

Chapter 4

Section 4.02

Ministry of Health and Long-Term Care

Health Human Resources

Follow-up to VFM Section 3.02, *2013 Annual Report*

RECOMMENDATION STATUS OVERVIEW					
	# of Actions Recommended	Status of Actions Recommended			
		Fully Implemented	In Process of Being Implemented	Little or No Progress	Will Not Be Implemented
Recommendation 1	4		3	1	
Recommendation 2	3		3		
Recommendation 3	1		1		
Recommendation 4	2		2		
Total	10	0	9	1	0
%	100	0	90	10	0

Background

The Ministry of Health and Long-Term Care (Ministry) and the Ministry of Training, Colleges and Universities jointly developed the HealthForceOntario Strategy (Strategy) in 2005/06 to address concerns over shortages of physicians and nurses in Ontario and long wait times. The intent is to ensure that Ontario maintains the right number, mix and distribution of qualified health-care providers. Total expenditures for the Strategy in 2014/15 were \$742 million (\$738.5 million in 2012/13), an increase of 66% (65% to 2012/13) from the \$448 million spent in 2006/07. Between 2006/07 and 2014/15, the Ministry had spent \$5.7 billion (\$3.5 billion to 2011/12) on the Strategy.

As part of the Strategy, the Ministry established the HealthForceOntario Marketing and Recruitment Agency (Agency) in 2007. The Agency focuses on recruitment and retention of health professionals.

We noted in our *2013 Annual Report* that, overall, Ontario had not achieved its goal of having the right number, mix and distribution of health-care professionals to meet its future health-care needs, despite the fact that it had seen an 18% increase in physicians from 2005 to 2012 and a 10% increase in nurses from 2006 to 2012. Our most significant observations included the following:

- Access to health care was still a problem for some Ontarians, particularly those who live in rural, remote and northern areas of the province. As of 2011, 95% of physicians in Ontario practised in urban areas and 5% in rural

areas. At the same time, 14% of the population lived in rural areas.

- Many specialists who were trained in Ontario—at a cost of about \$780,000 each (including \$375,000 for resident salaries and benefits)—did not stay and practise in Ontario primarily because there were few full-time employment opportunities for these graduating specialists. Statistics show that, on average, 33% of Ontario-funded surgical specialist graduates left the province each year from 2005 to 2011, even though there were long wait times for some of the same services (such as forefoot surgery and knee replacement surgery) that these physicians were trained to provide.
- Locum programs, which provide access to physicians in eligible communities on a short-term basis, particularly in Northern Ontario, were instead being used for long periods of time. The latest data available at the time of our audit indicated that there were about 200 permanent positions for specialists vacant in Northern Ontario. At the time of our 2013 audit, one-third of the hospitals had been using temporary physician services as part of the Emergency Department Coverage Demonstration Project. One hospital has been using these physician services continuously since 2006 while the others adopted them in 2007.
- At the end of 2011, 66.7% of nurses were working full-time in Ontario, just slightly under the Ministry's goal of having 70% of nurses working on a full-time basis. However, the Ministry needed to improve its oversight and assessment of the effectiveness of its nursing programs and initiatives. For example, the Nursing Graduate Guarantee Program provides organizations with funding for up to six months with the expectation that they will offer permanent, full-time jobs to participating new graduate nurses. But only about a quarter of these new graduate nurses in 2010/11 and a third in 2011/12 were actually given permanent full-time jobs.

- Although the physician forecasting model's partnership with the Ontario Medical Association was a positive step in determining the requirements of the physician workforce, it was hampered by the limited reliability and availability of data, especially on physician productivity. These limitations made it difficult to plan the optimal number, mix and distribution of physicians to ensure their appropriate funding, training and employment.
- Further, the nursing model that was under development at the time of our 2013 audit did not consider the number of nurses needed to meet the population's needs.

Standing Committee on Public Accounts

The Standing Committee on Public Accounts (Committee) held a hearing on this audit in December 2014. In May 2015, the Committee tabled a report in the Legislature resulting from this hearing. The Committee endorsed our findings and recommendations, and also issued an additional seven recommendations. In June 2015, the Ministry and the Agency notified the Committee that they would respond to the Committee's recommendations by September 25, 2015. The Committee's recommendations and the status of the implementation of these recommendations are found in Chapter 7.

