

# Injury Control and Trauma Care in Canada: How Well are We Doing?

## Trauma Association of Canada Presidential Address

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In my address to the Trauma Association of Canada (TAC) in Whistler last year, I reported on the Association's achievements during the last two decades. I highlighted TAC's dual flagship accomplishments of instituting a national accreditation program and the development of a National Trauma Registry. These and the many other activities of the association are clearly works in progress and I reviewed some of the possibilities for future effort and direction.<sup>1</sup>

What then was left for me to address this year? A good question and one that I have been asking myself for the last several months! "Not much" seemed to be the immediate answer, though as I complete my second year as your president and have had the opportunity to work with many of you on our various committees, it has become increasingly apparent that there is indeed much more for us to do, new directions for us to move in, and new partnerships to develop.

### INJURY IN CANADA: A STATUS REPORT

I will start with a brief progress report on injury control in Canada. How well are we doing? Are we making progress? How good is our trauma care? How do we know and whom do we compare ourselves with? All fairly reasonable questions, although the answers may not be immediately apparent to most of us, and were not to me as I prepared this address.

Injury accounts for only 6% of all deaths in Canada but continues to be the forth-leading cause of death, after cancer, cardiovascular disease and respiratory conditions (Fig. 1), despite the fact that injury rates have been declining steadily over the last two decades with a 30% reduction in injury related mortality since 1980 (Fig. 2). Deaths from injury in

Canada overall are principally because of motor vehicle collisions, falls, and suicide although the cause varies for specific demographics. While significant progress has been made in reducing motor vehicle related deaths and other unintentional injury deaths during the last two decades, death rates from falls and suicide remain refractory<sup>2</sup> (Fig. 3). Two million injuries occur in Canada each year with direct health costs of \$4.2 billion although the full economic burden is estimated as \$8.7 billion per year for unintentional injury alone.<sup>3</sup>

Stratifying injury by demographics highlights our vulnerable populations. Injury remains the leading cause of death in the first four decades of life and the second leading cause of years of life lost, just behind cancer (Fig. 4). Motor vehicle related injury accounts for half of these deaths (ages 1–19) and intentional injury (principally suicide) for nearly another quarter<sup>2</sup> (Fig. 5). In the world injury rankings, Canada lags behind most of Europe and has close to twice the rate of injury death in children compared with Sweden for ages 1 to 14 (Fig. 6). The news is not all bad, however, and the progress achieved over the last two decades in this demographic has been significant. Canada's efforts in this regard are better than most and rivals the dramatic success of childhood injury control in Germany (Fig. 6). However, as a nation, we still let our kids drive around on ATVs and bicycle or go to alpine terrain parks without helmets. Enforced cycle helmet laws, graduating licensing programs, zero alcohol tolerance in young drivers are all worthy initiatives that remain to be implemented or enforced nation-wide. Suicide continues to claim the lives of far too many Canadians of all ages with little recent progress in reducing this tragic toll especially in the young. Injury rates associated with new and emerging recreational activities such as mountain biking and snow boarding are bucking the general trend in injury rates and are increasing in younger Canadians and we must take a lead in addressing this.

The other demographic with unacceptably high injury rates and that often escapes the spotlight is Aboriginal Canadians. Injury death rates in First Nations populations are 6.5 times higher compared with the Canadian average and even higher in some jurisdictions (Fig. 7). For specific age groups in Aboriginal Canadians, rates are four times higher for

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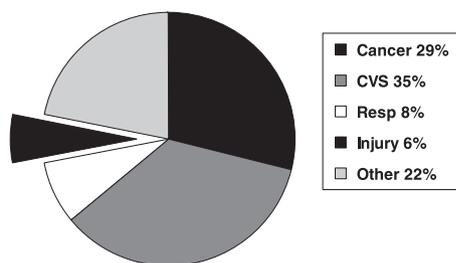
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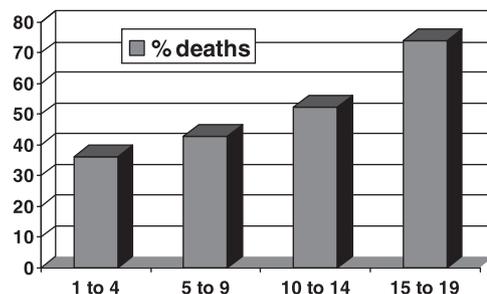
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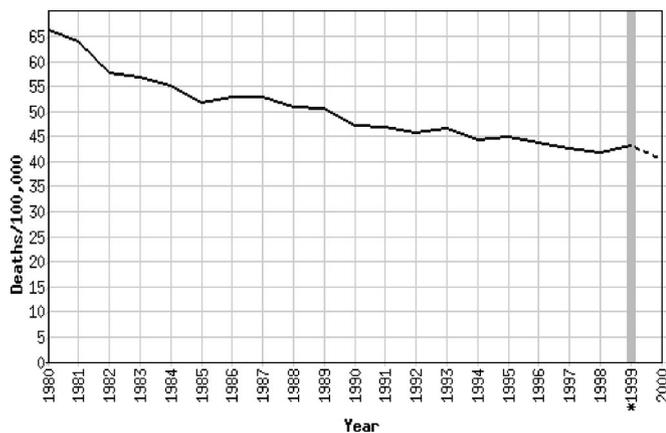
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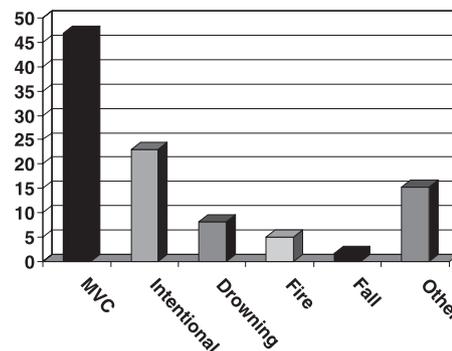
**Fig. 1.** Injury remains the forth-leading cause of death in Canada. (Source Health Canada, 2000.)



