Our country is increasingly defined by the health care sector, with transformational impact from fiscal considerations involving population characteristics, aging capital resources and advancement in services. As an easy example, the impact of aging baby boomers is evident in the cost of health care spending. Canadians who are 65 years and older represent approximately 15% of the population but consume more than 45% of all public-sector health care dollars (15 to 64 years old = $2,637 per person while 65 and older = $11,598 in 2013). The Canadian Institute for Health Information (CIHI) reports that total health expenditure was $219.1 billion for 2015 (entire population), signifying 10.9% of Canada’s gross domestic product (GDP). This places our health care per capita spending in the top quarter internationally. We are a country that values its health care and believes in its use, however, governments and employers are aware the current model is not sustainable. As more health services are available with increased use of those services, CIHI recommends monitoring our health spending.¹

Part 3: Changes in the Employment Setting: Clinical Placements

Our country is increasingly defined by the health care sector, with transformational impact from fiscal considerations involving population characteristics, aging capital resources and advancement in services. As an easy example, the impact of aging baby boomers is evident in the cost of health care spending. Canadians who are 65 years and older represent approximately 15% of the population but consume more than 45% of all public-sector health care dollars (15 to 64 years old = $2,637 per person while 65 and older = $11,598 in 2013). The Canadian Institute for Health Information (CIHI) reports that total health expenditure was $219.1 billion for 2015 (entire population), signifying 10.9% of Canada’s gross domestic product (GDP). This places our health care per capita spending in the top quarter internationally. We are a country that values its health care and believes in its use, however, governments and employers are aware the current model is not sustainable. As more health services are available with increased use of those services, CIHI recommends monitoring our health spending.¹
The health care system decreases spending by trimming where impact to patients and professionals is limited, in a value to cost review. Although spending growth has slowed, hospitals (29.5%), drugs (15.7%) and physician services (15.5%) continue to account for the largest share of health dollars (>60% of health spending). In the clinical laboratory setting though, labour accounts for 50% to 70% of spending, placing staff as the central expense. Employers have to contend with each of these categories by shifting or decreasing spending, finding system efficiencies and redirecting cost to patients.

The financial impact on the patient is in the out-of-pocket health costs per person, which has increased annually by 4.5% (1988-2013). Private health insurance per person has also increased over the same period by 6.8% annually. Financial pressure on health care system and the dramatic change to accommodate it can be demonstrated through hospitals “consolidating into regional networks with highly specialized medical care performed in core facilities, generalized medical care provided in satellite hospitals and ambulatory services offered at point-of-care (POC) locations.”

Amalgamation of laboratories, resulting in one laboratory providing service to two or more hospitals, is believed to reduce both testing and personnel costs. Governments and organizations have attempted to cut costs by privatizing parts of health care work through contracting or pushing out services to the community. For-profit private companies have worked with hospitals, nursing homes or other health authorities to provide ancillary services such as cleaning or food delivery, in addition to health services such as those conducted by laboratories. This change in the system impacts professionals by increasing precarious positions within private and public sectors.

“Precarious work is characterized by lack of continuity, low wages, lack of benefits and possibly greater risk of injury and ill health... Measures of precariousness are level of earnings, level of employer-provided benefits, degree of regulatory protection and degree of control or influence within the labour process... The major types of precarious work are self-employment, part-time (steady and intermittent) and temporary...”

Critical shortages of health human resources, high turnover rates and precarious positions have been a concern in many countries around the globe. Within many industries there have been significant increases in part-time, temporary and casual work positions. These vulnerable and precarious positions are a cost-saving measure for organizations, especially in such staff-driven areas as the laboratory (e.g., decreased benefit, pension, vacation and sick payouts). It has been argued that this flexibility allows Canada to respond to financial crises with greater ease than highly regulated European economies. However, it has also contributed to the rising rates of income inequality. In the short run, this strategy minimizes impact to patients and professionals relative to staffing layoffs; however, sustaining it for extended periods of time increases job insecurity, sustains a lower wage and hinders workers current and future benefits. Other impacts have also been found in research such as that reported by McMaster University and the United Way. It was found that precarious employment is associated with anxiety and unstable social structures. Evidence has described precarious work as affecting physical health, including higher rates of diabetes, heart attacks and fatal occupational injuries.

Of particular interest is the effect of this trend on the hospital laboratory, considered a health care cornerstone. According to the American Society for Clinical Pathology Task Force on the Laboratory Professionals Workforce, “Balancing laboratory efficiency with optimal service levels is always a challenge. Because of the significant costs related to labor, appropriate staffing is an important management responsibility. Many factors enter into these decisions, including an understanding of reasonable labor productivity, consideration of staff experience and motivation, availability of automation, special labor-intensive testing and clerical and teaching responsibilities.”

Amidst the health care system changes and the pressures discussed, laboratory employers place greater demands on current health care professionals to maintain prior productivity levels and quality under greater constraints, as well as expecting continued exemplary service. Furthermore, the employer expectations of students entering the workforce increases as there is greater need for these individuals to adapt quickly to the clinical and laboratory environment under less supervision. The external restrictions require medical laboratory professionals to achieve proficiency faster, increase productivity while maintaining quality and adapt to flexible shifts in skill mix.

