Late night thoughts on reading John Ross's report

(with apologies to Lewis Thomas)

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Introduction

We have read and re-read John Ross's Interim Report on Emergency Care over the past few weeks. The content is, naturally, of consuming interest to us, since we are among the rural ER's being looked at for a change in role. Dr. Ross tells us that he has been mandated with suggesting changes to the current emergency care system "*with the goal* of *significantly improving the delivery of emergency services in Nova Scotia*." He has visited seven of the nine DHA's, including , if our experience is any guide, every site in each. We have had two opportunities of meeting with him: the first while he was visiting the Digby General Hospital site of our westerly neighbour, South West Health; the second during his visit to Annapolis Valley Health. Dr. Ross was very explicit in what he told us: no ER would be 'closed', in the sense that the doors would be locked and the lights turned out, but the current 37 24-hour ER's would be reduced to about 25. The others would have a changed role, though he felt that they would "continue to be vibrant and function." Although he may be, as he says, "in listening mode", he clearly came to our area with a preferred solution. He did, indeed, listen, though we are not sure exactly what he heard. We are sure that, whatever he heard, he eventually felt that his original solution was still the best one.

What follows is a series of thoughts on the themes raised by Dr. Ross in his paper. The order is not necessarily the same as that in his paper; rather our thoughts are organized in a hierarchy from the general to the specific. Where possible, we have tried to include reference to evidence, since we believe that changes to the emergency care system must be based on evidence as much as possible, rather than prejudice, political preference, or ideology.

On primary care and ER's

> *"It is well recognized that the health status of Nova Scotians would improve with better access to ongoing Primary Care, chronic disease management, and support of lifestyle changes."* Pg. 11

In the past few years, Nova Scotia has been trying to develop a system in which chronic disease management, primary prevention programs, and patient education - including support of lifestyle changes - would be the main focus of front line practitioners. The rationale advanced is exactly as Dr. Ross says; that the health status of Nova Scotians would improve. The new system, known as Primary Health Care, is different from primary care.

Primary care is traditionally defined as the care provided at the first point at which the patient interacts with the health system. Its components, then, would include everything from the ER at the acute end , to the visiting Public Health Nurse doing assessment and preventative health teaching in the home of the new mother and babe, with the family practice ideally at the core, providing continuity of care and coordination of various services.

Primary Health Care - a usage which is confusing, (in our view, deliberately so), and which we shall henceforth refer to by its initials, PHC (pronounced “fik”) - excludes acute care, and only reluctantly includes the care of episodic illness. It concentrates, as noted, on chronic disease management, primary prevention programs, and patient education. The new core is the
collaborative practice, which includes some new types of professionals, especially Nurse Practitioners (NP’s), and specialty nurse educators (in diabetes, congestive heart failure, and chronic obstructive lung disease, for example), as well as public health nurses, rehabilitation professionals (physical and occupational therapy) in addition to the family physician.
There is good evidence that the PHC approach [1,2,3,4] as applied to individual patients, does, in fact, modify the course of chronic disease, reducing the number of ER visits and hospitalizations for example. There is not, however, a shred of evidence that it changes the health of populations

The health of populations has been well studied, and there is literally no question as to which are the determinants of population health; diet, income, employment and working conditions, housing, and a social safety net.[5] Indeed, studies in the UK gave striking evidence that childhood diet has a permanent effect on health, even in people whose social circumstances later change for the better [6,7, and many others]. The organization of medical care, aside from its role as part of the social safety net, makes almost no impact on the health of populations. This is all well known to students of health policy, who commonly feel that there is some degree of cynicism involved for governments,(who have spent the last thirty years passing policies that have systematically widened the gap between high and low earners, cut back on the benefits to those on welfare - including to single parents and, therefore, their children - and generally made employment less secure and less safe, while cutting back the social safety net), to now be pushing PHC as a “population health-based approach to health care.”

In any case, PHC is not any kind of a substitute for an adequate emergency service. PHC may lower the number of people seeking inappropriate care in city and country alike. It will not, in the long run, lower the number of people suffering from heart attacks, CHF, or COPD, though it may reduce the number of visits any individual has to make to the ER. People, no matter how well cared for will still have accidents, heart attacks, and other acute illnesses which require the immediate care of skillful, well-trained physicians working in an appropriately equipped ER within a reasonable distance. It is the loss of such capacity that worries rural residents.

On Emergency Care Standards

> *Nova Scotia has the opportunity to be one of the first provinces to establish Emergency Care Standards that will come from the collaborative input from the Department of Health, all DHAs, and Emergcncy Care staff.....The report also discusses categorization of emergency departments based on the levels of care each facility can provide.* Pg. 11

It is clear to all of us that common standards for Emergency Care might be a good goal. The devil, as usual, would be in the details. Such standards should be aimed at ensuring that patients, regardless of at which ER in the Province they arrived, would receive comparable, competent care. Our concern is that the standards may be manipulated to justify the closing or downgrading of small departments.

