The Application of Change Management Principles to Facilitate the Introduction of Nurse Practitioners and Physician Assistants into Six Ontario Emergency Departments

James Ducharme, Jenny Buckley, Robert Alder and Cindy Pelletier

Abstract

In a project funded by the Ontario Ministry of Health and Long-Term Care, MedEmerg facilitated the introduction of three new providers into six emergency departments. A managed change process that included team development was carried out. Increased team awareness and a higher acceptance of the provider roles were some of the key successes. Challenges included role confusion and the learning curve for the new providers. While overall the project was a success, lessons learned included the need for physician buy-in, communication, planning for unintended consequences and management of expectations. The project emphasized the importance of a managed process, including team development, in the implementation of change.

Background

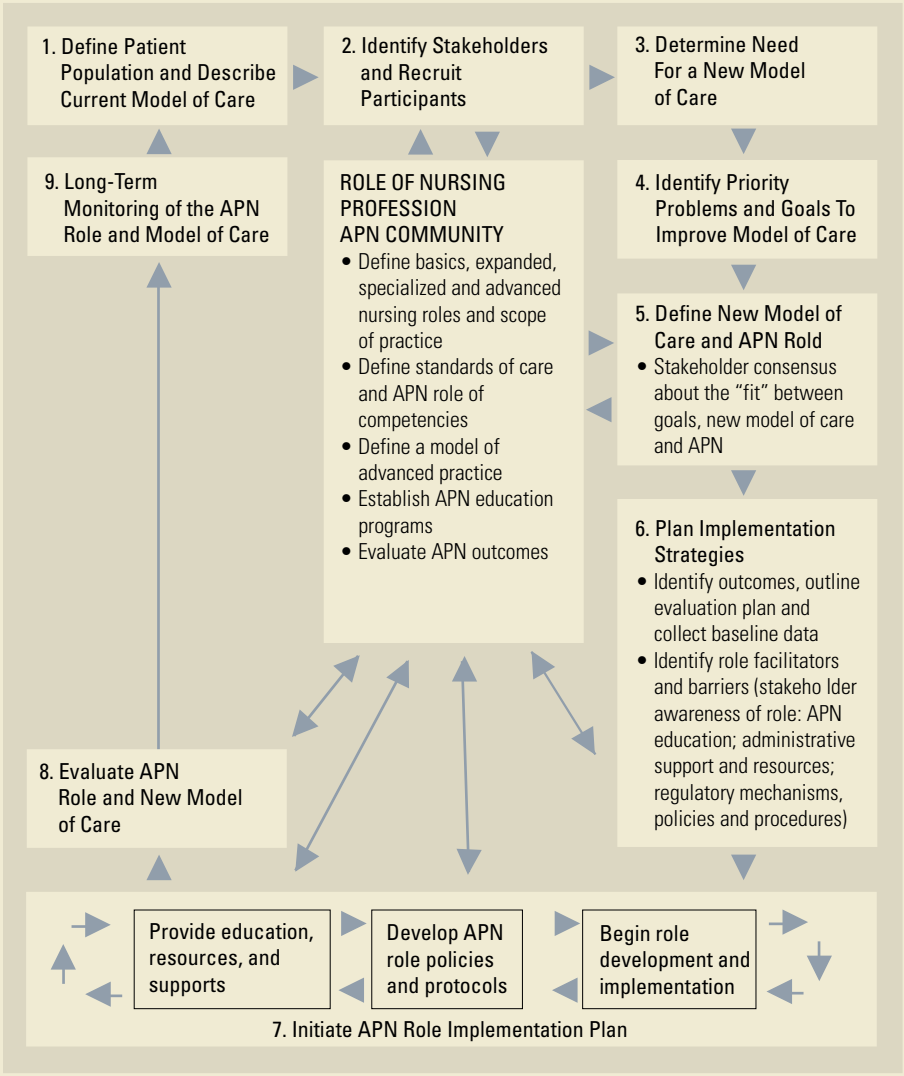
Canadian healthcare is facing escalating pressures to deliver additional high-quality services while facing an increasing shortage of health human resources (HHR). To cope with these concerns, adaptation and change must occur. Ontario is no different, facing rising pressures on its healthcare system (Physician Hospital Care Committee 2006). These pressures present many challenges for the sustained delivery of acute care, challenges perhaps most evident in Ontario emergency departments (EDs). Overcrowding and long wait times are a regular occurrence at many sites (Canadian Association of Emergency Physicians et al. 2007; Canadian Institute for Health Information 2005). The reasons for these challenges are well known and include insufficient primary healthcare providers, patients waiting to transfer to in-patient beds, limited community care resources leading to a backlog of alternative-level care patients in acute care beds, a lack of integration between community-based and hospital resources and a limited – and decreasing – supply of HHR (Bond et al. 2007; Expert Panel on Health Professional Human Resources 2001; Hospital Emergency Department and Ambulance Effectiveness Working Group 2005). These delays have negative effects on patient, provider and system outcomes (Physician Hospital Care Committee 2006).

