

The determinants of successful collaboration: A review of theoretical and empirical studies

LETICIA SAN MARTÍN-RODRÍGUEZ^{1,4}, MARIE-DOMINIQUE BEAULIEU², DANIELLE D'AMOUR^{3,4}, & MARCELA FERRADA-VIDELA⁴

¹Department of Nursing, University Hospital of Navarra, Pamplona, Navarra, Spain, ²Department of Family Medicine, University of Montreal and Centre de recherche du Centre hospitalier de l'Université de Montréal, Montreal, Quebec, Canada, ³Director of FERASI Center, and Investigator with the Groupe de recherche interdisciplinaire en santé (GRIS), Montreal, Quebec, Canada, and ⁴Faculty of Nursing at University of Montreal, Montreal, Quebec, Canada

Abstract

Successful collaboration in health care teams can be attributed to numerous elements, including processes at work in interpersonal relationships within the team (the interactional determinants), conditions within the organization (the organizational determinants), and the organization's environment (the systemic determinants). Through a review of the literature, this article presents a tabulated compilation of each of these determinant types as identified by empirical research and identifies the main characteristics of these determinants according to the conceptual work. We then present a "showcase" of recent Canadian policy initiatives – The Canadian Health Transition Fund (HTF) – to illustrate how the various categories of determinants can be mobilized. The literature review reveals that very little of the empirical work has dealt with determinants of interprofessional collaboration in health, particularly its organizational and systemic determinants. Furthermore, our overview of experience at the Canadian HTF suggests that a systemic approach should be adopted in evaluative research on the determinants of effective collaborative practice.

Keywords: *Collaboration, interprofessional team, determinants, politics, literature review.*

Introduction

Organizations are increasingly reliant on teamwork (Blake, Manton & Allen, 1988; Mohrman, Cohen & Mohrman, 1995; Smith-Blancett, 1994; Solar, 2001). Several authors confirm that an organization's success or failure depends on how effective its people are at working together in teams (Margerison & McCann, 1995; Smith-Blancett, 1994). By bringing together in real time the competencies, experience and judgment of a variety of professionals, organizations are trying to respond to a reality that is becoming increasingly complex in terms of both the knowledge and the working methods that are being applied.

In this manner, collaborative practice in interprofessional teams is described in the literature as an efficient, effective and satisfying way to offer health care services (Alpert,

Correspondence: Leticia San Martín-Rodríguez, RN, PhD (cand), Dirección de Enfermería, Clínica Universitaria de la Universidad de Navarra, Avda. Pío XII, 36, 31008 Pamplona (Navarra) España. E-mail: lsmartin@unav.es or Danielle D'Amour, RN, PhD, Centre FERASI. Faculté des sciences infirmières, Université de Montréal, CP 6128, succ. Centre-ville, Montréal, Québec, H3C 3J7, Canada. E-mail: danielle.damour@umontreal.ca

Goldman, Kilroy & Pike, 1992; Baggs, 1994; Baggs & Schmitt, 1988; Drotar, 2002; Evans, 1994; Fagin, 1992; Hanson, Spross & Carr, 2000; Lappe, 1993; Pike, McHugh, Canney, Miller, Reiley & Seibert, 1993; Robinson & Kish, 2001; Stichler, 1995).

Collaboration in health care teams is the process by which interdependent professionals are structuring a collective action towards patients' care needs (D'Amour, 1997). This collaborative process is built on a voluntary basis and necessarily implies negotiation. It requires that the parties forego a competitive approach and adopt one based on collaboration, both between professionals and between health care institutions. Implementing this type of change is not a simple matter (D'Amour, 2002). In fact, developing collaborative practice among a group of health care professionals still represents a considerable challenge to political decision-makers as well as to organizational managers.

Even though changes to organizational structures are increasingly focused on the collaboration between professionals practicing in health care teams, the managers and political decision-makers implementing such reorganizations have very little empirical evidence identifying the characteristics of organizations that effectively encourage the development of collaborative relationships within interprofessional teams. Several elements determine how collaboration develops and is consolidated in health care teams. These elements are founded in the interpersonal relationships maintained among professionals in the team, the organizational context and the organization's external environment (D'Amour, Sicotte & Levy, 1999).

Under the framework used as a guide for this collective work (Interprofessional Education for Collaborative Patient-Centred Practice: An Evolving Framework), and found in this supplement, these determinants have been classified as *interactional factors* (interpersonal relationships between team members), *organizational factors* (conditions within the organization) and *systemic factors* (conditions outside the organization). The environment in which collaborative practice takes place is influenced by systemic factors. In a professional practice setting, two levels of determinants are at work: the organization (organizational factors) and the team (interactional factors). The collaboration dynamics are influenced by all the above determinants.

