

*A Proposal for Training Family  
Physicians in General Surgery Skills  
At Prince Albert, Saskatchewan*

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Historically, Saskatchewan health needs were served by a large number of community hospitals, each with relative autonomy, and many with surgical capabilities. General practitioners with additional skills in anaesthesia and surgery provided enhanced services to these communities and enabled residents to stay in their home environment for much of their emergency and surgical care. With the establishment of designated health districts and “rationalization” of services, most of these smaller hospitals have now closed and there is a drastic reduction in the services that can be provided in rural communities. The majority of surgical and maternity care is now provided in larger regional or tertiary hospitals. Long waiting lists and bed shortages have become the norm. Is this the health care the people of Saskatchewan want and deserve? Are rural communities truly being better served by “rationalized” health care? Is there a better option?

The Institute of Medicine of the National Academies, is a group of eminent American scholars who provide advice to the American government on issues of medical care, research and education. They have identified six aims for the delivery of health care: Care should be safe, effective, patient-centered, timely, efficient, and equitable.(1) These principles apply as much in Canada, as in the United States, and it could be argued that they are the foundation on which Tommy Douglas based his plan for Medicare. “From a population perspective, equity means all community residents have access to high quality care that meets population based health needs ...” (2). Almost any trip to a rural community in Saskatchewan would quickly reveal that advanced health care for these folk is not timely, patient-centered or equitable. Emergency services, where specialized care including surgery, usually necessitates a trip to a larger regional centre (generally Saskatoon or Regina), is often hours away from the origin of the emergency. Humber and Iglesias (1999) indicate that 8% of the Canadian population live greater than 120 km. from a tertiary referral centre, and almost all of them live more than one and a half hours transport time during ideal conditions. Kelly (1998), states that 25% of Canadians live in communities of under 10,000 people, but less than 4% of our specialists reside in these communities. These figures are unlikely to be exaggerations in the Saskatchewan picture. Ramp et al.(1999), indicated that the number of family Doctors in Saskatchewan (1998), was 872. Surgical specialists numbered 197. Comparable numbers were 1,064 and 276 for Manitoba and 2,453 and 598 in Alberta.

Iglesias and Thompson (1998), believe that a lack of surgical services leads to potential isolation and compromise of rural citizens who do not have the financial means to travel to other communities. This was supported by Gates et al. who examined workforce patterns of rural surgeons in West Virginia (2003). In West Virginia 81% of the population live in communities of 10,000 inhabitants or less, and travel is often difficult because of terrain and geography. Gates found that patients here prefer to be treated in hospitals where community and family support systems are close. Similar pattern can be expected in rural Canada where the 1996 census identified that on average, rural people are older, and have lower income and educational status than their urban counterparts. Colins et al. (2005) identifies 5 categories of barriers to health care among older rural adults: transportation difficulties, limited health care supply, lack of quality health care, social isolation and financial constraints.

Although perhaps desirable, locating certified general surgeons in rural communities seems impractical. Humber and Iglesias (1996) indicate that a general surgeon wishing to locate in rural Canada would require a community population of at least 15,000 to 25,000 to sustain a full-time position. Such sites also involve excessive on call responsibilities, and professional isolation. Support for a full time surgeon is also expensive, requiring staffing and equipment for a full range of services. Inglis (1994), in his presidential address to the Royal College of Surgeons of Canada identified that the Canadian Medical Association (based on 1990 manpower studies) projected a major shortage of surgeons in Canada. At that time, 48% of surgeons were over 55 years of age, and in communities of 10,000 or less, they were proportionally older.

Locating surgeons in larger regional centres seems a more reasonable approach, but introduces the problems of diminished services in the rural communities, logistical problems in transferring patients, and rising transportation costs.

