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## Multiple Case Study Evaluation of Postsecondary Bridging Programs for Internationally Educated Health Professionals – Appendix

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## Appendix 1: Case Study Findings

The case study findings from the seven bridging programs involved in this project are presented here. They are contextualized with information about the requirements necessary to enter practice for each of the five professions in Ontario.

### Physiotherapy

#### Entry to Practice

The practice of physiotherapy is regulated in all Canadian provinces. Entry into the College of Physiotherapists of Ontario is managed by the Canadian Alliance of Physiotherapy Regulators (CAPR), which conducts a centralized credential assessment on behalf of all provincial regulators, except Quebec. The credential assessment process can take up to a year and involves assessing the education and qualifications of IEPTs to determine their eligibility to apply for the national Physiotherapy Competency Examination (PCE). The written component of the PCE is offered four times a year and the clinical component is offered twice a year. IEPTs who were educated in a non-English speaking program must also demonstrate English language proficiency through TOEFL, CanTEST, IELTS or TESTcan. An IEPT's licensing fees can be significant, as they include a \$780 charge for a credential review, a \$575 charge for Prior Learning Assessment & Recognition (PLAR), an \$825 charge for the written component of the PCE and a \$1,400 charge for the practical component of the PCE. IEPTs who pass the written component of the PCE can apply for a provisional license, which allows them to work under the supervision of a registered physiotherapist.

Across Canada, about 400 IEPTs (approximately 40% of all candidates) attempt the written component of the national examination each year and 300 IEPTs (or one-third of all candidates) attempt the clinical component. **Error! Reference source not found.** Table 1, retrieved from the 2011 CAPR annual report, compares pass rates of Canadian-educated physiotherapists (CEPT) to internationally educated physiotherapists (IEPT) over a three-year period.

**Table 1: Physiotherapy Competency Examination Pass Rates**

	2009		2010		2011	
	CEPT	IEPT	CEPT	IEPT	CEPT	IEPT
Written	94%	49%	94%	50%	94%	64%
Clinical	96%	67%	95%	70%	93%	62%

Although the performance of internationally educated physiotherapists on the written component of the national examination has improved, IEPTs are not as successful as Canadian-educated physiotherapists on both components of the exam. The costs of examination failure are high, both due to the cost of additional exams and due to foregone wages and the loss of skills and knowledge (Johnson, 2007). To increase IEPT pass rates, the College of Physiotherapists of Ontario initiated a project in 2006 to develop preparatory examination skills modules to familiarize IEPTs with the CPE and create opportunities for exam-taking strategy practice. Unfortunately, an evaluation of the project showed that completion of the modules did not increase pass rates (Blais, 2008): exam preparation alone was not sufficient to improve the success of IEPTs on the PCE. Orientation to Canadian practice and additional theoretical and/or clinical education, such as is offered by a bridging program, is a requirement for success (Blais, 2008).

In addition to providing candidates with information about approved courses to fill specific gaps, the Alliance refers IEPTs to three postsecondary bridging program options, which are also listed on its website:

- Ontario Internationally Educated Physiotherapists Bridging Program (OIEPB) at the University of Toronto
- Internationally Educated Physiotherapist Exam Preparation (IEPEP) program at the University of British Columbia
- Alberta Internationally Educated Physiotherapists Bridging (AIEPB) at the University of Alberta

## University of Toronto Physiotherapy Bridging Program

### Overview

The Ontario Internationally Educated Physiotherapists Bridging Program (OIEPB) was launched in May 2012 with funding from the Ontario Ministry of Citizenship and Immigration. The goal of the program is to help internationally educated physiotherapists obtain licensure and employment in their field and become competent, successful practitioners. The OIEPB curriculum provides opportunities for physical therapists to develop the knowledge, critical thinking skills and clinical reasoning required to meet Canadian entry-to-practice standards and offers the cultural and workplace orientation necessary for workplace success. The program is offered through the University of Toronto's Department of Physical Therapy, but no credential is awarded for program completion.

### Initiation and Development

The need for a physiotherapy bridging program was identified by the Canadian Alliance of Physiotherapy Regulators in the mid-2000s. A 2007 report prepared for the Canadian Alliance of Physiotherapy Regulators and the Canadian Physiotherapy Association recommended a feasibility study to consider the establishment of a bridging program specific to IEPTs (Johnson, 2007). Discussion with physical therapy faculty chairs led to collaborative efforts to secure funding for the development of two pilot bridging programs in 2008. The Internationally Educated Physiotherapist Exam Preparation (IEPEP) program was funded by the government of BC and housed in the UBC department of Physical Therapy, while the Ontario Internationally Educated Physiotherapists Bridging Program (OIEPB) received both federal and provincial funding and was housed at Ryerson University. Canada's first and longest-running bridging program was developed at Ryerson University for internationally educated pharmacists, so the Ryerson bridging program was delivered through the School of Continuing Education, allowing the OIEPB to draw on the university's decade of experience with bridging programs. To ensure that the OIEPB was fully grounded in the essential competencies required to be a practicing physiotherapist, project partners such as the University of Toronto, University of Western Ontario, Queen's University, the College of Physiotherapists of Ontario and the Ontario Physiotherapy Association were included in the program development. The ultimate goal was to move the OIEPB to the University of Toronto's Department of Physical Therapy if the pilot was successful.

At the conclusion of the pilot, three years of funding were secured in December 2011 to support the transfer of the OIEPB to the University of Toronto. The Alliance, the College of Physiotherapists of Ontario and the Ontario Physiotherapy Association remained partners in the project. Ryerson's curriculum and resources were moved to the University of Toronto, providing a strong basis for reframing the program for an academic physical therapy environment. An intensive process of curriculum revision occurred over the four-month period between funding approval in December 2011 and the initial intake in May 2012. Program funding for

the equivalent of three full-time positions was used to establish a full-time administrative assistant, a 0.75 program coordinator, a 0.25 workplace integration coordinator, a 0.5 clinical education coordinator and five 0.1 clinical practice facilitators (CPFs). The workplace integration coordinator works closely with the clinical education coordinator to facilitate relationships with employers and support IEPTs with their clinical internships. The clinical coordinator also manages the mentorship program, in which each CPF is assigned to mentor three or four bridging program participants. The CPFs are practicing clinicians who conduct clinical site visits; serve as participant mentors, instructors and clinical site liaisons; and also provide five days of clinical instruction each unit, which are scheduled to ensure that two CPFs are always in the classroom. Courses are taught by expert faculty within the department of physical therapy, many of whom taught in the Ryerson pilot.

A clinical practice facilitator position was created in response to the employers from the Ryerson pilot who felt unsure about how to work with IEPTs. The position is modeled after the case manager approach used by the CARE Centre program for internationally educated nurses (see Conference Board of Canada, 2012). In addition to CPFs, other changes included the introduction of some online components and the scheduling shift to Wednesdays and Saturdays instead of Tuesdays and Fridays, to increase program accessibility. While the Ryerson pilot offered optional clinical placements, the U of T program includes two mandatory clinical internships, as well as early exposure to clinical settings through half-day site visits.

## Program Delivery

The OIEPB program consists of two main streams: the comprehensive program and the modular program. Both are delivered using online and in-class formats and provide participants with access to a clinical skills lab. The focus is on communication in physiotherapy practice in Canada, core cultural workplace expectations, and preparation for both the written and the clinical national exams. Admission into the two streams is determined by the needs of the IEPTs following assessment by the OIEPB program admissions committee. Participants are assessed using multi-modal assessment strategies including self-reflection, instructor feedback on classroom assignments (charts, patient interviews and research papers) and clinical monitoring and supervision.

### *Comprehensive Program*

The nine-month comprehensive program runs from May to September and includes two mandatory, four-week full-time clinical placements. Although primarily delivered in class, the program includes some online components, with plans to put more course offerings online. The program can accommodate approximately 20 to 25 participants. There were 16 IEOTs enrolled in the 2012 cohort.

The program begins with a one-week full-time academic residency to orient students to the university, to build initial relationships between participants and instructors, and between the participants themselves. This is followed by four months of in-class instruction delivered two days per week (Wednesdays and Saturdays). The first course, *Health Care Culture and Communication*, is designed to integrate IEPTs into the Canadian environment by focusing on patient communication and clinical reasoning, as well as the role of the physiotherapist within the Canadian health care system. It was felt that the Canadian emphasis on autonomous practice was a major shift for many IEPTs, who may be accustomed to more hierarchical environments in which they work under the direction of a physician. The course includes four half-day visits to a range of clinical sites to provide IEPTs with opportunities to practice patient interview skills. The second course prepares participants for their four-week clinical internships by engaging them in a comprehensive review of essential clinical skills. Participants also develop job search skills by preparing a résumé for submission to their clinical sites.

During the mandatory internship, efforts are made to place participants at the workplace of their CPF mentors. To facilitate the transition of IEPTs into the workplace, employer workshops are provided for clinicians unfamiliar with IEPT students. After returning from the first clinical internship, the program moves to a broader orientation with the Canadian health care system, addressing such issues as government policy and legislation, ethics, and interprofessional collaboration, with one additional site visit scheduled during the course. This is followed by an integrated systems review to cover clinical decision-making, research skills and more complex patient care. Participants are given opportunities to complete assignments that address any specific gaps identified in the Alliance credential assessment. The fall session includes an online self-directed unit on clinical reasoning and record keeping and an online, self-directed research module adapted from the regular physical therapy program for IEPTs. At the completion of the program, the workplace integration coordinator assists IEPTs with their transition to employment.

**Table 2: OIEPB Program Outline**

Course	Hours
Academic residency/orientation (May)	1 week FT
Health Care Culture and Communication (May-July)	84 hours in-class, includes 4 half-day visits to clinical sites
Fundamental Systems Review (July-August)	84 hours
Clinical Internship 1 (Sept)	4 weeks FT
Physical Therapy Practice within the Canadian Health Care System (October-November)	42 hours
Integrated Systems Review (November-December)	84 hours
Clinical Internship 2 (January)	4 weeks FT

The tuition fee for the comprehensive program is \$6,000. Bursary assistance of up to \$5,000 is available from the MTCU Ontario Bridging Participant Assistance Program (OB PAP) to help offset the cost of tuition.

### **Modular Program**

The modular program is intended for IEPTs who are already familiar with autonomous practice and demonstrate the level of assessment and clinical reasoning skills required to become a practicing physiotherapist. They may have minor gaps identified by the Alliance in their knowledge of the Canadian health care system or specific research areas. In September 2012 the OIEPB program launched the first module of the program, a nine-week facilitator-led, online learning module called *Physical Therapy Practice within the Canadian Health Care System*, which is also available to IEPTs who meet the language requirement in their home country prior to arrival in Canada. There were 25 students registered for the first module.

Plans are underway to make the online research unit from the comprehensive stream available in the modular stream and to develop workshops for updating or refreshing knowledge in specific clinical skills. The research course and clinical skills workshops will be open to both IEPTs and Canadian-educated physiotherapists, supporting the long-term sustainability of the IEOPB and providing additional opportunities for IEPTs to network with practicing clinicians.



A clinical internship will not be available in the modular stream. Due to the shortage of clinical sites and the expectation that modular stream participants are already prepared for autonomous practice, clinical placements are secured first for both regular physiotherapy students and IEOTs in the comprehensive bridging program. However, the mentorship program will be available in the modular stream to connect IEPTs with clinical mentors.

## Workshops

In addition to the two program options, IEPTs can register for workshops to help prepare for the written and clinical components of the physiotherapy national examination: the *Multiple Choice Question (MCQ) Exam Skills Preparation Workshop* (fee of \$150) and the *Objective Structured Clinical Examination (OSCE) Exam Skills Preparation Workshop* (fee of \$375 to \$400).

## Recruitment

Information about the OIEPB is available from several different sources, including the University of Toronto Physical Therapy website, postings on the Alliance and the College of Physiotherapists of Ontario websites, government websites (such as Service Ontario), presentations to IEPTs organized by the Health Force Ontario Access Centre, and print ads in GTA media. More than 70 IEPTs attended information nights held in January 2012 at the University of Toronto. Information about the program is clearly spread by favourable word of mouth from past Ryerson participants, as several current students indicated that they had heard about the program from friends. Interest in the program has increased since the first pilot cohort in 2009 and the OIEPB now receives 200 to 300 enquiries a year from IEPTs in different stages of the immigration process.