To our knowledge, very few studies have investigated the influence of systemic, organizational and interactional determinants on interprofessional collaboration. The vast majority of published work relies on a conceptual approach rather than on empirical data. This article explores the main characteristics of the determinants of interprofessional collaboration. First, for each of the categories (systemic, organizational and interactional), we propose a tabulated compilation of the determinants identified by empirical research and the main characteristics of these determinants as found in the conceptual work. In addition, we present a "showcase" of a recent Canadian policy initiative (The Canadian Health Transition Fund, 2000) intended to foster the development of innovative practices in different areas of the health care system. This will illustrate how the mobilization of these various categories of determinants can occur in real life.

This review is intended as a guide for professionals, managers and decision-makers who are developing and nurturing interprofessional collaboration.

Methods

Our literature search strategy involved using keywords such as "collaboration", "interprofessional team", "interdisciplinary team", "determinants" and "factors" to search the Medline, CINAHL and Sociological Abstracts databases for the period 1980–2003. Only empirical studies dealing explicitly with determinants of interprofessional collaboration

were retained. To be considered an empirical research report, the article had to bear on organizations attempts to implement collaborative practice and present data on determinants collected in practice settings. Studies of both designs using qualitative and quantitative data collection methods were considered.

A screening was applied to retain papers that presented data on determinants of interprofessional collaboration and to conduct an analysis of the methodology used, the settings, the conceptualization of collaboration and the identification of determinants. In addition, references were cross-checked with recent reviews on the topic (Schofield & Amodeo, 1999; Lockhart-Wood, 2000).

Results

(1) Conceptual and empirical studies on determinants of collaboration

The screening resulted in the identification of ten articles describing empirical studies of links between the determinants of collaboration. For each determinant we presented the main characteristics according to the conceptual work and to the empirical studies. Table I summarizes the characteristics of the empirical studies.

Systemic determinants. Systemic determinants are elements outside the organization, such as components of social, cultural, educational and professional systems. Table II presents research that explored the links between systemic determinants and collaboration, as well as their impact – whether positive or negative – on collaboration.

The social system. Social factors are the source of power differences that may exist between professionals in a team and these factors have an impact on how collaborative practice develops. In fact, equality between professionals, one of the basic characteristics of collaborative practice (Evans, 1994; Henneman, Lee & Cohen, 1995; King, 1990; Pike et al., 1993), is impeded when there are power differences based in gender stereotypes and disparate social status among the professionals in a team, and this constitutes an important barrier to interprofessional collaboration (Bradford, 1989; Krebs, Myers, Decker, Kinzler, Asfahani, & Jackson, 1996; Fagin, 1992; Hanson et al., 2000; Henneman et al., 1995; Lindeke & Block, 1998; Lockhart-Wood, 2000; Mariano, 1989; Pike et al., 1993; Reese & Sontang, 2001; Sweet & Norman, 1995; Walsh, Brabeck & Howard, 1999).

In this respect, a study conducted by Baggs and Schmitt (1997) in an intensive care unit found that nurses considered power disparity as one of the principal factors preventing their collaboration with physicians. The power imbalance that exists between nurses and physicians is also addressed in some of the studies considered in a review of the literature by Lockhart-Wood (2000). In addition, Prescott and Bowen (1985) found that a balance of power based in a non-demanding approach employed by nurses and a non-abusive approach taken by physicians is essential to collaboration between the two groups. Indeed, a study by Arslanian-Engoren (1995) revealed that establishing a collegial atmosphere, where nurses are considered equal partners with physicians, is critical if collaborative relationships are to be established.

The cultural system. Specific cultural values may also have an impact on the development of collaboration between professionals. According to Gage (1998) and Mariano (1989), some cultures may harbor deep cultural values that run counter to the spirit of collaboration. For instance, in health care teams, a strong cultural affinity for autonomy will tend to