There are two facets to Emergency Care standards: standards for the ER per se; and standards for the professional staff who work within the ER.

For example, at one of the public meetings held in Annapolis, an executive of AVH said that ACHC "could not be a full-service ER, because they don't have a CT scanner". Of course, in reality, no ER has a CT scanner, or an MRI, or a trauma team, in the same sense that they have blood pressure cuffs, cardiac monitors, or nursing staff. The ER is a place where patients who may be acutely ill can be rapidly triaged by skilled nurses, seen in a timely manner by well-trained physicians, who are qualified to apply appropriate advanced life support, and stabilize the patient until they can receive definitive treatment. For the patient, the ER experience in the first hour should be much the same, whether they are seen at ACHC or the Queen Elizabeth II Health Science Centre. The real issue is how quickly the move to definitive care can happen; what is the distance down the corridor, so to speak, from the ER to the CT scanner, the OR, or other specialized services. In truth, the ER physician in the rural facility may have to do more than his or her urban colleague precisely because of the fact that the Trauma Team or the CT are down a much longer corridor.

It is important, then, that whatever standards are developed are not based on the resources available at the facility which houses the ER. Otherwise, the logic would lead to just one ER for the entire province, in Halifax, the only site where all the equipment - CT scanners, Cardiac Catheterization Lab, etc. - and all the specialized human resources - trauma team, neurosurgery, and so on - are located. The standard must instead be based on the ability of the rural ER to rapidly assess, appropriately treat and stabilize, and transport the patient in a timely way to definitive care. If the right personnel are available, the rural ER must then be properly equipped to carry out this care.

The second issue is standards for the professionals who work in the ER. Dr. Ross makes approving reference to the Canadian Association of Emergency Physicians

(CAEP) report, "The Case for National Standards for Hospital Emergency Services." It is, in fact, the only paper he refers to which he reproduces in its entirety in an appendix. CAEP is a mainly urban based organization, whose major goal is to establish that Emergency Medicine is a separate and distinct specialty. Their paper clearly states that "the standards must acknowledge that emergency medicine and emergency departments are specialty areas of medicine". The second recommendation says, "The initiative [development of national standards] should be conducted under the auspices of CAEP and appropriately resourced by the federal government." [Pg 24]

There is a serious concern that this would lead to a standard that all physicians working in any ER should have the emergency medicine certification of the College of Family Practice. (CCFP-EM). Given the numbers of such certificants existing, this would lead to the closure of most ER's in the province. Even should the number of graduates of the program be ramped up, it is our experience that few of them are interested in working in what they regard as a "rinky-dink" ER, which means that most rural ER's would certainly close.

We must be clear that we are not against standards for physicians working in rural ER's. On the contrary, feeling, as we do, that a patient presenting to a rural ER should receive the same quality of care as they would presenting to any other ER, we strongly support consistent standards. For a start, we think that anyone working in a rural ER should hold a current certification in Advanced Cardiac and Advanced Trauma Life Support (ACLS & ATLS). Performance standards, for example "door-to-needle" time, should be the same as in any ER. We are certainly prepared to look at other such standards, but we think the appropriate organization to look to for guidance is the Society of Rural Physicians of Canada. SRPC has a proven record of developing rural-specific standards in cooperation with the Society of Obstetricians and Gynecologists of Canada [8], the College of Family Physicians of Canada, and the Canadian Anesthesiologists Society [9].

On the criteria for closing ER's

> *However, some hospitals see very low night visit rates and very low true emergencies. For example, five hospitals averaged less than one patient per night in 2008/09.* Pg. 4

This quote provides the only clue as to what the major criterion might be for which ER's continue to offer 24-hour coverage, and which will be downgraded to less than 24-hour urgent care centres. Dr. Ross goes on to suggest that the few patients who would otherwise be seen could be cared for and transported by EHS. "*Canadians tend to be over-insured. We are in fact doubly insured when it comes to emergency care. Not only do we have a physical location staffed to respond to an emergency, we also have mobile units in the form of EHS on standby.*" (Pg 8)

