

National Initiative for Telehealth Guidelines

**Environmental Scan of Organizational, Technology, Clinical
and Human Resource Issues**

**Section 6: Human Resources
Environmental Scan**

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HUMAN RESOURCES ENVIRONMENTAL SCAN
NATIONAL INITIATIVE FOR TELEHEALTH GUIDELINES

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6 Human Resources

Human resources (HR) refers to “the personnel requirements of the organization. Human resources may include staff, volunteers and independent practitioners” (CCHSA, 2001, p.10). HR activities are geared towards attracting, deploying, training, developing and supporting an efficient and effective workplace (Clardy, 1996). Written policies and procedures are the main tools by which human resources are managed.

The challenge for telehealth accreditation is to identify which HR policies and procedures require revision so as to include items/activities that are specific to telehealth or, to a lesser extent, require specific mention of telehealth in existing policies and procedures. In addition, telehealth HR issues need to be put in the larger context of the health care system.

Telehealth HR issues were selected for review based on a preliminary examination of the literature, conversations with telehealth experts and the cumulative experience of individuals involved in the NIFTE project. The main telehealth issues included:

- Hiring criteria
- Credentials, qualifications and competency
- Licensure and liability
- Roles and responsibilities, and job performance appraisal
- Education, orientation and training
- Reimbursement/remuneration
- Evaluation of needs and feedback to policies

The inter-related issues were explored to varying depths within each of the three components of the environmental scan – literature review, survey of stakeholders and interviews with telehealth experts. Methods and results from each component of the environmental scan are discussed in turn and synthesized in a final section titled “Summary and Conclusions – Human Resources Context.”

6.1 Review of Literature – Human Resources Context

The purpose of the literature review was to examine the scope of information available regarding human resources issues and telehealth. Existing knowledge and knowledge gaps were examined in the context of the development of a framework of pan-Canadian guidelines to be used by regulated health professionals, telehealth provider organizations and the Canadian Council on Health Services Accreditation (CCHSA).

6.1.1 Literature Review - Methodology

6.1.1.1 Review Approach

An extensive literature review was conducted. The literature search involved the following steps:

- Development of keywords and search strategies

- Review of the references sections of articles and books already in possession to identify potentially useful studies
- On-line searches of databases for potentially relevant articles
- Screening of abstracts to identify studies for further review;
- Review of references sections of selected articles, books and reports for additional potentially useful studies.

6.1.1.2 Search Strategy

6.1.1.2.1 Published Literature Sources

The following databases were searched using the strategy outlined below:

- Medline/Pubmed, CINAHL (Cumulative Index to Nursing and Allied Health Literature) and Academic Search Premier.

These databases were searched from 1990 to 2002 using the following search categories and relevant keywords.

1. (telehealth OR telemedicine OR teletriage OR telepsych* OR teleradiolog* OR telecardio* OR tele-emerg* OR teledermatol* OR telepatholog*)
2. (human resources OR human factors OR personnel OR manpower OR workforce OR professional OR leadership OR competence OR training OR education OR qualifications OR skills OR certification OR responsibilities OR orientation)
3. (standards OR guidelines OR policy)
4. (licensure OR reimbursement OR liability OR malpractice)
5. #1 AND #2 AND #3
6. # 1 AND #3 AND #4
7. #1 AND accreditation
8. #2 AND accreditation
9. The following search was conducted separately: “telephone triage” AND (standards OR guidelines OR protocols OR accreditation)

Due to the nature of the Telemedicine Information Exchange (TIE) search engine, the TIE Bibliographic Database was searched using a different strategy: Category keywords were searched individually (Table 6.1). Then Category 1 keywords were combined with Category 2, 3 and 4 keywords.

Table 6.1

Keywords Used to Search the Telemedicine Information Exchange

Category 1	Category 2	Category 3	Category 4	Category 5
Keywords	Keywords	Keywords	Keywords	Keywords
Human resources	Standard ^a	Policy/ies	Guideline	Reimbursement
Staff				Licensure
Responsibilities				Liability
Certification				Malpractice
Human factors				
Manpower				
Personnel				
Workforce				
Professional				
Leadership				
Competence				
Education				
Skills				

^a The TIE search engine will find all words that include ‘standard’ (e.g., standardization). Similarly for “guideline”.

6.1.1.2.2 World Wide Web Search Engines

The following key terms were used in combination with both “telehealth” and “telemedicine” to search Google (<http://www.google.ca>):

- Accreditation
- Human Resources, human factors, personnel, manpower, workforce, professional, leadership, competence, training, education, qualifications, skills, certification, responsibilities, orientation
- Guidelines, standards, policy
- Licensure, reimbursement, liability, malpractice

6.1.1.3 Results of the Literature Search

The field of telehealth and telemedicine has a modest number of citations in all three databases (Table 6.2). The number of these articles dealing explicitly with human resources (and similar keywords) and policy issues, such as standards, guidelines, licensure, reimbursement, etc., was minimal. The number of articles in the overlap ranged from 1 to 496 (search strategies 5-7 and 9). A search of the Telemedicine Information Exchange database, with over 12,100 references, yielded similar results (Table 6.3). Approximately 200 references were obtained and approximately 100 of these references were abstracted.

Table 6.2

Search Results From Medline, CINAHL and Academic Search Premier for 1990 - 2002

#	Category	Medline	CINAHL	ASP
1	telehealth OR telemedicine OR teletriage OR telepsych* OR teleradiolog* OR telecardio* OR tele-emerg* OR teledermatolog* OR telepatholog*	5,240	1,349	796
2	human resources OR human factors OR personnel OR manpower OR workforce OR professional OR leadership OR competence OR training OR education OR qualifications OR skills OR certification OR responsibilities OR orientation)	501,603	196,634	412,725
3	standards OR guidelines OR policy	282,513	69,889	245,292
4	licensure OR reimbursement OR liability OR malpractice	31,411	13,811	14,382
5	#1 AND #2 AND #3	496	137	6
6	#1 AND #3 AND #4	120	55	7
7	#1 AND accreditation	15	9	1
8	#2 AND accreditation	4,000	3,089	1,738
9	Telephone triage AND (standards OR guidelines OR protocols OR accreditation)	98	119	8

Table 6.3

Search Results from TIE for 1990-2002

Category 1		Category 2	Category 3	Category 4	Category 5
Keyword	No.	Count for 'standard' With Category 1 Keyword	Count for "Policy/policies" With Category 1 Keyword	Count for "Guideline" With Category 1 Keyword	(see below)
[none]		946	305	142	
Human resources	8	0	0	0	
Staff	293	21	12	4	
Responsibilities	28	2	2	3	
Certification	13	2	0	1	
Human factors	37	6	1	1	
Manpower	19	2	2	0	
Personnel	168	18	8	7	
Workforce	16	2	2	0	
Professional	542	58	39	15	
Leadership	27	2	3	1	
Competence	25	6	3	3	
Education	1,003	76	32	19	
Skills	124	13	3	3	
					Keyword ^a No.
					Reimbursement 260
					Licensure 167
					Liability 276
					Malpractice 78

^a Category 5 Keywords were not combined with Category 1 Keywords.

6.1.1.4 Review Categories

Information was extracted from the references and placed into the literature summary tool (see Section 6.6) which comprised:

- A full bibliographic citation
- Type of telehealth discussed in the report or article
- Study design (informed opinion, descriptive, quasi-comparative or comparative) (see Appendix 8.1 for details)

- Whether accreditation, standards or guidelines were explicitly discussed
- Key issues/findings

Key issues/findings specific to human resources were extracted for the following categories:

- Roles and Responsibilities
- Licensure
- Liability
- Competence, Training, Orientation and Performance Appraisal
- Reimbursement

Note that the literature summary was not a full abstract of the article but a synopsis of key human resource issues as they pertain to telehealth. The Summary of Recent Literature (next section) was based on most of these abstracted references.

6.1.2 Summary of Recent Literature

6.1.2.1 Roles and Responsibilities

It comes as no surprise that the implementation of telehealth has altered the duties (Aas, 2001; Jennett & Andruchuk, 2001), workload, (Jennett et al., 2000) and work environment for health personnel. In their evaluation of a telemedicine program in the United States, Whitten et al. (2001) found that telemedicine staff reported overlap of responsibilities as a problem in the program. Full-time equivalent workers reported that they spent a lot of time checking and rechecking scheduling details because they were unsure as to what had been completed by other staff members. Various qualitative investigations have revealed that telehealth nurses report involvement in a variety of roles such as administrator, (Horton, 1997) program manager, clinical coordinator, head nurse (Nelson & Schlacta, 1995) and site co-ordinator (Whitten et al., 2001). As well, telehealth nurses have indicated an increased scope of practice (Gerrard et al., 1999), changes in type of skills necessary in the workplace and modifications in work role boundaries between doctors and nurses (Aas, 2001).

Furthermore, staffing is not always increased upon implementation of a telehealth program. Rather, existing staff often take on new roles (Jennett et al., 2000). This was demonstrated in a survey of telemedicine staff in Norway (working in teledermatology, telepsychiatry, telepathology and tele-otolaryngology) which revealed that while 80% of the staff that were interviewed reported no staffing changes, employees indicated they had more mixed roles, performed more functions and the number and type of required skills increased (Aas, 2001). Only 2 of the 13 organizations in this study employed new people while others indicated that telemedical work was accomplished by changing job descriptions.

Jennett and Siedlecki (2001) contend that telehealth will result in role and responsibility changes for health care providers that may not be beneficial for them. In a short review, Maclean (1996) concluded that the burden upon telemedicine staff will be unavoidable due to the technological training they will require and new clinical activities they may be required to perform. Aas (2002b) revealed that 63% of professionals, working in various capacities in the fields of teledermatology, telepsychiatry, telepathology and tele-otolaryngology in Norway reported that technology had produced positive and negative changes in their job situation (e.g., less traveling). The individuals in Aas's study reported that telehealth could be tiring and stressful

and that full-time work in telemedicine consultations was not desired. Staff suggested that the session lengths and volume of telemedicine sessions per employee should be limited, with frequent breaks provided. Further, 33% said that more personnel would improve and enhance the functioning of the telemedical work.

New roles, responsibilities and job opportunities will be established with the growth of telemedicine (Nelson & Schlacta, 1995). However, a lack of literature makes the nature and extent of these changes unclear. Redefinition, clarification and planning are needed to accommodate the changes that telehealth care workers will experience (Gerrard et al., 1999; Horton, 1997; Jennett & Andruchuk, 2001).

Moreover, the development of position descriptions that are specific to individuals engaging in telehealth may facilitate ease of transition for health care practitioners wanting to engage in telehealth and may alleviate the stress for those currently involved in the area. Guidelines that outline roles and responsibilities for various telehealth personnel will be necessary to enable organizations to effectively manage and provide direction for personnel. Finally, additional research on existing telehealth programs is needed to further determine how telehealth changes the roles and responsibilities of various health care professionals.

6.1.2.2 Licensure and Liability Issues

6.1.2.2.1 Licensure

It is useful to distinguish cross-border licensure and telehealth-specific licensure issues. The cross-border licensure issue is the same as that which is encountered when licensed and regulated health care professionals (e.g., physicians, nurses, allied health professionals) wish to practise in different jurisdictions. In this situation, the health care professional has to be licensed in all jurisdictions where he/she wishes to practice. Licensure requirements might take the form of full licensure in every jurisdiction or might take the form of a full license in one jurisdiction and a pan-Canadian license, special license, mutual recognition, endorsement or practice under regulation in the other jurisdiction(s). The telehealth-specific licensure issue is the discussion that surrounds the following question: does a health care professional need a special license or permit or similar before he/she can practise telehealth in his/her own jurisdiction?

Licensure is the “formal process by which an official agency grants an individual the legal right to practise an occupation” (Pong & Hogenbirk, 1999, p. 4). In a review of current regulatory aspects of telemedicine in Canada, Carlisle (2000a) asserts that telemedicine activities that occur within provinces or territories should not require different regulation than those delivered through traditional means. However, there are concerns surrounding licensure for health care practitioners engaging in telemedicine outside of their province or country.

In a review of physician licensure and telehealth practice, Pong and Hogenbirk (1999) point out that qualifications and locus of accountability are two especially relevant issues. Particular jurisdictions may require different entry-into-practice requirements, thereby preventing the practise of telehealth in a jurisdiction with different qualification requirements. Further, in a situation where errors or negligence occur, to which jurisdiction is the practitioner accountable?