Table I. Description of the characteristics of the empirical studies

	Method	Setting	Conceptualization of determinants	Conceptualization of collaboration
Alt-White, Charns, & Strayer, 1983	Correlation study	446 nurses from 46 patient care units (university teaching hospital)	Questionnaire: coordination mechanisms, communication process, organizational characteristics, demographic information	Questionnaire concerning the nurse-physician collaboration.
Arslianian-Engoren, 1995	Phenomenology	4 nurses Teams in hospital (reab. /oncology)	Individual interviews : Analysis of emerging themes to question “How is it like for nurses enacting their roles as clinical experts to experience collaboration ?”	Individual interviews
Baggs & Schmitt, 1997	Grounded theory	10 nurses & 10 physicians Intensive care Unit	“What preconditions are necessary for collaboration to take place ?”	“How can you tell when interactions between nurses and physicians are collaborative ?”
Borrill et al., 2002	Correlation study	113 teams/ 1443 individuals Primary health care teams, NHS	Questionnaire: team composition, team functioning, work roles, members well-being	Questionnaire: team effectiveness, team innovation, member turnover
D’Amour, Sicotte & Lévy, 1999	Case study, Grounded theory	Three teams in a community health centres (total of 26 professionals)	Individual interviews, non participant observation, documentation analysis: Collaboration context, design (roles; leadership), external environment, clinical processes, team climate.	
Hojat et al., 2001	Comparative study	Hospital based nurses and physicians in USA (639) and Mexico (437)	Sociocultural: country, age, sex	Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration
Liedtka & Whitten, 1998	Case study	12 hospital services reorganizing into a “line-centered” structure (35 physicians, 77nurses, 12 administrators)	Questionnaire: Interrelational, organizational, sociodemographic, determinants	Questionnaire: Overall perceived success; patient satisfaction, patient’s outcomes, efficiency, quality, innovation
Prescott & Bowen, 1985	Descriptive study (Part of a larger descriptive study)	15 short-term general hospitals: 125 staff nurses and 90 physicians	Individual semistructured interviews: the nature of physician-nurse relationship	
Sicotte, D’Amour, & Moreault, 2002	Correlation study	Survey of 150 Community health centres	Questionnaire: Characteristics of program managers, structural characteristics of the programs Intragroup processes	Questionnaire: Scale “Intensity of inter disciplinary collaboration” Care sharing activities
Silén-Lipponen, Turunen, & Tossavainen, 2002	Phenomenology	21 nurses in operating rooms	Individual interviews, “critical incident technique”	

Table II. Results of empirical studies: systemic determinants of interprofessional collaboration.

	Social system	Cultural system	Professional system	Educational system
Arslanian-Engoren, 1995 (Phenomenology)	Collegiality (+)		Understanding the practice of other professionals (+)	
Baggs & Schmitt, 1997 (Grounded theory)	Power differences (-)		Awareness and valorization of other professionals' contribution (+)	
D'Amour et al., 1999 (Case study, Grounded theory)			Fragmentation of care along professional jurisdictions (-)	
Hojat et al., 2001 (Comparative study)		Different perspectives on collaboration (-)		
Liedtka & Whitten, 1998 (Case study)			Different values, work styles and personality traits among the professions (-)	
Prescott & Bowen, 1985 (Descriptive study)	A nondemanding approach by the nurse and a nonabusive approach by the physician (+)			
Silén-Lipponen et al., 2002 (Phenomenological study)			Awareness of other professionals contribution (+)	
Sicotte et al., 2002 (Correlational study)			Adhesion to professional logics (-) Adhesion to collaboration logics (+)	

(+): fosters interprofessional collaboration; (-): hinders interprofessional collaboration.

foster and support individualism and specialization rather than collaborative practice (Mariano, 1989).

This difference was captured in a study by Hojat and colleagues (2001). This study on nurse-physician collaboration in the United States and Mexico highlighted how cultural differences between the two countries play a determinant role in how professionals perceive collaborative work.

The professional system. The professional system has a significant effect on the development of collaborative practice, because it promotes a perspective that is in direct opposition to the rationale for collaboration (D'Amour et al., 1999). In fact, the process of professionalization is characterized by the achievement of domination, autonomy and control, rather than collegiality and trust (Freidson, 1986). Therefore, whereas the development of collaborative practice depends on the mutual recognition by professionals of their interdependence as well

as the acceptance of “grey zones” where their respective contributions may overlap (D’Amour, 2001; Henneman et al., 1995; Hanson et al., 2000; Mariano, 1989; Stichler, 1995), the dynamics of professionalization lead to a differentiation of professionals and to territorial behaviors within the team (D’Amour, 1997; D’Amour et al., 1999).

Furthermore, during their entire professional socialization phase, health professionals are immersed in the philosophies, values and basic theoretical perspectives inherent to their respective professions (Clark, 1995, 1997). Such differences between the various professionals are potential sources of conflict and hinder the development of a true collaborative practice (Clark, 1995, 1997; Fagin, 1992; Hanson et al., 2000; Lindeke & Block, 1998; Mariano, 1998; Reese & Sontag, 2001; Walsh et al., 1999). On that front, Clark (1995, 1997) proposes new conceptual models of clinical practice that are client-centered and based on the concept of the “reflective practitioner.” The development of a reflective practice among professionals in a team fosters an understanding of the differences that exist between them (Clark, 1995, 1997; McKee, 2003).

