

DRAFT

**Physician Assistants in Orthopaedic Practice in Canada
COA Discussion Paper**

**National Standards Committee
Canadian Orthopaedic Association**

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1.0 Executive Summary

- **Workforce Report demonstrated the workforce and resource crises in orthopaedic care in Canada and the need for physician extenders**
- **Having studied various models of physician extenders, the best model for orthopaedics is the physician assistant model**
- **Physician assistants improve: access to orthopaedic care; patient safety; and retention and recruitment of orthopaedic surgeons**
- **In May 2006, the COA met with the CMA and discussed physician assistants in orthopaedic practice. The CMA has been supportive and work continues**

Recommendations & Next Steps for the COA

- **Carry out a detailed analysis of the Manitoba clinical assistant experience**
- **Develop strategy to initiate discussions with other organizations:**
 - **Legislation – Federation of Medical Regulatory Agencies of Canada (FMRAC)**
 - **Regulation – Provincial Governments**
 - **Education – Association of Faculties of Medicine of Canada (AFMC)**
 - **Lobbying support - Canadian Medical Forum (9 national medical organizations)**
 - **Governments – Put information into cost-benefit analysis:**
 - **Hospital/Regional Health Authority level - Association of Canadian Academic Healthcare Organizations (ACAHO)**
 - **Provincial level - Advisory Committee on Health Delivery and Human Resources (ACHDHR), Deputy Ministers, Physician Health Human Resources Committee**
 - **Health Canada (federal level)**
 - **Provinces – look to identify champions (either government, medical associations, individual physicians)**
 - **Other providers – Canadian Nurses Association**
- **Points of emphasis – patient care, patient safety, addressing wait times, willingness to work with other health providers**
- **Plan meeting in September – CMA, COA, Canadian Medical Protective Association (CMPA), plus invite Canadian Nurses Association and Canadian Academy of Physician Assistants**
- **Establish a PA coordinating committee to meet on a regular basis; members: Drs. Bohm, Dunbar, Rumble, Watkins (CMA) & Chan (U of Manitoba) and Chris Rhule (Manitoba Clinical Assistant)**
- **Establish subcommittees to work on issues of:**
 - liability
 - working relationships
 - payment mechanisms
 - educational programs
- **Set targets to have physician assistants in orthopaedic practice in five years' time in Canada**

1.1	Table of Contents	
1.0	Executive Summary	1
1.1	Table of Contents	2
1.2	Membership & Terms of Reference Review	3
1.3	Background	4
1.4	Introduction	6
2.1	History	10
2.1.1	Canada	10
2.1.2	US	11
2.1	Models	11
2.2.1	Canadian Civilian	11
2.2.2	Canadian Military	12
2.2.3	US Civilian	13
3.0	Issues	14
3.1	Rationale for PAs in Canadian Civilian Health Care	14
3.1.1	Why is orthopaedics considering PAs	14
3.1.2	Evidence of Benefits of Incorporating PAs into Practice	15
3.2	Challenges	16
3.2.1	Practice Issues	16
3.2.2	Employment Issues	17
3.2.3	Education Issues	18
3.2.4	Political/Regulatory Issues	19
3.2.5	Communication Plan	19
4.0	Recommendations & Next Steps for the COA	20

1.2 Membership & Terms of Reference Review

NSC Membership

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Terms of Reference Review (Adopted Jan 2002)

Preamble

The National Standards Committee (NSC) shall formulate policy recommendations with respect to acceptable national standards related to the practice of Orthopaedic Surgery. The best available scientific evidence will be considered in the development of these recommendations. Committee performance will be measured by the achievement of goals and objectives within specified timelines.

Committee Infrastructure

The NSC will guide and supervise the collection and synthesis of data by research scientists. The committee will synthesize this information into recommendations to be presented to the COA Board.

NSC Membership

The committee shall consist of approximately eight members that are representative of rural and urban, teaching and non-teaching practice settings. Committee members, including a chair (and possibly a vice-chair), are appointed by the COA executive to a six year term. One of the committee members shall serve as chair for a term of two years, with an internal review after one year. For the first six years of the committee's existence, members may rotate off the committee between three and six years to stagger

membership for the sake of continuity, provided that at least four of the original members remain.

Meetings

The National Standards Committee will meet a minimum of four times per annum, usually by teleconference, but on at least one occasion in person at the Annual General Meeting of the Canadian Orthopaedic Association. The committee will schedule meetings and/or telephone conference calls as deemed necessary to meet the timelines.

Governance

The members of the National Standards Committee will report to the Chair (and Vice Chair), and through him/her to the Board on at least a semi-annual basis, normally at the time of the Annual General and Mid-year Meetings.

