional training
- Language requirements
- Work environment
- Lack of regulation (i.e. no license to practice required)

To further narrow down the list of potential alternate careers, Hall and Bennett looked closely at the competencies and essential skills associated with the remaining NOCs. These were compared to the IEMLT profile created earlier. Careers demonstrating appreciable overlap were given priority. In some cases individual careers were included (e.g. pathologists' assistant). In others, it was felt that a "cluster" of careers (e.g. biotechnology) made more sense to prospective users.

This truncated list of potential alternate careers was then vetted by the Advisory Committee, resulting in a total of 11 alternate careers included as part of this project.

Hall and Bennett then prepared a series of fact sheets outlining key aspects of the selected professions which interested IEMLTs could use to further research their career options. These fact sheets were later validated and refined through focus groups (see section below) and ultimately constituted the core content of the CSMLS alternate careers microsite.

Refinement and Validation

Qualitative and quantitative studies were commissioned as part of the project to ensure that the alternate career information presented resonated with the target audience. Brian Baumal of Thinklounge Market Research[18] was engaged to carry out primary research with IEMLTs for this purpose[19].

Eight focus groups, with five to seven participants in each, were conducted during the last week of April, 2014. Six in-person groups were conducted with two in each of Toronto, Winnipeg and Vancouver as well as two online groups allowing for participation from individuals in smaller/rural centres.

Focus group findings were used to inform the development of an online survey aimed at validating emerging themes across a larger sample. The online instrument was distributed to all IEMLTs who had applied for a PLA assessment in the past five years. The survey, which was active for two weeks (June 12 to 27, 2014) yielded a total of 252 complete responses.

Focus group and survey questions aimed at determining:

- Overall receptiveness to alternate career information
- Interest in a list of potential alternate careers
- Desired timing and delivery method of information
- Utility of draft fact sheets prepared for potential alternate careers

[18] Baumal, B. (August, 2014), Qualitative & Quantitative Research into IEMLT Opinions on Alternate Careers. *The Canadian Society for Medical Laboratory Science.*

[19] All research instruments used were vetted by and approved by CSMLS Research Ethics Board.

According to Baumal, IEMLTs had mixed feelings when initially presented with the notion of an alternate career. Most focus group participants were keenly focused on becoming certified MLTs in Canada; any information not directly related to this objective was seen as unnecessarily distracting. This opinion was gradually reversed once two concepts were explained. The first is that alternate careers allow people to better plan for their employment while overseas – and participants agreed quite strongly that planning for their employment in Canada while in their home countries was a very prudent action to take. The second clarification that improved opinion towards alternate careers is that they are not "job postings" of any kind but rather information that IEMLTs can use to plan how they should proceed with attaining gainful employment in Canada