Innovative and timely solutions to improve today's ED problems are required. Due to training requirements, current physician numbers can only be replenished over a 10- to 15-year

period, even if entry positions are further increased. It is expected that today's lack of physician resources will be amplified further due to the large numbers approaching retirement age over the next five years, making it even less likely that physician resources can be addressed. Given these HHR concerns, the creation of new primary care provider roles within the ED was proposed as one possible solution. In a project funded by the Ontario Ministry of Health and Long-Term Care, MedEmerg facilitated the introduction of physician assistants (PAs), acute care nurse specialists (AC NSs) and primary healthcare nurse practitioners (PHC NPs) into the ED teams of six hospitals.

This article presents an overview of the lessons learned in implementing this innovative project. In particular, it provides a review of effective strategies for managing change within healthcare organizations. This pilot project, which represents the first time that physician assistants were introduced in a Canadian ED setting, demonstrates the importance of properly managed change. A companion article will review the impact of the project on wait times, length of stay and the rate of patients leaving without being seen (Ducharme et al. 2009).

Figure 1. The PEPPA framework: role development, implementation and evaluation



APN = advanced practice nurse; PEPPA = Participatory, Evidence-Based, Patient-Focused Process for Advanced Practice Nursing.
Source: Bryant-Lukosius, D and A. DiCenso. 2004. "A framework for the introduction and evaluation of advanced practice nursing roles." *Journal of Advanced Nursing* 48(5): 530-540, adapted from Dunn and Nicklin (1995), Mitchell-DiCenso et al. (1996) and Spitzer (1978).

Methods

As change has become a regular part of the healthcare milieu (Caldwell et al. 2008), many methods have been developed to implement innovations. The specific model used for this intervention was the Participatory, Evidence-Based, Patient-Focused Process for Advanced Practice Nursing (PEPPA) framework (Figure 1). This framework has three main stages: (1) needs assessment, (2) planning and implementation and (3) evaluation and monitoring (Bryant-Lukosius et al. 2004). Modified for application to the providers in this study, this framework was designed to support a transitional or incremental change by having participants focus on a new future state and by building upon rather than reformulating the system (Iles and Sutherland 2001; Senior and Fleming 2006). As such it could best be considered a standard model of change (Beckhard and Harris 1987).

The first stage of the framework, the needs assessment, was

Table 1. Focus group 1: ED educators and managers, physician assistants, acute care nurse specialists and primary healthcare nurse practitioners

Key Successes	Key Challenges	Suggestions for Improvement
Increased team awareness	Billing for WSIB and out-of-province patients	More education about the providers in advance
Fewer complaints by providers about the type of patients accessing ED services	Insufficient orientation for the new providers	Medical directives
Positive feedback from the patients	Impact of increased patient flow on the workload of other departments	More focus groups to clarify roles and provide support
Greater staff satisfaction	Lack of funding for the extra resources required	New providers to work with a more limited number of physicians
High level of acceptance of the new provider roles	Limited or no medical directives	Benchmarks established to assist with education and training
Decrease in patient complaints	Lack of clarification about the new roles	Discussion sessions with RNs to address resistance to the PHC NP and AC NS roles
Reduction in patients leaving without being seen	Unrealistic expectations about the roles and skills of the new providers	Greater mentorship for the new providers
Decreased patient wait times	Learning curve for the new providers	More public education about the new provider roles
Increase in patient follow-up	Resistance to the PHC NP role from former colleagues	Greater networking between pilot sites
Improved referrals to community services	Too many/changing physicians	Identification of the roles and expectations in advance
New providers freeing up physicians to do other things	Lack of mentorship	More physician engagement
	Lack of physical space to accommodate the new providers	More input from the public
	Limited pool of providers to choose from (AC NSs & PAs)	