Mandate of the NSC

- Linkages with other COA committees to maximize efficient use of resources for the acquisition and synthesis of data.
- The committee shall develop and continuously update a two-year plan for research priorities for the development of standards regarding surgeon supply, resources and working conditions, surgeon responsibilities, and evidence based practice.
- The committee undertakes to supervise the conduct of research necessary to develop recommendations regarding priority issues
- The committee undertakes to evaluate and present the level of scientific evidence along with any recommendations it makes to the Board regarding standards.
- The committee will submit a budget to the COA executive on an annual basis to secure the resources needed to achieve the committee's objectives and mandate.

1.3 Background

The National Standards Committee has published 2 reports:

In the *National Workforce and Services Report (June 2004)*, the committee evaluated current and future orthopaedic workforce requirements in Canada. It was concluded that:

1. The Canadian population is severely under-serviced with respect to Orthopaedic services
2. Population under-servicing is primarily due to resource restrictions; especially operating room resources
3. More operating time and associated resources are needed to meet population demands

4. The current critical shortage of Orthopaedic surgeons is getting worse, with ever worsening access to orthopaedic care expected unless something is done to change the trend.

In the *Report on Benchmarks for Wait Times (March 2005)*, the committee determined maximum acceptable wait times (MAWT). In the report:

1. MAWT for Consultation

The committee recommends that no patient referred to an orthopaedic surgeon should be asked to wait longer than 3 months under any circumstances.

2. MAWT for Surgery

The committee recommends that no patient be asked to wait longer than 6 months after the mutual patient / surgeon decision is made to operate. The patient's actual MAWT for surgery is determined by that patient's priority rating.

The patient's actual *MAWT for surgery* is determined by that patient's priority rating.

Priority Rating

After reviewing the available tools used in other jurisdictions, the committee decided to recommend adopting a priority rating scheme similar to one used in Australia.

Priority 1: *A situation that has the potential to deteriorate quickly and result in an emergency admission should be operated within a MAWT of 1 month.*

Priority 2: *A situation which involves some pain and disability but which is unlikely to deteriorate quickly to the point of becoming an emergency admission should be operated within a MAWT of 3 months.*

Priority 3: *A situation that involves minimal pain, dysfunction or disability and which is unlikely to deteriorate quickly to the point of requiring emergency admission should be operated within a MAWT of 6 months.*

Since publication of the MAWTs in 2005, these have been adopted by the Government of Canada and by the Government of Ontario. The latter also adopting the priority rating criteria.

Within the constraints of the Canadian medical system, it is not possible to adequately supplement the supply of orthopaedic surgeons not only to meet increasing demand but

also to reduce waiting times. As a result, it is critical that orthopaedic surgeons make more efficient use of their existing resources.

In the fall of 2005, research was undertaken to examine the potential for orthopaedic surgeon extenders to assist orthopaedic surgeons in their activities both inside and outside the OR. By freeing up the orthopaedic surgeon to concentrate on operating, it is believed that greater patient operating throughput and reduced waiting times would be achieved.

The following models of physician extenders were examined: nurse practitioners, midwives, Registered Nurse First Assistants (RNFA), physician assistants (USA) and physician assistants (Canadian Military). The inclusion of midwives was deemed instructive for organisational and administrative purposes.

Based on an evaluation of this research, the National Standard Committee at the December 2005 mid-winter meeting recommended the adoption of physician assistants as the most appropriate physician extender for orthopaedic practice. Widespread adoption of the PA model in Canada offers the potential: to better utilize existing orthopaedic surgeons, to reduce patient waiting times; to improve patient satisfaction; and to aid in the retention and recruitment of orthopaedic surgeons. Also at the mid-winter meeting, the COA board instructed the NSC to examine the potential for introducing physician assistants (PA) into orthopaedic practice in Canada.

In April 2006, members of the NSC and COA met with staff of the Canadian Medical Association in Ottawa. Although the CMA board has not endorsed the adoption of physician assistants, the CMA has been examining the issue over the last couple of years. In April 2005, the CMA held a conference with the Canadian Military on PAs in the Canadian Forces. Prior to that the CMA had accredited the military PA training program.

At the Ottawa meeting in May 2006, improvements in clinical effectiveness and cost efficiency of the Manitoba clinical assistants were presented. Also discussed at the meeting were issues of professional liability, education, interaction with other health providers and policy implementation. Members of CMA continue to work with the NSC.

1.4 Introduction

Shortage of Orthopaedic Surgeons in Canada

The Canadian population is severely under-serviced with respect to Orthopaedic services. A physician human resource model developed by the NSC indicates that the full time equivalent orthopaedic surgeon density in Canada at about 3 per 100,000 population in 2005. Over the next twenty five years the density is expected to remain largely at this level given the current orthopaedic surgeon human resource model. This density is far

below the clinically appropriate density (4.5) necessary for meeting the population's orthopaedic needs.