Iglesias and Thompson (1998), cite literature from Australia where local physicians become less qualified and confident in handling emergency situations. This trend prompted the Royal Australian College of Surgeons to write “Evidence exists that the diminution of G.P. procedural skills in rural areas has in fact reached the point where critical care in surgery and obstetrics has begun to decline in quality, and the balance of well trained emergency surgery versus resuscitation has swung the wrong way.” (3). This was supported by Goodman et al. “Hospitals with reduced surgical services may face difficulties caring for emergency and urgent patients.”(4) this concern was also expressed by the Institute of Medicine of the National Academies: “Handoffs between clinicians at each point along the response continuum have a significant impact on the outcome of rural patients because of the overall fragmentation of emergency medical services and the rural system in general...”(5)

Transportation also becomes an issue. In Saskatchewan, weather and distance can have a significant impact on emergency care. Transport time, even by air can be excessive (flying time to Saskatoon (one way), from Uranium City is two hours, and from Nipawin it is one hour.). Road conditions can also interfere with land transfers. The surface is often very rough and traffic patterns can impede progress. Weather conditions also play a critical role in the time and safety of both forms of transport. The Institute of Medicine of the National Academies, in discussions about the quality of health care that can be provided in rural communities state “Timeliness is the only aim for which the results are clear and not surprising: access to critical services such as emergency care is impeded by geography and scarcity of providers”. (6)

Cost is also a significant issue. Although many patients have insurance to pay a portion of the ambulance fees, not all do, and the costs can be excessive. “The cost to transport one patient by emergency air service from Old Crow in the Yukon Territory to Vancouver was more than three times the average spent on health care per person across the country.(7) A CBC North program identified that in 2003 13% of health care spending in the Northwest Territories went toward medical transportation.

Hayes et al. expressed the concern that the rising cost of transportation in Australia may not be sustainable. Persistently rising world oil prices make this a significant concern in this country as well. One must also question, is it fair for rural people to pay for transportation to a large hospital when urban residents have these services on their doorstep?

These issues do not of course, address the question of patient preference, and impact of local care on outcome. Health Care In Canada (2005) identified that access to care is a priority from coast to coast. In a 2004 review of “What Matters to Canadians” 1230 Canadians aged 20 onward, were surveyed about their preferences in regard to surgery; a third of the respondents replied that it was extremely important that surgery take place at a hospital close to home. This was most important to the older segment of the population. Not identified in these surveys is the importance of culture and family support. Many aboriginal people are forced to leave their communities to obtain surgery at larger facilities. Often these patients do not speak English well, or at all, and translators are generally not available. Families (if they are financially able) must then also travel long distances to provide support to the patient. The Institute of Medicine of the National Academies state that “Patients are best served when they receive quality health care in their home environment from providers who are sensitive to local cultural norms and values, and know patients as members of families and communities.”(8) This sentiment is echoed by several other Authors. Finlayson et al. (1999), outline some of the benefits of localized care including; proximity to personal support systems, continuity of care with familiar and trusted physicians and avoidance of practical problems of traveling for specialized care. These factors were among the reasons that nearly three quarters of the patients they surveyed in a Vermont veterans hospital indicated that they would prefer local surgery even when travel to a regional centre might result in a lower operative risk. (one quarter of the patients indicated that they would accept very high levels of operative mortality risk rather than travel to a regional centre). Finlayson cites other studies with similar results (Palada, et al. *J. Clinical Oncol.* 1997; 15(10):3192 and Llewellyn, Thomas et al. *J. Eval. Clin. Prat.* 1998; 4(1):63). Humber et al. (1999) found comparable results in Canada, as did Hayes et al (2005) in Australia.

Humber et al (1999) believe decentralization of surgical services in rural Canada allows for culturally appropriate care and fosters self sufficiency. They also contend that it allows patients to recover in a familiar environment, to be cared for by professionals they know and supported by friends and family. This philosophy is reflected in the 2001 recommendation of Saskatchewan’s Commission on Medicare that everyday care and emergency services should be available close to a patient’s home. Ramp et al., in the publication “Health in Rural Settings: Contexts for Action” also supports this opinion; “The new model for rural North America, especially Canada, must be centred on the ideal of sustainability... This new model which includes health as a central pillar requires a re-integration of positive key attributes within a framework of sustainable rural systems and communities which, rather than being residual elements in an urban dominated society would serve a models for a generally more sustainable set of human environmental relationships in the years to come.” (9)