AC NS = acute care nurse specialist; ED = emergency department; PA = physician assistant; PHC NP = primary healthcare nurse practitioner; RN = registered nurse; WSIB = Workplace Safety and Insurance Board.

done to examine the external and internal pressures within the hospitals. Participants were asked to consider their ideal ED, the current state and barriers and facilitators to progress both within and external to the hospital. This initial environmental scanning was done to assess the various political, economic, social and cultural factors that were at play (Senior and Fleming 2006; Turner and Hulme 1997). In addition, it assessed the organizational culture (artifacts, beliefs, values and assumptions) present at the sites (Scott et al. 2003; Senior and Fleming 2006).

It is important to understand the personal, structural and cultural issues that will impact on innovation.

Once the assessments were finished and additional preplanning with external stakeholders (e.g., regulatory colleges, professional associations) was complete, implementation plans were developed for the sites. Each was designed with the specific needs of the hospital in mind, including the maintenance of reporting relationships and staffing procedures. The plans were then approved by the sites, ensuring ownership and buy-in, thereby reducing possible resistance (Robinson 2004).

Table 2. Focus group 2: ED physicians

Key Successes	Key Challenges	Suggestions for Improvement
PHC NPs work independently and managed high volume in a safe manner	No formal training process necessitated large time investment for training	More support to providers in learning process
PAs helpful with patients with complex psychosocial issues	No compensation for training done by physicians	Greater role clarity
Positive feedback from staff and patients	Lost revenue due to PHC NPs seeing WSIB and out-of-province patients	Awareness and plan needed for other initiatives in community and hospital
Seeing more patients as a result of the PA	Necessitated moratorium on other learners due to education time for new providers	Longer project time period
PAs able to increase the billing for physicians	Limited physician involvement	Need formalized evaluation and education program for providers
Reduction in patients leaving without being seen	Needed better definition of the objectives for evaluation purposes	Increased budget for supervision and training time
Increased physician satisfaction	Increase in patients put through the system created other staffing and physical plant space issues	Impact of increased human resources on other barriers in the department (e.g., physical space, diagnostic imaging) to be addressed
More collaborative approach in the department	No standardized education or formal evaluation of skills and competencies of new providers	

ED = emergency department; PA = physician assistant; PHC NP = primary healthcare nurse practitioner; WSIB = Workplace Safety and Insurance Board.

Once the providers were in place, team building was initiated to assist with the integration. The team building sessions in tandem with a team effectiveness survey (TES) provided more detail about the cultural environment at the sites. The TES measured seven different areas of team effectiveness: team purpose and vision, communication, roles, service delivery, partnerships, personal satisfaction and team support. (For a more complete review of the TES, please see Alder et al. [2009].)

Based on this information, representatives from the sites discussed the challenges in these areas and developed action plans to improve their team functioning. Follow-up sessions were held to maintain momentum and address any concerns. During these sessions representatives from the sites presented steps that had been taken toward their identified goals.

Approximately six months after the new providers were introduced, participants were asked to retake the TES. As with the first application, this tool was designed to provide information regarding the culture in the department as well as the team itself. More specifically, it was designed to measure any changes in the level of team effectiveness since the start of the intervention.

Finally, to understand the impact of the new roles and to meet the requirements of the last stage of the PEPPA framework, two focus groups were held – one with the ED managers, clinical educators and the new providers, and one with the ED physicians. Participants were asked to comment on the successes and challenges and also to offer suggestions for improving the overall project implementation.

