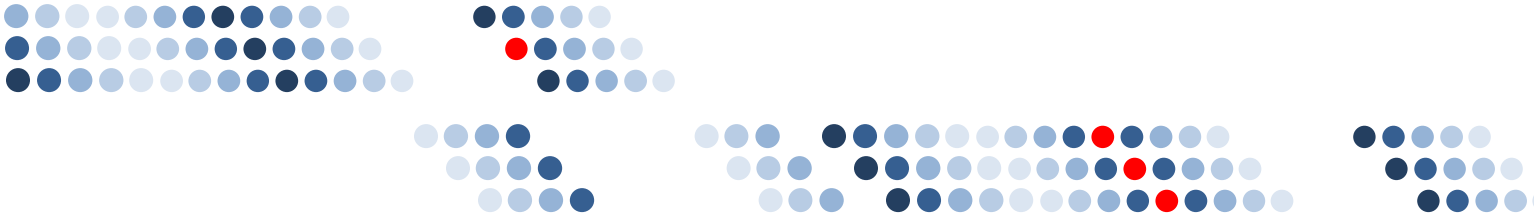
COLLEGE OF RESPIRATORY THERAPISTS OF ONTARIO
ORDRE DES THERAPEUTES RESPIRATORIES DE L'ONTARIO

THE GAP ANALYSIS PROJECT

Building a Better Model to Support
Internationally Educated Health Professionals
to become Respiratory Therapists in Ontario



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Executive Summary

The Gap Analysis Project (GAP) was undertaken in order to better understand why internationally educated applicants to the College of Respiratory Therapists of Ontario (CRTO) were struggling with the College's prior learning assessment (PLA) process and so few were successfully becoming registered as respiratory therapists in Ontario.

The original assumption regarding the GAP was that the analysis of the CRTO PLA process and assessments would identify learning gaps that could then by filled through the development of a respiratory therapy bridging program. It was assumed that eligibility criteria for entry into such a program would be determined, that a respiratory therapy (RT) bridging program would likely use available curricula from Ontario RT programs, supplemented by additional curricula if required, and that an RT bridging program could be delivered by one or more schools in Ontario.

The research undertaken as part of the GAP included a detailed analysis of the profile of PLA candidates and the PLA process, assessment and outcomes over a 10-year period. Application data indicated that the CRTO received only about 20 applications from internationally educated health professionals per year. Approximately half of all CRTO applicants were not internationally educated respiratory therapists, but had originally been educated in other health professions, primarily as doctors. These applicants were therefore seeking to transition to a new profession in a new country through the PLA process.

While there were a number of useful findings regarding the CRTO PLA, the most significant was that only eight internationally educated applicants had become registered as RTs through this process during the period studied.

The PLA assessments revealed that majority of PLA candidates had gaps in core, foundation areas of respiratory theory and practice, including:

- Ventilation Management
- Airway Management
- General Therapeutics
- Cardiac Diagnostic Testing
- Pulmonary Diagnostic Testing
- Pharmacology
- Anaesthesia Assistance
- Hemodynamic Monitoring
- Blood Analysis
- Patient/Client Assessment

A great deal of additional information was also gathered from educators, clinical assessors, internationally educated CRTO applicants and bridging and respiratory education programs. There was little support for continuing the CRTO PLA process as it had been delivered. In addition to not providing a successful pathway for many applicants, it was felt that the process was lengthy, expensive and the outcomes were uncertain. Evidence from the CIITE[1] competency assessment project and the Michener Institute's pilot respiratory therapy bridging initiative, along with other feasibility considerations, strongly suggested that the development of a parallel RT bridging program was also not a suitable or viable option.

The Partners Group considered three potential educational model options and the appropriate context for each. The options were:

1. Separate Respiratory Therapy Bridging Program for IEHPs
2. Supported Integration into Full-time Respiratory Therapy Program
3. Regular Entry into Full-time Respiratory Therapy Program

It was concluded that the best educational model option for the majority of internationally educated CRTO applicants would be the development of a supported integration model (SIP) to assist eligible applicants to gain credit and advanced standing for previous academic study and to integrate into existing full-time respiratory therapy diploma programs.

It was felt that such a model could respond to the individual learning needs of applicants, which are significant. It could also be available at any participating school in Ontario and would allow learners to access Ontario financial aid support while completing their respiratory therapy education. This model is appropriate for the very small number and diverse educational backgrounds of internationally educated applicants to the CRTO each year. This model also provides a clear pathway and end date, with the outcome of an Ontario college diploma.

Given such a small applicant pool, it was felt that the CRTO and schools could work together to integrate eligible individuals into existing RT programs with a minimum of additional resources required.

However, in order to fully support internationally educated applicants to enter the respiratory therapy profession, a Supported Integration Process should ideally include the development of the following supports to "smooth the path" and enhance student success:

[1] Colleges Integrating Immigrants to Employment.

Support 1: Facilitated entry to an Ontario RT Program (through CRTO letter of direction[2])

Support 2: A formal RT Program Orientation*

Support 3: Recognition of Prior Learning (through schools' existing academic policies)

Support 4: Mentorship*

Support 5: Group Support*

The final recommendations of the Gap Analysis Project are as indicated below.

GAP ANALYSIS PROJECT RECOMMENDATIONS:

1. **Discontinue the CRTO Prior Learning Assessment process.**
2. **Negotiate and sign Memoranda of Understanding with schools interested in partnering with the CRTO to provide a supported integration process (SIP) so that eligible IEHPs may integrate into full-time respiratory therapy programs.**
3. **Revise and refine assessment processes as needed to enable CRTO Registration Committee to determine appropriate direction for IERT/IEHP applicants, as per the new model.**
4. **Establish a multi-stakeholder IEHP Working Group, led by the CRTO, of educators, employers, CIITE and at least one internationally-educated CRTO member to provide advice and collaborate with the CRTO on the SIP model and the development of additional supports.**
5. **Seek additional funding resources to develop supports as part of the supported integration process. These would include:**
   - **The development of a Respiratory Therapy Program Orientation;**
   - **Additional tools to assist schools in assessing applicant's prior learning;**
   - **An IEHP mentorship program; and**
   - **Group supports for IEHPs.**
6. **Share GAP research findings with the National Alliance of Respiratory Therapy Regulatory Bodies (NARTRB) and continue collaboration in NARTRB initiatives in order to share resources and enhance harmonization of IEHP access processes across Canadian jurisdictions.**

[2] Rather than applying through the Ontario College Application Service (OCAS).

* The development of these supports would require a significant allocation of time and additional financial resources.

Project Partnership

In 2008 the CRTO felt that there was a need to evaluate the effectiveness of its prior learning assessment (PLA) process. In response to some difficulties that had been identified, CRTO determined that a research project was required to better identify the learning needs and challenges experienced by internationally educated health professions (IEHPs) and suggest an improved model to meet these needs. The Gap Analysis Project (GAP) research proposal was developed by the College in collaboration with a number of partners and submitted to the Labour Market Integration Unit (LMIU) of the Ontario Ministry of Citizenship and Immigration (MCI) for funding. The proposal received Ontario government funding and the GAP began in summer 2009.

The Gap Analysis Project was led by the College of Respiratory Therapists of Ontario (CRTO) and guided and informed through a partnership between a number of key organizations that have been involved in the CRTO prior learning assessment process, other competency assessment initiatives and/or the integration of internationally educated candidates into respiratory therapy education programs. These partners were: Algonquin College, La Cité Collégiale, Colleges Integrating Immigrants to Employment (CIITE), Fanshawe College and the Michener Institute for Applied Health Sciences. The contribution of the partners was essential to the successful completion of this project as they provided data, program and policy information, and the essential input and guidance needed to develop the new proposed model. The list of Partners Group members is included as Appendix 1.

Purpose of the Gap Analysis Project

The Gap Analysis Project (GAP) was undertaken in order to:

- Identify the learning needs of internationally educated Respiratory Therapists (IERTs) and other health professionals seeking registration as respiratory therapists in Ontario;
- Determine eligibility criteria for entry into a PLA and/or bridging program;
- Develop the framework of an appropriate respiratory therapy education program for IERTs/IEHPs which can be delivered in a fair, feasible, efficient and accessible manner.

Methodology

During the course of the Gap Analysis Project, the project manager acted as the principal researcher and collected relevant data and information for the analysis through a number of methods and sources. These included:

- Consultations with all project partners to guide the work;
- Review of the CRTO PLA policies and process 1999-2009;
- File review of all PLA candidate files 1999-2008;
- Review and analysis of all available PLA Self- , Stage 1 and Stage 2 assessments (1999-2008);
- Review of PLA outcomes;
- Interviews with staff of the Michener Institute for Applied Health Sciences;
- Electronic survey of PLA Stage 3 clinical assessors;
- Interviews with PLA Stage 3 clinical assessors;
- Electronic survey of PLA candidates;
- Interviews with Michener pilot RT bridging program participants;
- Review of the Colleges Integrating Immigrants to Employment (CIITE) Project Outcomes;
- Review of curriculum information from Ontario full-time respiratory therapy programs;
- Review of academic policies of Ontario full-time respiratory therapy programs; and
- Review of program information from selected respiratory therapy programs in other Canadian jurisdictions.

Background

The Respiratory Therapy Profession in Ontario

The respiratory therapy profession in Ontario is regulated by the College of Respiratory Therapists of Ontario (CRTO) which is a college created and provided this authority through the Ontario *Regulated Health Professions Act* and the *Respiratory Therapy Act*, both passed in 1991.

Respiratory therapists (RTs) are health care professionals who monitor, evaluate and treat individuals with respiratory and cardio-respiratory disorders.

Respiratory therapists work in areas such as:

- Intensive Care Units (ICUs)
- Operating Room
- Diagnostics
- Emergency
- Neonatal Units
- Home Care
- Research
- Government
- Hospital Administration
- Pulmonary Rehabilitation
- Family Health Teams
- Educational Institutions
- Medical Sales/Services
- Patient Education
- Chronic Ventilation
- Sleep Labs

Respiratory Therapists are graduates of a three-year diploma, or four-year joint diploma/degree programs. The CRTO approves programs accredited by the Council on Accreditation for Respiratory Therapy Education (CoARTE) [3]. Graduates from approved programs are eligible to register in the Graduate Class of Registration and to write the Canadian Board for Respiratory Care (CBRC) National Certification Examination. Upon successful completion of the CBRC exam they receive a General Certificate of Registration, provided they meet all other eligibility requirements.

Respiratory therapy education programs in Ontario are offered at six post-secondary institutions, in the locations indicated and funded as follows.

[3] For more information regarding the CoARTE approval and accreditation process, please see http://www.csrt.com/accreditation.php?display&en&2.

School	Location	Institution funded by:
Algonquin College	Ottawa	Ministry of Training, Colleges and Universities (MTCU)
Canadore College	North Bay	MTCU
La Cité Collégiale	Ottawa	MTCU
Conestoga College	Kitchener	MTCU
Fanshawe College	London	MTCU
Michener Institute for Applied Health Sciences	Toronto	Ministry of Health and Long-term Care (MoHLTC)

Respiratory Therapy is a profession that requires a great deal of clinical education and this is delivered both through simulation laboratory experiences at schools, but also through clinical practice placements of several months duration offered in conjunction with teaching and community hospitals and other health care organizations. Due to high demands on teaching hospitals and other factors such as funding models, schools have reported some difficulties in finding clinical placements for students in respiratory therapy programs.

While all accredited RT programs in Canada prepare students to develop the RT entry-to-practice competencies, a review of Ontario RT programs revealed that the program curricula are organized and delivered quite differently from school to school. Programs take between 6 – 8 semesters to complete, subjects are introduced during different semesters in the program and programs may differ slightly in their emphases and their use of clinical simulation.

An overview of academic policies was undertaken as part of the GAP research. This revealed that all schools delivering respiratory therapy education in Ontario have policies that allow them to recognize prior learning in some way, whether through credit transfer, course exemptions, advanced standing or college-specific PLA processes that may involve assessments such as a challenge examination. In addition, schools have requirements regarding how much of a program must be completed at their institution to enable students to graduate with their diploma. The requirements regarding this vary by school, with no school requiring more than 50% of a program[4] be completed at their institution.

[4]There are a number of conditions regarding this, and learners would have to eligible to transfer a sufficient proportion of the program to meet the school's requirements.

As can be seen from the table below, respiratory therapy is a health profession with a relatively small number of members in Ontario[5]. In 2009 the CRTO had just fewer than 2,500 active members and in the last few years the number of IEHP applicants has averaged about 20 per year.

CRTO Membership & Application Statistics 2004 – 2009			
Year	**Total Active Membership**	**# of Canadian educated applicants**	**# of internationally educated applicants**
2004	2,010	144	22
2005	2,113	150	19
2006	2,200	136	22
2007	2,295	151	17
2008	2,336	193	22
2009	2,425	190	18

The scale of the profession has particular relevance for how access initiatives for IEHP applicants to the profession may be developed. The number of IEHP applicants is quite few. The importance of clinical education and the limited number registered respiratory therapists in the province mean that finding clinical placements and staff to supervise students in these placements is already an on-going challenge for the full-time RT programs and has been especially difficult for PLA purposes.

In 2008-2009 the National Alliance of Respiratory Therapy Regulatory Bodies undertook a project, funded by the Government of Canada's Foreign Credential Recognition Program that resulted in an overview of the RT profession and the challenges faced by internationally educated applicants seeking to become respiratory therapists in regulated Canadian jurisdictions[6]. This research project revealed that RT regulators across Canada face similar challenges to the CRTO in assessing and registering IEHP applicants.

[5] In contrast, the College of Nurses of Ontario had 145,853 members in 2009. In 2008, the College of Occupational Therapists of Ontario had 4,437 members, the College of Physiotherapists had 6,880 members and the College of Medical Radiation Therapists had 6,570 members. This information is available on their respective websites.

[6] National Alliance of Respiratory Therapy Regulatory Bodies (NARTRB), 2008, *Access Issues Regarding Internationally Educated Health Professionals and the Respiratory Therapy Profession in Canada* can be found at: http://www.nartrb.ca/eng/documents/NAReportEnglishFinalApril4.pdf.

The CRTO Prior Learning Assessment Process

CRTO's experience with credential assessment of international RT programs revealed that most of the education programs completed by internationally-educated applicants were not equivalent to Ontario RT programs. This may be because the program completed is not at the same level (equivalent to a three-year community college diploma) or because the content of the program is not equivalent to an Ontario RT program. In addition, rather uniquely, about half of internationally educated applicants to the CRTO are not graduates of respiratory therapy programs at all, but hold degrees related to Medicine, some with an Anaesthesia specialty. These applicants are therefore attempting to move into a completely new profession as RTs, making credential assessment especially difficult.

The CRTO PLA process was developed and first made available to internationally educated applicants in July 1999. The PLA process was developed in response to the challenges experienced by CRTO staff and Registration Committee in assessing equivalency of programs "on paper" and an effort to assess and acknowledge the significance of applicant's skills and work experience.

The PLA was designed to measure applicants' qualifications, education and experience against the competencies required for entry into the RT profession. The PLA process has been offered in association with the Michener Institute for Applied Health Sciences in Toronto and Algonquin College in Ottawa. Almost all of the PLA assessments were completed at the Michener Institute, with a handful of assessments undertaken at Algonquin College.

The fees and the tools associated with the PLA have been modified since 1999, but the process has consistently included theoretical, didactic and clinical skills assessment components. In an effort to improve the process, the CRTO Registration Committee also approved some changes to the PLA policy in 2002, 2003, 2006 and 2007. These included significant changes in 2003 to add a required tour of an RT department (later discontinued) and add an interview and feedback stage.

The PLA process was as follows:

If the Registration Committee was not able to determine, through credential assessment and/or a review of the program, that the educational program was equivalent to an approved Canadian RT program the applicant would not be eligible for registration with CRTO. However he/she could be referred to undergo the PLA process or consider enrolling in one of the approved RT programs.

From 2003 until intake ceased in 2009 the PLA process has consisted of having the applicant complete the self-assessment and then proceed to the following stages:

- Stage 1: Interview and Feedback
- Stage 2: Didactic Assessment
- Stage 3: Clinical Assessment

Once the candidate had demonstrated equivalency through PLA (and met all other registration requirements) but prior to completing the approved examination[7], the applicant could be granted a Graduate Certificate of Registration, until he/she had fulfilled the examination requirement and was granted full CRTO membership.

Over the years, a few issues became apparent. While the purpose of the PLA process was to assess competencies acquired through prior learning, many CRTO applicants were either educated to take on RT technician roles or not educated as RTs at all. Therefore, the learning needs then identified were usually great and could not be met by the few courses available through the partner educational institutions or through self-study. Applicants also had difficulty moving through all of the PLA stages within the 18-month time-frame typically requested more time to complete the process and were still ultimately unsuccessful.

The PLA process has proven to be a successful pathway for only a very small number of IERTs and IEHPs to achieve RT registration in Ontario. Only eight applicants during the 10-year period considered have successfully completed all stages of the process and become registered RTs; the large majority were unsuccessful or did not complete the process.

Review of PLA Applicant Files and Assessments

Throughout autumn 2009 the Project Manager reviewed the CRTO applicant files from 1999 – 2008 to identify all internationally educated applicants deemed eligible to attempt the CRTO prior learning assessment (PLA) process during that period. Applications received and assessments completed by the end of 2008 were included in the analysis. There were a number of PLA candidates in process in 2009-2010 as the Gap Analysis project was being undertaken, but as capturing these during the course of the project would have been a "moving target" it was determined that this data capture should include only the 1999-2008 time period.

[7] Currently the Canadian Board for Respiratory Care (CBRC) national exam.

In all, as can be observed in the following section, 140 files of candidates deemed eligible for PLA were identified. Under the CRTO policy[8] in place until very recently, virtually all internationally educated applicants, other than those who were U.S.-educated, were eligible and provided the option of attempting the PLA process.

Prior to June 2008, the CRTO considered U.S. RT programs equivalent to Canadian approved RT Programs if they were accredited by the U.S. Committee on Accreditation for Respiratory Care (CoARC) and were at the advanced or 200 level. Therefore, prior to this time, U.S. educated applicants were not normally directed to complete PLA unless their program did not meet these criteria. However, concerns related to inconsistencies in the content of some U.S. programs and their equivalency to approved RT programs in Canada, coupled with evidence of low exam pass rates on the CBRC exam, led CRTO Council to revise this policy.

Since June 2008 all U.S. RT programs have been reviewed for equivalency in the same manner as other international RT programs, through a program review tool developed by the CRTO. Applicants whose programs were not deemed equivalent were then referred to the PLA process. The issue of U.S. graduates is slightly complicated as there are many and a variety of U.S. respiratory therapy programs. Depending on the program they completed, the education completed by U.S. graduates may be equivalent or at least very similar to an Ontario program.

While the general consensus of the project partners is that graduates of U.S. respiratory therapy programs that are not equivalent may have only small, specific educational gaps, there have been insufficient numbers of U.S. programs assessed since 2008 to reach this conclusion. However, any model developed should include some consideration of how any IERT applicants with only such education gaps should be handled in future.

[8] The most recent policy and procedure stated that applicants who had education and experience in respiratory therapy or a related field would be referred to the PLA process.

An Overview of Applicants Eligible for PLA

The review of the CRTO PLA files revealed that 140 applicants were deemed eligible to attempt PLA between 1999 and 2008. It is interesting to note that of the applicants to CRTO during this time, almost half were internationally educated health professionals (IEHPs) not educated as respiratory therapists. It is quite unusual for a health regulatory college to receive and process so many applications from health professions other than the one they regulate. This presents a uniquely challenging issue for CRTO, as these applicants are not seeking registration in the profession for which they were educated, but seeking to transition to a new and different health profession in a new country.

The educational profile of CRTO applicants and the countries where they completed their education are indicated in the following tables. As can be noted, almost half of all applicants were RTs, with the remainder predominantly physicians. While applicants were educated in many countries, over 65% were educated in the Philippines, India or China.

Education Background of all PLA-eligible Applicants: 1999 - 2008		
Education program completed	**#**	**% of total**
Respiratory Therapy	74	(53%)
Non - Respiratory Therapy	*66*	*(47%)*
Break-down of non-RT programs:		
• Medicine (no respiratory therapy or anaesthesia speciality)	34	
• Medicine (Respiratory/anaesthesia specialty)	24	
• Other (Anaesthesia technician)	4	
• Other (Medical technician in anaesthesia)	1	
• Other (Medical technician)	1	
• Other	2	
Total	**140**	**100%**

Country Where Education Completed all PLA-eligible Applicants: 1999 - 2008		
Country	**#**	**% of total**
Philippines	58	41.4
India	18	12.9
China	16	11.4
United States	9	6.4
Colombia	5	3.6
Bangladesh	5	3.6
Iran	4	2.9
Turkey	2	1.4
Albania	2	1.4
Pakistan	2	1.4
Russia	2	1.4
Ukraine	2	1.4
Yugoslavia	2	1.4
Taiwan	2	1.4
Belarus/Japan	1	0.7
Sri Lanka	1	0.7
Ecuador	1	0.7
Canada (Quebec)	1	0.7
Romania	1	0.7
Afghanistan	1	0.7
Syria	1	0.7
Lebanon	1	0.7
Brazil	1	0.7
Haiti	1	0.7
Egypt	1	0.7
Total	**140**	**100.0**

When the country and the types of education completed are grouped together, it becomes quite obvious that RT applicants are overwhelmingly educated in the Philippines, and that the few other RT applicants were educated in only a few countries: India, the United States, Colombia, Taiwan and Ecuador. The physician and other IEHP applicants were educated in a broad variety of countries, with a sizable grouping of these having completed education in India and China.

Country Where Education Completed, Grouped by Country all PLA-eligible Applicants: 1999 - 2008				
Country	**RT**	**MD with RT or Anaesthesia specialty**	**MD with no RT or Anaesthesia specialty**	**Total**
Philippines	55	1	2	58
India	4	9	5	18
China	0	2	14	16
United States	9	0	0	9
Bangladesh	0	1	4	5
Colombia	4	0	1	5
Iran	0	1	3	4
Yugoslavia	0	0	2	2
Pakistan	0	1	1	2
Russia	0	1	1	2
Taiwan	1	0	1	2
Turkey	0	1	1	2
Albania	0	2	0	2
Ukraine	0	2	0	2
Afghanistan	0	0	1	1
Brazil	0	0	1	1
Canada (Quebec)	0	0	1	1
Egypt	0	0	1	1
Lebanon	0	0	1	1
Romania	0	0	1	1
Syria	0	0	1	1
Belarus/Japan	0	1	0	1
Ecuador	1	0	0	1
Haiti	0	1	0	1
Sri Lanka	0	1	0	1
Total	**74**	**24**	**42**	**140**

It is significant to note that RT-educated applicants in the sample had completed their respiratory therapy education in only five countries. In all, IERT applicants completed their RT education in one of only 15 schools world-wide (6 schools in the Philippines; five schools in the U.S.; two schools in India and one school in each of Columbia and Ecuador).

Programs Completed by International Educated Respiratory Therapy (IERT) Applicants		
Country	**Type of Program**[9]	**School**
Philippines	Diploma or Bachelor's Degree (RT)	Emilio Aguinaldo College
Philippines	Bachelor's Degree (RT)	University of Perpetual Help
Philippines	Associate or Bachelor's Degree (RT)	St. Jude College
Philippines	Bachelor's Degree (RT)	De La Salle University
Philippines	Bachelor's Degree (RT)	Pines City Educational Center
Philippines	Certificate or Diploma (RT)	Mary Chiles College
USA	Associate Degree (RT)	ATI Health Education Centers
USA	Associate Degree (RT)	San Joaquin Valley College
USA	Associate Degree (RT)	College of DuPage
USA	Associate Degree (RT)	Bergen Community College
USA	Associate Degree (RT)	California College
India	Bachelor's Degree (Allied Health Sciences – Respiratory Care Technology)	Sri Ramachandra Medical College
India	Bachelor of Respiratory Therapy	Manipal College of Allied Health Sciences
Columbia	Bachelor's Degree (RT)	University Foundation Andean Area
Ecuador	Bachelor of Science	University of Cuenca

[9] Education programs differ between countries and a Bachelor's degree from another country may not be assessed as equivalent to an Ontario undergraduate degree. In the Philippines, for example, the entry requirement for university programs is the completion of a high school diploma (*Katibayan*) which consists of ten years of elementary and secondary education. In considering this entry level, credential evaluation may indicate that such a program is equivalent to completion of an Ontario secondary school education and a two-year college diploma.

Eligible Applicants Who Completed Some Prior Learning Assessment (PLA)

Of the 140 applicants deemed eligible for PLA, 80 of them (57%) began the process and completed at least the Self-assessment. As can be observed, at each stage fewer applicants progressed to the next stage. There may have been many reasons for this, such as lack of time to take courses and study, a realistic assessment of how challenging the process would be, family or work commitments, lack of financial resources, realizing that their likelihood of success was limited etc. While applicants may have been recommended by assessors to not continue on in PLA at Stage 1, the only conditions under which they could be ineligible to continue PLA would be if they failed the Didactic Assessment twice or were unsuccessful at the Stage 3 Clinical Assessment.

Review of CRTO PLA files 1996[10]-2008	
	#
Applicants deemed eligible for PLA	140
Applicants who completed self-assessments[11]	80
Applicants who completed Stage 1	69
Applicants who attempted Stage 2	41
Applicants who attempted Stage 3	9
Applicants who are still completing PLA process and/or file still open[12]	36
Applicants who became registered w/ CRTO	8

Of the 80 PLA candidates who completed at least some of the PLA process, over 40% were Philippine-educated, followed by those who completed their education in India, China, Bangladesh and a number of other countries.

[10] Even though the PLA process began in 1999, some applicants who originally applied prior to 1999 undertook PLA.

[11] As applicant files were incomplete, these numbers were derived from counting self-assessments in files and number of applicants who completed Stage 1, as these applicants would have been required to complete the self-assessment prior to going through the Stage 1 process.

[12] As of September 25, 2009.

Country where education was completed CRTO PLA Candidates[13]: 1999 - 2008		
Country	**#**	**%**
Philippines	33	41.3
India	14	17.5
China	8	10.0
Bangladesh	5	6.3
Colombia	4	5.0
United States	3	3.8
Iran	2	2.5
Albania	2	2.5
Ukraine	2	2.5
Belarus/Japan	1	1.3
Romania	1	1.3
Pakistan	1	1.3
Lebanon	1	1.3
Brazil	1	1.3
Turkey	1	1.3
Sri Lanka	1	1.3
Total	**80**	**100.0**

As can be seen in the following table, half of the applicants who completed some of the PLA process were RTs, the vast majority of them educated in the Philippines. There were also a handful of RT candidates from India, Colombia and the U.S. who completed some PLA.

The other half of the applicants who completed some PLA were IEHPs (mainly physicians) and had completed their education in one or more of 14 different countries. While 18 of these physicians had completed specialities in respiratory- or anaesthesia-related specialties, the others had not and were generalists, physicians with other specialities or other IEHPs.

[13] This table refers only to eligible candidates who completed some or all of the PLA process. Many eligible candidates did not attempt PLA.

Education Completed by PLA Candidates – Grouped by Country				
Country	RT	MD with RT or Anaesthesia specialty	MD with no RT specialty + other IEHP	**Total**
Philippines	30	1	2	33
India	4	7	3	14
China	0	2	6	8
Bangladesh	0	1	4	5
Colombia	3	0	1	4
United States	3	0	0	3
Albania	0	2	0	2
Iran	0	0	2	2
Ukraine	0	2	0	2
Belarus/Japan	0	1	0	1
Brazil	0	0	1	1
Lebanon	0	0	1	1
Pakistan	0	0	1	1
Romania	0	0	1	1
Sri Lanka	0	1	0	1
Turkey	0	1	0	1
Total	**40**	**18**	**22**	**80**

When the number of successful PLA candidates is looked at, it reveals that only a very small number (eight) had successfully completed all stages of the PLA process and become registered RTs. Of these, the largest group of applicants, RTs from the Philippines, had very limited success.

While not all data was available, the principal researcher was able to collate the available data regarding the courses completed by six of the eight successful candidates (Appendix 2). What is interesting to note is that candidates completed a range of courses in different subject areas, which indicates that their learning needs were quite different.

Profile of 8 Successful PLA Candidates				
Education completed	**Number**		**Country where education completed**	**Number**
Respiratory Therapy (RT):	2		China	2
MD (resp./anaesthesia):	2		India	2
MD (non-RT):	3		Iran	1
Anaesthesia Technician:	1		Philippines	1
			Ukraine	1
			U.S.	1

The following table puts these numbers in the context of all PLA candidates.

PLA Process Result – all PLA Candidates					
Country	**# Unsuccessful**	**% Unsuccessful**	**# Successful**	**% Successful**	**Total**
Philippines	32	97.0	1	3.0	100.0
India	12	85.7	2	14.3	100.0
China	6	75.0	2	25.0	100.0
Bangladesh	5	100.0	0	0.0	100.0
Colombia	4	100.0	0	0.0	100.0
United States	2	66.7	1	33.3	100.0
Albania	2	100.0	0	0.0	100.0
Iran	1	50.0	1	50.0	100.0
Ukraine	1	50.0	1	50.0	100.0
Belarus/Japan	1	100.0	0	0.0	100.0
Brazil	1	100.0	0	0.0	100.0
Lebanon	1	100.0	0	0.0	100.0
Pakistan	1	100.0	0	0.0	100.0
Romania	1	100.0	0	0.0	100.0
Sri Lanka	1	100.0	0	0.0	100.0
Turkey	1	100.0	0	0.0	100.0
Total	**72**	**90.0**	**8**	**10.0**	**100.0**

Analysis of PLA Assessments

In order to gain a better understanding of the PLA process, the challenges experienced by PLA candidates and the learning gaps identified through the PLA process, the Project Manager gathered, looked at and analyzed all available assessments conducted through the PLA process from 1999 to the end of 2008. This included the Self-assessments and assessments from Stages 1, 2 and 3. These were gathered from the two educational partner organizations (the Michener Institute and Algonquin College) involved in conducting the PLA assessments and from the CRTO applicant files.

It is important to note that not all assessments could be located and that in some cases the total number of PLA applicant files captured in the assessment summaries below is small. The analysis that follows is descriptive in nature and should be interpreted with caution.

Self-assessments

All PLA candidates were required to complete a paper self-assessment prior to completing Stage 1 of the PLA process. This self-assessment was meant to assist candidates in identifying the experience they had had in practising respiratory care/therapy and the degree to which there was overlap in the theoretical and clinical performance elements identified in the CRTO Entry to Practice Competencies document and their experience. The self assessment also served to guide the assessors as they conducted the Stage 1 assessments. Assessors reported that some PLA candidates did not complete the self-assessment prior to attending the Stage 1 Interview and Feedback and therefore completed it with the guidance of the assessor.

Methodology

While the file review indicated that 80 PLA candidates had completed Self-assessments, only 64 completed forms were available for data entry and analysis.

The Self-assessment consists of an eight-page form divided into two sections (see Appendix 3). Section one consists of 60 Yes/No questions that ask about candidates' knowledge of health care and respiratory therapy. This section was analyzed in terms of the percentage of Yes responses.

Section two (i.e. Questions 61 – 127) asks candidates to indicate whether and how frequently (within the past five years) they had performed specific RT-related tasks with three client populations: Neonates, Children and Adults. Responses to these questions were summarized (for each client population) in terms of whether or not the activity had been performed in the past five years.

To examine self-assessment results among the candidates, results were grouped as follows:

- All PLA candidates;
- RT-educated candidates vs. MD-educated candidates with RT or Anaesthesia background;
- RT-educated candidates vs. MD-educated candidates without RT or Anaesthesia background; and,
- Successful vs. Unsuccessful/Incomplete PLA applicants.

Results:

Section One (Questions 1 – 60): Yes/No questions regarding health care and respiratory therapy knowledge:

- (Figure 1, Appendix 4) Overall, PLA candidates indicated knowledge in most areas, with the exception of questions specifically related to Ontario legislation/healthcare system and Anaesthesia.
- (Figure 2, Appendix 4) In general, international medical doctors (IMDs) w/ an RT or Anaesthesia background reported having knowledge more often than RT-educated candidates.
- (Figure 3, Appendix 4] In general, IMDs without an RT or Anaesthesia background also reported having knowledge more often than RT-educated candidates, except on questions directly related to RT knowledge (medical gas therapy, chest care techniques etc.).
- (Figure 4, Appendix 4) In many areas, Successful candidates reported having knowledge less often than Unsuccessful/Incomplete candidates. This may indicate a tendency among Unsuccessful/Incomplete candidates to report inflated levels of knowledge when self-assessing.

Section Two (Questions 61 – 127): Performance of RT-related tasks with specific client populations:

Neonates

- When looking at Figures 5 – 8, Appendix 4 it is not surprising that few PLA candidates overall report having ever performed specific task with Neonates and in some cases no candidates reported experience with specific care activities. This is a very specific client group and even students in full-time Canadian RT programs and practising RTs may have had limited clinical contact with this group
- When the experience to RT-educated candidates is compared to IMDs with an RT or Anaesthesia background (see Figure 6, Appendix 4), IERTs were more likely to report experience in some areas of drug and medical gas administration, blood analysis, suctioning and aerosol and humidity therapies. The IMD group was more likely to report experience in areas directly related to Anaesthesia and operative procedures.
- When the experience to RT-educated candidates is compared to IMDs without an RT or Anaesthesia background, IERTs were more likely to report experience in some areas of drug and medical gas administration, chest care, aerosol and humidity therapies. The IMD group was very slightly more likely to report experience in some areas.
- The Successful group reported more experience in performing almost all activities as compared to the Unsuccessful/Incomplete group.

Children

- Not surprisingly, PLA candidates overall reported more experience in performing RT-related activities with Children than with Neonates (Figure 9, Appendix 4).
- When the experience to RT-educated candidates is compared to IMDs with an RT or Anaesthesia background (see Figure 10, Appendix 4), the IMD group was consistently more likely to report experience performing virtually all activities than RTs.
- When the experience to RT-educated candidates is compared to IMDs without an RT or Anaesthesia background (see Figure 11, Appendix 4), the IMD group was slightly more likely to report experience of performing some activities, but the differences were not significant. IERTs were more likely to report experience performing aerosol and humidity therapies.
- The Successful group reported much more experience in performing virtually almost all activities as compared to the Unsuccessful/Incomplete group (see Figure 12, Appendix 4).

Adults

- Overall, PLA candidates reported more experience in performing RT-related activities with Adults than with any other client population (see Figure 13, Appendix 4).
- When the experience to RT-educated candidates is compared to IMDs with an RT or Anaesthesia background (see Figure 14, Appendix 4), the IMD group was consistently more likely to report experience performing most of the RT-related activities than IERTs. The few exceptions were spirometry, some pulmonary function and chest-care activities, aerosol and humidity therapies and the use of flowmeters and regulators.
- When the experience to RT-educated candidates is compared to IMDs without an RT or Anaesthesia background (see Figure 15, Appendix 4), the IMD group and the IERT group were as likely to report experience of performing many activities. IERTs were, however, more likely to report experience performing a number of activities, including some blood sampling tasks, spirometry, pulmonary function and chest-and regulators.
- The Successful group reported much more experience in performing virtually almost all activities as compared to the Unsuccessful/Incomplete group (see Figure 16, Appendix 4).

Summary of Self-assessment Findings:

- Overall, it is difficult to know how accurately individuals self-assess their knowledge and skills. The Yes-No knowledge questions on the Self-assessment, for example, provide little information except that candidates are unfamiliar with Canadian health care legislation and practice; most candidates reported knowledge of most areas.
- Questions asking about frequency of performance of activities with specific client populations seem to provide more information about past professional experience with performing RT-related tasks.
- Few differences were observed between the international medical doctor (MD) PLA candidates who had/did not have an RT or anaesthesiology background.
- Successful candidates reported more pre-PLA experience performing specific RT-related activities than Unsuccessful/Incomplete candidates.

Stage 1: Interview and Feedback

The Stage 1 Interview and Feedback assessments were conducted at the partner educational institutions, with the vast majority of assessments conducted at the Michener Institute. It must be noted that the assessments were conducted by different assessors at different times, via different methods.

Stage 1 assessments were typically guided by candidates' Self-assessment information and may have included a structured interview, a supplementary overall trial exam, or mini-quizzes on specific content areas. The purpose of the Stage 1 assessment was to gain an understanding of the candidate's educational background, professional experience, and strengths and weaknesses as related to the competencies required for entry to RT practice.

The resulting Stage 1 PLA Review reports provided a qualitative summary of a candidate's learning gaps and recommendations regarding additional education to pursue before moving on to Stage 2. In some cases, candidates were advised not to continue the PLA process as they were deemed unlikely to be successful. However, schools had no authority to stop candidates who chose to proceed despite recommendations to discontinue.

Methodology

In all, 69 Stage 1 assessments were gathered from the partner schools and CRTO applicant files. As described above, the reports were not standardized, and the terminology and direction provided on the assessments varied from one assessor to another. Therefore, it was necessary to categorize and capture the assessment data in a consistent manner for all candidates. This was achieved by mapping the gaps identified in Stage 1 to the competencies identified in the National Competency Profile (NCP)[14] (see Figures 17 – 20, Appendix 4).

It is important to re-iterate that any gaps identified at Stage 1 were noted at the assessor's discretion only. There was no requirement for the assessor to identify gaps against the NCP competencies explicitly, and assessors were free to identify gaps unrelated to the NCP. Therefore, interpretation of the gaps requires an assumption that assessors at least implicitly considered all of the NCP competencies in their assessments.

The NCP provides an intuitive context for interpreting the competency-related gaps identified at Stage 1. The Canadian Board for Respiratory Care (CBRC) exam is based on the NCP competencies and their weighting on the exam represents their relative importance as entry to practice competencies. Therefore,

[14] The National Alliance of Respiratory Therapy Regulatory Bodies National Competency Profile can be found at: http://www.csrt.com/en/education/pdf/National_Competency_Profiles.pdf.

the categories for Stage 1 charts are ordered from greatest weight to least weight in terms of the CBRC. Gaps unrelated to the NCP were infrequently noted and are included at the bottom of the chart.

As with the Self-assessment data, the Stage 1 results are grouped as follows:

- All PLA candidates;
- RT-educated candidates vs. MD-educated candidates with RT or Anaesthesia background;
- RT-educated candidates vs. MD-educated candidates without RT or Anaesthesia background; and,
- Successful vs. Unsuccessful/Incomplete PLA applicants.

Gaps Identified: All PLA Candidates

Overall, the competency areas where gaps were most frequently identified in the Stage 1 Assessments were:

1. Ventilation Management (gap identified in 83% of assessments)
2. Cardiac Diagnostic Testing (gap identified in 78% of assessments)
3. Pulmonary Diagnostic Testing (gap identified in 74% of assessments)
4. Pharmacology (gap identified in 68% of assessments)
5. Anaesthesia Assistance (gap identified in 67% of assessments)
6. Hemodynamic Monitoring (gap identified in 64% of assessments)
7. Patient/Client Assessment (gap identified in 57% of assessments)

Ventilation Management is the area most frequently identified as a gap in the assessments, and is also the most highly weighted competency of the CBRC. Similarly, other frequently identified gap areas correspond to competencies with high weight on the CBRC.

