

## HHRP ISSUES – A SERIES OF POLICY OPTIONS

### MEETING THE HEALTH SYSTEM'S LABOUR CHALLENGES THROUGH INNOVATIVE WORKFORCE REDESIGN

*According to a recent report from the Conference Board of Canada, Canada is a poor innovator compared with 16 other OECD countries<sup>1</sup> – and innovation is a critical element of competitiveness and productivity. At the same time, Statistics Canada warns that the country's workforce may shrink because there are not enough young people to replace retiring baby boomers.<sup>2</sup> A workforce with increasing numbers of people nearing retirement age will slow Canada's economy unless we can boost productivity.*

*Given the pressure to be internationally competitive, combined with the constraints of a declining supply of human capital, Canadians need to seek out innovative ideas. We need to identify new approaches that optimize the knowledge and skills of a shrinking workforce as well as explore strategies for improving productivity in all sectors of the economy.*

The health system employs 10 per cent of the Canadian workforce and contributes 10 per cent of the gross domestic product. Increasing numbers of elderly people and increasing rates of chronic disease mean that the health sector is facing a higher demand for services.<sup>3</sup> To respond, the health sector has a number of options: adopt labour-saving strategies, including implementation of information technology and equipment; optimize the knowledge and skills of the workforce; reconfigure delivery mechanisms such as telehealth; and adjust public expectations of response times. Each option affects the productivity of the health workforce. Each may also have consequences for health outcomes and the health status of Canadians.

#### **Improving Productivity**

By introducing technology, changing work processes and addressing those issues in the workplace that lead to absenteeism, companies improve productivity. On the basis of the results of a review of international literature and modeling research, the Canadian Nurses

*"The natural pressures of pending labour shortages may well shake Canadian companies into becoming more productive."<sup>5</sup>*

Association offers six strategies to improve productivity in the health sector:

- Strengthen workflow design
- Optimize the work of professional staff
- Implement e-health and other technologies
- Address factors leading to absenteeism
- Increase employment rates
- Increase workforce participation

The next six sections offer examples of how these strategies can be applied to the nursing workforce.

#### **Strengthen workflow design**

Re-engineering work processes and physical design can significantly increase the nursing services available to patients and clients. Many health-care organizations

*Productivity measures the ratio of output to hours worked (for example, the average number of services delivered per provider). It means making efficient use of all resources. The potential gains from capitalizing on*

*opportunities are significant. Research shows that an increase in productivity of one per cent per year could offset much of the impact of expected retirements among health providers.<sup>4</sup>*

have achieved gains by redesigning the charting process. By introducing flowsheet charting, the registered nurse (RN) workforce at one hospital gained an extra 26 minutes for direct patient care per RN each shift.<sup>6</sup>

At another hospital, a redesigned workflow resulted in significant increases in the time the RN workforce had for direct patient care: from 20 to 31 per cent for the day shift, and from 30 to 38 per cent for the night shift. After one year, the hospital had enhanced the services available, and efficient work design allowed the RN workforce to deliver the same quality of care in less time: the average time needed to deliver care to a patient decreased from 6.8 to 5.9 hours.<sup>7</sup>

### Optimize the work of professional staff

Matching skill level with job requirements can increase the quality as well as the quantity of services provided. Just as Honda would not employ automotive engineers to tighten bolts, health-care organizations should not assign nurses to empty wastebaskets. In one case, SCO Health Service in Ottawa added staff to support its RN workforce and reduce RN time on non-nursing duties. Health services delivery

was enhanced: the hospital saw an increase of seven hours of patient care per nurse in an average 24-hour period.<sup>8</sup>

Another example comes from hospital emergency departments that changed their staff mix to include nurse practitioners in emergency triage and treatment. Medical staff were then able to focus their attention on patients with complex and urgent conditions.<sup>9</sup>

### Implement e-health and other technologies

Technology can enhance communication, reduce physical demands on nurses and enhance access to decision support. For example, program evaluations of Canadian telephone triage services have demonstrated decreases in non-urgent emergency department visits of up to 32 per cent.<sup>10</sup> At the Trillium Health Centre in Mississauga, Ontario, the use of BlackBerrys has reduced the difficulties and time spent in finding members of the intensive care unit team.<sup>11</sup> Robot technology will also offer productivity gains in the near future. For example, a robot currently under development assists cardiac patients in performing spirometry exercises and records their progress, freeing up nurses' time to provide other nursing care.<sup>12</sup>

**Figure 1: Average days missed owing to health problems and sick-time FTEs, 2005**

| Jurisdiction                           | Average days missed owing to health problems per nurse in 2005 <sup>1</sup> | Sick-time FTEs* |
|--|---|-----------------|
| Newfoundland & Labrador                | 12.5  | 282             |
| Prince Edward Island                   | 9.1   | 54              |
| Nova Scotia                            | 11.8  | 425             |
| New Brunswick                          | 12.0  | 370             |
| Quebec                                 | 21.0  | 5499            |
| Ontario                                | 12.8  | 4696            |
| Manitoba                               | 9.7   | 448             |
| Saskatchewan                           | 12.7  | 445             |
| Alberta                                | 12.1  | 1308            |
| British Columbia                       | 12.9  | 1472            |
| Yukon, Northwest Territories & Nunavut | 6.3   | 32              |

Note: FTE = Full-time equivalent.