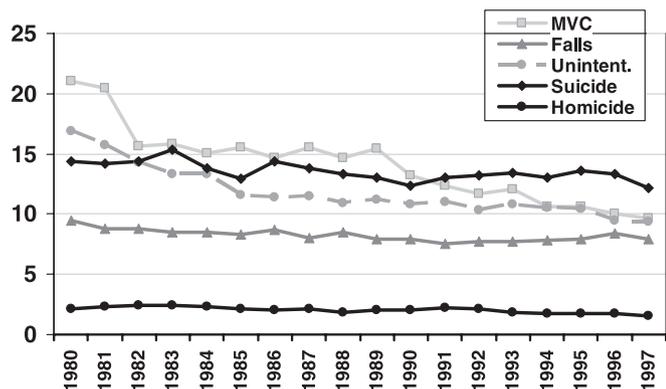
**Fig. 4.** Percent of deaths because of injury in children ages 1 to 19 years by age group. Trauma is the second highest cause of years of life lost in Canada. (Source Health Canada, 2000.)



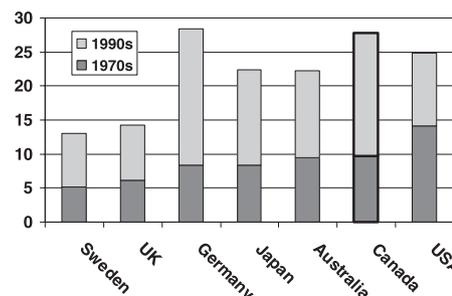
**Fig. 2.** Injury death rates in Canada have declined 30% since 1980. (Source Health Canada, 2000.)



**Fig. 5.** Motor vehicle collisions (45%), and intentional injury (23%), account for the majority of injury deaths in children in Canada. (Source Health Canada, 2000.)



**Fig. 3.** Deaths from motor vehicle collisions (MVC), other non-intentional injury and homicide have declined significantly since 1980. Death rates from suicide and falls have not fallen to the same degree. (Source Health Canada, 2000.)

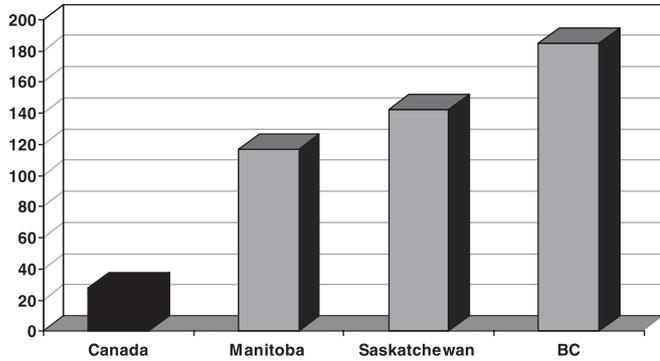


**Fig. 6.** Childhood injury mortality rates in Canada have dropped by more than 50% during last two decades though still remain higher than many other countries.

infants (65 vs. 17 per 100,000), five times higher for preschoolers (83 vs. 15 per 100,000), and more than three times higher for teenagers aged 15 to 19 (176 vs. 48 per 100,000).<sup>2</sup> Dr. Hameed's recent study from the Calgary Health Region confirmed these Health Canada statistics and identified increased risk of death in Aboriginal Canadians principally from motor vehicle collisions (relative risk [RR] 4.8), assault (RR 11.1), and suicide (RR 3.1).<sup>4</sup> Progress in reducing injury in Aboriginal Canadians has been less than dramatic and

clearly more needs to be done in addressing injury mortality and morbidity in First Nations communities.