Status of Actions Taken on Recommendations

The Ministry of Health and Long-Term Care (Ministry) provided us with information in the spring and summer of 2015 on the current status of the recommendations we had made in our *2013 Annual Report*. According to this information, the Ministry has made progress in implementing most of the recommendations, but has not fully implemented any of them.

We noted that the Ministry has made significant progress in the following areas: its efforts to increase the supply of physicians in the specialty areas and geographic areas of need; efforts to improve new nurse participation in the Nurse Graduate Guarantee Program; and in completing financial reconciliations of payments made to organizations and identifying recoveries on a timely basis. However, we noted that the Ministry needed to improve its efforts to increase the percentage of nurses employed full-time. It also needed to address in its physician planning model such factors as availability of diagnostic and laboratory equipment and operating rooms to perform surgeries as well as physician preferences for certain specialties and practice locations.

The status of the actions taken on each recommendation is summarized as follows.

Physicians

Recommendation 1

To better meet the health-care needs of Ontarians, the Ministry of Health and Long-Term Care, in conjunction with the HealthForceOntario Marketing and Recruitment Agency, should:

- *compare the existing mix and distribution of physicians across the province to patient needs and consider what measures it can take to reduce any service gaps;*

Status: In the process of being implemented by December 2016.

Details

The Ministry indicated that it does not need to increase the province's overall physician supply because the supply is now stabilized. According to the Ministry, the number of first-year postgraduate residents increased from 557 to 1,237, or by 122%, between 2000 and 2014.

As well, between 2002 and 2012, the 33% increase in the supply of actively practising physicians in Ontario outpaced the 13% increase in population. The Ministry also predicts, through

the use of its physician supply and service utilization models, that the supply of actively practising physicians will increase by another 23% from 2015 to 2025. By the year 2025, the Ministry expects that physician supply will outpace anticipated service utilization by 8%.

Even though the overall physician supply has stabilized, the supply of physicians is not yet distributed consistently across specialty groups (such as orthopaedic, internal medicine, and cardiac) or geographic regions. To better allocate physicians among geographic regions, the Ministry took into account the Communities by Ruralness Index for Ontario Score (measuring the accessibility of health care in rural areas), family physicians to population ratio, and input from Local Health Integration Networks. In 2015, the Ministry introduced two payment incentives to physicians to encourage them to practise in areas of high needs:

- The Ministry announced changes to primary care physician payments in February 2015 to increase the supply of physicians in the identified geographic areas of need. As well, the Physician Service Agreement established a managed-entry process for Family Health Network and Family Health Organization payment models for physicians. These models are more lucrative than the fee-for-service model. Therefore, effective June 1, 2015, physicians will participate in these models only in areas of high physician need or to replace exiting physicians who were already operating under these models.
- The Ministry also operates an income stabilization program to help certain new physicians build their patient rosters. Physicians eligible for this program include those who have joined a Family Health Network or Family Health Organization, those who are in their first year of primary care practice or physicians with one year of Ontario fee-for-service billing history. The program pays a guaranteed compensation rate for up to 12 consecutive months, starting from when these

physicians become a member with the Family Health Network or Family Health Organization. The Ministry amended the program in June 2015 to limit it to new physicians commencing in Family Health Networks or Family Health Organizations through the managed-entry process, as well as to the replacement of physicians in areas of high physician need.

In addition, the Ministry has worked with health care partners to share information and evidence and to explore the development of a co-ordinated approach to addressing current and future physician planning challenges in Ontario. In October 2014, the Ministry met with the College of Physicians and Surgeons of Ontario and physician stakeholders, including the Ontario Medical Association, the Centre for Evaluation of Health Professionals Educated Abroad, and the College of Family Physicians of Canada.