Looking at the data for Annapolis Valley Health for fiscal 2009, we find that Valley Regional Hospital ER saw only 31 CTAS 1 patients (0.1%), Soldiers' Memorial ER saw 22 (0.1%), and ACHC saw 18 (0.2%). True emergencies are, in fact, extremely rare. Interestingly, this year, we were not given the figures on registration by hour of registration, which we were given in fiscal 2008. Since the other data are not significantly different by percentage, we think it is safe to assume that the percentage of patients registering after midnight would likely be unchanged. Taking the total number of patients seen for the year (27,196), multiplying by 0.13 (the percentage registering between midnight and eight AM), then again by 0.082 (the percentage of CTAS 1's plus that of CTAS 2's), then dividing the answer by 365, we get 0.8. That is, Valley Regional Hospital ER saw less than one emergently ill patient per night. We pointed this out to Dr. Ross and two VP's from AVH, and proposed, on the basis of those figures, that VRH ER could be closed from midnight to 0800h, and the one or less emergency patient could be transported to Halifax, less than an hour away. The response we got was illuminating: "Technically you're right, but, of course, we can't do that." We felt like the rabbit in the old Trix commercial - "Silly bumpkins, open ER's are for urban folks"

We are not arguing that there should be an ER in every little town, but we are arguing that whatever criteria are used to judge which are to remain as 24-hour ER's must be applicable to all equally. If a criterion cannot be applied "just because", it is not a valid criterion, it is just an excuse.

We note that Dr. Ross quoted, approvingly, from the Society of Rural Physicians "Policy Paper on Regionalization" We would now like to direct his attention to the same organization's more recent paper, "Rural Hospital Service Closures". [10, reproduced in full in Appendix 1] This paper presents, at least in our view, a balanced view of the rationale(s) and costs of closing services in rural hospitals in Canada.

On CTAS scoring

> *As well, the percentage of total Priority One Level* [this seems to mean the totals of CTAS 1,2 and 3] *emergency department visits averages 34.3 percent and falls below 10 percent in some sites.* Pg 7

A good deal is made by Dr. Ross of the relatively large number of people with low acuity (CTAS scores of 4 and 5) seen in rural ER's. He reproduces (Appendix 3) the Canadian Triage and Acuity Scale - CTAS - for all to see. To the uninitiated, it looks like an objective, reproducible scale. Unfortunately, when judging rural ER's, the scale has two flaws, one in how it operates, the other in applying a scale developed in an urban setting to a rural one.

First, the operational problem: although the CTAS scale looks perfectly objective and rational, in actual use, there is a large amount of judgment required on the part of the triage person, usually a nurse or paramedic. Careful training and ongoing quality control may mean that the scale is reproducible and consistent within any given department, but that doesn't make it directly comparable from one department to another. Additionally, there is a well recognized phenomenon within departments known as "CTAS category creep". For a variety of reasons, over time, the triage of patients tends to move up the scale. In the recent experience of one of us (RGB), in a 12 hour shift at VRH ER, he only saw one or two patients who had been triaged as CTAS 5, and about 80% had been triaged as CTAS 3. In fact, of course, there were many more actual 5's (acute, but non-urgent, non-acute, even chronic) and many fewer actual 3's. The difficulty this produces is that, at VRH, the average time from triage to being seen by a physician, which is benchmarked at 0.5 hours or less for CTAS 3, runs to more than three times that at 1.8 hours. This, of course, makes a mockery of the system which is supposed to lead to timely attention from a physician, (In contrast, at ACHC, the triage-to-treatment time for CTAS 3 is 0.8 hour).

Even though we cannot accept that a direct comparison is possible between CTAS scores in different departments, we acknowledge, that, in truth, there are proportionately more low acuity patients seen in a rural ER. How do we explain this? Dr. Ross asks, "Emergency Room or social safety net?" In a rural area, the answer is, and has to be, both.

In an urban area, even one with a shortage of family physicians willing to provide long-term, comprehensive care to a group of patients, there is always a pool of physicians, often young, often undecided about where they ultimately want to practice, sometimes uninterested in either the hard work of long term practice or the stress of ER work, who opt to provide the relatively straight-forward, low commitment, low stress episodic care of acute but non-urgent patients in walk-in clinics or urgent care centres. Such facilities often siphon off a significant proportion of the CTAS 4's and 5's from nearby ER's. This is what has occurred at VRH over the past several years; their total numbers seen have actually gone

down, as those patients, faced with long waits in the ER, have opted to go either to Berwick Urgent Care Centre or to the Mud Creek Clinic in Wolfville.

In rural areas, no such pool of physicians exists. That means that any patient who does not want to wait to see their own doctor for even a couple of days, as well as the increasing number of patients who have no doctor at all have no option but to go to the ER. Dr.Ross talks about improving access to Primary Care, with "*same day appointments that decrease wait times and increase throughput*" [pg. 12], as though the resources to do such a thing were just lying around, unused. In fact, he outlines the problem himself, in the section entitled, "Why don't we hire more doctors and nurses?" [pg 6]. The result is that, even if we ran a triage system that was perfectly consistent from one end of AVH to the other, ACHC would still see a higher proportion of CTAS 4's and 5's than VRH, and will for the foreseeable future. A different case mix, however, is not a reason for not also providing 24 hour ER services.