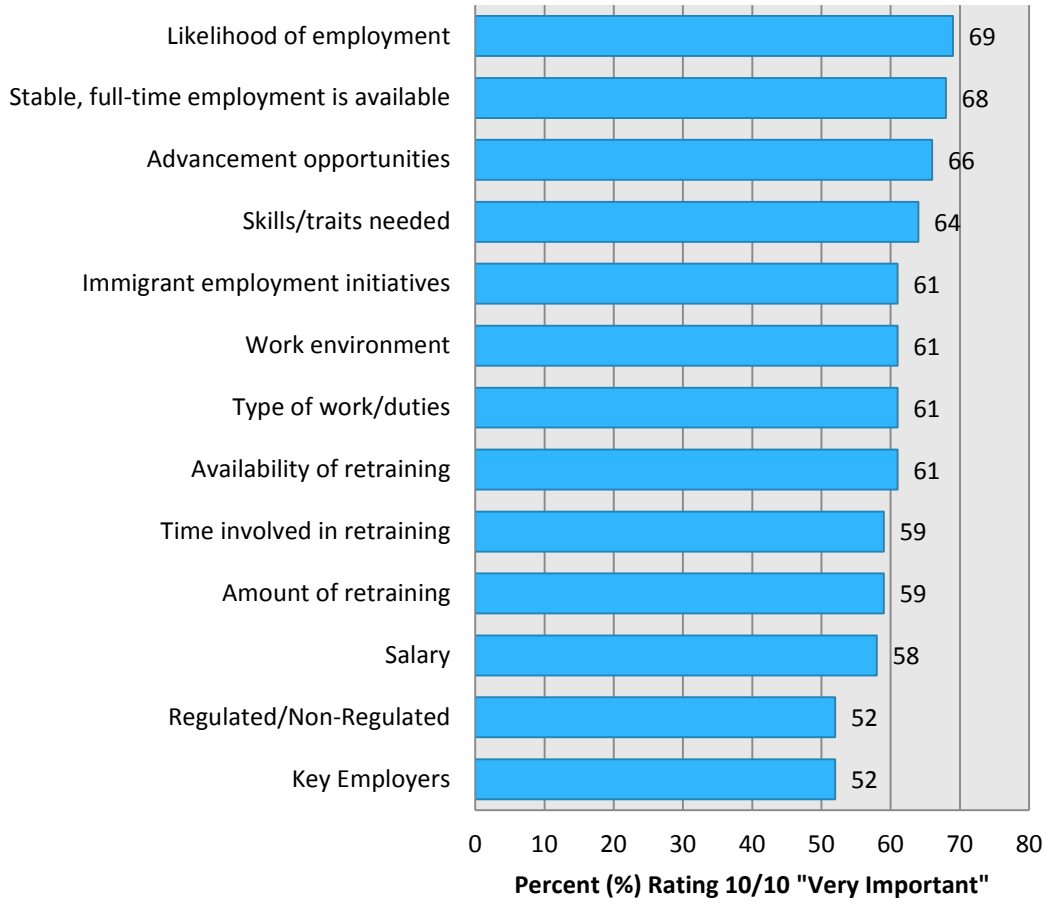
Individuals were asked to comment on at what point in the immigration/licensing process they would like access to alternate career information. Baumal notes that for the most part, respondents want to know about alternate career information as soon as possible (45% of survey repondents felt that the best time to receive this information was in their home country). However, there was a fairly strong minority opinion which felt that alternate career information should only be provided once an individual knew with more certainty how long it would take them to be an MLT in Canada. That is to say, some wanted it only after a credential evaluation was complete (17% felt this was the best time to offer alternate career information) or after an unsuccessful exam (24% of respondents.)

IEMLTs were also asked to comment on the types of alternate careers they would be interested in pursuing. Over seven in ten (72%) say they are "very interested" in alternate careers within the medical field.

Percent (%)	10/10 – Very Interested	8 & 9 Rating	1/10 Not Interested At All
The "medical field"	72	17	2
Science "in general"	46	27	4
Business or Finance	8	8	33
Information Management	10	15	25

Biotechnology – an Alternate Career profiled at altcareers.csmls.org

Interest In Specific Career Information



Survey respondents also indicated the type of information they would be interested in when considering an alternate career. This data was sought to validate and refine the content offered in the fact sheets. Responses are summarized in the graph above.

Animal Health Technologist – an Alternate Career profiled at altcareers.csmls.org

Finally, individuals were also asked to comment on their preference of delivery methods. Over half of the survey respondents indicated that website information would be very effective (57%), as would fact sheets explaining the career (54%). Slightly lower proportions felt that in-person information from CSMLS (47%), representatives from the alternate career itself (46%) and information from settlement agencies (39%) would be useful.

Communication of Alternate Career Information to IEMLTs

A number of key findings stemming from the research described above helped inform the means by which CSMLS delivers alternate career information to PLA applicants.

- Alternate careers can be seen as either a fulfilling permanent choice, or something that is taken on temporarily during the PLA process in order to keep relevant work skills sharp.
- Alternate careers should not be seen as something "less than" an MLT.
- Applicants should not be systematically dissuaded from applying for a PLA assessment.
- Fact sheets should contain information on: labour market information, work environment, skills/traits needed, opportunities for advancement and training/educational requirements.
- Alternate career information should be initially presented to IEMLTs early on in the immigration/listening process and reintroduced at key points throughout the PLA process.
- IEMLTs indicated a preference to receive alternate career information online or via printed material.
- For many IEMLTs, the concept of alternate careers can be confusing. Related information needs to be situated within a greater context to have the greatest beneficial effect.