Results

The sites in question were community hospitals and had annual ED patient volumes ranging from 23,770 (70 per day) to 66,136 (190 per day) (Personal communication with pilot sites, October 2006). Needs assessment discussions demonstrated many of the same external pressures felt across the province. In addition, a number of internal challenges were presented. These included low staff morale and patient satisfaction (all sites), staffing shortages, physical plant concerns (four sites), high volumes of mental health patients, high staff turnover, poor ED flow (three sites), concerns about physician practice patterns, inexperienced staff and a lack of team functioning (two sites).

The baseline application of the TES suggested some problems within the ED teams. The most common weaknesses identified were in the areas of team purpose and vision (i.e., lack of clarity of the goal of the ED), communication (formal and informal),

service delivery (e.g., poor patient flow), team support (e.g., lack of senior management support) and roles (e.g., tasks versus scope of practice). Participants noted a number of areas to which they hoped this project would contribute; the top three were decreased wait times, improvements in team functioning and increased provider satisfaction. Open-ended survey questions also indicated some possible barriers to change. Participants noted that the most significant barriers were likely to be a difficulty in understanding the roles of the new providers, physician buy-in and support from senior administration.

The follow-up application of the TES noted some positive changes in organizational culture. The survey responses indicated a belief that the new providers had improved ED functioning by reducing wait times, and that there was a greater level of team awareness and functioning within the departments. Open-ended responses reaffirmed those of the baseline survey as the key barriers to the project were again identified as confusion about the roles of the new providers, physician buy-in and support from senior management. Participants also noted that an increase in workload for staff, as a result of the new providers increasing patient flow, served as a major barrier.

It is better to over-communicate than to allow a project to fail due to misinformation. Physician champions need to be engaged from the very beginning as these early adopters are key to overall acceptance.

During the focus group sessions, the sites reported significant successes including increased patient and provider satisfaction, a reduction in wait times, increased revenue for physicians (due to increased patient throughput) and a high level of acceptance of the new providers. While successes were identified, there were also challenges presented, similar to those identified with the TES. These included resistance to the new roles, a lack of involvement from physicians, a lack of resources for education and team building and increased pressure on other resources due to the increased volumes of patients being moved through the ED. Further details about the successes and challenges are presented in the Tables 1 and 2.

Discussion

Barriers to progress can hinder any adjustment to practice. The identification of potential barriers prior to initiating change lessens their impact on the process. It is important to understand the personal, structural and cultural issues that will impact on innovation (Caldwell et al. 2008; Kresse et al. 2007; Turner and Hulme 1997). While the site visits, team building sessions and TES were attempts to identify these challenges, some issues remained uncovered. Additional focus groups with the sites would have helped to identify these barriers as soon as they were encountered.

Communication is essential for any program of change (Maher 2003; Narine and Persaud 2003). This project attempted to garner feedback and to communicate the messages of change as early and consistently as possible. However, there were delays in providing the initial information for the community. Not all staff could attend team building sessions due to limited funding for replacements. This led to inadequate information being shared and limited opportunities for staff to make their opinions heard. Additionally, some of the external stakeholders were unwilling to participate in the information process. For future projects, communication should be initiated as early as possible, occur frequently and be more expansive. It is better to over-communicate than to allow a project to fail due to misinformation (Lozon and MacGilchrist 1999; Maher 2003).

Evidence demonstrates that teamwork can serve as a major facilitator for change (Benjamin and Al-Alaiwat 1998; Pattison 1996). In this case, by allowing teams to focus on their problems and work together toward solutions, barriers were reduced. This process allowed for the necessary change in ED culture by establishing clear objectives as well as standards and operating principles (e.g., respect and open and honest communication) (Baker et al. 2000). Greater buy-in was achieved by allowing sites to work on their own challenges and opportunities rather than a "one size fits all solution" (MacPhee 2007). These sessions were important in maintaining enthusiasm (Narine and Persaud 2003), and the sharing of early successes was key to building future support (Lukas et al. 2007). Finally, by retaining the existing organizational structures in the sites, potential resistance was minimized. However, as there was limited physician engagement at some sites, challenges remained.

