

Effective Teamwork in Healthcare: Research and Reality



INVITED ESSAY

Dave Clements, MPA

Acting Director, Knowledge Transfer and Exchange
Canadian Health Services Research Foundation

Mylène Dault, PhD

Senior Program Officer
Management of the Healthcare Workplace Theme
Canadian Health Services Research Foundation

Alicia Priest

Freelance Medical Writer



ABSTRACT

Issues affecting health workplaces range from serious concerns that could affect the immediate physical safety of workers to those that would improve productivity and efficiency, or make an organization a preferred employer. Employers and workers might consider effective teamwork an asset, but for patients it is a prerequisite. This paper reviews the evidence for effective teamwork, primarily that gathered by a research team funded by the Canadian Health Services Research Foundation (CHSRF). We also review the expert opinion provided by a group of 25 researchers and decision makers convened by CHSRF in late 2005 at a forum for discussion about issues related to effective teamwork. Included in the retreat were representatives from professional organizations and occupations as well as areas such as legal liability.

Taken together, the research and expert opinion provide a comprehensive overview of the benefits of effective teamwork and the conditions needed for its implementation. In addition, we review policy and management perspectives on the most significant challenges to the implementation of effective teamwork in the Canadian context, and potential opportunities to overcome these obstacles.

IN THE COMPANION paper, Shamian and El-Jardali provide an exhaustive summary of the issues affecting health workplaces in Canada, and areas of potential and actual improvement in the Canadian context. The issues raised range from minimum requirements for any workplace, such as protection from violence on the job, to initiatives that would make some workplaces preferred employers, such as flexible scheduling.

This paper addresses the issue of effective teamwork, a critical element of a healthy workplace but so far not at the “tipping point” where workers or employers expect it. However, for people receiving health services, effective teamwork is already more than just highly desirable. It is a basic prerequisite they often assume to be in place. The task of health system managers, policy makers and clinicians is to find ways of implementing the desired conditions for workers while meeting the expectations of patients.

Fortunately, significant work is happening on the research, management and policy fronts. Researchers have worked hard to bring together data on effective teamwork in healthcare and to extract key messages for management and policy. This includes teams here in Canada (Lemieux-Charles and McGuire 2006) and abroad (Baker et al. 2005a). System managers and policy makers are also making significant attempts to transform healthcare workplaces into effective team-based environments. This includes efforts on the national level, such as the great strides made by the 2004 Health Canada Initiative on Interprofessional

Education for Collaborative Patient-Centred Practice (IECPCP), which developed an evolving framework to help accomplish the task; as well as the Enhancing Interdisciplinary Collaboration in Primary Healthcare Initiative, funded by Health Canada’s Primary Healthcare Transition Fund. In addition, a major contribution has come from the health human resource sector studies funded by the federal government.

The Canadian Health Services Research Foundation (CHSRF) has engaged in a number of efforts on both the research and decision-making fronts, in keeping with its role of supporting the evidence-informed management of Canada’s healthcare system by facilitating knowledge exchange between research and healthcare management and policy. The CHSRF has made the management of the healthcare workplace one of its key research themes, and effective teamwork and inter-professional collaboration – with a focus on the role of occupational hierarchies, organizational structures and management practices and approaches and their effects on workplace productivity, stress and absenteeism – are areas for which the foundation encourages both research and knowledge exchange.

In 2005, the CHSRF commissioned a team of researchers to synthesize the existing evidence regarding effective teams in healthcare and what is being done to promote effective teamwork in Canada and abroad. Funding for this work was also provided by Health Canada (Oandasan et

al. 2006). With a draft report in hand, the CHSRF also brought together a number of policy and management decision makers, clinicians and researchers for two days of frank and open discussion about priorities and concerns, with the goal of developing recommendations that tackle the issue of how to implement effective teamwork at the different levels of Canada's healthcare systems.