The Federation of Medical Licensing Authorities of Canada (FMLAC) has recommended to licensing authorities that a telemedicine service provided by a physician should be deemed to

occur at the patient's location and that the licensing or registration requirements of the jurisdiction in which their patient resides should be satisfied. As well, the term professional misconduct should include practising telemedicine in a jurisdiction where one has not obtained the necessary registration license or authority to do so.

In a recent Canadian conference presentation Carlisle (2000b) revealed that FMLAC's recommendations were accepted by all but three provinces: British Columbia, Nova Scotia and Quebec. He stated that it seems likely that many provinces will decide to "require full registration with full requirements and payment of full fees." At this point, each province and territory will determine the licensure and registration requirements needed for physicians from other provinces or territories wishing to practise telemedicine in their province or territory. Carlisle (2000b) concluded that further work would be done by FMLAC to establish interprovincial telemedicine credentials and standards.

The Canadian Nurses Association (2001) issued a statement about the role of the nurse in telepractice that included among other issues, direction with regards to locus of accountability and professional practice environments. The statement outlines "nurses engaged in telepractice are considered to be practising in the province/territory where they are located and currently registered, regardless of where the client is located" (p. 2). Nurses are bound by the professional practice standards, relevant legislation and practice guidelines of that province/territory. The statement also stipulates that a quality professional practice environment should include clinical guidelines, standardized protocols and agency policies and procedures that reduce risks related to liability.

Although some associations have acted to provide guidance to members, licensure requirements may create barriers to the inter-jurisdictional practise of telehealth. This is especially relevant in Canada because the provinces are responsible for licensing health care practitioners (Pong and Hogenbirk, 1999) and while FMLAC has made recommendations, it is ultimately up to the individual licensing authorities to decide the best course of action (Carlisle, 2000a). If an agreement among provinces/territories cannot be reached, the result could be that physicians would need to become fully licensed in the patient's province (Carlisle, 2000a). This approach would make it difficult and cumbersome for physicians to engage in cross-border telemedicine.

In the event of a telemedicine encounter, a physician may consult a physician from a different jurisdiction. At present, the recommendation is that the consulting physician should have licensure in both jurisdictions. Crolla (1998) reports, however, that because of licensing barriers "consultation exceptions" have been developed. This allows the consulting physician to provide advice without having a physician-patient relationship. While this exception avoids licensing issues, liability is still a concern because the law considers the substance of the transaction between the physician and patient, not licensure arrangements. Therefore, even if a consultation exception has been arranged, telehealth consultants could still be held liable in a negligent situation.

A number of options regarding licensure are reviewed by Pong and Hogenbirk (1999) including pan-Canadian licensure, special license, mutual recognition, endorsement and telehealth practice under regulation. While there are pros and cons to each option, the lack of policies has slowed the widespread implementation of telehealth. The advantage to a pan-Canadian approach to telehealth licensure is that it would facilitate and ensure the development of uniform standards of education and practice (Jacobson & Selvin, 2000).

It should be noted that much of the literature deals with licensure issues as they relate to physicians, nurses and selected allied health professionals. It seems reasonable, however, that these licensure concerns are applicable to many other health care professionals. It also seems likely that each health care profession will have unique licensure concerns or a unique emphasis on selected licensure issues.

International telehealth is another source of contention. In order to facilitate cross-border licensing, some researchers have suggested the creation of an international health personnel register that would offer licenses on an international basis (Nohr, 2000; Rigby et al., 2001) or the creation of national legislation (Nohr, 2000). However, it is recognized that it would be difficult to establish legislation that would be accepted by all nations (Nohr, 2000).

A related issue is credentialing -- the "institutional policies and procedures that determine whether a health care practitioner has the qualifications to be employed or be granted privilege to practise" (Pong & Hogenbirk, 1999, p. 11). The hospital or institution is typically responsible for outlining the qualifications that are necessary and it is currently unclear if a practitioner engaging in telehealth is required to gain privileges at both the site providing and the site receiving the consultation (Pong & Hogenbirk, 1999).

Issues that must be addressed are: How should licensure issues be managed? Should a pan-Canadian licensure, special licenses, mutual recognition, endorsement or telehealth practice under regulation be implemented? How should credentialing within institutions and hospitals be addressed? Do health care practitioners need to gain privileges at both the base institution and the institution receiving the consultation service? Finally, in the event of an error, to what jurisdiction/country is the practitioner accountable? Cross-border telemedicine must also be addressed.

6.1.2.2.2 Liability

Liability issues are a major barrier to the growth and development of telehealth (Ashley, 2002; Daley, 2000). Legal vagueness surrounding responsibility issues (Allaert & Dusserre, 1998), absence of legal precedents (Crolla, 1998; Edelstein, 1999), lack of an accepted legal definition of telemedicine and the fact that most medical laws were enacted before the implementation of telehealth (White, 2001) all contribute to the uncertainty surrounding liability in telehealth. In addition, legal relationships become complicated when groups of people (i.e., equipment vendors, grant providers) are involved in a telemedicine program (Edelstein, 1999) and when telemedicine is taking place across provincial or international borders (Schmitz, 1999).

Angaran (1999) contends that the criteria for medical malpractice should be the same, regardless of whether the care is provided by means of telehealth or face-to-face consultation, however he recognizes that jurisdiction is a major issue. Licensing agencies and associations have made suggestions regarding licensure between provinces, but the issue of locus of accountability has not been fully resolved. In addition, the location in which a patient files a malpractice suit is still unclear. That is, should the suit be filed within the patient's jurisdiction, or that of the practitioner (Angaran, 1999)?

The development of international standards for liability will be difficult to achieve (Tachakra et al., 1997). The FMLAC discussion groups concluded that there were presently no steps that could be taken to ensure professional accountability for the services rendered and consumed

internationally (Carlisle, 2000a). Therefore, at present, there are questions surrounding which country would have jurisdiction over cross-border services (Stanberry, 1998a,b).

In an information sheet by Beilby et al. (2000), circulated by the Canadian Medical Protective Association (CMPA), vicarious liability is discussed. It reports.... “physicians are vicariously responsible for any negligent act or omission of their employees that may cause prejudice to a patient.” Thus, technicians or any other employees responsible for operating and maintaining telehealth equipment would be included. In order to avoid liability concerns it may be necessary for physicians and institutions to keep detailed records about equipment maintenance to ensure that telehealth equipment is functioning properly (Crolla, 1998). Liability could also be an issue if the equipment used does not meet a minimum standard (Crolla, 1998). The CMPA recommends that physicians determine *a priori* the responsibility they will have for the technical aspects of any telehealth activities they engage in.

Robinson (1998), in a review of telehealth risks and liabilities in Canada, recommends that a Canada-wide interdisciplinary consensus has to be coordinated, including medical, legal, insurance and technology stakeholders, that would discuss the ways in which liability risks could be minimized. Robinson asserts that the government needs to support medical-legal academic research to identify barriers that exist in current legal principles and statutory provisions. Further, a framework of legal principles needs to be proposed for discussion (see Robinson, 1998 for further explanation of policy implementation strategies).

Although clinical and practice guidelines will not be discussed in this section, it should be noted that these types of guidelines may minimize the risk of liability for healthcare practitioners as the standards that the reasonable telehealth practitioner should meet (Crolla, 1998; Jennett & Siedlecki, 2001; Loane & Wootton, 2002) would be delineated.

Questions surrounding liability are perhaps some of the most complicated in telehealth and while existing medical negligence law could be ‘stretched to respond to these issues, there remains a large measure of uncertainty” (Crolla, 1998, p. 5). Crolla (1998, p. 5) reports the following as examples of some of the questions that must be considered:

- Who may be liable for injuries resulting from telehealth equipment failure? What if the physician does not fully understand the technical information provided? Who is liable?
- May a physician be vicariously liable for the technicians and personnel involved in providing medical services by way of telehealth?
- What liability arises for a missed diagnosis due to a technical equipment error?
- What information should be provided by the manufacturer or supplier to the physician?

As with licensure, the focus in the literature on telehealth liability issues has been on physicians, nurses and selected allied health professionals. A similar argument can be made that suggests that there are common liability issues, though each profession may have unique concerns.

6.1.2.3 Reimbursement

Re-numeration for telehealth services has the potential to be reasonably straightforward for health care professionals who are either waged/salaried or on alternative payment plans. The question as to whether it is fair and equitable compensation (a criterion on CCHSA’s human resources accreditation standards) is largely unanswered because of changes in workload and duties (Aas, 2001; Jennet & Andruchuk, 2001; Jennett et al., 2000). The issue of reimbursement is less well resolved for independent practitioners such as physicians,

psychologists or others. The relevance of reimbursement to human resource issues is based on the fact/assumption that unless fee-for-service practitioners are reimbursed for their telehealth services, most would not be involved in telehealth activities (Pong & Hogenbirk, 2000).

A survey of the status of fee-for-service reimbursement of physicians in Canada 1999/2000 found that three provinces (Alberta, Manitoba and Saskatchewan) reimbursed for a wide variety of telemedicine services. Nine provinces reimbursed only for selected services and one (Ontario) did not reimburse fee-for-service for any telemedicine services (Hogenbirk et al., 2001). In 1999/2000, nine jurisdictions insured telemedicine services for their residents who received telemedicine from other jurisdictions in Canada.

This is not just a Canadian problem. It is also a problem in the United States, Australia and elsewhere. These problems stem mostly from concerns about over-utilization, inability to contain costs and traditional requirements that practitioners need to see patients face-to-face before they are reimbursed (Pong & Hogenbirk, 2000).

6.1.2.4 Competency, Education and Training

Ensuring the competence level and appropriate training needs of employees is a major component of human resource management. While one would expect that the introduction of new technology would merit some type of additional education or training, Industry Canada (1998) has indicated that most health care workers have not been trained or educated for the new and expanded roles that the information age has produced. Crolla (1998) contends that inadequate training could provide a basis for liability in future telehealth interactions. This idea is supported by a study conducted by Nitzkin et al. (1997) that investigated patients examined in the conventional fashion versus those examined by telemedicine. Findings revealed that clinicians that did not have experience or knowledge of the limitations of the system missed clinically important findings. In a synthesis of telehealth-related Health Transition Fund projects, Pong (2002) has pointed out that inadequate staff training, among other things, could stymie the successful implementation of telehealth initiatives.

In Aas's (2002a) interviews of Norwegian telemedicine staff, it was revealed that 19 of the respondents received instruction on how to use telemedicine equipment but eight others had no training on the equipment and three others had learned by trial and error. Reisinger (1998) conducted an investigation of critical care nurses in telephone triage positions. The nurses working in teletriage indicated that they had no prior education or experience in teletriage. They thought it was difficult to learn and found the amount of information overwhelming. Based on her findings, Reisinger (1998) recommended the development of training curriculum and standards of practices so that the scope of practice and qualifications needed to perform teletriage will be clear across all types and levels of practice. The Ontario Telehealth Task Force (1999) made similar recommendations in their final report the Ontario Ministry of Health and Long-Term Care. Several provinces have teletriage services (Ontario, New Brunswick, British Columbia and Quebec) and have developed training programs. For example, Clinidata Corporation, a teletriage service provider, with operations in New Brunswick and Ontario, has an extensive training program to deal with these practice issues for teletriage nurses (Hogenbirk et al., 2002).

In the UK, nurses, general practitioners, medical consultants, service managers and researchers directly involved in a telemedicine site were interviewed. Many complained that the training was too technical and provided inadequate practical experience (Gerrard et al., 1999).

Interviews with 12 telehealth project coordinators across Canada revealed a need for technical support and further training as current training was reported to be sporadic (Jennett et al., 2000). Pong and Hogenbirk (1999) identified the need to ensure the technical competence of those using telehealth equipment while Reed et al. (2000) emphasize that the safe use of equipment by practitioners is an issue.

Blignault and Kennedy (1999) discussed findings from a review of Australian healthcare sites that used videoconferencing equipment. They reported that the minimum level of training that was to be provided by videoconferencing vendors did not always occur. They also stated that there was little, if any, videoconferencing training provided to health care practitioners.

Vidmar (1997) conducted an informal survey of several federal and non-federal telemedicine sites in the United States and found that formal training manuals were not always available. Similarly, Gerrard et al. (1999) found that technical support manuals and trouble-shooting guides were often not available to telehealth workers and were reported to be incomprehensible.