Physician engagement, while necessary for any innovation in the health setting (Peterson and King 2007), is also one of the biggest challenges (Ferlie and Shortell 2001). Physician champions need to be engaged from the very beginning (Kresse et al. 2007) as these early adopters are key to overall acceptance. Their support will eventually lead to the diffusion of the innovation to other physicians within the department (Berwick 2003; Weber and Joshi 2000). In addition, physicians who are involved in setting standards and designing objectives are more likely to embrace the change (Audit Commission 2004; Forthman et al. 2003). Those sites that had physician leaders and physician involvement were more successful in the implementation of the new roles.

One of the challenges to physician involvement was the issue of funding. Innovations that affect physician income or professional autonomy or that may negatively impact patient care are likely to be unsuccessful (Gross et al. 2007; Martin 1999).

In this case, physicians educated the new providers without compensation for their training time. A lack of resources such as this can have a negative impact on the progress of change (Grol and Grimshaw 2003; Rivera 1999). In addition, primary healthcare nurse practitioners were seeing out-of-province and WSIB patients, thereby nullifying the fees that physicians would normally collect.

It is also possible that physicians had a different idea regarding the roles of the new providers. While great care was taken to establish clear roles and responsibilities for the new providers and to screen the candidates, much of this work was done without consulting the medical staff. In addition, the lack of medical directives and standardized practice patterns created much confusion. As physicians are known for acting with caution when modifications are suggested (Reinertsen 1998), these issues may have slowed acceptance of the new roles. Participants noted that a formal evaluation of skills and competencies at the start of the process may have alleviated some of these concerns.

One way to increase physician buy-in is to establish key outcomes (Golden 2006). Appropriate supportive data influence the opinions of more physicians and other staff members over time (Grol and Wensing 2004; Rossos et al. 2006). Demonstration that the change is worthwhile engenders more buy-in (Elwyn et al. 2007; Grol and Wensing 2004). This was the case at one of the ED sites. Initially, there was a physician who was resistant to the use of the new providers. After witnessing the assistance one individual provided to other physicians, however, he was anxious to use them in his practice.

While concrete objectives such as waiting times are important to identify, concentrating on only the technical aspects of a change does not produce success (Cohen et al. 2004). It is important to also consider the impact of the modifications on those experiencing the change (Shanley 2007). Attempts were made to measure this through the use of the TES and site visits. Feedback indicated, however, that the new providers experienced some difficulties, isolation and resistance from former colleagues in moving through the implementation process. While assessing cultural issues remains a significant challenge (Marshall et al. 2003), more work should be done to reduce their impact on change. The opposition and frustration that may occur at the personal level can serve as barriers to change if not managed correctly (Narine and Persaud 2003; Pattison 1996). It is important that managers understand the emotional consequences that can come with such programs (Schoolfield and Orduna 2001).

Equally important are unintended consequences. Subsequent to the improved efficiency seen during the initial assessment, new bottlenecks arose. Some reported times when physicians were sitting idle as there was no more room for patients to be brought into the department. Increased demands on diagnostic imaging surpassed the capacities of those in place. While inflow was improved, the exit block remained unchanged for admitted patients. As mentioned, there are many reasons for ED overcrowding; an increase in ED providers alone cannot resolve these issues.

Finally, while enthusiasm should be encouraged, it is important that expectations for success are carefully managed. One of the challenges encountered in this project was that staff were not aware of the limitations of the new providers. As a result, there were some unrealistic expectations about their capabilities. To avoid disappointment, it is necessary for realistic expectations to be set (Rossos et al. 2006). This project was designed to help address the issue of HHR shortages within the department. It was not presented as a complete solution to the ED problems. It is important that clear goals and objectives be explained from the outset so that success does not turn into failure as the result of unattained unrealistic expectations.

Conclusion

While the change management process used to introduce the new providers led to improvements, additional adjustments could have been made to allow for greater overall success. The results and feedback indicated that there was a need for a better understanding of the cultural environment, more consistent communication with stakeholders, better engagement of physicians, more resources to support staff involvement and the management of expectations. Some key strengths were also discovered: the benefit of using a team-building process to motivate and support change, the applicability of the PEPPA framework and the values of advanced environmental scanning. Hopefully, the lessons learned from this modification will be of benefit to others looking to make changes within the healthcare setting. HQ

References

Alder, R., Murray, D., Ducharme, J. and H. Cummings. 2009. "Measuring Team Effectiveness in Health Care." Manuscript submitted for publication.