As outlined in *National Workforce and Services Report* waiting times for elective orthopaedic consultation and surgery are the longest of any surgical specialty. There is evidence that the population demands for orthopaedic services will grow significantly in the future due to: ageing of the population; unmet need; and expanding indications for orthopaedic surgical procedures.

Canada ranks near the bottom of peer countries with respect to the number of Orthopaedic surgeons per population, and while more surgeons are definitely needed the most significant barrier for patients in accessing orthopaedic care is the availability of resources. To serve the population needs, an additional 440 orthopaedic surgeons are needed immediately in Canada with sufficient resources to practice at a full time equivalent level. Clearly such an achievement is not feasible.

Equally significant are resource restrictions that further limit the potential of the existing orthopaedic workforce. In Canada, orthopaedic surgeons spend only 1/3 of their time operating, with 2/3 of their time taken up by services that could be provided by less expensive healthcare professionals. The main limiting resource is access to the operating room for the provision of surgical care, which is the main service that orthopaedic surgeons provide that cannot be delegated to other healthcare providers.

Orthopaedic surgical skills are under-utilized. As a community, orthopaedic surgeons are working at only 83% of FTE capacity according to the Canadian Institute for Health Information. While a few surgeons are working at above one FTE, an ever increasing number of surgeons are working at well below a full time equivalent level. Improving resource availability would have a positive effect on surgeon retention in Canada. Resource access is listed as the primary reason for surgeons leaving Canada to practice in the US.

Strategies for improving access to orthopaedic care require access to adequate resources and sufficient orthopaedic health human resources. While it is possible over the long term to supplement the numbers of orthopaedic surgeons by training more and accessing international medical graduates, it will never be possible to meet population needs adequately in this manner. Recognizing this problem, the *National Workforce and Services Report* recommended better utilization of the existing workforce by employing physician extenders such as physician assistants or surgical technicians.

Physician extenders

In the fall of 2005, to better understand resource and workforce issues, a number of health providers were examined to determine the roles that they play and the nature of their interactions with physicians. The examination of a variety of providers was instructive to establish those success factors necessary for the establishment of a new class of orthopaedic surgeon extender.

Included were non-operating orthopaedic surgeons, family physicians and non-physician providers. The roles of the non-physicians (physician extenders) vary from that of independent practitioners to providers assisting physicians. Some providers have the backgrounds and experience that are immediately germane to orthopaedic practice and are already well established in Canada. Other providers possess appropriate backgrounds but are hardly established in Canada.

The following non-physician health providers were examined: nurse practitioners, midwives, Registered Nurse First Assistants (RNFA), physician assistants (USA) and physician assistants (Canadian Military). The inclusion of midwives was deemed instructive for organisational and administrative purposes.

Extender Success Factors

A flexible skill set is an important factor in the success of an orthopaedic physician extender in Canada. The head of the American Association of Physician Assistants (AAPA) notes that the nature of the activities performed by PAs may vary substantially from orthopaedic surgeon to orthopaedic surgeon. Some PAs work almost exclusively as OR techs while others spend little or no time in the OR. Some orthopaedic PAs work in both areas. That orthopaedic PAs in the US have strong generalist skills allows orthopaedic surgeons to utilise them in ways best reflecting the unique needs of their practices and the experience levels of the PAs.

The following are professional activities judged to be significant for the success of an orthopaedic surgeon extender: First is the ability to work in a variety of environments that reflect the varied nature of orthopaedic practice across Canada: teaching hospitals, community hospitals, health centres, and offices. Second, the extender needs to share call with the orthopaedic surgeon. This is judged as significant because it reflects both the team nature of the extender--surgeon relationship and helps to make call demands on orthopaedic surgeons less onerous. Third, the ability of extenders to prescribe drugs is important should their work involve activities outside the OR. Fourth, liability coverage for the extender is important to help mitigate liability risk for the orthopaedic surgeon. Fifth, the ability to write orders is significant.

The nature of the working relationship between the orthopaedic surgeon and the extender in Canada is significant. In the United States, orthopaedic PAs are employees of their respective orthopaedic surgeon. Legislation, licensing and training all dictate that physician assistants are not independent practitioners. Nor do they aspire to work independently. The character of this working relationship ensures that the surgeon and practice employees work as members of a team.

Family physicians

Family physicians possess the appropriate education and skills to function effectively as extenders to orthopaedic surgeons. They can work both inside and outside the OR and are flexible enough to meet the needs of individual orthopaedic surgeons. As physicians performing medically necessary services, they are reimbursed by the provincial medical plans. As a result, employing family physicians would have no negative effect on orthopaedic surgeon practice funding. Although there are family physicians who already work in this manner, their numbers are limited. Due to the already severe shortages of family physicians, it is unlikely that adequate numbers of family physicians would be available without further exasperating these shortages in primary care.