Almost all direct recruitment for the program is done through information provided to IEPTs by the Alliance. Typically, there are three categories of IEPTs who are directed by the Alliance to bridging programs:

- IEPTs who are assessed as substantially equivalent and are eligible to write the exam but want to strengthen their knowledge and skills about integrating into the Canadian culture
- IEPTs whose credentials are not substantially equivalent and must address specific gaps identified by the Alliance before they are eligible to write the exam
- IEPTs who fail the national certification exam

Following the credentialing process, IEPTs receive a letter from the Alliance with the results of the assessment and are provided with information about bridging program options. Assessors sometimes contact IEPTs in person to present the bridging programs as an opportunity for them to consider. At the request of the OIEPB, a group email was sent by the Alliance to its list of IEPT contacts (some who were still in their countries of origin) to provide information about the program and to refer them to the OIEPB for more information.

There were concerns raised by some stakeholders that the period between the end of the Ryerson pilot (August 2012) and the official confirmation of funding for the U of T program (December 2012) affected the ability of the program to reach prospective learners, as no information about the OIEPB was available.

## Admission

The OIEPB is open to internationally educated physiotherapists who meet the following criteria:

- Credentials have been assessed by the Alliance of Physiotherapy Regulators of Canada
- Resident in Ontario

- Landed immigrants, Canadian citizens or Convention refugees
- Language proficiency of 92/120 overall TOEFL score (with minimum 21/30 in writing and speaking) or 7.0 overall IELTS score (minimum of 6.5 in speaking and writing, and 7.0 in reading and listening)

There is a two-part admission process for eligible applicants. IEPTs must pay a non-refundable application fee of \$100 and submit an online application form with supporting documentation directly to the School of Physical Therapy. Applications are reviewed and qualified IEPTs are invited to attend a one-day admission assessment consisting of four activities: a multiple choice exam, a six-station OSCE, a six-station multiple mini-interview, and a case review or listening component. A fee of \$150 to participate in the assessment has been established to reduce the likelihood of candidates not attending the assessment.

For the first U of T cohort, 26 students were assessed and 16 were admitted. There is a concern that the cost of the comprehensive program and the competitive admission process may lead some IEPTs, who would otherwise benefit from the comprehensive program, to register instead for the lower-cost modular courses or workshops.

### Stakeholder Involvement

A program advisory committee has been established involving members of the Alliance; the College of Physiotherapists of Ontario; the Ontario Physiotherapy Association; representatives of clinical sites, government, and faculty; and two IEPTs (one is a Ryerson alumna while the other did not participate in a bridging program). One of the advisory committee members is involved with a bridging program for another profession and efforts are being made to involve a representative of a settlement agency. Committees ensure fairness and transparency in the admissions process and oversee the development of curriculum that addresses the specific needs of IEPTs.

### Evaluation

The overall goal of the OIEPB is to help IEPTs gain registration and become competent physical therapy practitioners in Canada. To evaluate whether the program is achieving that goal, the project funding includes participant follow-up at three months, six months, one year, and two years following program completion. The primary indicators of program effectiveness include pass rates for the national exam and the rate of employment among IEPTs who complete the program as either provisional or fully certified physiotherapists. Other indicators identified by stakeholders included participant progress from entry to completion, measured through faculty coursework assessments, and participant satisfaction with the program. The level of alumni engagement was also an indicator of effectiveness, since alumni who enter the workforce become ambassadors for the program amongst Canadian educated peers, raise awareness of the challenges IEPTs face and engage with future clinical partners.

A database is used to track participant outcomes and the workplace integration coordinator actively attempts to maintain contact with alumni. Participants can give permission to the Alliance to release their examination results, but often simply fax their results to the program. Several stakeholders noted that developing an appropriate evaluation timeframe presented a challenge, as the licensure process for becoming a physiotherapist can be quite lengthy. Participants may have remaining gaps that must be addressed after bridging program completion (such as a statistics course) before they can write the national exams, or they may be delayed writing the examination by individual circumstances. In these cases, the absence of evaluation data is not related to program effectiveness but to situational factors.



## Sustainability

Ultimately, the program's sustainability relies on revenues from tuition fees. Several stakeholders raised concerns about the prohibitive cost of the program, which many IEPTs are only able to afford through OBPAP financial support. Without program funding, tuition costs would rise to reflect the actual costs of program delivery, further reducing accessibility to IEPTs.

Drawing on the resources of the regular master's program could create economies of scale, thereby improving the possibility for long-term program sustainability. The modular program was considered to have good prospects for sustainability, since modular courses and examination preparation workshops can be marketed to IEPTs and refresher workshops are applicable to both IEPTs and practicing physiotherapists. There is interest in developing additional online course offerings to expand the reach of the program to IEPTs outside of Toronto.

## Key Strengths/Successes

Many of the key strengths identified by faculty, staff and partners related to the location of the OIEPB within the University of Toronto's Department of Physical Therapy, the OIEPB curriculum and program delivery, and high levels of stakeholder involvement.

### *Location of OIEPB*

- The department offers a rich intellectual environment with an engaged faculty that brings deep academic knowledge and clinical expertise to provide IEPTs with a theoretical and practical foundation that meets the quality expectancies of the regulatory college.
- OIEPB is able to leverage the University of Toronto's strong reputation and long-standing relationships with hospitals and clinics to secure clinical sites.
- Participants have access to the University of Toronto's library resources, as well as state-of-the-art equipment and labs used for the master's program and 24-hour use of practice facilities. The facilities are also available to alumni to help them practice for the national exam.

### *OIEPB Curriculum and Program Delivery*

- Mandatory clinical internships give participants exposure to the Canadian workplace and hands-on clinical experiences, and allow participants to build networks with practicing clinicians.
- Preparation for multiple choice question examinations is embedded in all courses, giving IEPTs experience with the format and structure of the national exam.
- The curriculum is grounded in essential PT competencies but also responsive to new ideas. Information learned during the Ryerson pilot was applied to the OIEPT curriculum and participant feedback and input from employers are used to make ongoing adjustments and continuous improvements to the program.

### *Stakeholder Involvement*

- There is a strong OIEPB leadership team that works well together and is committed to the success of the bridging program.
- Despite initial concerns about the workload, the faculty is perceived as having a high level of engagement with the program.

- There is a growing interest in the information learned about bridging programs across professions and institutions. This enables dialogue and communication around common issues such as acculturation, career preparation and work placements in different bridging programs. Within the University of Toronto, a network of programs for internationally educated professionals has been developed, and a representative of the University of Toronto program for internationally educated lawyers sits on the program advisory committee. OIEPB has established an informal agreement with the Alberta IEPT bridging program to exchange information and resources.
- Many alumni remain connected to the program by volunteering as patients and by attending information sessions to speak about their experiences with the OEIPB. Those who are practicing clinicians willingly partner with the OEIPB to provide clinical internships and help other IEPTs integrate into the profession.

## Challenges/Gaps

The main challenges identified by faculty, staff and partners were focused on curriculum development, clinical internships and program delivery.

### *Curriculum Development*

- Several stakeholders considered the biggest challenge to be conceptualizing participant needs and designing a single comprehensive program that addresses a variety of gaps in and levels of knowledge and experience without re-teaching IEPTs skills that they already have. Academic rigour must be balanced with the recognition that a bridging program is not a master's program.
- Despite the clear benefits of moving to the University of Toronto, this change removed the program from an educational environment that facilitated support and interaction between staff who work with internationally educated professionals and in which the barriers facing internationally educated professionals were fully understood. With less experience than those in the Ryerson program, faculty members' expectations did not always take into account the realities of IEPTs' lives and circumstances.
- The mentorship and liaison roles of CPFs are still evolving. The CPFs need more training on how to mentor and how to increase their own knowledge about their mentees. Greater clarity during training regarding the expectations of CPFs during their instructional days and their liaison responsibilities with clinical sites was recommended.

### *Clinical Internships*

- Securing clinical placements remains an ongoing challenge. To avoid depleting the pool of available clinical sites, the mandatory internships are scheduled to avoid overlapping with master's student placements. However, this means that some employers are asked to work with students on almost a year-round basis. Employers accustomed to working with master's students may be reluctant to take on IEPT supervision responsibilities because of uncertainty about working with IEPTs.
- One stakeholder commented that the first clinical internship was overwhelming for some participants and recommended that a one-week observational placement be added to familiarize IEPTs with the clinical environment prior to the placement experience.

### *Program Delivery*

- There is no single best way to schedule classes and internships to accommodate the needs of IEPTs, many of whom cannot afford to attend daytime programs due to "survival job" commitments. Evening-

only classes are also undesirable because of the mental stamina required after a full day of work. Although some IEPTs are able to negotiate with their employers for flexibility to attend one day a week, the two mandatory full-time placements are difficult for many IEPTs to accommodate. (Instead of two clinical internships, the Alberta program provides learners with one day of clinical experience each week for 38 weeks and a single final internship.)

- While the modular format is important for sustainability, it limits opportunities for IEPTs to make connections and build networks with other professionals, as they would in a full cohort program.
- More collaboration and interaction is needed, especially between programs in similar or identical fields. This would reduce duplication and enable greater leveraging of experience and resources. It was suggested that institutional collaboration should be required by funders as a condition of funding.

## IEPT Participant Perspectives

### *Key Strengths/Successes*

IEPTs echoed many of the same strengths that were identified by faculty, staff and partners. They acknowledged that access to University of Toronto faculty expertise was a significant benefit:

*“Having the base at U of T, we are getting all the knowledge they accumulated. U of T is one of the oldest universities for physiotherapy in North America, so we are getting all that experience at our disposal.”*

*“You have the big network, you have all these physiotherapist. Different specializations, different knowledge, and they are all there to give us what we are asking for. This is a very, very important thing in the bridging program.”*

They appreciated the emphasis on addressing identified gaps, specific to individual participants:

*“The main strength of this program is telling me what my gaps are ... they help us identify our weaknesses and areas of improvement ... the strength is identifying where you need to help yourself to get to that licensing point.”*

*“The bridging program was also, it was made to help you through the beginning until the end, until you find a job. They even practiced with me, for example, the interview skills. They even helped with the resume. Any and every component from the beginning until the end was covered.... With the bridging program, it was all there in one spot, you just need to ask.”*

The program was also responsive to the needs of students as a group:

*“When I did [the bridging program] they were trying to learn from the students as much as possible, because it was a trial. They were modifying it on a weekly basis and that I think was their strongest feature at the time.... for me was their biggest strength that they were able to push the program forward according to the students. If we were stronger they would make the program more appropriate and harder and more demanding. It made us learn all the time.”*

The clinical internship was considered to be enormously valuable, to expose IEPTs to Canadian settings and to develop networks for future employment:

*“The reason that I was interested in getting this program is that we need networking and at the same time you need exposure to handle the patients.... even after my master’s I found that if you apply for the hospitals they won’t allow you to come [without experience].”*

*“I passed my written exam and I needed a mentor but I couldn’t find anyone to mentor me because I have very limited friends who already passed the licensure and are working as a physiotherapist. I thought joining the bridging program would open up opportunities for me to meet people and make some networks with them ... The second goal was to really have an experience, a Canadian experience in a hospital here.”*

The bridging program also helped participants gain confidence, which prepared them for the Canadian workplace:

*“I really feel if I didn’t go through the bridging program, I would not have been as prepared as I was when I got my job. I feel the bridging program gave me more confidence in practicing in Canada and confidence, knowledge and communication skills.”*

### **Challenges/Gaps**

Some participants felt that insufficient information was available before their immigration to Canada and urged greater coordination between the provincial government and federal immigration officials.

Recommendations were also made to permit IEPTs to write the TOEFL as well as the written component of the national examination prior to immigrating, enabling IEPTs who pass the exam to obtain a temporary license for practicing when they arrive.