Gaps Identified: RT vs. MDs with RT or Anaesthesia background

When the assessments of PLA candidates with a respiratory care educational background were compared to those with a medical background with an RT or Anaesthesia speciality, some differences can be observed. RT candidates were less likely to have gaps identified in Ventilation Management, Patient/Client Assessment or Basic Respiratory Care but more likely than the comparator group of PLA candidates to have gaps identified in Blood Analysis, Anaesthesia Assistance and Pharmacology.

Gaps Identified: RT vs. MDs without RT or Anaesthesia background + other IEHPs

When the assessment of PLA candidates with a respiratory care educational background were compared to those with a medical background without an RT or Anaesthesia speciality and other IEHPs[15], IERT candidates were less likely to have gaps identified in Ventilation Management, Basic Respiratory Care or Pulmonary Diagnostic Testing. However, IERT candidates were more likely than the comparator group of IEHPs to have gaps identified in Patient/Client Assessment, Blood Analysis, Anaesthesia Assistance, Pharmacology, Cardiac diagnostic Testing, Hemodynamic Monitoring and Communications.

Gaps Identified: Successful vs. Unsuccessful/Incomplete

It is quite interesting to look at the assessment of successful PLA candidates (those who eventually successfully completed all stages and were registered with the CRTO) as opposed to those who did not complete PLA or were unsuccessful. One of the significant observations is that even PLA candidates who were ultimately successful did have identified gaps. In fact, successful PLA candidates were actually more likely to have gaps identified in the competency areas of Ventilation Management, Basic Respiratory Care, Pharmacology and Medical Gas Therapy. Successful candidates were however, much less likely to have gaps identified in Patient/Client Assessment, Pulmonary Diagnostic Testing, Blood Analysis, Anaesthesia Assistance, Cardiac Diagnostic Testing and Hemodynamic Monitoring.

Summary of Stage 1 Interview and Feedback Findings:

The observations that can be drawn from these Stage 1 Assessments are:

- All PLA candidates were assessed as having learning gaps, the majority in core, foundational competency areas of RT practice.
- While there were variations in the gaps identified for PLA candidates with an RT- vs. non-RT educational background the sample size was too small and the variability too great to identify distinct trends.
- It is significant that even PLA candidates who were ultimately successful had identified learning gaps in foundational areas of RT practice. This may indicate that these candidates may not have necessarily had a stronger RT-related knowledge or competency base, but that overall strengths in other competency areas or the ability/ willingness to complete whatever additional education was necessary may have led to successful outcomes for these candidates.

[15] This included Anaesthesia and Medical Technicians.

Stage 2 Didactic Assessments

The Stage 2 Didactic Assessment is administered to PLA candidates who have completed Stage 1 and usually completed additional courses and/or self-study. PLA candidates decide, usually in consultation with the school, at what point they will attempt this assessment. The Stage 2 Didactic Assessment is the same test that must be completed by the students in the full-time RT program at the end of their 3 years of study[16], in order to graduate. During the time period in consideration (1999 – 2008), the sections of the exam were based on the Canadian Society of Respiratory Therapists (CSRT) 2000-2005 Occupational Profile[17].

Students are required to obtain a score of 60% on this assessment in order to pass. PLA candidates are allowed to attempt this assessment only twice. If they fail twice they are not allowed to proceed in the PLA process. This is in effect the first stage at which PLA candidates can be stopped in the PLA process. PLA candidates must pass the Stage 2 Didactic Assessment before being allowed to progress to the Stage 3 Clinical Assessment.

Methodology

In all, overall scores were obtained for 28 PLA candidates. Breakdown scores, which provide the scores on specific sections of the assessment, were available for only 14 PLA Stage 2 exam writers. In order to demonstrate the relative importance of these sections, the competencies were placed in order in the charts consistent with the weighting of these items on the CBRC.

Additionally, the results were grouped to look at the overall and section marks scores by:

- All PLA candidates;
- RT-educated candidates vs. MD-educated candidates with RT or Anaesthesia background;
- RT-educated candidates vs. MD-educated candidates without RT or Anaesthesia background; and,
- Successful vs. Unsuccessful/Incomplete PLA applicants.

[16] This may partly account for the low success rate on this assessment. While full-time RT students attempt this exam after successfully completing three years of study including clinical placement, PLA candidates, many of whom are not RTs, must pass this prior to being exposed to an RT clinical placement experience in Canada.

[17] *2000 – 2005 Occupational Profile,* Canadian Society of Respiratory Therapists.

Overall scores provide only a broad overview of average scores. The sample size is too small, especially when broken down by comparator group, to draw firm conclusions regarding trends in areas of weakness or "gaps".

(Didactic) assessment marks (see Figures 23 – 26, Appendix 4) were compared as total marks and section marks.

Overall performance on Stage 2 Didactic Assessment: All PLA Candidates

The overall average score of all PLA candidates who attempted the Stage 2 Didactic Assessment was 55.1%. When the distribution of exam scores on the Stage 2 Didactic Assessment are looked at overall (Figures 21 – 22, Appendix 4) it can been seen that the marks are skewed on the low side, with some PLA candidates scoring as low as between 35 – 39% and no exam writers scoring above 75%. As can be observed in Figure 22, Appendix 4, even some individuals who passed Stage 2 were ultimately unsuccessful in successfully completing the PLA process and becoming registered. In discussion with assessors at the Michener Institute, this is consistent with their observation that even individuals who pass the Stage 2 Didactic Assessment "squeaked through" and were not necessarily candidates with strong RT-related competencies. When performance on specific areas of the Stage 2 Didactic Assessment exam are looked at (see Figure 23, Appendix 4), the scores on areas that are heavily weighted on the CBRC were quite low, and significantly below the 60% pass rate.

For example:

1. Ventilation Management: 45.8%
2. Airway Management: 54.7%
3. Patient Evaluation: 49.5%
4. General Therapeutics: 44.7%
5. Pulmonary Diagnostic Testing: 46.4%
6. Health and Safety: 53.4%
7. Blood Analysis: 53.7%

Didactic Assessment Scores: IERT vs. MDs with RT or Anaesthesia background (Figure 24, Appendix 4)

Caution should be used when observing these results, as few section marks were available and therefore the total sample size is extremely small (n = 11). A basic observation is that PLA candidates who were MDs with RT or Anaesthesia background scored significantly higher overall (63.9% vs. 49.9%) and on virtually every area of this assessment as compared to PLA candidates with an RT background.

Didactic Assessment Scores: IERT vs. MDs without RT or Anaesthesia background + other IEHPs (Figure 25, Appendix 4)

Caution should be used when observing these results, as few section marks were available and therefore the total sample size is extremely small (n = 11). A basic observation is that PLA candidates who were MDs with no RT or Anaesthesia background scored higher overall (58.5% vs. 49.9%) than IERT PLA candidates but that neither group had an average score that reached the passing threshold of 60%. While there was a greater variation in scores on the various sections of the exam, RT-educated PLA candidates appeared to score lower than the comparator group on heavily weighted items such as Ventilation Management (40.2% vs. 55.2%) and Airway Management (49.5% vs. 64.6%).

Didactic Assessment Scores: Successful vs. Unsuccessful/Incomplete (Figure 26, Appendix 4)

Caution should be used when observing these results, as few section marks were available and therefore the total sample size is extremely small (n = 14). Not surprisingly, the Successful group achieved an average overall score that was higher than the Unsuccessful Group (62.8% vs. 53%). The successful group also scored higher on virtually every area of the exam, with significant differences in heavily-weighted areas such as Ventilation Management (63% vs. 42.9%), Airway Management (77.4% vs. 50.9%) and Patient Evaluation (63.8% vs. 47.1%).

Summary of Stage 2 Didactic Assessment Findings:

- Overall, PLA candidates did not perform very well on this assessment, though those PLA candidates who were internationally educated physicians generally scored higher than RT-educated applicants.
- Considering that this is an assessment that was designed for Ontario-educated students graduating from a 3-year, full-time RT program, it is not surprising that PLA candidates who have had no Canadian clinical experience in respiratory therapy would find this exam very difficult.

Stage 3: Clinical Assessment

The Michener Institute in Toronto was involved in organizing Stage 3 Clinical Assessments for all PLA candidates who progressed to this stage. For each of the candidates, the Michener Institute tried to find a clinical placement base site that could accommodate each candidate as much as possible for up to 24 weeks. Throughout the Clinical Assessment stage each PLA candidate was supervised and assessed by several different RT assessors in the various rotations.

The clinical rotations at the base site usually included:

- Intensive Care Unit (ICU);
- Wards;
- Emergency Department; and
- Operating Room (OR).

Additional specialty rotations that might be arranged with another facility could include: Paediatrics (3-4 weeks); Neonatal Care (3-4 weeks); Pulmonary Function Testing (2-3 weeks); Operating Room, if not available at clinical site (2-3 wks); Chronic care/Homecare (1-2 wks).

In all, only 9 PLA candidates during the data capture period (1999-2008) progressed to Stage 3 Clinical Assessments. Of these, eight were ultimately successful and became registered with CRTO and one candidate was unsuccessful. As these assessments resulted in successful completion or not, the information contained in the assessments is not very useful for identifying gaps – ultimately all successful candidates were able to successfully demonstrate all of the required competencies. However, in the following section the clinical assessors who supervised PLA candidates provide more information regarding observations of candidate strengths and weaknesses.

Survey of CRTO PLA Clinical Assessors

In March 2010 an electronic survey was distributed to CRTO members who were believed to have supervised PLA candidates completing their Stage 3 Clinical Assessments between 1999-2009[18].

The purpose of the survey was to gain a better understanding of their assessment of the strengths and weaknesses of CRTO PLA candidates they had supervised and to find out whether they had any observations or recommendations regarding the PLA process that could be useful for shaping a future model.

In all the CRTO distributed the survey to 35 of its members who were believed to have supervised PLA candidates completing their Stage 3 Clinical Assessments between 1999-2009 and for whom valid e-mail addresses were available. In all 16 individuals responded to the survey, a response rate of 46%. Of the 16 respondents, 13 confirmed that they had supervised PLA candidates and three indicated that they had not, and were therefore exited from the survey. The survey is included as Appendix 5.

Some of the highlights of the survey responses included:

- A quarter of respondents indicated they had supervised one IEHP, with the remainder indicating they had supervised more than one. Three clinical assessors had supervised five or more IEHP PLA candidates.
- The majority reported that their supervisory experience was recent, the greatest activity had occurred in 2008, when eight individuals indicated they had supervised a candidate in that year.
- When asked to rate the competencies of PLA candidates they had supervised, respondents were able to report only on those areas of practice that they had supervised; therefore the responses were few in some areas.
- The assessors rated the performance of PLA candidates as satisfactory or strong in the majority of competency areas. The exceptions were: Health Education, Prevention and Promotion; Consultation/Collaboration; Ventilation Management; and Communications.
- Assessors indicated that securing clinical placements seemed to be difficult for the PLA candidates and some seemed unprepared for this stage. Some reported that PLA candidates had difficulties with airway management and ventilation; on the other hand one assessor reported that IEHPs who were educated as Anaesthesiologists had excellent skills in airway management.

[18] For the purpose of this information-gathering exercise, the data sample was expanded to include 1999 data.

- Significant learning gaps (identified as Some Gaps - skills development recommended or Large Gaps – could cause practice/safety concerns) included:
  - English language (written, spoken and listening/comprehension);
  - Basic Respiratory Care; and
  - Analysis and Problem Solving.
- None of the clinical assessors recommended that the PLA process be continued as is. Three respondents (of 8) recommended the development of an RT bridging program, half of them (4) recommended that IEHPs be given advanced standing and integrated into a full-time RT program. None of them indicated that IEHPs should be required to complete the entire 3-year RT program.
- An additional recommendation was that IEHPs be matched with a mentor.

As a follow-up to the survey of clinical assessors, two clinical educators who had supervised PLA candidates in their stage 3 clinical placements volunteered to be interviewed. In the following summary of these interviews the key informants have been de-identified to protect their privacy and that of the PLA candidates.

First interview:

This clinical assessor works in a Toronto teaching hospital and had supervised between 7 – 9 IEHPs in their clinical placements in a Neonatal Intensive Care Unit (NICU). These placements took place between 1999 – 2009. The majority of these were PLA candidates though three recent candidates had also completed the Michener pilot RT bridging program. Most of the candidates had already completed other clinical placements before being placed in the NICU.

As this facility is a teaching hospital, it regularly provides supervised clinical placements for Michener's full-time RT students. The PLA candidates were each included in a cohort of no more than 3 students (with only one PLA candidate included per cohort) and the clinical placements were typically 4 weeks in length. The PLA and PLA/bridging candidates were not identified as coming to the clinical placement from a different assessment/educational stream from the full-time students, though their lack of preparedness in basic RT knowledge and skills sometimes made this apparent to their assessors.

The clinical assessor's main observations were that PLA candidates, while hard-working and motivated, were usually unprepared for their NICU clinical placement. The assessor's main observations were that they did not have a clear idea of the respiratory therapy role and were very unprepared in basic respiratory therapy assessment, therapeutic procedures, problem-solving and the technical skills required to operate ventilators and other RT-related technology. The assessor also observed that RTs

educated in other countries were not used to the technical skills, critical thinking, and independent, therapeutic role played by RTs in Ontario practice. Several reported that, in the country where they had completed their education, RTs generally had a very restricted and technical role.
In general, the assessor observed that internationally educated doctors seemed to have fairly good assessment and patient care knowledge, but they lacked the RT technical skills; IEHPs educated as anaesthetists generally had stronger trouble-shooting and technical skills than other PLA candidates.

In all, from 1999-2009 two candidates of the candidates she assessed in the NICU successfully completed their placements and ultimately became registered with the CRTO as RTs; at least one candidate was still in process at the time of the interview. It was noted that both of the successful PLA candidates had previously been educated and had worked professionally as anaesthetists before coming to Canada, and that they had completed a number of Access and Options courses and completed a great deal of self-study.

This clinical assessor had also supervised three internationally educated doctors completing the full-time Michener RT program who were unsuccessful in their NICU clinical placement, though no further observations were provided regarding this.

This clinical assessor recommended that the content of an education program for IEHPs include:

- orientation to the role of respiratory therapists in Ontario healthcare;
- education in basic respiratory therapy theory, practice and technology;
- practice using the technology of respiratory therapy care (ventilators etc.); and
- health-care communications training that would include specific orientation and practice in the style and culture of health-care and inter-professional communications in Canada (not just health-care terminology or English as a Second Language).

The successful PLA candidates were not hired by this hospital as there were no vacant positions available when they were looking for employment.

Second interview:

This clinical assessor worked in a Toronto-area community (non- teaching) hospital and had supervised two PLA candidates in their clinical placements. These placements took place between 2002 - 2006. One other IEHP had successfully registered as a respiratory therapist in previous years, and she acted as a clinical assessor/preceptor for one of the candidates.

As this facility is not a teaching hospital, they have not in the past usually supervised students in clinical placement, though recently they have begun to provide clinical placements for one of the community colleges offering a full-time RT program. The PLA candidates underwent their supervised placements one at a time over 24 weeks, and this facility was able to provide them clinical rotations in all required areas except for paediatrics and the Neonatal Intensive Care Unit.

The clinical assessor's main observations were that PLA candidates struggled in the beginning of their clinical placements and took longer to successfully demonstrate the required RT competencies and complete the clinical placements than full-time students generally would. It was further indicated that while the IEHPs supervised had RT theoretical knowledge and good assessment and patient care skills, they lacked technical skills in respiratory therapy and had difficulties at first applying theory to practice. This assessor also mentioned that in a community hospital setting RTs practice quite independently and therefore the candidates had to really work on developing their critical thinking and confidence in order to practice in a self-directed way.

Communications issues related to culture, rather than to English language ability, presented some difficulty in the clinical placements. In one case there were some conflicts and misunderstandings between a preceptor and one of the PLA candidates that appeared to result from them coming from cultures with very different communication styles. The hospital, with the assistance of the Michener Institute, was able to assist the candidate and preceptor in working through and resolving the conflict and it became an important learning experience for all.

The clinical assessor's recommendations regarding the content of an education program for IEHPs is that they be provided:

- greater orientation to the role of respiratory therapists in Ontario healthcare, perhaps including job-shadowing;
- education in basic respiratory therapy practice;
- access to simulated clinical practice to develop familiarity with respiratory therapy technology (ventilators etc.) prior to entry to clinical placement; and
- learning about communications within the healthcare team in Ontario.

This assessor was very positive about the potential benefits of providing mentoring as an additional support to IEHPs, and indicated that this community hospital has a well-developed mentorship/preceptorship training program.

Both of the PLA candidates who completed their Stage 3 clinical placements were successful and have been hired by the hospital. One has completed additional education in order to qualify to be an Anaesthesia Assistant.

Survey of CRTO PLA Candidates

In March 2010 an electronic survey was distributed to 80 PLA candidates who had been involved in the process between 1999 – 2009[19] and for whom CRTO had valid e-mail addresses.

The purpose of this survey was to gather additional profile information regarding the PLA candidates and to learn more about their experience of the PLA process and the pilot RT bridging program (if applicable) and to find out whether they had any observations or recommendations that could be useful for shaping the development of a future model. This survey is attached as Appendix 6.

In all 31 individuals responded to the survey, a response rate of almost 39%. The respondents were reflective of the overall population of CRTO applicants who attempted PLA; the largest group of respondents were educated in the Philippines (13) with the next largest groups of respondents having been educated in India (4) and Bangladesh (4). Four U.S.-educated applicants also completed the survey, with the remainder having completed their education in a number of different countries.

Some of the highlights of the survey responses included:

- Almost 57% reported having completed respiratory therapy education.
- Most respondents were not recent graduates. Only two had graduated in 2007, with the rest reporting having completed their education in 2003 or earlier (as far back as 1983). The most frequently reported years of graduation were 1997, 1995 and 1994.
- Almost two-thirds of respondents (19) reported having been registered in their profession before coming to Canada. A third (10) reported that their health profession was not regulated in the country where they had completed their education (likely RT graduates from countries other than the U.S.).
- Most respondents (27) reported having worked in their profession for a year or more before immigrating; only two indicated that they had not worked in their profession at all.
- Most respondents came to Canada as Independent/Professional class migrants (almost 59%) with the next largest group being Family class (24%) followed by Live-in Caregiver (10%).
- 45% of respondents had come to Canada alone, with the remainder reporting having immigrated with other family members such as a spouse, children or extended family.

[19] For the purpose of this information-gathering exercise, the data sample was expanded to include 1999 data.

- All of the PLA candidates had immigrated between 1997 - 2008, with the most frequently reported years of arrival being 2005 (5) and 2006 (4).
- 69% (20) indicated that they expected/wanted to have a career in RT in Canada, while 6 applicants reported that they had applied to a different regulatory body (most frequently for Physicians) before applying to CRTO.
- Five PLA candidates who indicated they had applied for registration with a non-RT regulatory body indicated that they had either become registered or were still attempting to register with that other regulator.
- In terms of the registration / PLA activities undertaken by these candidates, almost all candidates indicated that they had completed Stage 1 (over 96%); almost 68% had completed Stage 2 and just over one-third had attempted Stage 3. Candidates also reported having their documents translated, completing English language assessments, taking Access and Options or bridging courses at the Michener Institute, and completing Mask Fitting, CPR and First Aid courses.
- When asked how much they had paid to complete steps of the CRTO registration / PLA process nine candidates reported having paid less than $2,000 in all. Nine candidates reported paying between $2,000 - $7,000. 10 respondents reported paying over $9,000, with three of these reporting having paid $14,000 or more.
- As only six respondents are now General Class members of the CRTO and 13 have already been refused, had their file closed or have withdrawn their application, it appears that many applicants have paid these sums and have not been successful. Not surprisingly, "It was costing too much money" was the most-often reported reason for not completing the PLA process, with almost 70% reporting this.
- When asked what they would consider the best way to prepare IEHPs to become RTs in Ontario only 15% (4) respondents recommended that CRTO continue with the PLA process as it is. Almost a quarter of respondents recommended the development of an RT bridging program, and 37% recommended that IEHPs be given advanced standing and integrated into a full-time RT program. Two respondents indicated that IEHPs should complete the entire 3-year full-time RT program.
- Respondents made a number of recommendations regarding recognizing the previous educational and professional experience of IEHPs, reducing the costs, enhancing the technical and clinical learning for IEHPs, including supervised clinical placements/mentorships/ internships. Many respondents indicated that there were difficulties associated with the Stage 3 clinical assessment of the PLA process, including unreceptive practice settings, difficulty in finding placements etc.

- Two-thirds of respondents provided responses in the open-ended comments section of the survey, indicating a strong interest in providing feedback. These comments were very critical of the PLA process, with few positive responses. Candidates cited high costs, lack of financial aid, lengthy process, difficulties with clinical placements, lack of success in the process etc.

Michener Institute Pilot RT Bridging Program

Since 2002 the Michener Institute for Applied Health Sciences has offered the Access and Options (A & O) program to allow IEHPs in three professions (Medical Radiation Technology, Medical Laboratory Sciences and Respiratory Therapy) to take orientation and review courses to help prepare them for professional registration in Ontario. For a number of years IERTs and IEHPs going through CRTO PLA at the Michener Institute would be directed or recommended, after the Stage 1 Assessment, to take a number of A & O courses to help prepare them for the Stage 2 Didactic assessment.

The A & O courses were designed primarily as review courses, under the assumption that IEHPs had knowledge and skills of the content and needed mainly to refresh their knowledge and become familiar with the practice of their profession in the Canadian context.

Through the experience of delivering A & O courses for several years, the Michener Institute recognized that the majority of CRTO PLA candidates had substantial learning gaps in respiratory therapy theoretical knowledge and hands-on clinical skills and competencies that could not be met by the few courses available to them or through self-study. In 2008-2009 an RT bridging program was developed and piloted (see program outline as Appendix 7) to better meet the learning needs of PLA candidates.

The program was delivered mostly part-time, except for the Simulated Clinical portion, in which the bridging students were integrated into courses with the third-year full-time RT students for a period of 15 weeks. The theory and Simulated Clinical components of the program comprised a maximum of 405 hours of instruction, and participants were not allowed to progress to a clinical placement in a hospital setting unless they passed the Simulated Clinical courses and the Stage 2 Didactic examination.

The Michener RT Bridging Program, while not officially considered part of the PLA process, was designed to be taken in "lock-step" with the PLA process. The theoretical courses and Simulated Clinical were designed to be taken between Stages 1 and 2, and the PLA Stage 2 Didactic Assessment was used to determine whether participants could move on to the clinical placement (considered for these candidates to be Stage 3 of the PLA). All of the bridging program participants were already involved in the PLA process and many had already taken a number of Access and Options courses before entering the bridging program.

The bridging program tuition costs were approximately $5,500. This did not include related costs such as mask fitting, books or the costs of the Stage 3 clinical placement, if they became eligible to advance to that stage. As it was offered as a pilot and largely part-time program, participants were ineligible for the Ontario Student Assistance Program (OSAP) or other forms of student aid, though some were able to secure lines of credit.

As part of the program was delivered full-time during the day, some participants also left paid employment or reduced their number of working hours to accommodate the study schedule.

Unfortunately, the results of the pilot bridging program were disappointing. By the end of the pilot year, initially only two candidates out of seven met all requirements to progress to the Stage 3 clinical placement.

There were a number of difficult issues that arose regarding the pilot delivery. For example, due to time constraints, learners completed the Clinical Simulation courses just a few days prior to sitting the Didactic exam (PLA Stage 2 assessment). This meant that individuals were allowed to attempt the Stage 2 Didactic exam before learning that some of them had failed a Clinical Simulation course. The Michener bridging program requirements indicated that learners were required to pass the Clinical Simulation courses *and* the Stage 2 Didactic assessment before proceeding to Stage 3. This created a great deal of confusion, as the PLA process allows a candidate who has passed Stage 2 to proceed to Stage 3.

By September 2009 when the results of the Michener RT Bridging Program were known, the College was quite concerned that applicants were dedicating a great deal of effort and financial resources to the PLA and bridging program[20] without success. Therefore, the College recommended that the Michener Institute pause intake into the bridging program until the completion of the Gap Analysis Project (GAP).

After a significant amount of discussion and compromise, a few more participants were ultimately allowed to proceed to Stage 3 in Fall 2009. As of May 2010 only one of the bridging program participants has successfully completed their Stage 3 Clinical Assessment and become eligible for CRTO registration.

Due to the many issues associated with the pilot delivery of the program, some CRTO applicants have felt that they were not treated fairly or were misled in terms of the process and the likelihood that they would be successful. A number of applicants have now exhausted their PLA opportunities and at least one has been refused registration.

As part of the GAP, the Project Manager undertook interviews with Michener staff and bridging program participants in order to learn about the challenges, strengths, weaknesses and general experience of this pilot bridging program initiative. As the Michener Institute is also one of the Partners on the GAP, the input of staff has provided on-going valuable insight and recommendations throughout the project on how to proceed with the development of an educational model for the future.

[20] The cost of the PLA process was $100. and $250. for Stage 1 and 2 assessments respectively; the Stage 3 clinical assessment could take several months and cost several thousand dollars to complete ($190./wk for 20 or more weeks). Applicants who had undertaken PLA, Access and Options courses and the bridging program have reported spending over $10,000 -$14,000 or more, usually without successfully attaining registration.

Interviews with Bridging Program Participants

The Project Manager held three in-person interviews with CRTO applicants who had participated in the Michener pilot RT Bridging Program. None of the participants interviewed had yet successfully completed all stages of the process and become registered with the CRTO. Their comments and observations have been summarized and presented as gender neutral (s/he, him/her) in order to protect their privacy.

Feedback regarding Stage 1 of Bridging: Course Section (Four week-end subject review courses)

- Participants generally found the content of the four theory review courses (Respiratory Care; Ventilation; Anaesthesia; and Neonatal / Paediatric Respiratory Care) useful.
- The four theory review courses were delivered equally in the classroom and the laboratory setting, and participants indicated that they really needed more orientation to the laboratory setting and equipment and more hands-on practice.
- One candidate indicated that the theory part of the courses should be shortened to allow for more laboratory time and another mentioned that when 4 or 5 people were working with one ventilator, each individual had little opportunity to gain experience.
- All participants mentioned that they needed a thorough orientation to the laboratory, the ventilators and other equipment in order to properly benefit from the learning. Some had never worked with the equipment before and were generally unfamiliar with respiratory therapy equipment.
- Some mentioned that they felt the laboratory instructors were not supportive, were impatient with them when they had difficulties performing and also did not provide a lot of feedback on their practice or recommendation regarding remediation.
- All felt that they would have benefited from more on-going feedback and laboratory practice.

Feedback regarding the Simulation Section: Two 15-week courses

- Most participants indicated that the simulation section provided opportunity for learning and developing skills.
- One participant, however, questioned why experienced (internationally educated) physicians should have to complete this and was quite negative about the section as a whole.

- All mentioned that they needed a thorough orientation to the simulated clinical setting in order to become familiar with this type of learning, the technology and the expectations of them and their performance as learners.
- One IEHP mentioned that they did not have sufficient preparatory learning or experience with oxygen cylinders, arterial blood gas testing or ventilators before going into this section.
- One participant mentioned only having had the opportunity to perform suctioning once in this section, and felt that this was insufficient before entering clinical placement in a hospital.
- Some felt that the expectations of them were not clear.
- All mentioned that they really needed more time to learn and practice before being assessed.
- Most felt that the simulation setting was unrealistic and that they would be able to perform better in a clinical practice setting.
- Most indicated that there were communications issues as they weren't sure how they were supposed to communicate within the team and mentioned issues like making eye contact, being assertive etc.
- All felt that there were real challenges to being integrated into the simulation with 3rd year full-time students without having taken any courses with them previously They felt that they were compared unfavourably to the full-time students and that even though other students and some clinical instructors were helpful and patient. The bridging participants were of the view that others perceived them as a burden.

Feedback regarding PLA Stage 2 didactic assessment

- One participant reported having had insufficient time (a few days) between the end of the Simulation Section and the Didactic Assessment and felt that his/her performance would have been better if provided more time to prepare.
- One participant mentioned the time limit and felt s/he would have performed better with more time allowed.
- One participant mentioned that it would be more appropriate to take this assessment after having completed clinical placement.

Overall Comments and Feedback:

- As none of the participants interviewed has yet successfully registered with the CRTO, they were quite disappointed and frustrated.
- There was some confusion caused by the "lock-step" nature of the bridging program and the PLA process. It didn't seem clear to them which parts of the process were learning and which ones assessment and why the policies of the school and the CRTO didn't appear to be completely congruent.
- All mentioned the high costs of the PLA and bridging program and the lack of financial aid as being real burdens.
- Some participants felt that the CRTO had tacitly endorsed the bridging program so couldn't understand why it wasn't a "sure thing".
- One IERT indicated that many areas of Canadian RT practice are not within the scope of practice of the profession in the Philippines. Specific areas mentioned were: anaesthesia, intubations, understanding of disease processes, arterial lines, working with all three client populations (Neonates, Children, and Adults). This meant that these were new areas of learning and required more than review.
- More than one participant felt that they would have been better off entering a full-time RT program in Ontario or another province instead of attempting PLA and bridging.

Some quotes from participants included:

> *"They said I didn't "step-up" in the Sim. Lab – how can I "step-up" when I've only seen (the procedure) done once and now they're asking me to do it?"*
>
> *"A bridge should be education, not assessment."*
>
> *"If it is a bridge, make sure it can get someone to their destination."*
>
> *"Make bridging a sure thing...I have spent over $10,000. and now I have nothing."*
>
> *"The full-time students are successful – we want to be successful."*

It should be noted that the Michener Institute developed this program as a pilot, on its own initiative, through its own program funding. While the feedback was not very positive, no applicant was provided a guarantee of success, and the relationship of the bridging program to the CRTO PLA process was articulated to the candidates at the beginning of the process. A great deal of Michener staff time and resources were put towards this pilot and while the results were not as anticipated, the experience provides valuable learning to guide future development of an appropriate RT education model for internationally educated applicants.

RT Education Models for IEHPs in other Canadian Provinces

Collège Rosemont (Quebec) RT Bridging Program

Since 2003, the Quebec regulatory body, *L'Ordre professionnel des inhalothérapeutes du Québec* (OPIQ) in Quebec, has developed collaborative relationships with colleges (CEGEPs, which are *collèges d'enseignement général et professionnel*) to enable IERTs and IEHPs to complete additional education to meet the education requirement of registration. Until recently, OPIQ and the colleges used a program integration model to enable internationally educated RTs and other health professionals undertake the additional education required to "bridge" to RT practice. Most applicants were referred to Collège Rosemont in Montreal to do this.

As part of this process, OPIQ would initially review the applicant's file and provide him/her direction regarding which courses they would be required to complete in order to be considered to have met the education requirement for RT registration.

At Collège Rosemont, internationally educated applicants were integrated into the full-time respiratory therapy program, taking only the courses they had been directed to take by OPIQ. However, as they may have needed to complete courses in any of the years (first to third) of the program, it might take an individual the full three years, studying part-time, to complete the required courses. Such students received and completed their clinical placements in the same manner as the full-time CEGEP students. The cost of CEGEP education is very modest – from approximately $118 - $300 per semester (costs are lower for full-time students and higher for part-time studies).

This program integration model of education, while not expeditious, has proven quite successful. As of the end of 2009 15 internationally educated candidates were registered OPIQ members. In all, by the end of 2009 59 IERT/IEHP applicants had been referred to Collège Rosemont for additional studies.

In 2008, as part of a previous research project[21] the principal researcher held a small focus group with a group of Quebec RTs who had originally completed their education in Morocco, had successfully gone through the program integration at Collège Rosemont, and were now OPIQ members. Their comments on the process are relevant to the GAP.

[21] National Alliance of Respiratory Therapy Regulatory Bodies (NARTRB), 2008. *Access Issues Regarding Internationally Educated Health Professionals and the Respiratory Therapy Profession in Canada.* This report can be found at: http://www.nartrb.ca/eng/documents/NAReportEnglishFinalApril4.pdf.

While their experiences were varied, and one of them described hers as a "trial by fire" they were generally quite satisfied with the process. They felt that being in the classroom with Quebec students provided them with an acculturation experience that was sometimes difficult but ultimately valuable and expressed that it helped them to be very prepared to work in the Quebec health-care system. They appreciated going through the same clinical placements as their Quebec classmates and were quite eloquent about what they had learned about patient-centred care and inter-professional collaboration. All were employed full-time as respiratory therapists.

To build on this success, with a slightly different model, OPIQ has now developed a new program. In 2008-2009 OPIQ and Collège Rosemont, received funding from the Ministry of Immigration and Cultural Communities to design a bridging program (*programme de formation d'appoint*) for IERTs and IEHPs. This program began enrolment in January 2010 and the first cohort of 16 learners began the program in April 2010. This program is designed primarily to meet the educational needs of applicants educated in Morocco, Tunisia and Algeria[22] and is anticipated to take 12 months for learners to complete.

It is important to note that this program is significantly different from the Michener program, partly due to the structure of post-secondary and RT education in Quebec. As mentioned, the tuition fees for CEGEP education in Quebec are very low, making this education option more affordable and accessible to new immigrants. IEHPs enrolling in the Collège Rosemont program are required to pay $118 per semester. Most courses include both theory and clinical components, so the development of clinical skills is integrated throughout the program. The total number of hours of instruction is also significantly higher (almost triple) of what was offered in the Michener program, as can be seen in the program outline below.

[22] Individuals educated in these countries make up 90% of OPIQ's IEHP applicants.

Program Outline - Collège Rosemont (Quebec) RT Bridging Program			
Module #	**Module Name**[23]	**Didactic Hours**	**Clinical Hours**
Module 1	Introduction to working in Quebec, Cardiopulmonary resuscitation (CPR) and Automated External Defibrillator (AED) certification	45	---
Module 2	General Cardio-respiratory Care	105	165
Module 3	Diagnostic Testing	75	105
Module 4	Critical Care	105	210
Module 5	Anaesthesia Assistance	105	210
Module 6	Integration Activity	45	---
Total Course Hours	1,170 hrs	480	690
Exam	*l'Epreuve synthèse*		

As the first cohort has just recently been enrolled in this program, outcomes will not be known until sometime in 2011.

Thompson Rivers University (British Columbia) Fast Track Program

In British Columbia, Thompson Rivers University (TRU) reports receiving a few applications per year from IERTs or other health professionals wishing to enter their RT program through their fast track process[24], established in 1990. This provides accelerated access to the Respiratory Therapy Program by allowing direct entry into the second year of the program for graduates of a Bachelor of Science degree program. While this program was not specifically designed for internationally educated applicants, it does provide a potentially accelerated mechanism for them to enter and complete a Canadian RT diploma.

TRU conducts individual assessments of IERT/IEHP applicants in order to determine their learning needs and at what level of the program they can be placed. The assessment includes a review of the applicant's credentials, knowledge, and skills. A couple of RTs from Colombia were placed into the second year of the full-time three-year program through this fast-track process, and successfully completed the program. They reported[25] having struggled a bit with the process, particularly regarding language. They also felt that even though they had completed RT education before coming to Canada they

[23] This is a non-official translation from French of the course names.

[24] http://www.tru.ca/science/rt/fasttrack.html.

[25] These interviews were also undertaken as part of the previous, NARTRB research undertaken by the principal researcher.

needed to complete the TRU program as the RT profession is so significantly different in practice and scope in the Canadian context.

As the fast-track program is not specifically designed to meet the needs of internationally educated professionaIs, it does not include specific supports for them. However, they may have access to English as a Second Language courses and other services available to all TRU students.

The number of IERT/IEHP applicants who have entered the fast-track program has been few in number and only about half of them have been successful. TRU reports that difficulties encountered by IERT/IEHPs have largely been due to: lack of English language proficiency; other cultural factors such as interpersonal/interaction norms and how this fits with Canadian health profession requirements; academic preparation in home country[26]; and student's individual abilities.

Northern Alberta Institute of Technology (Alberta)

The Northern Alberta Institute of Technology (NAIT) also reports very occasionally receiving inquiries or referrals from the provincial regulatory body regarding IERTs or other health professionals wishing to enter their RT program. NAIT assesses applicants on an individual basis and has tried to integrate individuals into the second year of their three-year RT diploma program. They have had mixed results with this approach. Internationally educated applicants they have tried to assist have required substantial additional orientation to the profession, academic and language supports. As there is no specific program for these applicants, the burden of providing these supports has fallen on individual instructors. While NAIT has made great efforts to be accommodating, learners have still struggled and this approach has had limited success.

[26] One observation was that medical doctors from China seemed to have a more appropriate education preparation to be successful in the program than respiratory therapists from the Philippines.

Some Context Issues

In addition to the initiatives already indicated in previous sections of this report, there have been a number of other important efforts undertaken in recent years directly related to the issue of access for internationally educated applicants to the respiratory therapy profession in Canada.

Recent CRTO Research

In addition to the GAP research, in 2009-2010 CRTO also contracted a researcher to undertake a Situational Analysis which consisted of an overview of current challenges and issues affecting the CRTO's handling of applications for registration from applicants educated outside of Canada or registered in another Canadian province outside of Ontario. This paper also identified trends, developments and initiatives that might be useful to the CRTO in managing these issues and handling these challenges. This paper described many of the challenges inherent to the PLA process identified in this paper, but also looked at labour mobility issues, policies regarding U.S. educated applicants, self-assessment and re-entry issues and fairness initiatives. This research supported and provided context, both directly related and complementary to, the GAP research.

National Alliance of Respiratory Therapy Regulatory Bodies

Since 2007, the National Alliance of Respiratory Therapy Regulatory Bodies (NARTRB) has been awarded substantial funding from the Foreign Credential Recognition (FCR) Program of the Ministry of Human Resources and Skills Development (HRSDC) Canada to investigate issues related to the entry of internationally educated health professionals into the profession of respiratory therapy in Canada.

This work has resulted in the publication of a national research report[27] identifying the challenges faced by IEHPs seeking to become RTs in Canada, holding a Learning Days[28] mini-conference that allowed stakeholders to share information regarding initiatives and challenges, and the development of a revised National Competency Profile[29] for the respiratory therapy profession. The Alliance is currently undertaking additional national research regarding certification, credentialing and examination processes, including a comparison of some U.S. and Canadian processes.

The CRTO is a very active participant in the Alliance's Foreign Credential Recognition project activities and is aware that the development of GAP recommendations and

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[27] National Alliance of Respiratory Therapy Regulatory Bodies (NARTRB), 2008. *Access Issues Regarding Internationally Educated Health Professionals and the Respiratory Therapy Profession in Canada.* This report can be found at: http://www.nartrb.ca/eng/documents/NAReportEnglishFinalApril4.pdf.

[28] http://www.nartrb.ca/eng/learning-days.php

[29] http://www.nartrb.ca/eng/documents/2011NCPfinal.pdf

future CRTO actions should not be undertaken in isolation but in the context of and congruent with important on-going national efforts.

