

CSMLS New Graduate Employment Survey – 2007

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The Canadian Society for Medical Laboratory Science (CSMLS) has been tracking employment trends in the medical laboratory workforce since 1987. One of the tools that CSMLS uses to gauge the health of the job market is the Graduate Employment Survey. Each year, CSMLS surveys graduates of accredited medical laboratory training programs across Canada to ascertain their employment status one year after graduation. The results of the survey provide a 'snap shot' of the job market

for medical laboratory technologists, and serve to identify trends in the medical laboratory workforce and in the larger health care environment.

In October of 2007, surveys were sent by mail to 862 people who completed CSMLS certification, including graduates of accredited education programs in 2006, as well as those who established eligibility through the Prior Learning Assessment process. Two hundred and fifteen people responded for an

overall response rate of 25 per cent, a disappointing drop from previous surveys. The respondents included:

- 194 general medical laboratory technologists
- 4 clinical genetics technologists
- 11 diagnostic cytologists

Respondents were asked to indicate their employment status 12 months after graduation. They were also asked to list their academic credentials upon entering and exiting their training programs.

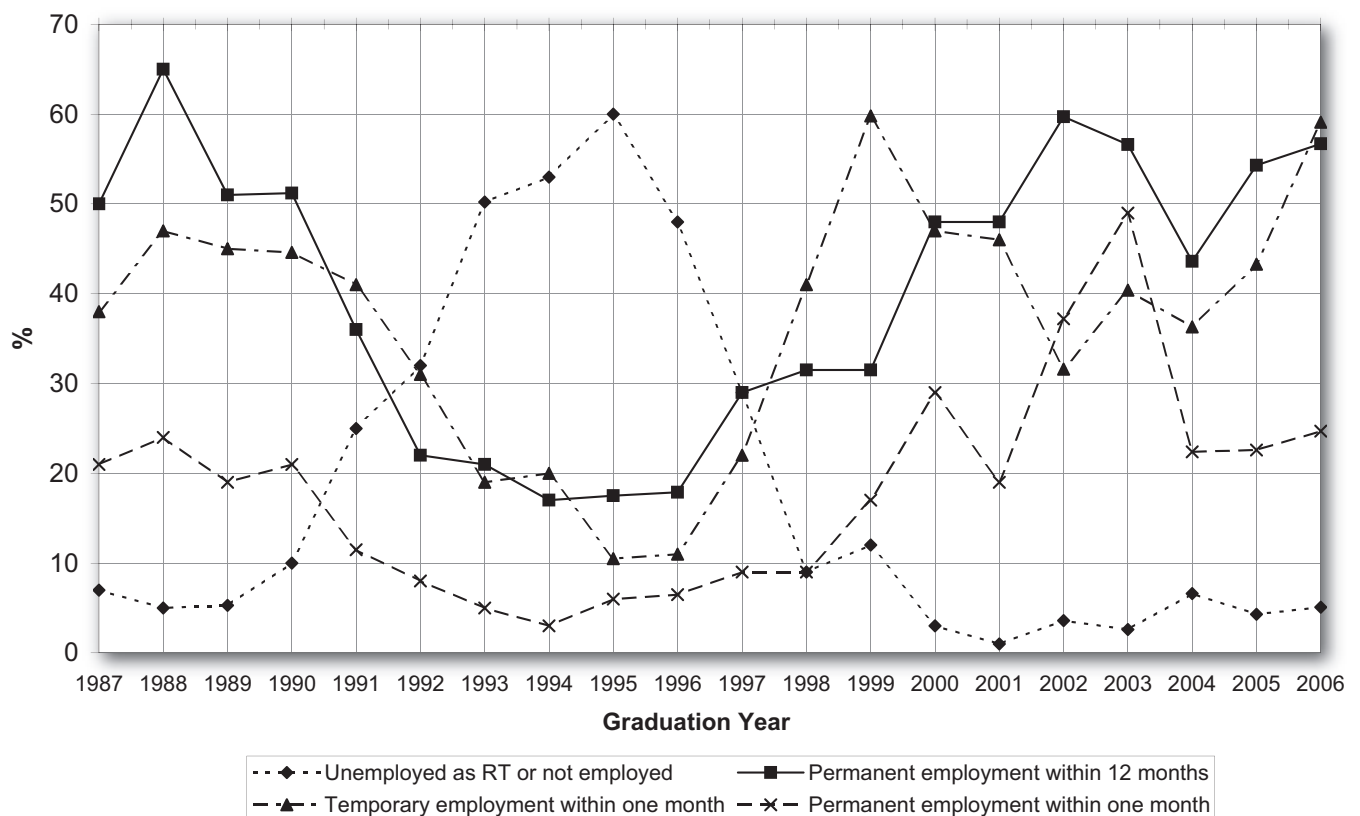


Figure 1: New Graduate Survey 1987-2006

The National Picture - Where They Work

Hospitals continue to be the predominant employers for new graduates of general medical laboratory programs. The vast majority (82.3%) of respondents reported finding work in hospitals, which was an increase from the 74.5 per cent reported in the previous survey. The remaining 17.7 per cent work in private laboratories (8.4%), public health labs (3.7%) and other organizations.

Approximately half (44.7 %) of the respondents work in hematology, 40.0 per cent in clinical chemistry, 32.6 per cent in transfusion science, and 20.9 per cent in clinical microbiology—many work in two or more departments of the laboratory. Hospitals are also the principal employers for clinical genetics technologists (100%) in this survey. Hospitals are also the primary employer for diagnostic cytology technologists (63.6%), with the balance reporting employment in private laboratories and public health laboratories.

Employment After One Year

Employment uptake of new graduates into the medical laboratory workforce in Canada has remained consistently high since 1998. The 2007 survey shows an uptake of 95.8 per cent for all 2006. Uptake in the specialty disciplines of clinical genetics and diagnostic cytology was 100 per cent and 72.7 per cent respectively. The uptake for diagnostic cytology graduates has dropped again from what was an optimistic improvement in the last survey. Rates of retirement have not materialized as predicted in a number of cases.

Provincial Employment After One Year

Employment uptake was fairly consistent throughout the country. All of the new graduates in British Columbia, Alberta, Saskatchewan, Manitoba, New Brunswick, Nova Scotia and Newfoundland seeking employment were employed as medical laboratory technologists within a year. Graduates in Ontario followed closely behind at 97.1 per cent, while Quebec respondents report an 89.5 per cent success. This is a small decline in Quebec, and worthy of monitoring in future surveys.