<sup>1</sup> Shields, M., & Wilkins, K. (2006). *Findings from the 2005 national survey of the work and health of nurses*. Ottawa: Statistics Canada.

\*Sick-time FTEs were calculated using average days missed per nurse per jurisdiction in 2005 x the total number of nurses employed per jurisdiction x 8 hours per day ÷ 1,950 hours (1 FTE). The number of nurses employed in each jurisdiction was taken from Canadian Institute for Health Information. (2006). *Workforce trends of registered nurses in Canada, 2005*. Ottawa: Author.

## Address factors leading to absenteeism

Sick time in the nursing workforce is alarmingly high. The number of missed days over the course of a year is equivalent to the hours worked by 15,000 full-time registered nurses.<sup>14</sup> Reducing absenteeism by 50 per cent would not only improve productivity, it would bring absenteeism into line with the average for other employment sectors. Reducing job strain and role overload, improving support from supervisors and co-workers, and reducing the physical demands of work can improve the health of nurses and reduce absenteeism.<sup>15</sup>

## Increase employment rates

Only 54.4 per cent of nurses in 2005 worked full time, while 32.7 per cent worked part time.<sup>16</sup> Increasing full-time employment opportunities has the potential to generate greater efficiency of the nursing workforce, recognizing that some part-time employees currently work full-time hours. Studies have shown that turnover rates are higher among part-time nurses and that they are less committed and indicate a greater intention to quit than full-time nurses.<sup>17</sup> A high proportion of full-time employees promotes continuity of care.<sup>18</sup> Currently, 23 per cent of part-time RNs would prefer to work full time. Canada had 70 per cent full-time employment among nurses in the early 1970s, but in 2005, only Newfoundland and Labrador had achieved this ratio.<sup>19</sup> In 2004, at least 70 per cent of the RN workforce worked full time in Germany, Ireland, Japan and the United States.<sup>20</sup>

## Increase workforce participation

Drawing RNs back to nursing employment in Canada from other sectors or other countries will increase the quantity of services available. For example, there are 4,339 RNs registered to practise in Canada who work in the United States.<sup>21</sup> Another tactic is to retain older workers through measures such as phased-in retirement and the “80/20” model, where older, more experienced nurses spend 80 per cent of their time in clinical activities and 20 per cent in non-clinical activities.<sup>22</sup>

*If employers created safe and healthy work environments and the number of sick days were cut in half, Alberta could benefit from the equivalent of 654 more full-time nurses working in the system, and Quebec would see the equivalent of 2,749 more full-time nurses.<sup>13</sup>*

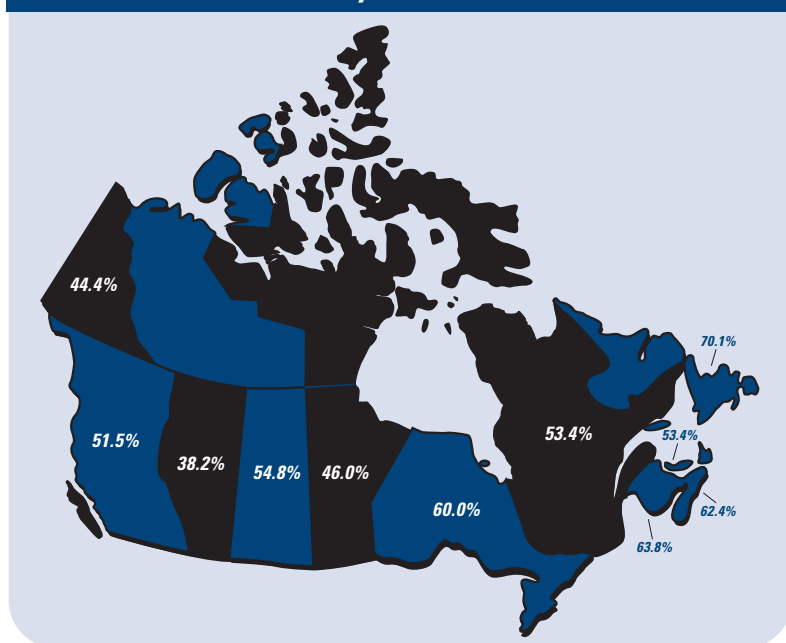
## Conclusion

Working smarter, not harder, means capitalizing on opportunities to improve workforce productivity. The effectiveness of any strategy will depend on the baseline situation, the services being delivered and the needs of patients and clients. In an era of global competition and an increasing number of older workers, Canadians must create and embrace innovative strategies to address the nation’s labour challenges.