This paper references some of the key evidence gathered by the researchers funded by the CHSRF, as well as other key research. It is not a summary of their synthesis work (which is available in complete form on the CHSRF website) but, rather, a perspective on the report, as well as other relevant research. Similarly, the discussions with managers and policy makers referenced in this paper are not verbatim transcriptions but, rather, a presentation of what the CHSRF sees as some of the most pertinent discussions regarding the challenge at hand: the evidence-informed implementation of effective teamwork in healthy workplaces across Canada.

Teams, Work and Teamwork

The CHSRF-funded researchers found that, in the literature, the concept of a team is indeed broad – it is something that exists any time two or more people are working together with a shared purpose. According to the literature, the way teams are designed depends greatly on the task that needs to be performed and when and where it is being performed. However, despite the broad definition of a team, there are some common ideas. For instance, when people are working in a team, they have particular responsibilities that relate to their own specific skills and knowledge. One individual is always the leader, and this is agreed upon by the team or those who created it.

In healthcare, teamwork is the ongoing process of interaction between team members as they work together to provide care to patients. The researchers found that while *teamwork* and *collaboration* are often used as synonyms in casual discussion, they are not synonymous. Critically, the researchers identified inter-professional collaboration as both a process affecting teamwork (and, in turn, patient care and health provider satisfaction) and an outcome in and of itself. In fact, collaboration can take place whether or not health professionals consider themselves to be part of a team. The researchers cite the example of primary healthcare, where professionals including a family physician, a physiotherapist and a dentist may all provide care to the same patient, yet in most cases do not see themselves as a functioning team. On the other hand, effective teamwork rarely happens where there is no collaboration (Oandasan et al. 2006).

Teamwork requires an explicit decision by the team members to co-operate in meeting the shared objective. This requires that team members sacrifice their autonomy, allowing their activity to be coordinated by the team, either through decisions by the team leader or through shared decision making. As a result, the responsibilities of professionals working as a team include not only activities they deliver because of their specialized skills or knowledge, but also those resulting from their commitment to monitor the activities performed by their teammates, including managing the conflicts that may result (Oandasan et al. 2006).

When Is Teamwork Effective?

The CHSRF-funded team pulled together a strong evidence base for the characteristics of effective teams, and the evidence tells us that these teams adapt and respond

to changing conditions. Members of effective teams have faith in their ability to solve problems, are positive about their activities and trust each other. They can determine areas for improvement and reallocate resources to do so. And, of course, effective teams are often self-evident because they produce high-quality results. In healthcare, these include improved patient outcomes and cohesion, and competency or stability for the team itself.

Outside of healthcare, research tells us that teams working together in high-risk and high-intensity work environments make fewer mistakes than do individuals. This includes empirical evidence from commercial aviation, the military, firefighting and rapid-response police activities. These studies show a strong relationship between qualities such as flexibility, adaptability, resistance to stress, cohesion, retention and morale with effective team performance (Baker et al. 2005a; Gully et al. 1995, 2002).

In healthcare, studies have suggested that teamwork, when enhanced by inter-professional collaboration, could have a range of benefits. Although the link is far from definitive, it appears that teamwork and team composition could have positive effects, particularly in quality and safety (Oandasan et al. 2006). These include reducing medical errors, improving quality of patient care, addressing workload issues, building cohesion and reducing burnout of healthcare professionals. For example, a trial of team training for emergency room staff in US hospitals resulted in a reduction in clinical error rates from 30.9 to 4.4% over a 12-month period (Morey et al. 2002).

The CHSRF synthesis references a range of potential benefits from effective teamwork gleaned from selected teamwork initiatives:

- Improved communication and partnership among health providers and patients (Kates and Ackerman 2002; Nolte 2005)
- Clarity on the role of all health providers (Nolte 2005)
- Better response processes in addressing the determinants of health (Nolte 2005)
- Improved coordination of healthcare services (Kates and Ackerman 2002)
- High levels of satisfaction on the delivery of services (Kates and Ackerman 2002; Marriott and Mable 2002)
- Effective use of health resources (Task Force Two 2005)

What Can Managers and Policy Makers Do?