Studies by D’Amour and colleagues (1999) and by Sicotte, D’Amour and Moreault (2002) of interprofessional teams in Québec community health centers have clearly shown the influence of professional systems on the development of collaboration. The study by D’Amour et al. (1999) identified the fragmentation of care – resulting directly from a tendency to maintain professional territories – as one of the factors hindering the development of collaborative relationships between professionals. Moreover, the study by Sicotte and colleagues (2002) demonstrates that adherence to a rationale for collaboration – rather than a rationale for professionalization – and social integration within groups encourage collaborative work.

The educational system. The literature presents the educational system as one of the main determinants of interprofessional collaborative practice, because it represents the principal lever for promoting collaborative values among future health care professionals.

Traditionally, candidates to health-related professions have been socialized with a strong professional identification that fell within the boundaries of their respective professions (Ivey, Brown, Teste & Silverman, 1987; Reese & Sontag, 2001; Walsh et al., 1999). Such socialization results in very limited knowledge of other professionals in the team. Members of each profession know very little of the practices, expertise, responsibilities, skills, values and theoretical perspectives of professionals in other disciplines. This is considered to be one of the main obstacles to collaborative practice in health care teams (Alpert et al., 1992; Bradford, 1989; Fagin, 1992; Hanson et al., 2000; Mariano, 1989; Reese & Sontag, 2001).

According to Glen (1999), there is a need for an educational system that helps students to recognize the values and responsibilities of their respective profession while instructing them in professional plurality. To that effect, several authors stress the need for interprofessional education programs (Fagin, 1992; Johnson, 1992; Lindeke & Block, 1998; MacIntosh & McCormack, 2001; Mariano, 1989; Satin, 1994; Walsh et al., 1999). Such an educational program should help students value professional pluralism and promote awareness, sharing and the integration of their knowledge and practices.

Some of the empirical studies also underscored how being familiar with, understanding and valuing the roles played by other professionals facilitate the development of interprofessional collaboration (Arslanian-Engoren, 1995; Baggs & Schmitt, 1997; Silén-Lipponen, Turunen & Tossavainen, 2002). Indeed, a study by Liedtka and Whitten (1998) of twelve interprofessional teams working in hospitals demonstrated how various values, work styles and personality of different professional groups hinder the development of collaborative relationships.

Organizational determinants

Interprofessional collaboration requires a favorable organizational setting. Organizational determinants therefore combine attributes of the organization that define the work environment of the team, such as its structure and philosophy, team resources and administrative support, as well as communication and coordination mechanisms. Table III lists the organizational determinants studied in seven studies on determinants. Some determinants, like organizational structure and philosophy, have been discussed but not studied as part of a formal study.

Organizational structure. Organizational structure has a strong influence on the development of collaborative practice in health care teams (Walsh et al., 1999). According to some authors, successful collaboration between health care professionals requires a shift from traditional hierarchical structures toward more horizontal structures (Henneman et al., 1995; King, 1990).

Table III. Results of empirical studies: organizational determinants of interprofessional collaboration.

	Organization structure	Organization's philosophy	Administrative support	Resource	Coordination mechanisms
Alt-White et al., 1983 (Correlational study)		Climate of openness and positive conflict management (+)		Physical proximity (+)	Standardization (work and skills) (+)
Baggs & Schmitt, 1997 (Grounded theory)				Space and time (+)	
Borrill et al., 2002 (Correlation study)			Leadership (+) lack of administrators (-)		Group discussions (+)
D'Amour et al., 1999 (Case study, Grounded theory)			Leadership (+)		Formalization (rules and protocols) (+)
Liedtka & Whitten, 1998 (Case study)			Realistic objectives (+)		
Prescott & Bowen, 1985 (Descriptive study)			Administrative leadership (+)	Small patient care units and primary nursing (+)	
Silén-Lipponen et al., 2002 (Phenomenology)		An approving atmosphere (+)			Division of work and common rules (+)
Sicotte et al., 2002 (Correlational study)					Formalization (+)

(+): fosters interprofessional collaboration; (-): hinders interprofessional collaboration.

In fact, traditional structures do not facilitate the emergence of key conditions for collaboration, such as shared decision-making or open and direct communication (Evans, 1994). On the contrary, decentralized and flexible structures stress the importance of teamwork and support shared decision-making, thus fostering collaborative practice (Evans, 1994; Feifer, Nocella, DeArtola, Rowden & Morrison, 2003). As far as we know, no empirical studies have yet been conducted in this area.