Regionally we have also marked differences in injury rates and injury mortality rates across the country. The territories and the less populated provinces have two to three times the injury mortality rates of the more populated provinces<sup>2</sup> (Fig. 8). Though the underlying cause for this is certainly multi-factorial, it is interesting to note that injury rates are lowest in jurisdictions with established trauma systems.<sup>1</sup> Whether trauma systems are a significant cause for the observed variance, or merely a marker of commitment to injury control, is unclear, although the association is none-the-



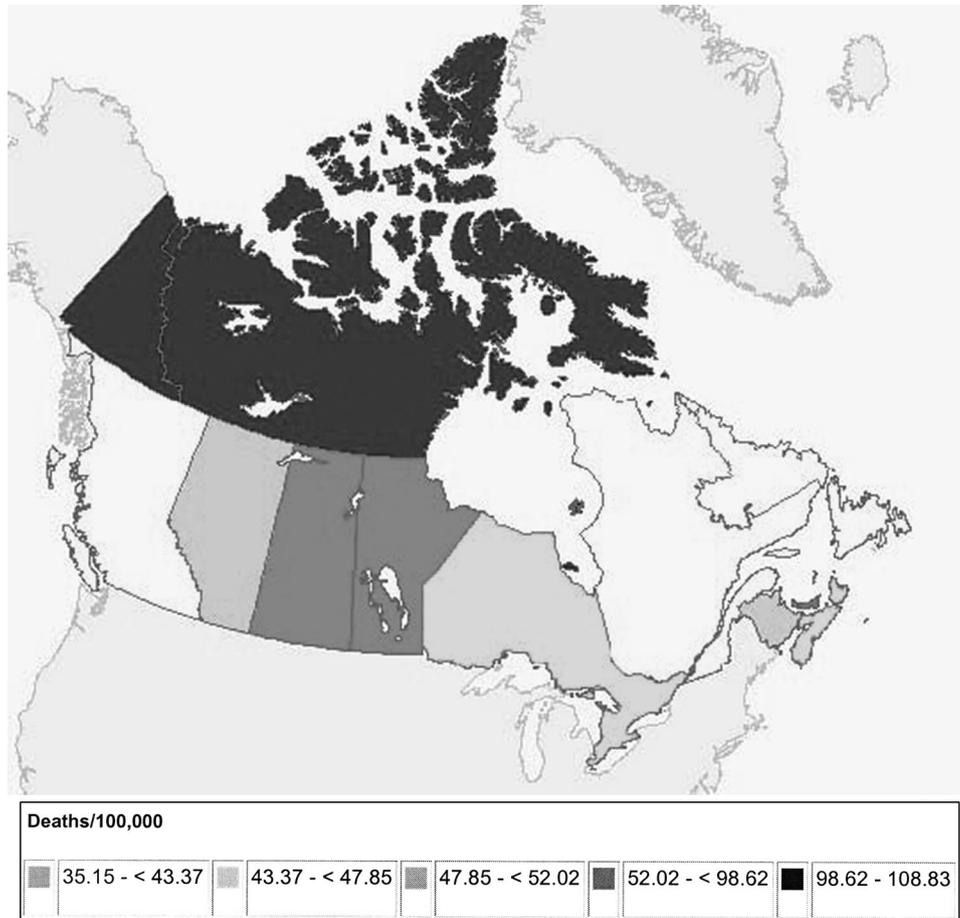
**Fig. 7.** Age standardized injury death rates in First Nations Communities in Manitoba, Saskatchewan, and British Columbia compared with the overall national Canadian injury mortality rate. (Source Health Canada, 2000.)

less striking. What is clear, however, is that our current understanding of the societal and geographic determinants of injury risk and outcome remains rudimentary, demands further study and is becoming a research interest for several of our TAC members.

Most of the major gains in injury control during the last few decades have been through primary and secondary prevention

initiatives resulting in reduced injury rates particularly in children and youth. There is no doubt that our cars, roads, and workplaces are safer than they were a decade or two ago. We have our injury prevention colleagues to thank for this and give due recognition to our legislators, civil planners, and engineers who have taken notice and acted to make our environment safer. Injury prevention in Canada must also be seen as a work in progress and clearly more needs to be done in reducing injury, particularly in our vulnerable populations.

Where does trauma care and trauma system implementation fit into all of this? The extent to which improved trauma care has contributed to lower injury mortality rates in Canada is unknown. Individual trauma programs in North America have published their performance improvement data suggesting that survival is positively impacted by improved systems of care<sup>5-7</sup> but there has been no provincial or national outcomes performance reporting to confirm this. There remains reluctance to publicly and nationally address our performance and hold ourselves, or be held, accountable for the quality of the trauma care we provide to Canadians. Crude mortality statistics are available nationally and by province but acuity-adjusted survival, contemporary national survival benchmarks, inter provincial comparisons, and meaningful



**Fig. 8.** Canadian injury mortality rates by Province and Territory. See text for discussion. (Source Health Canada, 2000.)

functional outcomes after injury are all lacking. The National Trauma Registry (NTR) currently lacks any federal mandate to report on these critical measures of performance and currently is not resourced to do so. This must call into question our national commitment to providing quality care for the injured. How are we evaluating performance and are we really doing enough?

## QUALITY AND ITS MEASUREMENT

Quality and its ever-changing taxonomy of terms, is becoming an integral, inescapable component of all we do. We report to quality councils, present quality reports to boards and health authorities, our institutions submit to accreditation by the Canadian Council for Health Services Accreditation (CCHSA), and since 1996, TAC has also promoted its own accreditation program for trauma centers and more recently trauma systems. Both of these agencies, CCHSA and TAC, and the accreditation processes they offer, are designed to define performance guidelines and improve the quality of care we provide.