On the use of paramedics

> *Paramedics are an excellent example of a well trained, multi-task, generalist. They are agile health care workers that can be utilized both inside and outside the hospital setting.* Pg 10

Dr. Ross is very clear that, if a rural ER is to be closed (whether overnight or altogether), the alternative will be an enhanced EHS system. He recognizes that cost would be one barrier to that: "*if we want to build EHS into an algorithm that provides the safety net in various communities, we need to make absolutely sure that cost is not a barrier. Entering through the doors of the ambulance must be affordable to all Nova Scotians, because walking through the door of the emergency department is free.*" [pg. 10] Once that is dealt with, "*EHS, who are already staffing 24/7, could, with some additional staffing provide and excellent service for the rare true emergencies.*" [Pg. 7] He actually refers to EHS as "*an extensive network of mini-hospitals staffed with highly qualified first responders with life-saving skills.*" [Pg. 9]

What is the evidence that paramedics in ambulances are an adequate replacement for ER services? Well, as it turns out, there is very little, and what there is turns out to be from densely populated areas like the UK, where the distance to any ER is short. We have been able to find almost no Canadian evidence. What evidence there is suggests that acute, seriously injured trauma patients actually do worse if paramedics try to do advanced life support in the field. [11] This supports our intuition that no paramedic, however well trained, in an ambulance, however well equipped, is the equivalent of a competent physician and a team of nurses, in a well lighted, well equipped, stationary ER.

We also have anecdotal evidence, both of our own, and from elsewhere. For

example, there was a recent case in Ontario, reported in The Globe and Mail on January 22, 2010. A young woman, injured in a car accident just 15 kilometers from the hospital in Fort Erie, had to be transported to Welland because the local ER had been closed. She died en route from blood loss; ambulances do not carry blood. We have had two similar cases here, where the paramedics did opt to bring the patient in; we were able to stabilize them and send them on with blood running. In both cases, the patients might not have survived and certainly would have been in worse condition on arrival had we not been involved.

The other notable information in the Globe article was that the savings involved in converting two ER's in the Niagara Health Region to Urgent Care Centres - over $1 million - was dwarfed by the increased cost of providing ambulance service to the area - $3.1 million. Again, this would support the intuition that if the local ambulances have to transport people further and are therefore out of the community for longer, there will have to be more ambulances and the paramedics to staff them.

Dr. Ross found that the public "*is distrustful and . . .will resist change in favour of the 'devil they know'. This is further exacerbated by physicians and nurses who, as groups, are generally acknowledged to be conservative and resistant to change."* [Pg 10] He seems not to consider the possibility that the distrust and resistance is the fruit of a bitter experience. All too often, rural areas have found themselves subject to change, mandated from the distant provincial bureaucracy, which they are assured is actually in their best interest, but which has had the effect of damaging their communities, reducing the options available to them and their families, and threatening the very existence of their way of life.

On recruiting and the viability of medical groups

> *The number of Family Physicians remained relatively static over the last 4-5 years, whereas the number of specialists increased.* [Pg. 7]
> *While 31% of Canadians live in rural areas, only about 17% of family physicians and about 4% of specialists practice there.* SRPC - Rural Hospital Service Closures, April 2009

Like many other urban-based people, Dr. Ross implicitly makes the assumption that closing the ER will allow the physicians to turn their attention to chronic disease management and preventative medicine. In fact, the most likely outcome, in any rural community, of the loss of the ER is the subsequent loss of some or most of the existing physicians, and marked difficulty in recruiting replacements. The statistic given above, from the SRPC's 2009 discussion paper are already grim; based on the data from the 2006 census, the rural population is now 28% of total population, served by only 16% of the family physicians and 2% of specialists. The vast majority

of graduates of family medicine programs in Canada have no interest in locating in rural Canada.

Some things have improved, however. Almost every province now has a Rural Family Medicine training program, and there are at least two new medical schools (Northern BC, and Northern Ontario) which are dedicated to training rural doctors from day 1 of medical school. We have had a lot of opportunity to talk to residents from these programs, both those doing rotations in our practice, and those we meet at SRPC conventions. In 100% of cases (admittedly, an unscientific sample), we have found that those residents are not interested in locating in a community without an ER. Like us, they are interested in the whole field of medicine from acute to palliative, and everything in between. While it is true that not all residents in the Rural Family Medicine programs intend to practice in rural areas, (and around 35% [12] of them don't, in the end), virtually all those who intend to enter rural practice are in those programs. It is our conclusion, along with many of our rural colleagues across Canada, that loss of the ER will inevitably lead to loss of all medical services in our area. It may be possible to have a rural ER without an associated family practice, but it is not, in our opinion, possible to have the reverse.