The Colleges Integrating Immigrants to Employment (CIITE)

During 2008-2009 the CIITE project[30] undertook a competency-based assessment project in Ontario for the profession of respiratory therapy.

CIITE was originally launched in 2003 and led by CON*NECT Strategic Alliances. CIITE is designed to improve the pathways for internationally trained immigrants (ITIs) through the Ontario college system, from pre-entry services through employment transition and into the workforce.

The Competency Assessment activity took place during CIITE Phase 3.1[31] . The aim was to develop outlines of a prototype model (see Appendix 8) to be used to assess the knowledge and skills of internationally trained individuals by program learning outcomes rather than on a course-by-course basis. The three key activities were to:

1. Develop guiding principles that colleges can use to recognize an applicant's prior skills and knowledge.
2. Compile an inventory of assessment processes, other than PLAR, that can be used to recognize knowledge and skills that exceed, complement, or are not reflected in formal credentials.
3. Develop outlines of prototype models in two professions that would assess the knowledge and skills of ITIs by program rather than on a course-by-course basis.

The Competency Assessment activity in Phase 3.1 piloted Competency Assessment for Respiratory Therapy (RT) and Mechanical Engineering Technology (MET). The RT Competency Assessment activity team had representation from Algonquin College, Fanshawe College, La Cité collégiale and CRTO and was tasked with developing process maps and assessment tools for the RT profession.

Working with the CRTO, the RT activity team developed a three-stage competency assessment process. The team worked within the competencies as determined by the CRTO, including which competencies need to be tested in a simulated and/or clinical environment.

[30] http://www.collegeconnect.on.ca/ciite/pages/general_competency.asp

[31] Please see this link to the full CIITE Phase 3.1 report: http://www.ciite.ca/SANTOS/18_Stafford/www/uploads/file/Final%20Report/CIITE%20Phase%203%201%20Final%20Report%20March%2031%202009%2020May09.pdf

- The first stage was a didactic assessment. The tool for this stage was completed and was piloted. Unfortunately, none of the candidates successfully passed this stage.
- The second stage was a series of simulated scenarios. While these were developed and several participants agreed to participate in piloting them, the candidates were felt to have insufficient theoretical knowledge to be successful. Therefore, stage 2 was not piloted.
- The third stage was anticipated to be clinical assessment which was neither completed nor piloted.

Based on the colleges' analysis and other learning in the pilot, the conclusion was that a bridging program would be necessary for IEHPs to be successfully registered to practice RT in Canada. The CIITE work reinforces the finding of the GAP analysis – that many IEHPs have large gaps in foundational respiratory-therapy related knowledge and skills and substantial additional education would be required by the majority of applicants to enable them to acquire the competencies required to practice the profession in Ontario.

CIITE was an important partner on the GAP and the didactic assessment tool and simulated clinical scenarios developed through CIITE may be suitable to be adapted and used as part of the proposed new educational model.

Developments and Issues in Respiratory Therapy Education in Ontario

During the course of the Gap Analysis Project, many discussions were held with education partners to better understand the current context regarding respiratory therapy education in Ontario. In this respect, it was invaluable to the project to have the active participation of educators on the Partners Group.

A number of issues that arose during discussions with the Partners highlighted the diversity between the full-time respiratory therapy programs and also indicated that full-time RT programs are undergoing a great deal of change at present. Some current issues and activities include:

- In addition to the Ontario College Application Service (OCAS) process, colleges use different processes or tools to determine admissions to respiratory therapy programs. These include: the use of the Health Occupations Aptitude Examination (HOAE), the Otis-Lennon School Ability Test (OLSAT); different language fluency tests (required by la Cité Collégiale in both official languages); the use of multiple-mini interviews as part of the entry assessment etc.
- Some colleges are also considering making changes to their admissions requirements in the near future.

- Beginning in 2010 la Cité Collégiale will be offering a two-week orientation to health professions in Canada for immigrant students (those who have been in Canada for less than 7 years) entering health professional programs.
- While at least two schools indicated that they will be increasing enrolment, the Michener Institute has indicated that they will be decreasing intake into the program in Fall 2010.
- The Michener Institute is undertaking a project to enhance the Michener English Language Assessment (MELA).
- The Michener Institute will no longer be offering a program in collaboration with Dalhousie University; the Michener and a number of colleges are in the process of undertaking significant program reviews.
- Many colleges reported that 2009 results on the Canadian Board for Respiratory Care (CBRC) exam were lower than in previous years, with some schools experiencing dramatic dips in pass rates[32].
- All colleges reported fairly high attrition rates, with some indicating that student attrition in their full-time programs had risen to over 50% from year to year.
- All colleges indicated that they experience on-going difficulties with finding clinical placements for students.
- The rate of employment for new graduates varies depending on the region, with new graduates in many regions reporting difficulty in securing full-time employment.

[32] It was noted that the exam was changed in 2009 and the last time this happened pass rates also dropped for awhile, then returned to average levels.

Considerations Regarding an Appropriate Education Model

The original assumption regarding the Gap Analysis Project was that the analysis of the CRTO PLA process and assessments would identify learning gaps that could then by filled through the development of a respiratory therapy bridging program. It was assumed that such a bridging program would likely use available curricula from RT schools in Ontario, supplemented by additional curricula if required.

However, upon completing the research a number of issues became apparent:

- In Ontario, respiratory therapy is an allied health profession with a relatively small number of members and an average of only about 20 internationally-educated applicants per year.
- Internationally educated applicants to the CRTO come from various countries and various health education backgrounds; approximately half of the applicants have not completed respiratory therapy education and have no work experience as respiratory therapists.
- The learning needs of applicants are different, depending on their educational background, and successful PLA candidates completed a number of different courses and self-study to prepare themselves for the Stage 3 Clinical Assessment.
- Very few (eight) PLA candidates successfully completed PLA and become registered as RTs from 1999-2008. Those who were successful included both those with an RT background and those with various medical degrees.
- Most PLA candidates had gaps in core, foundational respiratory therapy competencies such as:
    - Ventilation Management
    - Airway Management
    - General Therapeutics
    - Cardiac Diagnostic Testing
    - Pulmonary Diagnostic Testing
    - Pharmacology
    - Anaesthesia Assistance
    - Hemodynamic Monitoring
    - Blood Analysis
    - Patient/Client Assessment

    These are competencies that are required for safe and effective patient care and, for the majority of IERT/IEHP applicants, need to be developed, not just reviewed.

- The RT bridging program that was piloted at the Michener Institute in 2008-2009 was largely unsuccessful, quite expensive for applicants and very resource-intensive for the school. Any other model would have to provide much more learning, be more affordable for students and be feasible for a school to develop and offer.
- The experience of the CIITE project was that pilot participants had insufficient respiratory therapy related knowledge (as shown through the results of the written assessment) to successfully demonstrate competencies through clinical simulation. The resulting recommendation was that an educational program (bridging) be developed to meet the learning needs of IERT/IEHP applicants seeking registration as RTs in Ontario.
- RT educational programs in Ontario, while all preparing students to achieve the same entry-to-practice competencies, organize the curriculum quite differently and have different academic policies and processes regarding credit transfer and advanced standing ; a model that works with these policies and processes to integrate learners is appropriate in this context.
- Many schools in Ontario are currently dealing with lower student pass rates on the national exam, student retention issues and the need to revise their RT programs. Therefore, educational resources are being stretched. For this reason among others it may be unfeasible for schools to devote limited resources to the development of a parallel RT bridging program for a small number of applicants with various learning needs.
- In recent years Colleges of Applied Arts and Technology (CAATs) in Ontario have been involved in a number of initiatives related to identifying the learning and labour market integration needs of immigrants to Ontario. These include the CIITE project mentioned as well as other initiatives of the Colleges of Ontario Network for Education and Training (CON*NECT) and research undertaken through Colleges Ontario[33].
- Colleges have been involved in creating programs to meet the educational needs of internationally educated professionals through numerous activities, including the development of occupation specific language training (OSLT) and bridging programs, and may be willing to partner to create an innovative pathway to assist IEHPs enter the respiratory therapy profession in Ontario.

[33] Colleges Ontario, June 2009. *Enhancing the Role of Colleges in Immigrant Integration to Employment*.

Appropriate Context for Bridging Programs

With Ontario government support, bridging programs[34] for internationally educated health professionals have been developed for a number of professions, including Pharmacy, Nursing, Midwifery, Dietetics and Optometry. However, the context for successful development and delivery of such programs includes a number of factors:

- Eligible candidates are seeking to enter the same profession in Canada as they were educated for/practised before coming to Canada; they are not trying to enter a different profession altogether.
- There is a sufficient number of IEHPs with similar learning needs to warrant the creation of a separate program.
- A post-secondary institution has been willing to dedicate time and resources to developing a separate program stream. This may include the establishment of eligibility criteria; intake processes; a separate class and classroom, instructors and clinical placements.
- The focus of the curriculum is often on providing a review of professional competencies and orientation to the practice, standards, communications and technology used in the profession in Canada. This requires that suitable IEHP candidates already have a foundational background of profession-specific theory, knowledge and skills.
- The learning required to attain the required entry-to-practice competencies takes a substantially shorter time to complete than a full program.

Considering the GAP research findings regarding the profile of IERT/IEHP applicants to the CRTO and the framework of respiratory therapy education in the province, the Partners Group considered three potential educational model options and the appropriate context for each, as is shown on the next page.

[34] http://www.citizenship.gov.on.ca/english/keyinitiatives/bridgetraining.shtml

Respiratory Therapy Program Model Options for IERTs/IEHPs			
	1. Separate Bridging Program for IEHPs	**2. Supported Integration into Full-time Program**	**3. Regular Entry into Full-time Program**
Program description	Usually substantially shorter than a full-time program (i.e. 1 year or less in duration). Provides review/orientation to Ontario practice, fills small competency gaps.	Requires completion of majority of a full-time program. IEHPs would be granted course exemptions / advanced standing and complete additional education as required. Sufficient proportion of program completed to meet residency requirements & be granted diploma.	Requires completion of a complete full-time program. No course exemptions or advanced standing provided. IEHP completes all required courses of a diploma program
Appropriate IEHP learner group	Sufficient number of IEHPs with similar learning needs to warrant the creation of a separate program.	• Insufficient number of applicants to create a cohort (fewer than 10 per year). • IEHPs with different educational backgrounds, learning needs.	• Insufficient number of applicants to create a cohort (fewer than 10 per year). • IEHPs with different educational backgrounds, learning needs.
Entry Criteria	IEHPs with RT education w/ limited gaps, have met language fluency requirement.	IEHPs with RT education w/ large gaps or medical education; have met language fluency requirement; recent practice/graduation; have completed courses eligible for course exemptions, advanced standing.	IEHPs able to meet minimum full-time (f-t) program admission requirements. Not recent in practice/graduation. Few to no courses eligible for course exemptions, advanced standing
Infrastructure	Requires school to set up a separate program stream: eligibility criteria; intake; class; classroom; instructors and clinical placements.	Uses already-existing college policies regarding course exemptions / advanced standing, residency requirements to integrate and have IEHPs graduate from program as part of regular f-t cohort.	No change or additional efforts - IEHPs apply through OCAS, enter and graduate from program as part of regular f-t cohort.
Capacity Issues	Requires school to dedicate time and resources to developing a separate program stream.	• Requires school to work closely with IEHPs to determine course exemptions & advanced standing. • Requires willingness to provide support: provision of advising/support services to integrate IEHPs into f-t program and enhance student success. • May enable school to fill "empty" seats in 2nd or 3rd year, due to student attrition.	• Requires no change, but schools may want to ensure admission processes provide equal access to entry for IEHPs, or whether an alternative (e.g. # of seats set aside for IEHPs) is required. • Advising/support services for IEHPs may be needed to enhance IEHP student success.

Respiratory Therapy Program Model Options for IERTs/IEHPs			
	1. Separate Bridging Program for IEHPs	**2. Supported Integration into Full-time Program**	**3. Regular Entry into Full-time Program**
Clinical education	Bridging program able to provide clinical education.	Clinical education provided as part of regular, f-t program.	Clinical education provided as part of regular, f-t program.
Educational Outcomes	Learning sufficient to attain same RT entry-to-practice (ETP) competencies as f-t program.	Must achieve RT ETP competencies to successfully complete program.	Must achieve RT ETP competencies to successfully complete program.
Credential	Certificate of course or program completion – usually no diploma.	RT Diploma	RT Diploma
Cost	Possibly $5,500+[35]	Regular tuition[36] (reduced, as fewer courses completed).	Regular tuition
Financial aid	Usually not eligible for "regular" government financial aid (OSAP, Ontario Special Bursary Program, Canada Student Loans etc.)	Depending on course load per semester, eligible for government financial aid, subject to same criteria as other students.	Eligible for government financial aid, subject to same criteria as other students.

[35] Based on fees charged for Michener pilot RT bridging program. This does not include the costs of books etc.

[36] Tuition varies by school (may be as low as $1200./semester; however, this does not include the costs of books, supplies etc. which may be $1000.+).

Model Options

Option 1 Separate Bridging Program for IEHPs:

In considering the three model options, the Partners concluded that it is neither recommended nor feasible to try to develop a separate bridging program for internationally educated applicants wishing to enter respiratory therapy practice in Ontario. The number of internationally educated applicants to the profession is few, and those who have completed respiratory therapy education are even fewer. The GAP review of PLA assessments, evidence from the Michener pilot bridging program and results of the CIITE project suggest that the large majority of IEHP applicants have substantial gaps in foundational respiratory therapy competencies. This evidence also indicates that these learning needs cannot usually be met by review and orientation courses. A bridging program would not be suitable for internationally educated doctors transitioning to the respiratory therapy profession as they are seeking entry to a different profession and require foundational respiratory therapy education.

Option 2 Supported Integration into Full-time Program

The second option was developed in consultation with the partners as a new and innovative access model. This option was considered to be the most feasible option given the few numbers and the learning needs of applicants. It was also felt that this model could, with willingness and additional resources, be a model that respiratory therapy programs across Ontario could endorse.

This model would establish a direct access partnership between the CRTO and the colleges that would allow the CRTO to pre-screen CRTO (IEHP) applicants and in this way allow eligible IEHP candidates to gain admission to the program through a letter of direction from the CRTO rather than the Ontario College Application Service (OCAS) application process. In all other ways this model works within the existing academic structures of existing college RT programs, but establishes eligibility criteria for entry and requires a solid commitment by colleges to recognize as much of the applicant's prior learning as possible, within their own academic policies.

This option is similar to the program integration model used previously in Quebec to allow access to the full-time respiratory therapy for IEHPs. This process did not necessarily shorten the length of time between entry and completion of the program, but did allow learners to complete a

lighter course load, participate in clinical placements alongside other students and meet the registration requirement to become registered as RTs. It also provided a clear path and a timeline for program completion. This model would require applicants to complete the majority of a full-time program, but they could be granted exemptions for individual courses and/or advanced standing based on the education they had previously completed. Exemptions that might be granted could include Anatomy, Physiology, Pathophysiology and General Education courses[37].

As part of this partnership model, CRTO could support IEHPs in the process in a number of ways, including working with and advising colleges on appropriate exemptions to ensure that candidates gain the greatest amount of credit possible for previous study. One of the advantages of this model is that it would not be dependent on one school in one geographic region as a delivery partner – a number of colleges in Ontario could agree to partner with CRTO to allow access in this way. Another advantage is that eligible CRTO IEHP applicants would become regular students and eligible for financial aid under the same criteria as others in the program.

Option 3 Regular Entry into Full-time Program

Education Partners involved in the project reported that over the last few years a number of internationally educated candidates have applied to and completed their full-time programs. This has been and remains an option for any IERT or IEHP willing to complete a full three-year program and still may be the most appropriate option for some applicants. This could include those who have very large learning gaps, have been out of professional practice for many years or never practised after graduation or who would have difficulty integrating into a full-time program due to language fluency issues (such applicants could potentially complete available English language classes at a college as a pre-requisite to entering a full-time program at the same school).

While completion of a full program may seem like a lengthy and somewhat costly path to RT registration, the GAP research has indicated that many candidates are transitioning to a different type and level of respiratory therapy practice or changing professions altogether. As mentioned above, some applicants may have never practised their profession after graduating or have not practised for many years; the

[37] In keeping with the requirements of the Ministry of Training, Colleges and Universities, students in college respiratory therapy programs are required to complete four General Education courses as part of their diploma program. IEHPs that have already completed post-secondary education might be eligible for exemption for these courses.

academic policies of some schools preclude granting advanced standing or credit for courses that were completed many years previously. Enrolment as a full-time student would mean that learners could have access to student financial aid, which was unavailable to PLA candidates. When one considers that some of the PLA candidates spent over $14,000 and several years trying to gain registration without success, it suggests that completing a full-time program might have been a successful alternative option for some.

Further Elaboration of a Supported Integration Model

In considering model option two as the most feasible option, a couple of additional questions arose:

- How could this model provide more support to IEHPs? and
- Is this an appropriate model for the few CRTO applicants, such as the U.S.-educated respiratory therapists, who may have only small, specific learning gaps?

In consideration of these questions, the model was further elaborated to include an option for some applicants with small, specific gaps to be directed to complete a few courses to meet the education program requirements, and others to be directed to the supported integration process or to completion of a full-time program.

In addition, it was felt that the model could be enhanced by providing additional supports, such as orientation to the profession of respiratory therapy, mentoring and group supports. The identification of these as appropriate supports have come largely from the feedback from educators and clinical assessors and are congruent with some of the recommendations developed through the National Alliance of Respiratory Therapy Regulatory Bodies' 2008 national research report.

The suggested Guidelines for a Supported Integration Process are included as Appendix 9 and the basic model for such a process is outlined on the following page.

While a basic supported integration model could be created through changes to CRTO registration policy and the negotiation of memoranda of understanding between the CRTO and schools delivering respiratory therapy education across Ontario, the full development of such a model would involve substantial additional development and would require additional financial resources.

The eligible criteria for applicants to enter an RT Supported Integration Process would be that the applicant:

- is an international RT or medical graduate;
- has practised with appropriate registration/licensure if he/she practised in their profession;
- meets CRTO language fluency requirement;
- has graduated and/or practised in their profession within past 5 years; and
- has completed education that could be eligible for advanced standing, credit transfer, exemption etc.

The supports provided would include:

Support 1: Facilitated entry to an Ontario RT Program (through CRTO letter of direction[38])

Support 2: A formal RT Program Orientation*

Support 3: Recognition of Prior Learning (through schools' existing academic policies)

Support 4: Mentorship*

Support 5: Group Support*

[38] Rather than applying through the Ontario College Application Service (OCAS).

* The development of these supports would require a significant allocation of time and additional financial resources.

PROPOSED SUPPORTED RESPIRATORY THERAPY INTEGRATION PROCESS MODEL				
Timeline	**Step**	**Activities**		
Any time	**1. Application**	Applicant applies to the CRTO.		
Within current CRTO guidelines	**2. Assessment**	CRTO reviews all required documents, including credential and language fluency assessments, and does program review (of RT programs only[39]) and possibly experience review[40].		
	3. Decision	Applicant provided one of three decisions:		
		1- Substantially RT education – some additional education required.	**2- Education not equivalent – applicant eligible for advanced standing and integration to full-time program.**	**3 - Education not equivalent – applicant not eligible for advanced standing.**
		Type of applicant: • International RT graduate. • Has practised with appropriate registration if he/she has worked as a respiratory therapist. • Meets CRTO language fluency requirement. • Has graduated and/or practised within past 2 years. • Lacking only specific program content (i.e. Anaesthesia, clinical exposure in specific practice area).	Type of applicant: • International RT or Medical graduate. • Has practised with appropriate registration if he/she practised in their profession. • Meets CRTO language fluency requirement • Has graduated and/or practised within past 5 years. • Has completed education that could be eligible for advanced standing, credit transfer, exemption etc.	Type of applicant: • Any applicant. • Education program not equivalent. • Does not meet CRTO language fluency requirement. • Has not practised or graduated within 5 or more years.

[39] As the College regulates the practice of respiratory therapy and has in-depth knowledge of RT education programs, it has the capacity only to review respiratory therapy education programs for equivalency. Applicants with other health profession backgrounds will not be considered to have equivalent education but may be eligible for supported integration and the school will determine course exemptions.

[40] This would require some enhancement of the current CRTO program review assessment process.

PROPOSED SUPPORTED RESPIRATORY THERAPY INTEGRATION PROCESS MODEL				
Timeline	**Step**	**Activities**		
Anytime - as soon as assessment complete	**4. CRTO direction to applicant**	• Directed to successfully complete specific additional education in order to meet equivalency to Ontario RT program. • CRTO provides letter of direction to applicant for submission to RT school. • School determines when applicant can start courses.	• Provided opportunity to participate in supported integration to full-time program • CRTO provides letter of direction to applicant for submission to school that has signed CRTO MOU. • School grants admission based on CRTO direction[41] and commits to integrating applicant as soon as feasible.	• Directed to enrol in full-time RT program • Applicant must apply through OCAS and go through regular RT program application process.
Spring	**5. RT Orientation Program** (Non-credit) This may include: 1. Intro. to RT practice in Ontario; 2. Intro. to the Cdn. health care system; 3. Health care specific communication	Optional for these applicants.	• Mandatory for supported integration candidates – does not provide credit or advanced standing in full-time program. • Includes completion of an RT assessment tool (adapted from CIITE didactic assessment tool) as a final step.	Not required but available for these applicants – <u>does not</u> provide credit or advanced standing in full-time program.

[41] Applicant does not have to apply through Ontario College Application Service (OCAS).

PROPOSED SUPPORTED RESPIRATORY THERAPY INTEGRATION PROCESS MODEL				
Timeline	**Step**	**Activities**		
Any time before start of integration into full-time program.	**6. School's assessment re. integration to full-time program**	N/A	• School reviews RT assessment and uses it to guide other assessments (transcript review, PLA, challenge exams, etc.) to determine advanced standing, exemptions and credit transfer. • School provides applicant clear direction re. courses that must be completed within the full-time program and when individual can anticipate completing the program. • Information copied to CRTO so that CRTO can track for evaluation purposes.	N/A
From when RT Orientation completed to CRTO registration	**7. On-going Supports provided**	Mentoring & group support available	Mentoring & group support available	Mentoring & group support available
<1 – 3 years	**8. Completion of required education**	Applicant completes required courses and provides evidence to CRTO in order to meet education requirement of registration.	Applicant completes required courses and graduates with Ontario RT diploma.	Applicant completes required courses and graduates with Ontario RT diploma.
On-going	**9. Evaluations**	CRTO, in collaboration with partner educational institutions, to monitor on-going successes and challenges, education completion, CRTO registration.		

Conclusions

While the CRTO prior learning assessment process was developed to facilitate access to the profession for qualified internationally educated respiratory therapists and other internationally educated health professions, it has proven to be a successful process for a very limited number of applicants. The research indicates that the majority of IERT and IEHP applicants had insufficient respiratory therapy – related knowledge and skills to be able to demonstrate the competencies required for RT entry to practice through the PLA process. The PLA process also proved to be quite lengthy and costly for applicants.

Given the number of internationally educated applicants, the nature of their educational backgrounds, their substantial identified learning needs and the context of respiratory therapy education in Ontario; it is not feasible or recommended to develop a separate, parallel respiratory therapy bridging program.

The best option for the majority of internationally educated applicants to become respiratory therapist in Ontario would be a process that "smoothes the path" by providing them an opportunity to integrate into a full-time respiratory therapy program and gain as much credit as possible for the education they have already completed. Eligible candidates should be those who have completed respiratory therapy or medical education, have practised or graduated recently (within the past five years) meet fluency requirements and have completed education that could be eligible for credit or advanced standing. This is a fair, feasible, efficient and accessible option.

The development of additional supports, such as a short program to provide orientation to the practice of respiratory therapy in Ontario and the development of mentorship and group supports, would further strengthen this model and likely enhance learner success.

It should also be noted that some future applicants may have completed respiratory therapy education that is substantially equivalent to an Ontario program and they may have only small, specific learning gaps. These applicants could be best served by identifying their learning needs through a thorough assessment, such as a program review, and providing them a letter of direction that they could then take to a school, indicating the specific courses they would need to take to meet the CRTO education requirement.

On the other hand, there may be applicants who have not completed equivalent education and would not meet the eligibility criteria for supported integration. These applicants should be informed that they do not meet the education requirement and that the appropriate option for them is to complete a full-time respiratory therapy program in Ontario. If additional supports are developed, they could be offered to the candidates as well.
The specific recommendations of the GAP research are listed on the following page.

Gap Analysis Project Recommendations:

1. **Discontinue the CRTO Prior Learning Assessment process.**
2. **Negotiate and sign Memoranda of Understanding with schools interested in partnering with the CRTO to provide a supported integration process (SIP) so that eligible IEHPs may integrate into full-time respiratory therapy programs.**
3. **Revise and refine assessment processes as needed to enable CRTO Registration Committee to determine appropriate direction for IERT/IEHP applicants, as per the new model.**
4. **Establish a multi-stakeholder IEHP Working Group, led by the CRTO, of educators, employers, CIITE and at least one internationally-educated CRTO member to provide advice and collaborate with the CRTO on the SIP model and the development of additional supports.**
5. **Seek additional funding resources to develop supports as part of the supported integration process. These would include:**
   - **The development of a Respiratory Therapy Program Orientation;**
   - **Additional tools to assist schools in assessing applicant's prior learning;**
   - **An IEHP mentorship program; and**
   - **Group supports for IEHPs.**
6. **Share GAP research findings with the National Alliance of Respiratory Therapy Regulatory Bodies (NARTRB) and continue collaboration in NARTRB initiatives in order to share resources and enhance harmonization of IEHP access processes across Canadian jurisdictions.**

Next Steps

The CRTO Registration Committee has the statutory authority to make decisions regarding the registration process for entering the respiratory therapy profession in Ontario, in accordance with the registration regulation under the *Respiratory Therapy Act*, 1991. Therefore any changes to CRTO policies and processes will need to be considered and approved by the Registration Committee.

The CRTO has a commitment to fairness and transparency. Any changes to the CRTO assessment and registration processes will also be communicated both to applicants currently in process but also in a public manner so that potential applicants will have a clear understanding of the process and the options available.

Appendices

1. **Partners Group Members**
2. **Additional Education Completed by CRTO Applicants 1999 – 2008**
3. **PLA Self-assessment Form**
4. **Gap Assessment Charts**
5. **Survey of Clinical Assessors**
6. **Survey of PLA Candidates**
7. **Michener RT Bridging Program 2008-2009**
8. **CIITE Respiratory Therapy Competency Assessment Pilot Process**
9. **Guidelines for the Supported Integration of Internationally Educated Health Professionals to Ontario Respiratory Therapy Programs**

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APPENDIX 1

Partners Group Members

CRTO Gaps Analysis Project Partners Group Members

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APPENDIX 2

Additional Education Completed by CRTO Applicants 1999 – 2008:

Successfully Completed PLA and Became Registered RTs

Additional Education Completed[1] by CRTO Applicants 1999 – 2008: Successfully Completed PLA and Became Registered RTs

Michener Course Name	# course hours	Courses completed by successful PLA Candidates (numbered, de-identified)					
		1	2	3	4	5	6
Interprofessional Course on Healthcare in Canada	30	x	x	x			x
Exam assessment only	2					x	
Cardiac Testing/Cardiac Physiology, taking & interpreting Electrocardiograms	30			x			
Pharmacology Review	20			x			
Pulmonary Function Testing *Review*	20	x					x
Pulmonary Function Testing *Full Course*	50				x		x
Principles of Mechanical Ventilation Review	40			x			
Anaesthesia Technology, Pharmacology and Monitoring	40	x					x
Anaesthesia	55			x			
Pathophysiology Review	20			x			
Neonatal Resuscitation (NRP)	8	x					
Neonatal / Paediatrics	10			x			
STABLE Transport Program	8	x					
Exam Preparation	6			x			x
Continuing Care	10			x			x
Labs for ventilation, RT equipment, PFT, neonatal-paediatrics in full-time program	~26 hrs / subject		x				

[1] This table contains available information regarding six of the eight successful PLA candidates. Data may be incomplete; the purpose is to show the range of additional education completed.

COLLEGE OF RESPIRATORY THERAPISTS OF ONTARIO

THE GAP ANALYSIS PROJECT

APPENDIX 3

Prior Learning Assessment
Self-assessment Form

College of Respiratory Therapists of Ontario
Ordre des thérapeutes respiratoires de l'Ontario

APPLICANT NAME:_____

PRIOR LEARNING ASSESSMENT SELF-ASSESSMENT FORM

The purpose of this checklist is to assist you in identifying the experience you have had in practising respiratory care/therapy and the degree to which there is overlap in the theoretical and clinical performance elements identified in the CRTO Entry to Practice Competencies document with your experience. The purpose of a Prior Learning Assessment (PLA) is to establish whether or not an applicant, who does not meet the educational program requirements set out in clause 54(2) of Ontario Regulation 596/94 under the *Respiratory Therapy Act*, possesses the minimum entry to practice competencies (i.e., knowledge, skills and abilities/judgement) to safely practice the profession in Ontario.

The documents you submit will be reviewed to determine the degree to which you have been practising respiratory care/therapy. The purpose of this self-assessment, together with the screening test, is to:

i. To determine your readiness to progress to Stage 2 of the PLA process, and;
ii. To assist you in preparing for Stage 2 of the PLA process, the *Didactic Assessment*, by,
    a) Identifying any broad areas of weakness or deficiencies in the applicant's knowledge or skill when compared to the CRTO Entry to Practice Competencies; and
    b) Providing suggestions as to how the weaknesses or deficiencies might be addressed.

The Michener Institute will contact you to make arrangements for an interview and feedback session at a mutually convenient time.

Once the interview and feedback stage is successfully completed then you may complete the didactic assessment. If you successfully complete the didactic assessment, you will then be eligible for the clinical assessment. The clinical assessment will be scheduled at a time convenient to both you and any potential clinical sites (e.g., hospital, clinic, pulmonary function laboratory).

When your assessment is completed The Michener Institute will discuss the results of the assessment with you and your file will be forwarded to the College's Registration Committee. The Registration Committee will review the results of your PLA assessment and any other documents submitted by you and make a determination as to whether or not you will be given a certificate of registration.

You will receive the Registration Committee's decision in writing.

Use the following table to indicate what theory related to respiratory care you possess whether or not that exposure was through a formal educational program.

For example: If you possess knowledge about the anatomy and physiology of the cardiorespiratory system (heart and lungs) but not the central nervous system, you would start to complete the table as follows:

	Yes	***No***
I have a broad understanding of human anatomy and physiology related to the:		
Cardiorespiratory system	*U*	
Central nervous system		*U*

	Yes	**No**
I have a broad understanding of human anatomy and physiology related to the:		
Cardiorespiratory system (1)		
Central nervous system (1)		
Renal system (1)		
Other body systems (2)		
I have a broad understanding of human pathophysiology and its impact on normal function, diagnostic testing and therapeutic modalities related to:		
Injury, the inflammatory response and healing (2)		
Neonatal disorders (respiratory distress, meconium aspiration, asphyxia, etc.)(1)		
Pediatric disorders (croup, asthma, epiglottitis, etc.) (1)		
Adult disorders (asthma, bronchitis, emphysema, cardiac failure, chest trauma, etc.) (1)		
Acid/base, fluid and electrolyte balance and imbalance (1)		
Infectious diseases (2)		
Drug overdoses (2)		
I have a broad understanding of pharmacokinetics, pharmacodynamics, and administration of drugs related to:		
Conversions, dosages and drug names (2)		
Pharmacokinetics, pharmacodynamics, drug action, and drug effects (2)		
Drug administration (2)		
Drug administration specifically by inhalation (1)		
Bronchodilators (1)		
Corticosteroids, mucokinetics, antihistamines, anti-infectives, and leukotriene antagonists (1)		
Cardiotonics, antiarrhymics, antianginals, vasoactive agents, and diuretics (2)		

	Yes	No
Anticoagulants and thrombolytics (2)		
Analgesics, antagonists, sedatives, anaesthetics, and muscle relaxants (2)		
Substance abuse (2)		
I have a broad understanding of wellness and health promotion and the mechanisms established to provide a safe environment for the provision of health care including:		
Health care delivery models, respiratory therapist role, health promotion, and health education (2)		
Rehabilitation programs (2)		
Stressors, coping, shift work, and strategies to reduce the negative impacts of stress and shift work (2)		
Health care worker protection (2)		
I have a broad understanding of the application of basic sciences related to:		
Gas laws, fluid and gas dynamics, gas analysis, conversions, and electrical principles (1)		
I have a broad understanding of medical gases and their use related to:		
Characteristics, manufacture, storage, distribution, and safety of oxygen, medical gases, cylinders, and cryogenic units (1)		
Transport Canada and Canadian Standards Association (CSA) codes (3)		
Use and precautions of medical gas cylinders, O_2 concentrators, cryogenic units and their adjuncts (1)		
I have a broad understanding of pathogens related to their:		
Growth and spread (1)		
Control and impact on health (2)		
I have a broad understanding of the application, diagnostic or therapeutic value, limitations, and adaptation for various populations of the following modalities and/or equipment:		
Airways - adult, pediatric and neonatal (1)		
Adjunctive and non-adjunctive emergency and non-emergency airway management (1)		
Anaesthetic gas machines (1)		
Mechanical Ventilation (1)		
Anaesthetic management (2)		
Blood gas analyzers and blood assessment, blood gas analysis, metabolic testing (2)		
Vascular cannulas or lines (2)		
Cardiac assessment, cardiac dysrhythmias, ACLS/BCLS and defibrillation (1)		
Hemodynamic monitors (2)		
Physical assessment (1)		
Pulmonary diagnostic and/or monitoring equipment and procedures (2)		
Chest care techniques (e.g., vibration, percussion, incentive spirometry)(2)		
Vapour and aerosols (1)		

	Yes	No
Imaging procedures and chest x-rays (1)		
Medical gas therapy equipment (1)		
Medical gas analyzers (2)		
CPAP (1)		
Medical gases (1)		
Travelling with oxygen (2)		
Suction and drainage (1)		
Assisted ventilation (1)		
Principles of mechanical ventilation (1)		
I have a broad understanding of the ethical, legal, political and social parameters in Ontario related to:		
Professional self regulation (2)		
Regulated Health Professions Act (2)		
Respiratory Therapy Act (2)		
Health Care Consent Act (2)		
Related legislation (e.g., *Public Hospitals Act, Child and Family Services Act)* (2)		
College of Respiratory Therapists of Ontario regulations, standards and guidelines (2)		
Ontario health care system (2)		

Use the following table to indicate what practical experience you have had related to respiratory care. Include any experience that you received during a formal educational program.

Indicate how often you performed the activity (daily, weekly, monthly, etc) by selecting the appropriate column and indicate the patient population with the use of a AN@, AC@, and/or AA@ in that column. If you have not performed the activity, leave the section blank.

N ' with neonates C ' with children A ' with adults	**Frequency in the last 24 months**				**Frequency in the past 24 to 60 months (5 years)**				**Never**
	> once a day	< once a day > once a week	< once a week > once a month	< once a month	> once a day	< once a day > once a week	< once a week > once a month	< once a month	
Administering drugs or fluids by inhalation									
Administering drugs or fluids by instillation									
Administering drugs or fluids (intravascular, intramuscular, topically, etc)									
Administering volatile anesthetic agents									
Skin allergy testing									
Establishing airway patency without adjunctive equipment									
Managing obstructed and non-obstructed airways during cardiopulmonary resuscitation									
Managing nasopharyngeal and oropharyngeal airways									
Managing endotracheal tubes									
Inserting and removing nasotracheal and oropharyngeal airways									
Inserting and removing endotracheal tubes									
Inserting, managing and removing laryngeal masks									
Managing tracheostomy tubes									
Changing tracheostomy tubes									
Performing drug, equipment and patient preparation for anaesthesia									
Performing anaesthesia induction by inhalation and injection									
Performing intra-operative patient maintenance and monitoring									
Managing post-operative emergence and recovery									
Performing blood gas analysis									
Performing arterial blood sampling									

N ' with neonates C ' with children A ' with adults	Frequency in the last 24 months				Frequency in the past 24 to 60 months (5 years)				Never
	> once a day	< once a day > once a week	< once a week > once a month	< once a month	> once a day	< once a day > once a week	< once a week > once a month	< once a month	
Performing arterial line blood sampling									
Performing capillary blood sampling									
Performing venous blood sampling									
Performing venous line blood sampling									
Performing umbilical line blood sampling									
Inserting, manipulating, repositioning and removing arterial lines									
Inserting, manipulating, repositioning and removing venous lines									
Inserting, manipulating, repositioning and removing umbilical lines									
Inserting, manipulating, repositioning and removing central lines									
Performing electrocardiography									
Performing stress testing									
Performing Holter monitoring									
Performing cardiac compressions during cardiopulmonary resuscitation									
Intervening with cardiac dysrhthmias									
Performing echocardiography									
Performing hemodynamic monitoring									
Performing physical assessments									
Performing chest assessments									
Performing activities of daily living assessments									
Performing chest palpation									
Performing chest percussion									
Performing capnography									
Performing oximetry									
Performing transcutaneous monitoring									
Performing spirometry									
Performing lung volume assessments									
Performing diffusion capacity assessments									

N ' with neonates C ' with children A ' with adults	**Frequency in the last 24 months**				**Frequency in the past 24 to 60 months (5 years)**				**Never**
	> once a day	< once a day > once a week	< once a week > once a month	< once a month	> once a day	< once a day > once a week	< once a week > once a month	< once a month	
Performing bronchoprovocation assessments									
Performing body plethysmography									
Performing adult polysomnography									
Performing pulmonary exercise testing									
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing									
Administering aerosol and humidity therapy									
Using flowmeters, pressure reducing valves, regulators and blenders									
Performing medical gas analysis									
Initiating, maintaining and weaning CPAP									
Providing patient education									
Performing oropharyngeal, nasopharyngeal and tracheal suctioning									
Performing thoracic and gastric suction or drainage									
Inserting, maintaining and removing nasogastric tubes									
Inserting, aspirating from, repositioning and removing chest tubes									
Transporting patients between facilities									
Initiating, maintaining, and weaning from manual ventilation									
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation									
Initiating, maintaining, and weaning from invasive positive pressure ventilation									
Initiating, maintaining, and weaning from negative pressure ventilation									
Performing patient/client assessments									

I declare/hereby certify that this form is complete and correct to the best of my knowledge and belief. I further authorize the CRTO to release the information included in this form and any other documentation submitted as part of my application to the CRTO for registration or Prior Learning Assessment to any educational facility engaged by the CRTO to conduct Prior Learning Assessments.