CCHSA is an independent, nonprofit, nongovernmental agency offering programs designed to assist health care organizations in self-examination and provide a framework for the development of a quality culture along with the implementation of a coordinated and integrated Quality Improvement (QI) Program. Over 900 organizations across Canada participate in this accreditation process representing more than 3,500 individual sites and or services. CCHSA participates in international accreditation processes and is also accredited internationally. The CCHSA program consists of (1) a process used by organizations to evaluate services and improve the quality of services and, (2) a system of recognition that organizations meet national standards of quality.

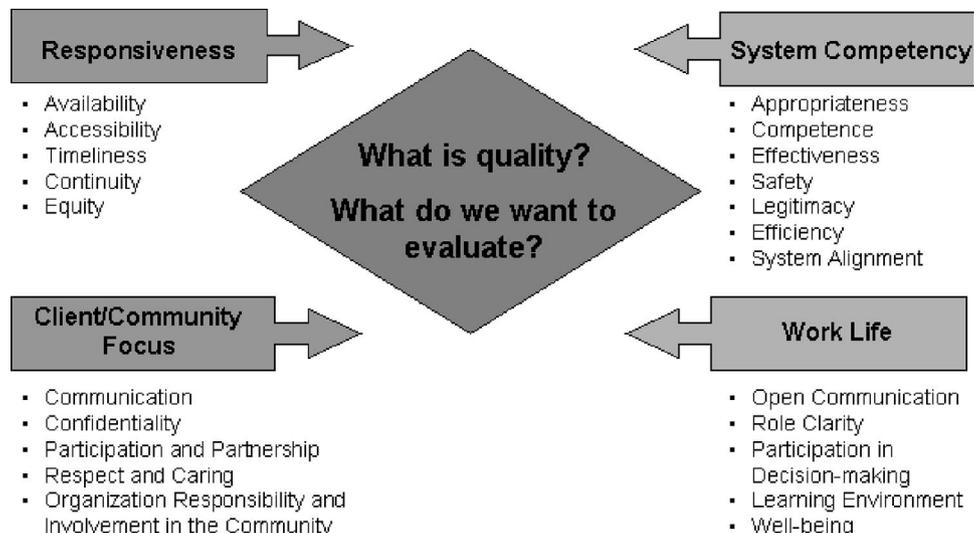
Like TAC, CCHSA does not claim to be a regulating body, offer licensure, certification or credentialing, nor

does it consider the accreditation process as an audit. The CCHSA program is geared to improve organizational communication, promote team building, credibility, and accountability. One of the strengths of this program is the degree to which it has developed the concept of quality and inserted this into their accreditation process (Fig. 9). Quality is clearly a multifaceted concept and any quality evaluation process must by necessity examine a broad sweep of performance indicators. This broad take on quality is perhaps something that TAC can learn from CCHSA. Although the TAC accreditation program examines many of the individual indicators listed by CCHSA, it tends to be weighted to the responsiveness and system criteria with less emphasis given to the other domains.

During the last 12 months, the TAC Accreditation Committee has begun exploring the possibility of a collaborative relationship with CCHSA. The process was initiated after the dual realizations that there was increasing overlap and possible redundancy in the two accreditation processes and that TAC wished to further explore its mandate as an accrediting body. This collaboration, and the continuing review of TACs own accreditation guidelines document, have thrown up some interesting observations and questions. There are obvious similarities and differences in the two programs.

## Similarities Between TAC and CCHSA Programs

1. Both are voluntary processes (except that CCHSA accreditation is required for teaching hospitals by the Royal College).
2. There is obvious overlap creating some redundancy/duplication.
3. Both CCHSA and TAC are moving toward system rather than an institutional perspective for their accreditation reviews.



**Fig. 9.** Quality indicators as defined by the Canadian Council on Health Services Accreditation (CCHSA). See text for discussion. (With permission, CCHSA.)

- Both accreditation programs focus on process measures of quality with limited emphasis on outcome evaluation and benchmarking.

### **Differences Between TAC and CCHSA Programs**

- CCHSA brings a broader vision and more developed concept of quality.
- CCHSA process currently lacks trauma specificity.
  - No minimal requirements or guidelines for trauma systems/centers.
  - No differentiation between designated trauma centers and other hospitals.
  - No health authority performance guidelines for trauma care.
- TAC program currently more helpful than CCHSA in advancing trauma care as reported by programs undergoing both reviews.
- TAC accreditation process requires review of outcome data although there are currently no guidelines around outcome expectations or benchmarks.

These observations raise a number of questions about Canadian accreditation programs in general and trauma accreditation specifically.

### **Questions Relating to Accreditation Programs in Canada**

- Why does the CCHSA accreditation of Health Care Services in Canada remain a voluntary process?
- Is there a role for a collaborative/integrated CCHSA/TAC trauma accreditation process?
- Why are both processes currently heavily weighted toward evaluation of process rather than outcome measures?
- What are the appropriate outcome measures for injury control and trauma care and how do we benchmark them and evaluate performance?