Recognizing that physician planning extends beyond Ontario's borders, since the fall of 2013 the Ministry has acted as Co-Chair with the Association of Faculties of Medicine of Canada of the Pan-Canadian Physician Resource Planning Task Force (Task Force). This Task Force was established to facilitate collaboration and co-ordination of pan-Canadian physician human resources planning in support of the Deputy Ministers of Health and the Deans of Medicine, and to promote improved alignment between physician supply and the health care needs of the population. The Task Force is comprised of representatives from federal and provincial governments, national stakeholders, medical educators and learner organizations.

- *assess how various factors, including hospital funding and capacity and health-delivery models, affect patients' access to needed services and physician employment, and develop cost-effective solutions where concerns are identified;*
Status: Little or no progress.

Details

In December 2014, the Ministry initiated an internal discussion involving representatives from different divisions within the Ministry to explore the link between hospital funding and human resources planning. In February 2015, the C.D. Howe Institute issued a report entitled *Doctors without Hospitals: What to do about Specialists Who Can't Find Work*. The report noted that recently graduated specialists in Canada cannot find work, despite long wait times for their services. The report explained that one reason for this reality is the way specialists and hospitals are funded—hospitals are paid a fixed, lump-sum payment to cover their operating costs, while specialists are paid on a fee-for-service basis by provincial insurance plans instead of by the hospitals where they work. As a result, the fixed budgets given to hospitals restrict the resources available to doctors who need operating room time and nursing staff. The report included a recommendation to policymakers to give hospitals the budgets and authority needed to contract specialist physician services. The Ministry indicated that, given the complexity of physician negotiations and hospital funding formulas and their broad impact on the entire health system, it is not feasible to pursue the report's recommendations at this time.

- *continue to work with medical schools and associations to encourage more medical students to select fields of study and geographic areas in which to practise that are in demand;*
Status: In the process of being implemented by December 2016.

Details

The Council of Ontario Universities Postgraduate Medical Education Working Group (Council) developed a province-wide plan for accepting medical residents. This plan reflects current physician supply trends and assigns the number of learners that medical schools should plan for, according to

each specialty. Working with the medical schools, the Ministry used this plan to support the reallocation of existing residency positions in medical schools in the 2015/16 year—from programs with forecasted surplus to programs with forecasted need—and communicated the approved changes to the Deans of Medical Schools in September 2014. The use of this plan resulted in a reduction in the number of orthopaedic surgery positions while increasing the number of psychiatry positions by about the same number.

As well, the Ministry noted that the HealthForceOntario Marketing and Recruitment Agency (Agency), with the support of Ontario's six medical schools, conducts presentations at medical schools and at events such as the annual Ontario Medical Students' Weekend. The objective is to make students more aware of the Agency's career planning services, rural practice opportunities and the physician employment landscape.

To determine the number and mix of residency positions for 2015, the Ministry in 2014 worked with the Council of Ontario Faculties of Medicine and medical schools to launch a strategic, evidence-informed approach to medical education planning. The Ministry indicated that it will continue to work with medical education partners in 2015 to monitor the implementation of this approach, and will create a process for the development of future, multi-year plans.

- *assess the effectiveness of its various physician initiatives in meeting the health-care needs of underserved areas.*

Status: In the process of being implemented by March 2016.

Details

At the time of our follow-up, the Ministry was evaluating the outcomes of its major programs that are intended to affect distribution of physicians to underserved areas in order to determine their effectiveness and whether they meet the needs

of communities with recruitment challenges. It expects to complete its analysis and make evidence-based policy recommendations by March 2016.

The major programs being evaluated included the following two physician initiatives:

- a five-year tracking study to evaluate the extent to which the Northern Ontario School of Medicine (School)'s undergraduate and postgraduate medical education programs improve the supply and distribution of physicians in Ontario's most northern and rural communities. In June 2015, the School provided the Ministry with the results of the study, which focused on learners and residents of family medicine programs. According to the Ministry, the results were positive and reinforced the province's policy to educate physicians in northern and rural communities and encourage them to practise in these communities. The Ministry requested that the School extend the tracking study for three additional years to measure the impact of the School's graduates in eight specialty residency programs; and
- an evaluation of the effectiveness of the Return of Service Program, which provides funding to support a physician's postgraduate medical training in exchange for a commitment to practise medicine in an eligible Ontario community for an agreed-upon period of time, usually five years. The evaluation, which began in November 2014, focuses primarily on the retention rate of physicians in underserved areas after they complete the program. It also focuses on factors beyond financial that may have an effect on whether doctors remain or leave underserved communities after program completion. The evaluation included a review of five programs: International Medical Graduate Program, Repatriation Program, Emergency Medical Training Program, Resident Loan Interest Relief Program, and Re-entry Residency Training/Education Program, as well as an

assessment of the effectiveness and impact of the Northern and Rural Recruitment and Retention Initiative. The Ministry received the results of the evaluation in October 2015 and expects to use them to inform its policy recommendations by March 2016.