Audit Commission. 2004. *Quicker Treatment Closer to Home: Primary Care trusts' Success in Redesigning Care Pathways*. London, England: Author. Retrieved April 25, 2008. <http://www.audit-commission.gov.uk/Products/NATIONAL-REPORT/842AD8DE-413F-4efd-B9FA-D355D130DC0E/QuickerTreatment.pdf>.

Baker, C, J. Beglinger, S. King, M. Salyards and A. Thompson. 2000. "Transforming Negative Work Cultures: A Practical Strategy." *Journal of Nursing Administration* 30(7/8): 357–63.

Beckhard, R. and R.T. Harris. 1987. *Organizational Transitions: Managing Complex Change* Reading, MA: Addison-Wesley.

Benjamin, S. and S. Al-Alaiwat. 1998. "Managing Health Care Organizations in and Age of Rapid Change." *Health Care Supervisor* 16(3): 43–53.

Berwick, D. 2003. "Disseminating Innovations in Health Care." *Journal of the American Medical Association* 289(15): 1969–75.

Bond, K., M.B. Ospina, S. Blitz, M. Afilalo, S.G. Campbell, M. Bullard, G. Innes, B. Holroyd, G. Curry, M. Schull and B.H. Rowe.

2007. "Frequency, Determinants and Impact of Overcrowding in Emergency Departments in Canada: A National Survey." *Healthcare Quarterly* 10(4): 32–40.

Bryant-Lukosius, D., and A. DiCenso. 2004. "A Framework for the Introduction and Evaluation of Advanced Practice Nursing Roles. *Journal of Advanced Nursing* 48(5): 530–40.

Caldwell, D., J. Chatman, C. O'Reilly, O. Charles, M. Ormiston and M. Lapiz. 2008. "Implementing Strategic Change in a Health Care System: The Importance of Leadership and Change Readiness." *Health Care Management Review* 33(2): 124–33.

Canadian Association of Emergency Physicians, National Emergency Nurses Affiliation, and L'association des Medecins d'urgence du Quebec. 2007. *The Canadian E.D. Triage and Acuity Scale*. Ottawa, ON: Canadian Association of Emergency Physicians. Retrieved May 2, 2008. <http://www.caep.ca/CMS/images/triage-en.gif>.

Canadian Institute for Health Information. 2005. *Understanding Emergency Department Wait Times: Who Is Using the Emergency Departments and How Long Are They Waiting?* Ottawa, ON: Author. Retrieved May 2, 2008. <http://secure.cihi.ca/cihiweb/products/Wait_times_e.pdf>.

Cohen, D., R.R. McDaniel Jr., B.F. Crabtree, M.C. Ruhe, S.M. Weyer, A. Tallia, W.L. Miller, M.A. Goodwin, P. Nutting, L.I. Solberg, S.J. Zyzanski, C.R. Jaen, V. Gilchrist and K.C. Stange. 2004. "A Practice Change Model for Quality Improvement in Primary Care Practice." *Journal of Healthcare Management* 49(3): 155–68.

Ducharme, J., Pelletier, C., Alder R., and D. Murray et al. 2009 "The Impact on Patient Flow after the Integration of Nurse Practitioners and Physician Assistants in Six Ontario Emergency Departments." Manuscript submitted for publication.

Dunn K. and W. Nicklin. 1995. "The status of advanced nursing roles in Canadian teaching hospitals." *Canadian Journal of Nursing Administration* Jan–Feb, 111–135.

Elwyn, G., M. Taubert and J. Kowalczuk. 2007. "Sticky Knowledge: A Possible Model for Investigating Implementation in Healthcare Contexts." *Implementation Science* 2(44). Retrieved April 25, 2008. <http://www.implementationscience.com/content/2/1/44>.