### **Mandatory Accreditation Programs**

Assessment of quality in health care, like all things, is in a process of evolution. Peer review has been with us for decades but it was through the efforts of US surgeons that the concept of an independent audit of quality at an institutional level began to emerge resulting eventually in the development of the Joint Commission on Accreditation for Healthcare Organizations (JCAHO) from which CCHSA later emerged. The JCAHO process is now mandated in the US for all health care facilities and random site audits have recently been introduced. The fact that the CCHSA program remains voluntary, I think, reflects the sensitivities of the past rather than the realities of the present. On both sides of the 49th parallel, patient safety and the reduction of patient harm have become the new Holy Grail of health care. The time for a regular mandatory appraisal of performance and compliance with national practice guidelines and benchmarks, I think, has clearly arrived and, as in the US, is probably inevitable.

### **Collaborative TAC/CCHSA Accreditation Process**

There are several obvious advantages to combining TAC's accreditation processes with that of CCHSA including

- Reduce redundancy.
- Reduce workload for clients (only one accreditation preparation).
- Reduce confusion around the TAC and CCHSA accreditation processes (same term) and their relationship (currently none).
- Position TAC as partnering with the CCHSA thereby increasing legitimacy.
- Increase the specificity of the CCHSA process with respect to trauma care.
- Bring TAC specificity to a wider clientele that have not as yet participated in the voluntary TAC process but who routinely submit to CCHSA review.
- Allow cross-fertilization to occur between the expertise available in both agencies.

Downsides to this collaborative process are few and mainly relate to the potential for TAC's current role in the independent audit of trauma performance to become eclipsed or compromised by the bigger and more established CCHSA program. I think this fear is largely unfounded and can be appropriately addressed in the step-wise collaboration being proposed and modeled on what is already occurring in Quebec.

Quebec currently has its own process for trauma center accreditation, similar to TAC's and the American College of Surgeons' (ACS) Verification Program. For the last two years *Groupe Conseil en traumatologie* has been working with the CCHSA in bringing their accreditation processes parallel with each other. Several joint accreditation visits have now been performed. The interim goal is to synchronize the two processes with possible integration to varying degrees an area of ongoing discussion. The same is being proposed for TAC and CCHSA, beginning with synchronization of site-visits and moving forward on integration more slowly. This would also bring the TAC and Quebec accreditation programs closer together within the framework of this joint collaboration with CCHSA and help ensure greater consistency across the whole of Canada.

The other potential downside to a TAC-CCHSA collaboration is a logistic one. If TAC is invited to participate in only a fraction of the CCHSA visits currently performed then the workload of our organization will increase significantly requiring broader representation from our membership in performing this activity. Until now, TAC accreditation teams have been drawn from the Executive with mentoring of new site team members by more experienced reviewers. If the TAC piece of this proposed collaborative enterprise is to be of value then we must preserve our professionalism and ensure consistency in the process being offered by TAC. To do this will require a ramp up of our accreditation committee's mandate, membership, and activity (if that is possible!)

to develop a cadre of experienced and skilled accreditors along with clear guidelines. CCHSA has again offered to partnership in this mentoring by inviting TAC members to participate in CCHSA reviews. All this sounds like a lot of hard work, which it is. However, the potential rewards are also huge. I think that by collaborating with CCHSA, we stand to gain wider visibility and legitimacy for our accreditation program, reach more institutions providing trauma care, and improve that care more globally than we currently do.

### Focus on Process Versus Outcome Indicators

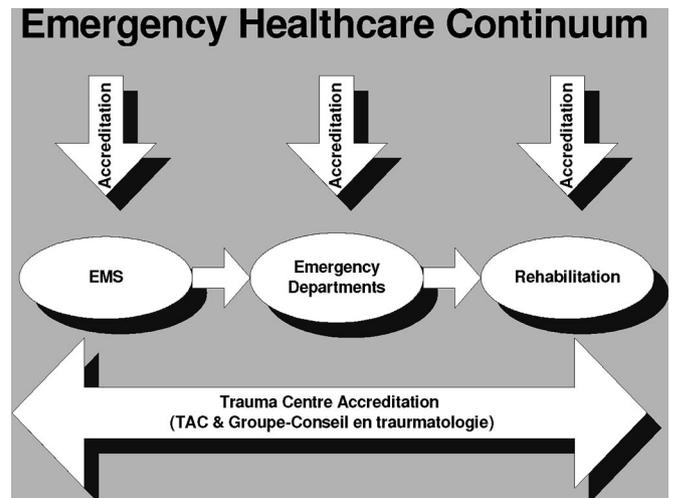
Both the TAC and CCHSA accreditation guidelines documents are heavily weighted toward evaluation of process measures with little to no evaluation of outcomes. Examples of these process indicators from the TAC accreditation document include:

1. Do you have defined equipment in your ED/ICU?
2. Do you have defined surgical services available?
3. Do your physicians/diagnostic services respond in a timely fashion?
4. Do you have practice guidelines and what is the compliance rate?
5. Do you have a rigorous performance improvement program?