The Ministry funds four locum programs (the Emergency Department Coverage Demonstration Project, the Northern Specialist Locum Program, the Rural Family Medicine Locum Programs, and the General Practitioner Vacancy Locum Coverage Arrangements) to provide primarily northern and rural communities access to physician care when those communities have temporary physician absences or vacancies. The Ministry, on a quarterly basis, internally reviews the four locum programs, focusing on areas such as process improvements, expense reimbursement, assessment of need for the programs, performance measurement, and co-ordination of support in communities and/or hospitals where multiple programs are engaged simultaneously. The Ministry has not yet identified and evaluated options for improved integration of locums into broader health human resources planning to support the delivery of health care in Ontario communities facing physician shortages, but plans to do so.

According to the Ministry's comparison of the locum costs of all four programs for a nine-month period from April to December of 2013 and 2014, costs for two programs increased while those for the other two programs decreased, indicating that the medical needs of individuals in these geographic areas were being met while their physicians were temporarily unavailable.

- Both the Northern Specialist Locum Program and the Emergency Department Locum Program demonstrated reductions in cost. This decrease is due to recruitment and retention of physicians in rural, northern and high need geographic areas, resulting in less reliance on locum usage and reflected in the cost reduction.

- Both the Rural Family Medicine Locum Program and the General Practitioner Vacancy Locum Coverage Arrangements demonstrated increases in cost. These increases are due to greater respite services to support local physicians who are on vacation, engaging in continuing education or on leave for other reasons. The increased costs also reflect an increase in vacancies of general practitioners who are able to provide services in both primary care and hospital settings (emergency department coverage, in-patient care, etc.) in the northern areas. These increases reflect the fact that full-time doctors are hired, resulting in them using the locum services for vacations and attendance at courses or conferences.

Nurses

Nursing Initiatives

Recommendation 2

To provide an appropriate level of nursing services and thereby improve access to care across the health sector, the Ministry of Health and Long-Term Care should:

- *monitor nursing employment trends and assess the outcome of its nursing initiatives in transitioning graduating nurses to permanent full-time employment;*

Status: In the process of being implemented by December 2016.

Details

To promote the continuity of care, consistency of care providers, and recruitment and retention of nurses, at the time of our audit in 2013, the Ministry set a goal of having 70% of nurses employed in full-time positions. This goal remains in 2015. However, we noted that performance against this goal has deteriorated since our audit—in 2012, 66.7% of nurses were employed on a full-time basis. This percentage has now dropped to 63.9% in 2014, the most recent data available at the time of our follow-up.

To increase nursing employment rates, the Ministry implemented several nursing initiatives, including the Nursing Graduate Guarantee Program (Program). In January 2014, to help the Ministry better monitor nursing employment trends, the Ministry made changes to its Nursing Graduate Guarantee Program's financial reporting system. One of these changes was to require employers participating in the Program to submit information on their new graduate nursing employment outcomes. Another change was calculating financial information, such as the expected salary/benefits paid to new nurses based on weeks worked and approved budgets to help determine whether correct payments were made.

As well, in May 2015, the Ministry reviewed data for the first time on the employment outcomes of new graduate nurses who participated in the Program in 2013/14. The objective of the review was to assess whether the Program was able to promote permanent, full-time positions for new nursing graduate participants. The Ministry advised us that it plans to continue this review annually to support policy changes and enhancements to the Program, and will use the 2013/14 results as a baseline for future review comparisons. The 2013/14 review also incorporated the results of an external evaluation completed in December 2014. According to the review, the Program was still unsuccessful in promoting permanent, full-time positions for both Registered Nurses (RNs) and Registered Practical Nurses (RPNs). Only 34% of all new graduate nurses participating in the Program were bridged to permanent full-time employment (consisting of 37% for RNs and 17% for RPNs); 37.5% of nurses were bridged to permanent part-time and 23.5% were bridged to other types of employment status, while 5% were not bridged into any position.