Non-Operating Orthopaedic Surgeons

Some orthopaedic surgeons perform little or no surgery. They may be retired or performing medic-legal work, administration or research. But it would be difficult to find adequate numbers to meet the demand in orthopaedics. Additionally, convincing them to return to clinical orthopaedic work may be challenging.

Independent Practitioners: Midwives & Nurse Practitioners

The independent provider model largely defines the nature of practice of midwives and nurse practitioners. Both are mainly independent practitioners within their scopes of practice. Should matters arise outside their practice limits then patients are referred to physicians for care. While some success has been achieved applying the independent practitioner model to obstetrics and primary care, its application to orthopaedics is likely problematic. As noted above, the success of orthopaedic physician assistants in the United States has been achieved when the extender works under the supervision of a physician not as an independent provider. The continuity of care existing under the PA model in the US contrasts with the often fragmented nature of extender care in Canada. Also notable is the fact that optometrists working as independent providers have had an uneasy relationship with ophthalmologists.

Difficult and challenging cases are better mitigated when orthopaedic surgeons have overseen those patients' care from the beginning. Any delay in the application of appropriate care (as would be the case with a fracture that displaces) usually leads to inferior outcomes..

Registered Nurse First Assistants

The RN First Assistant (RNFA) practices perioperative nursing and collaborates with the surgeon and the health care team. Activities included in first assisting are an expansion of perioperative nursing practice and involve preoperative, intraoperative and postoperative responsibilities. RNFAs work in hospitals across Canada. Additionally, they have call obligations and can prescribe drugs (if advanced practice nurses). Unlike physician assistants, RNFAs are unable to write orders; it is not clear the extent to which

they can provide services in the absence of a physician; and training for work outside the OR is limited. The Committee judged these shortcomings as highly significant.

Physician Assistants

PAs may supervise nurses & techs, prescribe drugs and carry out a wide range activities inside and outside the OR as determined by the supervising physician. PAs would be prepared to perform the following activities:

OR assist

- minor surgical activity
- paperwork
- preparing draping
- positioning
- ward rounds
- writing orders
- running some fracture clinics
- intake follow-up
- triage
- rehab advice
- ordering X-rays
- H & P

Having been educated in a medical school environment and trained by their physician supervisor, the physician assistant's practice mirrors that of the supervising physician. PAs can work with or without a surgeon present and are equally proficient inside and outside the OR. This professional flexibility makes them true physician extenders.

Significantly, the National Standards Committee felt that the already serious shortage of nurses would be further exacerbated if they began practice as orthopaedic physician extenders. As a result, the NSC recommended the adoption of physician assistants as the most appropriate physician extender for orthopaedic practice.

2.1 History

2.1.1 Canada

Physician Assistants in Canada are employed primarily by the Canadian Forces where they provide the majority of primary care. Specialty and inpatient care is largely provided in the civilian medical system. Some industrial and remotely located companies utilize former military PAs to provide health care to their workforces. Presently the only PA training institution in Canada is the Canadian Forces Medical Service School (CFMSS) in Borden, Ontario. In Manitoba, Clinical Assistants (equivalent to physician assistants) provide care in orthopaedic and cardiovascular surgery among other specialties. Ontario

announced in early May 2006 that it was planning to introduce physician assistants as a part of a health human resources strategy known as Health Force Ontario.

2.1.2 US

In the mid-1960s, physicians and educators recognized there was a shortage and uneven distribution of primary care physicians. To expand the delivery of quality medical care, In the United States, Dr. Eugene Stead of the Duke University Medical Center in North Carolina put together the first class of PAs in 1965. He selected Navy corpsmen who received considerable medical training during their military service and during the war in Vietnam but who had no comparable civilian employment. He based the curriculum of the PA program in part on his knowledge of the fast-track training of doctors during World War II . 1970 marked the first institutional employment of a PA. Today there is PA-enabling legislation in all 50 states and the Federal districts and territories. Forty eight states allow PAs to write prescriptions. There are approximately 65 thousand PAs working in the US across all specialties and in primary care. (from aapa.org)

2.1 Models

Physician assistants are health providers registered to practice medicine with physician supervision. As part of their comprehensive responsibilities, PAs conduct physical exams, diagnose and treat illnesses, order and interpret tests, counsel on preventive health care, assist in surgery, and in virtually all states can write prescriptions. Within the physician-PA relationship, physician assistants exercise autonomy in medical decision making and provide a broad range of diagnostic and therapeutic services. A PA's practice may also include education, research, and administrative services. (from aapa.org)