Performance measures of process such as these are relatively easy to define and evaluate. Implicit in both the CCHSA and TAC accreditation programs is the thought that compliance with these process guidelines will reduce delays in care, reduce variance (thereby reducing errors), and ultimately result in better care, i.e. improved patient outcomes. Many institutions have indeed demonstrated and published that this relationship holds and that, as processes are standardized, patient outcomes improve.<sup>5-7</sup> More globally, average outcomes from designated or accredited Level I trauma centers in the US (all with defined performance standards) outperformed nontrauma centers with a 25% improved survival even when casemix, case volumes and comorbidity differences were adjusted for.<sup>8</sup> The leap in faith from process improvement to outcome improvement (at least survival) may, therefore, not be as great as first thought but that does not excuse us from directly measuring patient outcomes and benchmarking to national performance data. Nor does it exempt our accrediting bodies from defining appropriate benchmarks and auditing outcome performance.

### Outcome Measures in Injury and Defining Benchmarks

With both TAC and CCHSA shifting emphasis from accreditation of institutions (trauma centers) to regional health services (trauma systems) and ultimately toward population health, any outcome oriented performance improvement program requires indicators from across the spectrum of injury control including prevention, prehospital care, hospital care, and long-term functional outcomes. This is congruent



**Fig. 10.** Canadian Council on Health Services Accreditation (CCHSA) vision for future emergency services accreditation. See text for discussion. (With permission, CCHSA.)

with CCHSA's vision for the accreditation of emergency and trauma services (Fig. 10).

### Injury Rates

Beginning with prevention, provincial and regional health authorities need at some level be held accountable for their jurisdictional injury rates, any regional variations, and having processes in place to identify injury trends as well as programs to address emerging or common causes of injury within their jurisdiction. National benchmarks are available through Statistics Canada, Health Canada, and the National Trauma Registry (NTR) for national, urban, rural and provincial injury rates and can now be trended over a decade or more. Many jurisdictions will have high injury rates with understandable root cause(s) because of demographics, geography, prevailing industry or other reasons. Higher than average rates may be acceptable because of these factors, failure to address high injury rates with targeted prevention programs would not be. Similarly, having a lower than average rate may not be acceptable if there has been no further progress during a recent time period. A fully integrated and targeted injury surveillance and prevention program should be seen as an essential component of any provincial or regional trauma system, with program evaluation a key component.

I propose that our accreditation programs in the future should require health authorities as well as trauma centers to demonstrate a clear commitment to comprehensive injury surveillance and prevention programs with demonstrable gains in injury control over time as documented by their injury and injury mortality rates. At the federal level, a national initiative on injury prevention was presented to the federal government in early 2005, although the recent election and government change may have temporarily derailed this. It is in all our interests to get this back on the national agenda.

### **Prehospital Services**

There is currently no national accreditation process for Emergency Medical Systems (EMS) and prehospital care providers in Canada. Neither TAC nor CCHSA have defined performance measures by which to evaluate these services with any specificity in regard to trauma. What are appropriate scene interventions and times for trauma, transportation options and times for urban and rural communities, secondary transfer capabilities and times to definitive care? We do not currently evaluate these against any benchmark no matter how arbitrary. Even these process indicators would be a good place to start, though they remain surrogates for the outcome in question; the prehospital component of survival after major trauma.

Prehospital data collection remains patchy and limited at best, which also compromises the ability to measure quality and preventable death in this phase of care and to assess the impact of interventions. Improving access and time to definitive care through improved prehospital services is perhaps the greatest contribution to be made in reducing preventable death in Canada given its huge geographical landmass with a myriad of rural and remote communities. By partnering with CCHSA and our colleagues in other organizations such as the Canadian Association of Emergency Physicians (CAEP), we need to start laying the foundations for national guidelines for EMS and their provision of prehospital trauma services, establishing realistic benchmarks for those services and patient outcomes, and incorporating these into trauma system accreditation.

As to appropriate prehospital interventions, we have little hard data to guide us. It is encouraging that the National Institutes of Health (NIH) in partnership with the Canadian Institute for Health Research (CIHR) are now supporting major multi-jurisdiction prospective trials addressing prehospital resuscitation in trauma and will help define appropriate interventions in this phase of care of the trauma patient. Many of us here today are involved in that work.

### **Hospital Outcomes**

Hospital survival and length of stay are the two most frequently measured and quoted outcome indicators in trauma care. The industry standard for survival comparisons remains the Trauma and Injury Severity Score (TRISS) methodology despite its well-documented limitations. z, W, and M statistics<sup>9</sup> generated in reference to the increasingly remote and predominantly US, Major Trauma Outcome Study (MTOS) are often quoted but their relevance to the Canadian trauma environment in 2006 is debatable. Direct comparisons from year to year and jurisdiction-to-jurisdiction, along with national benchmarks that continually update and can be used by regional systems for comparison are all urgently required. The National Trauma Data Bank (NTDB) in the US has been offering this capability to contributing trauma centers for several years. These US data are institution specific, however, do not address system performance overall nor are they

population based. The Canadian NTR has this capability and indeed has an advantage in that it receives data from every acute care institution in Canada and not just contributing trauma centers. The TAC Research Committee has begun a process for developing national trauma outcome benchmarks and some of this work has been presented at this meeting (Trauma Association of Canada Annual Scientific Meeting, Banff, March 24, 2006). This work is vital and long overdue. TAC, NTR and its parent the Canadian Institute for Health Information (CIHI), should be encouraged to accelerate this initiative and develop national and realistic outcome performance standards for trauma system accreditation by TAC, CCHSA, or both. A clear commitment to improving survival outcomes over time should be a cornerstone of any accreditation process and national benchmarks will be invaluable to accomplishing this goal.