In an article focusing on the human aspects of technology and mental health care, Stamm and Perednia (2000) assert that staff need ongoing training about telehealth systems. For instance, training should include such things as how to dress most effectively for a camera and general etiquette. This is supported by Blignault and Kennedy (1999) who reported that telemedicine nurses felt self-conscious on camera and attributed it to a lack of training. Based on their research, Blignault and Kennedy (1999) concluded that training needs to be continual, relevant to equipment type, practical and tailored to the users. Further, Josey and Gutske (1999) recommend that in order to increase staff confidence, hands-on training should be provided. Researchers suggest that appropriate training and familiarity with telehealth equipment may help health care providers gain confidence (Lacroix et al., 2002) and become more accepting of the technology (Sjogren et al., 2001).

One difficulty is the lack of a curricular approach to telemedicine training and education at the undergraduate and graduate level (Angaran, 1999; Williams, 2000). Yellowlees (1997) argues that the need for formal and extensive training programs will become more evident as telemedicine grows. However, owing to the complexity of the technology in telehealth, there is an urgent need for organized training and education in telehealth (Picot & Craddock, 2000). Certification courses, training programs, workshops and ongoing situational teaching are needed (Jennett et al., 2000; Picot, 2000; Tachakra et al., 1997). This is especially relevant when one considers that the learning curve for telemedicine has been reported to be steep (Tachakra et al., 1997; Johnston et al., 2000; Wheeler, 1998). An international group reviewing telehealth has recommended that “professional education programs should incorporate telemedicine into the curriculum” (Lacroix et al., 2002, p.152). Similarly, The World Medical Association (1999) concluded that telemedicine training should be a part of basic and continued medical education. Further, in a review of the telehealth industry in Canada, Picot and Craddock (2000) recommended that Industry Canada encourage the development and implementation of courses in telehealth, particularly because it seems that specialists and practitioners are learning on the job.

Feedback and evaluation are equally important. As Josey and Gutske (1999) point out, evaluating staff allows for the early detection of misinformation that may have been received in the training and education period. Ongoing training, feedback from, and evaluation of telehealth personnel is critical to maintaining quality of care to patients.

Many health professions have not developed performance standards and general guidelines about competence requirements for professionals working in telehealth (Picot, 2000). For the purpose of this review, the websites of a number of Canadian organizations were searched (via the internet) to determine the existence and extent of any such information.

In their 2001 position statement about the role of the nurse in telepractice, the Canadian Nurses Association indicated that specialized nursing knowledge (i.e., strong clinical knowledge) and skills are required for a nurse to provide a service without face-to-face contact and nurses must be competent with respect to the technology being used.

The Canadian Association of Radiologists (CAR) has developed standards and guidelines for teleradiology that discusses, among other issues, competence. The CAR position is that physicians should be Diagnostic Radiologists and have a fellowship or Certification in Diagnostic Radiology with the Royal College of Physicians and Surgeons of Canada and/or the Collège des médecins du Québec. As well, CAR stipulates that until the topic of necessary skills is addressed, training is the responsibility of the operating site and the supervising physician (Mowbray et al., 1999).

The World Medical Association (1999) issued a statement about accountability, responsibilities and ethical guidelines in the practice of telemedicine. The statement includes a section on “Authorization and competence in practicing telemedicine” stipulating that the physician must ensure that allied health professionals involved in telemedicine are trained and competent. Physicians are obligated to not participate if they lack knowledge or competence or information about the patient. The World Medical Association recommended that other national medical associations should be encouraged to endorse training and assessment programs for telemedicine, develop practice guidelines to train physicians and allied health professionals and create standard protocols to guide practitioners so as to cover issues such as liability.

Another issue to be addressed is the competence and accountability of technicians involved in telehealth consultations. Iserson (2000) proposed a “Telemedicine Practitioner’s Oath” that stated that as a telemedicine practitioner, one should commit to ensuring “that all personnel, including non-physician providers and technicians, are adequately supervised and have the competence and qualifications to work in a telemedicine system” (p. 405). Further research is needed to determine any specialized skills required by technicians involved in telehealth.

The success of a program may depend on the careful training of staff involved in telehealth (Beard et al., 1993; Yellowlees & Kennedy, 1996) but the type and extent of training needed by individuals working in telehealth is unclear due in part to a lack of studies and documentation. This is especially true in Canada, where only one study (Jennett et al., 2000) could be found that addressed the training and skills of individuals working in telehealth.

Moreover, while there were a few reported findings regarding the training, education and qualifications of individuals working in telehealth, an objective evaluation of actual skill level was not undertaken in any of the studies reviewed. For this reason, the actual level and degree of education and training required to work in various types of telehealth is not explicit and the competence and qualifications of those currently working in telehealth may be questioned. Reed et al. (2000) report that training, accreditation, licensing and continuing education requirements, as well as licensing exams for telehealth, are all mechanisms to ensure competence.

6.2 Stakeholder Survey – Human Resources Context

6.2.1 Survey Methods

The objective was to survey individuals listed in the Telehealth Stakeholders Database¹ to determine the presence or absence of human resources (HR) policies and procedures related to the provision or receipt of telehealth services. The survey was conducted by means of a five-part questionnaire (General, Organizational, Technical, Clinical and Human Resources) that was mailed to every individual listed in the Telehealth Stakeholder Database. The HR section was piloted tested in May 2002, by two HR administrators working in hospitals with active telehealth programs. Minor changes were made to the wording of some questions and the appearance of the questionnaire. Details of the survey methodology are presented in Appendix 8.2. Survey methodology and tools (cover letter and HR questionnaire) were approved by Laurentian University's Research Ethics Board.

The HR section in the questionnaire asked whether or not there were policies or procedures in place in relation to the following items for people engaging in telehealth:

- scope of practice and position descriptions
- qualifications required prior to engaging in telehealth
- orientation and on-the-job training
- assessment of on-the-job skills and knowledge
- reimbursement and licensure status
- feedback to human resource policies and procedures

It is important to note that there had to be direct reference to telehealth activities in each of the above items. For instance, a scope of practice description had to include specific mention of telehealth activities. Demographic data about the respondent and information about the respondent's organization were obtained from the general section of the questionnaire.

6.2.2 Survey Results

6.2.2.1 Response Rate and Respondent Characteristics

Questionnaires were mailed to 230 individuals listed in the Telehealth Stakeholder Database. A total of 147 valid and complete questionnaires were received for an overall response rate of 64%. Seven improperly completed questionnaires were discarded. The following results are from the 76 respondents who had completed the HR section.

Approximately 69% of respondents to the HR section believed that telehealth services should be accredited through a pan-Canadian program, while another 20% were unsure. About 37% of the respondents were nurses and 34% were administrators (Table 6.4). Most respondents were working in organizations located in Ontario (34%), Alberta (15%) or Nova Scotia (15%) (Table 6.5). Typically, each province/territory was represented by one telehealth network. The exceptions were Alberta, Ontario and Nova Scotia with responses from personnel affiliated with 2-5 telehealth networks in each province. Individuals affiliated with the same network were located at different sites in the network and thus responses were not necessarily similar for all

¹ The Telehealth Stakeholders database was established and maintained by the NIFTE Secretariat.

questions. Respondents reported that approximately 96% of the organizations provide telehealth services, 78% receive telehealth services and 74% provide and receive telehealth services (Table 6.6).

Table 6.4

HR Respondent's Current Profession

Profession	Count
Nurse	28 (37% ^a)
Administrator	26 (34%)
Physician	8 (11%)
Allied Health Professional	7 (9%)
Other	6 (8%)
Subtotal	75 (100%)
Missing	1
Total	76

^a Percent of subtotal

Table 6.5

Province of HR Respondent's Organization

Province	Count
Alberta	13 (18% ^a)
British Columbia	7 (10%)
Manitoba	6 (8%)
New Brunswick	5 (7%)
Northwest Territories	1 (1%)
Nova Scotia	11 (15%)
Nunavut	1 (1%)
Ontario	25 (34%)
Quebec	1 (1%)
Saskatchewan	3 (4%)
Subtotal	73 (100%)
Missing	3
Total	76

^a Percent of subtotal

Table 6.6

Cross Tabulation of Organizations That Provide and/or Receive Telehealth Services

Provide Telehealth Services?	Receive Telehealth Services?			Total
	Yes	No	Uncertain	
Yes	56 (74% ^a)	13 (17%)	4 (5%)	73 (96%)
No	1 (1%)	0 (0%)	0 (0%)	1 (1%)
Uncertain	2 (3%)	0 (0%)	0 (0%)	2 (3%)
Total	59 (78%)	13 (17%)	4 (5%)	76 (100%)

^a Percent of Grand Total (n=76)

6.2.2.2 Personnel Involved in Telehealth

Over 80% of the organizations had specialists, nurses, telehealth coordinators and/or technicians involved in telehealth activities (Table 6.7). Family physicians/general practitioners (FP/GP) were involved in telehealth at approximately 63% of the organizations. Ninety percent of the organizations had other personnel involved; about half of these personnel were allied health professionals such as physiotherapists, occupational therapists, social/community workers, dieticians and speech pathologists and about one-quarter to one-third were administrative personnel (e.g., secretarial staff, managers).

Table 6.7

Number of Organizations with Various Other Personnel Involved in Telehealth

	FP/GP	Specialists	Nurses	Telehealth Coordinators	Technicians	Others
Yes	48 (63% ^a)	64 (85%)	59 (80%)	65 (86%)	58 (81%)	43 (90%)
No	27 (36%)	10 (13%)	14 (19%)	10 (13%)	12 (17%)	5 (10%)
Uncertain	1 (1%)	1 (1%)	1 (1%)	1 (1%)	2 (3%)	0 (0%)
Subtotal	76 (100%)	75 (100%)	74 (100%)	76 (100%)	72 (100%)	48 (100%)
Missing	0	1	2	0	4	28
Total	76	76	76	76	76	76

^a Percent of subtotal

Two-thirds of the organizations had telehealth-specific position descriptions for telehealth coordinators, whereas a minority of the organizations had these descriptions for technicians (30%) or nurses (22%) (Table 6.8). Allied health professionals and telehealth managers/facilitators/evaluators were among the “other” personnel who had telehealth-specific position descriptions. Physicians (specialists and FP/GP) were less likely to have telehealth-specific position descriptions. About three-quarters of those organizations with telehealth-specific position descriptions expressed a willingness to share their descriptions with the NIFTE team.

Table 6.8

Number of Organizations with Telehealth-Specific Position Descriptions for Personnel Involved in Telehealth

	FP/GP	Specialists	Nurses	Telehealth Coordinators	Technicians	Others
Yes	5 (9% ^a)	2 (3%)	14 (22%)	45 (67%)	19 (30%)	18 (32%)
In Development	2 (4%)	1 (2%)	2 (3%)	2 (3%)	4 (6%)	6 (11%)
No	45 (83%)	57 (90%)	45 (69%)	18 (27%)	32 (51%)	30 (53%)
Uncertain	2 (4%)	3 (5%)	4 (6%)	2 (3%)	8 (13%)	3 (5%)
Subtotal	54 (100%)	63 (100%)	65 (100%)	67 (100%)	63 (100%)	57 (100%)
Not Applicable	14	5	6	4	8	0
Missing	8	8	5	5	5	19
Total	76	76	76	76	76	76

^a Percent of subtotal

6.2.2.3 Telehealth Policies and Human Resource Plans

Respondents reported that about two-thirds of the organizations had telehealth-specific policies in place (Table 6.9). About 36% of the organizations had telehealth-specific policies directly related to HR issues (Table 6.9). The next set of questions asked about the presence of a HR plan and whether or not this plan addressed telehealth issues. Approximately three-quarters of the organizations had a HR plan or were developing such a plan (Table 6.10). About 37% of the organizations had or were developing a HR plan that addressed telehealth issues (Table 6.10).