Practical and well-evaluated plans for implementing teamwork are fairly rare, although Oandasan et al. (2006) note that in health services research, there have been a number of recent attempts to capture and evaluate individual training programs to enhance teamwork, with some evidence of effectiveness. For example, they note that patient safety studies have found that team training and decision aids such as checklists and communication protocols can be used to improve team processes and reduce adverse events (Hoff et al. 2004; Lingard et al. 2004; Pronovost et al. 2003).

In the United States, researchers looked recently at more than 20 years of research on specific techniques for building and training teams, which focuses on building appropriate knowledge, skills, and attitudes among potential team members in medical environments. This review produced an extensive collection of guidelines relating to the content and style of team training programs (Baker et al. 2005b; Volpe et al. 1996). In addition, a recent review of six medical team training programs concluded that crew

resource management (CRM), a team training model from the aviation field, has many important lessons to offer healthcare professionals, a point also noted by the CHSRF-funded team (Baker et al. 2006; Oandasan et al. 2006). So far, a few jurisdictions have developed customized healthcare CRM programs for teams in operating rooms, obstetrics, intensive care and emergency care. However, the delivery of medical team training across the healthcare community is “generally haphazard” (Baker 2005b).

Is Effective Teamwork a Priority in Canada?

Broadly speaking, health human resources have been a preoccupation for managers and policy makers in Canada’s healthcare systems. Back in 2001, those who were consulted as part of the first Listening for Direction national priority-setting exercise on health services and policy issues said clearly that health human resources would be the number one priority in the next two to five years (Gagnon et al. 2001).

With the exception of clinical organizations, which in 2001 were concerned about how new healthcare teams should be composed in order to meet the changing needs of patients, decision makers were preoccupied not with healthy workplaces or effective teamwork but with the supply of health human resources. In particular, federal and provincial policy makers wanted to find mechanisms to help them to avoid cycles of surplus and shortage, while managers wanted to know about forecasting models that might help them plan for these cycles and employ retention and recruitment strategies. In 2001, teamwork came across as a major concern, primarily in clinical organizations.

However, when the CHSRF and its partners repeated the Listening for

Direction process in 2004, a clear separation appeared between the *workforce* and *workplace* aspects of the issue, and concerns about teamwork were pervasive and prominent within both themes. Within the workforce aspect were concerns about the best ways to facilitate inter-professional teamwork and approaches, as well as the regulation of scope of practice and entry to practice. Within the workplace aspect was an interest in the role of occupational hierarchies, organizational structures and management practices and approaches and their effects on workplace productivity, stress, absenteeism and so on (Dault et al. 2004).

In other words, for Canadian decision makers, effective teamwork is a means to achieve improved quality and productivity for patients. For decision makers, it is a way to achieve a better balanced and more productive workforce but also one that is able to better serve the needs of patients. Teamwork is seen as a way to improve quality of care for the patient, not only through improved efficiency but also through a happier and healthier workforce. Since the 2004 process, the Health Council of Canada has identified improving teamwork as a critical component to both accelerating system change (Health Council of Canada 2005a) and improving human resource management (Health Council of Canada 2005b).

Challenges and Opportunities for Management and Policy

It is difficult to imagine who could oppose implementing effective teamwork as a way to improve healthcare. Even casual observers would likely equate the healthcare sector with teams and teamwork, and cite the history of nursing as an example. However, in healthcare delivery, teams rarely exist that incorporate different professions and occupations, as well as patients and families.

The greatest obstacle to change is arguably the hierarchical culture of healthcare. Entrenched attitudes about scopes of practice, professional “turf” and historical power structures can sabotage the essence of what teamwork is. Providers need to address their personal power issues, adopt common goals, break down hierarchies and then educate patients about how each team member contributes to their care.