Is survival the only relevant patient oriented outcomes measure? Clearly not. As the San Diego Group and others have demonstrated, the burden of residual physical, psychological, and functional disability after injury is huge and goes largely unrecognized, unmeasured and unaddressed. Few Canadian trauma centers report on functional outcomes at discharge let alone at 3, 6, and 12 months post-discharge. The NTR does not currently require its contributing trauma centers to provide any functional outcome measures at time of discharge and collects no data on long-term outcomes of any kind.

There are significant barriers to collecting functional outcome data. Ideally, these measurement tools would accurately measure what we need to measure: i.e. quantify disability, measure change overtime, and predict future outcomes as well as allowing us to measure the efficiency and effectiveness of our trauma care and rehabilitation programs. No such tool has been convincingly demonstrated as meeting all these requirements. Various outcome tools have been developed that are either measures of physical function and recovery or are more global measures of Health Related Quality of Life (HRQOL) incorporating social, mental, and role functioning. Some of these are in limited use by the trauma community such as the Glasgow Outcome Scale (GOS) and Functional Independence Measure (FIM), which are measures of physical function, as well as the SF-36, which is a more global measure of HRQOL. None have been fully validated in the general trauma population and issues of responsiveness, reliability and efficiency have not been completely addressed.<sup>10</sup> This lack of functional outcome measurement is a serious deficiency in our surveillance and performance improvement programs. To some degree it attests to our lack of understanding and commitment to reducing long-term disability, leads to a gross underestimate of the burden of injury in Canada, and should be rectified as soon as possible. I am delighted that this issue is being discussed by the NTR Advisory Committee this week and is the subject of several papers at this meeting.

Stewardship of health care resources is a health care concept that has assumed ever-increasing importance along with the realization that health care budgets can no longer

expand at historical rates. Length of stay is a measure of, and a surrogate for, the efficiency of the care we provide. It is limited in its utility because of confounding variables and is but a single component of costs related to trauma care. It is a common failing of our Canadian Health System that accurate cost of care data are extremely difficult to come by. TAC can work with CCHSA and participating institutions in identifying domains of care that are discrete enough to permit accurate cost analysis and allow comparisons of inter-institutional or inter-health authority stewardship and help drive appropriate efficiencies.

### Long-Term Outcomes

Very few trauma registries including the NTR collect any data on patients post-discharge. We currently have a very limited understanding of the long-term physical and psychological disability associated with injury in Canada. At a minimum, we should all be collecting data on survival and some measure of functional status at 6 and 12 months post-discharge as alluded to previously. Appropriate rehabilitation services performance measures exist (e.g. FIM) and can be used or further developed to characterize the quality of post-acute care. I think that CCHSA and TAC, supported by our NTR and CIHI, should make the development and use of functional long-term quality indicators a high priority and incorporate them into their accreditation processes. Appropriate services to address long-term disability will only become available once a clear understanding of need and the efficacy of our interventions have been demonstrated.

## CONCLUSIONS

So how well are we doing? Injury rates in Canada are declining, continue to do so, and we should take pride in this. Inequities exist, however, and our vulnerable populations: kids, youth, young men, and First Nations, continue to have unacceptably high rates of injury related death and more must be done to control these continuing epidemics.

We have regional differences in injury rates and injury death rates that are not fully understood and need to be addressed if we are to bring equality in injury-free living to all our communities. Several of our members are beginning to tease out these geographical and societal determinants of injury risk and outcome and we look forward to their insights as their work unfolds. It is clear that we will have to further develop our data sets and data linkages if we are to be successful in this endeavor.

Our association has done a great job in defining guidelines for trauma systems and centers in regard to processes of care and in assisting trauma programs develop through our accreditation program. In doing so TAC has undoubtedly raised the quality of trauma care across much of Canada. Moving forward, our accreditation process can potentially benefit from partnering with the CCHSA program adding specificity and legitimacy in what should become a manda-

tory process in ensuring quality within the health care sector. I think TAC and CCHSA both need to shift from the current focus on process measures to a patient outcomes approach, preferably with indicators across the entire spectrum of care. This shift in emphasis is needed to appropriately measure the quality of the services we provide, to fully assess the burden of injury in Canada, and to lobby for appropriate resources. In doing so we should be cognizant of what is ideal and what is attainable. Danger lies in setting the bar too high as well as too low. For many jurisdictions, the current TAC guidelines are already a deterrent to seeking accreditation. This is clearly counter-productive and if we move toward partnering with a mandatory process, which I think we should, then we have to remain pragmatic and inclusive. If we accomplish this and achieve nation-wide participation in our accreditation program, then we will indeed have done well.