Signature:_____ **Date:**_____

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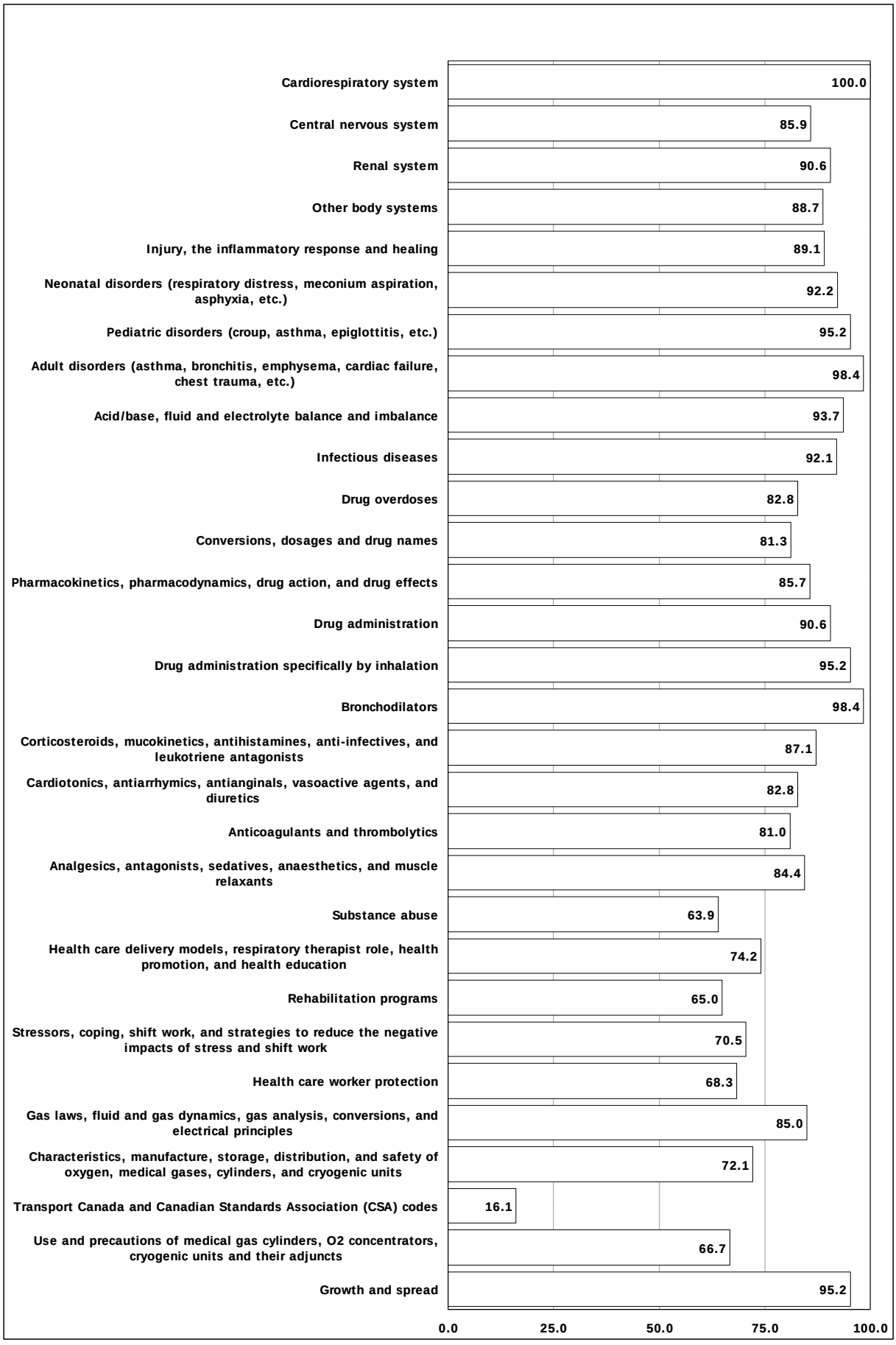
THE GAP ANALYSIS PROJECT

APPENDIX 4

GAP Assessment Charts

FIGURE 1: Percentage of Yes Responses to Self-Assessment Questions 1 to 60 - Overall, N=64



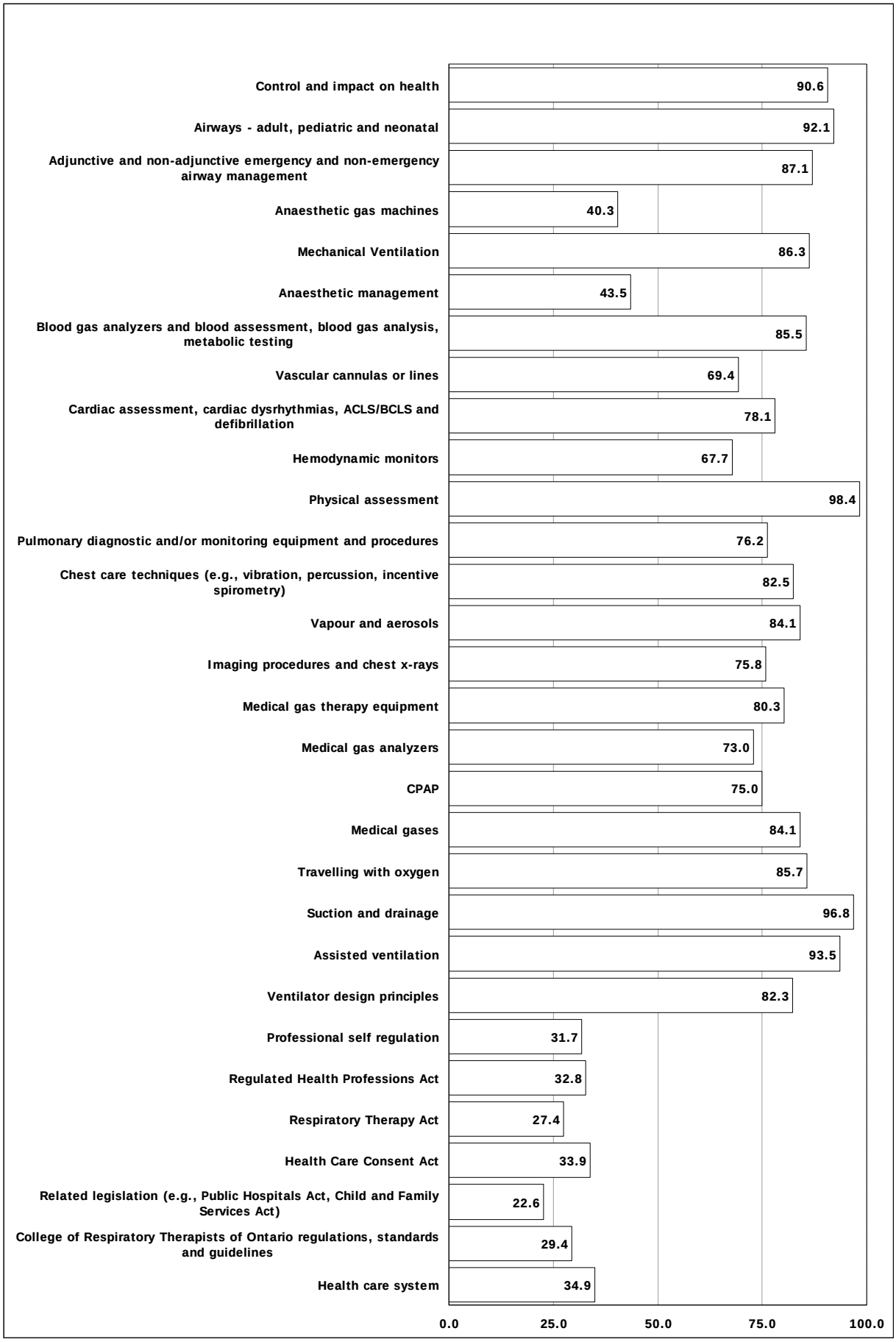
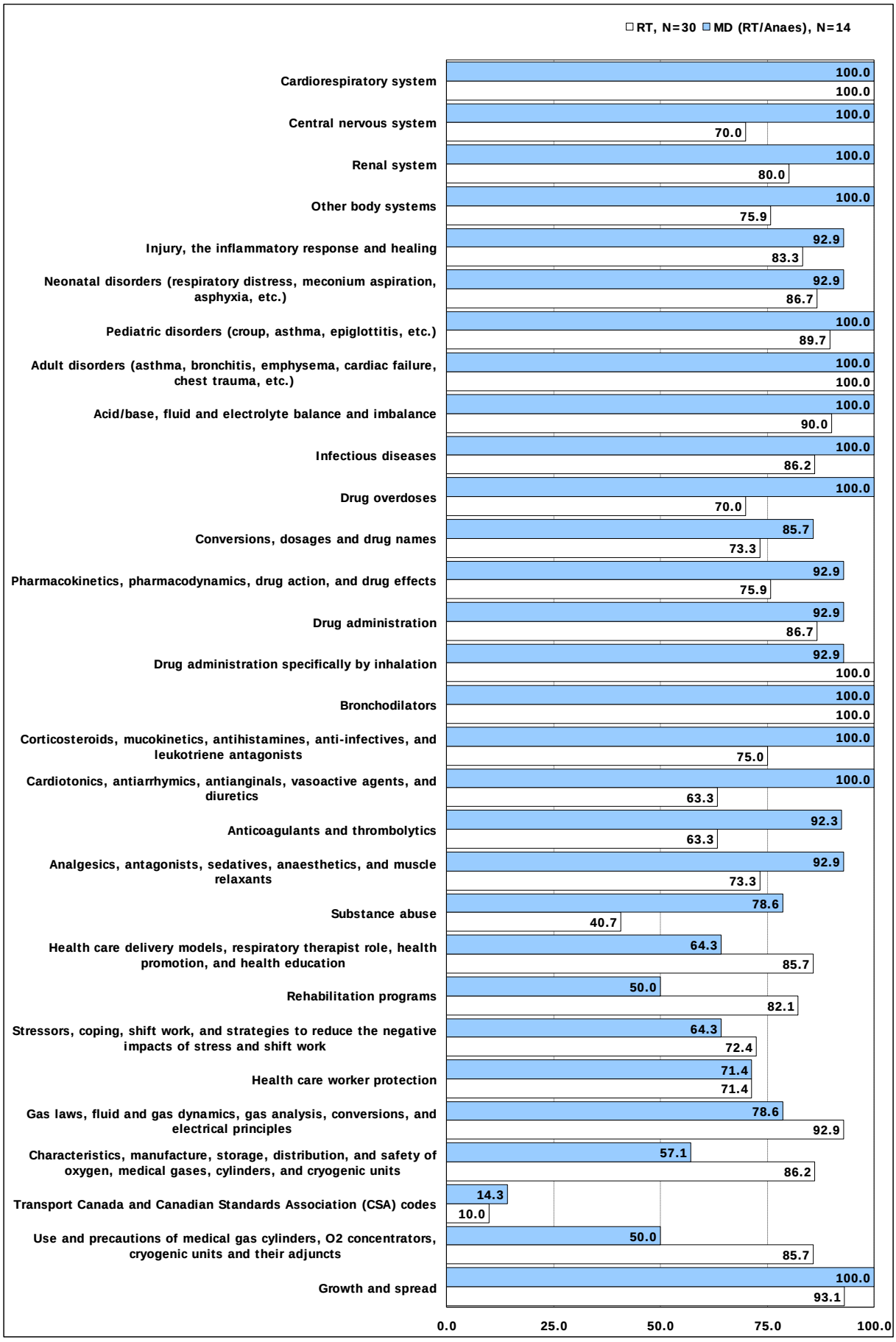

Control and impact on health
90.6
Airways - adult, pediatric and neonatal
92.1
Adjunctive and non-adjunctive emergency and non-emergency airway management
87.1
Anaesthetic gas machines
40.3
Mechanical Ventilation
86.3
Anaesthetic management
43.5
Blood gas analyzers and blood assessment, blood gas analysis, metabolic testing
85.5
Vascular cannulas or lines
69.4
Cardiac assessment, cardiac dysrhythmias, ACLS/BCLS and defibrillation
78.1
Hemodynamic monitors
67.7
Physical assessment
98.4
Pulmonary diagnostic and/or monitoring equipment and procedures
76.2
Chest care techniques (e.g., vibration, percussion, incentive spirometry)
82.5
Vapour and aerosols
84.1
Imaging procedures and chest x-rays
75.8
Medical gas therapy equipment
80.3
Medical gas analyzers
73.0
CPAP
75.0
Medical gases
84.1
Travelling with oxygen
85.7
Suction and drainage
96.8
Assisted ventilation
93.5
Ventilator design principles
82.3
Professional self regulation
31.7
Regulated Health Professions Act
32.8
Respiratory Therapy Act
27.4
Health Care Consent Act
33.9
Related legislation (e.g., Public Hospitals Act, Child and Family Services Act)
22.6
College of Respiratory Therapists of Ontario regulations, standards and guidelines
29.4
Health care system
34.9
0.0
25.0
50.0
75.0
100.0

FIGURE 2: Percentage of Yes Responses to Self-Assessment Questions 1 to 60



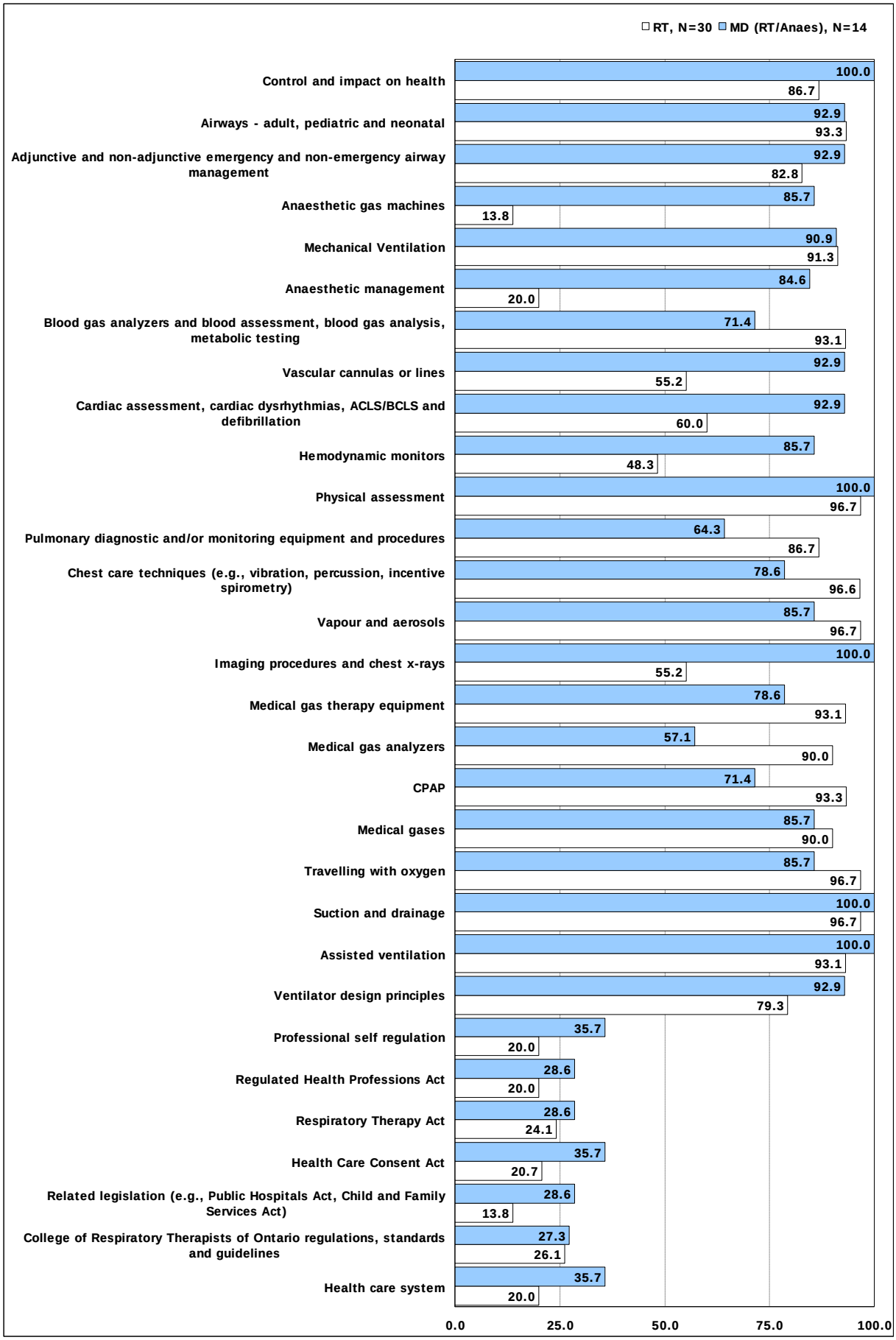
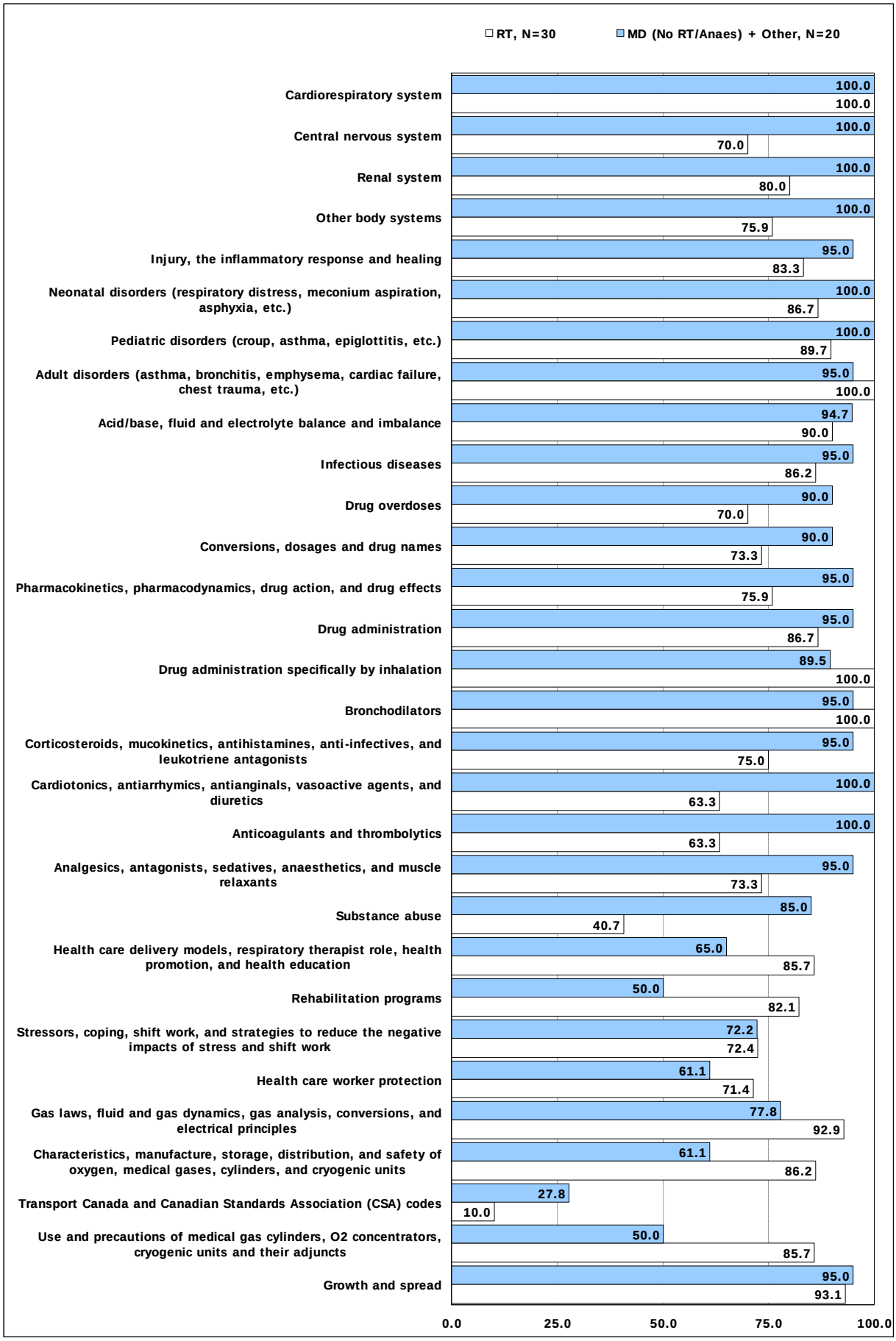

RT, N=30
MD (RT/Anaes), N=14
Control and impact on health
100.0
86.7
Airways - adult, pediatric and neonatal
92.9
93.3
Adjunctive and non-adjunctive emergency and non-emergency airway management
92.9
82.8
Anaesthetic gas machines
85.7
13.8
Mechanical Ventilation
90.9
91.3
Anaesthetic management
84.6
20.0
Blood gas analyzers and blood assessment, blood gas analysis, metabolic testing
71.4
93.1
Vascular cannulas or lines
92.9
55.2
Cardiac assessment, cardiac dysrhythmias, ACLS/BCLS and defibrillation
92.9
60.0
Hemodynamic monitors
85.7
48.3
Physical assessment
100.0
96.7
Pulmonary diagnostic and/or monitoring equipment and procedures
64.3
86.7
Chest care techniques (e.g., vibration, percussion, incentive spirometry)
78.6
96.6
Vapour and aerosols
85.7
96.7
Imaging procedures and chest x-rays
100.0
55.2
Medical gas therapy equipment
78.6
93.1
Medical gas analyzers
57.1
90.0
CPAP
71.4
93.3
Medical gases
85.7
90.0
Travelling with oxygen
85.7
96.7
Suction and drainage
100.0
96.7
Assisted ventilation
100.0
93.1
Ventilator design principles
92.9
79.3
Professional self regulation
35.7
20.0
Regulated Health Professions Act
28.6
20.0
Respiratory Therapy Act
28.6
24.1
Health Care Consent Act
35.7
20.7
Related legislation (e.g., Public Hospitals Act, Child and Family Services Act)
28.6
13.8
College of Respiratory Therapists of Ontario regulations, standards and guidelines
27.3
26.1
Health care system
35.7
20.0
0.0
25.0
50.0
75.0
100.0

FIGURE 3: Percentage of Yes Responses to Self-Assessment Questions 1 to 60



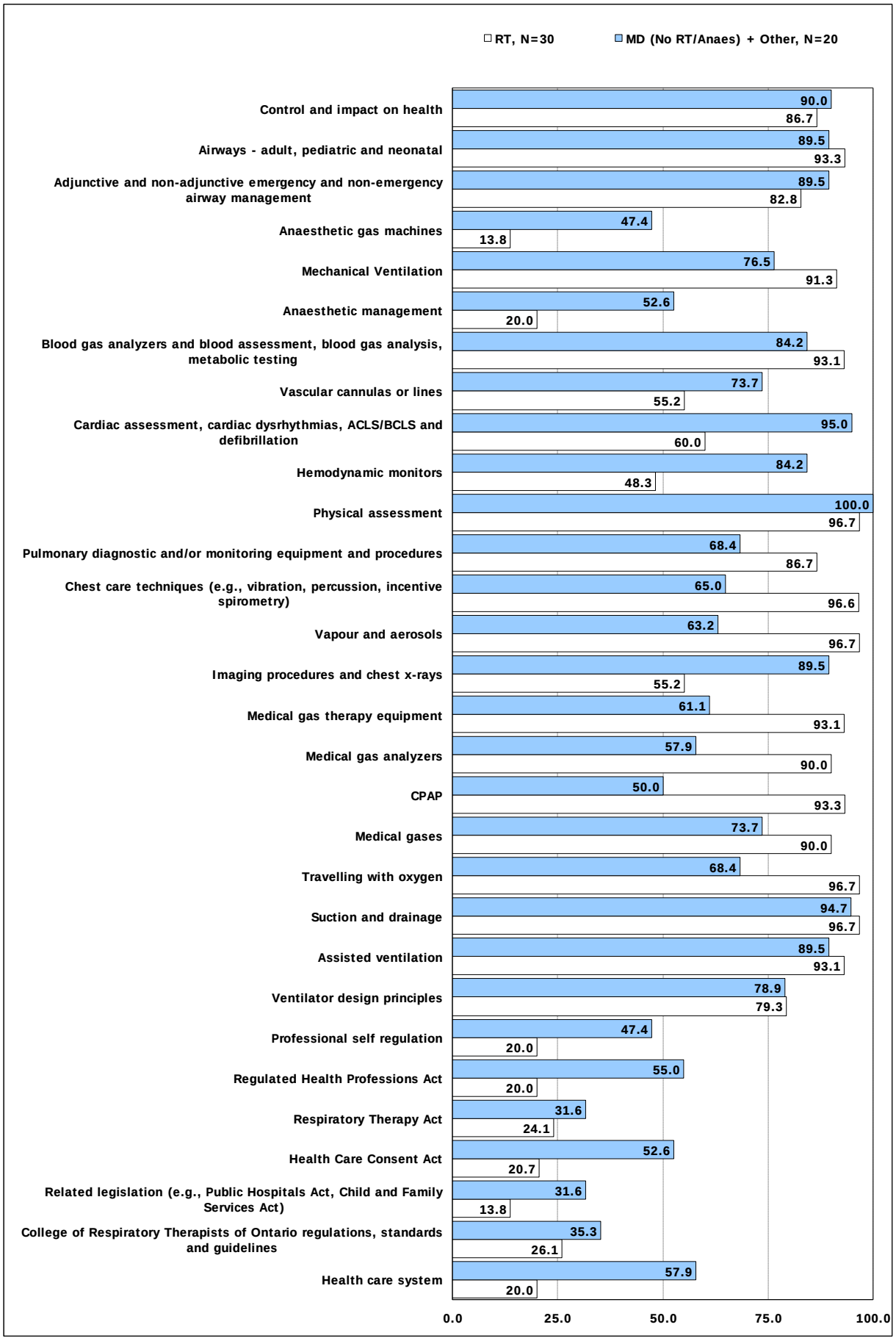
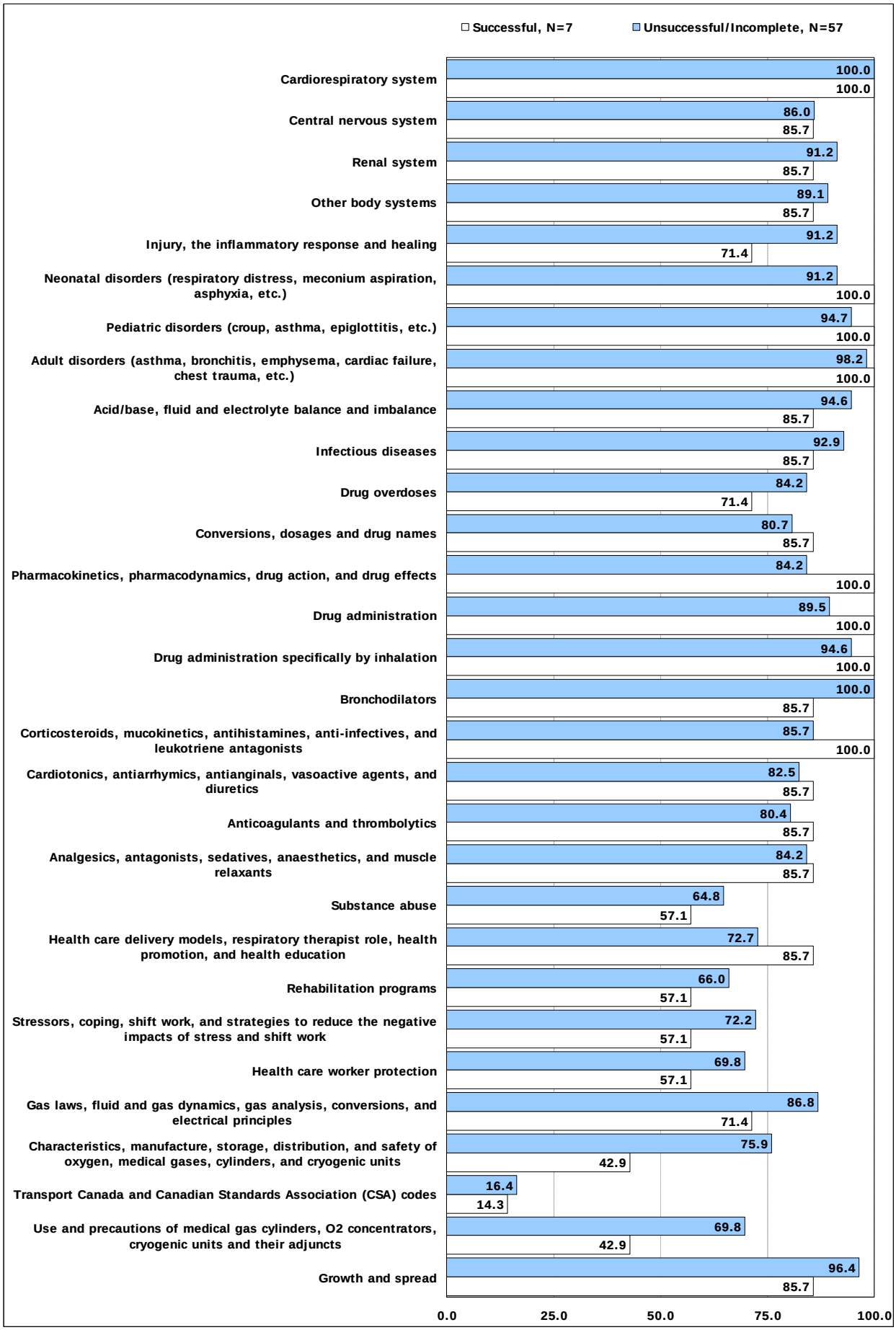

RT, N=30
MD (No RT/Anaes) + Other, N=20
Control and impact on health
90.0
86.7
Airways - adult, pediatric and neonatal
89.5
93.3
Adjunctive and non-adjunctive emergency and non-emergency airway management
89.5
82.8
Anaesthetic gas machines
47.4
13.8
Mechanical Ventilation
76.5
91.3
Anaesthetic management
52.6
20.0
Blood gas analyzers and blood assessment, blood gas analysis, metabolic testing
84.2
93.1
Vascular cannulas or lines
73.7
55.2
Cardiac assessment, cardiac dysrhythmias, ACLS/BCLS and defibrillation
95.0
60.0
Hemodynamic monitors
84.2
48.3
Physical assessment
100.0
96.7
Pulmonary diagnostic and/or monitoring equipment and procedures
68.4
86.7
Chest care techniques (e.g., vibration, percussion, incentive spirometry)
65.0
96.6
Vapour and aerosols
63.2
96.7
Imaging procedures and chest x-rays
89.5
55.2
Medical gas therapy equipment
61.1
93.1
Medical gas analyzers
57.9
90.0
CPAP
50.0
93.3
Medical gases
73.7
90.0
Travelling with oxygen
68.4
96.7
Suction and drainage
94.7
96.7
Assisted ventilation
89.5
93.1
Ventilator design principles
78.9
79.3
Professional self regulation
47.4
20.0
Regulated Health Professions Act
55.0
20.0
Respiratory Therapy Act
31.6
24.1
Health Care Consent Act
52.6
20.7
Related legislation (e.g., Public Hospitals Act, Child and Family Services Act)
31.6
13.8
College of Respiratory Therapists of Ontario regulations, standards and guidelines
35.3
26.1
Health care system
57.9
20.0
0.0
25.0
50.0
75.0
100.0

FIGURE 4: Percentage of Yes Responses to Self-Assessment Questions 1 to 60



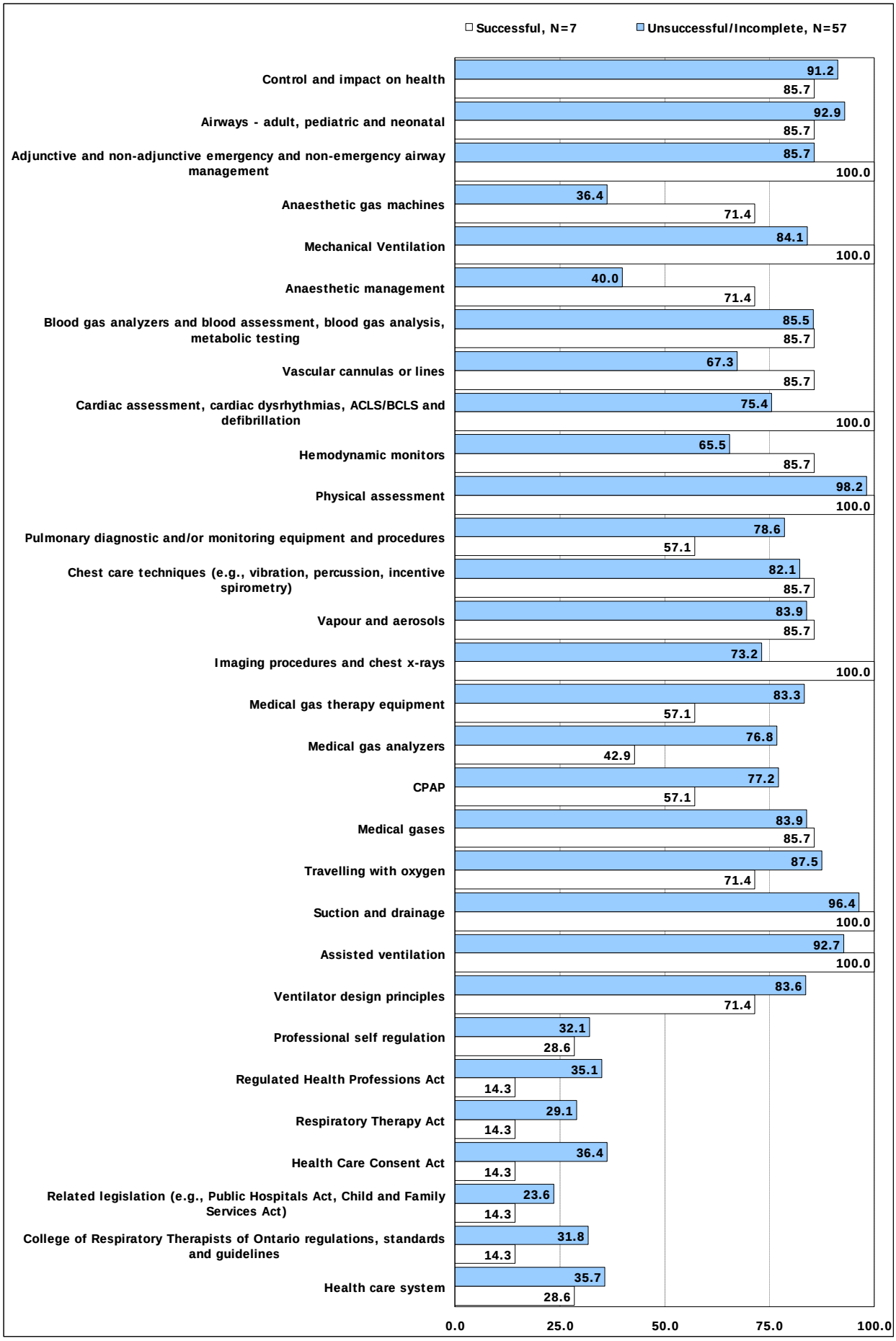
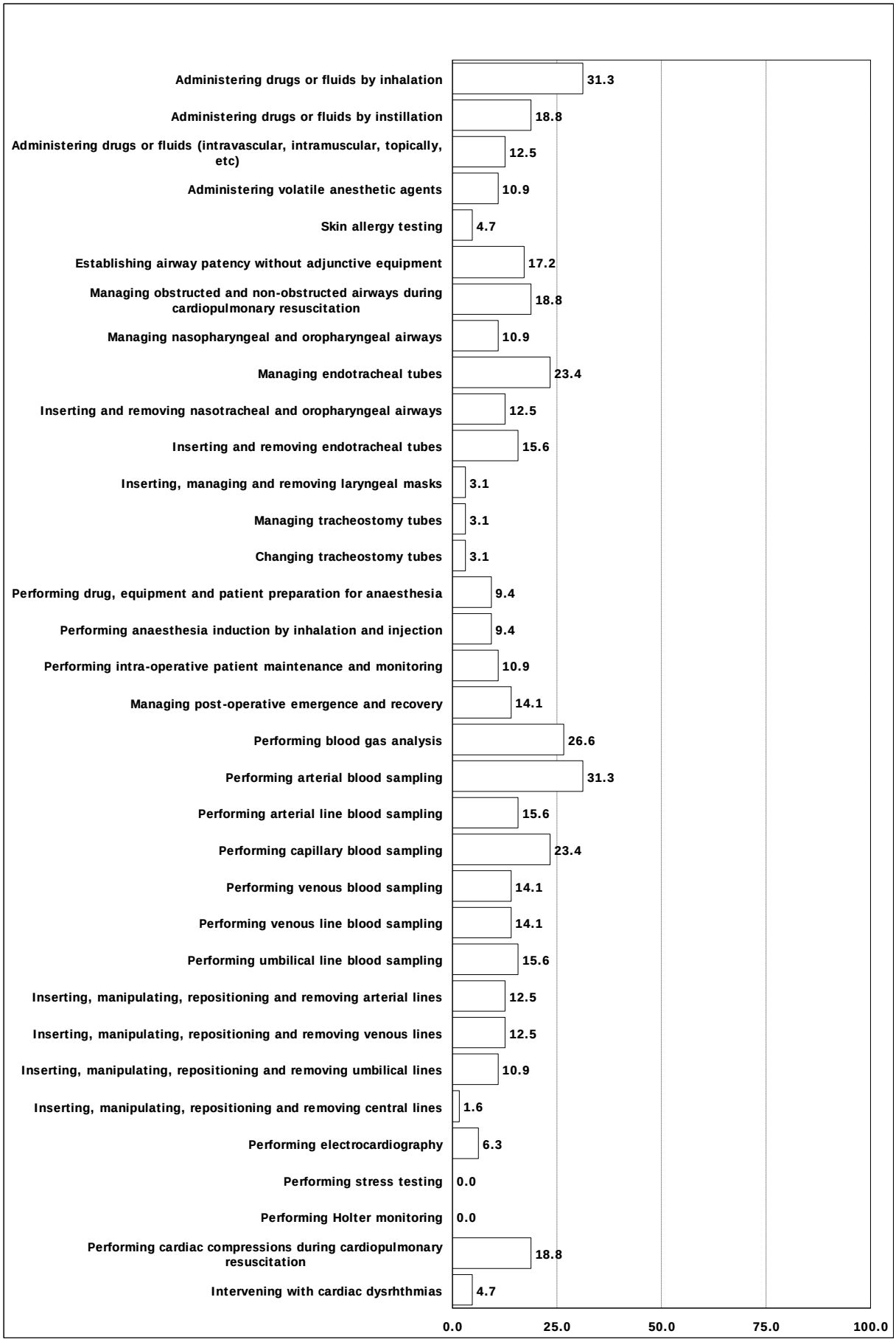
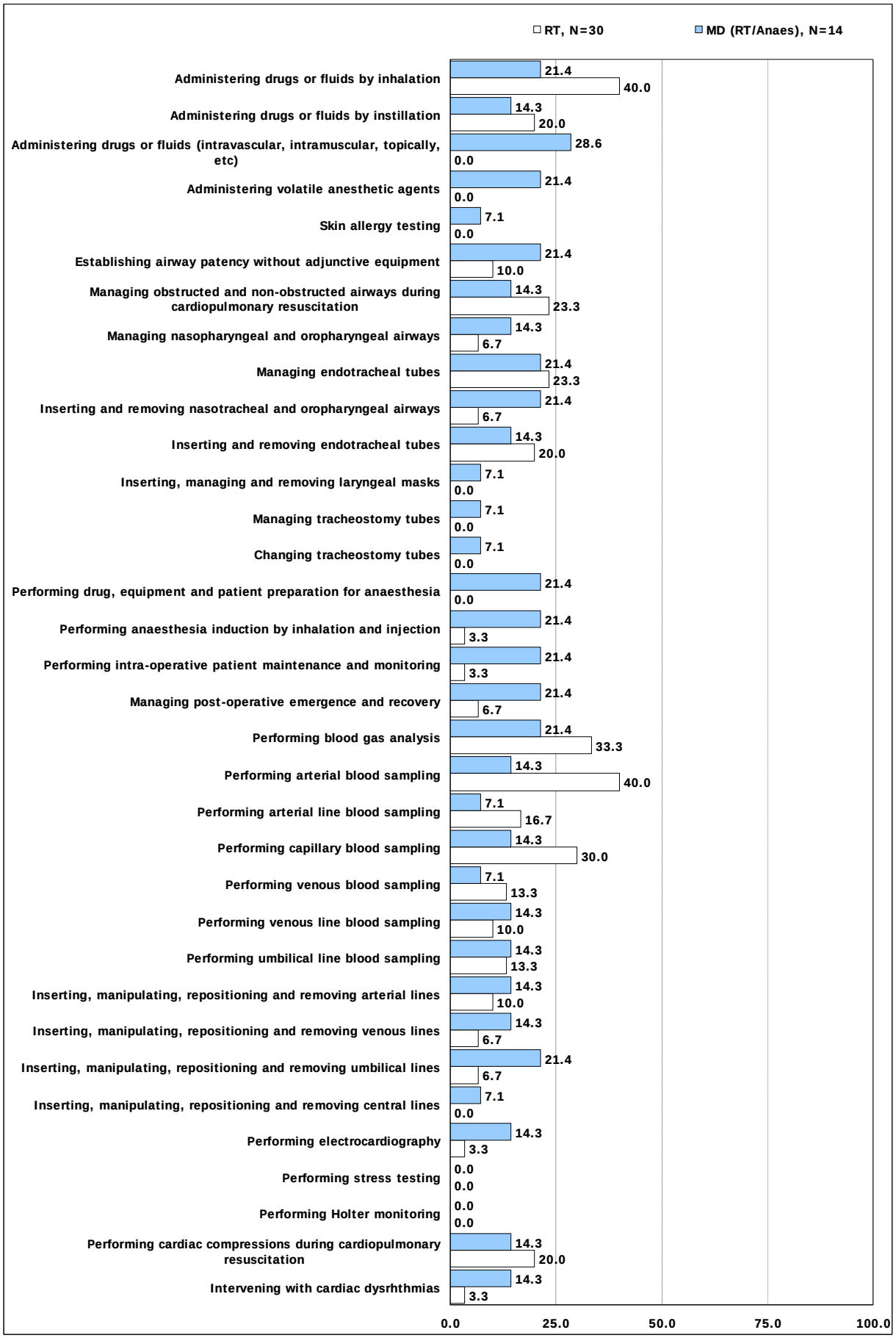