At the time when Medicare was just beginning in Canada, Mr. Justice Emmet Hall said in his landmark report, "Every citizen in Canada should have equal access to health care regardless of where they live." That has proven difficult to achieve in practice. However, we feel that it would be retrogressive to take steps which predictably will decrease the access of the rural population, not just to emergency care, but to any care at all.

What's next ....

> *Nova Scotians should expect to have timely access to emergency services that includes getting quickly to the most appropriate emergency health care provider.* Pg. 3

Those are the opening words of Dr. Ross's interim report. The weasel words here are "the most appropriate." The question for us and our community is, Who gets to decide that? With all due respect to Dr. Ross, an urban-based, tertiary care ER physician seems like an inappropriate choice. These are decisions that affect the lives of our patients, our ability to practice medicine, and, in fact, the long term viability of our community. Based on what we find in Dr. Ross's interim report, we fear that misinformation (PHC will improve the health of the community, and money is better spent there than on the "Band-Aid" of an ER), biased criteria (closure on the basis of low volume is OK for the rural ER but not the Regional Hospital ER), manipulated standards (urban-based and essentially unmeetable in the rural setting), and untested and quite doubtful assertions (EHS can be an acceptable substitute for a local ER) will be the basis on which the decision is made. The community, quite rightly, is going to insist on a major voice in the process: indeed, not just in the process, but a significant influence on the outcome.

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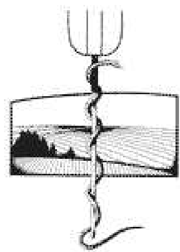
RURAL HOSPITAL SERVICE CLOSURES

April, 2009



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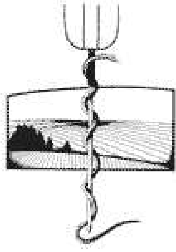

Society of Rural Physicians of Canada
Société de la médecine rurale du Canada
www.srpc.ca

About the Society of Rural Physicians of Canada

The Society of Rural Physicians of Canada (SRPC) is the national voice of Canadian rural physicians. Founded in 1992, the SRPC's mission is to provide leadership for rural physicians and to promote sustainable conditions and equitable health care for rural communities.

On behalf of its members and the Canadian public, SRPC performs a wide variety of functions, such as developing and advocating health delivery mechanisms, supporting rural doctors and communities in crisis, promoting and delivering continuing rural medical education, encouraging and facilitating research into rural health issues, and fostering communication among rural physicians and other groups with an interest in rural health care.

The SRPC is a voluntary professional organization representing over 2,700 of Canada's rural physicians and comprising 5 regional divisions spanning the country.

"Nous soignons les régions- We care for the country"

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Executive Summary

> *.. there is an "inverse care law" in operation. People in rural communities have poorer health status and greater needs for primary health care, yet they are not as well served and have more difficulty accessing health care services than people in urban centres.*
> *- Roy Romanow, Commission on the Future of Health Care*

While Canada's beleaguered health care system still produces outcomes among the best in the world there are growing signs that this is not the reality among Canadians living in smaller or more isolated communities across the country.

When regional management lacks political accountability to the people it serves, it is an easy decision to close, or hobble, a small peripheral hospital and transfer a portion of the funding for those services to the centre of power. However rural health care is usually quite efficient with lower cost per capita in dollars spent, and health care providers engaged, than city care. While the local budget will be reduced, the system itself, will not save money unless access to care elsewhere is prevented, which shouldn't be the point.

Quality arguments for closures occur typically as a veiled slur on the rural institution that fly in the face of the evidence. Canadian research shows that both rural obstetrics and rural appendectomies have outcomes that match or slightly better the city. Rural emergency departments meet triage standards that city hospitals cannot match. There are many more examples, one just has to ask the question before one asserts ones prejudice.

No one can say that there is a need for a hospital in every town. However efficiency and quality measures support keeping average sized rural hospitals. It is only the smallest one to two doctor hospitals where efficiency arguments might dictate closures. Even in those cases, isolation may require keeping the services running to ensure timely patient access.

The rural people of Canada, providers of much of Canada's economy and the food that we put on our tables, should not be deprived of adequate health care for expediency.

All too often closure is done by forces from the center with no buy in at the community or physician level. Closing hospital services has significant adverse effects on the local economy, it often does not realise savings, and may actually increase costs, and will increase difficulties in recruiting new physicians.

Closing rural hospitals risks being a mean spirited substitute for system reform. The work out here is already hard enough. Don't make it any harder than it needs to be.