Full-Time vs. Part Time and Casual Employment

The lack of full-time, permanent employment has been a growing concern in the health care community for more than a decade. Since the 1990s, entry-level health care professionals such as nurses and medical laboratory technologists have been forced to accept part-time, casual or temporary positions. Full-time employment rose again to 44.7 per cent, up from 40.5% in the previous survey. The provincial data reflects a changing environment as well. Full-time employment was above the national average in most jurisdictions (see figure 3), with the exception of Quebec where only 14 per cent of respondents reported acquiring full-time positions (13.8% in previous survey). Quebec also reported the highest number of respondents with casual type employment at 21.1 per cent. Only 73.7 per cent of Quebec respondents reported that they were seeking full-time employment, which is a drop from the previous survey (84.6%).

Out migration

CSMLS certification is accepted as the entry-level credential for medical

laboratory technologists across the country. This is a significant benefit to new graduates who wish to relocate to another province. Nationally, 12.6 per cent of respondents reported moving after graduation, 3.3 per cent to seek work, and 9.2 per cent for personal reasons. This remains a relatively stable number over recent surveys.

The threat of a massive 'brain drain' of new graduates to the United States does not appear to be an issue, at least on a national level. Of those respondents who left their home province, only one new grad moved to the United States to obtain employment.

Education

This is the fifth time that the Graduate Employment Survey has included questions about additional educational credentials before and after completion of the accredited training program. Survey results indicate that a significant proportion of students entering medical laboratory technology education programs already possess a baccalaureate degree. In 2007, 40.5 per cent of survey respondents reported holding a degree before entering an accredited education program (2006 - 30.8 %). This is a significant jump from the previous data, and will continue to be monitored in future surveys. An additional 16.3 per cent had completed some university courses.

Conclusions

The results of the Graduate Employment Survey indicate a generally positive employment outlook for graduates of medical laboratory technology training programs. There are, however, some areas of concern:

1. Quebec grads still have challenges finding full-time employment, with the highest casual lab workforce in the country. Previous high casual employment rates have improved significantly in most other jurisdictions.
2. The uptake of diagnostic cytology technologists into the workforce continues to fluctuate. In view of this unpredictable situation we strongly recommend that education programs for work closely with their local work places to ascertain true intake needs.

This report reflects the improving marketplace for 2006 MLT graduates in Canada. In the Future surveys will be conducted electronically— hopefully this will improve the response rate.