In the US, what a physician assistant does varies with training, experience, and state law. In addition, the scope of the PA's practice corresponds to the supervising physician's practice. PAs are educated at a general level and receive specific specialty "on the job" training under their supervisor physician. In general, a physician assistant will see many of the same types of patients as the physician. (from aapa.org)

The cases handled by physicians are generally the more complicated medical cases or those cases which require care that is not a routine part of the PA's scope of work. Referral to the physician, or close consultation between the patient-PA-physician, is done for unusual or hard to manage cases. Physician assistants are taught to "know our limits" and refer to physicians appropriately. It is an important part of PA training. The correspondence between PAs and physicians is not surprising given that both were trained in the medical model often sharing classes, facilities and clinical rotations together. (from aapa.org)

2.2.1 Canadian Civilian

Manitoba is the only jurisdiction in Canada to have formally integrated physician assistants into the civilian health care system through enabling legislation. Known as

clinical assistants, they “provide medical services under the direction and supervision of a licensed physician and extend the supervising physician’s ability to provide medical care to patients” (from Manitoba Medical Act II (2) and Regulation M90 “Clinical Assistants” 1999) (from cma.ca PA presentations)

The Manitoba legislation specifies that a contract of supervision must be entered into by the clinical assistant and supervising physician. This contract specifies: medical services that the clinical assistant will provide; the type of supervision to be provided; and the practice location where the services will be provided. The legislation allows for instance graduates of approved US physician assistant programs & armed forces (certified CA) and International Medical Graduates (Non-certified CA) to meet the legislation’s training requirements. (from cma.ca PA presentations)

In 2005, there were four certified clinical assistants and eleven non-certified clinical assistants working in Manitoba in the following areas: orthopaedics, vascular, cardiac and plastics, rheumatology, bone marrow transplants, neurosurgery, trauma & acute care and liver transplant/hepatology. (from cma.ca PA presentations)

Under development is a clinical assistant training program in Manitoba that has grown out of the University of Manitoba’s clerkship training for Canadian Forces PAs. The Master’s level 26 month generalist CA program will be based at the U of M medical school. Prerequisites would be clinical courses and 2000 hours of clinical experience. Likely backgrounds would include occupational therapists, physical therapists, nurses and emergency medical technicians with clinical experience. The expected first year class size is 12 students.

A proposed PA training program in British Columbia at The Justice Institute of BC is on hold pending BC Ministry of Health discussions. The aim of the program was to provide primary care in underserved areas of the Province. It had been intended to utilize a curriculum developed and used in the University of Washington PA program.

2.2.2 Canadian Military

Canadian Military PAs provide the majority of primary care in the Canadian Forces. Specialty and inpatient care is largely provided in the civilian medical system. PAs always work under the supervision of physicians. The nature of the oversight varies. But a physician is always available even if it is by telephone. PAs in the military do not work in the OR. That role is performed by OR techs and nurses.

Examples of activities performed by PAs include: history taking; simple diagnostic; procedures; data gathering; synthesis of data for the physician; formulation of diagnosis; initiation of basic treatments (such as injection, immunizations, suturing, and wound care and surgical assisting); management of stable chronic conditions; patient and family counselling, & supportive functions; and prescribing and dispensing drugs. The use of PAs in the Canadian Military has resulted in smaller case loads for physicians. In fact, many patients have no direct contact with the supervising physician .

Admission to the PA program at Base Borden, Ontario requires fourteen years experience working as a Med Tech in the Forces. The program takes 3 years to complete and includes clinical rotations in the following cities: Montreal, Toronto, Orangeville, Barrie, London, Windsor, Winnipeg & Vancouver. The program has received accreditation from the Canadian Medical Association and currently trains about 20 PAs annually. Following completion of the program, graduates are required to complete licensing exams set by the Canadian Association of Physician Assistants

The following courses are studied: anatomy; physiology; biochemistry; infectious disease; pharmacology; health prevention/promotion; haematology; immunology; orthopaedics; neurology; respiratory; gastroenterology; nephrology; cardiology; psychiatry; ophthalmology; ENT; paediatrics; geriatrics; OB/GYN; and radiology

2.2.3 US Civilian

Admission to PA programs generally requires a four year degree. Originally programs were at the undergraduate level but today the majority are at the master's level. The program takes 27 months and includes clinical rotations. Upon graduation, physician assistants take a national certification examination developed by the National Commission on Certification of PAs in conjunction with the National Board of Medical Examiners. To maintain their national certification, PAs must log 100 hours of continuing medical education every two years and sit for a re-certification exam every six years. Graduation from an accredited physician assistant program and passing of the national certifying exam are required for state licensure (from aapa.org).