Successful, N=7
Unsuccessful/Incomplete, N=57
Control and impact on health
91.2
85.7
Airways - adult, pediatric and neonatal
92.9
85.7
Adjunctive and non-adjunctive emergency and non-emergency airway management
85.7
100.0
Anaesthetic gas machines
36.4
71.4
Mechanical Ventilation
84.1
100.0
Anaesthetic management
40.0
71.4
Blood gas analyzers and blood assessment, blood gas analysis, metabolic testing
85.5
85.7
Vascular cannulas or lines
67.3
85.7
Cardiac assessment, cardiac dysrhythmias, ACLS/BCLS and defibrillation
75.4
100.0
Hemodynamic monitors
65.5
85.7
Physical assessment
98.2
100.0
Pulmonary diagnostic and/or monitoring equipment and procedures
78.6
57.1
Chest care techniques (e.g., vibration, percussion, incentive spirometry)
82.1
85.7
Vapour and aerosols
83.9
85.7
Imaging procedures and chest x-rays
73.2
100.0
Medical gas therapy equipment
83.3
57.1
Medical gas analyzers
76.8
42.9
CPAP
77.2
57.1
Medical gases
83.9
85.7
Travelling with oxygen
87.5
71.4
Suction and drainage
96.4
100.0
Assisted ventilation
92.7
100.0
Ventilator design principles
83.6
71.4
Professional self regulation
32.1
28.6
Regulated Health Professions Act
35.1
14.3
Respiratory Therapy Act
29.1
14.3
Health Care Consent Act
36.4
14.3
Related legislation (e.g., Public Hospitals Act, Child and Family Services Act)
23.6
14.3
College of Respiratory Therapists of Ontario regulations, standards and guidelines
31.8
14.3
Health care system
35.7
28.6
0.0
25.0
50.0
75.0
100.0

FIGURE 5: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Neonates Overall, N=64




Performing echocardiography 1.6
Performing hemodynamic monitoring 10.9
Performing physical assessments 18.8
Performing chest assessments 21.9
Performing activities of daily living assessments 7.8
Performing chest palpation 20.3
Performing chest percussion 20.3
Performing capnography 9.4
Performing oximetry 25.0
Performing transcutaneous monitoring 4.7
Performing spirometry 3.1
Performing lung volume assessments 1.6
Performing diffusion capacity assessments 1.6
Performing bronchoprovocation assessments 0.0
Performing body plethysmography 0.0
Performing adult polysomnography 0.0
Performing pulmonary exercise testing 0.0
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing 15.6
Administering aerosol and humidity therapy 26.6
Using flowmeters, pressure reducing valves, regulators and blenders 20.3
Performing medical gas analysis 14.1
Initiating, maintaining and weaning CPAP 15.6
Providing patient education 7.8
Performing oropharyngeal, nasopharyngeal and tracheal suctioning 29.7
Performing thoracic and gastric suction or drainage 6.3
Inserting, maintaining and removing nasogastric tubes 9.4
Inserting, aspirating from, repositioning and removing chest tubes 4.7
Transporting patients between facilities 20.3
Initiating, maintaining, and weaning from manual ventilation 23.4
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation 12.5
Initiating, maintaining, and weaning from invasive positive pressure ventilation 14.1
Initiating, maintaining, and weaning from negative pressure ventilation 6.3
Performing patient/client assessments 21.9
0.0
25.0
50.0
75.0
100.0

FIGURE 6: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Neonates



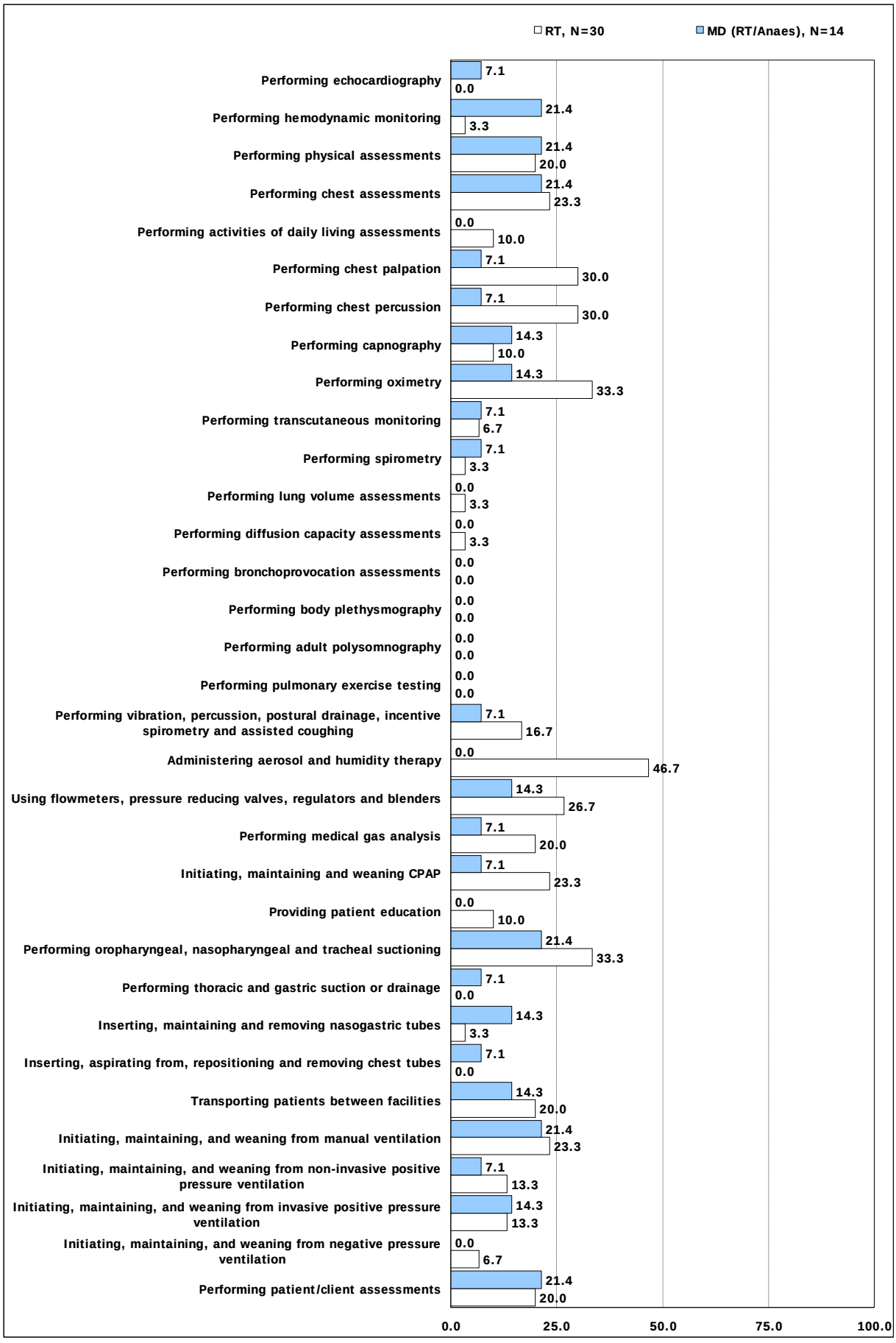

RT, N=30
MD (RT/Anaes), N=14
Performing echocardiography
7.1
0.0
Performing hemodynamic monitoring
21.4
3.3
Performing physical assessments
21.4
20.0
Performing chest assessments
21.4
23.3
Performing activities of daily living assessments
0.0
10.0
Performing chest palpation
7.1
30.0
Performing chest percussion
7.1
30.0
Performing capnography
14.3
10.0
Performing oximetry
14.3
33.3
Performing transcutaneous monitoring
7.1
6.7
Performing spirometry
7.1
3.3
Performing lung volume assessments
0.0
3.3
Performing diffusion capacity assessments
0.0
3.3
Performing bronchoprovocation assessments
0.0
0.0
Performing body plethysmography
0.0
0.0
Performing adult polysomnography
0.0
0.0
Performing pulmonary exercise testing
0.0
0.0
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing
7.1
16.7
Administering aerosol and humidity therapy
0.0
46.7
Using flowmeters, pressure reducing valves, regulators and blenders
14.3
26.7
Performing medical gas analysis
7.1
20.0
Initiating, maintaining and weaning CPAP
7.1
23.3
Providing patient education
0.0
10.0
Performing oropharyngeal, nasopharyngeal and tracheal suctioning
21.4
33.3
Performing thoracic and gastric suction or drainage
7.1
0.0
Inserting, maintaining and removing nasogastric tubes
14.3
3.3
Inserting, aspirating from, repositioning and removing chest tubes
7.1
0.0
Transporting patients between facilities
14.3
20.0
Initiating, maintaining, and weaning from manual ventilation
21.4
23.3
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation
7.1
13.3
Initiating, maintaining, and weaning from invasive positive pressure ventilation
14.3
13.3
Initiating, maintaining, and weaning from negative pressure ventilation
0.0
6.7
Performing patient/client assessments
21.4
20.0
0.0
25.0
50.0
75.0
100.0

FIGURE 7: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Neonates

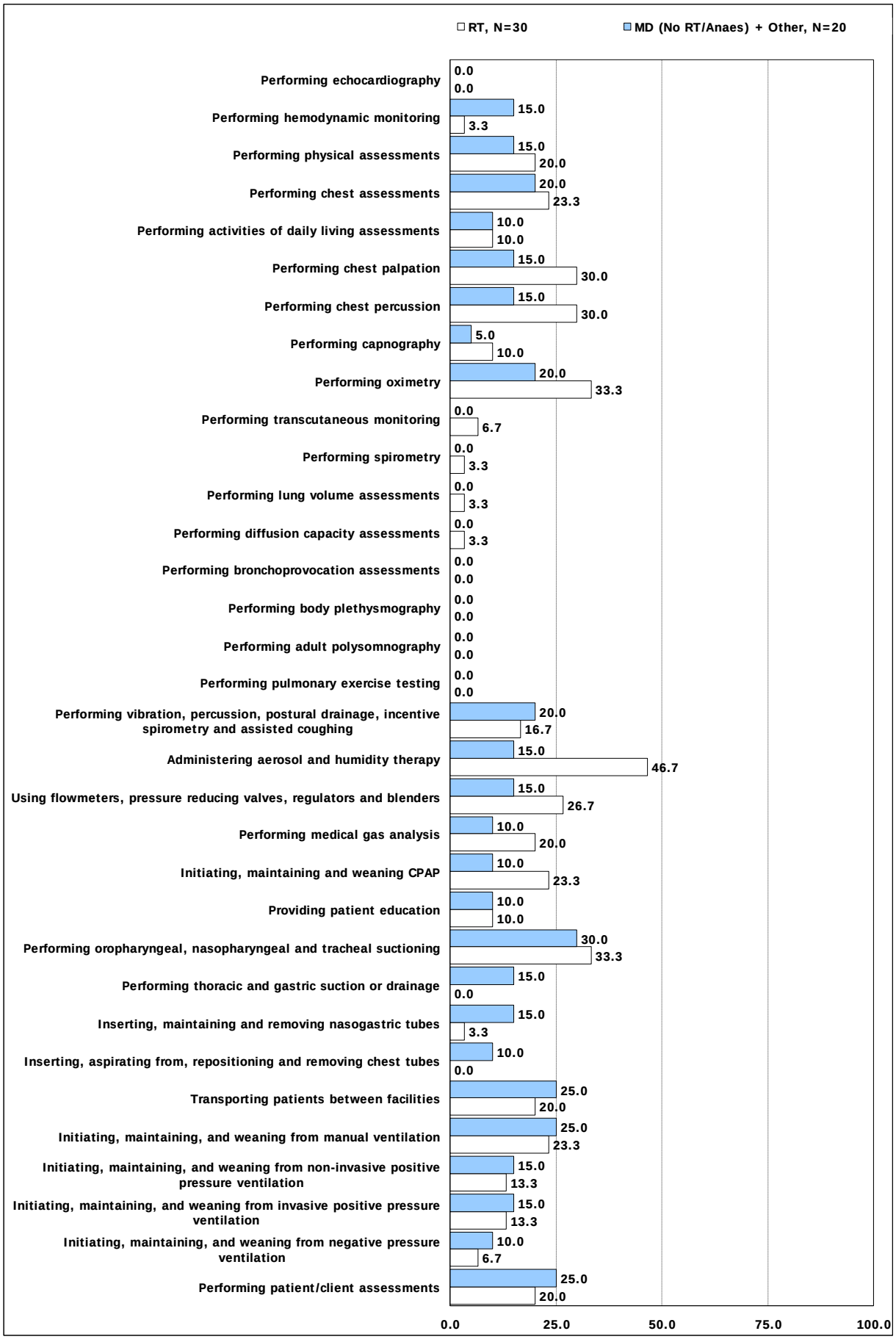
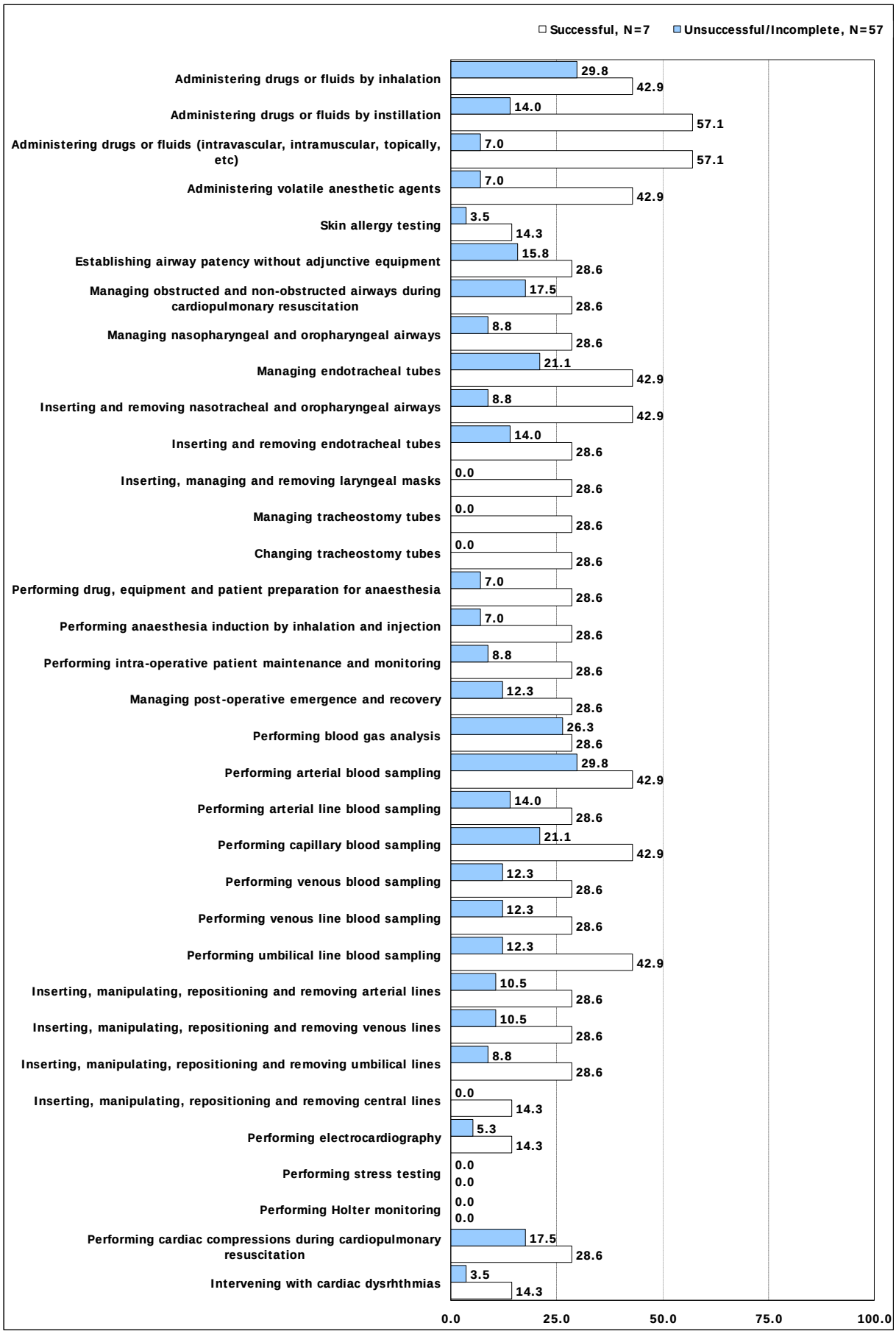
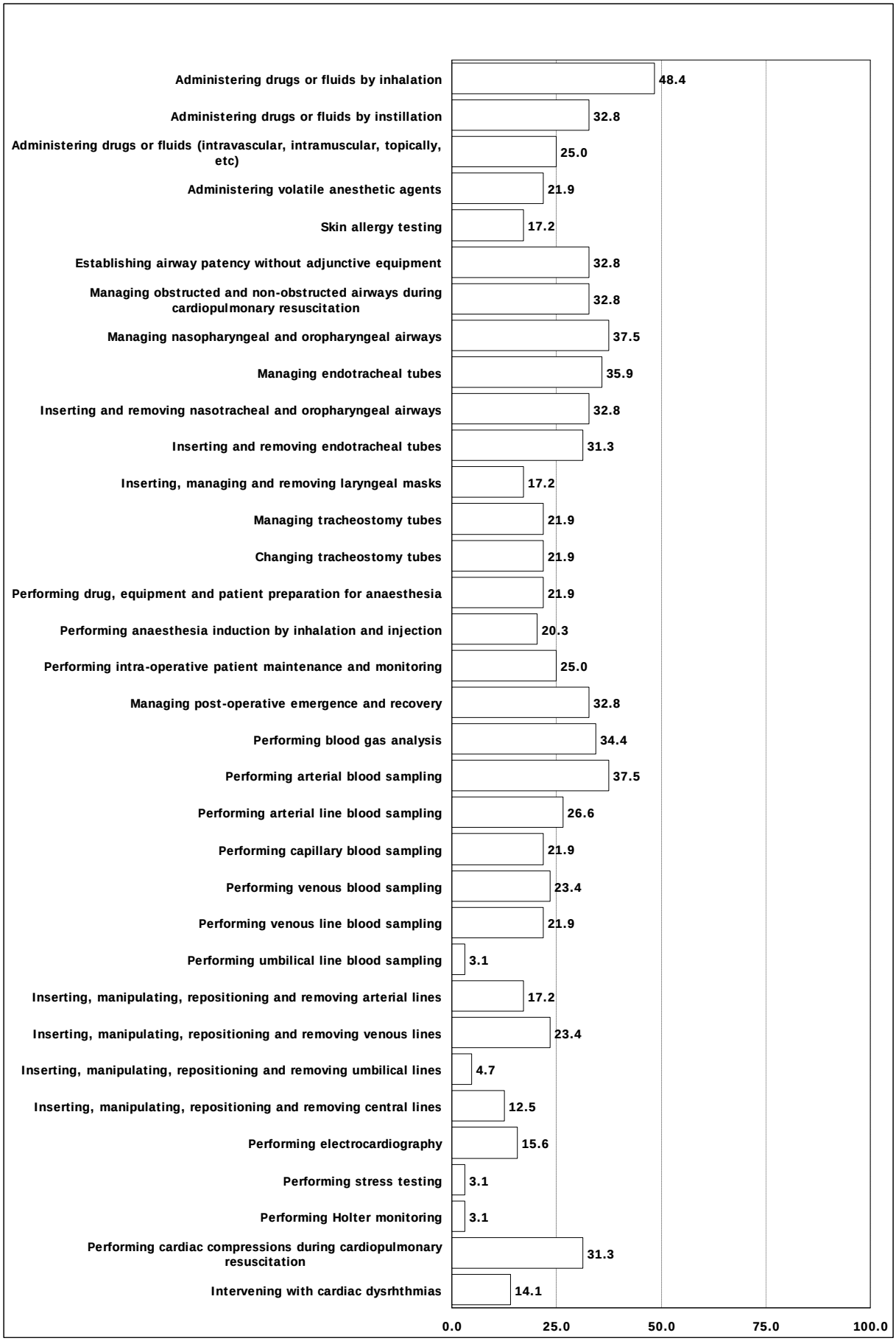

RT, N=30
MD (No RT/Anaes) + Other, N=20
Performing echocardiography
0.0
0.0
Performing hemodynamic monitoring
15.0
3.3
Performing physical assessments
15.0
20.0
Performing chest assessments
20.0
23.3
Performing activities of daily living assessments
10.0
10.0
Performing chest palpation
15.0
30.0
Performing chest percussion
15.0
30.0
Performing capnography
5.0
10.0
Performing oximetry
20.0
33.3
Performing transcutaneous monitoring
0.0
6.7
Performing spirometry
0.0
3.3
Performing lung volume assessments
0.0
3.3
Performing diffusion capacity assessments
0.0
3.3
Performing bronchoprovocation assessments
0.0
0.0
Performing body plethysmography
0.0
0.0
Performing adult polysomnography
0.0
0.0
Performing pulmonary exercise testing
0.0
0.0
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing
20.0
16.7
Administering aerosol and humidity therapy
15.0
46.7
Using flowmeters, pressure reducing valves, regulators and blenders
15.0
26.7
Performing medical gas analysis
10.0
20.0
Initiating, maintaining and weaning CPAP
10.0
23.3
Providing patient education
10.0
10.0
Performing oropharyngeal, nasopharyngeal and tracheal suctioning
30.0
33.3
Performing thoracic and gastric suction or drainage
15.0
0.0
Inserting, maintaining and removing nasogastric tubes
15.0
3.3
Inserting, aspirating from, repositioning and removing chest tubes
10.0
0.0
Transporting patients between facilities
25.0
20.0
Initiating, maintaining, and weaning from manual ventilation
25.0
23.3
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation
15.0
13.3
Initiating, maintaining, and weaning from invasive positive pressure ventilation
15.0
13.3
Initiating, maintaining, and weaning from negative pressure ventilation
10.0
6.7
Performing patient/client assessments
25.0
20.0
0.0
25.0
50.0
75.0
100.0

FIGURE 8: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Neonates



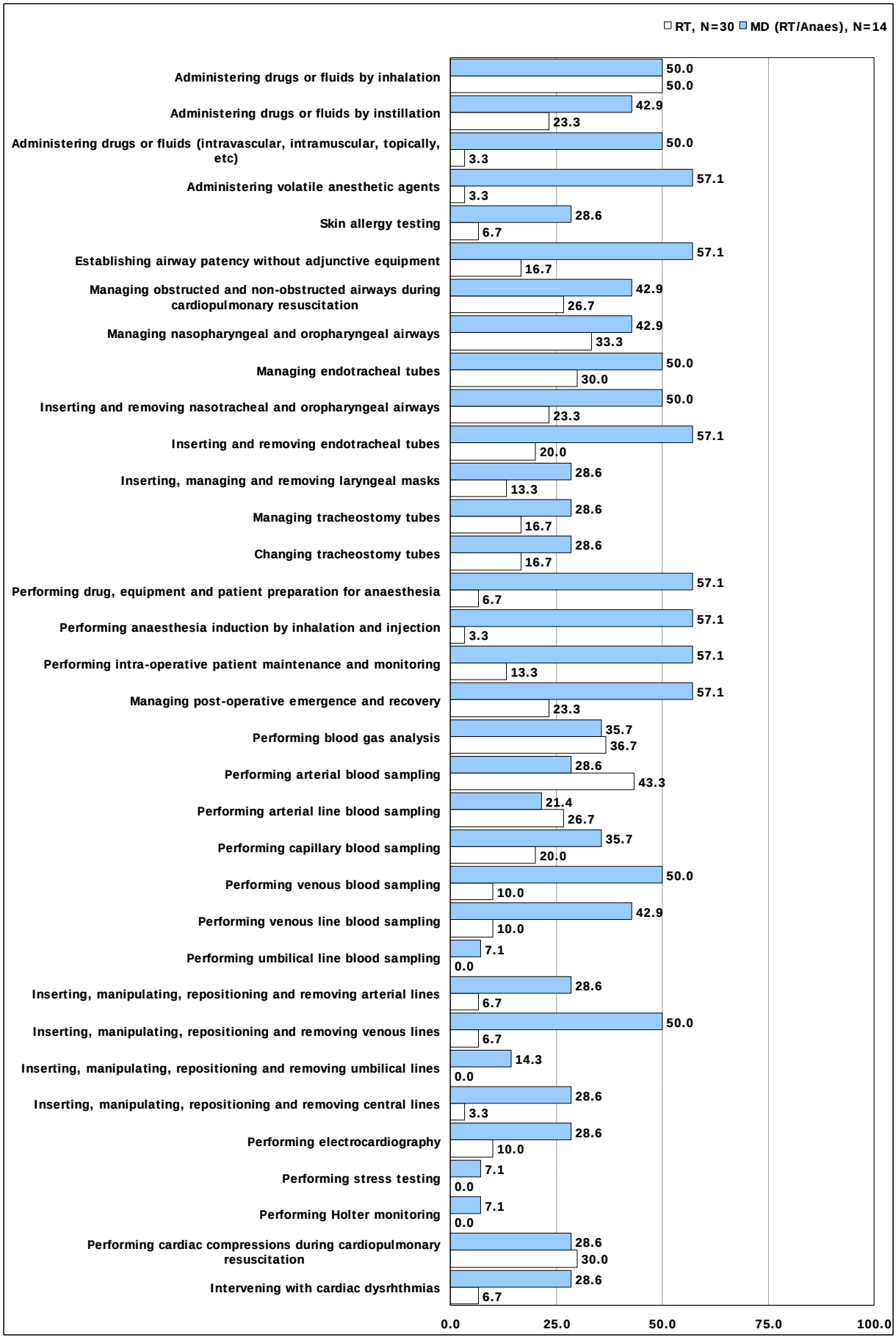

Successful, N=7
Unsuccessful/Incomplete, N=57
Performing echocardiography
1.8
0.0
Performing hemodynamic monitoring
10.5
14.3
Performing physical assessments
19.3
14.3
Performing chest assessments
22.8
14.3
Performing activities of daily living assessments
8.8
0.0
Performing chest palpation
21.1
14.3
Performing chest percussion
21.1
14.3
Performing capnography
7.0
28.6
Performing oximetry
26.3
14.3
Performing transcutaneous monitoring
3.5
14.3
Performing spirometry
1.8
14.3
Performing lung volume assessments
1.8
0.0
Performing diffusion capacity assessments
1.8
0.0
Performing bronchoprovocation assessments
0.0
0.0
Performing body plethysmography
0.0
0.0
Performing adult polysomnography
0.0
0.0
Performing pulmonary exercise testing
0.0
0.0
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing
15.8
14.3
Administering aerosol and humidity therapy
28.1
14.3
Using flowmeters, pressure reducing valves, regulators and blenders
19.3
28.6
Performing medical gas analysis
12.3
28.6
Initiating, maintaining and weaning CPAP
14.0
28.6
Providing patient education
7.0
14.3
Performing oropharyngeal, nasopharyngeal and tracheal suctioning
28.1
42.9
Performing thoracic and gastric suction or drainage
5.3
14.3
Inserting, maintaining and removing nasogastric tubes
8.8
14.3
Inserting, aspirating from, repositioning and removing chest tubes
3.5
14.3
Transporting patients between facilities
17.5
42.9
Initiating, maintaining, and weaning from manual ventilation
22.8
28.6
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation
12.3
14.3
Initiating, maintaining, and weaning from invasive positive pressure ventilation
14.0
14.3
Initiating, maintaining, and weaning from negative pressure ventilation
7.0
0.0
Performing patient/client assessments
22.8
14.3
0.0
25.0
50.0
75.0
100.0

FIGURE 9: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Children Overall, N=64




Performing echocardiography 6.3
Performing hemodynamic monitoring 21.9
Performing physical assessments 34.4
Performing chest assessments 39.1
Performing activities of daily living assessments 18.8
Performing chest palpation 35.9
Performing chest percussion 37.5
Performing capnography 20.3
Performing oximetry 39.1
Performing transcutaneous monitoring 9.4
Performing spirometry 18.8
Performing lung volume assessments 15.6
Performing diffusion capacity assessments 6.3
Performing bronchoprovocation assessments 9.4
Performing body plethysmography 1.6
Performing adult polysomnography 0.0
Performing pulmonary exercise testing 10.9
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing 31.3
Administering aerosol and humidity therapy 34.4
Using flowmeters, pressure reducing valves, regulators and blenders 29.7
Performing medical gas analysis 20.3
Initiating, maintaining and weaning CPAP 17.2
Providing patient education 21.9
Performing oropharyngeal, nasopharyngeal and tracheal suctioning 40.6
Performing thoracic and gastric suction or drainage 18.8
Inserting, maintaining and removing nasogastric tubes 21.9
Inserting, aspirating from, repositioning and removing chest tubes 10.9
Transporting patients between facilities 35.9
Initiating, maintaining, and weaning from manual ventilation 35.9
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation 20.3
Initiating, maintaining, and weaning from invasive positive pressure ventilation 28.1
Initiating, maintaining, and weaning from negative pressure ventilation 10.9
Performing patient/client assessments 28.1
0.0
25.0
50.0
75.0
100.0

FIGURE 10: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Children



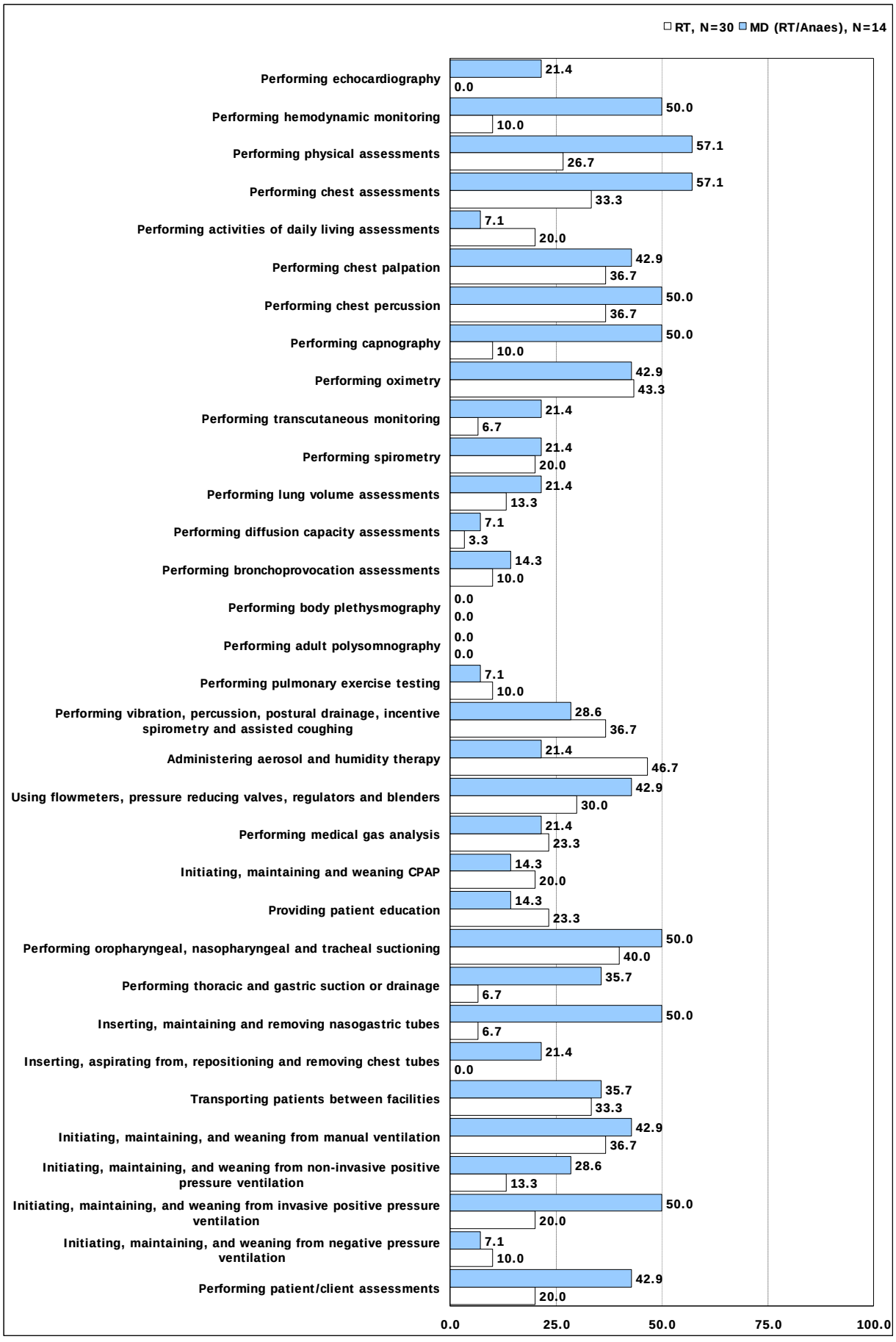

RT, N=30
MD (RT/Anaes), N=14
Performing echocardiography
21.4
0.0
Performing hemodynamic monitoring
50.0
10.0
Performing physical assessments
57.1
26.7
Performing chest assessments
57.1
33.3
Performing activities of daily living assessments
7.1
20.0
Performing chest palpation
42.9
36.7
Performing chest percussion
50.0
36.7
Performing capnography
50.0
10.0
Performing oximetry
42.9
43.3
Performing transcutaneous monitoring
21.4
6.7
Performing spirometry
21.4
20.0
Performing lung volume assessments
21.4
13.3
Performing diffusion capacity assessments
7.1
3.3
Performing bronchoprovocation assessments
14.3
10.0
Performing body plethysmography
0.0
0.0
Performing adult polysomnography
0.0
0.0
Performing pulmonary exercise testing
7.1
10.0
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing
28.6
36.7
Administering aerosol and humidity therapy
21.4
46.7
Using flowmeters, pressure reducing valves, regulators and blenders
42.9
30.0
Performing medical gas analysis
21.4
23.3
Initiating, maintaining and weaning CPAP
14.3
20.0
Providing patient education
14.3
23.3
Performing oropharyngeal, nasopharyngeal and tracheal suctioning
50.0
40.0
Performing thoracic and gastric suction or drainage
35.7
6.7
Inserting, maintaining and removing nasogastric tubes
50.0
6.7
Inserting, aspirating from, repositioning and removing chest tubes
21.4
0.0
Transporting patients between facilities
35.7
33.3
Initiating, maintaining, and weaning from manual ventilation
42.9
36.7
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation
28.6
13.3
Initiating, maintaining, and weaning from invasive positive pressure ventilation
50.0
20.0
Initiating, maintaining, and weaning from negative pressure ventilation
7.1
10.0
Performing patient/client assessments
42.9
20.0
0.0
25.0
50.0
75.0
100.0