Table 6.9

Health Service Organization with Telehealth Polices and with Telehealth-Specific Human Resource Policies

Telehealth Policies?	Telehealth-Specific Human Resource Policies?			Total
	Yes	No	Not Applicable	
Yes	27 (36% ^a)	24 (32%)	0 (0%)	51 (67%)
No	0 (0%)	0 (0%)	18 (24%)	18 (24%)
Uncertain	1 (1%)	1 (1%)	5 (7%)	7 (9%)
Total	28 (37%)	25 (33%)	23 (30%)	76 (100%)

^a Percent of Grand Total (n=76)

Table 6.10

Health Service Organization with a Human Resource (HR) Plan and with a HR Plan that Addresses Telehealth Issues

HR Plan?	HR Plan Addresses Telehealth Issues?					Total
	Yes	In Development	No	Uncertain	Not Applicable	
Yes	12 (16% ^a)	12 (16%)	15 (20%)	7 (9%)	0 (0%)	46 (61%)
In Development	2 (3%)	4 (5%)	4 (5%)	0 (0%)	0 (0%)	10 (13%)
No	0 (0%)	0 (0%)	4 (5%)	0 (0%)	8 (11%)	12 (16%)
Uncertain	0 (0%)	0 (0%)	0 (0%)	3 (4%)	4 (5%)	7 (9%)
Total	14 (19%)	16 (21%)	23 (31%)	10 (13%)	12 (16%)	75 (100%)

^a Percent of Grand Total (n=75, one respondent did not answer either question)

Approximately 18% of the organizations had policies in place that addressed scope of practice for individuals engaging in telehealth and another 24% of the organizations were in the process of developing these policies (Table 6.11). More organizations (42%) had policies in place to address telehealth-related licensure, registration or certifications (Table 6.11). In 13% of the organizations, these policies on licensure, registration or certification were in development.

Table 6.11

Number of Organizations with Policies that are in Place in Relation to Scope of Practice, or Licensure/Registration/Certification

	Scope of Practice	Licensure/Registration/Certification
Yes	13 (18% ^a)	30 (42%)
In Development	18 (24%)	9 (13%)
No	35 (47%)	30 (42%)
Uncertain	8 (11%)	2 (3%)
Not Applicable	0 (0%)	1 (1%)
Subtotal	74 (100%)	72 (100%)
Missing	2	4
Total	76	76

^a Percent of subtotal

About 30-35% of the organizations that responded to the HR section of the questionnaire had conducted or were planning to conduct a needs assessment to determine the number of individuals required to provide telehealth services (Table 6.12).

Table 6.12

Number of Organizations that have Conducted or were Planning to Conduct Needs Assessment to Determine the Number of Individuals Required to Provide Telehealth Services

	Conducted Needs Assessment	Planning to Conduct Needs Assessment
Yes	22 (30% ^a)	25 (35%)
In Development	5 (7%)	10 (14%)
No	41 (55%)	23 (32%)
Uncertain	6 (8%)	14 (19%)
Subtotal	74 (100%)	72 (100%)
Missing	2	4
Total	76	76

^a Percent of subtotal

6.2.2.4 Telehealth-Specific Qualifications

Most organizations did not require telehealth-specific qualifications prior to being hired or reassigned to telehealth duties (Table 6.13). This is not surprising given that there are few formal educational opportunities in telehealth in Canada. Approximately 44% of the organizations had requirements for telehealth coordinators and 33% of the organizations had requirements for technicians. Note, however, that in the comments written in response to this question, many organizations allowed personnel to achieve these qualifications through training sessions given prior to, or in the early stages of the individual engaging in telehealth activities. Approximately 54% of 67 the organizations had a training and development plan in place for individuals who were hired or transferred to conduct telehealth while another 15% were in the process of developing these plans.

Table 6.13

Number of Organizations Where Personnel Need Telehealth-Specific Qualifications Prior to Being Hired

	FP/GP	Specialists	Nurses	Telehealth Coordinators	Technicians	Others
Yes	6 (12% ^a)	9 (16%)	11 (18%)	28 (44%)	19 (33%)	8 (16%)
No	43 (84%)	44 (80%)	49 (79%)	29 (46%)	30 (52%)	39 (80%)
Uncertain	2 (4%)	2 (4%)	2 (3%)	6 (10%)	9 (16%)	2 (4%)
Subtotal	51 (100%)	55 (100%)	62 (100%)	63 (100%)	58 (100%)	49 (100%)
Not Applicable	21	15	9	8	12	1
Missing	4	6	5	5	6	26
Total	76	76	76	76	76	76

^a Percent of subtotal

6.2.2.5 Orientation and Training ²

Approximately 69% of the 61 organizations that responded had a telehealth-specific orientation process. Over 80% of the organizations that provided orientation included telehealth-related instruction in policies and procedures, roles and responsibilities, confidentiality/privacy, safe use of equipment and trouble-shooting (Table 6.14). Approximately 69% of those organizations with an orientation process provided telehealth-related information on the clinical or technical limitations of the equipment. Other components included an overview of the history of the telehealth program and available services.

Table 6.14

Number of Organizations with an Orientation that Provides Telehealth-Related Instruction

	Policy/ Procedures	Roles and Respon- sibilities	Confident- iality/ Privacy	Safe Use of Equipment	Trouble Shooting	Limitations of Equipment	Other Components
Yes	45 (82% ^a)	47 (85%)	45 (82%)	44 (80%)	47 (85%)	38 (69%)	11 (20%)
No	10 (18%)	8 (15%)	10 (18%)	11 (20%)	8 (15%)	17 (31%)	44 (80%)
Subtotal	55 (100%)	55 (100%)	55 (100%)	55 (100%)	55 (100%)	55 (100%)	55 (100%)
Not Applicable	19	19	19	19	19	19	19
Missing	2	2	2	2	2	2	2
Total	76	76	76	76	76	76	76

^a Percent of subtotal

² Orientation, pre-job training and on-the-job training are considered here as a continuum of training opportunities. Orientation is defined here as activities that provide a general introduction to the telehealth program. Orientation might include a brief history of the telehealth program, its fit within the organization and general caveats about telehealth issues (e.g., consent/privacy/confidentiality, licensure/liability and reimbursement). Training sessions typically provide the details of the telehealth equipment and operation and include equipment set-up and hands-on activities. Respondents typically combined the description/discussion of orientation with the early training of newly assigned personnel.

Approximately 24% of the 72 organizations that responded had a process to determine the telehealth-related training needs of individuals and another 24% were in the midst of developing such a process. About two-thirds of 45 organizations provided telehealth-related education and training, while another 16% were developing these programs.

The majority of the 42 organizations that provided training/education did so as on-the-job training (Table 6.15). Training provided by the equipment/software vendor or demonstrations were used by 71-76% of the organizations. Between 57-64% of the organizations also employed other modes of training/education such as mentoring, formal training programs, workshops and conferences.

Approximately 63% of 75 the organizations conducted formal job performance evaluations and another 11% were developing job evaluations. Approximately 29% of the 55 organizations assessed telehealth-related abilities as part of the job performance evaluation and another 18% were in the process of developing these assessment processes.

Table 6.15

Number of Modes of Telehealth-Related Training/Education Programs Provided by Organizations

	On the job training	Mentoring	Formal training program	Workshops	Conferences	Demonstrations	Training by vendor	Other modes
Yes	39 (93% ^a)	27 (64%)	26 (62%)	25 (60%)	24 (57%)	30 (71%)	32 (76%)	4 (10%)
No	3 (7%)	15 (36%)	16 (38%)	17 (40%)	18 (43%)	12 (29%)	10 (24%)	37 (90%)
Subtotal	42 (100%)	42 (100%)	42 (100%)	42 (100%)	42 (100%)	42 (100%)	42 (100%)	41 (100%)
Not Applicable	33	33	33	33	33	33	33	33
Missing	1	1	1	1	1	1	1	2
Total	76	76	76	76	76	76	76	76

^a Percent of subtotal

There are few formal education/training opportunities in Canada.³ Thus, it is not surprising that many organizations did not require much in the way of formal telehealth-related education prior to individuals being hired or reassigned to telehealth duties. Instead, the organizations themselves provided orientation and on-the-job training to personnel prior to, and in the early stages of telehealth activities. Additional training was provided to telehealth personnel as the need arose.

³ Some telehealth-specific education includes Centennial College's nursing telepractice certificate, Royal Ottawa Hospital and Novatech Computer Careers' telehealth technician program and the University of Calgary's telehealth/e-health research and training program. Other Canadian colleges and universities are offering certificates, diplomas or degrees in telehealth-related areas such as health informatics.

6.2.2.6 Feedback from Personnel

Approximately 70% of the organizations had a mechanism to solicit and encourage feedback from telehealth personnel on their comfort in using telehealth equipment and their satisfaction with telehealth activities (Table 6.16). Half of the organizations solicited and encouraged feedback on telehealth-specific orientation and training, while approximately 36% of the organizations solicited and encouraged feedback on human resources issues related specifically to telehealth activities.

Table 6.16

Number of Organizations With a Mechanism to Solicit and Encourage Feedback From Personnel on Telehealth-Related Activities

	Comfort in Using Telehealth Equipment	Satisfaction With Telehealth Activities	Satisfaction With Telehealth-Specific Training	Satisfaction With Telehealth- Specific Human Resource Activities
Yes	50 (71% ^a)	49 (70%)	35 (50%)	25 (36%)
In Development	7 (10%)	9 (13%)	8 (11%)	6 (9%)
No	11 (16%)	9 (13%)	22 (31%)	28 (41%)
Uncertain	2 (3%)	3 (4%)	5 (7%)	10 (14%)
Subtotal	70 (100%)	70 (100%)	70 (100%)	69 (100%)
Missing	6	6	6	7
Total	76	76	76	76

^a Percent of subtotal

6.2.2.7 Competency of Personnel at Other Organizations

This question is illustrated with the following example. Consider a tertiary care hospital (hub site) that is setting up a telehealth network with rural or remote centres (spoke sites). In this situation, the patient will typically be at the remote centre and this remote centre, more often than not, is administered separately from the hub. The majority of the organizations did not have policies or procedures to ensure the competency of individuals at other organizations,⁴ regardless of whether or not the other organization was located in the same provincial/territorial jurisdiction (Table 6.17). It is interesting to note that the percentage of those respondents who were uncertain was equal to or greater than the percentage who had policies and procedures in place to ensure the competency of telehealth personnel at other organizations. Also worth noting is that only a few of the organizations were developing these policies.

Table 6.17

Number of Organizations with Policies or Procedures to Ensure the Competence of Personnel Located Inside or Outside of the Provincial/Territorial Jurisdiction or Outside of Canada

	Inside the Provincial/Territorial Jurisdiction	Outside the Provincial/Territorial Jurisdiction (Across Canadian Jurisdictions)	Outside of Canada
Yes	18 (26% ^a)	9 (14%)	0 (0%)
In Development	5 (7%)	3 (5%)	0 (0%)
No	29 (41%)	29 (46%)	33 (58%)
Uncertain	18 (26%)	22 (35%)	24 (42%)
Subtotal	70 (100%)	63 (100%)	57 (100%)
Not Applicable	1	0	0
Missing	5	13	19
Total	76	76	76

^a Percent of subtotal

⁴ Other organizations were defined as those that were linked in terms of telehealth activities, but were administered/managed separately from the respondent's organization.

6.2.2.8 Reimbursement for Telehealth Services

Forty-one of the 61 respondents⁵ answered the question as to how FP/GPs were reimbursed for telehealth services when the FP/GP was in the same provincial/territorial (p/t) jurisdiction as was the organization providing/receiving telehealth services. Respondents chose between one and three modes of reimbursement: the most commonly chosen mode was fee-for-service (36%) followed by salaried (26%) and sessional fee (21%) (Fig. 6.1). Respondents were located in four to eight different provinces/territories, so there does not appear to be a provincial/territorial difference in the results for fee-for-service, salaried or sessional fee modes of reimbursement. In contrast, most of the respondents who chose “other” mode were from Ontario where fee-for-service reimbursement of telehealth services is extremely rare.

Only 11 of the 61 respondents indicated a mode of reimbursement for FP/GPs who were located in another p/t jurisdiction. The most commonly chosen modes for reimbursement outside the jurisdiction were the same as for reimbursement inside the jurisdiction, but were chosen less often: fee-for-service (15%), salaried (5%) and sessional fee (5%) (Fig. 6.1).