Organization's philosophy. According to the literature surveyed, the organization's philosophy and its inherent values also have an impact on the degree of collaboration. The organization's philosophy must support collaborative practice among professionals. For instance, a philosophy that values participation, fairness, freedom of expression and interdependence is essential for the development of collaboration within health care teams (Evans, 1994; Henneman et al., 1995). According to Stichler (1995), a climate of openness, risk-taking, integrity and trust fosters collaborative attitudes between professionals.

In this respect, work by Alt-White, Charns & Strayer (1983) and Silén-Lipponen et al. (2002) demonstrates how the work climate plays a determinant role in the development of collaboration between nurses and physicians.

Administrative support. The implementation of interprofessional collaboration requires administrative support (Johnson, 1992; Koerner, Cohen & Armstrong, 1986; Stichler, 1995). Indeed, the development of collaboration among team members is facilitated by having leaders who know how to convey the new vision of collaborative practice (Stichler, 1995), who motivate professionals to take up collaborative practice (Stichler, 1995; Swanson, 1997), and who are able to create an organizational setting that fosters collaboration (Evans, 1994; Henneman et al., 1995; Johnson, 1992).

Studies by Borrill et al. (2002), D'Amour et al. (1999) and Prescott and Bowen (1985) revealed the importance of leadership in the development of collaboration in interprofessional teams. The latter study also highlighted the negative effect of a lack of managers. Moreover, Liedtka and Whitten (1998) have also underscored the importance of managers establishing realistic objectives.

Team resources. One of the key conditions for a successful collaborative practice is the availability of time to interact and of spaces to meet. First of all, a strong collaborative relationship demands that enough time be available for the team professionals to share information, develop interpersonal relationships and address team issues (Mariano, 1998; Warren, Houston & Luquire, 1998). Furthermore, sharing space and working in physical proximity reduces professional territoriality and atavistic behaviors (Mariano, 1998) and facilitates collaboration, especially when conflicts arise (Lindeke & Block, 1998). It is therefore essential that the organization give consideration to providing time- and space-sharing opportunities to professionals working in the same team (Koerner et al., 1986; Lindeke & Block, 1998; Siegler & Whitney, 1994). Several authors emphasize the need for adequate financial investments in order to promote the development of collaborative practice (MacIntosh & McCormack, 2001; Mariano, 1989; Siegler & Whitney, 1994; Walsh et al., 1999).

Some empirical studies (Alt-White et al., 1983; Baggs & Schmitt, 1997) also determined that the physical proximity of professionals in the workplace and whether they had the time to meet is a factor in the development of collaboration. In this respect, Prescott and Bowen (1985) underscore how the nurse-physician relationship is better in small patient care units and in units that use primary nursing.

Coordination and communication mechanisms. The development of a collaborative practice requires appropriate coordination and communication mechanisms (Cabello, 2002; Evans, 1994; Koerner et al., 1986; Stichler, 1995; Way, Jones & Busing, 2000). Interprofessional collaboration can benefit, in particular, from the availability of standards, policies, and interprofessional protocols; unified and standardized documentation; and sessions, forums or formal meetings involving all team professionals (Cabello, 2002; Hanson et al., 2000; Henneman et al., 1995; Johnson, 1992; Koerner et al., 1986; Warren et al., 1998; Way & Jones, 1994).

In this respect, work by D'Amour et al. (1999), Sicotte et al. (2002) and Silén-Lipponen et al. (2002) has demonstrated the key role played by the formalization of rules and procedures on the development of collaboration between professionals. In the same vein, Alt-White et al. (1983) revealed the relationship between collaboration and the formalization of standardized skills and work. Borrill et al. (2002) put even greater emphasis on the role played by group discussions.

Table IV. Results of empirical studies: interactional determinants of interprofessional collaboration.

	Willingness to collaborate	Trust	Communication	Mutual respect
Alt-White et al., 1983 (Correlational study)		Professional experience (–)	Active communication (+)	
Arslanian-Engoren, 1995 (Phenomenology)		Presence (+)		Presence (+)
Baggs & Schmitt, 1997 (Grounded theory)	Openness to collaboration (+)	Presence (+)	Active listening open communication (+)	Presence (+)
Borrill et al., 2002 (Correlation study)	Clear objectives (+)			
D'Amour et al., 1999 (Case study. Grounded theory)	Common goals (+) Expectations from collaboration (+)	Firm trust (+)	Mutual knowledge (+)	Presence (+)
Liedtka & Whitten, 1998 (Case study)	Commitment (+) Common goals (+)	High degree (+)		
Prescott & Bowen, 1985 (Descriptive study)		Presence (+)	Open communication (+)	Presence (+)
Silén-Lipponen et al., 2002 (Phenomenology)		Professional experience → trust (+)	Active communication (+)	
Sicotte et al., 2002 (Correlational study)	Beliefs in the benefits of interdisciplinary collaboration (+)			

(+): fosters interprofessional collaboration. (–): hinders interprofessional collaboration.