"Every citizen in Canada should have equal access to health care regardless of where they live."
- Mr. Justice Emmet Hall

There are many health care challenges for Canadians, but none are any greater than the challenge of providing care for those who live in remote and sparsely populated regions of this country. The Society of Rural Physicians of Canada has extensive experience in rural health care analysis.[1 2 3 4 5] In our presentation to the Standing Senate Committee on Social Affairs Science and Technology we explored rural health trends.[6] In our invited submissions to The Commission on the Future of Health Care in Canada we discussed how these trends need to be addressed in a fashion to provide a sustainable and affordable health care system for rural Canadians.[7 8]

Roy Romanow, in the Commission on the Future of Health Care, chronicles how Canadians living in rural and remote communities spoke directly about their serious concerns. They spoke of the need for good health and good access to health care "not only because it is essential to sustain their own quality of life, but also the quality of life in their communities."

He recommended targeting $1.5 Billion for a Rural and Remote Access Fund to address serious challenges in health care in rural and remote areas of Canada. Not even a penny has been spent leaving these needs unfilled.

Here we will explore rural healthcare needs and hospital resources that help meet those needs, and the ramifications of hospital and service closures.

Rural is Different

> *Non-metropolitan areas in Canada are often simply referred to as rural Canada, without enough attention paid to their inner differences. It is clear that non-metropolitan Canada is anything but homogeneous. More research is needed to bring out this diversity so that social policies can be better tailored to the needs of non-metropolitan Canadian populations.*
> *-Howatson-Leo and Earl 1995*

A keen appreciation of how rural health care is unique is important in determining possible models that will work and can be sustained.

Rural Canada has about 20 percent of the employed Canadian workforce, 31.4 percent of the Canadian population and over 99.8 percent of the nation's territory.[9] It is a highly diverse economy and society, from its coastal regions to its agrarian heartland. Canada's rural natural resources provide employment, forest products, minerals, oil and gas, food, tax revenue and much of our foreign exchange.

While 31 percent of Canadians live in rural areas, only about 17 percent of family physicians and about four percent of specialists practise there.[10]

A mean rural population density of one person per square kilometre creates unique and special requirements for the delivery of health care. This density coupled with the need to provide acute time sensitive interventions such as thrombolysis, attendance at birth, treatment of sepsis and trauma, indicate that health facilities need to be located near the people.

In submissions to the Commission on the future of Health Care it was noted that "People's choice of whether or not to live in smaller communities is affected by whether or not they can get reasonable access to health care. That view was echoed by rural physicians who said, 'geography is a determinant of health'." This emphasises how important sustaining and improving rural health care is in ensuring that companies can continue to develop industry in rural areas. With increased globalization, rural Canada is going to need better health care if it is to continue being the source of our lumber, metals, oil, minerals, and our food.

Rural Health Status

> *A basic medical services infrastructure for rural and remote areas [should] be defined, such as hospital beds, paramedical staff, diagnostic equipment, transportation, ready access to secondary and tertiary services, as well as information technology tools and support.*
> *-Recommendation no 27. CMA Rural and Remote Policy 2000*

In rural Canada, large numbers of first nations peoples live, our tractors overturn, mineshafts collapse, fishers get swept to sea, smoking rates and obesity rates are higher, poverty is more common and the litany goes on with mortality rates higher for most causes of death.

Health status decreases as one travels to more rural and remote regions. As an example heart disease is common in northern Ontario. Certain types of cancer are found among miners and farmers. There are substantially higher rates of diabetes, respiratory and infectious diseases, as well as violence-related deaths, in some aboriginal communities. Combined, there is an increase in mortality in rural regions as evidenced by life span. In the end our most isolated rural Canadians live three years shorter lives than our urban counterparts.[11]

The disparity is most striking when one considers where health care dollars are spent. Per capita health expenditures reflect 18.4% underspending for rural patients in one Ontario study. The sicker rural patients get $490 spent annually in physician services, while urban patients receive $580.[12]

The Rural Hospital

> *"Rural doctors identify a series of key attractions of rural practice. First is the greater variety of practice that often includes obstetrics, surgery, anaesthetics and emergency medicine together with hospital access and care of the acutely ill."*
> *-WONCA Policy on Training for Rural Practice 1995*

The rural hospital is an unique institution. It is not merely a scaled down verison of a city hospital. It is staffed by generalist physicians who provide broad spectrum of care. Many provide obstetrical deliveries, provide anaesthetics, assist in the operating room and staff the emergency room.

Large hospitals offer a remarkable array of technology and consultants, which allows them to be considered centers of excellence in various specialized fields. What they do not do well is provide less specialised care. This is done best with care as close to home as possible, where family and friends can

easily visit, and where familiar health care professionals who know the patients intimately, provide the care. The "will to live" is inspired by these conditions, and is often lost in the larger impersonal hospitals located far away. Similarly, end of life palliative care, close to friends and family is also best provided in the patient's community hospital, especially since many small communities do not have hospice arrangements.