The Ministry's review also identified that the acute-care sector is over-represented in its use of Program funds, as it employed 82% of all new graduate nurses in 2013/14. There was a lack of uptake of the Program in the home, community and long-term care sectors, which does not meet the

Ministry's focus on creating a better foundation in these sectors to better meet patient needs.

The Ministry's review made a number of recommendations that included, for example, targeting the home, community and long-term care sectors, re-evaluating the purpose and brand of the Program, and auditing organizations to determine if the Program is being utilized with the intention of bridging new graduate nurses into permanent, full-time employment.

The Ministry plans to address these recommendations by conducting an analysis of employment outcomes for 2014/15 and evaluating the 2014/15 communications strategy to determine if it resulted in an increased participation in the Program in the home, community and long-term care sectors in that year. It also plans to consult with organizations to determine the barriers to using the Program and to continue to refine its performance indicators.

- *assess the reasons for declining participation rates of nurse graduates in its Nursing Graduate Guarantee Program, and take steps to improve program effectiveness, including encouraging participation in the program across sectors;*
Status: In the process of being implemented by December 2016.

Details

In our 2013 audit, we noted that the percentage of all new nurse graduates participating in the Nursing Graduate Guarantee Program (Program) declined from 62% in 2007/08 (83% RN graduates and 35% RPN graduates) to 35% in 2011/12. At the time of the follow-up, we noted that the rate further declined to 29% in 2013/14 (48% RN graduates and 12% RPN graduates). The external evaluation confirmed that the 2013/14 participation rate is significantly lower than that of 2007/08.

On the employer side, according to the external evaluation, 66% of the employers who participated in the Program were from the acute-care sector, but a significantly lower proportion of employers were

from the long-term-care sector and community-care sector, at 13.7% and 7.4%, respectively. For the new graduate nurses in 2013/14, 77% were hired into the acute-care sector (down from 85% in 2007/08); 14% (compared to 8% in 2007/08) found jobs in the long-term care sector; and 9% (up from 7% in 2007/08) were hired in the community or other sectors.

The review also identified that in 2013, the majority of new nurse graduates learned about the Program from other students (55%) or teachers/professors at school (54%). It indicated that a review of trends showed a decrease in the percentage of new graduate nurses hearing about the Program through promotional advertisements at school. Specifically, 34% of new nurse graduates in 2012 learned of the Program through school promotion, but only 29% did so in 2013. In response to these results, the Ministry engaged an external consultant in July 2014 to develop a communications strategy to help promote and encourage participation in the Program. It targeted new graduate nurses, internationally educated nurses and health care employers from all sectors. The Ministry and other Program partners (including Nurse Ambassadors—new nurses interested in representing the Program—and the CARE Centre for Internationally Educated Nurses) promoted and facilitated live sessions and webinars with nursing students, internationally educated nurses and employers between October 2014 and March 2015.

Based on these efforts, the Ministry significantly increased the number of employers reached from 104 to 717 between fall 2012 and 2014/15. The Ministry was also able to improve its reach of internationally educated nurses, from zero in previous years to 138 in 2014/15. Further, the Ministry introduced a new initiative that identified 105 Faculty Champions from each college and university nursing program to help it share information directly with students on campus. And the Ministry introduced Nursing Ambassadors to represent the Program.

The Ministry also promoted the Program at various conferences such as the Ontario Long Term Care Associations' Fall Symposium; the Ontario

Hospital Association HealthAchieve Conference and CARE's Annual Conference for Internationally Educated Nurses. It developed a targeted social media campaign as well to increase participation in the Program.

The Ministry indicated that an evaluation of the communications strategy will be conducted, including the social media campaign results, to determine the impact on participation from all areas.

