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Fact Sheet on the Value of Nurse Practitioners
November 2011

Background

- Research indicates an increasing demand is being placed on the healthcare system due, in part, to a longer life span and an increase in chronic conditions e.g. hypertension, diabetes, cancer, arthritis. (1)
- Access to primary healthcare is an issue of great concern for Canadians. (2) In 2007, Schoen et al. published a study which compared the healthcare experiences of adults from seven countries (Australia, Canada, Germany, the Netherlands, New Zealand, the United Kingdom, and the United States). (3) Results indicated that Canadian adults reported a wait time of six days or more before they could see a physician when sick. Canadian and U.S adults also reportedly visited the Emergency Department (ED) more than adults in the other countries, for issues that could have been cared for by a primary care provider.
- A systematic review by Carter & Chochinov indicated that, in the United States in 2007, 106% more patients were seen in the Emergency Department in the 1990s than in the 1980s, and many Emergency Departments have had to limit their hours of service due to a lack of physicians. (4)
- According to the 2010 Annual Report of the Office of the Auditor General of Ontario, in 2008/09, there were about 5.4 million visits to the province's 160 hospital Emergency Departments, at a cost of approximately \$960 million. The number of Emergency Department visits increased about 6% from 2004/05 through 2008/09, while costs rose 28%. (5)
- The CTAS Implementation Guidelines and MOHLTC reported that 39% of emergency visits are less urgent (CTAS 4) e.g. constipation with mild pain, ear ache, chronic back pain and almost 9% are non-urgent (CTAS 5) e.g. medication request, dressing change, sore throat, sprains and minor lacerations. (6) Proposed reasons for non-urgent Emergency Department visits include lack of access to family physicians, convenience and 24/7 access, perceived need for investigations or treatment not available elsewhere, and as a mechanism for expedited referral to specialists. The authors conducted a patient survey to determine why non-urgent patients used a tertiary care ED and reported that the inability to obtain timely access to the family physician was a factor in one-quarter of cases and 3% of patients did not have a family physician.
- According to an Ontario study, restructuring primary care services, with aims of increasing access to undersupplied populations, may result in decreased Emergency Department utilization rates by approximately 43% for low severity triage level cases. (7) This suggests that re-structuring health care services in Ontario to enhance

access to primary care physicians may result in a reduced number of low severity cases presenting in the Emergency Department. Although the focus of this study was physicians, the results also apply to Nurse Practitioners (NPs).

- A report by the Physician Hospital Care Committee (2006) suggests that 90% of Emergency Department visits had a wait time of up to 6.6 hours. (8) These wait times can contribute to unnecessary pain and suffering for patients. (9)
- According to the Ministry of Health and Long-Term Care, the 90th percentile of the total time spent in the Emergency Department is currently 10.8 hours for complex conditions and 4.3 hours for minor or uncomplicated conditions in Ontario. (10)

Integration of Nurse Practitioners

- We know from the literature and the media that some Ontarians do not have a family physician, or have to wait for access to care by a family physician or in Emergency Departments. Despite their scope of practice, level of expertise, and the body of literature supporting the usefulness of Nurse Practitioners, NPs are still being under-utilized in the Canadian healthcare system. (1) (11)
- Of the 1,932 Nurse Practitioners in Ontario currently, 382 specialize in adult care, 164 in pediatrics and 1,398 in primary health care. (12)
- Reviewing the scientific and grey literature provides evidence that supports the value of the integration of NPs into the health care system. Current research indicates that NPs provide care that is equal to and, in some cases, better than care provided by physicians. Patients report comparable and, in some cases, higher levels of satisfaction with NP care than care provided by physicians.
- Having an NP on a health care team can significantly reduce length of stay and wait times so the evidence reflects that NPs are cost effective health care providers.

Quality of Care

- A systematic review of international literature illustrated the quality of care provided by Nurse Practitioners in a primary care setting is equivalent to and, in some ways, better than care provided by physicians. (13) The review indicated that NPs identified physical abnormalities more often, scored better on communication, wrote more complete records and provided more advice on self care and management than physicians.