For further examples of these six strategies, please visit [www.cna-aiic.ca](http://www.cna-aiic.ca).

If you would like to submit your experience with one of these strategies or other strategies, please send a brief description to [innovativepractices@cna-aiic.ca](mailto:innovativepractices@cna-aiic.ca).

**Figure 2: Proportion of Full-Time RNs in the Workforce by Jurisdiction, 2005**



Source: Canadian Institute for Health Information. (2006). *Workforce trends of registered nurses in Canada, 2005*. Ottawa: Author.

- <sup>1</sup> Conference Board of Canada. (2007). *How Canada performs: A report card on Canada*. Ottawa: Author.
- <sup>2</sup> Scoffield, H. (2007, July 18). The economic challenge of age. *The Globe and Mail*, p. A1.
- <sup>3</sup> Canadian Institute for Health Information. (2006). *National health expenditure trends 1975-2006*. Ottawa: Author; Canadian Institute for Health Information. (2005). *Canada's health care providers: 2005 chartbook*. Ottawa: Author.
- <sup>4</sup> Birch, S., Kephart, G., Tomblin-Murphy, G., O'Brien-Pallas, L., Alder, R., & MacKenzie, A. (2006). *Health human resources planning and the production of health: Development of an extended analytical framework for needs-based health human resources planning*. SEDAP Research Paper No. 168. Hamilton, ON: McMaster University.
- <sup>5</sup> Scoffield, H. (2007, July 18). The economic challenge of age. *The Globe and Mail*, p. A6.
- <sup>6</sup> Murphy, J., & Burke, L. (1990). Charting by exception: A more efficient way to document. *Nursing* 20(5), 65-69.
- <sup>7</sup> Upenieks, V. V. (1998). Work sampling: Assessing nursing efficiency. *Nursing Management*, 29(4), 27-29.
- <sup>8</sup> Mantha, A., & Stewart, N. (2007, March). *Total work redesign: Leading nursing care towards the future*. PowerPoint presentation at the HHR Knowledge Series meeting of the Canadian Nurses Association, p. 21.
- <sup>9</sup> Burgess, K. (1992). A dynamic role that improves the service: Combining triage and nurse practitioner roles in A & E. *Professional Nurse*, 7(5), 301-303; Keltie, D., Dyson, J., & Greaves, J. (1997). Emergency nurse practitioners: The case for and against. *A and E Focus*, 6, 8-10.
- <sup>10</sup> Stacey, D., Noorani, H. Z., Fisher, A., Robinson, D., Joyce, J., & Pong, R. W. (2004). *A clinical and economic review of telephone triage services and survey of Canadian call centre programs*. Technology overview no. 13. Ottawa: Canadian Coordinating Office for Health Technology Assessment.
- <sup>11</sup> Shaw, A. (2006, March). Wireless BlackBerry transforms communication at Trillium's ICU. *Canadian Healthcare Technology*. Retrieved October 22, 2007, from <http://www.canhealth.com/mar06.html#06marstory3>.
- <sup>12</sup> Kang, K. I., Freedman, S., & Mataric, M. J. (2005). A hands-off physical therapy assistance robot for cardiac patients. *Proceedings of the 2005 IEEE 9th International Conference on Rehabilitation Robotics, June 28 - July 1, 2005, Chicago, Ill.*, 337-340.
- <sup>13</sup> Shields, M., & Wilkins, K. (2006). *Findings from the 2005 national survey of the work and health of nurses*. Ottawa: Statistics Canada.
- <sup>14</sup> Ibid.
- <sup>15</sup> Ibid., p. 120.
- <sup>16</sup> Canadian Institute for Health Information. (2006). *Workforce trends of registered nurses in Canada, 2005*. Ottawa: Author.
- <sup>17</sup> Blythe, J., Baumann, A., Zeytinoglu, I., Denton, M., & Higgins, A. (2005). Full-time or part-time work in nursing: Preferences, tradeoffs and choices. *Healthcare Quarterly* 8(3), 69-77.
- <sup>18</sup> Mantha, A., & Stewart, N. (2007, March). *Total work redesign: Leading nursing care towards the future*. PowerPoint presentation at the HHR Knowledge Series meeting of the Canadian Nurses Association, p. 25.
- <sup>19</sup> Shields, M., & Wilkins, K. (2006). *Findings from the 2005 national survey of the work and health of nurses*. Ottawa: Statistics Canada.
- <sup>20</sup> International Council of Nurses. (2004). *2004 ICN nursing workforce profile*. Geneva: Author. Retrieved September 27, 2007, from [http://www.icn.ch/sew\\_nwp04.htm](http://www.icn.ch/sew_nwp04.htm).
- <sup>21</sup> Canadian Institute for Health Information. (2006). *Workforce trends of registered nurses in Canada, 2005*. Ottawa: Author.
- <sup>22</sup> Wortsman, A., & Janowitz, S. (2006). *Taking steps forward: Retaining and valuing experienced nurses*. Ottawa: Canadian Federation of Nurses Unions.



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