Need Proficient Rather Than Competent Workers
Determining optimal staffing ratios based on a mix of senior and junior medical laboratory personnel is a concern in laboratories. Depending on the position duties, it can take three to nine months to adequately train staff in a highly complex lab. However, under the current scenario described, there is greater difficulty in optimizing training and supervision than in more secure times. Employers are perceived as needing proficient rather than competent new graduates as respectfully discussed by education stakeholders during the Simulation and Clinical Placement National Forum (April 2016). A burdened health system requires new employees and recent graduates to acquire skills more efficiently, as the resources to support such acquisition over a lengthy training period is not as plentiful. In line with this and validated at the Forum also, in recent years many laboratories have reduced the number of clinical placements for students or eliminated the program fully due to workload burden and labour supervision costs experienced by the workplace setting. The lack of clinical placements in many regions and decreased supervision of students, although adequate to meet accreditation,
drives a need for proficiency for many tasks delegated to students.

**Need Increased Productivity While Maintaining Quality**

Expectations of increased productivity while maintaining quality has a tipping point. As stated in a World Health Organization (WHO) report, "clearly, strong and effective health systems depend on having enough people, with the right skills, in the right place." Laboratory management, to the best of their ability, try to ensure an appropriate number of staff with the requisite education, qualification, training and competence required to meet the demand of the services. It is widely acknowledged in the medical laboratory community that the shortage of skilled staff is an immediate risk to the health system, patients and the professionals.

There is evidence to demonstrate a direct positive link between the number of people with access to health services and the numbers of health care professionals required to ensure access. To meet quality requirements, the relative number of personnel with training, certification, appraisal and continuing professional development is imperative. With the shortage of medical laboratory professionals, the increase in precarious positions and laboratory services provided, the workforce trajectory is contradictory to best practice. Recognizing that laboratory staffing has a direct relationship on patient outcome, hospital mortality and error rates, employers are in a difficult situation to find a balanced workforce and production line. The medical laboratory professionals of today are required to increase their workload standards to support hard times.

**Shifts in Skill Mix**

Known as “task” or “skill” shifting, it is a pragmatic response to health human resource shortages around the world to support organizations. It involves the “rational redistribution of tasks among health workforce teams. Specific tasks are moved, where appropriate, from highly qualified health workers to health workers with shorter training and fewer qualifications in order to make more efficient use of the available human resources for health.” Shifts can be horizontal (between professional groups) or vertical (within a professional group). For example, the increasing demand for medical laboratory professionals to conduct ECGs that are traditionally conducted by other professions represents a horizontal skill shift. A classic strategy used by hospitals to decrease costs is through vertical skill shifting from registered nurses to registered practical nurses. The change in skill mix supports a reduction of salary costs while providing the ability for specialized tasks to be completed by experts.

The WHO commissioned a study on global task shifting that focused on HIV services. The report found evidence of informal changes to the scope of practice among several professional groups such as, pharmacists, counselors and laboratory technicians. It is the understanding of the CSMLS that the use of the term technician by the WHO here is referring to the regulated occupation in Canada, MLT. WHO recommended that the task shifting approach for these professions could involve the full spectrum of health services under defined circumstances. According to an Institute of Biomedical Science (IBMS) study of 180 laboratories in the year 2000, 90% admitted they were severely understaffed and 60% regularly used unqualified workers to help with day-to-day tasks. It was found that work that should have been done only by scientists was being left to less experienced laboratory staff, secretaries and administration staff. It is said that the National Health Service in England continues to experience similar difficulties today. The same occurrence has been echoed within the medical laboratory community in Canada. There are expectations of increased and expanded competency to accommodate skill shifting that support innovative or practical staffing models to meet service demands.

**Conclusion**

“It is essential to identify workforce policies and priorities that ensure an effective, properly trained workforce that leverages efficient operating models and the latest technologies. Moreover, as these policies and priorities are identified, they need to be coupled with sustainable advances in educational curricula, continuing education, ongoing competency assessments and credentialing requirements.”

In order to maintain an exemplary group of professional medical laboratory

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**CSMLS is aware of current and potential task shifting for Medical Laboratory Professionals to routinely conduct electrocardiograms [ECGs]. We have gathered information for a number of ECG courses available in Canada.**

Please check with the course provider for information about registration and course pricing. Visit csmls.org under the professional development tab for course names and information.

<table>
<thead>
<tr>
<th>COURSE TYPE</th>
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<tbody>
<tr>
<td>Online</td>
<td>Fanshawe College</td>
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<tr>
<td>Distance</td>
<td>Northern Alberta Institute of Technology [NAIT]</td>
</tr>
<tr>
<td>Online</td>
<td>Southern Alberta Institute of Technology [SAIT]</td>
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<tr>
<td>Online &amp; Online/In class</td>
<td>University Health Network [UHN]</td>
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<tr>
<td>Half-day (4-hour) practical workshop held at The Michener Institute</td>
<td>Thompson Rivers University</td>
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*These courses have not been approved by CSMLS.*
workers, while accommodating the fiscal and economic responsibilities, employers are placed in a tough situation to balance the books while maintaining service. As they tighten budgets to achieve this, they place greater expectations on their laboratory staff as well. The use of laboratory staff that is over stressed and with low morale is a recipe for errors.\(^\text{27}\) However, it also provides an opportunity for the profession to shine and demonstrate the increase in their professional standard.  

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