Interactional determinants. Interactional determinants are components of interpersonal relationships among team members, such as their willingness to collaborate and the existence of mutual trust, respect and communication. Table IV shows that this category of determinants has received more attention than the organizational and the systemic determinants.

Willingness to collaborate. Although health care systems tend to make interprofessional collaboration mandatory by implementing structures and standards conducive to collaborative practice, collaboration is, by its very nature, voluntary (D'Amour et al., 1999). Therefore, in order to implement a collaborative practice, the professionals must be willing to commit to a collaborative process (Henneman et al., 1995; Stichler, 1995).

According to some researchers, group cohesion is one of the key indicators of the willingness of individuals to be part of a team (Cohen & Bailey, 1997; Evans & Dion, 1991; Stahelski & Tsukuda, 1990). For instance, according to Stahelski & Tsukuda (1990), the key indicator of cohesion is professional constancy in the group. The willingness of the team professionals to work collaboratively depends on factors such as professional education, previous experience in similar situations and personal maturity (Henneman et al., 1995).

In this regard, empirical studies have shown how being receptive to the idea of collaboration (Baggs & Schmitt, 1997) and the professionals' commitment to a collaborative project (Liedtka & Whitten, 1998) are essential elements in the development of collaboration. Other studies have shown the importance of factors related to willingness to work in collaboration, such as professional expectations about collaborative work (D'Amour et al., 1999), beliefs in the benefits associated with interprofessional collaboration (Sicotte et al., 2002), all the professionals sharing common objectives (D'Amour et al., 1999; Liedtka & Whitten, 1998; Sicotte et al., 2002) and whether they share clear objectives (Borril et al., 2002).

Trust. Most researchers classify trust as one of the key elements required for the development of collaborative practice (Alpert et al., 1992; D'Amour, 2002; Evans, 1994; Gage, 1998; Henneman et al., 1995; King, 1990; Pike et al., 1993; Siegler & Whitney, 1994; Stichler, 1995; Warren et al., 1998; Way et al., 2000). Building trust requires time, effort, patience and previous positive experiences (Henneman et al., 1995). According to Henneman (1995), self-confidence in one's role as a professional is essential, as well as displays of trust toward other professionals. At both levels of trust (confidence in one's own abilities and trusting others), researchers conclude that trust depends on competence – skills and knowledge – and on experience (Henneman et al., 1995; Johnson, 1992; Pike et al., 1993; Warren et al., 1998).

The empirical studies clearly demonstrate that professionals consider trust indispensable if they are to establish collaborative working relationships (Arslanian-Engoren, 1995; Baggs & Schmitt, 1997; D'Amour, 1997; Liedtka & Whitten, 1998; Prescott & Bowen, 1985). The work of Baggs and Schmitt (1997) Prescott and Bowen (1985) and Silén-Lipponen et al. (2002), found that in a collaborative situation, professionals place more trust in other professionals who are considered among the most experienced and competent. Alt-White and colleague (1983) found that, on the contrary, it was the nurses with more experience who were less inclined to collaborate with physicians.

Communication. According to the literature reviewed, communication is another interactional element that influences the degree of collaboration. For instance, the communication skills of professionals play a critical role in the development of collaborative relationships among team members (Burd, Cheung, Wong, Ying & Cheng, 2002; Evans, 1994; Fagin,

1992; Henneman et al., 1995; Koerner et al., 1986; Mariano, 1989; Siegler & Whitney, 1994; Way et al., 2000).

The literature suggests three main reasons why communication can be considered a key determinant of collaboration in health care teams. First, the development of collaborative practices demands that professionals understand how their work contributes to outcomes and to team objectives (Evans, 1994; Mariano 1989; Lindeke & Block, 1998) and know how to communicate the content of this contribution to other professionals (Johnson, 1992; Mariano, 1989). Second, efficient communication is essential, since it allows constructive negotiations with other professionals (Henneman, 1995; Mariano, 1989). Finally, communication is a vehicle for other determinants of collaboration, such as mutual respect, sharing or mutual trust (Henneman et al., 1995).