*“They should send a list of requirements to the embassy when you apply, because when I applied they said ‘oh you are a physiotherapist, we have high demand for physiotherapists in Canada, you are a good priority.’ So I came here and I went to the Alliance and they told me ... get in line, get in line. The experiences are not very pleasant for trained physiotherapists because the impression you get from the government is not the impression we get when we get here. If we were properly informed we would have prepared ourselves, we would have known what they want.”*

Some participants urged a greater focus on clinical instruction, with more opportunities for IEPTs to practice their skills and prepare for the clinical component of the PCE:

*“We are professionals before we came here, we are practicing and we are used to what we are doing and we are updated, but then after we immigrated ... we are stagnant. For seven years I have been trying to figure out how to get into the system and so if this bridging program was here from the time that we immigrated, it would have been easier because we still have the knowledge polished.”*

*“It is almost impossible for any foreign trained physiotherapists to pass the practical exam, it is easier to pass the written, it is just a matter of sitting down. But when it comes to the practical, because it is all focused on Canadian it is a different concept of training from what we had in our own background.”*

A few concerns were raised about the content of the curriculum. While acknowledging the responsiveness of the program to participant feedback, some felt that too many adjustments were made. Others felt that the academic demands were too high for some IEPTs:

*“We are the first year so it is learn as you go and the programs are changing constantly based on our feedback. I think once they have the syllabus put down and they decide what exactly they want to teach the students it will be more smooth. But for us, they actually don’t know what to teach us, it is so much information to put in a small period of time. I think that is the biggest problem at the moment.”*

*“When I was in my bridging program, I didn’t really have much time to study and prepare for my big exam. I was spending my time more on doing my homework; writing my papers and that kind of stuff. I think on our feedback after we finished the program we kind of mentioned, you know they have to lessen the homework that they are requiring the students to do. ... one of my challenges was working fulltime and doing the bridging program, so I didn’t really have that you know amount of time to do everything.”*

The challenges of developing a single curriculum with individualized content for IEPTs with different levels of skill and abilities were also recognized:

*“The gap is still huge between students unfortunately because we have students who don’t have their PLAR completed and we have students who are just waiting to take the practical. So the learning gap between students is still not addressed ... because we have different needs. [...] So that is the weakness of the program for me.”*

In concluding comments, one participant called on the government to increase financial support for IEPTs seeking to enter the workforce and practice their profession, as this would make the bridging program accessible to greater numbers of IEPTs:

*“They should find a way of supporting foreign trained physiotherapist who are coming in to Canada to be able to fit into the system... There are students who go to university here, they get loans from the government and then they are able to finish their education. If the government can support an internationally trained physiotherapist, support their families financially so that they can focus on the program, the program is for the benefit of the economy ... And at the end of that we will pay the money back to the government, the government does not have anything to lose, this is the kind of support that we want from the government.”*

## Lessons Learned

Asked about the advice they would pass along to other bridging programs, stakeholders and participants offered a variety of insights:

- A thorough intake assessment process at the beginning of the program is critical to understand participants’ levels of knowledge, skills and the specific gaps that need to be addressed prior to entering practice.
- Considerable flexibility is needed in program format and content to allow the program to be customized according to participants’ varied needs.
- It is important to ensure basic levels of English language proficiency to enable learners to move forward as a group. The decision to include a language requirement for OIEPB was made early on and was set to correspond to University of Toronto admission qualifications. Participants raised concerns, however, that OIEPB standards were higher than those required by the Alliance to write the national exams. Participants recommended greater efforts to inform IEPTs about OIEPB language standards by posting information on a website specifically for internationally educated professionals or through Canadian immigration officials,

- Building cultural competence is as necessary as developing professional competence. Several stakeholders emphasized the importance of including an introduction to the Canadian health care system within the program. Cultural competence includes the ability of the program to accept and honour the experiences brought by IEPTs to the program, while acculturating them to the Canadian health care environment.
- Bridging programs must be fully aligned with accreditation requirements and competency profiles. The curriculum should provide participants with case-based scenarios and practice exams modeled after the national examination. This requires the close involvement of regulatory and licensing bodies in program development, as well as buy-in from employers and feedback from IEPTs.
- Participants recommended more detailed orientation on what to expect from the program and the internship experience in Canadian work settings.

## Medical Laboratory Technology

### Entry to Practice

Medical laboratory technology (MLT) is regulated in seven Canadian jurisdictions. To register with the Ontario regulatory college, internationally educated medical laboratory technologists (IEMLTs) must first go through prior learning assessment (PLA) by the Canadian Society for Medical Laboratory Science (CSMLS). Before the PLA process can begin, academic and educational qualifications must be evaluated through World Education Services (WES) or International Credential Evaluation Services (ICES). Language proficiency is also required for CSMLS prior learning assessment, through any of the following tests: TOEFL, iBT, IELTS (A or G), CanTest or MELA. A minimum of Canadian Language Benchmark (CLB) 6 is required at application, and a minimum of CLB 8 is required to write the certification exam.

Across Canada, CSMLS receives anywhere from 100 to 300 applications from IEMLTs each year. Once educational qualifications have been evaluated and language testing completed, CSMLS will determine equivalency to Canadian standards and eligibility to write the national examination. The CSMLS has developed two online tools to assist IEMLTs with the certification process. The Competency Rating Booklet lets IEMLTs compare past education and experience to the required competency profile, while the PLA online self-assessment helps to identify knowledge gaps. The average cost of certification for internationally educated medical laboratory technicians is about \$4,600, and the process takes approximately two years (CSMLS, 2009).

More than 90 per cent of IEMLTs are assessed as having significant educational gaps that do not meet standards for licensure and are provided with learning plans that identify courses to help them address the gaps (CSMLS, 2009). Of these, approximately half are eventually deemed eligible to write the national certification examination. About 40% pass on the first attempt, 13% on the second attempt, and 13% on the third or later attempts (CSMLS, 2009). By comparison, 2012 first-time pass rates for Canadian educated graduates ranged from 85 to 94%.

Although the sample size was small, an analysis of the examination results of Ontario IEMLTs between 2004 and 2007 suggested that applicants who completed bridging programs were more likely to pass the certification examination and entered the workforce faster than IEMLTs who did not complete a bridging program (Grant, 2009). In 2009, a CSMLS Task Force recommended the expansion of bridging programs to support high-quality laboratory services, patient safety and improved career outcomes for IEMLTs. While the cost of full bridging program tuition was recognized to be higher than fees for individual upgrading courses, bridging programs were expected to significantly shorten the time required for IEMLTs to pass the national examination successfully and gain employment in their profession (CSMLS, 2009). The College of Medical



Laboratory Technologists of Ontario (CMLTO) also recognized clinical placements undertaken during bridging programs as contributing to the currency practice hours necessary for provincial registration.

A 2010 resource booklet for internationally educated professionals identifies the following postsecondary bridging program options for IEMLTs:

- MLS Professional Qualifying Program at British Columbia Institute of Technology (on hold since 2010 pending an investigation into the availability of sustainable clinical placements)
- Access & Options at the Michener Institute for Applied Health Science (cancelled for the 2013 winter session due to low enrollment numbers)
- Bridging Program for Medical Laboratory Technology at the McMaster-Mohawk Institute of Applied Health

The International Technologists Bridging Program at Diagnostic Services of Manitoba is also listed and consists of 12 distance courses delivered by the Mohawk Bridging Program.

In 2011, CSMLS received federal funding to develop a self-directed bridging program to provide IEMLTs with tools and resources to help meet their learning plan requirements. The program includes a revised list of approved refresher courses and an “ideal clinical placement blueprint” to help IEMLTs remediate gaps identified in the credentialing process. These resources were launched on the CSMLS website in January 2013. Online exam preparation resources and video clips are also being developed with funding from the Government of Ontario.

## Mohawk College MLT Bridging Program

### Overview

The Mohawk College Bridging Program for Medical Laboratory Technology was launched in 2002. The program is designed to help students become capable of writing and successfully passing the certification exam and subsequently to gain employment. The nine-month program consists of classroom theory and laboratory sessions at the college, along with a clinical placement to expose IEMLTs to Canadian health care settings. The program includes sector-specific language courses and preparation for the CSMLS competency-based exam. Participants can consult with the program coordinator and customize courses to develop an individual learning plan. Participants who successfully complete the program are awarded a Mohawk College diploma.

### Initiation and Development

In 2001, the Canadian Society for Medical Laboratory Science issued a report on human resource shortages among medical laboratory technologists and called for coordinated federal and provincial action to address human resource challenges. The following year the Government of Ontario, through the Access to Professions and Trades Unit of the MTCU, announced funding of \$15.5 million over four years for bridge training projects. Given the human resource pressures facing the medical laboratory science profession and an increase in the number of internationally educated medical laboratory technologists seeking licensing, Mohawk College worked with CSMLS to develop a proposal for a bridge training project.

*“There was a lot of learning that took place at that juncture. There had been the pharmacy program and then shortly afterwards this call for proposals went out and there were 15 bridging program projects that met several times during the project phase to discuss lessons learned and challenges we were facing. That was tremendously helpful because we found that we were reinforcing the ideas, identifying common problems and hearing about some innovative solutions. It was a wonderful process to be part of because there was a lot of support, a lot of interaction with other professions.”*

The curriculum for the pilot program was developed over a nine-month period to parallel CSMLS competencies. Mohawk College’s regular medical laboratory science program had recently closed, but the college had much faculty expertise and equipment available, as well as connections with the community for clinical placements. A team of faculty members worked together on curriculum development, with assistance from local hospital clinicians. During pilot implementation, ongoing changes were made to both the content and the sequencing of courses in response to feedback from employers and IEMLT participants. Following the pilot, the bridging program became designated as a regular full-time college program, requiring IEMLTs to apply for admission through the Ontario College Application Service (OCAS) and pay tuition to the college rather than directly to the program. The full-time model provided participants with access to financial assistance through OSAP but lacked flexibility to accommodate participant and employer needs (for example, to adjust the scheduling of clinical placements). It also created administrative difficulties in accessing the revenue generated by participant tuition fees. IEMLTs who only took one or two courses were required to pay the full first semester tuition in July and wait for a refund, while budget resources were not consistently available for operational activities, such as payments to clinical sites.

In 2005, the program was transferred to the continuing education department and has been integrated into the college’s regular continuing education offerings. This enhanced program scalability, since new course sections can be added as needed in response to enrolment demand (subject to instructor availability). Another change has been the introduction of clinical simulations and case histories, as well as the implementation of distance education course delivery.

Although Mohawk College no longer offers a regular medical laboratory science program, many of the current bridging program instructors were involved with the former program as faculty or students. Other instructors are employed as full-time laboratory technologists. All instructors are part-time faculty.

## Program Delivery

The program is nine months in length and delivered over three semesters of study from September to May. The full program involves in-class sessions or lab simulations four days a week (from 12:45 pm to 8:30 pm), followed by full-time clinical placements in the second and third semesters. The curriculum consists of 655 hours at the college with a focus on content and language, and 675 clinical experience hours with a focus on knowledge application. Customized programming is also available for IEMLTs who are unable to afford full program tuition or who want to address specific gaps. All courses are available in distance education format, which creates the option of in-person or online classes. Distance education offers interactive learning platforms, including classroom webcams, webinars and online chat capability, and is delivered through e-learning for course materials and Contact North for online lectures. In 2012, 11 students were admitted into the full program, a decrease in enrolment from previous years.

A variety of methods are used to assess participant performance. All theory-based courses include final examinations. Other courses use presentations, assignments and quizzes. For labs, students are marked on their demonstration of expected learning outcomes.

The full program consists of 23 courses. All course materials are available to participants online so students are not required to purchase a manual. The program begins in September with lecture and lab courses that

lay the groundwork for second semester simulated clinical and clinical placement. New term three courses were added in 2012 to align with the CSMLS competency profile and address national examination pressure points, including Assessment and Interpretation of Results, Quality Management, and Critical Thinking. The language components include an orientation to both health sector language and the Canadian health care system in the first semester, which familiarize IEMLTs with occupation-specific terminology and enhance listening and presentation skills. The third semester language component involves resume preparation, cover letter preparation and mock interviews with employer volunteers. The timing of the second and third semesters is made flexible in order to accommodate employer requests for the timing of clinical placements. Efforts are made to arrange placements close to participants' home communities, by reaching out to lab managers in other locations, and to organize placements that address specific gaps or learning needs. Employers are provided with some information about participants in advance of the clinical placement, such as the IEMLT's country of origin. The third semester offers an additional six-week clinical placement and a wrap-up of the full program curriculum.