Biological Technologist – an Alternate Career profiled at altcareers.csmls.org

Based on these findings, CSMLS chose to offer alternate career information on a microsite linked to the CSMLS parent site (see http://altcareers.csmls.org/). This way, applicants will have the option of accessing the information at numerous points during the immigration and PLA process.

The focus of the microsite is the detailed fact sheets for 11 specific alternate careers or clusters of careers (see Appendix D for details). These fact sheets were reviewed and edited by "plain language" experts to ensure the highest possible levels of clarity and comprehension among users.

The alternate careers featured on the microsite are:

- Animal Health Technologist
- Assayer
- Biotechnology
- Biological Technician/Technologist
- Biotechnology Laboratory Worker
- Chemical Technician/Technologist
- Food Science Technologist
- Health Information Management Technician
- Medical Laboratory Technician/Assistant
- Pathologists' Assistant
- Technical Sales Specialist

The microsite approach also allows for a number of other pieces of information to be brought to the users attention which helps situate the idea of alternate careers within a more meaningful context. Specific in this regard are links to a suite of self-assessment tools. The purpose of these is to provide an individual with an opportunity to reflect on their own personal skills and education relative to those required for practice in Canada. These tools are designed to give individuals a quick but unofficial glimpse of the PLA process and upgrading that may be necessary before becoming eligible to challenge the certification exam. They are also instrumental in setting realistic expectations on the specific competencies required to become certified in Canada.

The microsite also provides: a definition of an alternate career, a list of associated benefits, an explanation on how the 11 alternate careers were selected as well as job search tips. Links back to the PLA section of the CSMLS site also exist allowing for IEMLTs to initiate a full PLA application should they feel prepared to do so.

Food Science Technologist – an Alternate Career profiled at altcareers.csmls.org

Exit Survey

In order to gauge the clarity and utility of information presented, a short "pilot" of the microsite was conducted. During this time, users were asked to complete a five-question survey after having spent a few minutes on the microsite. During this time (August 1-August 24, 2014), 131 individuals accessed the survey; approximately 60% identified themselves as Canadian educated MLTs and 30% as IEMLTs. A summary of responses to the exit survey are set out in the tables below.

Metric (Percentage %)	Excellent	Good	Fair	Poor
How well the website explains Alternate Careers	57	33	8	2
Website is quick and easy to navigate	62	33	3	2
Website is easy to read and understand	62	34	3	0
Website looks professional	64	36	0	0

How helpful is the site for people to plan their careers in Canada?	Percentage (%)
Excellent	55
Good	36
Fair	8
Poor	2

Now that you have seen information about alternate careers, how likely are you to consider investigating an alternate career?	Percentage (%)
Very likely	49
Somewhat likely	20
Not very likely	18
Not likely at all	13

The entire site is in the process of being translated into French. The CSMLS plans on reviewing and revising associated content every two years to ensure its continued applicability.

Conclusion

In sum, the provision of alternate career pathways among regulated professions in Canada is still in its infancy. At present, there is no proven paradigm for identifying alternate careers, nor are there generally agreed upon intervention points in the immigration/assessment process to provide this information to individuals.