In April 2015, the Ministry requested that the external party that conducts the annual evaluations of the Program include for future reviews additional analyses into: employment outcomes, Program participants, employer participation, Program uptake by nursing category (RN, RPN) and Program uptake by the health care sector (acute care, long-term care, home care, etc).

- *monitor the nurse practitioner-led clinics more closely to ensure that they are meeting program requirements and achieving their patient targets and program objectives.*

Status: In the process of being implemented by December 2017.

Details

In our 2013 audit, we noted that the Ministry had set a target of 40,000 registered patients with the 25 nurse practitioner-led clinics (clinics) in the province, but only about 33,000 patients were registered as of January 2013. The Ministry noted that, by December 2013, the number of registered patients with the 25 clinics rose to 43,296, surpassing the target. As a result, the Ministry set a new target of 77,300 registered patients as a goal for the clinics. As of October 2014, the clinics had achieved 62.8% of this target. The Ministry noted that it will monitor how clinics work towards the 77,300 target by reviewing information that clinics submit quarterly, starting in 2015/16.

Since the clinics became operational, the Ministry developed a standardized annual report for clinics to capture information regarding patient

access, integration, collaboration with other organizations and quality improvement initiatives. The annual reports will also include the clinics' strategic priorities and vision, and any changes requested to professional staff and operational budgets. The Ministry began collecting annual reports from clinics starting in 2015/16. The Ministry also developed quarterly report templates for use starting in April 2015 to capture information on the number of patients seen for each of the clinic services and by the different health professionals working in the clinics.

The Ministry indicated that it is working with partners, including Health Quality Ontario, on a primary care performance framework to assist in the ongoing monitoring of the clinics and their achievement of intended results. Health Quality Ontario has identified 112 practice-level measures and 179 system-level measures for primary care organizations, and is working with its partners to develop the plan and infrastructure to address performance measurement barriers and gaps. The Ministry indicated that no expected completion date has been set for this ongoing work.

Untimely Recovery of Unspent Funds

Recommendation 3

To improve financial oversight of funded organizations and recover unspent funds, the Ministry of Health and Long-Term Care should perform timely reviews of relevant financial statements.

Status: In the process of being implemented by December 2015.

Details

Organizations that receive transfer payment funding from the Ministry are required to annually submit audited financial statements to the Ministry. The Ministry reviews these financial statements to determine if the organization has surplus funds that the Ministry must recover at year-end. When organizations spend more than their transfer payment funds, they do not receive additional Ministry funds.

In September 2014, the Ministry implemented a transfer payment reporting system to support its oversight of organizations that were funded to support health human resources. The system generates quarterly reports, which summarize in-year financial and program requirements. These reports are used to support the budget settlement process, including the recovery of unspent funds.

As of May 2015, the Ministry had completed almost all of its 2012/13 reconciliations and recovered \$26.3 million. The Ministry had completed more than half of its reconciliations for 2013/14, and identified \$13.6 million in recoveries. The Ministry plans to complete its review of the 2012/13 the 2013/14 reconciliations by December 2015.

Health Human Resource Forecasting Models

Recommendation 4

To provide reasonable and reliable forecasts of the requirements for physicians and nurses and to better ensure effective health human resources planning, the Ministry of Health and Long-Term Care should:

- *conduct assessments of employment trends, the supply and projected needs for health services, and the associated health workforce requirements to best meet those needs cost-effectively;*

Status: In the process of being implemented—the review and updating of forecasting models are an ongoing activity that the Ministry has committed to do.

Details

Ontario's physician forecasting model, called the Ontario Population Needs-Based Physician Simulation Model, examines the population's health needs and translates them into needs for physician services. This is then compared to the supply of physician services currently available. Any service gaps are quantified and converted into the number of physicians required to meet those needs. The Ministry indicated to us that it has updated two of its three physician forecasting models using the most recently available data:

- The Assessing Inventories and Netflows Physician Supply Model projects the province's future physician supply by specialty, age and sex. This is a supply model that tracks the movement of physicians within the health care system from postgraduate training to practice to retirement. This model also captures data from multiple sources (for example, Canadian Institute for Health Information, Ontario Physician Human Resources Data Centre, Canadian Post M.D. Education Registry, and Royal College of Physicians and Surgeons of Canada) and combines the various inputs to produce physician supply projections.
- The Physician Utilization Model uses OHIP claims data to calculate the number of annual patient visits per physician by specialties. Using population projections, the Ministry estimates the future number of patient visits for each physician.