Several empirical studies examined the issue of communication and demonstrated the importance of open and active communication and active listening (Baggs & Schmitt, 1997; Prescott & Bowen, 1985; Silén-Lipponen et al., 2002), which make mutual knowledge possible among team professionals (D'Amour et al., 1999) and allow improvements to processes for sharing clinical information (Alt-White et al., 1983; D'Amour et al., 1999; Silén-Lipponen et al., 2002).

Mutual respect. Researchers consider mutual respect a determinant of collaboration. Mutual respect implies knowledge and recognition of the complementarity of the contributions of the various professionals in the team and of their interdependence (Bushnell & Dean, 1993; Evans, 1994; Gage, 1998; King, 1990; Mariano, 1989; Pike et al., 1993; Satin, 1994; Siegler & Whitney, 1994; Stichler, 1995; Way & Jones, 1994; Way, et al., 2000). Thus, lack of understanding, respect or appreciation of the contribution of other professionals constitutes a very real barrier to collaboration between health care professionals (Bradford, 1989; Stichler, 1995).

In this respect, studies conducted among health professionals have demonstrated that, in order to work well in a collaborative setting, professionals attach much importance to mutual respect (Arslanian-Engoren, 1995; Baggs & Schmitt, 1997; D'Amour et al., 1999; Prescott & Bowen, 1985).

(2) Case illustration: A recent Canadian policy initiative

No policy implementation analysis could be found that dealt specifically with interprofessional collaboration enhancement. However, the Canadian Health Transition Fund (HTF) initiative, active between 1997 and 2001, can be considered a broad undertaking to implement various health services restructuring policies at the local, regional and provincial or territorial levels. Several projects dealing with integrated care and primary care had an interprofessional collaboration dimension. Thus, three summary reports related to these projects were analyzed (Desbiens & Dagenais, 2002; Leatt, 2002; Mable & Marriott, 2002). We also took into consideration a review paper on primary care restructuring (Lamarche et al., 2003). These papers were screened for any data related to interprofessional collaboration and to which levers held the most promise. Primary care is the main focus of the analysis in these reports, but we believe our conclusions are applicable to other health care settings as well.

Among the primary care related projects sponsored by the HTF, 26 featured structural innovations related to interprofessional collaboration in an intra- or inter-organizational context. Several of these projects also established links between primary and secondary care professionals. Most of them also involved broadening the mandate of nurses (especially nurse practitioners) and of other professionals such as social workers and pharmacists. Of

the 41 projects dealing with integrated services, 14 dealt with models of clinical service integration for specific patient populations.

The authors of the three HTF project reviews believe that when collaboration is based solely on a partnership between service providers (micro-level), its success is limited. Local, regional (meso-level) and provincial or territorial (macro-level) stakeholders also have important roles to play.

Systemic determinants. Some projects required interventions to modify systemic determinants, such as budget allocations, professional compensation schemes or professional practice regulations, in order to fully implement the model. Lawmakers are the only people mandated to make such allocations. For instance, in Nova-Scotia, the provincial government agreed to modify the “Pharmacy Act” to allow nurse practitioners to write prescriptions. In other projects, existing laws had to be satisfied, and the implementation of new models was, for that reason, limited. Such considerations were particularly important in several projects dealing with collaborative practice. For example, three projects entailed moving to a capitation scheme for funding primary care services delivery as well as physician reimbursement. Professional associations and regional agencies did not permit such an accommodation, even in the limited scope of the demonstration project, thus jeopardizing the capacity of the projects to reach their full potential. The following macro-structural barriers were identified:

- Professional jurisdictional factors: some regulations must be reviewed to allow more flexible professional roles;
- Traditional resource-driven instead of objective-driven funding;
- Professional compensation. Especially for physicians, fee-for-service is a two-fold hindrance to collaboration, since time must be allocated to the team process and fee-for-service systems create a potential for competition in some areas and among some clienteles;
- The lack of clear policies governing professional practice in physician and nurse associations or licensing bodies;
- Medico-legal considerations may hinder true collaborative practice among professionals.

Organizational determinants. Concerning organizational factors which can be acted upon at the meso-level of local and regional administrations, the three reviews identified the importance of:

- Managerial leadership and expertise
- Human resource management (availability of qualified managers)
- The training of service providers
- Access to key structural levers: in particular, seed funding.

Interactional determinants. As far as health care teams are concerned, the following interactional factors, acting at the micro level, were identified as fostering collaboration:

- Collegial development of health care protocol or practice manuals prepared by concerned professionals selected at a project’s outset (experience, knowledge, shared unique skills)
- Clear definitions of team member roles in order to minimize duplication and to facilitate delegation
- Education on collective decision-making and team work

- Joint education of the concerned professionals during the entire restructuring phase has proven to be an important element of success in terms of attitudes about collaboration.