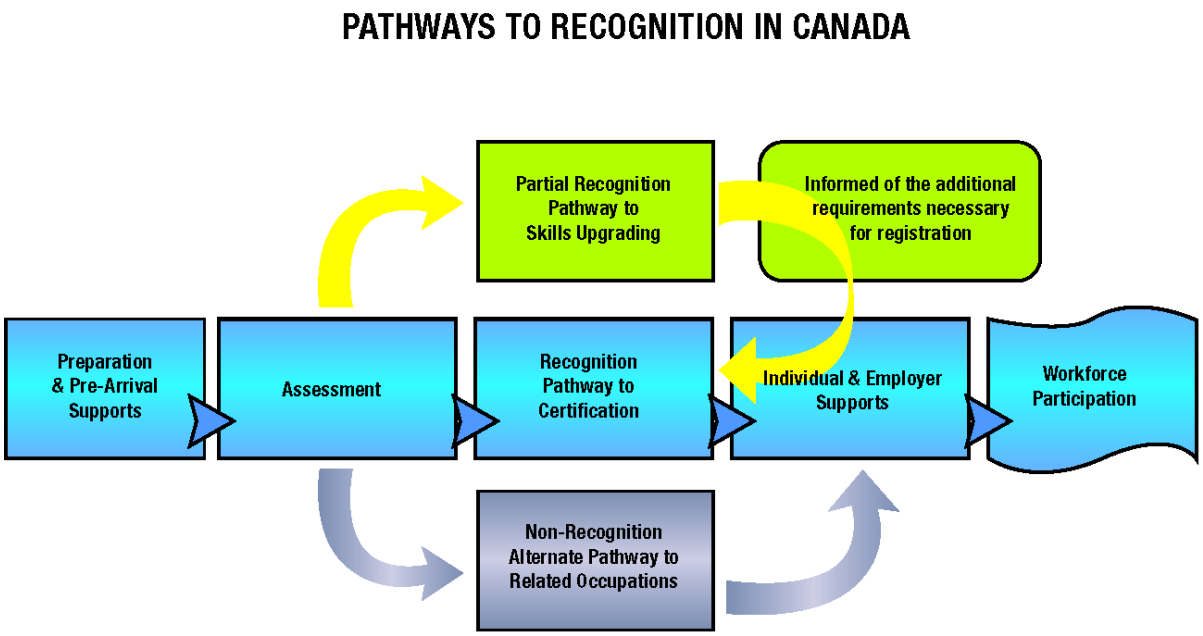
Research undertaken by the CSMLS suggests that while this concept can be a difficult and confusing one for some IEMLTs initially, eventually most consider this information to be a prudent part of their career planning. Moreover, providing alternate careers information early on and often in the PLA process, encourages applicants at several points in their career journey to investigate their options and make informed decisions.

The creation of a microsite specifically devoted to alternate careers for IEMLTs, facilitates the "early and often approach". From a pre-arrival perspective, potential applicants can gain a holistic appreciation of the Canadian labour market, career options and the licensing process while still in their home country. The inclusion of links to the microsite as part of the PLA handbook and alongside professional self-assessment tools, also provides time for a necessary sober reflection on which pathway to employment is most appropriate.

Chemical Technologist and Technician – an Alternate Career profiled at altcareers.csmls.org

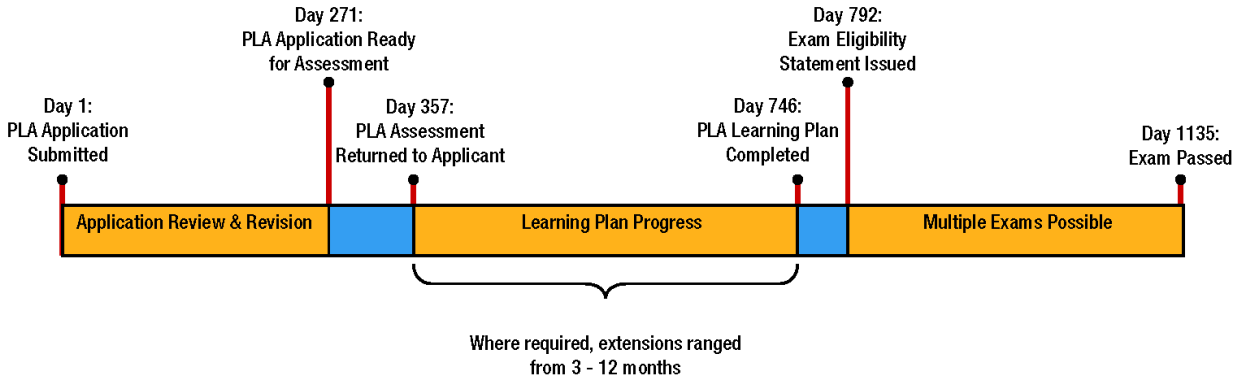
This approach to alternate careers will be measured and refined over time based on experiences, PLA metrics and data from the microsite. In the short term, CSMLS will share the findings and methodologies detailed herein with other groups that may want to develop alternate career pathways for applicants. Hopefully, over the coming years, a tried-and-tested method for providing timely and actionable alternate career information to internationally educated professionals will emerge; a boon to newcomers, labour market growth and the Canadian economy.