The rural hospital helps support other health services in the community. Home care nurses and ambulance attendants can and do go there to obtain and maintain skills needed in the field and in homes such as starting iv's. Doctors use the skills used in the hospital to maintain and improve the care of their patients. All health care providers find the rural hospital professionally, socially and economically, a reason to come and stay in the rural community.

The rural hospital is not only a centre of excellence for common conditions, and a resource for community health services, it is also a cultural part of the rural community. It's where you go to gather at the death bed. It is also where you may go to celebrate a birth. The people who work there are not strangers but friends and neighbours.

The rural hospital is the economic anchor of the community. The hospital is typically the second or third largest employer. Much of the payroll is spent, and re-spent, locally resulting in spin off service jobs. Often overlooked is the fact that the hospital is capable of attracting industry as mill and factory owners look to it as a resource necessary for their business in turn to attract skilled workers.

The rural hospital is efficient. Despite, or perhaps because of, limited access to specialized testing and referral, per case costs in rural hospitals are usually lower than urban costs. The rural hospital typically needs less total beds for surge capacity (although a larger percentage of total beds) than a larger urban hospital, despite the fact that there isn't another hospital in town that one could divert traffic to if one was full.[13]

The rural hospital provides quality care. Maternity care has been found to be as safe in smaller rural hospitals as in large specialist run centres in Northern Ontario. American studies show that if women have to travel to give birth, costs are higher and results worse. Due to the evidence of safer local access three large medical organizations joined in issuing a statement on the need for rural maternity care in Canada with and without local caesarean capability.[14] Appendectomies done in Western Canada done by GP's in rural communities had slightly less complications than those done in city hospitals.[15] Colonoscopies and other endoscopic procedures done by rural family doctors can be as high quality as those done by specialists.[16] [17] According to the Canadian Institute for Health Information (CIHI) all but three rare and highly specialized procedures studied are done as well in low as in high volume centres in Canada.[18]

The Economic Case for Hospital and Service Closures

> *If Saskatchewan's population was concentrated within a single community, acute care for one million people might be provided by four or five large hospitals.*
> *-Fyke 2001*

Conventional wisdom states that fewer hospitals eases administrative complexity and gives a potential for cost savings. Despite many rounds of restructuring, experiential evidence has not supported the assumption that one actually will achieve even the one-dimensional view of efficiency. The cost argument of closing rural hospitals rarely discusses the indirect costs, ambulance, personal, transportation, hotel accommodation, meals away from home, accidents getting to other communities and so on. When increased costs to the patient are assessed, total costs are found to increase.[19 20]

Even when you ignore such costs its not clear that there will be savings from rural hospital closures. The former Saskatchewan minister of finance, Janice MacKinnon, reflecting back on the 1993 closure of 52, mostly very small rural hospitals, has estimated that only about $30 million was saved, far less than was planned.[21]

The Manitoba Centre for Health Policy (MCHP) did an analysis of hospital efficiency in Manitoba correcting for varying case mix - different patients with different medical conditions - between hospitals. The most efficient hospitals in Manitoba were found to be the full service medium sized rural hospitals such as the 30 bed Beausejour Hospital.

The report suggested that the most cost savings, 11% of the provincial inpatient budget, could be achieved from improving the efficiency of the largest hospitals to the level of the larger rural hospitals. This was not because the teaching hospitals were the most inefficient, but because they treated 35% of the inpatients and consumed 46% of the provincial inpatient budget. In contrast while the very smallest and isolated rural hospitals were relatively inefficient, they only consumed under 1% of the budget.[22]

In an analysis of the Ontario hospital closures of 1996/1997 where Ontario went from 223 to 150 Hospital corporations, short term analysis failed to show gains, although long term projections are hopeful. The authors suggest that this paradox stems from unrealised potential gains, change cost and the finding that large hospitals with high levels of tertiary care are "less efficient in the provision of outpatient and emergency care."[23]

This is not to suggest that there are no potential savings from system changes, rather to point out that hospital service closure is a blunt instrument with which it is difficult to obtain significant savings to the system. Any savings risk to be only paper ones where the cost of care is transferred to another balance sheet.

Regionalisation and the Right number of Hospitals and Services

> *Health care restructuring has centralized, reduced or eliminated hospital-based services without community-based services being enhanced.*
> *-Ministerial Advisory Council on Rural Health 2002*

There is no "one right" decision as to what health services will be provided where and by whom. It varies by geography. There are several basic services that for population safety and access need to be as close as possible to where people live and work. By analogy it doesn't matter that fire halls are inefficient as the vast majority of the time there is no fire to fight. That service is none the less needed in a timely fashion. Similarly basic medical care is needed close to the patient.