FIGURE 11: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Children

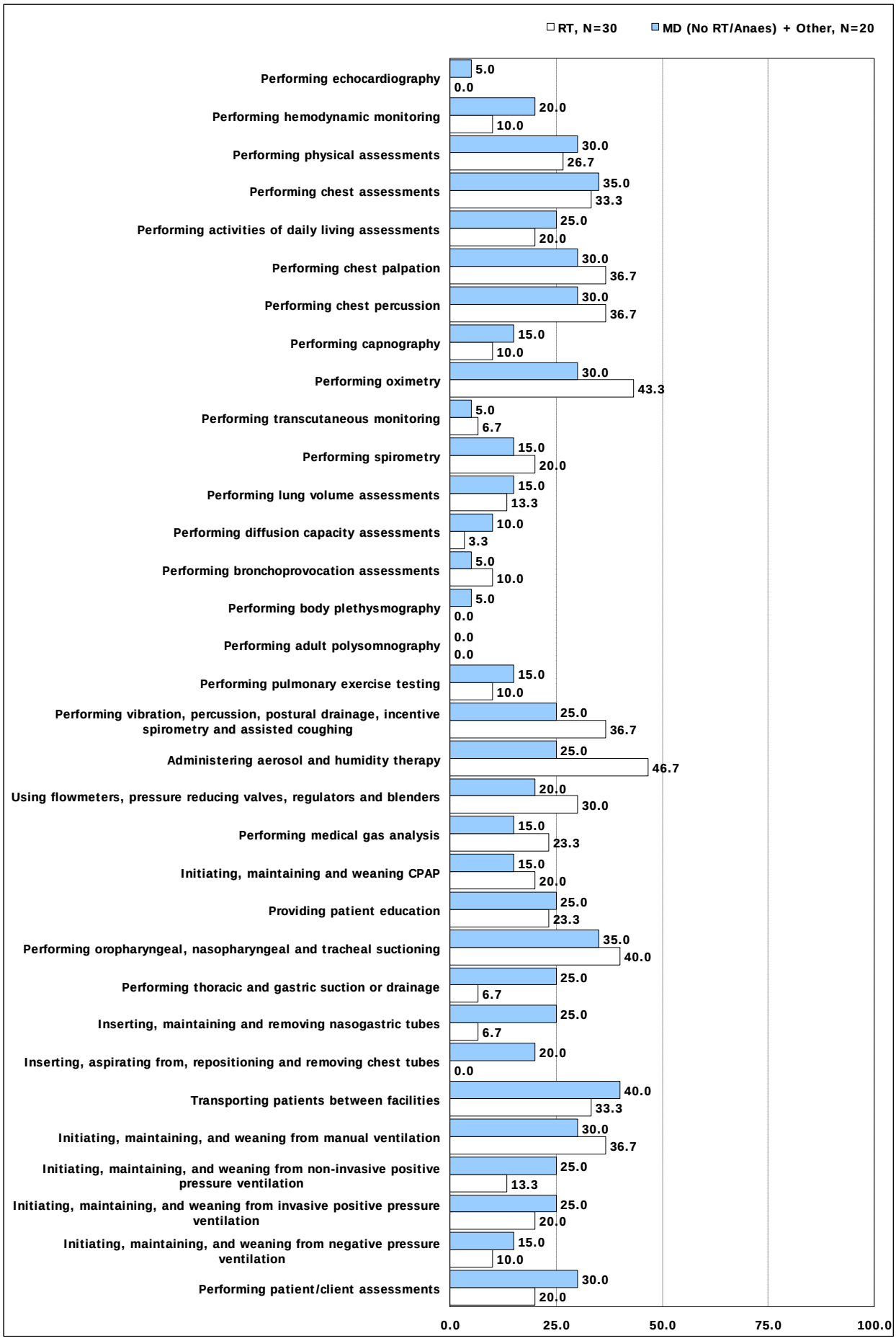

RT, N=30
MD (No RT/Anaes) + Other, N=20
Performing echocardiography
5.0
0.0
Performing hemodynamic monitoring
20.0
10.0
Performing physical assessments
30.0
26.7
Performing chest assessments
35.0
33.3
Performing activities of daily living assessments
25.0
20.0
Performing chest palpation
30.0
36.7
Performing chest percussion
30.0
36.7
Performing capnography
15.0
10.0
Performing oximetry
30.0
43.3
Performing transcutaneous monitoring
5.0
6.7
Performing spirometry
15.0
20.0
Performing lung volume assessments
15.0
13.3
Performing diffusion capacity assessments
10.0
3.3
Performing bronchoprovocation assessments
5.0
10.0
Performing body plethysmography
5.0
0.0
Performing adult polysomnography
0.0
0.0
Performing pulmonary exercise testing
15.0
10.0
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing
25.0
36.7
Administering aerosol and humidity therapy
25.0
46.7
Using flowmeters, pressure reducing valves, regulators and blenders
20.0
30.0
Performing medical gas analysis
15.0
23.3
Initiating, maintaining and weaning CPAP
15.0
20.0
Providing patient education
25.0
23.3
Performing oropharyngeal, nasopharyngeal and tracheal suctioning
35.0
40.0
Performing thoracic and gastric suction or drainage
25.0
6.7
Inserting, maintaining and removing nasogastric tubes
25.0
6.7
Inserting, aspirating from, repositioning and removing chest tubes
20.0
0.0
Transporting patients between facilities
40.0
33.3
Initiating, maintaining, and weaning from manual ventilation
30.0
36.7
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation
25.0
13.3
Initiating, maintaining, and weaning from invasive positive pressure ventilation
25.0
20.0
Initiating, maintaining, and weaning from negative pressure ventilation
15.0
10.0
Performing patient/client assessments
30.0
20.0
0.0
25.0
50.0
75.0
100.0

FIGURE 12: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Children

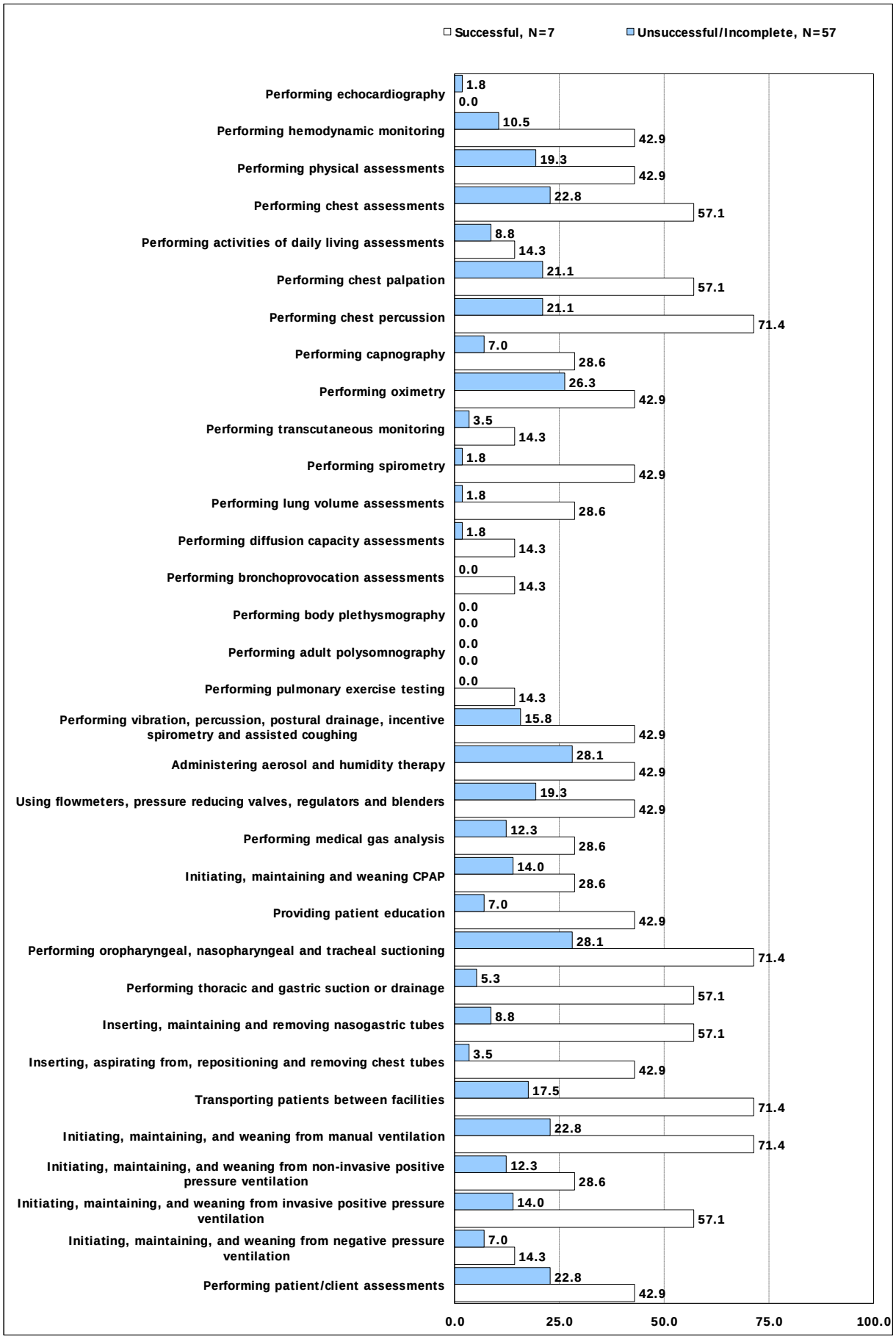
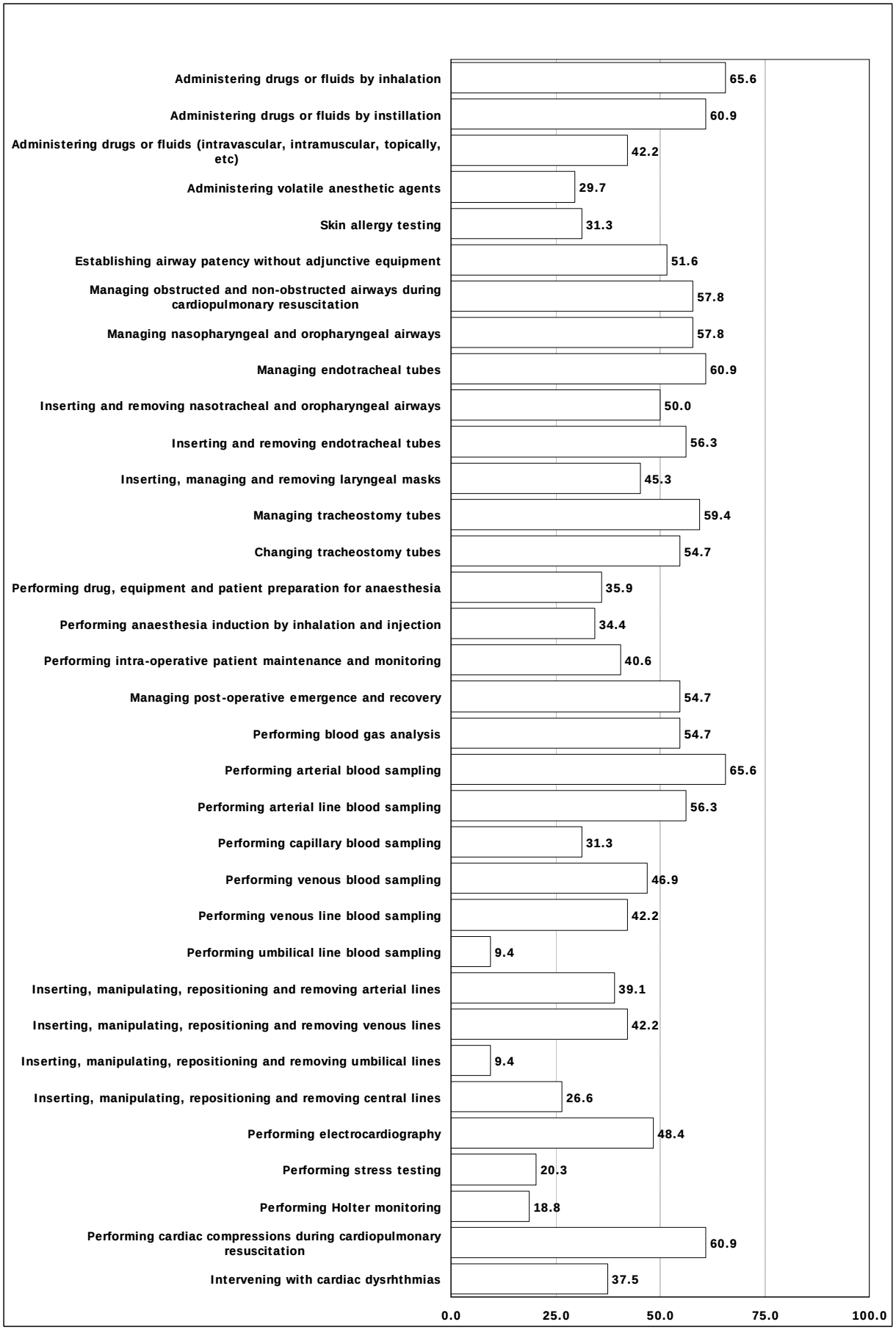

Successful, N=7
Unsuccessful/Incomplete, N=57
Performing echocardiography
1.8
0.0
Performing hemodynamic monitoring
10.5
42.9
Performing physical assessments
19.3
42.9
Performing chest assessments
22.8
57.1
Performing activities of daily living assessments
8.8
14.3
Performing chest palpation
21.1
57.1
Performing chest percussion
21.1
71.4
Performing capnography
7.0
28.6
Performing oximetry
26.3
42.9
Performing transcutaneous monitoring
3.5
14.3
Performing spirometry
1.8
42.9
Performing lung volume assessments
1.8
28.6
Performing diffusion capacity assessments
1.8
14.3
Performing bronchoprovocation assessments
0.0
14.3
Performing body plethysmography
0.0
0.0
Performing adult polysomnography
0.0
0.0
Performing pulmonary exercise testing
0.0
14.3
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing
15.8
42.9
Administering aerosol and humidity therapy
28.1
42.9
Using flowmeters, pressure reducing valves, regulators and blenders
19.3
42.9
Performing medical gas analysis
12.3
28.6
Initiating, maintaining and weaning CPAP
14.0
28.6
Providing patient education
7.0
42.9
Performing oropharyngeal, nasopharyngeal and tracheal suctioning
28.1
71.4
Performing thoracic and gastric suction or drainage
5.3
57.1
Inserting, maintaining and removing nasogastric tubes
8.8
57.1
Inserting, aspirating from, repositioning and removing chest tubes
3.5
42.9
Transporting patients between facilities
17.5
71.4
Initiating, maintaining, and weaning from manual ventilation
22.8
71.4
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation
12.3
28.6
Initiating, maintaining, and weaning from invasive positive pressure ventilation
14.0
57.1
Initiating, maintaining, and weaning from negative pressure ventilation
7.0
14.3
Performing patient/client assessments
22.8
42.9
0.0
25.0
50.0
75.0
100.0

FIGURE 13: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Adults Overall, N=64



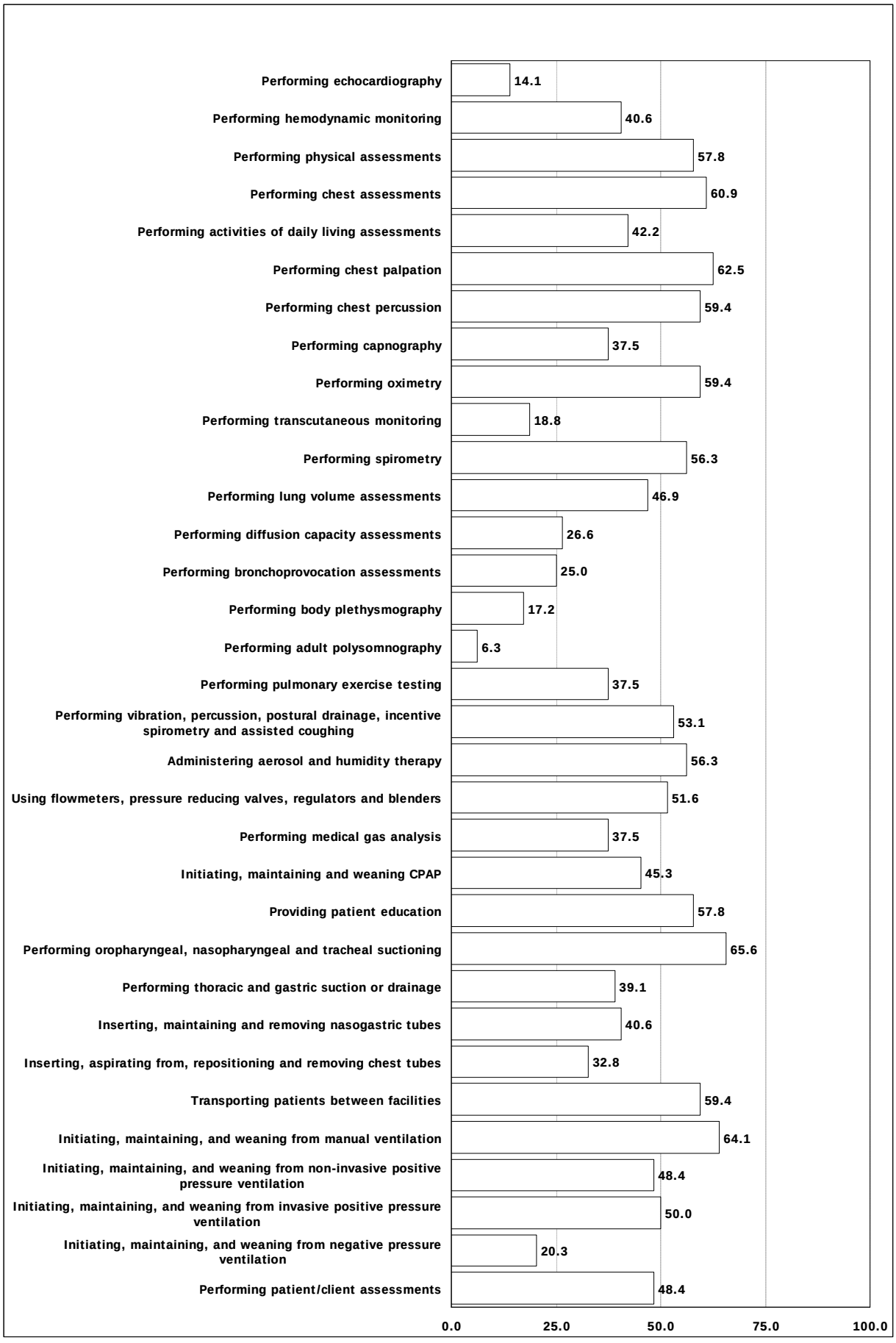
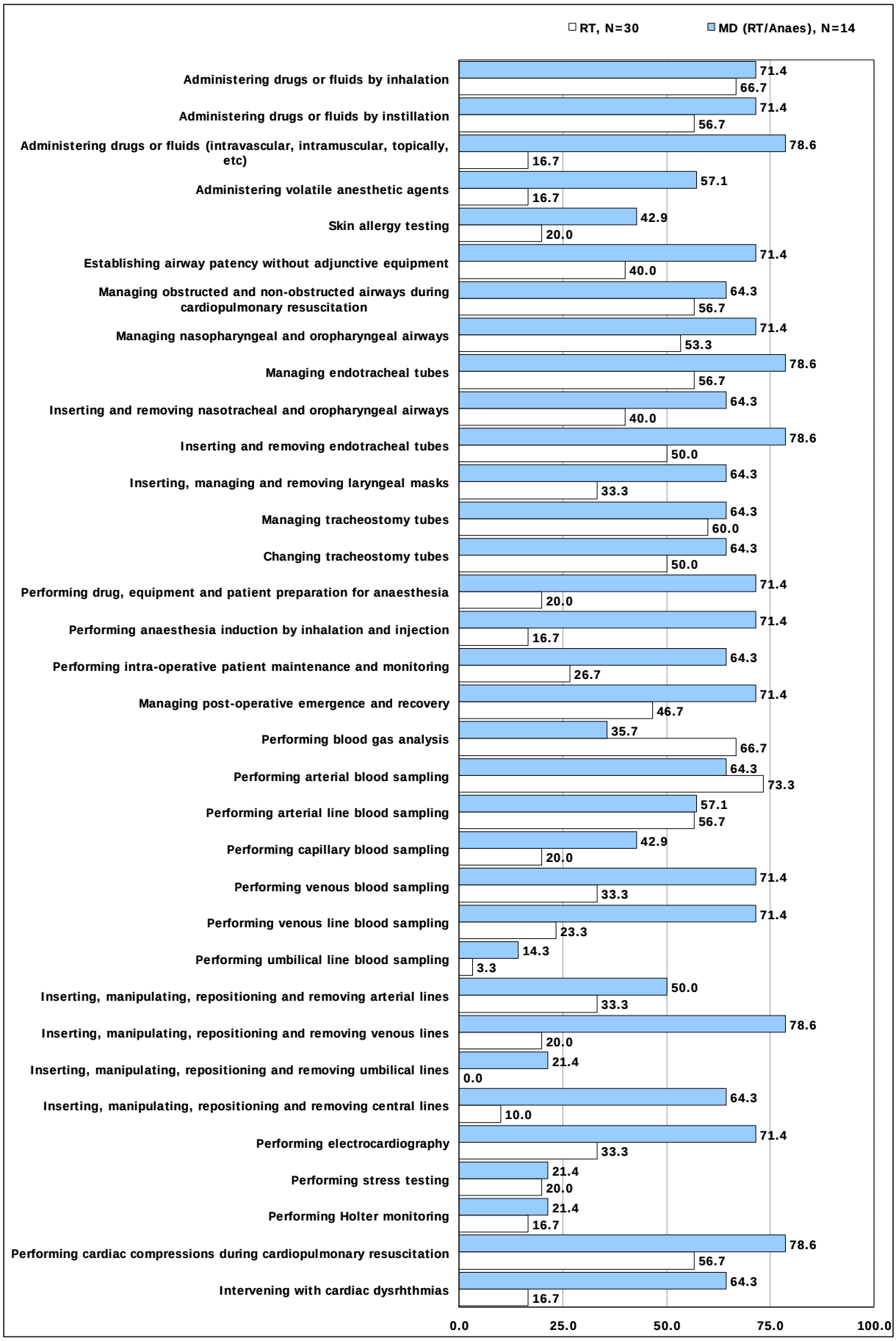

Performing echocardiography 14.1
Performing hemodynamic monitoring 40.6
Performing physical assessments 57.8
Performing chest assessments 60.9
Performing activities of daily living assessments 42.2
Performing chest palpation 62.5
Performing chest percussion 59.4
Performing capnography 37.5
Performing oximetry 59.4
Performing transcutaneous monitoring 18.8
Performing spirometry 56.3
Performing lung volume assessments 46.9
Performing diffusion capacity assessments 26.6
Performing bronchoprovocation assessments 25.0
Performing body plethysmography 17.2
Performing adult polysomnography 6.3
Performing pulmonary exercise testing 37.5
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing 53.1
Administering aerosol and humidity therapy 56.3
Using flowmeters, pressure reducing valves, regulators and blenders 51.6
Performing medical gas analysis 37.5
Initiating, maintaining and weaning CPAP 45.3
Providing patient education 57.8
Performing oropharyngeal, nasopharyngeal and tracheal suctioning 65.6
Performing thoracic and gastric suction or drainage 39.1
Inserting, maintaining and removing nasogastric tubes 40.6
Inserting, aspirating from, repositioning and removing chest tubes 32.8
Transporting patients between facilities 59.4
Initiating, maintaining, and weaning from manual ventilation 64.1
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation 48.4
Initiating, maintaining, and weaning from invasive positive pressure ventilation 50.0
Initiating, maintaining, and weaning from negative pressure ventilation 20.3
Performing patient/client assessments 48.4
0.0
25.0
50.0
75.0
100.0

FIGURE 14: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Adults



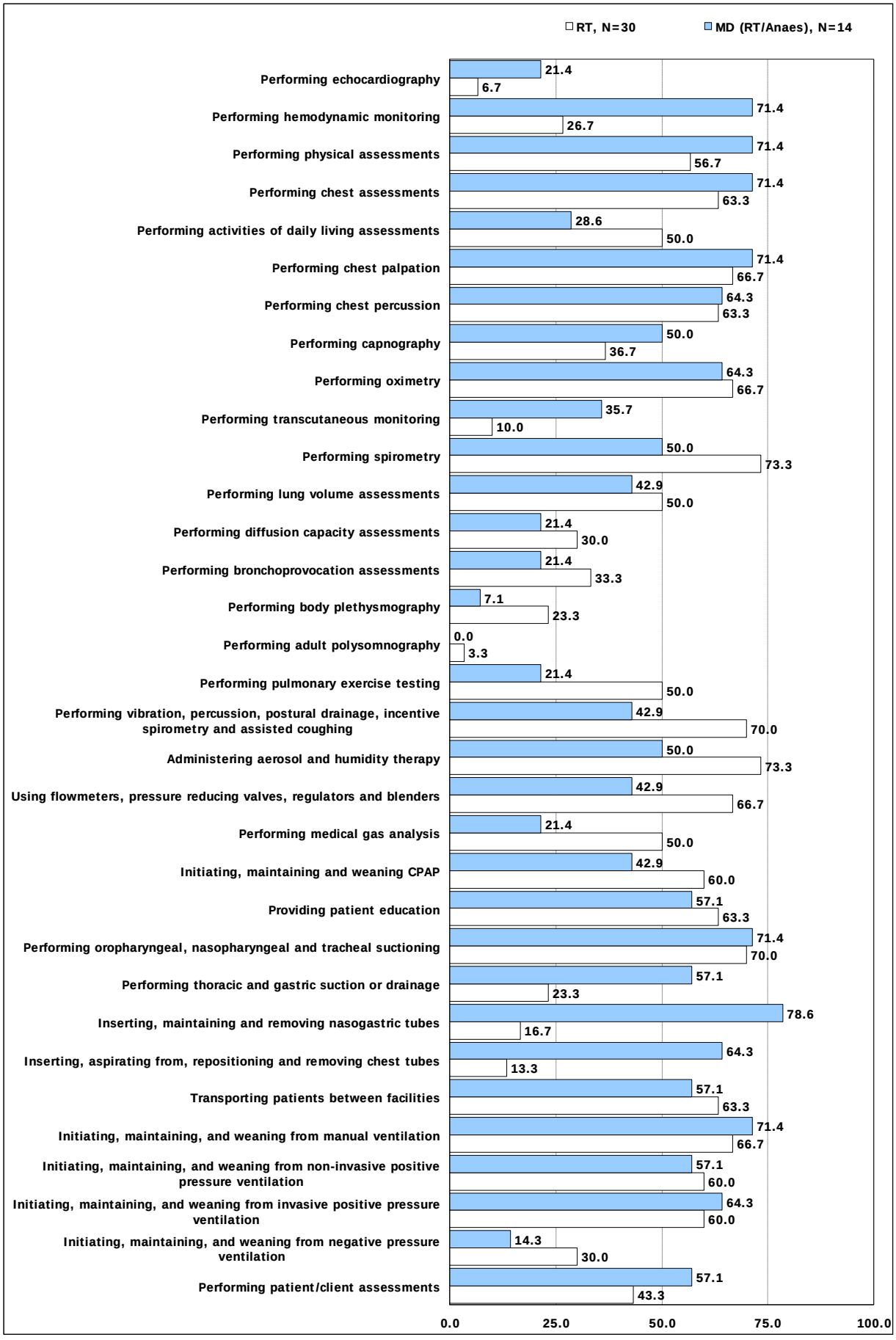
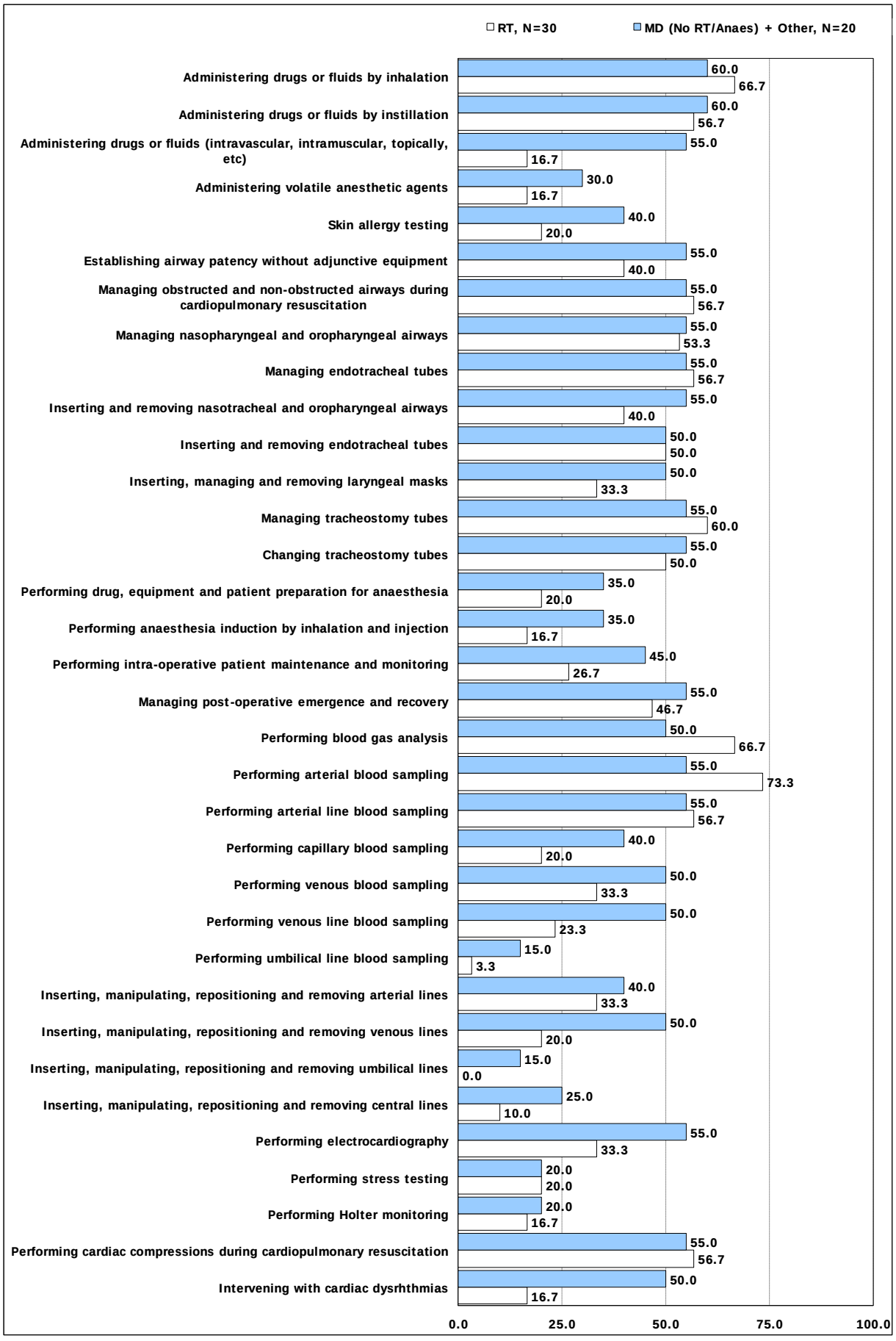

RT, N=30
MD (RT/Anaes), N=14
Performing echocardiography
21.4
6.7
Performing hemodynamic monitoring
71.4
26.7
Performing physical assessments
71.4
56.7
Performing chest assessments
71.4
63.3
Performing activities of daily living assessments
28.6
50.0
Performing chest palpation
71.4
66.7
Performing chest percussion
64.3
63.3
Performing capnography
50.0
36.7
Performing oximetry
64.3
66.7
Performing transcutaneous monitoring
35.7
10.0
Performing spirometry
50.0
73.3
Performing lung volume assessments
42.9
50.0
Performing diffusion capacity assessments
21.4
30.0
Performing bronchoprovocation assessments
21.4
33.3
Performing body plethysmography
7.1
23.3
Performing adult polysomnography
0.0
3.3
Performing pulmonary exercise testing
21.4
50.0
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing
42.9
70.0
Administering aerosol and humidity therapy
50.0
73.3
Using flowmeters, pressure reducing valves, regulators and blenders
42.9
66.7
Performing medical gas analysis
21.4
50.0
Initiating, maintaining and weaning CPAP
42.9
60.0
Providing patient education
57.1
63.3
Performing oropharyngeal, nasopharyngeal and tracheal suctioning
71.4
70.0
Performing thoracic and gastric suction or drainage
57.1
23.3
Inserting, maintaining and removing nasogastric tubes
78.6
16.7
Inserting, aspirating from, repositioning and removing chest tubes
64.3
13.3
Transporting patients between facilities
57.1
63.3
Initiating, maintaining, and weaning from manual ventilation
71.4
66.7
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation
57.1
60.0
Initiating, maintaining, and weaning from invasive positive pressure ventilation
64.3
60.0
Initiating, maintaining, and weaning from negative pressure ventilation
14.3
30.0
Performing patient/client assessments
57.1
43.3
0.0
25.0
50.0
75.0
100.0

FIGURE 15: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Adults



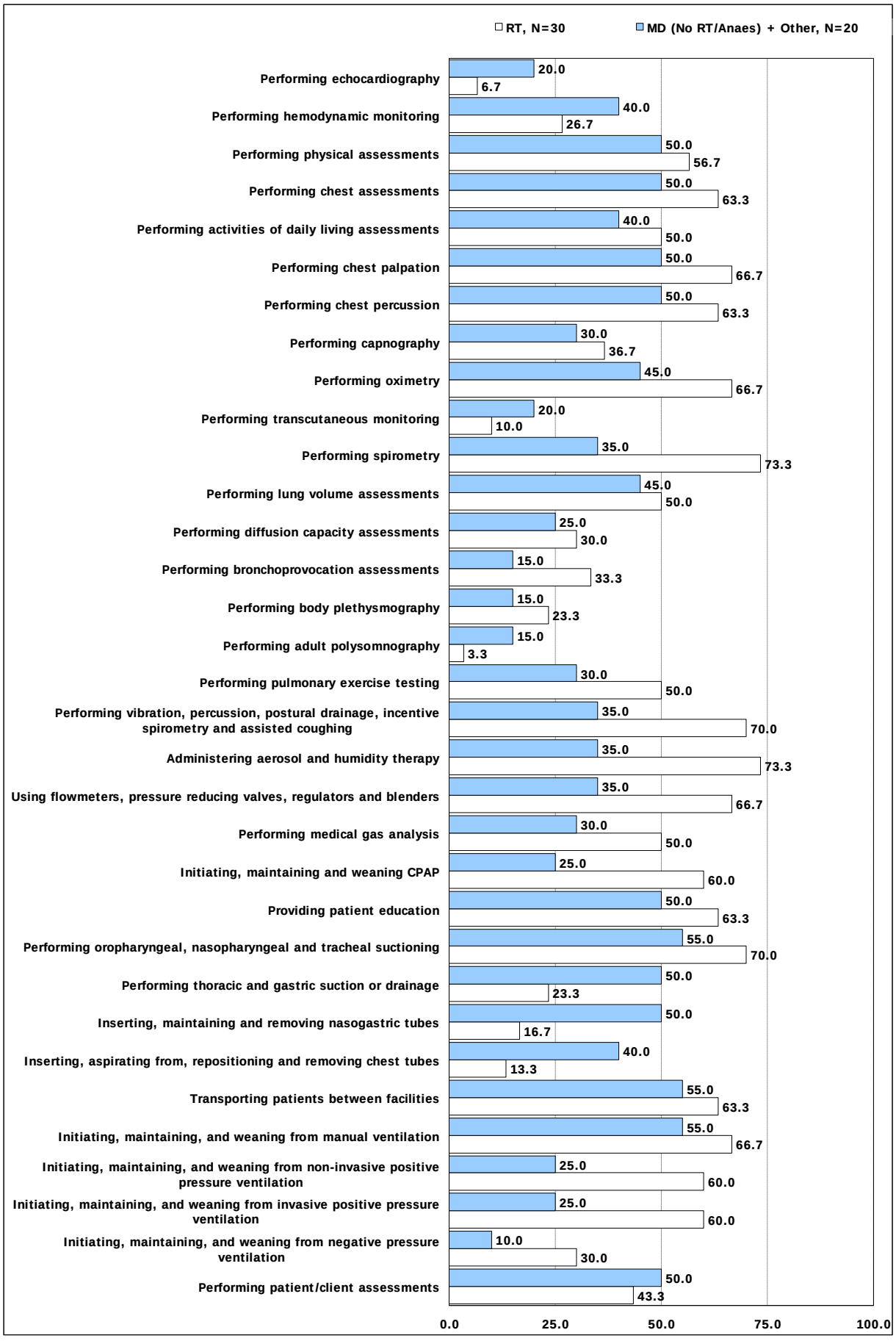
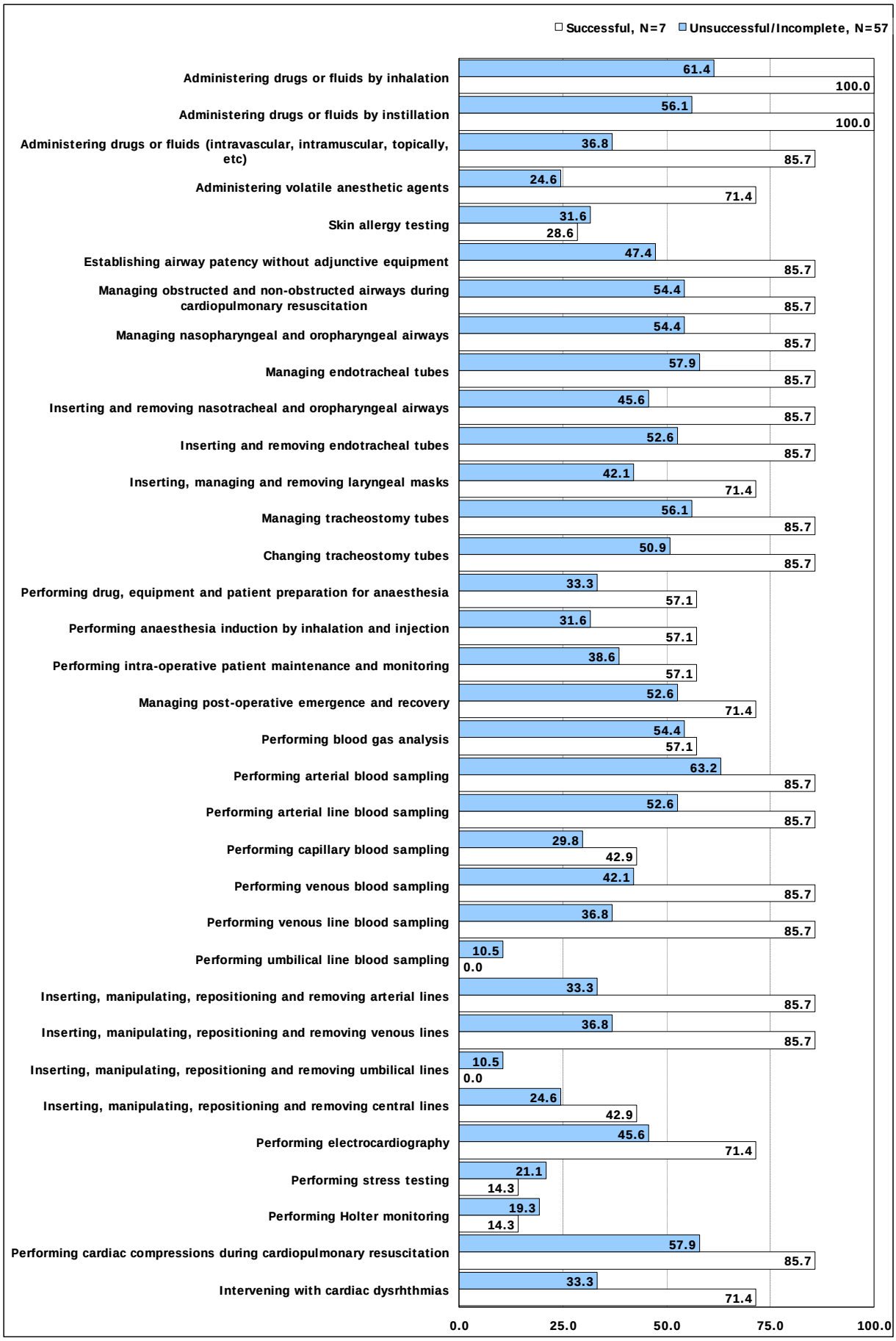