The Ministry takes the results of these two models, and uses a third model called the Ontario Population Needs-Based Physician Simulation Model to convert the future health needs of the population into a need for physician services. This is then compared to the future supply of physicians' services to arrive at a gap/surplus of physicians by specialty and by Local Health Integration Network. The Ministry applies these modeling results in conjunction with other sources of evidence, such as information from Post Graduate Deans/Managers, HFOJobs postings, reports and other stakeholder feedback, to inform health human resource policy and planning work.

However, there are limitations to these models. For instance, the models cannot incorporate factors that affect physician supply such as the impact of changes to technology and to practice patterns (for instance, new physicians working less, and physicians working in team-based environments). The Ministry noted that it needs to continue its efforts to improve planning and forecasting of the need for physicians in all areas.

In the area of nursing, in 2012 the Ministry entered into an agreement with a large hospital to conduct a review of the supply, distribution and predicted shortfall or surplus of RNs, RPNs and Nurse Practitioners working in selected primary healthcare organizations, long-term care homes and acute-care hospitals (with a focus on those in rural and remote areas) across the province. The Ministry believed that this review could provide better information to support future policy work. The review was completed in April 2013. It found that a vacancy rate of 4.7% was reported across all sectors and staff groups, but higher among Nurse Practitioners (5.8%) and Registered Nurses (5.5%). The review also noted that staffing and recruitment can be vastly different depending on geography and size of an organization. Vacancies at southern or suburban hospitals may be easier to address than those at remote northern facilities in small communities. Thus a vacancy at a small facility of 20 nurses has a potentially larger impact on the organization than at a larger facility with 100 or more nurses.

In addition, the review noted that 14% of RNs in all sectors reviewed were casual staff. This could indicate a high reliance on a nursing staff for a short and indefinite period and their employment may be terminated by either party without prior notice. Sixty one percent of the RNs worked full-time, 39% worked part-time; therefore, the goal of having 70% RNs employed full-time was not met.

The Ministry stated that it is not taking further actions on their review of the supply of nurses, as the data provided in the review was not considered useful to support health human resources planning at a systems level.

- *for physicians and nurses, further refine its forecasting models and their capabilities to assess the impact of various factors on service-provider productivity.*

Status: In the process of being implemented by December 2016.

Details

In the area of physician human resources planning, the Ministry has updated the data in the two forecasting models to give a more current projection of the supply of physicians according to specialty and demand for those services. We noted in our 2013 audit that the forecasting models are a good step, but they are hampered by limited reliability and availability of data on such areas as physician productivity. Any changes to productivity can affect the number of physicians required. Physician productivity is affected by factors such as changes to technology (electronic health records, telemedicine) and to primary health-care models, other health-care providers (such as nurse practitioners), and funding and compensation models. At the time of our 2013 audit, data on all of these areas except for nurse practitioners was unavailable so they could not be incorporated into the model. This was still the case in 2015 at the time of our follow-up. We also noted that additional factors such as availability of diagnostic and laboratory equipment, operating room time and space to perform surgeries, and physician preferences for certain specialties and practice locations, were still not included in the model at the time of our follow-up.

The Ministry's Ontario Population Needs-Based Physician Simulation Model (physician needs-based model) includes a physician productivity component that allows the simulation of a variety of productivity factors, other than the ones noted above. These factors include, for example, non-physician clinician support and information technology improvements. The Ministry stated that it reviews available research and data related to these productivity factors to determine whether their effect on physician productivity can be reliably measured. The Ministry expects to complete the updates to the physician needs-based model in February 2016.

In the area of the nursing forecasting model, we noted in our 2013 audit that the model only addressed the supply side for Registered Nurses and Registered Practical Nurses. It did not address the demand/need factors to determine any gaps or surpluses of nurses. The Ministry is currently researching how demand/need components can be incorporated into an expanded nursing model. The Ministry expects to have developed a preliminary version of the model by the winter of 2016.