Discussion

Numerous elements determine the success of efforts to develop collaboration in health care teams and this indicates the complexity of this process. Indeed, collaboration requires structuring collective action out of interactions between different types of professionals, between these professionals and an organizational structure, as well as between these two elements and all the other surrounding structures (D'Amour, 1997). The success of initiatives to develop and consolidate collaborative practices in health care teams therefore depends on factors that are based in interpersonal processes (the interactional determinants), in processes inside the organization (the organizational determinants), as well as in the organization's external environment (the systemic determinants).

The present literature review shows that we do not currently possess much evidence of the influence of the determinants on collaboration. The interactional determinants have received more attention than the organizational and systemic determinants, and the latter, in particular, have received very little attention. It is as if group practices were being developed in isolation and with complete control over their environments, which is never the case. In addition to the general absence of empirical studies evaluating the impact of various factors on collaboration, some of the studies we have are limited in both their scope and in the methods employed. Furthermore, several of these studies limited the notion of collaboration to the relationship between two professionals: nurses and physicians.

The existing work on systemic factors does not provide an understanding of how they influence collaborative practice in health organizations, particularly with respect to cultural and social determinants. The "showcase" we presented demonstrates how important it is to reach a better understanding of how these systemic factors impact collaboration in teams. In very concrete terms, the Canadian HTF initiative demonstrates the key roles played by how budgets are attributed, how professions are regulated and how professionals are compensated. Indeed, a key role is also played by professional education programs, since collaborative practice requires the mastery of new competencies (skills, knowledge and attitudes).

Similarly, there is a significant lack of empirical evidence concerning the influence of organizational factors on the development of interprofessional collaboration, particularly structural factors and those related to organizational culture. We also need a better understanding of all the key characteristics of organizations that foster collaboration.

At this juncture, the lack of investigation into the structural elements of organizations stands as an important hurdle, given the many reorganizations that have been carried out in attempts to replace traditional models of care with models based, fundamentally, on interprofessional collaboration. The initiatives that have been analyzed show the importance of concrete aspects of organizations, such as the management of human resources and leadership. It is nevertheless difficult to know to what extent the support of effective organizational management would have assisted professionals in making successful implementations. In this respect, a study by Sicotte et al. (2002) is very promising, showing that organizational management of human resources has helped professionals structure their collaboration.

Finally, interactional determinants have received much more attention than organizational or systemic determinants. This additional attention has helped us understand the extent to which collaboration is essentially an interpersonal process that requires both willingness and skills to be successful. To successfully collaborate, individuals must be able to acquire a vision and to explicitly develop common goals.

Each of the three levels of determinants - the interactional determinants, the organizational determinants and the systemic determinants - are important and necessary if collaboration is to succeed, but they should not be treated separately. We not only need to better understand the influence of each determinant on collaboration; we also need a better understanding of the relationships between the interactional, organizational and systemic determinants affecting collaboration.

In this respect it is important to stress that all the Canadian HTF projects explored a combination of factors believed to be essential to the success of health care restructuring initiatives. Consequently (and the implications of this conclusion on health policies and research are important), the estimated impact of interprofessional practice and the implementation levers deemed to be “successful” should not be examined separately. The overview of the Canadian HTF experiences pleads in favor of adopting a systemic approach to evaluative research on the determinants of effective collaborative practice. In their synthesis of primary care models, Lamarche et al. (2003) came to similar conclusions. Although interprofessional practice is one of the ingredients of positive outcomes, it is not alone. The interprofessional team is one of a constellation of characteristics that includes service funding modalities, professional compensation, information systems and type of governance.

Conclusions

The results of this literature review can guide professionals, managers and decision-makers toward a better understanding of the key factors needed when embarking interprofessional collaboration initiatives.

Based on this review, collaboration is essentially an interpersonal process that requires the presence of a series of elements in the relationships between the professionals in a team. These include a willingness to collaborate, trust in each other, mutual respect and communication. Yet, even though the above conditions may be necessary, they are not sufficient, because in complex health care systems professionals cannot, on their own, create all the necessary conditions for success. Organizational determinants play a crucial role, especially in terms of human resource management capabilities and strong leadership.

We do not currently possess much evidence of the influence of these determinants on collaboration. Only a few studies have examined their relationships with collaboration; it is the interactional determinants that have received more attention. We need a better understanding of the relationships between the interactional, organizational and systemic determinants affecting collaboration, and, particularly at the organizational level, managers and decision-makers need to understand the key characteristics of organizations that foster collaboration.

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