Formidable barriers that arise out of this culture include the self-regulation of professions, current malpractice and liability laws and funding and remuneration models. All these discourage and deter the establishment of teams. For instance, current malpractice legislation places responsibility solely on individuals. Regulations that support teamwork, on the other hand, would refocus this “culture of blame” to a culture of patient safety and risk management. Much work needs to be done to clarify the accountability for non-physician team members in performing shared tasks. As for remuneration models, traditional fee-for-service payment systems for physicians impede movement toward collaborative care. What is more, no financial incentives exist that tie funding to collaboration and teamwork efforts, unlike initiatives in other countries such as England (Oandasan et al. 2006).

In addition, significant and persisting supply issues continue to preoccupy both health workers and system managers and policy makers, and confound dedicated efforts to implement effective teamwork. The current shortage of some health professionals creates a pressure-cooker workplace environment where few people have the time, energy or will to experiment with new models of healthcare delivery.

To get a better picture of not only the challenges to implementing effective teamwork but also ways to overcome the chal-

lenges, the CHSRF convened a group of 25 researchers and decision makers in late 2005 to provide a forum for discussion about issues related to effective teamwork. Included in the retreat were representatives from professional organizations and occupations as well as areas such as legal liability. The idea was to bring together experts from various perspectives with the goal of working toward tackling the issue and developing recommendations of how to implement teamwork at the differing levels of the healthcare system. While a consensus was not expected, the aim was to secure a foundation based on current knowledge and evidence that would serve as a basis for evolving discussions and decisions in the future.

One major focus of the discussions was to identify why previous or existing efforts to implement collaborative practice in healthcare organizations had succeeded or failed to meet expectations. In particular, the experts around the table were asked the question, “Based on our knowledge and experience, what factors have underpinned success in implementing collaborative practice?”

The key factors underpinning success identified by the experts at the retreat were as follows:

- Leadership, and having champions who can drive change management processes
- Clarity regarding roles on the part of all team members
- Trust, respect, value, and being valued within the teamwork setting
- Cultural readiness within the workplace, or significant efforts to try to create a culture of acceptance

Conversely, the factors that would signal likely failure in implementing collaborative practice for the experts included the following:

- A lack of time to bring people together to reflect and to change
- Insufficient inter-professional education, including continuing education, and the persistence of professional silos
- Systems of payment that do not reward collaboration
- Few links between collaborative practice and individual goals
- The absence of efforts to capture evidence for success and communicate this to key stakeholders, including the public

The participants at the retreat identified particular challenges and opportunities for furthering the implementation of effective teamwork in the areas of management and policy.

Management Challenges and Opportunities

At the level of health system management, the participants at the CHSRF retreat felt the most serious challenges to inter-professional collaboration include a lack of designated responsibility for ensuring collaboration takes place. History and tradition can serve as barriers as people often want to perpetuate the status quo, either to stay within their comfort zones or to protect vested interests. Ineffective communication can also be a critical barrier, unless multiple strategies are put in place to ensure effective communication within and between professions, as well as vertically within the institution. Finally, while project-based funding for collaboration can stimulate change at the project level, it does nothing at a systemic level, often making it difficult, or impossible, for change to become permanent and sustained.

To overcome the challenges at the organizational level, the experts recom-

mended accreditation systems that outline clear requirements for inter-professional collaboration within organizations. In addition, they felt that dedicated funding for inter-professional collaboration would support a transition to, and ongoing review of, collaborative practice. Also, more could be done in the area of intra-organizational knowledge transfer to help organizations share what they know about the results of research, demonstration site activities and learning projects.

In the immediate future, the participants saw opportunities for organizational change in the areas of information and education. On the information front, common measures of performance to monitor, evaluate or measure collaborative practice need to be developed. In addition, systems need to be implemented that capture, share, and link patient data, in order to facilitate collaborative practice. While they were sympathetic to concerns about privacy and confidentiality, the participants saw expanded access to patient information through electronic health records as a major facilitator of collaborative practice.