There is no question that TAC has advanced the quality of trauma care in Canada during the last two decades, particularly through its accreditation program, commitment to education, and its annual scientific meetings. Through its partnership with CIHI in developing the NTR, TAC has laid the foundation of future outcomes oriented performance improvement programs and population based research. I have been consistently impressed by the efforts of our committees in moving these programs forward, making them more relevant, more inclusive and consequently more useful. By partnering with other like-associations, we have been able to broaden our perspectives and learn from others who are struggling with the same challenges that face us in advancing trauma care in Canada. That has been true of our relationship with the Australasian Trauma Society, our evolving relationship with the International Association of Trauma and Intensive Care (IATSIC) and its DSTC program, and has been clearly demonstrated again this year by meeting with our colleagues from the Pan-American Trauma Society.

In closing, I wish to thank the membership for the honor and privilege of serving as your president these last 2 years. It has been a pleasure to work with such a committed TAC Executive as I have had during the last 2 years, all of whom have volunteered generously of their time to ensure that the programs of our association continue to be successful and grow. I would like to thank them on your behalf, and look forward as the new champions within our organization emerge, take up the challenge and move trauma care and injury control in Canada to new levels of excellence. Thank you.

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## **The 2006 Tanner-Vandeput-Boswick Burn Prize Awarded**

*Dr. Basil Pruitt to be honored for outstanding contributions in the field of burn care, research and education.*

Denver, CO - August 9, 2006 - The International Burn Foundation (IBF) has announced that the recipient of the Tanner-Vandeput-Boswick (TVB) Burn Prize for 2006 is Basil A. Pruitt, Jr., M.D. of San Antonio, Texas. The prize, which totals approximately \$100,000, will be presented at the Congress of the International Society for Burn Injuries in Fortaleza, Brazil on September 24, 2006. In addition to the cash award the prize includes a gold and diamond pin designed by the late Dr. J.C. Tanner.

“The International Burn Foundation was pleased to receive a record number of highly qualified international applicants for the 2006 TVB Burn Prize representing eight different countries across five continents. Dr. Pruitt was selected for his remarkable and enduring contributions to the field of burns,” according to a statement from Jane Boswick-Caffrey, Chairman of the IBF, “his contributions to the field have played a significant role in education, training and research, and he remains one of the most influential physicians in the field of burn treatment.”

“This internationally prestigious prize recognizes the exceptional contributions of Drs. Tanner, Vandeput, and Boswick that have advanced the field of burn care and benefited thousands of burn patients”, said Dr. Pruitt. He continued, “Receipt of the prize is a high honor and benchmark in my career as a burn surgeon. This award has great personal significance to me because I have known all three of the surgeons for whom the prize is named. I consider them to have occupied national and international leadership positions, and have counted them among my friends.”

Dr. Pruitt further commented on recent progress in burn care. “The intensity and the multisystem character of the response to an extensive burn injury have presented unique clinical and research challenges. The multidisciplinary studies carried out at the Army Burn Center and other centers have addressed those challenges. The results of those studies have contributed directly to the evolutionary and revolutionary changes in burn care that have significantly increased survival and improved functional recovery in burn patients and have advanced the care of other trauma patients as well. I am pleased to share this honor with all the surgeons, scientists, and other members of the burn team with whom I have had the privilege to work.”

Dr. Pruitt’s career in burns began as a military surgeon during his residency when he was drafted into the United States Army and appointed Chief, Burn Study Branch, United States Army Surgical Research Unit, Brooke Army Medical Center, Fort Sam, Houston, Texas. Subsequently, after completing surgical training and a deployment to Vietnam, he was appointed in, 1968, as Commander and Director, US Army Institute of Surgical Research (USAISR), a position he held until his retirement from the Army at the end of 1995.

During his tenure the USAISR became a model of burn care, education and productive research. As a leader in the field of burns and trauma, Dr. Pruitt has been invited to deliver innumerable prestigious lectureships, received every applicable award, and was honored by election to the presidency of ten surgical societies. He is currently the president-elect of the Shock Society. One of the greatest and enduring legacies is the mentorship of a cadre of physicians who have become leaders not only in burn care and research but also in the broad field of surgery. In 1975 Dr. Pruitt became an Associate Editor of the *Journal of Trauma* and in 1995 its Editor, a position in which he continues to work.

### About the Tanner-Vandeput-Boswick (TVB) Burn Prize:

The TVB Burn Prize was established in 1984 by the late Dr. J.C. Tanner of Atlanta, Georgia. Dr. Tanner, assisted by Jacques Vandeput, invented the Tanner-Vandeput mesh dermatome, a device that enables skin grafts to be expanded to replace a larger area of a patient’s skin destroyed by burns. The prize is the legacy of their contribution, and as well promotes the mission of the IBF by honoring individual achievement in the field of burn treatment. The IBF was created to promote and administer the TVB prize. Dr. Tanner honored the contributions of the late Dr. John Boswick, first Chairman of the Foundation, by adding his name to the prize. The prize is quadrennial and will be given again in 2010.