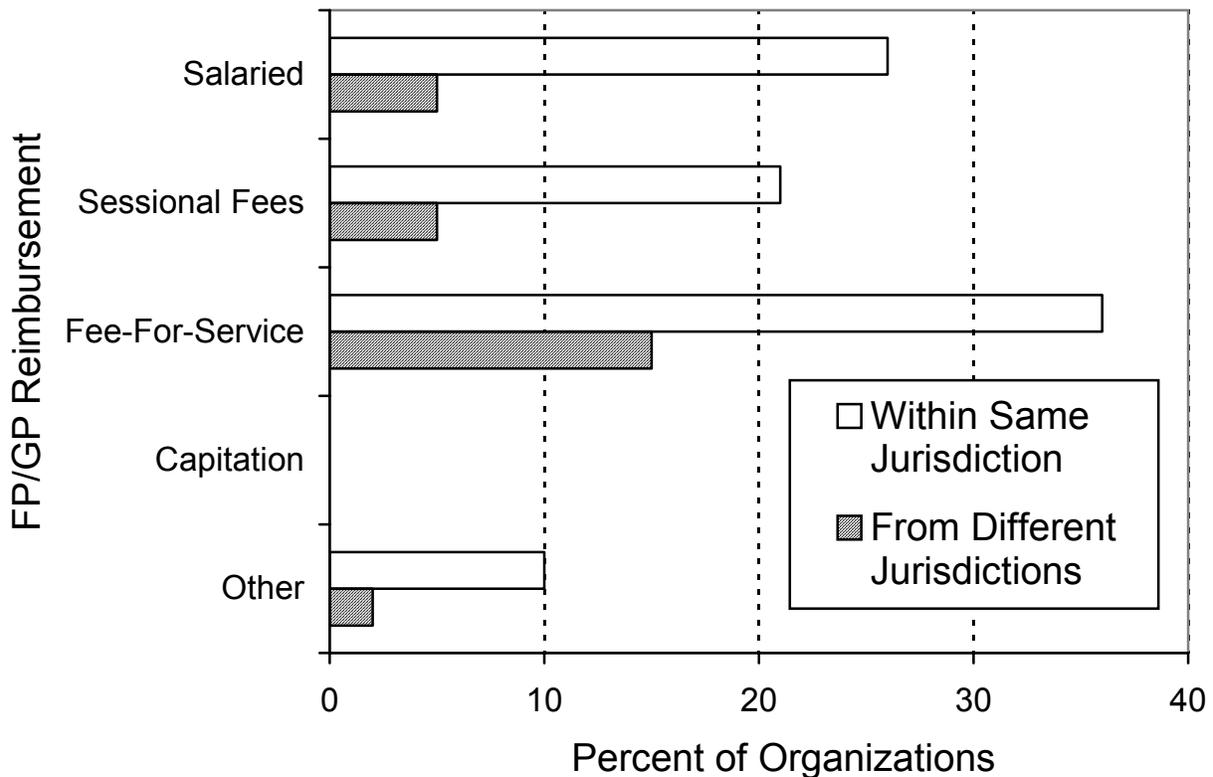


Figure 6.1. Percent of organizations (n=61) where family physicians/general practitioners (FP/GP) are reimbursed for telehealth services by mode of reimbursement and jurisdiction.

⁵ Sixty-one of the 76 respondents provided at least one answer to this question about reimbursement mode for personnel type (FP/GP, specialist or other) by jurisdiction (inside or outside).

Forty-nine of the 61 respondents indicated one to four modes by which specialists were reimbursed for telehealth services when the specialist was located in the same p/t jurisdiction as the organization. The most frequently selected modes were: fee-for-service (39%), salaried (36%) and sessional (27%) (Fig. 6.2). Again, there are no indications of provincial/territorial differences as these items were chosen by respondents in 4-8 provinces/territories. As was the case for the reimbursement of FP/GPs, the reimbursement of specialists by “other” modes was selected almost exclusively by respondents from Ontario. Capitation was chosen by one of the 61 respondents (2%) for specialist located in the same jurisdiction. Capitation was not selected for FP/GP or other personnel in any jurisdiction. Sixteen respondents chose 1 to 3 modes of reimbursement when the specialist was located in another jurisdiction. Frequently chosen modes included fee-for-service (16%), salaried (11%) and sessional fee (8%) (Fig. 6.2). Overall, the pattern and magnitude of responses were similar for FP/GPs and specialists (Figs. 6.1 and 6.2).

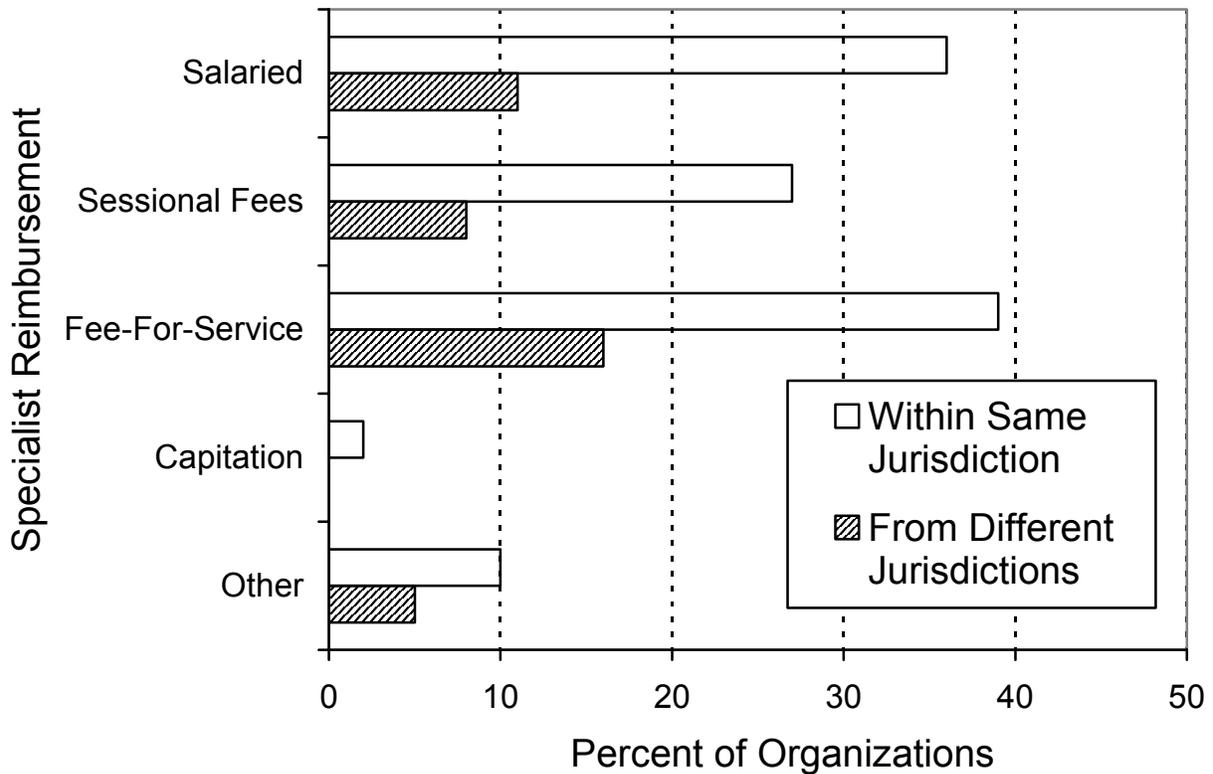


Figure 6.2. Percent of organizations (n=61) where specialists are reimbursed for telehealth services by mode of reimbursement and jurisdiction.

Fifty-two of the 61 responses indicated that other personnel (typically telehealth coordinators or nurses) were reimbursed through salary or wages for telehealth services in situations where the person was located in the same jurisdiction (78%) or outside the jurisdiction (16%) (Fig. 6.3). There was little evidence of provincial/territorial differences as respondents were located in 5 to 9 provinces/territories.

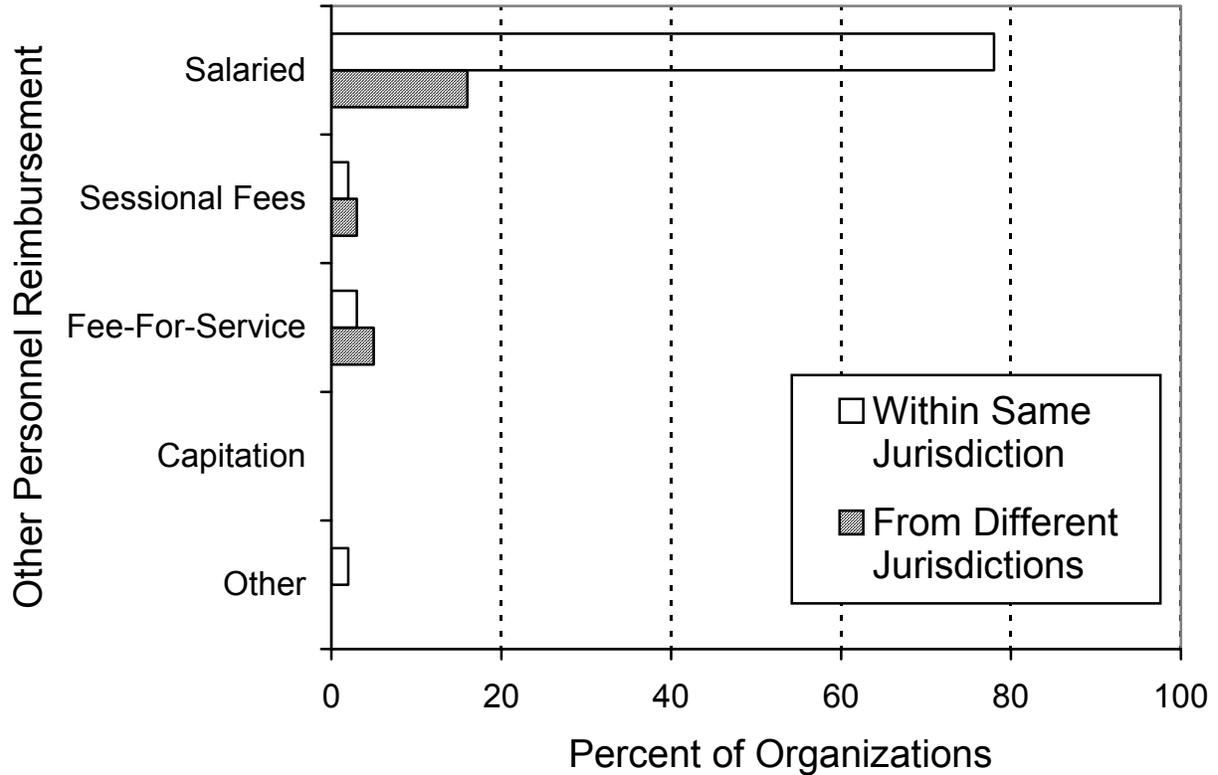


Figure 6.3. Percent of organizations (n=61) where other personnel are reimbursed for telehealth services by mode of reimbursement and jurisdiction.

6.3 Key Informant Interviews – Human Resources Context

6.3.1 Interview – Methods

The objective of the key informant interviews was to interview people with particular expertise or experience in telehealth-related human resource issues. Potential key informants were identified from the Telehealth Stakeholders Database⁶ and personal contacts. A list of 14 experts and 4 alternates was sent to the NIFTE Secretariat who contacted the potential key informants. The research team contacted only those individuals who agreed to be interviewed.⁷ One expert declined and one could not be contacted by the research team. The four alternates were not contacted, as there were enough interviewees. One pilot test was conducted in late October 2002 with the remaining interviews conducted in the first two weeks of December 2002. The pilot-test interview was included in the results because the questions were not substantially changed from the pilot to the final version. Interviews were 45-85 minutes in duration, with a mean of 65 minutes.

Each consenting key informant was sent an interview package one to seven days prior to the interview. The package included a pre-interview questionnaire used to obtain some background information on the key informant prior to the interview. Each package also contained brief instructions, definition of common terms and a list of questions that formed the basis of the interview. Interviews were conducted over the telephone or in person. The interview was tape-recorded, with the consent of the key informant and transcribed.⁸

The interviewer asked each key informant some general questions about whether or not telehealth should be accredited and why (or why not), and which organizations should be involved and/or oversee the accreditation process. The next set of HR questions focussed a little bit on what was currently occurring and mostly on what should occur in the future. Questions included those on:

- roles and responsibilities
- qualifications required prior to engaging in telehealth
 - formal education or training
 - previous experience
- orientation and training
- assessment of on-the-job skills and knowledge
- qualifications of personnel at remote locations or other organizations
- licensure
- human resource policies and procedures that may hinder or help telehealth

The interview concluded by asking the key informant what he or she thought were the most important issues to be considered when establishing accreditation standards for telehealth. These final questions provided the key informant with the opportunity to comment on organizational, clinical and technological issues, which were the specific domains of the other research teams. Transcripts of the tape-recorded interviews were content-analyzed in accordance with the broad categories listed above. Interview quality was rated on a five-point

⁶ The Telehealth Stakeholders database was established and maintained by the NIFTE Secretariat.