We have noted with concern that some of our members are not conveying positive messages about pursuing a career in medical laboratory science. We must present an optimistic outlook for this career if we expect to recruit the best and the brightest into our medical labo-

ratory science programs. We would encourage members to get engaged in the promotion of the profession. CSMLS can supply information resources to assist with various events like career days.

CSMLS is committed to working with governments and other key stakeholders to address the ongoing concerns for health human resource planning in our profession. We will continue to monitor this situation closely. ■

Type of Employment	2004 %	2005 %	2006 %	2007 %
Permanent Full Time	40.1	31.5	40.4	44.7
Temporary Full Time	11.7	13.1	12.5	13.5
Permanent Part Time	15.8	20.2	18.3	23.7
Temporary Part Time	6.1	10.8	9.6	6.5
Casual	13.3	21.1	16.3	9.3

Figure 2: National Job Category Data
Employment Status – National Percentage Working as MLTs after 12 months

Province	Permanent Full Time	Temporary Full Time	Permanent Part Time	Temporary Part Time	Casual
NL	100.0	-	-	-	-
NB	71.4	28.6	-	-	-
NS	75.0	16.7	8.3	-	-
QC	14.0	22.8	26.3	12.3	21.1
ON	60.0	8.6	25.7	1.4	1.4
MB	71.4	14.3	14.3	-	-
SK	-	-	50.0	25.0	25.0
AB	46.2	11.5	26.9	-	11.5
BC	36.0	8.0	28.0	20.0	8.0

Figure 3: Provincial Job Category Data

Province	Degree before MLT Program % responses			No degree but completed some university courses % responses		
	2005	2006	2007	2005	2006	2007
NL	20.0	--	--	100.0	44.7	100.0
NB	30.8	40.0	33.3	50.0	40.0	55.6
NS	--	--	42.9	--	--	28.6
QC	4.5	9.2	14.0	17.2	6.2	8.8
ON	56.4	50.8	55.7	13.5	13.6	4.3
MB	12.5	23.1	42.9	50.0	30.8	28.6
SK	25.0	--	25.0	60.0	66.7	75.0
AB	50.0	28.0	42.3	42.9	12.0	26.9
BC	44.4	60.6	64.0	47.6	27.3	20.0

Figure 4: Provincial education data

Founders' Fund 5th Annual World Congress on Insulin Resistance Syndrome (Boston, USA)



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The World Congress on Insulin Resistance Syndrome (WCIRS) is the world's first and most advanced scientific conference on Insulin Resistance Syndrome. With the explosion of obesity and Metabolic Syndrome, the need to identify patients at higher risk for diabetes and cardiovascular disease has become critical. This unique and exciting program allowed participants to personally interact with the world's important leaders in insulin resistance, and advanced understanding of this complex and very important syndrome.

My doctorate research is focused on the role played by FFA in the development of insulin resistance at the molecular level. One of the key events that occur in insulin resistance and Type II diabetes is the enhanced level of lipolysis that leads to a flux of FFA to non-adipose tissues muscle and liver. Increased levels of FFA were also found in patients with type II diabetes.

The molecular mechanisms through which different FFA contribute to the development of insulin resistance are less clear. My interest in the FFA led to the study of FFA in muscle cell and liver as models for insulin resistance.

I presented two papers at the conference: The fructose fed hamster model as a novel model for diet induced insulin resistance: Free fatty acids - induced PKC and NFkB activation as a mechanism for both the insulin resistance and dyslipidemia and Different Free fatty acids (FFAs) – induced serine 307 phosphorylation for IRS-1 as a novel mechanism for skeletal muscle insulin resistance. Our current work was recently published in the British Journal of Diabetes & Vascular Disease Research, UK (Volume (4), Issue (3) – September 2007).

It was a great honor for me to present my work at the international level. I would like to thank the CSMLS Grants and Scholarships Committee

for supporting my attendance at the conference by providing financial support through the International Founders' Fund. It is my hope that CSMLS will continue to support the cycle of research that has a tremendous and powerful impact on the field of medical laboratory science.

I also wish to take the opportunity to thank and acknowledge all the authors who contributed to the work: Dr. Medhat A. M., Dr. Shanab G.M.L., Dr. Seoudi D. M. from Ain Shams University and Dr. Adeli K. and Dr. Fantus I.G. from the University of Toronto, for their great support and sincere supervision and consultation of my research work. My doctorate work has enabled me to continue my academic career internationally, as well as strengthening my expertise in the specialties of clinical chemistry, laboratory medicine and pathobiology. ■