PA programs are generalist in orientation and PAs work across specialties. Graduates have a skill set that can be applied across a range of specialties. It is intended that further specialty training can take place "on the job". Orthopaedic PAs may supervise nurses & techs, prescribe drugs and carry out a wide range activities inside and outside the OR as determined by the supervising physician." Still, there exist several specialty PA residency programs in orthopaedics. It is the opinion of the head of the American Association of Physician Assistants (AAPA) that formal PA specialty training is likely to lead to shortages of PAs and is not recommended as a result.

PAs are employed by the supervising physician. Work that is performed by the PA is reimbursed by insurers. Evidence exists supporting efficiency gains and higher patient satisfaction when physicians work with physician assistants. Typical hours worked each week: 46 and annual salary: \$80 thousand plus benefits. On average, orthopaedic PAs earn an additional 10%.

According to the head of the American Association of Physician Assistants (AAPA), ninety-five percent of all PAs in the US receive their malpractice coverage through their employing physician or employing health facility. Most of the five percent of PAs who do not receive liability coverage and insurance through these means participate in an

AAPA administered malpractice program through insurer AIG.

Litigation for malpractice by PAs is very rare in the US. Utilizing 1999 data from the National Practitioner Databank and AAPA data resources, it is estimated that one claim is made for a PA in every 2 million patient visits. This is a rate much lower than for physicians as a whole. When judgments are awarded, on average the judgments are less than those paid to physicians. The profile of malpractice claims is virtually identical to that of physicians. Over half of claims (68%) are for missed diagnosis. The next largest category of claim is for treatment related problems (19%) (from AAPA)

3.0 Issues

3.1 Rationale for PAs in Canadian Civilian Health Care

3.1.1 Why is orthopaedics considering PAs?

Access to care

The Committee's Workforce report outlined the fact that there are far too few orthopaedic surgeons to meet the present and future needs of the population in Canada. And there is no possibility of training sufficiently more surgeons for the future. A review of different health providers indicated that physician assistants were most appropriate to work as orthopaedic physician assistants. PAs can leverage orthopaedic surgeons, so that one surgeon and one or more PAs can treat many more patients than one Orthopaedic surgeon alone.

Recruitment and retention of Orthopaedic Surgeons

Relative to other specialties, orthopaedics is viewed less favourably by graduating medical students. The workload is onerous; OR schedules are heavy; surgical waiting lists are long; and the call schedule is heavy. Not attracting enough residents only exacerbates the challenging human resource problems. In one recent example, there has been trouble filling all the orthopaedic residency positions at the University of Toronto.

Many of the concerns about orthopaedics that dissuade graduating medical students from becoming orthopaedic residents are also cited by orthopaedic surgeons who emigrate or suffer surgeon burnout. With PAs providing support for orthopaedic surgeons, it would likely help address concerns about orthopaedic professional life and making it easier to recruit residents and retain existing orthopaedic surgeons.

3.1.2 Evidence of Benefits of Incorporating PAs into Practice

US Experience

A study conducted by the RAND Corporation (Jolly, 1980, Patients' acceptance of physician assistants in Air Force primary medicine clinics) found that PAs can perform most of the routine functions in a general medical practice and are widely accepted by patients. In surgical practices, the presence of PAs enables surgeons to delegate the performance of preoperative histories and physical examinations, the ordering and compiling of necessary tests, and part of the postoperative care. In addition, PAs are excellent assistants at surgery. The experience of the physician-PA surgical team results in efficiency in the OR that can reduce operative and anaesthesia times.

A 1994 New England Journal of Medicine article (Sekszenaki et al, "State practice environments and the supply of physician assistants, nurse practitioners and certified nurse-midwives) reported: "Within their areas of competency, and within appropriate training and supervision, these practitioners may provide medical care similar in quality to that of physicians at less cost."

Empirical data on US physician assistance provide compelling evidence of productivity enhancements when PAs are employed in physician practices. The following data were presented by Roderick S. Hooker of the US Department of Veterans Affairs at a CMA conference in April 2005:

- Outpatient productivity measured in patients visits per clinic hour: Physician 3.45 and PA 3.65
- Outpatient productivity measured in patients per day for orthopaedic surgeons was approximately 16 and for PAs approximately 14. While the orthopaedic surgeon is marginally more productive on a stand alone basis, if that orthopaedic surgeon and the PA worked together on average an additional 14 patients would be seen on a daily basis at a marginally lower cost per patient.
- Kaiser Permanente 2000 annual salaries for orthopaedic surgeons: approximately \$210,000 and for physician assistants/nurse practitioners: approximately \$60,000.
- In a 2000 study by Hooker using maximum substitution modeling (i.e physician assistants vs. physicians) the following ratios were obtained: delegation (.83); supervision (.10); physician/pa substitution ratio (.85); compensation to production ratio (.39); societal cost to educate a PA compared to a physician (.20)
- Total cost of treatment episode for shoulder tendonitis: physician (\$144.77) and PA (\$98.77)
- High patient satisfaction with PAs is apparent in several studies