To this end, it becomes an issue of social responsibility to train individuals to provide appropriate surgical procedures in smaller communities. Further, the Institute of Medicine of the National Academies states that it is an obligation: “Health professions schools have a public trust. They are supported by public funds and have an obligation to incorporate the needs of the public into their clinical and educational mission.”(10) The difficulty in maintaining certified general surgeons in rural communities has already been discussed; a possible solution was offered by Dr. Fred Inglis in the *Canadian Journal of Surgery* (1994). “In the area of general surgery, the problem will increase due to the

attrition rate of certified general surgeons outpacing recruitment. This may result in the need for some family physicians to acquire additional skills to manage surgical problems.”(11) He reiterated this statement in an article published in the Canadian Medical Association Journal Nov. 15, 1995;153(10): 1453-1455. “The proposed guidelines of the Royal College of Physicians & Surgeons and the College of Family Physicians of Canada currently form the basis for surgical training for physicians located in rural areas. As yet no formal training programs have been developed from these guidelines: this would appear to be the next logical step.” Rourke, in his section on Rural Practice in Canada which can be found in the Textbook of Rural Medicine (2001), cites the recommendation of the WONCA Working Party on Training for Rural Practice. “Medical schools should take responsibility for educating appropriately skilled doctors to meet the needs of their general geographic region, including underserved areas...” They advocate the development of appropriate needs-based and culturally sensitive rural health care resources with local community involvement, regional cooperation, and government support. This suggestion was supported by the College of Family Physicians of Canada, and the Society of Rural Physicians of Canada who in 1999 established a working group on Rural Family Medical Education. Among their recommendations was the establishment of competency based advanced rural family medicine skills training programs in G.P. anaesthesia, advanced maternity care including Caesarean sections, and G.P. surgery. Such programs have now been established in institutions such as the University of Alberta, University of British Columbia and Queen’s. The University of Saskatchewan has established programs in Anaesthesia, and Obstetrics but to date has no general surgical component. The concept for such training is endorsed by ten of the twelve Health Districts in Saskatchewan which, when surveyed whether or not they would support and utilize this type of training, indicated a need for such physicians. (Appendix 1)

Concerns may arise as to the quality of care that can be provided in rural communities by such providers. The Institute of Medicine of the National Academies suggests that “the quality of the rural health care delivery system is determined by the availability of providers and health care facilities to rural residents, and the ability of the providers and organizations to give the care that is needed...”(12) This concern is addressed in data from rural Australia where many services including complex birthing, aesthetic and surgical procedures are provided by G.P.s with additional procedural skills training. Hays, Evans, and Vectch conducted a comprehensive exploration of the perceived quality of procedural care from the perspective of patients, their families, peer rural doctors, urban specialists and medical administrators. They concluded: “...where trained and experienced medical and other health staff are available in well equipped rural hospital facilities, patients can receive care of similar quality to that expected by urban Australians.” They also conducted a Medline search, and failed to identify any strong evidence that the quality of rural procedural care in developed nations is poor.

A systematic review of research published between 1979 and spring 2004, was discussed by the Canadian Institute for Health Information and published in “Health Care in Canada (2005). It identified 161 relevant studies which included 313 analyses of the volume-outcome relationships. They were able to identify a positive relationship between volume and outcome, but this varied with the type of surgery performed. In 31% of the studies, this relationship was not statistically significant. The procedures examined were

also major operations which would not likely be performed by Family Physicians, even those with advanced surgical training. They included lower esophagectomies, lower whipple operations, angioplasties, repair of unruptured abdominal aortic aneurysms, carotid endarterectomies, by-pass surgery, colorectal surgery, lobectomies, and pneumonectomies. Even with the complexity of these procedures, there was no significant relationship between volume and outcomes for the last 7 operations identified.