**Table 3: Mohawk College IEMLT Program Outline**

	<b>Hours</b>
<b>Term 1 – Theory and Laboratory Sessions at the College</b>	
Sector Specific Language and Health Culture	54
Standards of Practice	15
Safe Work Practices	12
Specimen Procurement	18
Basic Laboratory Techniques	39
Instrumentation Theory	24
Instrumentation Lab	18
Basic Laboratory Techniques 2	30
Analytical Techniques 1 Theory (Principles of Electrophoresis, Chromatography, Osmometry, Immunoassay, Qualitative and Quantitative Biochemical Analysis)	42
Analytical Techniques 1 Lab	15
Analytical Techniques 2 Theory (Principles of Particle Counting Systems, Morphology of Cellular and Non-Cellular Elements, Hemostasis)	36
Analytical Techniques 2 Lab	14
Analytical Techniques 3 Lab and Theory (Immunology, Blood Group Systems and Blood Products)	27
Analytical Techniques 4 Lab and Theory (Bacterial Identification, Susceptibility Testing, Nucleic Acid Testing)	30
Analytical Techniques 5 Lab and Theory (Histological Techniques)	27
Sector Specific Language & Health Culture 2	30
<b>Term 1 Total</b>	<b>431</b>

	Hours
<b>Term 2 – Clinical and Language Sessions</b>	
Clinical Experience 1 (12 week block)	225
Clinical Experience 2	225
<b>Term 2 Total</b>	<b>450</b>
<b>Term 3 – Theory and Clinical Sessions</b>	
Assessment and Interpretation of Results	60
Quality Control and Quality Management	60
Clinical Experience 3 (6 weeks)	225
Case Studies, Exam Preparation	30
Introduction to Molecular Techniques	44
Sector Specific Language & Health Culture 3	30
<b>Term 3 Total</b>	<b>449</b>

The tuition fee for the full program is approximately \$10,000. Bursary assistance of up to \$5,000 is available from the MTCU Ontario Bridging Participant Assistance Program (OBPAP) to help offset the cost of tuition.

## Recruitment

The program webpage on the Mohawk College website and the information sessions organized by the program serve as the main sources of recruitment information. In addition, information is provided by CSMLS to IEMLTs who have applied for certification. Other methods of recruitment include Health Force Ontario presentations for internationally educated technologists, lunch-and-learn sessions for local health care providers and positive word of mouth from past participants. Advertisements are placed in sector publications such as *Hospital News* and immigrant media such as *Newcomer Magazine*. Occasionally, program representatives are invited to make presentations for newcomer and settlement agencies.

## Admission

To be eligible for the bridging program, applicants must have completed the CSMLS Prior Learning Assessment process and submitted the results of the assessment. Candidates whose PLA is in progress may be considered for admission. All applicants are required to pass the English assessment test (CanTest or equivalent) and demonstrate language proficiency of CLB 7. There is no fee to apply and applications are processed directly through the department of continuing education.

Candidates are asked to submit their prior learning assessment letter from the CSMLS, which provides verification that their documentation has been reviewed and gaps identified. The letter also provides information about candidates' employment history. The selection process includes face-to-face personal interviews with potential participants and an MLT base knowledge test. All internationally educated candidates must demonstrate English language proficiency and are required to participate in language testing at the college. Tests are conducted by an ESL faculty member, who is an instructor in the bridging program with a solid understanding of the medical lab profession. Applicants who do not meet language benchmarks are referred to ESL supports available at the college.

Enrolment for the full program is determined by the number of clinical spots available, since all participants are guaranteed a clinical placement. If there are more candidates for the full program than clinical places, participants are selected on the basis of the interview, the MLT knowledge assessment test and identified PLA gaps. Generally all IEMLTs interested in registering for individual courses are admitted. Additional sections are added if necessary, with numbers limited only by the availability of lab space and instructors.

Once clinical placements are filled, participants can enroll in any fall semester courses and the second semester clinical simulation. IEMLTs who are not offered admission often try to complete as much of the program as they can, with the hope that a clinical spot will become available. If a participant in the full program secures placements in their home community, a placement in one of the regular clinical sites will become available.

## Stakeholder Involvement

The program advisory committee includes program staff and an IEMLT participant/graduate, as well as representatives from CSMLS, the College of Medical Laboratory Technologists of Ontario (CMLTO) and clinical partners. Social media such as Facebook is used to facilitate ongoing contact with alumni and help alumni connect with each other. Graduates are also able to maintain contact through the program's e-learning platform. Alumni often use teachers as references and use the college job search assistance services. The Hamilton Regional Laboratory Medicine Program, LifeLabs, Mount Sinai Hospital and MedHealth are lead clinical partners, and several technologists participate as faculty.

## Evaluation

Evaluation indicators include the success rate of graduates on the certification examination, feedback from advisory committee members about student performance in clinical placements, and end-of-term student evaluations. CSMLS does not report formally on the performance of bridging program participants on the certification exam, but many IEMLT graduates share their examination results with the program. Results have consistently shown that IEMLTs who do not participate or participate minimally in the bridging program have a lower pass rates than full bridging program participants. Employment in their field is another measure of success, but these data are tracked informally through relationships with alumni. Quality assurance for the program curriculum is provided by CSMLS review of course content.

## Sustainability

The program's ten-year longevity is a demonstration of its sustainability, particularly since many of the other pilot bridging programs funded in 2002 have ceased operation. The program has been fully integrated into Mohawk College's department of continuing education diploma offerings. The use of technologists as part-time instructors rather than full-time faculty helps reduce operational costs and provides participants with additional networking opportunities. Since the college is not the primary employer, however, the right faculty may not always be available.

Continued sustainability relies on the program's ability to find the most efficient delivery options by maximizing enrollment and minimizing the number of deliveries. Currently, about half of all participants use distance learning, reducing delivery costs while increasing the program's reach. The program has an affiliation with Diagnostic Services Manitoba to deliver online courses with an initial in-person meeting to introduce participants to the web-based tools, and a "lab intensive" requiring participants to come to Mohawk for one weekend. Clinical placements for participant are arranged in Manitoba.

Improvements in efficiency and the use of resources are made by tracking student progress through the course to review timing of course offerings, to consider whether every course should be offered every term.

Some concerns were raised that competition with other bridging programs for the same IEMLTs could affect the continued viability of the program.

## Key Strengths/Successes

Staff, faculty and partners identified the bridging program curriculum as key strengths of the program. Other strengths related to the quality of faculty and the strong relationships developed between faculty, participants and clinical partners.

### *Program Curriculum*

- The program offers individualized programming to meet participants' specific learning needs, with flexible course delivery.
- The comprehensive and well-rounded curriculum provides participants with strong theoretical knowledge, with additional training in the skills needed for workplace success including sector-specific language, assessment and interpretation, and quality control. Case histories and exam preparation enhance the ability of participants to pass the national exam.
- The program familiarizes participants with the Canadian health care system, including standards and expectations within the Canadian workplace, the roles of various health care providers and the importance of communication skills to workforce entry.
- The curriculum is responsive to participant needs and the competencies IEMLTs must demonstrate on the CSMLS national examination. A new course on critical thinking was developed to address areas of poor exam performance.
- Lab simulations were viewed as a key to success in preparing students to enter their clinical placement and giving them confidence in their abilities. On-the-job learning through clinical placements integrates participants into actual hospital settings and lets them experience work with a team of health care professionals.

### *Faculty and Stakeholder Relationships*

- The instructors are experts in their fields and strongly committed to the program, with very little turnover since the program was launched in 2002. Instructors have worked hard to gain proficiency in blended learning.
- Faculty and staff praise the program coordinator as “the glue that keeps everyone together.”
- Participants have the opportunity to network with technologists who are working in the field through their interactions with instructors and clinical supervisors.
- The cohort model creates a community of IEMLTs who provide peer support for each other.

### *Challenges/Gaps*

The main challenges that were identified by faculty, staff and partners focused on the struggle for clinical partners, curriculum gaps and facility limitations, program delivery and funding.



### ***Clinical Placements***

- Securing clinical placements was described as a major challenge, particularly when a single employer is dealing with requests from multiple institutions. Some employers, particularly new clinical partners, resist taking IEMLTs and must be informed of about the educational backgrounds and work experience of bridging program participants, including the number of hours completed at Mohawk prior to clinical experience. Finding placements for distance education students in their home communities is difficult as it requires cold calls to local employers.
- Cutbacks to hospital funding are limiting the availability of personnel to supervise participants and hospitals may worry about the insurance implications of offering clinical placements.

### ***Curriculum Gaps and Facility Limitations***

- It was felt that participants would benefit from additional practical, hands-on training and longer placement lengths.
- A recommendation was made for more training on different hospital computer systems, to give participants more experience entering lab results.
- Without a regular medical laboratory technology program, participants do not have access to a fully functional lab. Part-time instructors lack office space and filing cabinets for storage, and must supply their own equipment and materials.

### ***Program Delivery***

- Balancing online instruction with opportunities for personal interaction and participant engagement was recognized as a challenge, particularly for teaching of language and communication skills.
- Closer connections could be established with other bridging programs, such as the Occupational Therapy Examination Preparation and Placement (OTEPP) program located in the same building, to share experiences working with internationally educated health professionals.
- Some stakeholders mentioned challenges related to understanding and dealing with cultural norms. They reported employer concerns about IEMLTs not looking them in the eye, personal experiences with gender role expectations, and the emphasis within many IEMLTs' educational backgrounds on rote learning and memorization.

### ***Funding***

- Program costs were significant for participants. While the OBPA bursary assistance is available to Ontario residents, it does not apply to IEMLTs from out of province, who face both tuition costs and travel and accommodation costs for the lab intensive component of the program.
- The PSE funding model requires cost recovery for continuing education courses.
- Some stakeholders questioned the lack of government involvement in providing base funding for bridging programs.

## **IEMLT Participant Perspectives**

### ***Key Strengths/Successes***

IEMLTs noted the key strength of the program to be the Canadian workplace experience and training related to how to work effectively in the Canadian context.

*“The bridging program is designed in such a way that it not only helps you theoretically and practically but it has courses in it that help you to fit into a work environment. There are English courses and there are other courses that help you with those soft skills, and that is what I recognized with Canada in the work environment. It is not about how much you know... but it is also part of fitting into a team, which is the opposite to where I come from. [...]Team is not important in my country, it is just knowing your work and that’s it. Here it is team.”*

*“Getting the Canadian experience ... and the fact that they had a clinical placement for you that they provided was really good. To actually get to work in the lab and see what they do differently from you, that was the outstanding point.”*

## Challenges/Gaps

IEMLT’s echoed challenges identified by other stakeholders, particularly the financial barriers, but also pointed out where improvements could be made. Suggested improvements included having greater academic support available outside of courses and inviting successful IEMLTs to share their experiences with the class.

*“\$10,000 is just too much for immigrant.... as an immigrant we have to first think of how to save up just a little bit so we can afford the day to day basics and after that thinking about spending \$10,000! And when you go to the bank and you ask for student loans they lend they don’t give that to you, not if you are an immigrant, you have to develop credit history.”*

*“Maybe have somebody that you can go to if you have a problem, because most of the teachers they are working and they might not always be available. Have someone else that can be available for you to ask questions in your courses.”*

*“If they could organize once in a while, like every two or three months, a foreign trained person that is working presently to come and address the whole class to encourage them. Because there was a time that I was just tired of the whole thing and I asked what have I come here to do? I was so discouraged. So if session like that can be coming to offer some encouragement, to say don’t worry you will make it ...”*

## Lessons Learned

Stakeholders offered the following pieces of advice to bridging program administrators:

- Flexibility and adaptability is required for each bridging participant and their individual learning needs.
- Efforts should be made to understand participants’ different cultures.
- Faculty with expertise in the field and committed staff are essential, as are proper equipment and facilities.
- The language component of the program should incorporate a mix of resources and include both occupation-specific and more general materials.
- Undertake to fully assess the need, the demand, and options for sustainability, and build on research that has already been conducted. Look for opportunities to share resources and experiences with existing programs and leverage institutional assets that may be available.
- Close collaboration from the outset is needed with regulatory colleges to ensure that the curriculum addresses all entry-to-practice requirements.