⁷ The method of contacting the potential key informants, as well as the rest of the research methodology was approved by the Research Ethics Board at Laurentian University for the human resources component.

⁸ The tape-recorder malfunctioned for one interview. The text of responses for this session were based on the interviewer's notes and recollection.

scale (poor, fair, good, very good and excellent) by the interviewer. All but three interviews were rated as “excellent” in terms of participant’s understanding of the questions, participant’s ability to answer questions, participant’s openness and candidness in answering questions and overall quality of the interview. One exception was rated “good” and the remaining two interviews were rated as “very good”. Additional details of the interview methodology are presented in Appendix 8.3.

6.3.2 Interview – Results

6.3.2.1 Characteristics of Key Informants

One-third of the key informants were nurses by profession, another third were medical doctors and the remaining third were allied health professionals or other professionals. Seven key informants were telehealth coordinators or equivalent, while the remainder were in senior positions, and all but one of the key informants who were in senior positions were still involved in telehealth activities. Key informants were working in eight of the 13 provinces/territories and seven of the 12 key informants were female. All but one key informant belonged to a committee or group that is/was developing telehealth standards, guidelines or policies.

Eleven of the 12 key informants were with active telehealth programs. All 11 active telehealth programs had telehealth coordinators and ten programs had the active involvement of physicians and nurses. All 11 programs had technical support staff, either directly assigned/employed by the program or available to the program on an “as needed” basis. All telehealth programs were used by other personnel, typically allied health professionals, administrators and educators. Two programs had active involvement of nurse practitioners. Several programs did not see any barrier to the involvement of nurse practitioners in the future. Volunteers were active in two telehealth programs. Ten programs provided and received telehealth services while three programs only provided services.

6.3.2.2 Accreditation: Is it Time to Begin and Who Should be Involved?

Ten of the 12 key informants stated that telehealth should be accredited with the primary rationale that most health services are accredited and thus accreditation of telehealth would improve accountability, recognition, and quality of service. Two key informants were largely undecided, though leaning towards accreditation, but with several caveats. The main caveat, which was also expressed by many of those in favour of accreditation, was that telehealth services (clinical, educational or other) should be integrated into the existing accreditation process. Other concerns were that the process should not be too onerous, and that telehealth accreditation should be implemented in manageable stages.

Slightly more than half of the key informants (n=7) felt that it was time to begin the process towards accreditation, two were equivocal and three were opposed. Interestingly, all of the key informants agreed that telehealth was at different levels of maturity across Canada and that telehealth had not yet been fully integrated into the current health care delivery system. For some key informants, the maturity and lack of integration was a major barrier and thus the move towards accreditation was premature. For others, it was an opportunity to be seized, albeit slowly and with minds open to changes that telehealth could or would bring to the health care system.

Key informants were then asked, “which agencies or organizations should be responsible for formulating formal policies, guidelines and standards for telehealth?” Most key informants responded that it should be those organizations that currently define policies and guidelines or set standards. This is consistent with the aforementioned comment that telehealth accreditation should be integrated into the existing accreditation process. Professional associations, regulatory colleges and certification bodies were often mentioned in the context of clinical practice, guidelines and equipment certification. Many key informants advocated a role for regional health authorities or similar provincial health planning agencies, as well as provincial and pan-Canadian coordination.

Broadening the scope from local health agencies to the provincial/territorial and national level was espoused as a necessary condition by many key informants. This broadened perspective was the logical consequence of some of the changes that telehealth is bringing to the delivery of health care services. Firstly, because telehealth was going beyond the walls of the larger institutions and into smaller and smaller institutions including the physician’s office and the patient’s home. Thus, policy, guideline and standard development had to go beyond the walls of large, predominantly acute care institutions to include informal health care settings. Secondly, because telehealth is crossing local, provincial and national borders, it necessitated a multi-jurisdictional approach. This broadened perspective could lead to uniform telehealth policy, guidelines and standards across Canada, with sufficient flexibility to accommodate local conditions but with adequate rigour to ensure compliance with basic criteria.

The desire by many key informants to ensure pan-Canadian standards was also evident in their suggestions as to which agencies or organizations should oversee the accreditation process. The Canadian Council on Health Services Accreditation (CCHSA) was mentioned most often, with supporting roles to be played by those agencies already associated with the CCHSA, including Health Canada. It was suggested that the Canadian Society of Telehealth would be well suited to an advisory or monitoring role. One concern expressed by several key informants was that the CCHSA would have to incorporate the reality of telehealth as a service that is physical (the equipment, personnel and the patients/clients) and virtual (service delivery at a distance), and increasingly occurring outside of acute care centres.

6.3.2.3 Job Description and Performance Evaluation

All but two key informants suggested that telehealth-specific job descriptions should exist for personnel involved in telehealth activities. The two key informants who took exception to this view thought that telehealth was just another way of delivering the services that were already provided and thus needed no special mention. The majority of those who thought that job descriptions were needed also thought that the need was a function of the amount of telehealth duties relative to other duties. The need for telehealth-specific job descriptions was considered to be more important for telehealth coordinators⁹ and nurses and less important for physicians. At the very least, most key informants opined that telehealth duties should be specified within the larger context of all other duties.

⁹ Presenters at a telehealth coordinators workshop, held in October 2002 prior to the CST conference, summarized answers from 41 of 64 telehealth coordinators who responded to a survey on job roles and responsibilities. Roles most commonly associated with the position of a telehealth coordinator included that of an advocate, trainer, marketer, coordinator, manager, scheduler and other roles (Anonymous, 2002).

The question as to whether formal job-performance evaluations should include a telehealth component evoked responses from key informants that were very similar to that given for the need for telehealth-specific position descriptions. The need for telehealth components in the formal job-performance evaluation was considered more important for telehealth coordinators and nurses and less important for physicians. Many key informants suggested that the criteria for job-performance evaluations were already found in existing evaluations but perhaps with slightly different emphasis. For example, professional proficiency, communications skills, people skills, time management, etc., are criteria common to many job evaluations. Other common criteria, however, may take on special emphasis for telehealth duties. These criteria include: knowledge of licensure, legal consent and privacy issues, comfort level with new and changing technologies, and knowledge/skill in audio-visual (A-V) learning and education methods as well as clinical assessment in an A-V environment.

6.3.2.4 Qualifications, Education, Orientation and Training

Currently, most telehealth-specific qualifications are earned through the organization that is providing the telehealth service. A basic requirement is that health care professionals must be in good standing with their respective regulatory colleges and that other personnel, such as technicians, must have knowledge and skills appropriate to their duties. A number of Canadian colleges and universities are offering certificates, diplomas or degrees in telehealth-related areas such as health informatics. Some telehealth-specific education includes Centennial College's nursing telepractice certificate, the telehealth technician program offered by the Royal Ottawa Hospital and Novatech Computer Careers and the University of Calgary's telehealth/e-health research and training program. Most key informants, however, noted that few of these qualifications are required at present and several opined that there would be no such requirement in the near future. Key informants did mention, however, that job candidates with the aforementioned telehealth qualifications would be ranked higher than a candidate without, all else being equal. In addition, most key informants believed that telehealth-specific education would become more important if and when telehealth became more fully integrated into the health care system.

The majority of the key informants believed that course-work with hands-on training (as part of the formal education) would suffice for most health care professionals. Basic computer-skills and a positive attitude towards technology were considered to be more important for health care professionals than telehealth-specific training per se. Several key informants argued that the telehealth coordinator required a unique blend of skills, knowledge and attitude to be successful. This led one key informant to suggest that the role of the telehealth "coordinator could be a new health discipline." Interestingly, one of the conclusions of a telehealth coordinators workshop was that "the title "Telehealth Coordinator" should not be coined and standardized as it will never fit into all organizational charts and structures and pay levels. However, the core competencies and skills should be defined and become standards for a job description" (CST Education Committee, 2003).

Orientation, on-the-job training and continuing education for telehealth personnel were commonly discussed together during the interviews. As mentioned previously, a positive attitude and open-mindedness towards technology was considered to be essential for all telehealth personnel. These characteristics cannot be taught but can be encouraged during formal education. Many key informants suggested that knowledge and skills needed for telehealth, notwithstanding the clinical knowledge and skills required by the health care profession, could be taught by the telehealth service delivery organization. Examples of such

knowledge, skills and attitudes are listed in Table 6.19. The breadth and depth of training was considered by most key informants to be a function of the amount and nature of telehealth-specific duties and responsibilities. Telehealth coordinators were expected to have the greatest breadth of knowledge and skills. Items in Table 6.19 are listed in order of importance and most telehealth personnel would be expected to master the first two or three in each category. Concomitant with the listing of knowledge, skills and attitude was the need, as expressed by several key informants, to evaluate telehealth personnel on these criteria.

The next question asked the key informants to think ahead to the future when telehealth services are required to undergo accreditation. The question asked how the accreditation process should deal with healthcare providers who have years of telehealth experience and lack formal credentials (if such credentials are required in the future). Nine of the 12 key informants thought that some sort of grandfathering process should be used. Most of those in favour of a grandfathering process advocated a formal assessment of skills and/or experience. The remaining three key informants felt that there was no need for grandfathering or similar approaches given that there would be no need for telehealth credentials. One key informant summarized this minority view by saying that “one of these days the word telehealth is going to disappear from our lexicon” and that people will talk “about using technology” to deliver health care.

One set of comments had to do with personnel at remote locations. Finding suitable personnel was more problematic in smaller communities than in large communities. Very often the telehealth service provider had to recruit whoever was available and deal with any shortcomings on an ad hoc basis. This put the onus for quality of care on the host site. A related issue was the recruiting and training of back-up personnel –individuals who would take over in the absence of the main contact at these remote sites. Sufficient training opportunities were an ongoing concern for the primary contact person and the back-up. High turnover of health care professionals and cultural differences in health knowledge and behaviour, language barriers and communication styles were also a concern. It is encouraging, however, that most key informants believed that good quality telehealth sessions were the norm, despite the challenges of providing services to remote communities.

Table 6.19

Knowledge, Skills and Attitude for Telehealth Personnel

<p>Knowledge</p> <ul style="list-style-type: none">• Demonstrated professional competency<ul style="list-style-type: none">○ Clinical or Technical, as appropriate• Demonstrated understanding or policies, procedures and protocols that are relevant to assigned telehealth duties including:<ul style="list-style-type: none">○ Ethical and legal issues<ul style="list-style-type: none">❖ Consent, privacy, confidentiality❖ Licensure○ Documentation<ul style="list-style-type: none">❖ Registration, admission, scheduling, follow-up❖ Accountability/responsibility• Demonstrated knowledge (as applicable)<ul style="list-style-type: none">○ Technology (hardware and software)<ul style="list-style-type: none">❖ Health care / medical devices❖ Telecommunications technology❖ Health information technology○ Electronic health records○ Image technology and transmission
<p>Skills ^a</p> <ul style="list-style-type: none">• Clinical skills, if applicable• Technical skills (basic)<ul style="list-style-type: none">○ Basic computer skills○ Equipment set-up and operation○ Trouble-shooting○ Recognizing how technical quality impacts quality of care○ Recognizing how the type of equipment can affect ethical and legal concerns○ What to do if technology fails○ Environment (lighting, sounds, distractions)• Sessional skills<ul style="list-style-type: none">○ Dealing with clinicians, patients, support staff and administrators○ How to communicate over an A-V link (where to look, how to speak, behave, movements and appearance)• Management<ul style="list-style-type: none">○ Time management○ Change management○ People management○ Risk management○ Quality management○ Project management• Technical skills (advanced), if applicable<ul style="list-style-type: none">○ Maintenance and repair (correction) of equipment○ Demonstrated innovative solutions/improvements to operating system and equipment

Attitude

- Demonstrates comfort and competence during telehealth sessions
- Actively seeks opportunities to use telehealth
- Demonstrates the integration of telehealth into the health care system
- Actively promotes telehealth to clinicians, administrators, staff, patients and the public
- Recognizes and acts upon the changes to the health care system brought about by telehealth and by the broader impact of e-health (e.g., patient health records, health information on the internet)

^a Common characteristics and skills identified for a telehealth coordinator included: communication skills, organizational skills, good problem solver, independent, self-motivated, team player, interested in technology, good interpersonal skills, knowledge of the health care environment, flexible, collaborative and management skills (CST Education Committee, 2003).