There is evidence that Canadians support the concept of G.P. surgery. The Canadian Institute for Health Information identified 121 G.P. surgeons and 200 G.P. obstetricians in rural Canada during 1995-96. Chaisson et al (1999) indicate that in Rural Western Canada, general practitioners provide surgical services in 87% of the hospitals, 16% of which rely exclusively on general practitioner surgeons. 76% of the hospital administrators that were surveyed in their study indicated that they felt their community surgical needs were well met by this manpower configuration. Iglesias et al in "Advanced skills by Canada's Rural Family Physicians" to be published in the Canadian Journal of Rural Medicine (in press) identify 121 G.P. surgeons and 151 F.R.C.P. surgeons in rural Canada. In 1996 they performed 2605 appendectomies, 26% of which were performed by the G.P. surgeons. 4292 Caesarean sections were also performed during that year; 43% of which were done by G.P. obstetricians. Iglesias (1998) states that outcome studies in obstetrics, caesarean section, colonoscopy, cardiac stress testing and gastroscopy demonstrate identical standard of care for both rural generalists and urban specialists.

There is little data specific to the safety of G.P. surgery. Humber et al. (1999) identify one unpublished study done by a U.B.C. general surgical resident who examined 5 year retrospective data on appendectomies performed by a G.P. surgeon and compared them to a board certified surgeon. He found the complication rates to be comparable.

More information is available on the performance of G.P.s with advanced obstetrical skills. Humber et al (1999) cite a number of such studies which point to equal outcomes when compared to certified obstetricians, but with lower Caesarean section rates. Peter Hutten-Czapski (1998) suggests that if maternity services are unavailable locally in rural areas, outcomes are actually poorer and costs are higher. This contention is supported by Dr. Tom Maclachlan in a letter published in the Journal of Obstetrics and Gynaecology of Canada 27(12). He illustrates that perinatal mortality rates have increased from 1998 to 2003, and associates this with the increase in coverage provided by Obstetricians and the decline in obstetrical services provide by G.P.'s during that same time period. Kornelson and Grzbowski (2005) also point to evidence that obstetrical outcomes for newborns may be worse as a result of the precipitous decline in the number of rural communities providing local maternity care. (This can be extrapolated to suggest care by family physicians).

Accepting that G.P. surgery is safe, and provides more timely and culturally sensitive care in local communities, are there other benefits to providing this service? Humber et al. (1999) contend that such programs would foster increased confidence and trust among the staff, and serve to promote higher skill levels and self sufficiency. They feel it provides a more stable physician base that improves retention and makes recruitment easier. Rourke (2001) feels that the ability to care for more seriously ill and injured patients affords teams of physicians, nurses and support staff the opportunity to practice teamwork and maintain their skills and confidence. Bruening and Madden (1998)

speculate that such programs would help to maintain the viability of some smaller hospitals and decrease the number of transfers to regional hospitals for treatment.

Rodney et al. (2004) feel that procedurally trained family physicians represent the cutting edge of an emerging paradigm of care that includes ambulatory surgery, maternity care, caesarean section and laparoscopy, particularly for patients in smaller communities and developing nations; but, where should such training take place?

The Institute of Medicine of the National Academies feel that “Rural communities represent excellent sites to pilot innovative ways of improving population health and personal health care delivery...”(13), and as such should also provide an excellent training environment for advanced surgical skills for Family Physicians. Smaller regional rather than large tertiary centres also help to promote the concept of generalism rather than fostering a philosophy of specialization that is pervasive in larger centres. Prince Albert is the ideal centre for such a training program. There are approximately 39,000 emergency room visits per year, 5,000 surgical procedures performed in the operating theatre, and in excess of 1200 deliveries per year. It also has a wide variety of speciality services that can provide appropriate training. These include General Surgery, Orthopaedic Surgery, Obstetrics and Gynecology, Urology, Otolaryngology, Ophthalmology, and an itinerant plastic surgeon. We also have specialists in Internal Medicine, Paediatrics, Pathology and Psychiatry. These individuals are enthusiastic about the prospect of teaching a Family Medicine graduate in enhanced general surgical skills. This is evidenced by the motion passed by the district Medical Advisory Committee on February 21, 2005. (Appendix 2).