In education, it is vital to bring educators together to determine core competencies and curricula, while building on the existing initiatives such as the IECPCP, and to support learning initiatives throughout the country where lessons learned vis-à-vis collaborative practice could be shared – this could include ways to institute mentorship and other ways of learning by example. In addition, structures and a culture to value collaborative practice through organizational learning mechanisms should be adopted, particularly through continuing education. Finally, leadership training opportunities that include a collaborative practice component should be promoted within and across organizations.

Policy Challenges and Opportunities

At the policy level, the primary challenges identified related to the difficulty of planning change across multiple jurisdictions and among many stakeholders. Barriers to change include the territoriality of professions, as well as cross-sectoral professional issues such as liability and education. Within the policy context, the division between health and education programs at the provincial level was also seen as an obstacle, and one that governments are unlikely to address. In general, participants felt that there is not a high degree of sustainability for any one issue or long-term planning, given that healthcare is highly dependent upon the priorities of current provincial governments. Issues such as waiting lists and patient safety are currently dominating the policy agenda. While there may be some potential to reframe these issues as symptoms of systems that lack collaboration, this is a difficult task to undertake.

Nonetheless, participants were optimistic about developments such as the pan-Canadian Health Human Resources planning framework, as well as two 2005 reports from the Health Council of Canada, which reference teamwork and collaboration (Health Council of Canada 2005a, 2005b). The work of the IECPCP was often cited and seen as a hopeful example of longer-term funding commitments that could assist policy change. In the immediate future, the participants called for a national policy forum on collaborative practice to be convened, including discussion on topics such as research and evaluation dimensions to best practices, lessons learned, return on investment, impacts of these projects, change in policy and policy buy-in.

Most ambitiously, the experts convened by the CHSRF called for the creation of a pan-Canadian strategy that would develop

a vision, strategic objectives, tasks, and responsibilities for implementing effective teamwork across Canada. The strategy would be led by an independent coordinating body that could identify stakeholders, help facilitate dialogue, and assist in determining which stakeholders could best help in addressing some of the gaps and issues not only in planning and implementation but also regarding policy, measurement, outcomes, and evaluations of the various projects already in place. This would include an inventory or clearinghouse of the various programs and initiatives throughout the country to capture best practices, identify gaps, and issue calls for papers on deficits in knowledge. The formation of the Canadian Interprofessional Health Collaborative (www.cihc.ca) in August 2006 is an extremely positive step in this regard.

Conclusions

The empirical evidence from high-risk work environments tells us that collaboration and teamwork is a way to produce high-quality results. In the health workplace, the evidence for inter-professional coordination and effective teamwork continues to grow. One of the most critical tasks facing researchers, managers, policy makers and clinicians will be to work together to create, share and use all forms of evidence, including methods and techniques for effective and ineffective implementation. The path toward effective teamwork in Canadian healthcare will probably be bumpy and windy, but it is one that all stakeholders, particularly patients, are likely to demand both more frequently and vocally.