## Michener MLT Bridging Program

### Overview

Since 2002, the Michener MLT Bridging Program has been offering in-class technical training and simulated laboratory experience to help internationally educated medical laboratory technologists prepare to write the CSMLS examination and develop their knowledge of the five medical laboratory science disciplines. The program is delivered in a modular format only, with participants able to select the courses that best meet their needs. Since it operates on a full cost recovery basis, the program's availability and the selection of courses is dependent on levels of enrolment.

### Initiation & Development

Michener's MLT bridging program was originally launched in 2002 as the Access and Options program. It was one of 15 bridging projects involved in the first round of pilot bridging program funding administered by the Access to Professions and Trades Unit of MTCU. Funding was announced for three years to provide bridging assistance for internationally educated health professionals in MLT, medical radiation technology, and respiratory therapy.<sup>1</sup> Input on standards and content was solicited from employers and the regulatory colleges. The Office of Access and Options was created to oversee the development and implementation of the programs; however, this program is now known as the Michener Bridging Program.

The Access and Options program offered theory review and laboratory experience delivered over a nine-month period. These courses were run simultaneously, requiring IEMLTs to select one or the other. The program included a clinical placement component, with employers paid to provide clinical supervision. When the pilot funding ended, a new bridging program was introduced to provide competency-based training that combined theory and hands-on lab components for each of the five MLS disciplines. The new program revised and updated the curriculum that had been developed for Access and Options. Many of the Access and Options instructors were all working technologists who contributed their knowledge and expertise to the development of discipline-specific curriculum and were involved as bridging program faculty.

### Program Delivery

Courses covering theory review and simulated laboratory work are offered over a 15-week period starting in September or January. One of the main objectives of the bridging program is to fill the gaps that have been identified in the prior learning assessment process. These gaps are addressed through a theory review of each of the disciplines of medical laboratory science and practice in the laboratory. Throughout the courses, MLT students interact with other students and the instructors, which gives them a chance to practice their communication skills and to work with the equipment used in Canada. Adjustments are made to the program to respond to student needs.

To allow MLTs to integrate theory with their lab practice, exams on each discipline are given after students complete the theory and the laboratory work. One teacher typically teaches both components to further integrate theory and lab work. The faculty in the bridging program is composed of technologists working in the field, some of whom teach in both the IEMLT bridging program and the full-time regular MLT program.

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<sup>1</sup> The respiratory therapy program was closed because of low enrolment.

Practical assessment, assignments, quizzes, tests and exams are used to assess participant progress. Theory components are being considered for online access to make the courses more widely available across Ontario and Canada.

Bursary assistance of up to \$5,000 is available from the MTCU Ontario Bridging Participant Assistance Program (OBPAP) to help offset the cost of tuition.

## Recruitment

IEMLTs submit their credentials to the Canadian Society for Medical Laboratory Science (CSMLS), which evaluates their prior learning and work experience. The regulatory college issues a report of the gaps that should be addressed prior to the licensing exam. IEMLTs can apply with this information to the bridging program. Applications are evaluated for admission to the program.

## Admission

Applicants must be landed immigrants or permanent residents. They must have their credentials and work experience evaluated by the Canadian Society for Medical Laboratory to determine their eligibility for the licensing exam. Applicants must also complete an MELA test (an English language assessment for health care professionals) with a minimum score of 8 in all four components (listening, speaking, writing and reading). They also need to submit an application form, their health record and an OBPAP bursary application form with supporting documents. Applicants are encouraged to complete a course for IEHPs who want to be licensed in Canada. Two programs are recommended: *Orientation to the Canadian Health Care System, Culture and Context* offered through the University of Toronto or *Understanding the Canadian Health Care System: A Course for Internationally Educated Health Professionals* offered by HealthForceOntario.

## Evaluation

Students are asked to complete an online course evaluation for each course in the program and this data is shared with the course administrators and instructors.

## Sustainability

The initial pilot funding provided by MTCU Access to Professions and Trades Unit lasted for 2.5 years. The bridging programs were expected to become self-sustaining with funding through cost recovery. Some candidates qualify for tuition support via the Ontario Bridging Participant Assistance Program funded by MTCU. Due to its nature as a cost recovery program, the program can only run with sufficient enrolment. The program was scheduled to run in the winter of 2013, but was cancelled due to insufficient registration.

## Key Strengths/Successes

Staff, faculty and partners identified the bridging program curriculum, composed of both theoretical and practical components, as the key strength of the program. Other strengths identified were the human and physical resources available to support the program, and consultation with stakeholders in developing the program.

## Curriculum

- The curriculum combines theoretical and laboratory practice. This combination is important to each discipline for its relevance to the national certification exam and working in Canada. The practical

skills improve the IEMLT's employability by familiarizing them with the equipment used in Canadian labs.

### ***Resources***

- Access to Michener facilities and equipment benefits the program. Students have access to the learning center at the Michener Institute, since the program runs according to Michener's full-time program policies.
- Strong support for the program from the dean of students.
- All program instructors have current work experience in the field.
- The administrative staff is on-site and accessible.

### ***Consultation with Stakeholders***

- Stakeholders were consulted in developing the program. This process ensures there are sponsors for students who graduate. A bridging program should provide support in finding employment for students after graduation.

### ***Challenges/Gaps***

The main challenges stemmed from the length and format of the program. Lack of clinical placements, the cost of the program, the need for cultural education and finding employment were all identified as additional challenges for participants.

#### ***Length and format of the program***

- The program is offered in a condensed format with classes scheduled in the evening and laboratory sessions held on the weekend. This schedule allows for a faster review of the material for the certification exam, but requires mental stamina for longer class sessions.

#### ***Cost of the program***

- Tuition poses an issue for most IEMLTs, as "survival job" costs cannot cover tuition as well as living costs. Although some subsidies exist, these do not sufficiently aide IEMLTs in financing tuition and licensing fees.

#### ***Lack of clinical placement***

- IEMLTs do not get enough exposure to the clinic setting in Canada or sufficient opportunities to establish networks with employers. The simulated experience is not a satisfactory substitute for clinical placements.

#### ***Finding employment for graduates***

- IEMLTs require assistance in entering the workforce even after passing the national exam. Graduates are still having difficulty in finding work after licensure.

### ***Lack of a focus on the cultural component***

- IEHPs typically focus on developing the technical and clinical skills required for certification and are unprepared for the culture of a Canadian workplace. Courses that focus on a cultural understanding would increase IEHPs' successful integration into the Canadian workforce.

## **IEMLT Participant Perspectives**

### ***Key Strengths/Successes***

IEMLT participants responded positively to having a face-to-face bridging program with opportunities to communicate with classmates and instructors in person:

*"We're lucky we have this bridging program compared to the [correspondence]. The [correspondence] is just like you do everything on your own, you cannot even ask. You can't ask your teacher. This program is different like having your laboratory on the weekends and you get to talk to other people and you have their opinions and you can ask the teacher face-to-face so I think that is a good part like having the bridging program and I hope it continues."*

The IEMLTs agreed with stakeholders that the mix of theory and practical experience was a strength of the program:

*"I actually like the bridging program. It is helpful. The theory is good. In the lab part, we don't do everything, just what we have to do, maybe because of the resources. But otherwise, if you just commit yourself and study and follow the program you are good to pass this exam. I like it."*

*"They put us in the setting that was simulated but it was like how you worked in the lab. All the procedures that you have to follow and the way it's reported and how it stands. [...] For me, that was the most important because it actually put all the theory that we had in practice and they showed us step-by-step how it's done, how it's reported, and how I can work in the lab."*

The bridging program also introduced IEMLTs to Canadian equipment and prepared them for their certification exams:

*"In the laboratory because the machines that we are using back home are different from here so the machines are updated so we get used to that so it will be easier for us to go to be on the job in the real laboratory."*

*"I don't think the exam was as difficult because with the Bridging Program I took initially it actually was pretty much brought all the standard things that I had to know to pass the examination. It was a big review of the competencies that I needed to pass that exam."*

The IEMLTs responded positively to the instructors in the program, noting that they were experienced professionals and were responsive to student needs:

*"I believe the best thing about this program is that the people or the teachers who are really doing it are professional people who are practicing in real life."*

*"All our teachers are fantastic [...] They offered extra time even for example if the subject is done they will tell us okay you can call, you can email with whatever questions you have."*



## Gaps/Challenges

A challenge noted by IEMLTs was that the program focused more on reviewing content than on supporting learners in passing the exam:

*“I want to say the bridging program according to the name it is a bridging program not overview program so maybe they should focus on how to help us to pass the examination not just review our basic knowledge.”*

*“When I received the letter with the information of the school it was written that they will see our level and see in what we need to progress and I expected that kind of program and like he said it was more general, it was not to forecasting what the exam would ask us.”*

*“We didn’t have too much time to do the practice for the exam. It was actually the short part at the end of the Bridging Program. If we had more practice or preparation for that part, I think that would help a little more. You have to prepare for writing the exam as well. They do tell us, and it was actually only two classes, on what to expect from the Canadian certification exam. I would think I would need a little more, at least double the time, to practice more on that.”*

Many participants commented on the lack of support to find employment after graduation as a disappointment:

*“I think they have to have some kind of continuous support after you graduate. They have to give you some kind of support on how you are going to get a job. And finding a placement and we need that more than passing the exam. Passing the exam you can actually read and do it by yourself but you need help after you pass the exam, where you going to go and how you are going to go.”*

*“What we need is networking, linking with hospitals.”*

*“My biggest challenge after I get my [certificate] was to find a job because those people who had a clinical placement find a job right away. There are a lot of jobs out there but they need to know you. If they see you in their lab, they’ll probably hire you, so clinical placement is very important [...] it’s very hard to find a job without clinical placement.”*

Some IEMLT participants had concerns about the content of the program:

*“The WorkForce Ontario training is a waste of time because they tell us about credential evaluation all that stuff which we already know. It is not program or profession specific to this program it covers everything the overall.”*

*“Many of my classmates they didn’t get any proper experience in laboratory like taking the blood. Yet there is no explanation so that was found is a hindrance for many of us because if many of us were able to get that here we don’t need an extra certification.”*

*“The online course, it’s completely not helpful ... They tell you what books you have to buy and then you read the book and then you ask a question and I don’t think that is learning. They have to find a way to engage students even though there is no way you ask your teacher, there is no way you’re discussing. It is like reading a book by yourself.”*

IEMLT participants expressed concerns about the cost of the program and the timing of the payments:

*“First the amount of money we had to figure out if we could afford it or not. But we could apply for a back system or a bursary. There was a bursary but if you are not accepted then you have to pay from your pocket. But it was a great offer ... the bursary was a big help for us.”*

To improve the program, it was suggested that more time in the lab be provided and that a practicum should be established:

*“We'll need a little more practice time with simulated experience. The theory was done, and we had all the reference material to study and everything, but we had a very short time for the practicum, for the simulated experience. It was effectively enough - good enough - but I think it would be better to have a little more practice.”*

*“What would be really useful would be a placement in hospitals labs. Working in hospitals would be more helpful than the practical we do during the bridging program [...] Those who do the bridging program and the students of the school are very different because they go to the internship, they do placement in hospitals, in labs, and they actually get better practicing so they understand better, so what we didn't have in the bridging program, what the bridging program lacked is that placement.”*

## Lessons Learned

Stakeholders and program participants offered the following pieces of advice to bridging program administrators:

- Students should have all the theory and the laboratory components, but also clinical placements. There should also be introductions to the health care system and other related concepts.
- Instructors should have opportunities to share their experiences with other instructors to strengthen the program. There should also be connections between bridging program and full-time program instructors.
- Learners need face-to-face interaction with instructors and other students. This contact will help them to learn about the Canadian environment and practice their skills.
- There is a need to balance theoretical learning with providing IEMLTs preparation for the national exams and an opportunity to integrate into the workforce.

## Medical Radiation Technology

### Entry to Practice

Medical radiation technologists are regulated in Alberta, New Brunswick, Nova Scotia, Ontario, Quebec and Saskatchewan. Only Alberta, Ontario and Quebec perform IEMRT credential assessments; the Canadian Association of Medical Radiation Technologists (CAMRT) provides this service for all other provinces. All provinces with the exception of Quebec recognize the CAMRT certification exam as the certifying exam for entry to practice. Quebec has its own entry-to-practice exam. However, reciprocity exists between the CAMRT and Quebec, with both parties recognizing the other's entry-to-practice exam.