Expert Panel on Health Professional Human Resources. 2001. *Shaping Ontario's Physician Workforce: Building Ontario's Capacity to Plan, Educate, Recruit and Retain Physicians to Meet Health Needs*. Toronto, ON: Government of Ontario. Retrieved May 2, 2008. <http://www.health.gov.on.ca/english/public/pub/ministry_reports/workforce/workforce.pdf>.

Ferlie, E. and S. Shortell. 2001. "Improving the Quality of Health Care in the United Kingdom and the United States: A Framework for Change." *Milbank Quarterly* 79(2): 281–315.

Forthman, M.T., L.D. Wooster, W.C. Hill, J.M. Homa-Lowry and S.I. DesHamais. 2003. "Insights into Successful Change Management: Empirically Supported Techniques for Improving Medical Practice Patterns." *American Journal of Medical Quality* 18(5):181–89.

Golden, B. 2006. "Change: Transforming Healthcare Organizations." *Healthcare Quarterly* 10(Special Issue): 10–19.

Grol, R. and J. Grimshaw. 2003. "From Best Evidence to Best Practice: Effective Implementation of Change in Patients' Care." *The Lancet* 362(9391): 1225.

Grol, R. and M. Wensing. 2004. "What Drives Change? Barriers to and Incentives for Achieving Evidence-Based Practice." *Medical Journal of Australia* 180: S57–60.

Gross, R., H. Tabenkin and S. Brammli-Greenberg. 2007. "Factors Affecting Primary Care Physicians' Perceptions of Health System Reform in Israel: Professional Autonomy versus Organizational Affiliation." *Social Science and Medicine* 64: 1450–62.

Hospital Emergency Department and Ambulance Effectiveness Working Group. 2005. *Improving Access to Emergency Services: A System Commitment.* Toronto, ON: Government of Ontario. Retrieved May 2, 2008. <http://www.health.gov.on.ca/english/public/pub/ministry_reports/emerg_dept_05/emerg_dept_05.pdf>.

Iles, V. and K. Sutherland. 2001. *Managing Change in the NHS: Organisational Change: A Review for Health Care Managers, Professionals and Researchers*. London, England: National Co-ordinating Centre for NHS Service Delivery and Organisation. Retrieved April 25, 2008. <http://www.sdo.lshtm.ac.uk/files/adhoc/change-management-review.pdf>.

Kresse, M., M. Kuklinski and J. Cacchione. 2007. "An Evidence-Based Template for Implementation of Multidisciplinary Evidence-Based Practices in a Tertiary Hospital Setting." *American Journal of Medical Quality* 22(3): 148–63.

Lozon, J. and R. MacGilchrist. 1999. "Communication as a Priority for Success: Lessons Learned through Change at St. Michael's Hospital." *Hospital Quarterly* 2(3): 24–30.

Lukas, C.V., S.K. Holmes, A.B. Cohen, J. Restuccia, I.E. Cramer, M. Shwartz and M.P. Charns. 2007. "Transformational Change in Health Care Systems; An Organizational Model." *Health Care Management Review* 32(4): 309–20.

MacPhee, M. 2007. "Strategies and Tools for Managing Change." *Journal of Nursing Administration* 37(9): 405–13.

Maher, H. 2003. *Good Practice in Leading and Managing Change in Health Service Organisations: 11 Irish Case Studies*. Office for Health Management. Dublin, Ireland. Retrieved April 25, 2008. <http://www.tohm.ie/download/pdf/good_practice_change.pdf>.

Marshall, M., R. Mannion, E. Nelson and H. Davies. 2003. "Managing Change in the Culture of General Practice: Qualitative Case Studies in Primary Care Trusts." *BMJ* 327: 599–602.

Martin, W. 1999. "Positively Influencing Physicians: The Levers of Influence." *Physician Executive* November/December: 8–14.

Mitchell-DiCenso, A., J. Pinelli and D. Southwell. 1996. "Introduction and Evaluation of an Advanced Nursing Practice Role in Neonatal Intensive Care." In K. Kelly, ed., *Outcomes of Effective Management Practice.* Thousand Oaks, CA: Sage Publishers.

Narine, L. and D.D. Persaud. 2003. "Gaining and Maintaining Commitment to Large-Scale Change in Healthcare Organizations." *Health Services Management Research* 16: 179–87.