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References

- Baker, D., S. Gustafson, J. Beaubien, E. Salas and P. Barach. 2005a. *Medical Teamwork and Patient Safety: The Evidence-based Relation*. Rockville, MD: Agency for Healthcare Research and Quality, Center for Quality Improvement and Patient Safety. <<http://www.ahrq.gov/qual/medteam/>>.
- Baker, D.P., S. Gustafson, J.M. Beaubien, E. Salas and P. Barach. 2005b. "Medical Team Training Programs in Health Care." In *Advances in Patient Safety: From Research to Implementation* (Vols. 1–4). Rockville, MD: Agency for Healthcare Research and Quality.
- Dault, M., J. Lomas and M. Barer on behalf of the Listening for Direction II partners. 2004. *Listening for Direction II: National Consultation on Health Services and Policy Issues for 2004–2007*. Ottawa: Canadian Health Services Research Foundation.
- Gagnon, D., M. Ménard and Canadian Health Services Research Foundation. 2001. *Listening for Direction: A National Consultation on Health Services and Policy Issues: Summary Report*. Ottawa: Canadian Health Services Research Foundation.
- Gully, S.M., D.J. Devine and D.J. Whitney. 1995. "A Meta-analysis of Cohesion and Performance: Effects of Level of Analysis and Task Interdependence." *Small Group Research* 25(4): 497–520.
- Gully, S.M., K.A. Incalcaterra, A. Joshi and J.M. Beaubien. 2002. "A Meta-Analysis of Team Efficacy, Potency, and Performance: Interdependence and Level of Analysis as Moderators of Observed Relationships." *Journal of Applied Psychology* 87(5): 819–32.
- Health Council of Canada. 2005a. *Healthcare Renewal in Canada: Accelerating Change*. Toronto: Author.
- Health Council of Canada. 2005b. *Modernizing the Management of Health Human Resources in Canada: Identifying Areas for Accelerated Change. Report from a National Summit*. Toronto: Author.
- Hoff, T., L. Jameson, E. Hannan and E. Flink. 2004. "A Review of the Literature Examining Linkages between Organizational Factors, Medical Errors and Patient Safety." *Medical Care Research and Review* 61(1): 3–37.
- Kates, N. and S. Ackerman, eds. 2002. *Shared Mental Healthcare in Canada. A Compendium of Current Projects*. Ottawa: Canadian Psychiatric Association; and Mississauga: College of Family Physicians of Canada Collaborative Working Group on Shared Mental Health.
- Lemieux-Charles, L. and W.L. McGuire. 2006. "What Do We Know about Healthcare Team Effectiveness? A Review of the Literature." *Medical Care Research and Review* 63: 263–300.
- Lingard, L., S. Espin, S. Whyte, G. Regehr, G.R. Baker, R. Reznick, J. Bohnen, B. Orser, D. Doran and E. Grober. 2004. "Communication Failures in the Operating Room: An Observational Classification of Recurrent Types and Effects." *Quality and Safety in Healthcare* 13(5): 330–34.
- Marriott, A. and J. Mable. 2002. *Sharing the Learning: The Health Transition Fund Synthesis Series: Primary Healthcare*. Ottawa: Health Canada.
- Morey, J.C., R. Simon, G.D. Jay, R.L. Wears, M. Salisbury, K.A. Dukes and S.D. Berns. 2002. "Error Reduction and Performance Improvement in the Emergency Department through Formal Teamwork Training: Evaluation Results of the MedTeams Project." *Health Services Research* 37(6): 1553–81.
- Nolte, J., with contribution from M. Tremblay. 2005. *Enhancing Interdisciplinary Collaboration in Primary Healthcare in Canada*. Ottawa: Enhancing Interdisciplinary Collaboration in Primary Healthcare Initiative.
- Oandasan, I., G.R. Baker, K. Barker, C. Bosco, D. D'Amour, L. Jones, S. Kimpton, L. Lemieux-Charles, L. Nasmith, L. San Martin Rodriguez, J. Tepper and D. Way. 2006. *Teamwork in Healthcare: Promoting Effective Teamwork in Healthcare in Canada*. Ottawa: Canadian Health Services Research Foundation.
- Pronovost, P., S. Berenholtz, T. Dorman, P.A. Lipsett, T. Simmonds and C. Haraden. 2003. "Improving Communication in the ICU Using Daily Goals." *Journal of Critical Care* 18(2): 71–75.
- Task Force Two. 2005. *A Physician Human Resource Strategy for Canada: Innovation Service Models in Canada Database*. Ottawa: Government of Canada.
- Volpe, C.E., J.A. Cannon-Bowers, E. Salas and P. Spector. 1996. "The Impact of Cross-training on Team Functioning: An Empirical Investigation." *Human Factors* 38(1): 87–100.