In order to be certified, potential IEMRTs must have their credentials assessed and be recognized as eligible to write the certification exam, and then pass the national certification exam. Credential assessment includes

a review of the educational program completed, clinical skills, work experience, and French or English language skills. The regulatory college may establish additional requirements.

All parties conducting an assessment charge a fee and the application must be accompanied by the following documents:

- a notarized copy of a diploma or degree
- a notarized transcript of marks
- course outlines describing the theoretical and clinical courses completed
- work experience from within five years
- a letter from the most recent employer
- proof of registration with a regulatory college, if applicable
- two reference letters
- proof of language skills in French or English
- documentation of professional development

The assessment process can take up to three months. Once IEMRTs are eligible to write the exam, they can attempt the exam four times within a five-year time period. The cost to take the exam is \$800. If they are still unsuccessful, they have to complete an accredited program before applying to write the exam again.

CAMRT recommends the Potential to Prosperity website as a source of information for IEMRTs. CAMRT also offers free online readiness self-assessment tools to assist IEMRTs in assessing their eligibility to write the exam and work in a Canadian context. There are online exam preparation courses and practice exam questions available for a fee.

Bridging programs for IEMRTs are offered by the Michener Institute in Toronto and the Northern Alberta Institute of Technology (NAIT) in Edmonton.

## Michener MRT Bridging Program

### Overview

Since 2002 the Michener Institute for Applied Health Sciences has offered bridging programs for internationally educated health professionals, including medical radiation technologists. The MRT bridging program is designed specifically to provide preparation for IEMRTs who were qualified outside Canada and who have been deemed eligible by the College of Medical Radiation Technologists of Ontario (CMRTO) to take the relevant CAMRT certification examinations. Individualized programs of study are developed to help participants prepare for the certification examination. There is no requirement by the regulatory college that the applicant complete these courses.

Approximately 242 IEMRTs have enrolled in one or more courses since the program began. Currently Michener has IEMRT students engaged on a number of different levels (e.g., in the process of courses, assessments, mock exams or clinical placements).

### Initiation and Development

Michener's MRT bridging program was launched in 2002 as the Access and Options program. It was one of 15 bridging projects involved in the first round of pilot bridging program funding administered by the Access to

Professions and Trades Unit of MTCU. As noted in the Michener MLT bridging program case study, three years of funding was provided. Input on standards and content was solicited from employers, licensing bodies and regulatory colleges. The Office of Access and Options was created to oversee the development and implementation of the programs.

## Program Delivery

This intensive, 15-week program is offered on evening and weekends. Students must take all courses in the program, including theory and simulated laboratory sessions, totalling 144 hours. There is no clinical component. The primary objective of the program is to prepare students to write the CAMRT exam. Throughout the program, students interact with each other and the instructors, giving them a chance to practice their communication skills and to work with the equipment used in Canada. Two of the offered courses, *Radiological Technology Assessment* and *Basic Skills Assessments*, provide a formal evaluation of the participant's performance. In the other courses, a variety of methods are used to assess participant progress, including pre-tests, practical assessment, assignments, quizzes, tests and exams.

The program costs \$5,000, which includes tuition and class notes. Bursary assistance of up to \$5,000 is available from the MTCU Ontario Bridging Participant Assistance Program (OBPA) to help offset the cost of tuition.

## Recruitment

IEMRTs submit their credentials to the College of Medical Radiation Technologist of Ontario (CMRTO), which evaluates their prior learning and work experience. The regulatory college issues a report that shows the gaps that should be addressed prior to completing the CAMRT exam. IEMRTs can apply to the bridging program with this information. Applications are evaluated for admission to the program.

## Admission

Applicants must be landed immigrants or permanent residents. They must have their credentials and work experience evaluated by the College of Medical Radiation Technologist of Ontario (CMRTO) to determine their eligibility for taking the CAMRT exam. Applicants must also complete an MELA test (an English language assessment for health care professionals) with a minimum score of 8 in all four components (listening, speaking, writing and reading). They also must submit an application form to be considered for the program.

Applicants are encouraged to complete a course for IEHPs who want to be licensed in Canada. Two programs are recommended: *Orientation to the Canadian Health Care System, Culture and Context* offered through the University of Toronto or *Understanding the Canadian Health Care System: A Course for Internationally Educated Health Professionals* offered by HealthForceOntario.

## Stakeholder Involvement

Input during development was collected from the educational sector, the government, IEHP employers, the hospitals and licensing bodies. Licensing bodies were key in ensuring that quality standards were met and the curriculum was comprehensive.

## Evaluation

The program is evaluated through online course evaluations. Additional indicators of success include performance on theoretical and practical course exams, and informal feedback on CAMRT examination pass rates and successfully gaining employment. Michener indicated that they will be implementing a strategy to capture examination pass rates of graduates retroactively as well as for the future.

## Sustainability

The program is financially sustained by the IEHPs that take part in it, so the program needs to maintain its credibility with IEHPs to be sustainable.

## Key Strengths/Successes

Staff, faculty and partners identified the focus on exam preparation and staff and institutional support as the key strengths of the program.

### *Exam preparation*

- The program focuses on preparing students to write the CAMRT exam. Students learn about the format of the exam and what to expect.
- The program curriculum meets the competency profile used for the exam. The CMRTO recommends the program to IEMRTs as a resource for exam preparation.

### *Staff and Institutional Support*

- Many instructors are IEMRTs themselves and thus are able to empathize with and support the bridging program participants in their course work and exam preparation. They provide a supportive learning environment.
- There is a clear contact person for administrative questions who can support staff and students.
- The Michener Institute has a strong infrastructure. Students have access to the resources of the institution including the library and the gym.

## Challenges/Gaps

The instructors and stakeholders in the Michener program identified challenges in attracting prospective students, helping in the development of language skills, and the lack of clinical placements.

### *Promoting the Program*

- Some IEMRTs see the program as an unnecessary delay to certification. The cost and time required to complete the program discourages them from registering.
- Occasionally students will share course notes with a friend to save on the cost of enrollment, but this sharing of information dilutes the content.
- IEMRTs do not always recognize the need to understand Canadian culture in the workplace.

## Language Skills

- Language skills prevent some IEMRTs from passing the exam, even after completing the bridging program. While there are language prerequisites for admission to the program, English skills continue to be a challenge for some IEMRTs.
- Specific language skills are needed to complete the exam successfully, which may not be the same skills needed to be competent in the workplace.

## Clinical Placements

- While placements are required for students in the full-time MRT program, there are few opportunities for IEMRTs. Employers are sometimes reluctant to take an IEMRT placement because they perceive a skill difference between IEMRTs and Canadian graduates.
- Clinical placements benefit IEMRTs by allowing them to experience the workplace and make connections with future employers, but opportunities are limited and competitive.
- More opportunities for clinical practice would prepare students for their practical exams and introduce them to the Canadian culture.
- Practical experience helps instructors to observe and evaluate what students have learned.

## Preparing IEMRTs for the Exam

- The certification exam is designed to test a wide range of knowledge that professionals may not have needed in their previous careers. It is challenging to review all of the necessary information.
- There is topic overlap in different parts of the program. While instructors feel that content should be reviewed to reduce duplication and save time, most instructors are part-time and there are not enough staffing resources to support this type of review.
- Students often want concrete examples of what to expect on the exam, and instructors feel that they need to explain that learning by memorization is not as useful as learning to understand the content.

## IEMLT Participant Perspectives

### Key Strengths/Successes

Current participants identified the practice examination as a strength of the program:

*“We have two examinations practice in the lab so we had to make a fast examination with a first patient and they noted us from the moment that we greet the patient to the end. We did this two times. We cannot see our strength and our weaknesses so it was good. Also the teachers themselves, I think they were very open, we could ask many questions even after the session, after the hours. It was appreciated.”*

*“In the radiology program I think the great strength is that they ask you to operate on a patient and then they point out what your strengths are and what your weakness is and they help you to improve. That is great, I think.”*

### Challenges/Gaps

Some participants felt that the program did not focus on the topics they needed to learn for the exam and required placement opportunities.



*“I was very disappointed in this program because this program just provided an overview. It didn’t help me to take the examination. They just gave you some basic information about professional knowledge and it didn’t focus on how to pass the examination.”*

*“Last year, I wrote the examination in May and usually there are 200 questions and about 80 questions about image PT, protection about radiography. 80 questions! When I think about that, patient care in the examination is like 15 or 20 questions. Even with 80 questions we did not study lot of what they ask in the examination, so it is like I’m lost.”*

*“The program itself is good but the placement side is not so good.”*

## Lessons Learned

Asked about the advice they would pass along to other bridging programs, stakeholders and program participants offered a variety of insights:

- Instructors who are IEHPs themselves provide unique insights. They are able to support and motivate students because they understand the challenges they are facing.
- It is important to explain to the students the purpose of the exam and how it is designed to test certain knowledge.
- Some students may be capable of passing a certification exam but they may lack the practical skills to do the job.
- It would be helpful to have information about how other English-speaking jurisdictions support IEHPs.
- There needs to be involvement from stakeholder groups like the Ministry of Health, employers and the licensing body. If any one of those stakeholders is missing a program is less likely to succeed.
- Many individuals are not aware of bridging programs even after they arrive in Canada. There needs to be more promotion of the programs overseas, and by clinicians in Canada.
- International students need more support to integrate into the Canadian culture, outside of their classes.
- An online program would not support IEHPs in making connections and integrating into the Canada context.

# NAIT Medical Radiological Technology Bridging Program

## Overview

The Northern Alberta Institute of Technology (NAIT) Medical Radiological Technology Bridging Program began in the fall of 2008 as a pilot project. The program took the form of an individualized part-time program intended to aid IEMRTs in assessing education and experience acquired outside of Canada. The program provides bridging education to help IEMRTs gain the required knowledge and skills for practice in Canada. A certificate is provided upon completion of at least four courses.

## Initiation and Development

NAIT’s program started in 2008 and was funded by Alberta Immigration to provide bridging for both MRT and DMS. The development of the program first started in 2007 with the overall program design. In 2008, the

courses began to be developed and the first courses were piloted in September 2008. The courses continued to be developed as the program was implemented, with each course ready in time for students to enroll as they progressed through the program. The last two courses were developed and ready for delivery in April 2010.

## Program Delivery

Students select courses based on their individual needs. An analysis provided by the program staff helps to offer guidance to each IEMRT as to which courses may help them the most. There is no set intake period for the program; students are able to begin courses at any time. This is done so that students do not lose time during their exam eligibility period. Students who are working are advised to take only one course at a time. A certificate is awarded for completion of at least four courses, though the certificate is not seen as a compelling motivation for students.

Students are very focused on passing the exam rather than looking ahead to gaining employment. For this reason, courses that are heavily focused on exam material, such as Radiological Imaging Procedures, are more popular than courses that focus on cultural material, such as Orientation to Canadian Health Care. Except for the computer skills course, all didactic courses are offered online. A list of courses and the number of hours required to complete the course is provided in **Error! Reference source not found.** **Error! Reference source not found.** To complete all courses would take a total of 417 hours. The online courses use assignments and exams to assess the student. There is an optional clinical practicum course; the student is responsible for securing their own placement though NAIT will offer assistance and direction. Once a site is secured, NAIT establishes a contract with the sponsoring site to administer the practicum course. During the practicum an assessment form is completed weekly and the student must complete a clinical manual.

**Table 4: NAIT MRT Program Outline**

Course	Hours
Medical Terminology	17 hours online
Orientation to Canadian Healthcare	30 hours in-class or online
Canadian Radiation Safety	24 hours online
MRT Occupational Terminology	51 hours online
Diagnostic Imaging Computer Skills	18 hours lab
MRT Clinical Assessment – Standardized Patient Simulation	10 hours lab
MRT Clinical Assessment – Phantom Simulation (Remediation path)	18 hours lab
MRT Clinical Assessment – Clinical Practicum (Remediation path)	240 hours – Radiology department
Didactic Review Courses, if required (Remediation path)	
Strategies for Writing the MRT CAMRT Examination	9 hours – online

During the pilot project, simulation courses were developed and trialed. Although the courses were very effective at evaluating the individual's clinical skills, the cost to offer these courses was too high to continue after the pilot funding ended.

Due to lack of funding, the one program staff member updates the program on a volunteer basis. The program is unlikely to be expanded because of the cost of adding additional courses.