RT, N=30
MD (No RT/Anaes) + Other, N=20
Performing echocardiography
20.0
6.7
Performing hemodynamic monitoring
40.0
26.7
Performing physical assessments
50.0
56.7
Performing chest assessments
50.0
63.3
Performing activities of daily living assessments
40.0
50.0
Performing chest palpation
50.0
66.7
Performing chest percussion
50.0
63.3
Performing capnography
30.0
36.7
Performing oximetry
45.0
66.7
Performing transcutaneous monitoring
20.0
10.0
Performing spirometry
35.0
73.3
Performing lung volume assessments
45.0
50.0
Performing diffusion capacity assessments
25.0
30.0
Performing bronchoprovocation assessments
15.0
33.3
Performing body plethysmography
15.0
23.3
Performing adult polysomnography
15.0
3.3
Performing pulmonary exercise testing
30.0
50.0
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing
35.0
70.0
Administering aerosol and humidity therapy
35.0
73.3
Using flowmeters, pressure reducing valves, regulators and blenders
35.0
66.7
Performing medical gas analysis
30.0
50.0
Initiating, maintaining and weaning CPAP
25.0
60.0
Providing patient education
50.0
63.3
Performing oropharyngeal, nasopharyngeal and tracheal suctioning
55.0
70.0
Performing thoracic and gastric suction or drainage
50.0
23.3
Inserting, maintaining and removing nasogastric tubes
50.0
16.7
Inserting, aspirating from, repositioning and removing chest tubes
40.0
13.3
Transporting patients between facilities
55.0
63.3
Initiating, maintaining, and weaning from manual ventilation
55.0
66.7
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation
25.0
60.0
Initiating, maintaining, and weaning from invasive positive pressure ventilation
25.0
60.0
Initiating, maintaining, and weaning from negative pressure ventilation
10.0
30.0
Performing patient/client assessments
50.0
43.3
0.0
25.0
50.0
75.0
100.0

FIGURE 16: Percentage of Any Frequency Responses to Self-Assessment Questions 61 to 127 for Adults



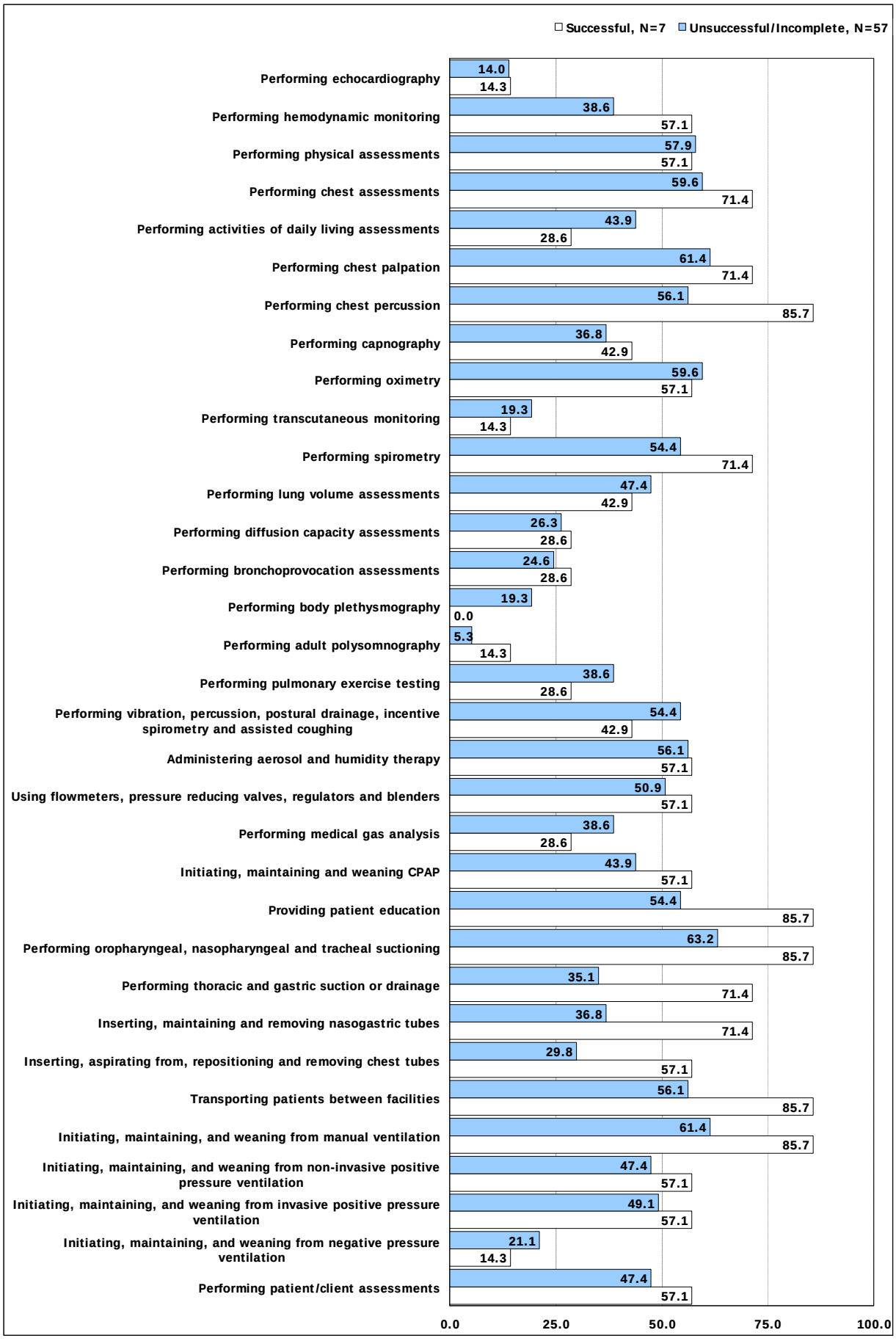

Successful, N=7
Unsuccessful/Incomplete, N=57
Performing echocardiography
14.0
14.3
Performing hemodynamic monitoring
38.6
57.1
Performing physical assessments
57.9
57.1
Performing chest assessments
59.6
71.4
Performing activities of daily living assessments
43.9
28.6
Performing chest palpation
61.4
71.4
Performing chest percussion
56.1
85.7
Performing capnography
36.8
42.9
Performing oximetry
59.6
57.1
Performing transcutaneous monitoring
19.3
14.3
Performing spirometry
54.4
71.4
Performing lung volume assessments
47.4
42.9
Performing diffusion capacity assessments
26.3
28.6
Performing bronchoprovocation assessments
24.6
28.6
Performing body plethysmography
19.3
0.0
Performing adult polysomnography
5.3
14.3
Performing pulmonary exercise testing
38.6
28.6
Performing vibration, percussion, postural drainage, incentive spirometry and assisted coughing
54.4
42.9
Administering aerosol and humidity therapy
56.1
57.1
Using flowmeters, pressure reducing valves, regulators and blenders
50.9
57.1
Performing medical gas analysis
38.6
28.6
Initiating, maintaining and weaning CPAP
43.9
57.1
Providing patient education
54.4
85.7
Performing oropharyngeal, nasopharyngeal and tracheal suctioning
63.2
85.7
Performing thoracic and gastric suction or drainage
35.1
71.4
Inserting, maintaining and removing nasogastric tubes
36.8
71.4
Inserting, aspirating from, repositioning and removing chest tubes
29.8
57.1
Transporting patients between facilities
56.1
85.7
Initiating, maintaining, and weaning from manual ventilation
61.4
85.7
Initiating, maintaining, and weaning from non-invasive positive pressure ventilation
47.4
57.1
Initiating, maintaining, and weaning from invasive positive pressure ventilation
49.1
57.1
Initiating, maintaining, and weaning from negative pressure ventilation
21.1
14.3
Performing patient/client assessments
47.4
57.1
0.0
25.0
50.0
75.0
100.0

FIGURE 17: Percentage of Candidates with Gaps Identified at Stage 1 Assessment
NCP Categories Ordered from Largest Entry-to-Practice Exam Weight to Smallest
Overall, N=69

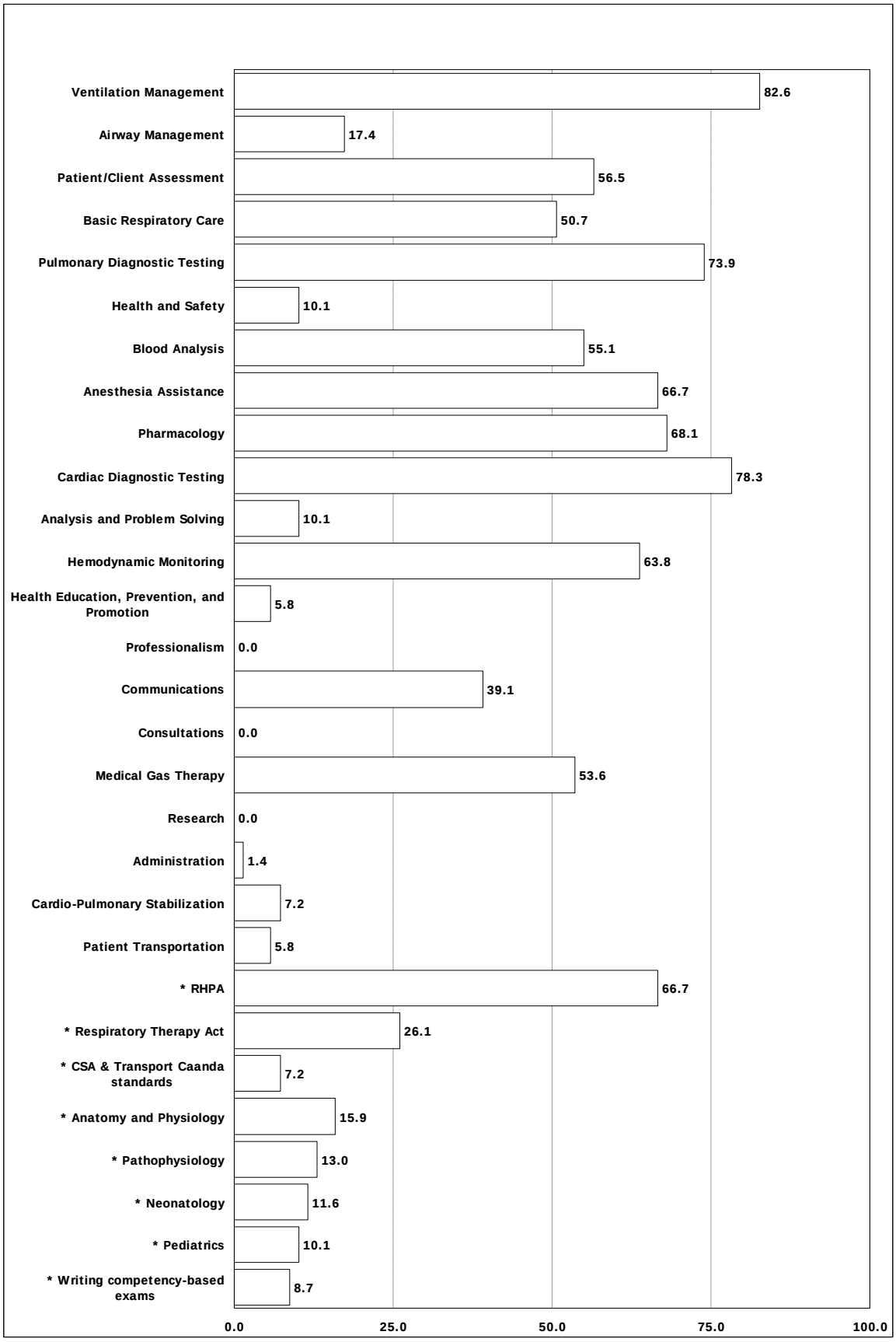


FIGURE 18: Percentage of Candidates with Gaps Identified at Stage 1 Assessment
NCP Categories Ordered from Largest Entry-to-Practice Exam Weight to Smallest

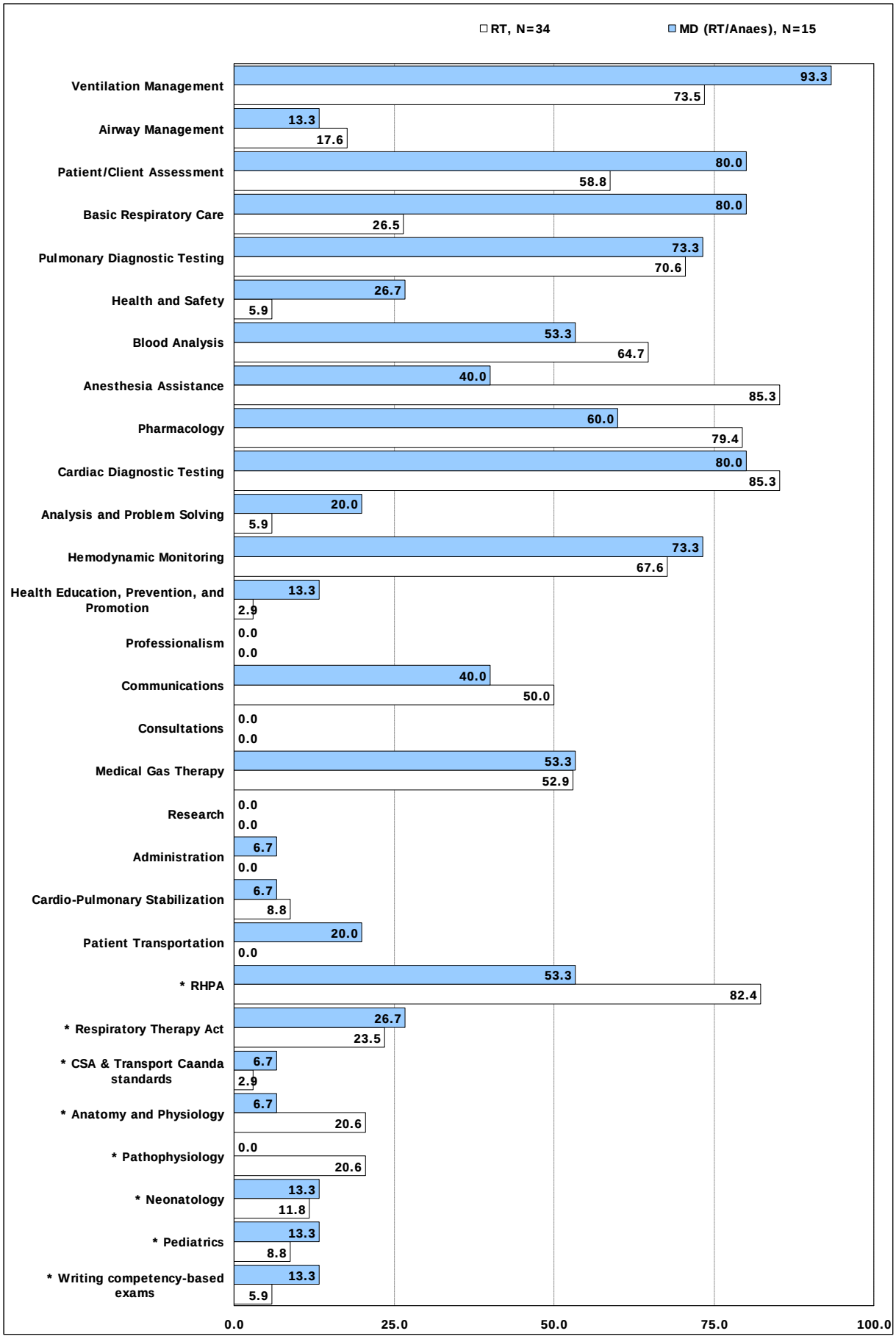


FIGURE 19: Percentage of Candidates with Gaps Identified at Stage 1 Assessment
NCP Categories Ordered from Largest Entry-to-Practice Exam Weight to Smallest

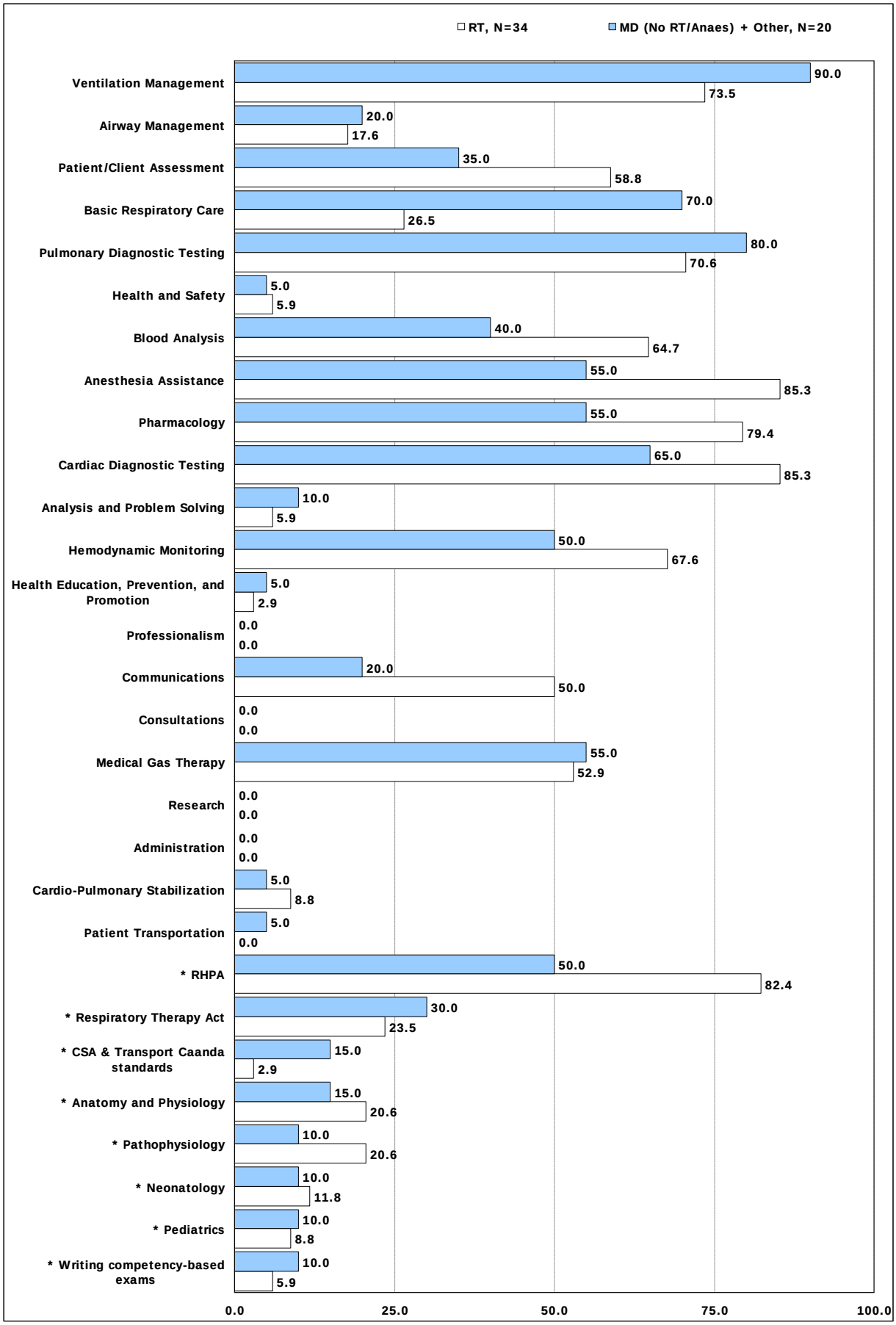


Figure 20: Percentage of Candidates with Gaps Identified at Stage 1 Assessment
NCP Categories Ordered from Largest Entry-to-Practice Exam Weight to Smallest

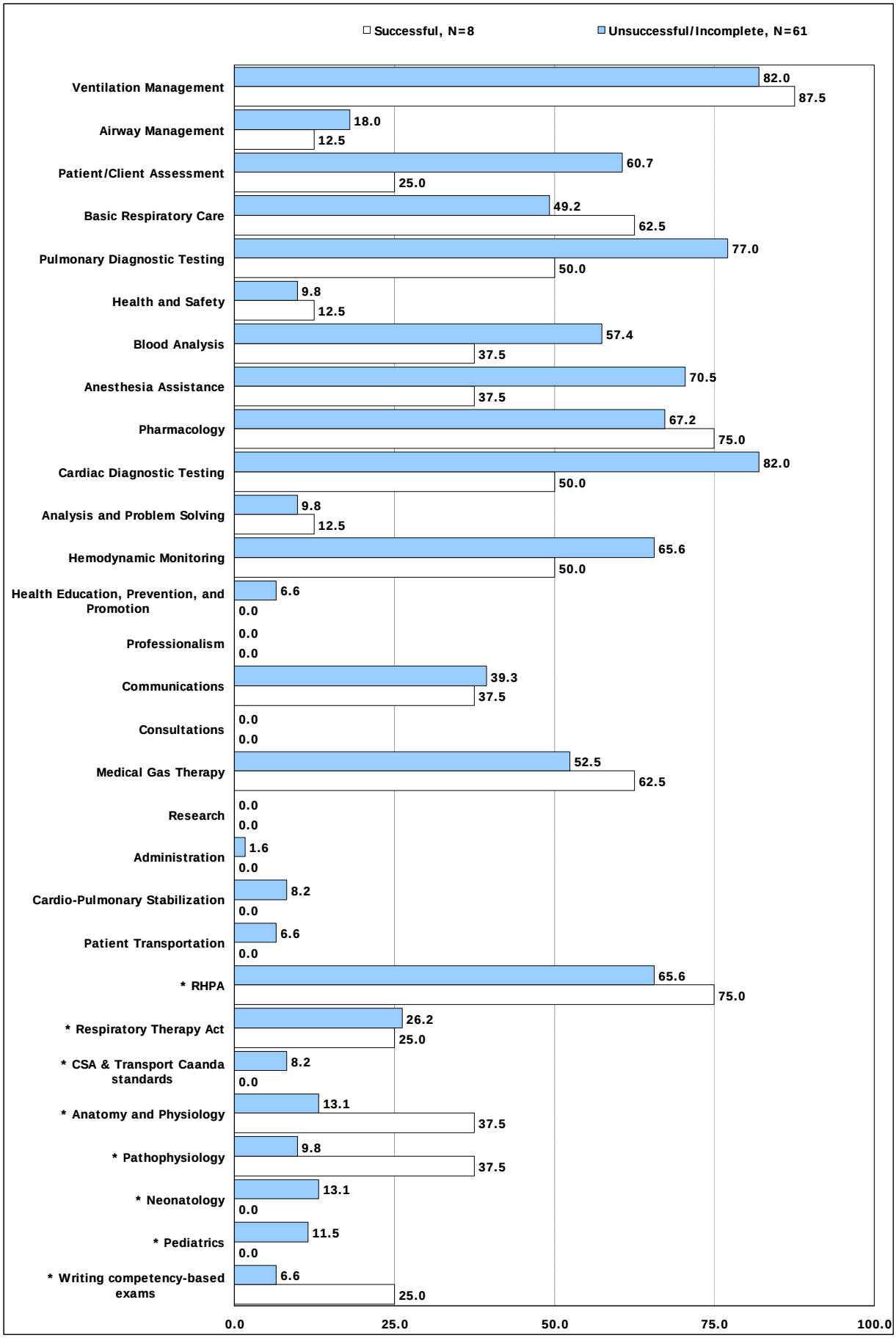


FIGURE 21: Distribution of Scores on Stage 2 Assessment
Overall, N=28

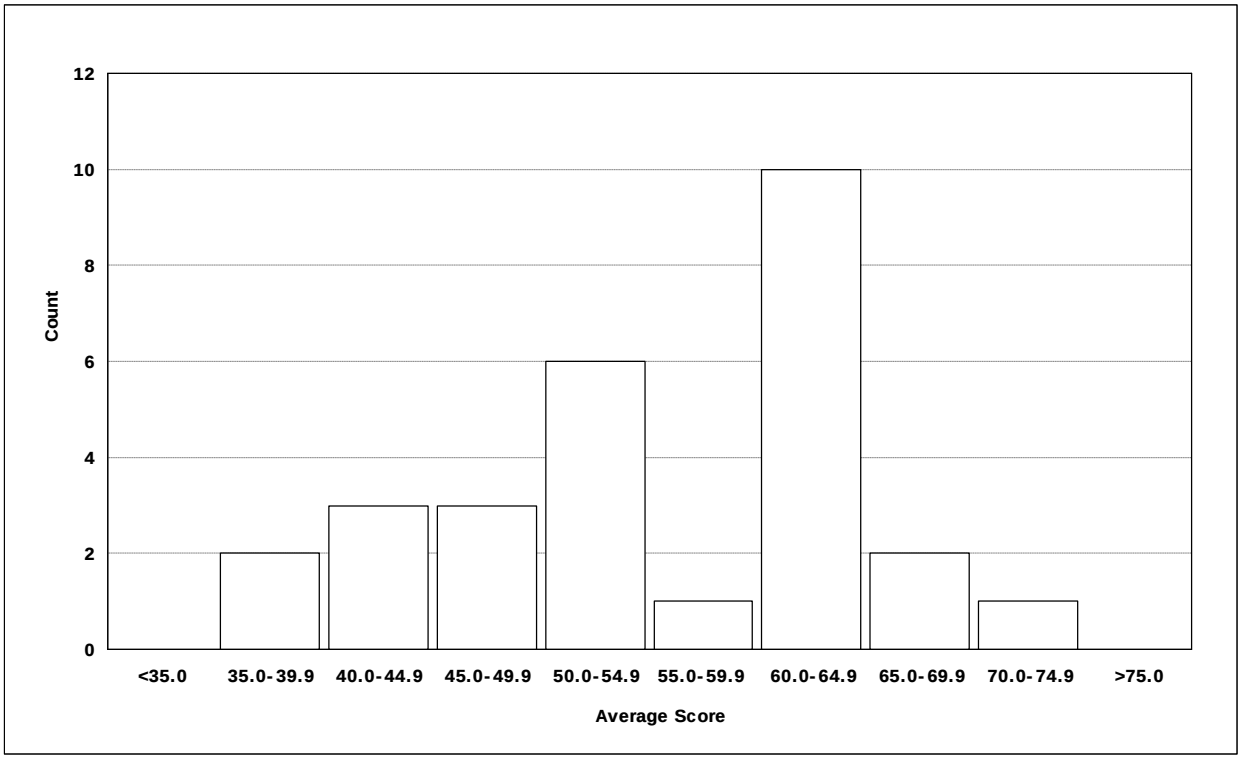


FIGURE 22: Distribution of Scores on Stage 2 Assessment

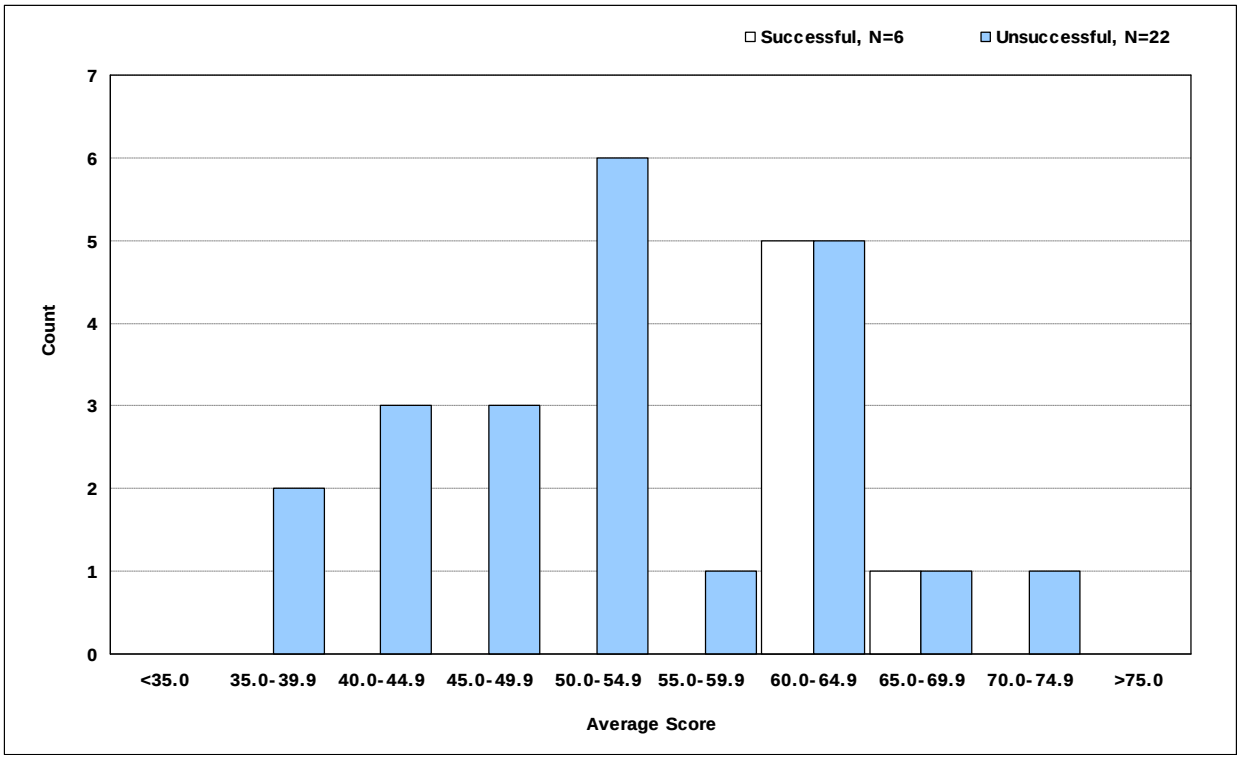


FIGURE 23: Average Scores on Stage 2 Assessment
Categories Ordered from Largest Stage 2 Weight to Smallest
N=28 for Total Score, N=14 for Breakdown Scores

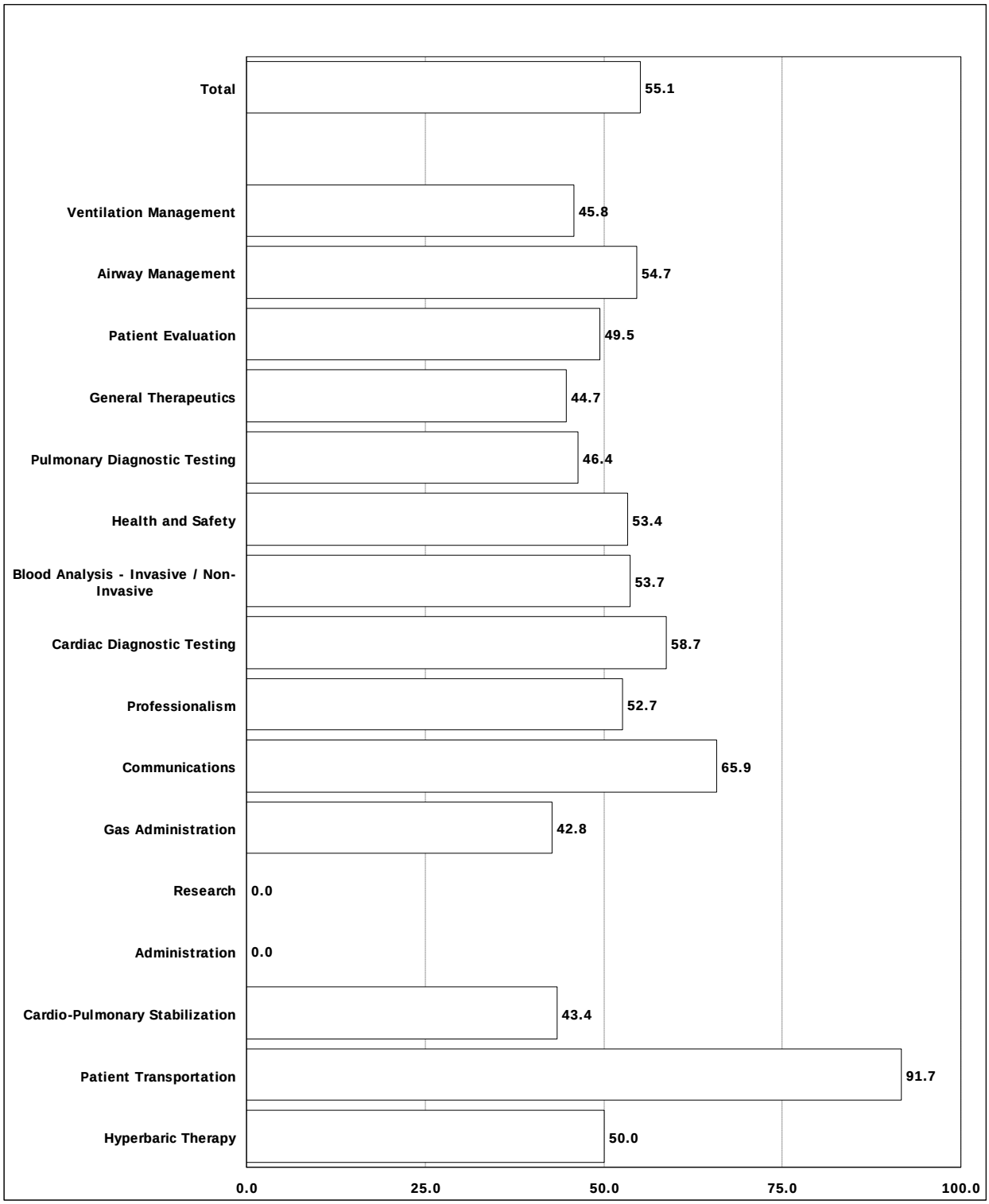


FIGURE 24: Average Scores on Stage 2 Assessment
Categories Ordered from Largest Stage 2 Weight to Smallest

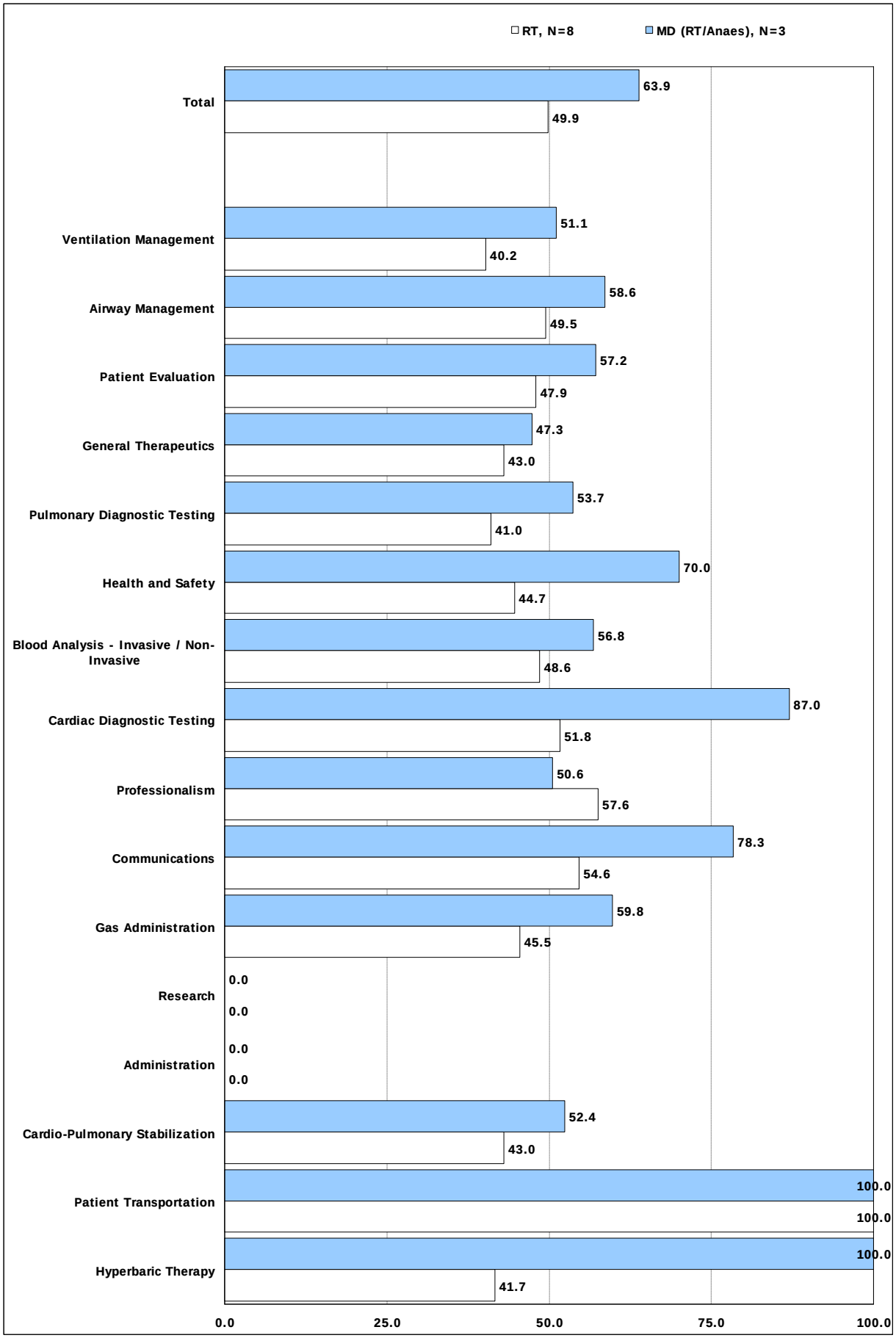


FIGURE 25: Average Scores on Stage 2 Assessment
Categories Ordered from Largest Stage 2 Weight to Smallest