Generally emergency care, inpatients and often obstetrics should occur when there is enough served population to sustain a compliment of five or more physicians[24] which is a bit over 5,000 population. This both makes the call burden sustainable for most of the professions involved, but also invokes a hospital size that is efficient. These services might need to be supported locally with less population if the next location that can provide this care is over half an hour transport. In Ontario the ministry has used 40 km as the distance between hospitals that have 24 hour emergency room coverage.[25]

Closure by degree is sometimes contemplated with the argument that much of the ER visits are deferrable and could be seen by a family physician in his office. This is true for all emergency departments, including those attached to large teaching hospitals.

Other arguments flow that night volumes are so small that the department should be closed after midnight. As with firefighting, the purpose of the infrastructure is to be available irregardless of the time of day for the few cases in which timely intervention makes a difference.

When central planning is contemplating closure of services, local consultation with providers and population is essential. Closure of services and hospitals must take the following elements into consideration[26]:

- Local economic conditions including the role that health care institutions and services play in the local economy
- Geography
- Effect on the retention and recruitment of health care professionals
- Transportation which includes everything from ambulance services to public transport to the state of the roads or air services to the regional centres as well as the effect of weather on the ability to travel
- Ensuring that services like home care, ambulance services, telehealth, etc. are available in communities from which hospitals and/or services are being removed
- Equity of access

The Case Against Closures

> *A survey of physicians in Bruce and Grey counties in Ontario showed that 80% of the physicians in those 2 counties would leave if their rural hospital closed.*
> -Rick Mann

Closure of the rural communities hospital has documented repercussions. Studies show a lower quality of care, decreased access to physician services, fewer employment possibilities[27] and increased per capita health care expenditure.[19 20 23] If there is no other hospital in the community per-capita income can drop by 4 percent and unemployment rate increase by 1.6 percentage points[28]

The largest impact of an imposed hospital closures is the impact on recruitment of new medical and nursing staff.

Fort Macleod is an Alberta town of about 3000 situated 50 kilometres west of Lethbridge. It's at the crossroads of 2 major highways and in between 2 of the largest First Nations reserves in Canada. Prior to 2003 the five doctors who worked there supported a full service hospital, including obstetrics and surgery. In 2003 hospital was converted into Fort Macleod Health Centre with three holding beds and a limited ER. Within a year the two newest doctors, still between them 20 years in town, had left and another doctor semi-retired. Nurses, X-ray and lab technicians began looking for positions elsewhere or retired. Now there is little to attract new physicians to the area and the town is continually trying to fill vacancies and has been consuming 10-15% portion of the provinces locum fund for rural doctors between 2005 and 2007.

In New Brunswick's Upper Saint John River Valley a regional hospital was built in 2007 between Bath and Woodstock to replace three other hospitals, despite massive demonstrations in affected communities. The Woodstock doctors had a vibrant full service hospital that was really a case example of how best to run a rural hospital. Since it has been closed the Woodstock doctors no longer provide inpatient care to the new hospital (except for Obstetrics) as it is perceived as no longer being their hospital, but the regions.

One of the unintended consequences is that the change had undermined the ability for the region to recruit as current New Brunswick legislation would require any new doctor to admit to the hospital - all by themselves. In the mean time the region is subsidizing itinerant physicians to provide this care.

Another case of unintended results is that downsizing can actually decrease efficiency. In Strathroy Ontario closure of the rehabilitation beds has destabilised the hospital. Inpatients that were once rehabilitated to go home or having their condition stabilised while waiting for a nursing home bed, were now decompensating and having to remain at the hospital as long term patients. In the drive to save money efficiency and patient care decreased.

Conclusions

> *"Many changes in health region boundaries have been implemented without a strong evidence base. Yet the implications for the effectiveness of regionalization policy are great. Not the least of these is the destabilization to health delivery systems that is wrought by the constant changes.*
> *-Newsletter, CCARH, Sept 2003*

The issue of service and hospital closures is highly emotionally charged. The local community has much to loose and little or nothing to gain. Closures are the easiest to arrange when there is an alternative institution in the community. Closures of hospitals that would result in populations needing to travel under half an hour for care may be reasonable if so doing, the existing health care providers would agree to join together to form a larger group to share the burden of providing care.

Even if this is the case, it is not at all clear that efficiency would increase. The evidence that exists implies that without meaningful local input it is possible, if not likely, that costs will go up, access will decrease, and there will be negative ramifications to the local economy and for recruitment of physicians.

Hospital service closures are not a substitute for system reform.

APPENDIX

Acknowledgments

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