Appendix A: A Pan-Canadian Framework for the Assessment and Recognition of Foreign Qualifications

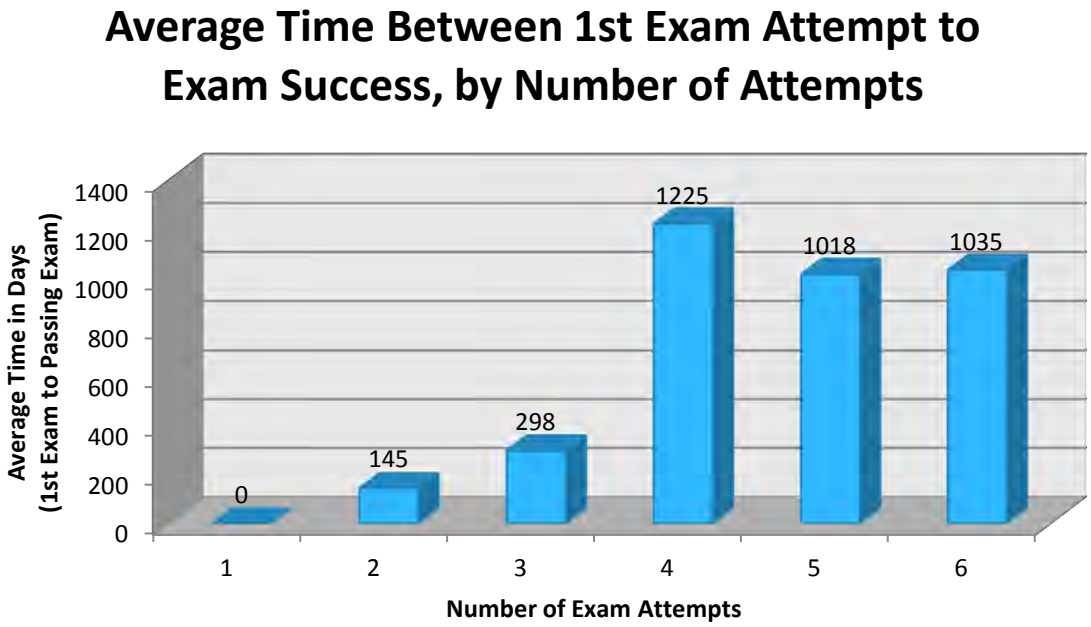


Appendix B: Length of PLA Process (2007 Applicant Cohort)

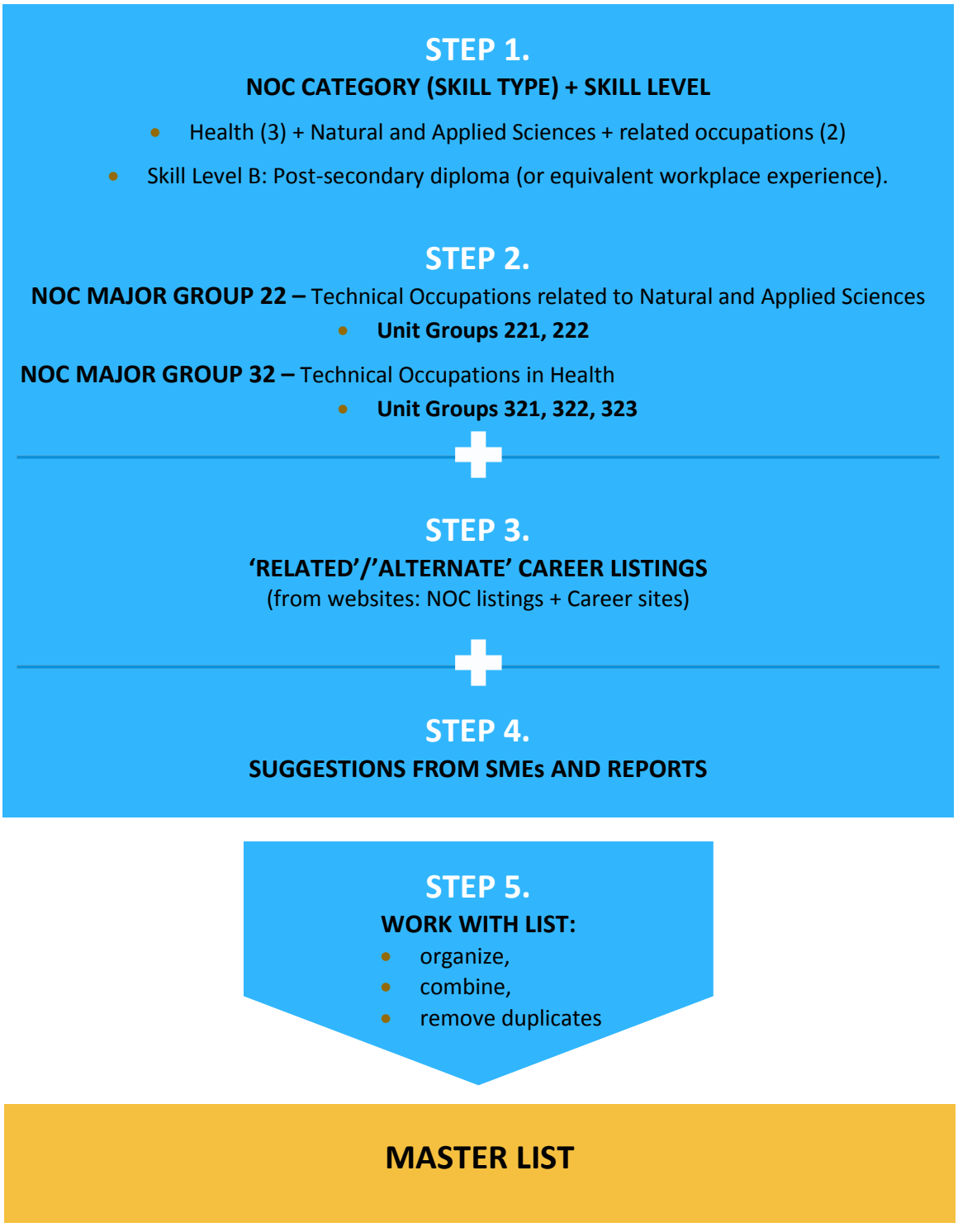
For many, the assessment and remediation process can be a lengthy one. A study of all PLA applicants in 2007 shows that timelines ranged from 200 days to 3119 days, with the average applicant taking 1135 days (3.1 years) to complete the process from start to finish.