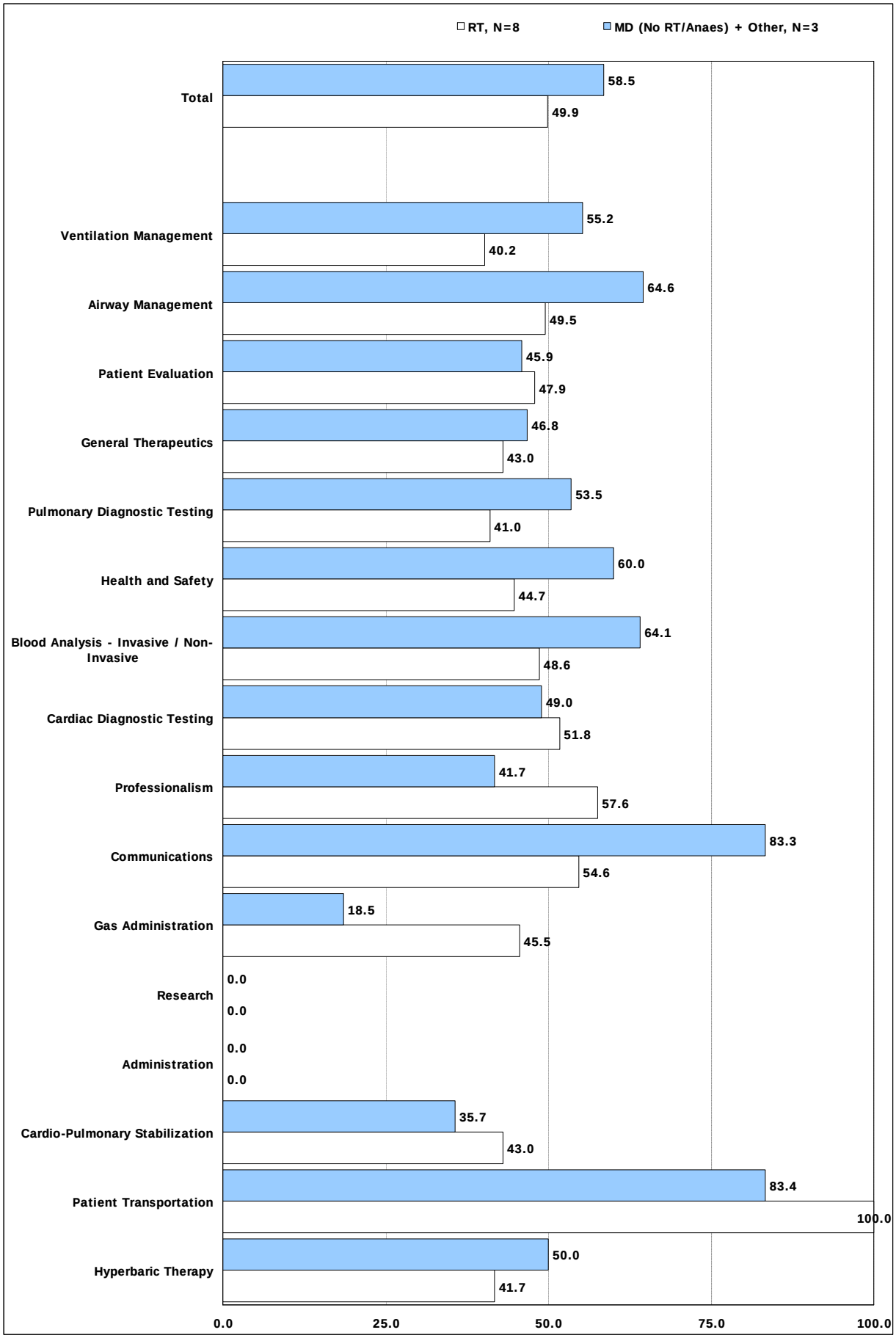
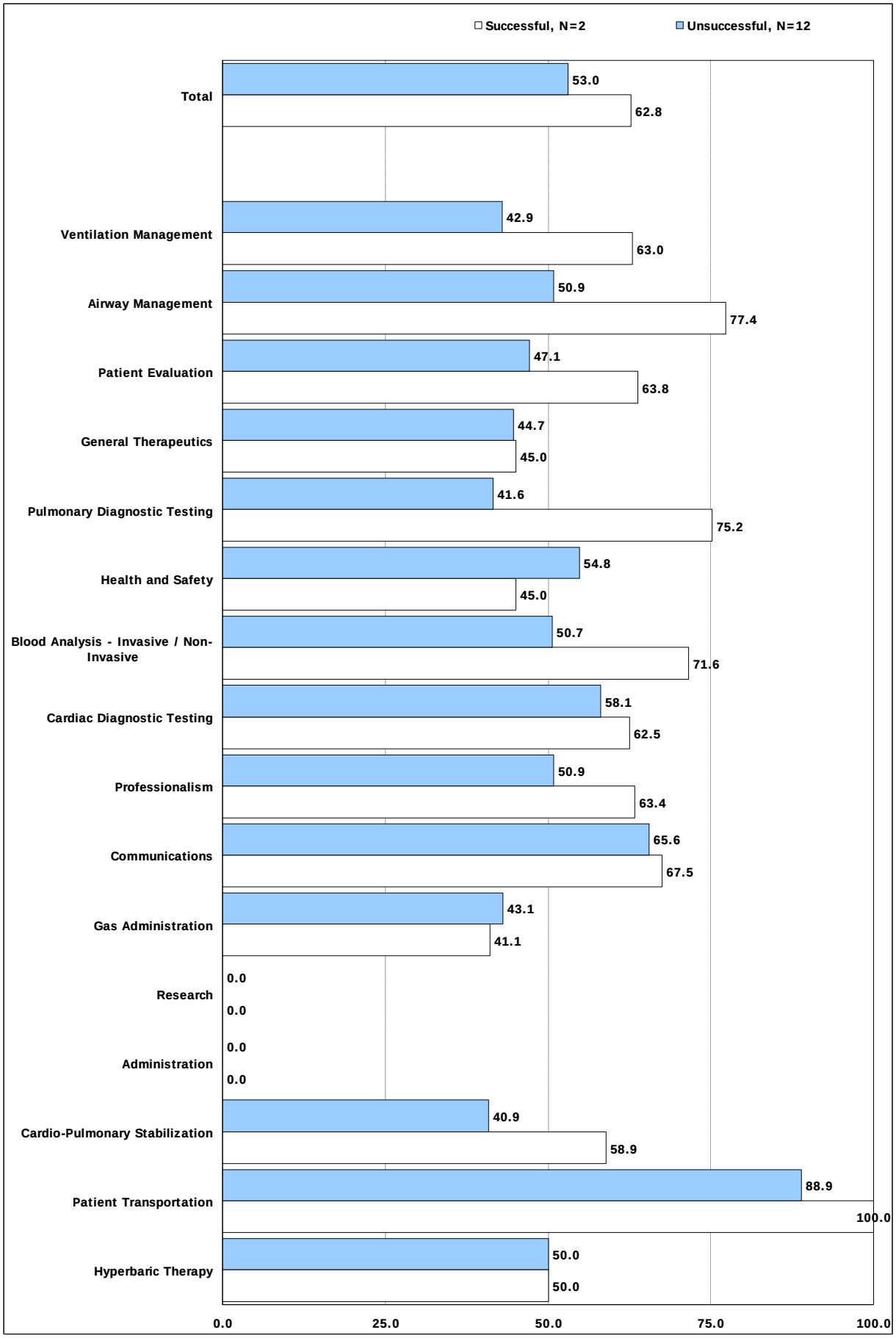


FIGURE 26: Average Scores on Stage 2 Assessment
Categories Ordered from Largest Stage 2 Weight to Smallest



THE GAP ANALYSIS PROJECT

APPENDIX 5

Survey of Clinical Assessors

Survey of Clinical Assessors

1. Introduction

You are being contacted in relation to a research project currently being undertaken by the College of Respiratory Therapists of Ontario (CRTO). The CRTO has had a prior learning assessment (PLA) process for internationally educated applicants since 1999. This process included three stages, the penultimate one being the Stage 3 Clinical Assessment.

Unfortunately, only a few internationally educated applicants have successfully completed all stages of the process and become registered as RTs in Ontario.

For this reason, CRTO is currently undertaking a Gap Analysis Project (GAP) to better understand the learning needs of internationally educated health professionals (IEHPs) seeking RT registration in Ontario. The purpose of this project is to design a new educational model to better meet the needs of these applicants.

As part of this project, we are gathering feedback from educational partners and RTs in clinical practice settings who participated in supervising and/or assessing IEHPs completing the Stage 3 Clinical Assessment of the PLA.

As you may have previously been involved in this process, we are asking you to please complete this survey and provide your observations and recommendations. This survey should take no more than 7 - 10 minutes to complete.

2. Your Experience Supervising Internationally Educated RT Applicants

1. How many individual internationally educated RT applicants have you supervised and/or assessed in clinical practice?

- ◯ **None**
- ◯ **One**
- ◯ **Two**
- ◯ **Three**
- ◯ **Four**
- ◯ **Five or more**

3.

2. If you can recall, in what years did you supervise and/or assess internationally educated RT applicants (please check all that apply)?

- [ ] 1999
- [ ] 2000
- [ ] 2001
- [ ] 2002
- [ ] 2003
- [ ] 2004
- [ ] 2005
- [ ] 2006
- [ ] 2007
- [ ] 2008
- [ ] 2009
- [ ] 2010
- [ ] I don't remember

4. Competency Strengths

3. In your experience, how would you rate the competencies of the internationally educated health professional (IEHP) you supervised or assessed? If you supervised or assessed several IEHPs, please provide general observations. There is also a subsequent question where you may add more detail.

	Don't remember	Not applicable - did not observe/assess	Weak	Satisfactory	Strong
HEALTH AND SAFETY: Apply preventative measures associated with asepsis, health, welfare and safety in the clinical setting	◯	◯	◯	◯	◯
HEALTH EDUCATION, PREVENTION & PROMOTION: Educate patients, families, colleagues and health care professionals concerning respiratory care in a clinical setting	◯	◯	◯	◯	◯
PATIENT/CLIENT ASSESSMENT: Conduct patient assessment in a clinical setting	◯	◯	◯	◯	◯
CONSULTATIONS/COLLABORATION: Provide consultation concerning patient care to colleagues and health care team members in a clinical setting	◯	◯	◯	◯	◯
BLOOD ANALYSIS: Procure blood samples from various sites in a simulated clinical setting	◯	◯	◯	◯	◯
PULMONARY DIAGNOSTIC TESTING: Perform pulmonary diagnostic testing on patients in a clinical setting	◯	◯	◯	◯	◯
CARDIAC DIAGNOSTIC TESTING: Perform cardiac diagnostic testing on patients in a simulated clinical setting	◯	◯	◯	◯	◯
RESPIRATORY CARE PROCEDURES: Perform basic respiratory care procedures on patients in a clinical setting	◯	◯	◯	◯	◯
CPR – ARTIFICIAL VENTILATION: Perform airway management techniques on patients in a clinical setting	◯	◯	◯	◯	◯
VENTILATION MANAGEMENT: Optimize pulmonary ventilation on patients in a clinical setting	◯	◯	◯	◯	◯
MEDICAL GAS THERAPY: Apply medical gas therapy for specific patients needs in a clinical setting	◯	◯	◯	◯	◯
ANAESTHESIA: Perform anaesthesia assistance in a clinical setting	◯	◯	◯	◯	◯
PHARMACOLOGY: Administer pharmaceutical substances for specific applications on patients in a clinical setting	◯	◯	◯	◯	◯
PATIENT TRANSPORTATION: Manage patient transport in a clinical setting.	◯	◯	◯	◯	◯
Exhibit profesional behaviour with patients,	◯	◯	◯	◯	◯

families, colleagues and health care professionals in a clinical setting.					
Use professional language, behaviour & attire.	◯	◯	◯	◯	◯
Perform work with care, dexterity & precision.	◯	◯	◯	◯	◯
Communicate professionally in writing, verbally and non-verbally with patients, families, colleagues and health care professionals in a clinical setting.	◯	◯	◯	◯	◯
Assess one's own thinking throughout the steps and processes used in problem solving and decision making in a clinical setting.	◯	◯	◯	◯	◯

4. Please indicate any additional or more detailed comments you may have regarding your experience of supervising/assessing the performance of IEHPs undertaking the Stage 3 clinical assessment.

5. Learning Needs of IEHPs

Survey of Clinical Assessors

5. Have you observed that the IEHP(s) you have supervised/assessed have learning gaps in the following areas?:

	Don't remember	Not applicable - did not observe/assess	Small gaps - not significant	Some gaps - skills development recommended	Large gaps - could cause practice / safety concerns
English Language (written)	◯	◯	◯	◯	◯
English language (spoken)	◯	◯	◯	◯	◯
English language (listening/comprehension)	◯	◯	◯	◯	◯
General health care communications skills	◯	◯	◯	◯	◯
Ventilation Management	◯	◯	◯	◯	◯
Airway Management	◯	◯	◯	◯	◯
Patient/Client Assessment	◯	◯	◯	◯	◯
Basic Respiratory Care	◯	◯	◯	◯	◯
Pulmonary Diagnostic Testing	◯	◯	◯	◯	◯
Health and Safety	◯	◯	◯	◯	◯
Blood Analysis	◯	◯	◯	◯	◯
Anaesthesia Assistance	◯	◯	◯	◯	◯
Pharmacology	◯	◯	◯	◯	◯
Cardiac Diagnostic Testing	◯	◯	◯	◯	◯
Analysis and Problem Solving	◯	◯	◯	◯	◯
Hemodynamic Monitoring	◯	◯	◯	◯	◯
Health Education, Prevention & Promotion	◯	◯	◯	◯	◯
Consultations	◯	◯	◯	◯	◯
Medical Gas Therapy	◯	◯	◯	◯	◯
Research	◯	◯	◯	◯	◯
Administration	◯	◯	◯	◯	◯
Cardio-pulmonary Stabilization	◯	◯	◯	◯	◯
Patient Transportation	◯	◯	◯	◯	◯
RHPA	◯	◯	◯	◯	◯
Respiratory Therapy Act	◯	◯	◯	◯	◯
CSA & Transport Canada Standards	◯	◯	◯	◯	◯
	◯	◯	◯	◯	◯

Anatomy & Physiology	◯	◯	◯	◯	◯
Pathophysiology	◯	◯	◯	◯	◯
Neonatology	◯	◯	◯	◯	◯
Pediatrics	◯	◯	◯	◯	◯

6. Recommendations

6. In my opinion the best way to meet the learning needs of IEHPs is:

◯ **To continue with the CRTO PLA process as it has been delivered.**

◯ **To have IEHPs complete required "bridging education" (some theoretical courses and a clinical placement) before they attempt the clinical assessment.**

◯ **To offer IEHPs advanced standing for previous studies and the opportunity to integrate into the full-time RT program, where they will then complete the program as Ontario graduates.**

◯ **To have IEHPs complete all courses in the 3-year full-time RT program.**

◯ **I don't know.**

◯ **Other.**

7. Other suggestions for meeting the learning needs of IEHP applicants

7. If you indicated Other, what other ways do you suggest the learning needs of IEHPs could be met?

8. Contact

8. If you would like to be contacted for a telephone interview regarding your experience supervising and assessing IEHPs completing their Clinical Assessment, please provide your contact information (Name, title, telephone and e-mail address):

9. Thank you!

Thank you for taking part in this survey. Your observations and recommendations are very valuable to

the development of a new model to meet the needs of qualified internationally educated health professionals seeking to become your RT colleagues in future.

10. Exiting survey

Your participation in the survey is now complete. You will now be re-directed to the CRTO home page.

THE GAP ANALYSIS PROJECT

APPENDIX 6

Survey of CRTO PLA Candidates

Survey of CRTO PLA Candidates

1. Introduction

You are being contacted regarding a research project currently being undertaken by the College of Respiratory Therapists of Ontario (CRTO). The CRTO has had a prior learning assessment (PLA) process for internationally educated applicants since 1999.

A few internationally educated applicants have successfully completed all stages of the process and become registered as RTs in Ontario. However, many applicants did not complete the PLA process, experienced difficulty with it or were not successful.

CRTO is currently undertaking a Gap Analysis Project (GAP) to better understand the learning needs of internationally educated health professionals (IEHPs) seeking RT registration in Ontario. The purpose of this project is to design a new educational model that may be able to better meet the needs of IEHP applicants.

As part of this project, we are gathering feedback from individuals who applied to the CRTO and completed some or all stages of the PLA process.

As you have been or are currently involved in this process, we are asking you to please complete this survey and provide your observations and recommendations. This survey should take no more than 10 - 12 minutes to complete.

Your feedback is very valuable to the project.

2. CRTO PLA Participant Profile

In this section of the survey, we would like to know more about the applicants who attempted the CRTO Prior Learning Assessment (PLA).

* 1. In what countr(ies) did you complete your health sciences education before coming to Canada?

2. What type of education program did you complete?

- ◯ **Respiratory Therapy**
- ◯ **Anaesthesia Technician**
- ◯ **Medicine (Anaesthesia)**
- ◯ **Medicine (Respirology)**
- ◯ **Medicine (Generalist)**
- ◯ **Medicine (other type of specialist)**

Survey of CRTO PLA Candidates

3. In what year did you graduate with your diploma/degree?

- ◯ 2009
- ◯ 2008
- ◯ 2007
- ◯ 2006
- ◯ 2005
- ◯ 2004
- ◯ 2003
- ◯ 2002
- ◯ 2001
- ◯ 2000
- ◯ 1999
- ◯ 1998
- ◯ 1997
- ◯ 1996
- ◯ 1995
- ◯ 1994
- ◯ 1993
- ◯ 1992
- ◯ 1991
- ◯ 1990
- ◯ 1989
- ◯ 1988
- ◯ 1987
- ◯ 1986
- ◯ 1985
- ◯ 1984
- ◯ 1983
- ◯ 1982
- ◯ 1981

- ◯ 1980
- ◯ Previous to 1980

4. Were you registered/licensed to practice in your health profession before coming to Canada?

- ◯ Yes
- ◯ Not applicable - the health profession is not regulated in the country where I completed my education.
- ◯ No

5. For how many years did you work in your health profession before coming to Canada?

- ◯ 0 - I did not work in my profession after graduating
- ◯ Less than one year
- ◯ Between 1 - 2 years
- ◯ Between 2 - 3 years
- ◯ Between 3 - 4 years
- ◯ Between 4 - 5 years
- ◯ Between 5 - 6 years
- ◯ Between 6 - 7 years
- ◯ Between 7 - 8 years
- ◯ Between 8 - 9 years
- ◯ Between 9 - 10 years
- ◯ More than 10 years

6. Under what immigration class did you come to Canada?

- ◯ Student
- ◯ Live-in Caregiver
- ◯ Independent/Professional
- ◯ Family
- ◯ Refugee
- ◯ Other

7. Please indicate who came to Canada with you when you immigrated:

- ◯ **No one - I came by myself**
- ◯ **My husband/wife/partner**
- ◯ **My husband/wife/partner and children**
- ◯ **My children only**
- ◯ **Other family members (e.g. parent, uncle, aunt, cousin)**

8. In what year did you immigrate to Canada?

9. How many years had you been out of your profession (not practising) when you applied to CRTO to be registered as a respiratory therapist?

- ◯ **Not applicable - I applied while I was still practising in another country.**
- ◯ **Less than 1 year**
- ◯ **Between 1 - 2 years**
- ◯ **Between 2 - 3 years**
- ◯ **Between 3 - 4 years**
- ◯ **Between 4 - 5 years**
- ◯ **Between 5 - 6 years**
- ◯ **Between 6 - 7 years**
- ◯ **Between 7 - 8 years**
- ◯ **Between 8 - 9 years**
- ◯ **Between 9 - 10 years**
- ◯ **More than 10 years**

3. The CRTO Registration / PLA Process

10. When you were immigrating to Canada, what health career did you expect/want to have in Canada?

- ◯ **Respiratory Therapist**
- ◯ **Anaesthesiologist**
- ◯ **Other Doctor**
- ◯ **Other health professional**

11. In what year did you apply to the CRTO for registration?

12. Before applying to the CRTO, had you applied for registration/licensure with another regulatory body in Canada?

- ◯ **Yes**
- ◯ **No**

4. Experience applying for registration/licensure with another regulatory body

13. To what other regulatory body did you apply for licensure/registration?

- ◯ **College of Physicians and Surgeons of Ontario**
- ◯ **Other licensing body for medical doctors**
- ◯ **Other**

14. In what year did you apply to another regulatory body for registration?

15. What was the result of your application to a different health regulatory college (not CRTO)?

- ◯ **I was offered registration/licensure**
- ◯ **I am continuing to try to register in the other profession**
- ◯ **I did not complete the registration/licensure process and have stopped trying**
- ◯ **I was refused registration**
- ◯ **None of the above**

5. Costs

16. Please indicate all of the steps of the CRTO registration and PLA process that you completed and for which you had to pay (check all that apply):

- [ ] **Translation of college/university documents**
- [ ] **Test of English as a Second Language (TOEFL, IELTS, MELAB etc.)**
- [ ] **Stage 1 PLA (Interview & Feedback)**
- [ ] **Stage 2 PLA (Didactic Exam)**
- [ ] **Stage 3 PLA (Clinical Assessment)**
- [ ] **Access & Options courses**
- [ ] **Mask Fitting**
- [ ] **First Aid course**
- [ ] **CPR course**
- [ ] **Michener Pilot RT Bridging Program courses**
- [ ] **RT courses at a community college (other than the Michener)**

17. Please provide an estimate of the total amount of money you spent related to the CRTO registration/PLA process (this would include all of the costs associated with assessments, courses etc. indicated in the previous question, plus books and supplies).

- ◯ **Less than $500**
- ◯ **Less than $1,000.**
- ◯ **$1,000 - $2,000**
- ◯ **$2,000 - $3,000**
- ◯ **$3,000 - $4,000**
- ◯ **$4,000 - $5,000**
- ◯ **$5,000 - $6,000**
- ◯ **$6,000 - $7,000**
- ◯ **$7,000 - $8,000**
- ◯ **$8,000 - $9,000**
- ◯ **$9,000 - $10,000**
- ◯ **$10,000 - $11,000**
- ◯ **$11,000 - $12,000**
- ◯ **$12,000 - $13,000**
- ◯ **$13,000 - $14,000**
- ◯ **More than $14,000**

6. CRTO PLA Process

18. Please describe your current status regarding CRTO registration

- ◯ I am currently a General Class member of CRTO
- ◯ I am currently a Graduate member of CRTO
- ◯ I was a CRTO member previously but I am not a member now
- ◯ I am registered as a respiratory therapist in a different Canadian province
- ◯ I was refused registration
- ◯ I withdrew my application
- ◯ My application file was closed
- ◯ I am still completing the registration process

19. If you did not complete all the stages of the CRTO PLA process, what do you think were the main reasons you did not continue (indicate all that apply)?

- ☐ It was taking too long
- ☐ It was costing too much money
- ☐ I didn't think that I would be successful
- ☐ I failed the Stage 2 Didactic exam twice, so was not allowed to continue
- ☐ I had other responsibilities (e.g. family, job) so could not spend the time required to complete it
- ☐ I decided that it wasn't worth the effort
- ☐ I found other work that was good, so decided not to pursue RT registration
- ☐ I became registered in another health profession

7. Recommendations

Survey of CRTO PLA Candidates

20. In my opinion the best way to prepare IEHPs to become respiratory therapists in Ontario is:

- ◯ **To continue with the PLA process as it is.**
- ◯ **To have IEHPs complete required "bridging education" (some theoretical course and a clinical component) before they attempt the clinical assessment.**
- ◯ **To offer IEHPs advanced standing for previous studies and the opportunity to integrate into the full-time program, where they will then complete the program as Ontario graduates.**
- ◯ **To have IEHPs complete all courses in the 3-year full-time RT program.**
- ◯ **I don't know**
- ◯ **Other**

21. If you indicated Other, what other ways do you suggest the learning needs of IEHPs could be met?

22. Please provide any other comments you have regarding the CRTO PLA process.

8. Thank you!

Thank you for completing this survey. Your time and effort is very much appreciated. The information you have provided will be carefully considered as part of the CRTO Gap Analysis Project. You will now be re-directed to the CRTO home web page.

THE GAP ANALYSIS PROJECT

APPENDIX 7

Michener RT Bridging Program
2008-2009

Michener RT Bridging Program 2008-2009

PLA Stage 1 – INTERVIEW			
Applicants are given a recommendation to proceed through PLA or not based on the findings of the Stage 1 assessment, e.g. currency of experience, type and length of experience, profession, MCQ results. If the assessment suggested that the individual would be able to successfully challenge PLA they were given options and the Bridging was one option. Criteria was based upon the recommendation/ referral by PLA. During 2008-2009 two individuals who were not formally part of the Bridging program due to lack of recommendation did take the courses in the hope of achieving success. Other individuals also took the courses who were not part of the PLA process for various reasons.			
Stage 1 of Bridging: Course Section: Four week-end subject review courses.	**Classroom / Clinical Hours**[1]	**Required course**	**Evaluation: Pass/fail, % mark or other**
AORS803 - Respiratory Care	**24 hours:** 12 hours class/12 hours lab	Yes	% grade[2]
AORS804 - Ventilation	**36 hours:** 18 hours class/18 hours lab	Yes	% grade
AORS805 - Anaesthesia	**36 hours:** 18 hours class/18 hours lab	Yes[3]	% grade
AORS806 - Neonatal / Paediatric Respiratory Care	**36 hours:** 18 hours class/18 hours lab	Yes	% grade
RS823 Pulmonary Function Testing	**24 hours:** 12 hours class/12 hours lab	No	% grade
AOIS113 - Preparation for Practice in Canadian Health Care	**24 hours:** in-class only	Yes[4]	Attendance
Total number of hours for Course Section of Bridging:	**Maximum 180 hours:** • **102 hours classroom** • **78 hours lab**		

[1] In addition to classroom/lab learning, all courses included self study

[2] 60% is required to pass all Michener courses

[3] During the 2008-2009 pilot, one student had taken a similar course and passed a "pretest" so was exempted from the course.

[4] Though participants might be given "Advanced Standing" if they already had experience in Canadian healthcare or had taken a similar course.

Simulation Section: Two 15-week courses AORSSC100 - Simulated Clinical • One course is a discipline specific course with integration into the full time RT student body. • The second is interprofessional in nature with students in the other disciplines at Michener. • Students MUST successfully pass this section AND PLA Stage 2 assessment to be eligible for the CLINICAL SECTION	**RT Simulation in ICU/Paeds/OR/Wards/ED/ PFT/CST/Home** 12 weeks X 9 hours/wk clinical simulation (108 hours) plus 3 hours X 9 weeks classroom instruction (36 hours) = 144 hrs. Plus potential additional 2-3 weeks of "remediation" = **maximum 180 hrs** **Simulation in team meetings (QA) and with simulated patient in various settings** 14 weeks X 3 didactic = 42 hours plus potentially one additional week of "remediation" = **maximum 45 hours**	**Yes**	**Pass/Fail**
Total number of hours Simulation Section	**Maximum 225 hours**		
Courses + Simulation Section of Bridging Program Total number of hours:	**Maximum 405 hours**		
PLA Stage 2 – DIDACTIC ASSESSMENT			
Participants must pass this assessment and the Simulation Section to be allowed to continue to Stage 3 clinical placement	**Two-part exam:** Paper 1 Technical and Theory: 2 hr - 100 multiple choice questions (MCQs), mapped to the RT National Competency Profile (NCP). Paper 2 Case Study: 4 hr - 150 MCQs, mapped to the RT NCP.	**Yes**	**% grade**

PLA Stage 3 – CLINICAL SECTION			
30* weeks of clinical placement (based on student need) – **AORSCL100 - Clinical Rotation** • Students will be placed in Ontario clinical settings to obtain clinical learning and workplace experience. • Hours are specific to the clinical placement and include 8 and 12 hour shifts (days or nights) and up to 35 hrs per week. PLA Stage Three assessment occurs simultaneously within this section. • Students MUST successfully complete Stage Three to receive Graduate registration with the CRTO and to be eligible to write the Canadian Board for Respiratory Care (CBRC) national examination.	This is a mandatory course as PLA candidates will NOT be able to achieve competency without some education. *Bridging students are sent out with the full time students and therefore their schedule is 30 weeks. However they do not have to complete the full 30 weeks if they can demonstrate competence in each area before that time. In the past ~24 wks was required, based on a 35-hour work week. 30 weeks X 35 hours = **maximum 1,050 hours.**	**Yes**	**Student must successfully demonstrate competencies.**

THE GAP ANALYSIS PROJECT

APPENDIX 8

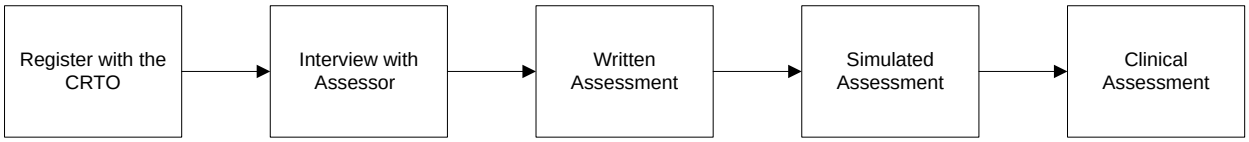
CIITE Respiratory Therapy Competency Assessment Pilot Process

Respiratory Therapy Competency Assessment Pilot
(Algonquin, La Cité, and Fanshawe)

Overview of the Competency Assessment for Potential Candidates

The Respiratory Therapy Competency Assessment pilot will assess candidates' skills and knowledge (acquired in the classroom or on the job) against the competencies needed to practice Respiratory Therapy in Ontario. The outcome of the competency assessment will either be referral to further training to fill gaps or recognition that the candidate has demonstrated the College of Respiratory Therapists of Ontario (CRTO) competency requirements. The colleges are still in discussion about the format this recognition will take. Regardless of the format of the recognition, if a candidate successfully completes the entire competency assessment they will be eligible to take the entrance exam at the CRTO.

The basic process is outlined below.



Before the interview with an Assessor at one of the pilot colleges (Algonquin, La Cité or Fanshawe) potential candidates must apply and obtain approval from the CRTO for prior learning assessment.

Website – www.crto.on.ca **Phone** – (416) 591-7800

Interview

The interview will take approximately 2 hours. Candidates should come prepared to the interview with the following:

- English/French language test results
- Credentials which have been evaluated by WES, ICAS or Comparative Education Services (University of Toronto)
- Transcripts and course outlines (if you have them)

Written Assessment

The written assessment will take place **January 31, 2009** at **La Cite, Fanshawe and Algonquin.** After the candidates complete the assessment they will meet with the Assessor again to discuss their results.

If the candidate is successful on the written test they will continue to the simulated assessment. If the candidate is unsuccessful they will be referred to training, which will most likely be entry to a college program. A candidate who is unsuccessful on the written assessment will not be granted course exemption as a result of the written assessment.

Simulated Assessment

The simulated assessments will take place after January 31^{th,} 2009 and will likely occur on the weekends. The candidate will be asked to demonstrate their skills and knowledge in simulated scenarios. Candidates will be provided with the list of competencies to be tested and the appropriate flow chart from the Canadian Society of Respiratory Therapists (CSRT). Because a candidate must pass all the simulations in order to continue to the clinical assessment, if a candidate is unsuccessful on one of the simulations, they will meet again with their Assessor to determine their next steps –which could include referral to training. The candidate can then choose to continue with the simulated assessments in order to identify any other gaps that need to be filled. Continuing with the simulations will be time consuming but would be useful in the assessing the candidate's training needs.

Clinical Assessment

If the candidate is successful on all the simulated assessments, they will move onto the clinical assessment. The candidate will be asked to demonstrate a set of competencies in a hospital setting. Candidates will be provided with a list of competencies to be tested and the appropriate flow chart from the Canadian Society of Respiratory Therapists (CSRT). If a candidate successfully demonstrates all the competencies in the clinical assessment they will receive recognition (format to be determined) and be forwarded as a candidate for the entry to practice examination at the CRTO. If the candidate is unsuccessful at any of the competencies at this stage they will be referred to training to fill gaps.

Criteria to Participate in the Pilot

- **Language Requirements**– Potential candidates need to provide evidence of English/French language proficiency.

  English Language Tests and Scores:

  - CanTEST: Reading: 4 Writing: 4 Listening: 4 Speaking: 4.5
  - International English Language Testing System (IELTS): Overall band score: 7
  - Michener English Language Assessment (MELA):
  - Reading: 8 Writing: 8 Listening: 9 Speaking: 9
  - Michigan English Language Assessment Battery (MELAB)
  - Total score at least 85, plus an oral rating of at least 3
  - Test of English as Foreign Language TOEFL – Internet based Total: 92 - Reading: 21 Writing: 21 Listening: 21 Speaking: 24
  - TOEFL – Paper based 580 plus Test of Spoken English (TSE) 50
  - TOEFL – Computer based 237 plus Test of Spoken English (TSE) 50

  French Language Test and Scores:

  - Test pour étudiants et stagiaires au Canada (TEStCan) - A minimum score of 5 in each category.

- **Previous Education and Experience** - Candidates should hold a degree and work experience in a career similar to Respiratory Therapy. Work experience should be recent (within the last 5 years). The fields which will be considered are:

  - Critical care/Intensive Care specialist
  - Anesthesiologist
  - Anesthesiologist Assistant
  - Foreign trained Respiratory Therapist

THE GAP ANALYSIS PROJECT

APPENDIX 9

Guidelines for the Supported Integration of Internationally Educated Health Professionals to Ontario Respiratory Therapy Programs

Guidelines for the Supported Integration of Internationally Educated Health Professionals to Ontario Respiratory Therapy Programs[1]

The Respiratory Therapy Supported Integration Process (RT-SIP) is designed to provide internationally educated respiratory therapists (IERTs) and other internationally educated health professionals (IEHPs) with the opportunity to gain the knowledge, skills and judgment in the context of the Canadian health care system to:

- acquire the entry to practice competencies of the respiratory therapy profession;
- meet the education requirement for CRTO registration and eligibility to write the Canadian Board for Respiratory Care (CBRC) national exam; and
- successfully transition to the Ontario healthcare practice setting.

An RT Supported Integration Process (SIP) should assess and evaluate the unique needs of IERTs/IEHPs. Colleges providing integration opportunities agree to recognize the prior knowledge and experience of IERTs/IEHPs within the context of each their own institution's policies in order to support the efficient movement of such applicants through their programs with a minimum of curriculum duplication. In addition, the proposed RT-SIP, features five specific supports to help IERTs and IEHPs successfully complete their RT education in Ontario, register with the CRTO and become a part of the RT workforce in Ontario.

It is proposed that these processes be undertaken in close collaboration between post-secondary institutions and the CRTO, formalized by a Memorandum of Understanding (MOU).

Process

An RT integration process should support IERTs/IEHPs along the pathway from initial application and assessment to successful program completion. A variety of stakeholders, including the regulatory body, post-secondary institutions and clinical practice settings should collaborate to ensure the process is achievable, coordinated and transparent and that challenges are identified and resolved in a collaborative manner.

A program integration model should aim to address all steps of the educational process and provide supports to enhance IEHP success in completing respiratory therapy education in Ontario:

1. **Pre-entry (assessment)**
   An initial assessment will be done by the CRTO to:

   - Verify that the IERT/IEHP is a graduate of an accredited health sciences program;

[1] This document has been developed partly based on the draft *Guidelines for Medical Radiation Technology Bridging Programs* developed by the Canadian Association of Medical Radiation Technologists.

- Conduct a program[2] (and experience[3]) review;
- Verify recent, relevant professional work experience;
- Receive evidence regarding language proficiency;
- Determine eligibility for the Supported Integration option; and
- Provide appropriate applicants a letter of eligibility for supported integration into a full-time Ontario RT program, or provide direction to another option.

2. Facilitated entry to an Ontario RT Program (Support 1)

To promote access for applicants who have already successfully completed post-secondary education programs and have practised in their profession recently (within the past five years) IERTs/IEHPs may be allowed entry into the program through an alternative application process to the regular competitive program for Canadian-educated applicants. All eligible applicants will be those who would meet the "regular" minimum eligibility criteria for entry into the RT programs (minimum education attainment and language fluency etc.). This process will be determined in collaboration between CRTO and participating schools and formalized in the MOU.

3. RT Program Orientation (Support 2)

IERTs and IEHPs eligible for the RT Supported Integration Process will be required to participate in an RT orientation program, once it is developed and made available.

This orientation program is anticipated to be non-credit, coordinated by CRTO and delivered at a central site prior to integration candidates beginning their studies at any of the participating community colleges. This is one of the key supports to enable them to better understand the role, scope and standards of practice of respiratory therapists working within the Ontario health care system and to enhance their opportunity to successfully integrate into an Ontario RT program.

This orientation may include:

1. Introduction to the practice of respiratory therapy in Ontario (e.g. CRTO RT video, lectures, a hospital tour, hands-on experience in a simulation lab, a self-assessment).
2. Introduction to the Canadian health care system, including:
    - Culture and diversity;
    - Ethics and accountability;
    - Patient centered practice;
    - Inter-professional/collaborative care; and

[2] The CRTO will only undertake reviews of respiratory therapy programs.

[3] This will require an enhancement to the current CRTO program review process.

- Professionalism and reflective practice.

3. Health care specific communications.
4. Didactic assessment of RT competencies.

Completion of an assessment (the CIITE Didactic assessment tool may be adapted and mapped to the RT National Competency Profile for this purpose) may be the final step so that this assessment may be used to guide colleges' assessment of an applicant's prior learning.

4. Recognition of Prior Learning (Support 3)

Participating schools commit to systematically using their institution's policies regarding prior learning assessment, advanced standing and credit exemptions to recognize, to the maximum extent possible, the prior knowledge and experience of IERTs/IEHPs entering their RT programs.

Participating schools ensure that resources to support these processes are available and fully utilized. The goal is to consistently and fairly recognize the prior learning of applicants in order to support the efficient movement of such applicants through their programs with a minimum of curriculum duplication.

5. Program Integration (delivery)

Once registered, IERTs/IEHPs will be regular students of the post-secondary institution, subject to the same academic policies, and with all of the same rights, privileges, responsibilities, obligations and access to student supports and financial aid.

Participating schools also commit to sharing information regarding the courses of study IEHPs have been directed to complete, in order that CRTO may develop a body of knowledge regarding the exemptions/advanced standing provided to IEHPs and the required courses they must complete.

6. Mentorship (Support 4)

A support that may be quite useful for IERTs and IEHPs going through the SIP is to be matched with a mentor or to participate in group-mentoring. Ideally mentorship would help applicants have personal contact with a practising respiratory therapist and help them feel less isolated and more professionally included as they go through their respiratory therapy education program in Ontario. The development of this support will be explored by CRTO and its key stakeholder partners.

7. Group Support (Support 5)

An additional support that could be developed would be a group support mechanism to enable internationally educated applicants completing respiratory therapy education to connect and communicate. This could be provided through in-person meetings or on-line social networking, and would ideally be moderated or coordinated with the support of a practising respiratory therapist or RT educator. Such a support, particularly if developed as an on-line exchange, could be provincial or national in scope, so that internationally educated candidates from any region could communicate with a network with others going through the same educational

process. This support could help individuals completing respiratory therapy education feel less isolated and could lead to the development of useful exchange of information and mutual encouragement. The development of this support will be explored by CRTO and its key stakeholder partners.

8. Evaluation

The success of the RT supported integration process will be carefully evaluated to gauge appropriateness and success or to identify additional needed supports. This will be accomplished through:

1. Quarterly conference calls and/or meetings between CRTO and all participating schools to discuss and document successes and challenges;
2. Documentation of attrition rates as compared to Ontario program entrants and documentation of reasons for failure to complete;
3. Graduation rates;
4. CBRC pass rates; and
5. Employment rates.

Sustainability

- The sustainability of the SIP will be considered as part of on-going evaluation.

Program format

As with all Ontario RT Programs, the curriculum:

- must include a didactic component;
- must include a clinical placement/learning component; and
- may include simulation-based learning.

In addition, participating schools:

- may consider the additional supports (language or other) and social and economic circumstances of IERTs/IEHPs.