Canadian Experience

Dr. Eric Bohm provides further evidence of enhanced productivity in his orthopaedic practice in Winnipeg which utilizes 2 clinical assistants. Approximate time saving per patient is 50 minutes and at less cost per patient. Joint replacements have increased from 47 per month to 120 per month since CAs began and double rooms are now used. Survey data indicate improved patient care, enhanced satisfaction & quality of professional life for both surgeons and CAs and enhanced surgical volumes. A staff perceptions survey indicates PAs perform as well as family physicians; they maximize OS time and augment peri-operative care. Additionally, they are integral team and collegial members.

It was outlined earlier that litigation involving PAs is less than that involving physicians. Steve Crane, head of AAPA, mentioned that he feels that PAs actually reduce the liability risk for physicians by increasing patient communication and having a “second pair of eyes” on a problem. He notes that, “Most physicians I talk with feel that this may be the most important issue related to liability matters of all.”

3.2 Challenges

3.2.1 Practice Issues

PA Scope of practice and other health providers

Physician assistant scope of practice mirrors that of the supervising surgeon which allows the orthopaedic practice to treat more people than the orthopaedic surgeon alone. PAs are trained in faculties of medicine, often along side medical students. PAs practice according to the medical model which fits well with the practice of the supervising surgeon. On the other hand, nurse practitioners are trained in faculties of nursing and practice a different more holistic healthcare model. While highly valuable especially in primary care, it does not fit as well in an orthopaedic surgical environment.

Within the hospital environment, hospitalists are specially trained physicians responsible for inpatient care only. Unlike physician assistants, they do not go to the surgeon’s office or clinic and usually don’t go to the OR. Residents are surgeons in training. Their time is split between education and practical on the job training. They interact with PAs, and will learn from them. In some hospitals, general practice physicians assist in the OR. Reports from some orthopaedic surgeons indicate a preference to working with PA surgical assistants. It is important to note that GP surgical assistants may be adversely affected if PA works in the OR.

Terminology

The term *physician assistant* is well established. In May 2006, Ontario announced plans to introduce physician assistants. Uniquely, Manitoba uses the term clinical assistants, ostensibly not to cause confusion with physicians. Given the already widespread use of

the name PA, the introduction a new term may lead to some confusion. The experience with nurse anaesthetists in the United States (who started out working for anaesthetists but evolved into an independent discipline) has made some Canadian physicians wary of physician extenders in general. The term physician assistant likely offers some sense of security to physicians that a similar situation will not evolve here.

Effect on patients

Physician assistants in orthopaedic practice will increase volume of services and should reduce wait times as a result. Patient safety is likely enhanced. Reports indicate that mistakes are less likely with two sets of eyes present: PA and physician. Continuity of care is enhanced. For instance, when an orthopaedic surgeon is away, the PA is able to cover, and vice versa.

Effect on surgeons

Orthopaedic surgeons who work with physician assistants will experience workload decreases, while the volume of services provided by the practice increases. Patient throughput is enhanced.. Surgeon burnout may be alleviated and orthopaedics may be held up as a more attractive residency.

Practice location for PAs

In the United States, PAs practice in a range of locations such as private offices, community hospitals and clinics or academic health centres. This will vary from one orthopaedic practice to another. In one practice the PA may work only in the hospital, in another only in the office or in a combination of both. The PA has the professional flexibility to adapt to the practice needs of the supervising orthopaedic surgeon.

3.2.2 Employment Issues

Reporting relationship with physicians

In the United States, physician assistants are generally employed to work with a particular surgeon who both supervises and pays the PA.

In Manitoba, employment responsibilities are shared. The PA has three contracts to sign: surgeon (supervisor); regional health authority (payer) and scope of practice agreement.

Working relationships with other providers

Despite concerns voiced about the potential for conflicts with other non-physician health providers, practices that employ physician assistants do not seem to suffer any. Reports

from experience in the United States and Manitoba have been positive. In a well organized work situation, nurses and physician assistants work well together.

Payment mechanisms

In the United States, it is common for physician assistants to bill Medicare or private insurers for services (e.g. visit fees, surgical assist) just as physicians would bill their provincial health plans in Canada. Medicare generally pays the surgeon a prorated amount (80%). Out of this revenue, the surgeon pays a salary to the PA.

In Manitoba, the health authority pays the clinical assistant's salary but supervision is the responsibility of the PA's physician supervisor.