- A randomized trial conducted from 1995-1997 compared the care provided by NPs and physicians in primary care clinics in the U.S. Results demonstrated no reported differences in the health status of patients after six months of care, suggesting NPs and physicians provide comparable care to patients. (14) Lenz et al. (2004) conducted a two-year follow up of patients in the U.S. who had been randomly assigned to a physician or Nurse Practitioner. (15) At the two-year follow-up, there were no statistically significant differences between the health status of the patients seen by the physician and the NP, suggesting the long-term benefits of care provided by NPs and physicians are comparable.

- A literature review revealed that nursing homes managed by NPs were less likely to have residents that experienced falls or had pressure sores or urinary tract infections. (16)

Patient Satisfaction

- In both hospitals and primary care facilities, patients reported comparable and, in some cases, higher satisfaction with NP consultations compared to those with physicians. (4) (17) (18) (13) (19) (20)

- A study conducted in England in primary care settings suggested NPs had a tendency to spend more time consulting with patients and offered more information than physicians. (19) In a follow-up study, the authors reviewed transcripts of audio-taped consultations between physicians and their patients and NPs and their patients. (21) The researchers found that, in comparison, NPs spent a greater amount of time during their consultation providing information on how to use treatments and discussing potential side effects. The authors proposed that the provision of this additional information may account for the difference in patient satisfaction.

- Time spent with care providers was also identified by Williams and Jones (2006) as being important to patients. (22) Although the study is based on a small number of patients, the researchers determined that longer consultation times meant NPs were not only able to discuss patients concerns, but they were also able to attend to patients emotional needs and suggest alternatives to prescribed medications.

- A Canadian study conducted in six Emergency Departments in Ontario corroborated these findings, illustrating that patients seen by NPs were highly satisfied with the treatment and information provided to them, felt NPs were attentive to and took their problems seriously, and that NPs listened to what they had to say. (17) Results indicated that 71% of the patients preferred to see NPs compared to 29% who preferred to see physicians. Interestingly, this study also reported that patients with higher income levels (\$50,000-\$80,000) reported higher levels of satisfaction with NP attentiveness.

- Analyzing data from the 2000 and 2001 Medicare Satisfaction Survey, and the Consumer Assessment of Health Plans Survey, a U.S. study indicated that NPs cared for more poor elderly individuals than physicians or residents and that the satisfaction of the service provided was comparable among the three care providers. (20)

- A study of Emergency Departments in the UK demonstrated that patients seen by NPs were more likely to be less worried about their health problems after seeing an NP compared to those who saw a physician. (23) This study also demonstrated that 100% of the patients seen by NPs indicated the time spent was enough to discuss relevant issues, whereas 12% of those seen by physicians did not feel they had adequate time. Patients seen by NPs were also significantly more likely to receive health care information and education, and significantly more likely to be told who to contact if they needed further assistance.

Length of Stay and Wait Times

- Evidence from an Australian study suggested that having a NP as part of the team in the Emergency Department can significantly reduce wait times and length of stay for patients. (25) Results from this study indicated that patients in the group with an Emergency Nurse Practitioner Candidate (ENPC) on their team waited 19 fewer minutes to be seen than those without. The length of stay in Emergency Departments for individuals treated by the team with an ENPC (94 minutes) was also significantly lower compared to individuals without an ENPC (170 minutes). Support for the reduction in wait times was corroborated by a systematic review looking at international data. (4) One study looking at Emergency Departments reported a 12% increase in the number of patients seen. (26) Another Ontario- based study suggested that, when NPs were involved in patient care, the odds of patients being seen within the benchmark wait times were 2.1 times greater than if NPs were not involved. (27) Additionally, the mean length of stay was found to be 49% shorter, decreasing from 256.3 minutes to 131.1 minutes. Even having an NP on duty also had a significant effect on LOS, with the mean dropping from 257.7 minutes to 233.81 minutes (9.3% shorter). There was also a significant reduction (29%) in the rate of individuals that left the Emergency Departments without treatment when NPs were on duty. (27) A similar trend was also noted in Steiner et al., 2009 study. (26)

- A study conducted at Vancouver General Hospital in Canada demonstrated that 73% of patients were willing to see an NP in the Emergency Department if they had a minor problem. (24) The evidence suggested the majority of individuals visiting an Emergency Department would be agreeable to having care provided by an NP.