6.3.2.5 Competency of Personnel at Other Organizations

These questions are illustrated with the example of a tertiary care hospital (hub site) that is setting up a telehealth network with rural or remote centres (spoke sites). In this situation, the patient will typically be at the remote centre and this remote centre, more often than not, is administered separately from the hub. Key informants were asked to outline how their organizations (hubs) ensured the competency of telehealth personnel at the spoke sites.

Only a few of the key informants explicitly mentioned that there were formal agreements between institutions that spelled-out the responsibilities for each site. Other key informants said that this was achieved less formally – typically the hub site provided policies, procedures and occasionally manuals that the spoke sites were asked to comply with before the telehealth service became fully operational. In addition, many hub sites took responsibility for the orientation and/or training of personnel (typically site coordinators) at the spoke sites. Clinical competency was considered to be the responsibility of the individuals and, secondarily, each organization. Telehealth personnel were expected to work within normal scope of practice. It was often the case, however, that the personnel at the hub site took responsibility to ensure that the personnel at the spoke site were comfortable with, qualified and able to perform the required telehealth tasks.

In some situations, the hub site might be the recipient of telehealth services from another hub, such as a more specialized health care centre. In these hub-to-hub situations, the transfer of telehealth services tended to follow established referral patterns and the expectation was that each organization would be responsible for overseeing the competence of its telehealth personnel. To paraphrase one key informant, there was an expectation that each hub would exhibit the level of professionalism in the provision of telehealth services as befitting their organization. If the telehealth services provided by the specialized health care centre were considered to be in need of improvement, then contact was made between appropriate personnel in order to rectify the situation. Alternatively, the reception hub might choose to go elsewhere for more specialized telehealth services or revert back to non-telehealth referrals.

Several key informants remarked that ensuring telehealth competency at different organizations was an issue that they hoped would be solved either through accreditation, by an agreed-upon minimum set of guidelines or standards, or at the very least, by formal recognition of the ability to use telehealth equipment (peripherals in particular) and formal recognition of the

understanding of legal-ethical issues (e.g., licensure, informal consent, privacy and confidentiality). Some telehealth networks are already incorporating a formal process to recognize these competencies and qualifications for all site coordinators.

6.3.2.6 Licensure Issues

Key informants were asked for their thoughts on the licensure requirements for health care professionals providing telehealth services to patients in other jurisdictions. Discussion focused on physicians, nurses and allied health professionals and included mention of cross-jurisdictional issues as well as telehealth-specific licensure issues. The cross-border licensure issue occurs when licensed and regulated health care professionals wish to practise in different jurisdictions. The telehealth-specific licensure issue occurs when a fully-licensed health care professional requires a special license or permit to practise telehealth in his/her own jurisdiction.

6.3.2.6.1 Cross-Jurisdictional Licensure Inside Canada

Seven of the 12 key informants thought that it would be sufficient that health care professionals were fully licensed in their jurisdiction to provide telehealth service across jurisdictions so long as both the professional and the patient were located in Canada. Reasons that the key informants gave as to why the health care professional should be fully licensed in his/her jurisdiction included advantages to the professional (e.g., already familiar with licensure system in own jurisdiction) and to the promotion of telehealth as a whole (e.g., less onerous for the professional).

A number of key informants attached both a caveat and a request to the choice of the practitioner's jurisdiction as the locus of accountability. The caveat was that patients/clients would need to be informed of the legal implications and would have to sign a waiver/consent form to that effect. The request was, as much as possible, that the patient's and professional's jurisdictions should enter into an agreement that would allow the patient to approach the regulatory body in the patient's jurisdiction who would then accept the patient's concern. By nature of the agreement, the regulatory body in the professional's jurisdiction would accept the patient's concern and both regulatory bodies would work to resolve the issue.

The request that the two (or more) jurisdictions should come to a formal agreement was also stipulated by the three key informants who insisted that the professional should be licensed in both jurisdictions. In fact, some provinces/territories are already requiring that professionals from other parts of Canada to be licensed in both the patient's and the professional's jurisdictions. A few key informants suggested that the ideal solution might be a pan-Canadian telehealth agreement for each profession. Examples from the USA include the Nurse License Compact, which is based on mutual recognition, and the Federation of State Medical Boards, which is a special license model.¹⁰ It was noted that several health care professions (e.g., physicians and nurses) currently write Canada-wide exams and thus, it was argued, there was a precedence for a pan-Canadian telehealth approach. Two key informants were undecided as to where the professional should be licensed.

Most, if not all, of the key informants acknowledged that the lack of a cross-border licensure policy was a major barrier to the widespread adoption of telehealth. Some key informants

¹⁰ See www.ncsbn.org and www.fsmb.org for details.

argued that a pan-Canadian mechanism that was accepted and administered by the regulatory bodies in each jurisdiction would be the best approach, provided that the requirements would not be too onerous to the professional and that the process would not expose the patient/client to any undue risk.

6.3.2.6.2 Cross-Jurisdictional Licensure Outside of Canada

Only three key informants thought that it would suffice for a health care professional to be licensed in his/her jurisdiction. Three other key informants thought that the professional should be licensed in both jurisdictions, while six key informants did not provide an answer. Most key informants expressed reservations about international telehealth, citing liability issues and differences in practice standards between nations. Liability issues and differences in practice standards, however, were not considered to be as important for cross-jurisdictional telehealth consultations that occurred within Canada.

6.3.2.6.3 Telehealth Permit

Some key informants were opposed to the idea of a special telehealth permit on the grounds that it was unnecessary for clinical purposes and potentially constraining for telehealth practice. Other key informants hinted that a special telehealth permit would help resolve the cross-border licensure issue. If it happens that a special telehealth permit is required for cross-jurisdictional telehealth, then it may become a requisite for telehealth activities within the jurisdiction.

6.3.2.7 General Human Resource Issues

The next set of questions asked key informants as to whether there were specific human resource policies that should be developed or adjusted in relation telehealth activities. Although the responses were wide-ranging, items that came up in the discussion could be grouped into two broad categories. The first category included issues external to telehealth programs (and their host organizations) but have potential or real impact on service delivery. These include government legislation and policy that define, for example, scope of practice, confidentiality/privacy, and health care professional recruitment. Specifically, some legislation restricts who can do what in clinical settings. This may have unforeseen effects in remote sites where duties performed by non-nurses may appear to infringe on duties traditionally performed by nurses or where physicians are consulting more and more often to non-physicians. Practitioner reimbursement was another often-cited barrier to telehealth service delivery. Other regulations dealing with privacy/confidentiality may make the telehealth consent process a long and complicated affair, particularly as it relates to the capture, transmission and storage of images. In addition, telehealth programs may run up against government policies that seek to address the maldistribution of health care professionals, such as medical specialists. Is it perception or reality that telehealth initiatives conflict with recruitment initiatives for underserved areas? Alternatively, What is the optimal mix of virtual and actual medical specialists in underserved areas? These issues have contributed to the uncertain status of some telehealth programs.

The second category included issues that were internal to the organization that delivered the telehealth service. In general, these internal issues dealt with human resources policies and procedures that did not fully incorporate the needs and nuances of telehealth. Many of these

issues reflected the uncertain status of the telehealth program in a given organization. Human resource policy issues that the key informants mentioned included: (1) inadequate/inflexible allocation of human resources(e.g., personnel, training and support, funding); (2) agreements with bargaining units that either restricted who could provide the telehealth service or specified the minimum amount of time that personnel could spend on telehealth duties in a given day; and (3) lack of integration/coordination within the organization (central scheduling, support, training, accountability/responsibility for telehealth).

6.4 Summary and Conclusions – Human Resources Context

The following paragraphs synthesize the most salient human resource issues pertaining to telehealth, with particular focus on the implications for accreditation. Selected HR topics are summarized as “what is” and “what should be”, based on: (1) the a literature review; (2) results of the survey; and (3) interviews with a dozen key informants. The summary is followed by a set of recommendations based on current status, perceived gaps and suggested options for the future. It is important to note that the following recommendations are designed to support and bolster any initiative designed to address these issues at the local, regional, provincial/territorial or Canada-wide level. The main implications or considerations round out the discussion of the selected HR topic.

6.4.1 Accreditation – Is It Time?

6.4.1.1 Summary

Approximately 69% of the respondents to the HR questionnaire and approximately 83% of the HR key informants thought that telehealth should be accredited to ensure quality of service and improve accountability and recognition. The vast majority of the HR survey respondents and key informants stated emphatically that telehealth should be more fully integrated into the existing health care delivery system and thus should be accredited as part of a health care institution or program. In an example echoed by many respondents, one key informant explained that if telehealth is used by the mental health program, then the accreditation process for the mental health program should included a telehealth component. Having stated their desire to have telehealth accredited as a mode of service delivery in the context of a larger program (e.g., mental health), many survey respondents and key informants added the proviso that some telehealth programs – those that were more or less stand-alone programs – should be accredited as such. One example of a stand along program might be a province-wide telephone triage service. Another example might be a telehealth program devoted solely to continuing health education. In other words, the more autonomous a telehealth program is, the more likely that the telehealth program would need its own accreditation process.

6.4.1.2 Recommendations and Considerations

- Telehealth needs to be integrated more fully into existing health care service delivery
- Telehealth services that can be integrated should be accredited within the context of other programs for which telehealth is a service delivery mode
- Telehealth programs that cannot or should not be subsumed within existing health care delivery programs should be accredited on their own
- Accreditation should be implemented in stages that are flexible enough to deal with the nuances of the variety of telehealth programs (clinical or educational) and the different telehealth service providers (large or small, public or private)
- The full impact of telehealth on the health care delivery system has yet to be felt and thus the accreditation process cannot become too rigid
- Safe and effective use of telehealth should be the main guiding principle for accreditation

6.4.2 Human Resource Plans and Telehealth

6.4.2.1 Summary

The majority of the key informants thought that human resource policies or plan of an institution needed to be modified to more fully reflect the idiosyncrasies of telehealth.¹¹ This was also borne out by results from the questionnaire in which the majority of survey respondents (60%) reported that their organizations did not have telehealth-specific components in their human resources plans (less than half of the 60% did not even have a HR plan). The full integration of telehealth into the HR plan would be time consuming and potentially expensive.

6.4.2.2 Recommendations and Considerations

- Identify and update HR policies to accommodate telehealth concerns related to patient/client safety and competency of telehealth personnel
- Where necessary, create HR policies that are needed for the safe provision of quality telehealth services
- Integrate telehealth-specific policies into existing HR policies and only create new policies for telehealth when absolutely necessary
- Consider an annual review/revision of telehealth HR policies (needed because of the rapid pace of changes in telecommunications technology)

6.4.3 Roles and Responsibilities

6.4.3.1 Summary

As noted previously, personnel are often re-assigned from other departments when telehealth is first introduced into an organization. Typically, the telehealth duties and workload are added onto existing duties. This finding emerged from the literature, the survey and the interviews. As the number of telehealth events increase, so does the need for a full-time position to coordinate activities. It is often at the level of the coordinator that telehealth-specific position descriptions are needed and developed. This is reflected in the consensus of survey respondents and key informants that the need for telehealth-specific position descriptions increased with the amount of time spent by an individual on telehealth activities, modified only by the historic independence of the health care professional. For instance, position descriptions were considered to be essential for telehealth coordinators and less essential for physicians. As a minimum, key informants thought that descriptions should exist for telehealth-specific duties.

Some of the requests for role or position descriptions were due to the need to identify and allocate scarce human resources. This suggested that the real needs of telehealth programs may not be fully appreciated by human resource managers and other senior administrators without formal recognition. Anderson (2001) reported similar findings in her review of continuing education via telehealth. The other need for role or position descriptions was grounded in the desire to provide a safe and high quality level of care. A view, espoused in the literature, by survey respondents and by key informants, was that telehealth-specific position descriptions

¹¹ Most of these telehealth-specific HR components or HR components requiring some modification to properly address the concerns of telehealth are described in the following sections.

were also needed to define roles and responsibilities so as to prevent unnecessary duplication of services without losing the safeguards needed to ensure quality of service. For example, the literature suggests that telehealth personnel may spend a lot of time checking and rechecking scheduling details because they are unsure as to what has been completed by other staff members. This may be exacerbated when dealing with different sites and other organizations.