It has been recommended that a training program to provide enhanced surgical skills to a Family Physician should be flexible and provide the training that will be needed in the community that the candidate plans to serve. Curet and McGrew (2000) state that the curriculum must provide the surgical skills the trainee will need to appropriately meet their patients’ health care needs. This was echoed by Tulloh et al (2001), and Gates et al. (2003). Gates also indicated that surgeons in communities in Virginia populated by fewer than 10,000 people listed obstetrics and gynaecology, urology, otolaryngology, and orthopaedics as part of their regular cases. In addition, endoscopic procedures comprised from 17- 24% of the total procedures regardless of community size.

Humber et al. (1999) identified the most common procedures performed in Canadian communities of 10,000 people or less as hernia repairs, tubal ligations, appendectomies, breast biopsies, closed fracture reductions, anorectal surgery, varicose vein procedures, cholecystectomies and hysterectomies. Kelly (1998) found that the scope of the expanded procedural skill set broadens with increased distance from a referral centre, often to include caesarean sections, orthopaedic reductions, psychotherapy, chemotherapy, and other enhanced emergency, surgical and obstetrical skills. They also suggest that a curriculum in enhanced surgical skills should include didactic sessions, bedside teaching, chart reviews, case presentations and corridor consultations. Further they suggest that to attain competence in specific skill sets, 25 to 50 procedures should be performed. Iglesias et al. (1998) suggest that issues of risk management, patient selection and scope of practice also need special attention.

Humber et al (1999) have suggested a broad based curriculum for a program in enhanced surgical skills (Appendix 3), however, in keeping with the recommendations

previously cited that the curriculum should be designed to suit the candidate and eventual location, a curriculum as proposed by a current applicant is outlined in Appendix 4.

Evaluation of the resident should be completed and documented by the preceptors on an ongoing basis as suggested by Huber et al (1999). Formal mid term and final evaluations should also be completed and documented. Deficiencies must be addressed before completion of the program is granted.

This program could be undertaken as a pilot project with funding for the resident salary to come from the Saskatchewan Medical Association's Committee on Rural and Remote Practice (C.O.R.P.). This group has appropriate finances to dedicate to such projects in exchange for the resident's commitment to practice for a specified period in a rural or underserved area of Saskatchewan. The College of Medicine at the University of Saskatchewan would be expected to provide support (administrative and funding) for the preceptors, and this could be accommodated through the existing College of Medicine office in Prince Albert. If successful, the Saskatchewan government may wish to provide future dedicated funding for this program through the College of Medicine.

Once the training period is completed the candidate will be expected to maintain their skills. Humber et al. (1999) cite several studies that competency, once acquired, can be maintained with relatively few cases each year. However, the G.P. surgeon should be expected to provide documentation of maintenance of competence through regular applicable C.M.E. Periodic one week rotations could also be undertaken with practicing General Surgeons in larger centres to ensure the maintenance of appropriate skills and update of information and technical procedures. This could also be funded through the C.O.R.P committee. In addition the existing Physician Enhancement Program (P.E.P.) of the Saskatchewan Medical Association could be used to ensure appropriate practice patterns. Regular chart audits and morbidity/mortality reviews should be made one of the requirements for P.E.P. scrutiny.

This proposal provides clear evidence that allowing Family Physicians to obtain enhanced surgical skills is practical, safe, and desirable for the people of rural Canada and Saskatchewan in particular. Funding sources are in place to be accessed, there is an appropriate institution ready and eager to undertake the required training, and there is a Family Medicine resident who is keen to undertake the training upon completion of her C.C.F.P. this spring. This proposal seeks approval of the College of Medicine, The College of Physicians and Surgeons of Saskatchewan, and the Committee On Rural and Remote Practice of the Saskatchewan Medical Association, that the Rural Division of the Department of Family Medicine, University of Saskatchewan be allowed to take the opportunity to pilot a program of enhanced surgical skills training for a Family Physician commencing July 2006. It is believed this will increase the interest in Family Medicine for some students, improve recruitment and retention rates in rural communities and improve health care delivery in Saskatchewan.



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