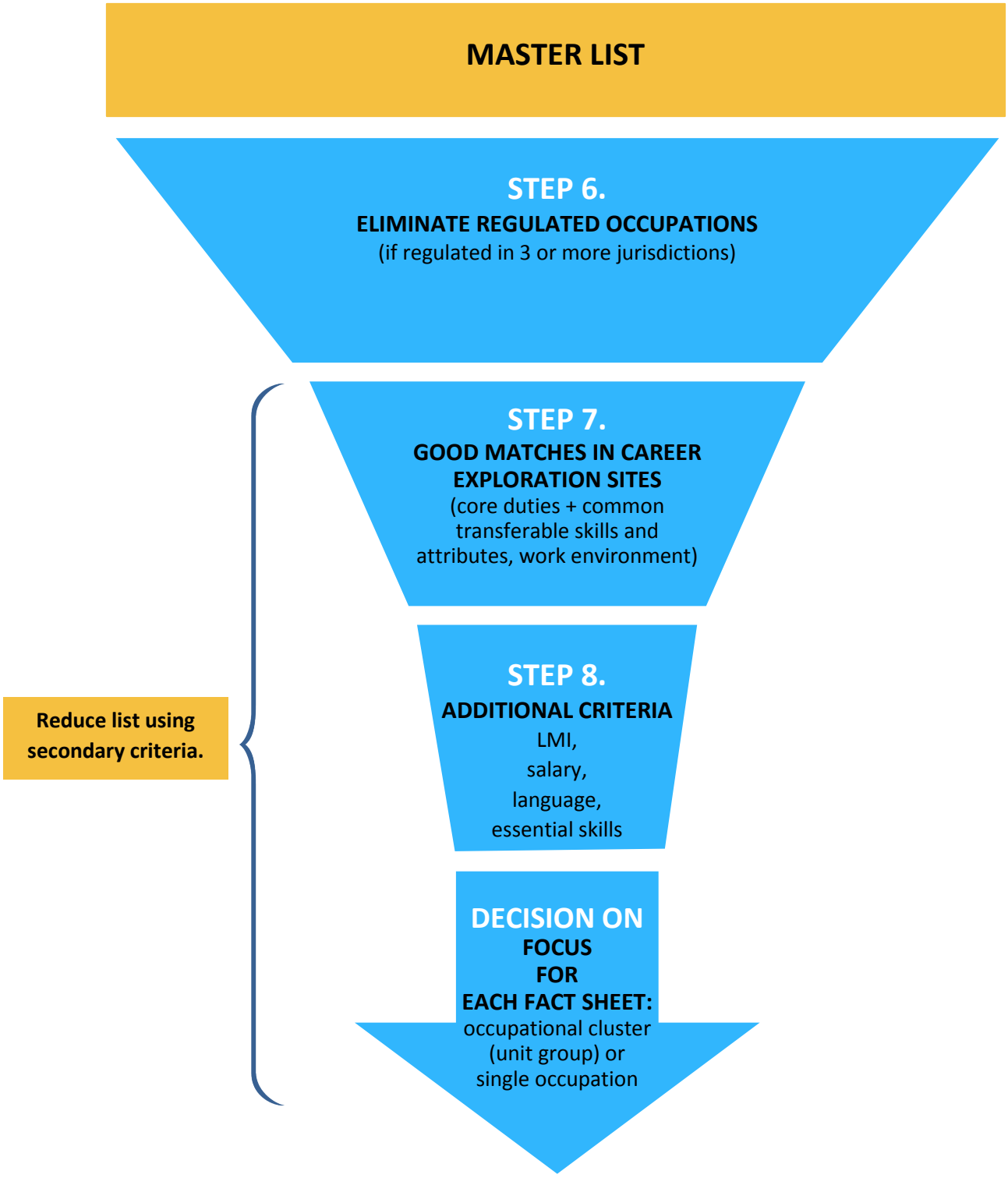


Much of the time taken to becoming certified related to exam success. For those that attempted the exam, 66% (68/103) passed while 34% (35/103) failed. Half of the applicants passed the exam on the first attempt (34/68). On average, nearly two attempts were required to pass (avg = 1.9, sd = 1.3). For those individuals with more than one exam attempt (up to 6 attempts recorded), the average length of time to exam success was 407 days (date of earliest exam to exam pass date). The below graph shows this average length of time by the number of attempts made.



Appendix C: Process Used to Determine Suitable Alternate Careers for IEMLTs




MASTER LIST
STEP 6.
ELIMINATE REGULATED OCCUPATIONS
(if regulated in 3 or more jurisdictions)
STEP 7.
GOOD MATCHES IN CAREER EXPLORATION SITES
(core duties + common transferable skills and attributes, work environment)
STEP 8.
ADDITIONAL CRITERIA
LMI,
salary,
language,
essential skills
DECISION ON FOCUS FOR EACH FACT SHEET:
occupational cluster (unit group) or single occupation
Reduce list using secondary criteria.

Appendix D: Fact Sheet Outline

Fact Sheet Focus: (name of occupation or cluster featured)
Part of NOC (number and title of unit group)

(Name of occupation) **are also called:**
Other commonly used occupational or job titles for career exploration and job searches

What is the role of (name of occupation) **in Canada?**
A summary description of the occupation

What are the main duties of (name of occupation) **in Canada?**
A list of common tasks this occupation performs

What are the desired traits of (name of occupation) **in Canada?**
A list of attributes that help people succeed in this occupation

Where do (name of occupation) **work?**
A list of different types of organizations that employ people in this occupation

What is the work environment like?
The work conditions such as typical hours and work schedules, whether job tasks are typically performed indoors or outdoors, and types of hazards that workers are likely to encounter

What qualifications are Canadian employers looking for?
Education and other qualifications that employers expect people in this occupation to possess

What are employers' expectations in relation to communication skills?
A description of how communication is important to this occupation, often with examples

What is the wage for this occupation?
National average (low, median and high) hourly wages and annual salaries are provided, when available

What opportunities for advancement are available to (name of occupation)**?**
Information about career paths that individuals could follow within or beyond this occupation

Where can I find out more about (name of occupation) **and the** (name of field or industry) **in Canada?**
Readers are directed to the Introductory Page for links to general employment and career resources; career resources specific to this occupation, and the industry if applicable, are listed here

CSMLS SCSLM

Canadian Society for Medical Laboratory Science
Société canadienne de science de laboratoire médical