Liability

In Manitoba, the regional health authority (RHA) as employer is responsible for PA liability coverage. Because separate policies cover the PA (RHA) and the physician (CMPA) and because the PA's payer and supervisor are different, a situation could potentially arise where the physician assistant and the surgeon are opposing each other in court. Perhaps the CMPA could develop a new class of membership for PAs and charge them premiums. This would be similar to the situation in the US where the PA and physician are covered under the same policy. At present there are not enough PAs in Canada to make it attractive for insurers to write policies independently for PAs. Liability is a complex issue and different options need to be worked out.

Resources

As outlined in the Committee's *Workforce* report, resource constraints prevent orthopaedic surgeons from working at their potential. Without adequate OR time and hospital beds among other resource constraints, there is little point in hiring PAs. At the same time, without PAs there is little point in increasing OR time to surgeons significantly. For instance, a single surgeon is unable to utilize two ORs without a physician assistant. Based on the experience in Manitoba when workforce and resource constraints are both addressed, significant improvements are likely.

3.2.3 Education Issues

There are sixty five thousand physician assistants working in the US. More PAs work in orthopaedics than in any other area other than in family medicine and emergency medicine. In fact, 44% surgical specialty PAs work in Orthopaedics. Such numbers indicate that the demand for physician assistants in Canada in orthopaedics has significant potential. The demand for PAs may be even higher if Ontario moves to introduce physician assistants across a range of specialties. In order to avoid the possibility of supply shortages of PAs in Canada, it is critical to plan education and training programs with significant enough capacity to meet this demand. The experience

of the new University of Manitoba Clinical Assistant program will be instructive as educational issues are further investigated. Plans have been discussed to approach faculties of medicine in Canada to discuss these issues.

3.2.4 Political/Regulatory Issues

Enabling legislation for clinical assistant licensure is already in place in Manitoba that may serve as a template for other jurisdictions. With Ontario's recently announced interest in PAs such legislation will likely follow. Given the difficulties encountered with the rollout of nurse practitioners and midwives in some Canadian jurisdictions in the past, it is critical that the introduction of a new health care discipline is carefully managed politically. No doubt provinces will follow closely the experiences in Manitoba & Ontario.

The regionalization of health care delivery has been a significant trend in all jurisdictions in Canada. For instance, in Manitoba, the Regional Health Authority is the payer of clinical assistants. With both policy and payer decisions so highly localized, its important to position issues not only at the provincial level but also at the local level.

Other health providers are likely to express concern over plans to introduce physician assistants. For example, such opposition has already been apparent in Ontario. It is important to include other groups as a part of the planning process early on.

It needs to be emphasized that supplies of health providers are not adequate across all health professions and that PAs are just one component of a larger health human resources plan addressing this situation. This is the approach Ontario is taking with its Health Force Ontario plan which pertains to a variety of health providers. Experience in the US and in Manitoba is that nurses and PAs work well together.

3.2.5 Communications Plan.

It is important that the COA and CMA present a coordinated message on the introduction of physician assistants to the public, stakeholders and governments. Keeping others informed at an early stage is also significant.

While governments are interested in ways to better deliver care, decisions about implementation will weigh heavily on evidence. Key messages include issues of safety, effectiveness, cost efficiency and wait times. These need to be addressed in a timely manner.

4.0 Recommendations & Next Steps for the COA

- **Carry out a detailed analysis of the Manitoba clinical assistant experience**
- **Develop strategy to initiate discussions with other organizations:**
 - **Legislation – Federation of Medical Regulatory Agencies of Canada (FMRAC)**
 - **Regulation – Provincial Governments**
 - **Education – Association of Faculties of Medicine of Canada (AFMC)**
 - **Lobbying support - Canadian Medical Forum (9 national medical organizations)**
 - **Governments – Put information into cost-benefit analysis:**
 - **Hospital/Regional Health Authority level - Association of Canadian Academic Healthcare Organizations (ACAHO)**
 - **Provincial level - Advisory Committee on Health Delivery and Human Resources (ACHDHR), Deputy Ministers, Physician Health Human Resources Committee**
 - **Health Canada (federal level)**
 - **Provinces – look to identify champions (either government, medical associations, individual physicians)**
 - **Other providers – Canadian Nurses Association**
- **Points of emphasis – patient care, patient safety, addressing wait times, willingness to work with other health providers**
- **Plan meeting in September – CMA, COA, Canadian Medical Protective Association (CMPA), plus invite Canadian Nurses Association and Canadian Academy of Physician Assistants**
- **Establish a PA coordinating committee to meet on a regular basis; members: Drs. Bohm, Dunbar, Rumble, Watkins (CMA) & Chan (U of Manitoba) and Chris Rhule (Manitoba Clinical Assistant)**
- **Establish subcommittees to work on issues of:**
 - **liability**
 - **working relationships**
 - **payment mechanisms**
 - **educational programs**
 - **Set targets to have physician assistants in orthopaedic practice in five years' time in Canada**