## **Recruitment**

NAIT advertises the program through its publications and an open house. It also receives referrals from ACMDTT, CAMRT and CMRTO. During the pilot project advertising materials were sent to settlement agencies as well.

## **Admission**

All applicants to the MRT Bridging Program have had a document review performed by one of the following organizations: the Alberta College of Medical Diagnostic and Therapeutic Technologists (ACMDTT), the Canadian Association of Medical Radiation Technologists (CAMRT) or the College of Medical Radiation Technologists of Ontario (CMRTO). The process includes assessment of the applicant's education, language proficiency, work history and self-declared list of acquired clinical competencies. If the applicant is eligible for the national certification examination, then he or she is eligible for the MRT Bridging Program. Additionally, the ACMDTT may identify specific courses that the candidate must take before being deemed eligible for the CAMRT exam.

## **Stakeholder Involvement**

During the pilot project, program staff worked closely with ACMDTT. Staff approached the CAMRT and CMRTO to have the program recognized as an avenue to assist IEMRTs with preparation for the national certification examination.

## **Evaluation**

Students enrolled in the program are sent an evaluation survey to complete at the end of each course, but the response rate has been low. The program does not have access to exam pass rates for students because of confidentiality.

## **Sustainability**

At the completion of the pilot project, an additional three years of funding was provided. Once this funding ends, the program will need to follow the continuing education profitability model and will need 50 students per year to remain viable. This target is not likely to be achieved, and there is a concern that if no additional funding is provided, the program will cease to operate.

## **Key Strengths/Successes**

The program's strengths are its flexibility and its level of customization to the needs of each IEMRT. The online delivery method makes it widely accessible to learners and allows them to work while completing the program.

Staff reported that bridge program students have a lower pass rate than full-time NAIT students but a higher pass rate than IEHPs who do not take part in a bridge program.

## Challenges/Gaps

A key challenge facing the program is the limited number of qualified IEMRTs available to take the program. In order to be self-sustaining, the program needs a steady flow of students. Stakeholders noted that Canadian professional standards are very high, and IEMRTs often have difficulty meeting these. Many struggle with the language and medical terminology of the workplace. The gaps are often so large that a bridging program is insufficient to meet the needs of IEMRTs. Clinical capacity is a challenge as well. The full-time program at NAIT currently uses all available clinical placement spots, making it difficult to find placements for the bridging students.

## IEMRT Participant Perspectives

### Key Strengths/Successes

Students found that the program helped them prepare for the exam by reviewing knowledge for the exam and by introducing them to the Canadian context:

*“I expected to get the hints from the instructor for writing the CAMRT exam, or to get more practice for writing the exam, to touch the main topics. However, I found it is important to get review all the technology and knowledge about the MRT course I had learned, as well, to learn the Canadian MRT code of ethics, and to learn the work culture here. I feel I got the better understanding for the exam writing on this part. Also, it turns out that they are helpful for my professional practice. I like the course I took, which were chosen by my instructor.”*

*“I felt more and more comfortable and confident for preparation to writing the exam as I was learning the courses. I got good support from the program instructor. They are very experienced instructors. Also, the exam after every course was very helpful to build up my knowledge and confidence. I was strengthened by them mentally.”*

*“The program helped me a lot to learn how I should organize myself to prepare for the CAMRT exam.”*

Students who did not have access to local programs appreciated the online delivery:

*“I did not have any hesitation for applying as it was the easiest way for me to familiarize myself with the imaging procedures used here in Canada. Since I am presently in Montreal, I don't have many resources at my disposal to prepare myself for the CAMRT exam.”*

They also found that the program helped them to better understand the Canadian context:

*“I wanted a program that would help better understand the way medical imaging is practiced here in Canada as it's not the same in everywhere. In my country, the protocols used for different x-ray procedures are quite different. It was very important for me to learn that before taking my CAMRT exam. I benefited a lot from the program in this way.”*

## Challenges/Gaps

Some students would have preferred a face-to-face program or found that the distance delivery presented a challenge in accessing resources:

*“I prefer the course in class to that of online. I would concentrate more and think more by face to face communication and discussion.”*

Working while studying was challenging for students:

*“Finding time for the program was the big challenge for me. I worked as a full time aide in a hospital and felt very tired after work every day. So I felt tired and did not have enough time to study.”*

While not specific to the bridging program, many students found they did not properly understand the process to become licensed to work in Canada when they immigrated:

*“I took a long time to find the right path to my dream, being a MRT. I took 2 years to finish my Bridging Program and get the certificate. I could have saved some time if I planned better before I came to Canada. I want to tell people who are heading to MRT to get everything ready before you walk out from your country. Passing TOEFL and preparing your education documents and reference letters in advance.”*

*“I didn’t understand the process for becoming a licensed x-ray tech in Canada properly at that moment, though the immigration officer mentioned it to me during my interview for the application of immigration. I thought since I was an experienced X-ray tech, there is no doubt I could be easily hired by hospital or company. I ignored the factors that English is not my first language, especially the terminology.”*

*“I was asked to prepare the document for the ACMDTT registration, which took me a long time (about 6 months) due to the distance between China and Canada. [...] It was a hard work for me because I had to contact people in China to get their help. Later, I went back to China for those documents and got them all done at that time. So, it is really a good idea to get all your relevant documents done before you move here if one is planning to work as an MRT in Canada.”*

## Diagnostic Medical Sonography

### Entry to Practice

Diagnostic medical Sonography is not regulated in Ontario; however, most employers require registration with the Canadian Association of Registered Diagnostic Ultrasound Professionals (CARDUP) as a standard of proficiency and professional competency. CARDUP has introduced a written credential examination to ensure that registered diagnostic sonographers in Canada have the knowledge and clinical skills necessary for entry-level practice.

For registration, applicants require:

- documented proof of successful completion of a Canadian Medical Association (CMA) accredited diagnostic ultrasound education program or an equivalent ultrasound education program as recognized by CARDUP

- Successful completion of the CARDUP Clinical Skills Assessment (CCSA)
- Successful completion of CARDUP approved written examination(s)
- Payment of all required credentialing and registry fees

There is no language requirement to write the CARDUP exam but a minimum TOEFL score of 80 is recommended. The fees required to write the credentialing exam and register with CARDUP include a processing fee of \$100, as well as exam fees of \$200 (Core), \$250 (Cardiac) and \$400 (Generalist).

## NAIT DMS Bridging Program

### Overview

Launched in 2008, the NAIT DMS Bridging Program is designed to assess education and experience gained outside Canada and help internationally educated professionals the skills to work as sonographers in Canada. The program provides opportunities for internationally educated sonographers to upgrade their knowledge in order to meet the standards required by Canadian employers and to gain exposure to a Canadian workplace. The program includes didactic and laboratory-based training, and a clinical practicum to help prepare for work in a clinical practice.

Based on the results of the applicant's initial assessment, an individual program of studies will be recommended. It may include DMS refresher & upgrading program courses as well as bridging program courses and/or practicums. Upon successful completion of all courses recommended by the selection committee, a Continuing Education Certificate – DMS Bridging Program credential will be granted.

### Initiation and Development

NAIT's program started in 2007 as part of a one-time grant from Alberta Advanced Education and Technology (now known as Innovation and Advanced Education) that also funded the establishment of a medical radiation technology bridging program at NAIT.

The first pilot project student started a course in the fall of 2010. The program encountered many difficulties: it went through three coordinators and was supposed to have five students, but no eligible students were found prior to 2010. The pilot status resulted in high criteria to be met by possible students. Four students were found to be funded as part of the pilot. These criteria ended when the pilot ended.

### Program Delivery

Each student's program is customized. The coordinator assesses gaps and then suggests the courses needed to address them. The coordinator recommends a bridging program typically composed of *Canadian Health Care, Occupational Terminology*, a refresher course in one's specialty, a 24-hour practicum at NAIT (including simulations), and a two-week practicum at a potential place of employment. At the time of the interview, all of the students who had completed the two-week practicum did so at a hospital where a staff member worked.

The coordinator felt that courses on workplace culture are needed as well as English courses, because health care requires a high level of English proficiency. Language skills are currently assessed through ESL, CLBA, TOEFL or ILETS evaluations.



There are three instructors for the program. Students can contact the instructors but there are no face-to-face interactions or online lectures. Students are able to interact online through Moodle. Students are assessed through online quizzes and exams.

Practicums are scheduled according to candidate, assessor and lab/hospital availabilities. Practicums can be taken multiple times in order to gain more practical experience. Constant feedback is made available to students during the practicum and a summary evaluation is completed using the same evaluation form as the full-time program practicum students.

**Table 5: NAIT DMS Program Outline**

<b>Courses</b>
Orientation to Canadian Healthcare
Diagnostic Medical Sonography Occupational Terminology
DMS Bridging Simulated Case Studies – Generalist
DMS Bridging Simulated Case Studies – Cardiac
DMS Bridging Simulated Case Studies – Vascular
DMS Bridging Clinical Practicum 4 weeks
DMS Bridging Clinical Practicum 6 weeks
DMS Clinical Practicum 2 weeks
Patient Care in Sonography

## Recruitment

Information about the bridging program is distributed to Canadian organizations that work with immigrants. Current recruitment occurs through the NAIT website and through the CSDMS and CARDUP websites. There is also information on the CSDMS website

Since DMS is not a regulated profession in Alberta, NAIT has to actively recruit foreign-trained sonographers to participate and has had challenges identifying potential candidates. However, applications have been increasing.

About half of the requests for information are from non-qualified people who are not IEDMSs but have other credentials. Most are foreign-trained physicians and sometimes nurses.

## Admission

Applicants must qualify for the program through a structured process that includes the assessment and verification of credentials, work experience and clinical scanning skills. Candidates must apply for the DMS Bridging Program and successfully complete the assessment process. Eligibility is based on the following:

- Active registration in an accredited program such as CARDUP, ARDMS, AART, CCI or DMU
- Work experience as a sonographer/ultrasound professional

- English competency
- Technical skills
- Motivation
- Interest in health care

Applicants must provide the following documents:

- Application form
- Notarized transcripts and copy of Sonography Education Diploma
- Original or notarized copy of ultrasound certification (ARDMS or DMU)
- Detailed outline of entire sonography program
- Current and detailed resume or experience records including dates of employment (months and years), position and responsibilities
- Letter from the most recent employer including information about the equipment used as a sonographer and information about the typical patient case load and clinical experiences
- Names, addresses, phone numbers and email addresses of at least two references who can attest to work experience
- Copy of a valid English language proficiency document
- Transcripts of continuing medical education Credits (CME credits) if applicable
- Career investigation
- CARDUP application/assessment

The program coordinator assesses each document and record. If the application appears complete and the candidate potentially qualifies for the program, the coordinator books an interview to assess the candidate's personal suitability. The interview takes place either in person or by phone and is recorded so that it can be forwarded to a second contracted assessor. Alternatively, a detailed career investigation and written answers to the interview questions are assessed.

A collective score of approximately 60% between the two assessors is required to proceed to the second practical interview. In this interview, the candidate is scored on each image based on a detailed evaluation. An average score of approximately 60% is required to be admitted into the bridging program.

There has been interest in online courses from applicants who are currently abroad but no overseas students were registered at the time of the interview. There are three intake periods (January, April and September) for the program and it usually takes approximately three to nine months to complete the program.

### **Stakeholder Involvement**

An informal group meets to provide input in the place of a formal advisory group. Stakeholders involved in the program include the program coordinator, the Ministry of Innovation and Advanced Education, an employer from the public sector, a consultant, the national society and registration organizations (CARDUP and CSDMS), and private sector employers. The coordinator would like to see more employers involved in finding placements for students. The Mennonite Society for Newcomers has been a valuable source of information. It runs successful programs for foreign engineers and accountants, is completely funded, and focuses heavily on workplace culture.

### **Evaluation**

Evaluation processes have not yet been developed.

## Sustainability

Although the initial grant has ended, the Ministry of Innovation and Advanced Education extended a small annual amount (\$5,400) to fund the program coordinator position until March 2014. NAIT requires a profit of 35% for continuing education programs to be sustainable and the DMS bridging program is currently meeting its costs.