Cost-Effectiveness of NPs

- Scientific results for the cost-effectiveness of Nurse Practitioners were dependent on the definition and measurement of cost. (4) (26)
- Results from a study in England indicate no significant difference in the cost of care provided by NPs compared to General Practitioners. (18) In this study, cost included salaries, prescription costs, tests, referrals and return visits. NPs were found to spend more time with patients, order more tests (particularly screening), and asked patients to return more frequently than did physicians.
- Results from a comparative, 2-group, quasi-experimental study conducted by Cowan et al., (2006) suggests the addition of a Nurse Practitioner to the health care team significantly reduces length of stay which, in turn, can lower health care costs. (28) The unit with the NP had a length of stay that was 1.01 days shorter than the unit without the NP, which resulted in a \$1,591 U.S. profit to the hospital per day for each patient in the unit.
- Results from an economic evaluation and a randomized controlled trial conducted in the Netherlands indicated no significant difference in the resources (i.e. prescriptions, diagnostic procedures and referrals) used by NPs compared to family physicians; however, the consultation cost of NPs were found to be significantly lower than that of physicians because of the difference in salary. (29)
- A report published by the American Academy of Nurse Practitioners (AANP) in 2010, summarized evidence gathered over the past 45 years relating to the cost effectiveness of Nurse Practitioners. (30) Highlights from their report are as follow:
 - In 1981, a study conducted by the Office of Technological Assessments found that NPs provided the equivalent or, in some cases, better care than physicians, at a lower cost. NPs were found to decrease a patient's visit by one-third of the cost.
 - In 2009, a primary care physician in the U.S. could earn \$198,000 - \$205,000, compared to the average salary of NPs which was \$90,200. An NP managed practice was 50% the annualized per member monthly cost of the physician managed practice. Having an NP in a practice could double the number of patients a physician saw, and increase revenue by up to \$1.65 million per 100,000 enrollees per year.
 - A study investigating the costs associated with on-site NP practice for over 4000 employees and their dependents demonstrated a 15-to-1 benefit-to-cost ratio, illustrating that the benefits associated with having an NP on-site outweigh the initial costs.

- In a follow-up study in 2007, the authors corroborated the cost-effectiveness of Nurse Practitioners and also found that the amount of time lost from work was lower for individuals seen by NPs compared to those seen by physicians.
- Care led by Nurse Practitioners was associated with lower overall drug cost for inpatients.
- Physician-Nurse Practitioner teams caring for older adults were associated with lower costs, shorter lengths of stay and lower rates of Emergency Department transfers, compared to physician-only teams.
- A review of the literature of Nurse Practitioners working in nursing homes demonstrated lower levels of hospitalization when NPs were involved. Having NPs manage nursing homes could save \$166 billion U.S.

Summary

- Research indicates an increasing demand is being placed on the healthcare system and that access to primary healthcare is an issue of great concern for Canadians. (1) (2) However, despite their scope of practice and the substantial evidence supporting their effectiveness as healthcare providers, NPs continue to be under utilized in the Canadian healthcare system. A review of the scientific and grey literature demonstrates the value of integrating NPs into the healthcare system.
- Studies indicate that NPs provide care that is equal to, or in some cases, better than care provided by physicians, and that patients report comparable and, in some cases, higher level of satisfaction with NP care than care provided by physicians.
- In some cases, NPs have identified physical abnormalities more often, scored better on communication, wrote more complete records and provided more advice on self care and management than physicians. Residents of nursing homes have been found to have fewer occurrences of pressure sores and urinary tract infections, when managed by NPs.
- Having an NP on the team in Emergency Departments has been associated with reduced wait times and length of stay for patients.
- Care provided by NPs has been associated with less time lost from work, lower overall drug costs for inpatients and fewer hospitalizations.

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