Pattison, S. 1996. "Change Management in the British National Health Service: A Worm's Eye Critique." *Healthcare Analysis* 4: 252–58.

Peterson, L. and S. King. 2007. "How Effective Leaders Achieve Success in Critical Change Initiatives, Part 4: Emergent Leadership – An Example with Doctors." *Healthcare Quarterly* 10(4): 59–63.

Physician Hospital Care Committee. 2006. *Improving Access to Emergency Care: Addressing System Issues*. Toronto, ON: Government of Ontario. Retrieved May 2, 2008. <http://www.health.gov.on.ca/english/public/pub/ministry_reports/improving_access/improving_access.pdf>.

Reinertsen, J. 1998. "Physicians as Leaders in the Improvement of Health Care Systems." *Annals of Internal Medicine* 128(10): 833–38.

Rivera, D. 1999. "Paving the Road to Hell: Why Change Programs Ultimately Fail." *Physician Executive* November/December: 26–31.

Robinson, J.S. and D.A. Turnbull. 2004. "Changing healthcare organisations to change clinical performance." *Medical Journal of Australia* 180: S61-S62.

Rossos, P., H. Abrams, R. Wu and P. Bray. 2006 "Active Physician Participation Key to Smooth MOE/MAR Rollout." *Healthcare Quarterly* 10(Special Issue): 58–64.

Schoolfield, M. and A. Orduna. 2001. "Understanding Staff Nurse Responses to Change: Utilization of a Grief-Change Framework to Facilitate Innovation." *Clinical Nurse Specialist* 15(5): 224–29.

Scott, T., R. Mannion, M. Marshall and H. Davies. 2003. "Does Organizational Culture Influence Health Care Performance? A Review of the Evidence." *Journal of Health Services Research and Policy* 8(2): 105–17.

Senior, B. and J. Fleming. 2006. *Organizational Change* (3rd ed.). London: Prentice Hill.

Shanley, C. 2007. "Navigating the Change Process: The Experience of Managers in the Residential Aged Care Industry." *Journal of Organizational Change Management* 20(5): 700–20.

Spitzer, W.O. 1978. "Evidence That Justifies the Introduction of New Health Professionals."In P. Slayton and M.J. Trebilock, eds., *The Professions and Public Policy*. Toronto, ON: University of Toronto Press.

Turner, M. and D. Hulme. 1997. "Organisational Environments: Comparisons, Contrasts and Significance." In M. Turner and D. Hulme, eds., *Governance, Administration and Development*. London: Macmillan Press.

Weber, V. and M. Joshi. 2000. "Effecting and Leading Change in Health Care Organizations." *Joint Commission Journal on Quality Improvement* 26(7): 388–99.

About the Authors

James Ducharme, MD, CM, FRCP, DABEM, is the vice-president of medical services at MedEmerg International Ltd. in Mississauga, and a clinical professor of medicine, McMaster University, Hamilton, Ontario. Dr. Ducharme is a board-certified emergency medicine specialist, has done extensive research and writing on the subject of acute pain management, and is recognized internationally as a speaker in emergency medicine. He can be reached at 905-858-1368 or by fax at 905-858-1399.

Jenny E. Buckley, MA, MSc, is a project manager at MedEmerg International Ltd. She recently completed an MSc in public policy and management at the University of London. Ms. Buckley has served as a project manager on a number of health services consulting projects, and has experience with emergency medical systems and team effectiveness and development. She can be reached at 905-858-1368 or by fax at 905-858-1399.

Robert Alder, MMedSc, PhD, is an epidemiologist, an associate professor at the University of Western Ontario and the executive director of Canadian Epidemiology Services, in London, Ontario. Dr. Alder has extensive experience in the collection, handling, analysis and reporting of quantitative and qualitative data for community health status and needs assessment. He can be reached at 519-675-0180.

Cindy Pelletier, MSc, is senior research associate at MedEmerg International Ltd. Ms. Pelletier is experienced in applied qualitative and quantitative research design, in the realization and management of research and in the development and presentation of results and recommendations. She can be reached at 905-858-1368 or by fax at 905-858-1399.