## Challenges/Gaps

### *Finding clinical placements*

- Finding placements is very challenging. The coordinator's employer has been supportive, and has been the sole practicum location for students. Public hospitals are too busy or are not interested in the offered incentive. Private clinics say that IEDMS are too far behind and do not fit into the workplace.
- The coordinator is trying to set up a practicum in rural communities that are in need of ultrasound technologists and have difficulty attracting health professionals. However, there is a lack of sonographers to act as supervisors. The coordinator is attempting to attain funding for a sonographer to train a student in the community and then to subsequently hire the student full time.

### *Program gaps*

- Students do not have to take the bridging program because ultrasound is not a regulated profession. The individuals who apply are already registered and join the program for employment assistance. There are still gaps in the program and many students are still unable to find employment after completing the program.
- Feedback from employers has confirmed that some graduates of the program are not ready for employment after completing the program.

## IEDMS Participant Perspectives

Internationally educated sonographers shared the following thoughts on the experience with the program.

### *Key Strengths/Successes*

IEDMS found the program was helpful in providing the training they needed to prepare them to work in Canada, the ability to continue working while in the program. The program instructors were also seen as a key strength.

*“My expectation was to learn imaging protocols, acceptable image quality standards and eligibility completion for registration body. I am fully satisfied with the program.”*

*“Good opportunity for professionals who are already trained but need some brush up modifications to join mainstream workforce.”*

*“The primary strength of the bridging program is from the good instructors.”*

*“Flexibility to learn while I earn.”*

## Challenges/Gaps

High course fees, few clinical placement sites, and too little focus on workplace practices were identified as the primary challenges/gaps.

*“Limited availability of clinical sites for practicum.”*

*“High course fees.”*

*“They have not done proper research on what we need. Every professional who is an ultrasound professional, maybe he is ARDMS certified, or maybe not, he knows, already he knows the theory. They don't have to stress on the theory. They have to stress on practical things and the ethics, medical ethics, Canadian way of life because here medical ethics are different than in other countries [...] discipline in workplace is different. How to deal with the patients, what to tell the patient, what not to tell the patient, what to ask, what not to ask [is different].”*

## Respiratory Therapy

### Entry to Practice

The respiratory therapy profession in Ontario is regulated by the College of Respiratory Therapists of Ontario (CRTO). To become licensed in the profession, IEHPs must complete a pre-registration process to assess the education, currency and language requirements necessary for registration. Academic qualifications must be verified by World Education Services. IEHPs must also successfully pass the Canadian Board of Respiratory Care (CBRC) national certification examination. Language proficiency is required, demonstrated through specified minimum scores on CanTest, IELTS, MELA, TOEFL or CAEL. Fees for the pre-registration process are currently under review and there exists a \$700 fee to write the CBRC.

On an annual basis, Ontario receives approximately 260 inquiries from IEHPs about the process of becoming licensed as a respiratory therapist, only 20 of which evolve into official applications (Johnson & Israel, 2011). Unlike most other health professions half of the international applicants seeking licensure were not practicing as respiratory therapists prior to immigration (Blais, 2010; Johnson & Israel, 2011). As a result, most of the education programs completed by internationally educated applicants are deemed not equivalent to Ontario RT programs. Prior to 2010, these applicants were referred to CRTO's Prior Learning Assessment (PLA) to achieve equivalency. However, an analysis of PLA effectiveness over the period 1999 to 2008 showed that only eight internationally educated RTs entered into practice in Ontario through PLA (Blais, 2010). Given the significance of educational gaps for IEHPs, PLA was replaced by a new pre-registration process and new pathways to help integrate IEHPs into the respiratory therapy profession. Following pre-registration, applicants are referred to one of three pathways:

- Pathway 1 is for IERTs whose respiratory therapy program is substantially equivalent and who require specified education to meet all required competencies, and is designed as “short bridge” or refresher program. It is offered at Conestoga College for a maximum of six students and includes distance learning, lab simulation and a one-week clinical rotation.
- Pathway 2 is known as the "supported integration model" and is delivered by Conestoga College and Fanshawe College in partnership with the CRTO. Two dedicated spaces are set aside for IERTs at each institution in the regular RT program. These students receive advance standing (they do not have to apply through OCAS) and may be eligible for course exemptions.

- Pathway 3 requires IERTs and other IEHPs to apply for regular entry into any of the six full-time respiratory therapy programs in Ontario.

The National Alliance of Respiratory Therapy Regulatory Bodies, with the participation of CRTO, completed a project to investigating the options for a pan-Canadian approach to bridging and credential assessment. The report recommends the creation of a pan-Canadian bridging program with centralized online components as well as onsite lab simulations and practical placements with trained mentors (Johnson & Israel, 2011). The report identifies the following institutions as offering respiratory therapy bridging programs:

- Northern Alberta Institute of Technology (NAIT)
- Southern Alberta Institute of Technology (SAIT)
- Collège Rosemont in Quebec (this program is only 50 hours short of a full RT program)

The Michener Institute previously offered a respiratory therapy bridging program as part of Access and Options in 2002 but the program was closed due to low enrolment.

## NAIT Respiratory Therapy Bridging Program

### Overview

NAIT's Respiratory Therapy Bridging Program was launched in June 2012 with funding from the Ministry of Enterprise and Advanced Education. The program aimed to develop the skills and competencies of IEHPs to enable their integration into a Canadian practice setting. The program is offered on a non-credit basis through NAIT's department of Continuing Education. It consists of online didactic courses, in-class and simulated lab experience, and a clinical site placement.

### Initiation and Development

NAIT's respiratory therapy refresher program received a growing number of enquiries from IEHPs who had learned about the program from the College and Association of Respiratory Therapists of Alberta (CARTA). The refresher program was designed for registered respiratory therapists who had been out of the workforce and were interested in updating their skills. Given the nature of the educational gaps between Canadian educated RTs and IEHPs seeking registration, it was clear that the refresher program would not be appropriate for IEHPs attempting to enter RT practice. At the same time, both NAIT and CARTA recognized that the full three-year regular program would require many of these IEHPs to duplicate their existing knowledge and skills and could marginalize IEHPs who lacked language proficiency. NAIT developed an application for provincial funding, supported by CARTA, to develop a pilot bridging program for internationally educated RTs, which was approved in 2011. The funding was used to hire a project coordinator with experience in bridging programs for approximately one year to develop the RT bridging program structure and content. The program closely adhered to the licensure requirements of the regulatory college.

### Program Delivery

The program offers three streams for IEHPs interested in entering RT practice in Canada.

### ***Refresher Stream***

Internationally educated IEHPs with a substantially equivalent education and who require specified education to meet the required competencies are eligible for the regular RT refresher program, which consists of ten modules organized into four or five groups, with a summative examination at the end of each group. The questions are modeled after the CBRC (Canadian Board of Respiratory Care) exam and include both didactic and case studies.

### ***Bridging Stream***

The bridging program consists of six online and in-class courses, including an orientation to the Canadian health care system, occupation-specific language classes, lab simulation and a 15-week practicum. It is expected that the program will require about one year to complete. Participants are assessed on the basis of formative and summative exams, lab skills exams and preceptor feedback. Although the program had an initial target of five participants, only two IEHPs enrolled in the first 2012 cohort. Courses include:

- Orientation to Canadian Healthcare – Based on the University of Toronto course developed for all internationally educated health professionals.
- RT Occupational Terminology – A review of the prefixes, suffixes and terms specific to the practice of respiratory therapy, including an online audio pronunciation guide.
- Patient Care in RT – Outlines the Canadian approach to patients by health care workers and the safe movement of patients for treatment purposes.
- Case Studies in RT – Exposes participants to typical case studies and requires them to assess and analyze the situation, and recommend appropriate treatment or action.
- RT Simulated Case Studies – Delivered in the NAIT RT simulation laboratory, this course reviews the equipment and techniques currently in use and provides refresher training for various procedures in a simulated and/or lab setting. Participants are required to assess and analyze each scenario presented.
- Clinical Practicum – A 15-week practicum at a hospital or clinical offering rotations in ER, general wards, AICU, NICU, PICU and community care. The clinical sites have agreed to take a maximum of two students per year. To accommodate students from outside Alberta, local clinical placements would have to be arranged.

### ***Examination Preparation***

The third stream is for IEHPs who are unsuccessful on the CBRC examination and includes the following two courses:

- Strategies for Writing the CBRC Exam – A short course that helps participants learn to manage their time on the exam and provides approaches and practice for various kinds of questions. It includes training in the analysis and structure of case study questions.
- Online Practice Exam – A practice exam that mimics the CBRC national exam in style and breadth of topics. It is designed to give participants a good assessment of their overall preparedness for the CBRC exam and identify areas of weakness that require remediation before attempting the national exam.



## Recruitment

IEHPs are referred to the program by CARTA after they have applied for provincial registration. Since the program is also available to IEHPs across Canada, NAIT has distributed information about the program to other Canadian postsecondary institutions with respiratory therapy programs. A search of the CARTA and NAIT websites did not yield any online information about the program.

## Admission

Application to register with CARTA requires proof of training, language proficiency and a résumé with supporting letters from previous employers whose contact information has been provided. Once the application has been reviewed by CARTA, the names of the bridging candidates are forwarded to the RT bridging coordinator. Candidates then apply through NAIT's department of continuing education.

Admission requires applicants to provide proof of English proficiency at the level of CLB 9. This high requirement is set in accordance with the CARTA language requirement for registration. Applicants must attend an interview with an admission panel consisting of multiple respiratory therapists. The objective of the interview is to acquire details about the applicant's training program, clinical practice and English competency. The applicant completes an admission examination that tests the basics of the didactic portion of the NAIT RT program, similar to an exemption exam. The final step in the admission process is a demonstration of clinical procedures in the NAIT respiratory therapy simulation lab.

Of the four IEHPs who indicated an initial interest in the program, one did not meet the language requirement and another was not approved by CARTA for bridging.

## Stakeholder Involvement

The bridging program falls under the responsibilities of the regular RT program advisory committee.

## Evaluation

Evaluation processes have not yet been developed.

## Sustainability

The small number of participants makes it unlikely that NAIT will be able to sustain the program once the funding runs out. Without sufficient enrollment, the program is not economically viable enough to be offered by NAIT's department of continuing education and a fee-based model would make the program cost-prohibitive for many IEHPs. Some consideration is being given to supporting IEHPs to enroll in regular RT courses as open study students at NAIT.

## Key Strengths/Successes

The following were identified as the key strengths of NAIT's program:

- The requirement for high levels of language proficiency enhances the learning experience by ensuring that participants begin the program with similar levels of English comprehension and fluency.

- Running the program on a cohort basis allows participants to create their own support networks, building relationships that can be maintained after they graduate and enter the workforce.
- Housing the program within a postsecondary institution provides participants with access to all NAIT student services, such as tutor study skills workshop, a knowledgeable faculty, and high-quality lab and clinical simulation facilities.

## Challenges/Gaps

Challenges mentioned by stakeholders and program participants included:

- Clinical partners may resist taking IEHPs because of concern about additional supervision work.
- Employers who provide clinical placements may designate a staff person as preceptor without sufficient training and support in how to facilitate IEHP learning.
- Knowledge of occupation-specific language is critical for respiratory therapists and can be daunting for participants with ESL needs.
- The lack of long-term funding undermines the viability of the program.
- Finding a place for the non-credit program within the institutional structure was challenging. It is offered through continuing education to support students at a distance. Sometimes, there is a disconnect between continuing education staff who administer the program and the instructors who deliver the program.
- There is a lack of alignment and coordination between the Ministry of Enterprise and Advanced Education and Alberta Health Services to ensure the provision of clinical sites.

## Lessons Learned

The following advice was offered by the program stakeholders:

- A heavy emphasis should be placed on language proficiency skills. Without robust language skills, participants will struggle to complete the program. Language requirements should align with the regulatory college's qualifications.
- Provide as many opportunities as possible for IEHPs to practice the format and content of the examination required by the regulatory college.
- Involve stakeholders from the beginning in bridging program design and implementation, especially employers and regulatory colleges.
- Conduct a feasibility study and needs assessment before developing the program, and ensure that both technical and other needs (such as intercultural communication) are addressed to facilitate the successful integration of IEHPs into the workforce.
- Ensure that a variety of options are available to meet the specific educational needs of IEHPs. Some may simply need a refresher, while others may need shorter or longer bridges.



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