6.4.3.2 Recommendations and Considerations

- A pan-Canadian body should develop descriptions of telehealth duties that can be shared among telehealth organizations as a baseline description of telehealth-specific roles and responsibilities. These descriptions should be developed separately for each health care profession.
- Individual organizations should develop position descriptions that clearly articulate the roles and responsibilities of personnel who are engaged in telehealth activities on a full-time or near full-time basis
- Individual organizations should incorporate telehealth-specific components into formal job performance evaluations
- Individual organizations should develop a position description that acknowledges the diverse and central role of the telehealth coordinator
- If warranted, individual organizations should consider delegating the technical and administrative duties currently assigned to the telehealth coordinator to appropriate personnel
- The diversity of telehealth programs and their unique role in each organization require comprehensive yet flexible descriptions

6.4.4 Licensure

6.4.4.1 Summary

Licensure is one of the unresolved issues of great importance to the future of telehealth. There are two main licensure issues: cross-border licensure and telehealth-specific licensure. Cross-border licensure becomes an issue when regulated health professionals seek to practise in other jurisdictions. The telehealth-specific licensure issue occurs when a fully-licensed health care professional requires a special license to practise telehealth in his/her own jurisdiction.

There are three possible cross-border licensure options: full licensure only in the health care professional's jurisdiction, full licensure only in the patient's jurisdiction, or full licensure in one jurisdiction (typically in the professional's jurisdiction) with full/partial licensure in the second jurisdiction. Full licensure in the patient's jurisdiction only would mean that the professional is unlicensed in their own jurisdiction. This seems fraught with legal, ethical and safety issues and thus unlikely. At a minimum, it seems that the professional would be licensed in his/her own jurisdiction and be bound by a formal arrangement with the patient's jurisdiction. There are a number of variations on this theme of a formal arrangement such as a Canada-wide license, special license, mutual recognition, endorsement and telehealth practice under regulation. The pros and cons of these approaches to licensure are discussed in Pong and Hogenbirk (1999).

Several key informants expressed a preference for a pan-Canadian system in order to deal with the issues of licensure, competency and qualifications. These key informants noted that several

health care professions, such as nurses, physicians and some allied health professionals, already write pan-Canadian exams, and that standards of practice do not differ greatly across Canada. A review of the available literature supports this view, albeit with some caveats. A pan-Canadian mechanism or approach based on mutual recognition or special license that was accepted and administered by the regulatory bodies in each jurisdiction would go a long way toward ensuring quality of care, consistency of service and integration of telehealth into the mainstream health care delivery system.

A common concern found in the literature and voiced by the key informants was that international telehealth should be approached much more carefully, with formal agreements among nations, regulatory bodies and organizations, consent forms and legal waivers. It was emphasized that patients, health care professionals and administrators needed to be aware of fundamental differences in standard and quality of care between/among nations. Some key informants said that the health care professional bore most of the responsibility for ensuring that his or her advice to the patient/client was appropriate to the situation and circumstances in the patient's country.

A special telehealth permit might help resolve the cross-border licensure issue, though it has been argued that it is unnecessary for clinical purposes and potentially restrictive for telehealth practice. It seems likely that if a special telehealth permit is required for cross-jurisdictional telehealth, it will be required for telehealth activities within the jurisdiction.

Liability issues were not addressed in great detail in this environmental scan, though findings from the literature, survey and interviews all suggested that the issue of liability was an on-going concern. The general consensus was that clear policies and procedures and formal licensure requirements would go a long way towards ensuring quality of service to patients/clients and would have the additional effect of resolving or avoiding many of the liability issues.

6.4.4.2 Recommendations and Considerations

- Patient/client safety and quality of service should be the guiding principles for any cross-jurisdictional licensure. A patient-centred approach may be of use.
- A national body could explore the feasibility of a pan-Canadian mechanism or approach that was accepted and administered by the regulatory bodies in each jurisdiction.
- This mechanism or approach could be based on mutual recognition or special license
- In the interim, individual jurisdictions in Canada could enter into bi-jurisdictional or multi-jurisdictional agreements to permit the provision and/or receipt of telehealth services.
- In the interim, patients/clients who do not reside in the professional's jurisdiction should be told how to lodge a complaint with the professional's regulatory body. Patients/clients should sign an informed consent/waiver that details the complaint process and other jurisdictional issues.¹² This was considered to be particularly important for international telehealth activities.
- Success of this initiative requires the cooperation and support of regulatory bodies, professional organizations and federal/provincial/territorial governments
- Some changes to existing legislation and/or government policy may be required

¹² The consent form would contain other items such as those discussed in the section on clinical issues.

6.4.5 Competence and Qualifications

6.4.5.1 Summary

The CCHSA (2001) defines staff competence as the situation where “an individual’s knowledge, skills, and attitudes are appropriate to provide the service and are regularly evaluated” (p. 4 of the glossary). Qualified staff are those “having the credentials to perform specific acts by being professionally and legally prepared, and by being legally authorized. This may include registration, certification, licensure, or other formal approval; and training or experience in proportion with the assigned responsibilities” (p. 15 of the glossary).

At present, health professional education typically does not have much of a telehealth component, if at all. Thus most telehealth programs do not require any telehealth-specific qualifications before personnel are hired or reassigned to telehealth duties. Currently, all telehealth programs require that health care professionals be fully licensed and registered with their respective regulatory body and that technical staff have the appropriate education or training from a university/college/technical school. It is clear that none of these requirements are specific to telehealth.

In addition to professional licensure, telehealth programs look for individuals with personal characteristics that will facilitate the individual’s involvement and advance the telehealth program. These personal characteristics include a positive attitude and open-mindedness towards technology and good people skills. Some of these required characteristics are common to many new programs, particularly those involving new technology. Many telehealth programs provide orientation and on-the-job training.

Clinical competence is the responsibility of the individual health professional. Standards for clinical competency are typically set by regulatory bodies as part of their mandate to protect the public. It seems reasonable that telehealth competence is also the responsibility of the individual. The institution that is providing the telehealth service has a supervisory or accountability responsibility to ensure that personnel are competent to provide telehealth services.

6.4.5.2 Recommendations and Considerations

- The feasibility of a pan-Canadian set of qualifications and competencies specific to telehealth should be explored separately for each health care profession
- In particular, a pan-Canadian body should consider the development of a minimum set of qualifications and competencies for telehealth coordinators – personnel whose primary duty is to coordinate all telehealth activities in an institution or network
- One possible option is that these minimum qualifications/competencies could specify the licensure requirements that address clinical competency and requirements address telehealth competency.
 - Under this option, health care practitioners would already be licensed as part of normal requirements, but would require formal proof of their ability to use telehealth equipment to provide clinical care.
 - Technical staff would require formal education from colleges or universities as a basic requirement and would require formal proof of competency in specialized telehealth equipment.

- See also licensure and liability issues
- Subject to cross-jurisdictional agreement
- Some qualification/competency criteria could be developed for groups of clinicians and not necessarily for each speciality

6.4.6 Education, Orientation and Training

6.4.6.1 Summary

As mentioned in the previous section on competency and qualification, there is little, if any, formal telehealth education except for a few degrees/diplomas offered by Canadian universities and colleges in telehealth-related areas such as health informatics. Certificate programs are perhaps becoming more common at Canadian universities and colleges. Much of the onus on education and training falls upon the telehealth service provider.

In some telehealth networks the orientation and training sessions are becoming standardized but flexible enough to consider site-specific characteristics such as available personnel and equipment. NORTH network's ABC Manual and Clinidata's Guidelines and Procedure Manual for teletriage nurses are two examples of a standardized approach to orientation and training. It is likely that examples can be found in most provinces/territories and telehealth networks. Some of the orientation and training manuals are proprietary and all represent an investment in time and money. It is encouraging that there are initiatives to share the acquired wisdom, though not necessarily the detailed materials and instruments used in the orientation/training process.

6.4.6.2 Recommendations and Considerations

- Provincial/territorial/federal bodies should encourage publicly funded telehealth networks to exchange materials related to telehealth orientation and training
- A pan-Canadian initiative could list all elements of the orientation and training process and begin to standardize the more common and pertinent elements for adoption by provinces/territories across Canada
- Regulatory bodies and professional associations should review and assist in the development of orientation and training programs specific to their professions
- An initial listing of orientation and training elements could build on those elements that are compiled in Table 6.19 of this document and the report on the National Telehealth Coordinators Workshop 2002 (CST Education Committee, 2003).
- Link training to job performance evaluation and encourage feedback from personnel on the telehealth training sessions (e.g., comfort level during the session and in the use of equipment)
- Consider the establishment of the position of a telehealth coordinator as a new health care profession – a position that is defined by core competencies and skills¹³
- Consider evolving in-house orientation and on-the-job training elements into “certificate”-level training opportunities standardized for use across Canada.

¹³ See CST Education Committee (2003) for a different recommendation on the position of telehealth coordinator

- Consider moving some orientation and training elements into the core curriculum of health care professionals – elements such as increased exposure to computers, telecommunications technology, electronic health records and virtual patients
- Consider the current emphasis on orientation and on-the-job training reflects the relative youth of telehealth in Canada
- Give consideration to the development of an indicator for use in the accreditation process to be based the percentage of personnel engaged in telehealth who have formal recognition of telehealth competency and qualification
- Acknowledge that the required amount and type of formal education would differ from one health care profession to another and that the required amount and type of on-the-job training would vary with the nature of the telehealth service

6.4.7 Reimbursement

6.4.7.1 Summary

A review of the literature and survey responses reveal that there is at least partial fee-for-service reimbursement of telehealth, or more accurately, telemedicine services, in most jurisdictions in Canada. Coverage is not complete nor consistent across Canada. Information from the environmental scan suggests that reimbursement of fee-for-service varies across Canada for most independent health care practitioners. Reimbursement of telehealth practitioners may be more of a policy issue at the level of the provincial/territorial jurisdiction than an accreditation issue per se. However, the restrictions placed on fee-for-service reimbursement of telehealth services in some jurisdictions is believed to inhibit the uptake and integration of telehealth into the health care system. From a HR perspective, lack of fee-for-service reimbursement impedes health care practitioners from participating in telehealth activities.

The involvement of health care professionals may also be hindered by the transitory nature of funding for a telehealth program that is not fully integrated into the existing health care delivery system. Adding telehealth duties on top of existing duties of salaried/waged employees, without a concomitant increase in pay may hinder retention. As one key informant asked rhetorically, why would anyone leave a long-term, secure, well-defined position for one that is often short-term, typically poorly defined and possibly laden with extra duties at the same pay scale.

6.4.7.2 Recommendations and Considerations

- Encourage federal/provincial/territorial jurisdictions to resolve any outstanding reimbursement issues within their own jurisdictions by, perhaps, allowing more telehealth services to be eligible for fee-for-service reimbursement
- Encourage federal/provincial/territorial jurisdictions to resolve any outstanding reimbursement issues across jurisdictions
- Where appropriate, encourage third-party payers, such as insurance companies, to reimburse for telehealth services.
- Encourage f/p/t governments to allocate funds specific to telehealth personnel, particularly telehealth coordinators and clinical or technical staff that are engaged in telehealth activities on a full-time or near to full-time basis

- Encourage telehealth organizations to create a telehealth pay schedule for salaried/waged personnel that reflects telehealth duties, roles and responsibilities, and whether these are in addition to existing duties, roles and responsibilities
- Encourage telehealth organizations to link telehealth job performance reviews with salary/wage increases
- See also roles and responsibilities
- See also licensure for cross-jurisdictional issues

6.4.8 Conclusions

As an addendum to all of these HR recommendations, care should be taken to minimize the bureaucratic burden for health care professionals and technical staff, as well as for those who would develop/modify the policies or administer the licensure or other formal recognition processes. Whenever and wherever possible, existing policies and procedures should be used and modified only when necessary to accommodate telehealth-specific issues.

A number of HR issues revolve around the current lack of integration of telehealth into the health care delivery system. This lack of integration manifests itself in several ways and spans all areas covered in the environmental scan (organization, clinical, technical and human resources) and then some. This lack of integration also means that the full impact of telehealth on the health care system has yet to be felt. From an HR perspective, the major issues continue to be licensure, reimbursement/remuneration, competency, qualification, inflexible funding and work arrangements, and so forth. It is important to recognize that there are initiatives already underway that are designed to address these telehealth-related HR issues at the local, regional, provincial/territorial or Canada-wide level. The continuation and, where appropriate, the expansion of these initiatives is both a challenge and an opportunity. One might also argue that it is a necessity considering the as yet unrealized full potential of telehealth to affect the health care system and ultimately to have an effect on human health. Continued evaluation and research into these HR issues is warranted, given the ongoing changes to our health care funding and administration, the rapid changes in telecommunications technology and the evolving role of telehealth in the delivery of safe and effective health care.

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