

The Shrinking World and the Implications for Trauma

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I would like to start by thanking the Australasian Trauma Society for your wonderful invitation to us, to give our Trauma Association of Canada the privilege of sharing this meeting with you. I consider myself indeed fortunate, and honored, not just to be here as the president, but to be able to represent an important association that was founded and nurtured by some of my closest colleagues and friends and whom I have followed through the ranks of our association.

This is the first time in our history that we have held a meeting outside of North America. So when I count myself fortunate, there are some pragmatic aspects that might also bear on that feeling. I happen to be the president at just the right time—when we have the meeting as far away from home as possible. Our association traditionally pays the way of the president! There is more. Our presidential talk is traditionally 1 hour. This morning I have been allocated but 15 minutes. If we care to work out a new statistical factor based on dollars/miles traveled/minutes of talking, I suspect it would require an exponential curve to compare this new factor to previous presidential addresses. This leads to one of the two points I would like to make this morning, namely, the need for both pertinent and reliable data.

I believe our association is important because we are the only one in Canada that brings together the various provincial organizations responsible for trauma care. This umbrella organization is critically important in establishing quality trauma care. One of the reasons for this is that in such a large country, with such a relatively sparse population, it is difficult to collect a big “n,” “n” being the number of subjects used to make a statistical conclusion. We need a big “n” to determine the norms by which to measure the quality of that care. To collect that big “n” with such a sparse population, we either take a very long time to collect the data or we cooperate to pool our data. As you will see, I think that Australia and New Zealand are in a similar situation.

One of our previous presidents and my closest colleague and friend, Rea Brown, gave his presidential address entitled “Hands of Friendship” to a joint meeting between the Trauma



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Association of Canada and the American Association for the Surgery of Trauma. He talked about how we often let the Americans do the work and then we “borrow” that work and apply it locally. The American College of Surgeons and their Committee on Trauma have always been friendly and collaborative in these endeavors, but the question I have to ask is, “Is that data really pertinent to our situation?”

The well-known Advanced Trauma Life Support (ATLS) program discusses the “golden hour.” I imagine everyone here is familiar with the trimodal survival curve following serious multisystem trauma. The first of the three curves represents those patients dying within minutes of the accident. They are considered unsalvageable. The third of the three curves represents the head injuries and those patients who go on to develop sepsis and multisystem organ failure weeks and even months after the accident. It is the middle of the three curves where we can make the greatest immediate difference. These are largely the patients who have hollow organ or vascular injuries. In Canada, however, that golden hour might often be called the “golden day” or even longer. By the time evacuations have been made from our sparsely populated remote regions, we are really dealing with a population of patients which is different from the typical urban or U.S. population; the typical time frame for that trimodal curve is also very different.

The statistics we “borrow” from our American friends probably do not extrapolate as well as we would like to the Canadian situation. I imagine the same can be said of Aus-

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tralia. Like Canada, it comprises a huge area with much of its population spread thinly over vast distances with a few relatively densely populated urban areas found here and there. The numbers we “borrow” just don’t apply to the situation and the “norms” that are generated from these numbers do not really tell us whether we are doing well or not so well.

There is little question that instituting a trauma “system” in a given area results in improvement in trauma care. Using the San Diego County or the Portland, Oregon, experiences, as but two examples of many, the institution of a “system” clearly leads to a measurable reduction in preventable deaths.

Despite the time and space differences between the United States and Canada or Australia, we can still ask the same questions relating to the efficacy of that system:

“Are we getting the patients to the right place in the shortest possible time?”

“Are we following the most effective protocol in each trauma assessment area?”

“Are we using the proper imaging at the right time?”

“Are we getting the right patients to the operating room in an expeditious manner?”

There are lots of these continuing quality improvement questions to ask once we have established a trauma “system.” The important thing is that once we have started that we also ask: “How do we get better?” In the spirit of self-improvement, as opposed to competition with others, we need rigorous self-appraisal. We need to compare individual centers, individual programs, and individuals themselves to “norms” that are based on appropriate data with a big enough “n” to make them valid.

The key of course is to determine the appropriate “norms.” We need the data with which to build the information. To get valid information we need large data sets. How do we get large data sets with such a sparse population? There is one practical solution that I can think of, and that is to continue the theme of this meeting—that the two associations continue to work together.

It has taken a lot of years of hard work by our predecessors to overcome parochial interests and provincial jurisdictions. It has taken a lot of hard work by some of our predecessors and some of our current members to establish minimal data sets that each jurisdiction could agree to and that are adequate to answer some of the questions that have been posed. It is a beginning. We now have an opportunity to bring this hard work to fruition.

The second of the two points that I want to make this morning relates to the use of technology. Today it takes but a few seconds to send an e-mail from Sidney to Montreal and to get a reply back to Sidney. That is, if the person in Montreal reads his e-mail.

Your president, Tony Joseph, e-mailed a question to me and several days later asked my colleague, Rick Moulton, to telephone me from his home in Toronto to ask me if my e-mail was working. (For those of you who don’t know, Toronto is a 5 ½-hour drive from Montreal). Rick telephoned

me and I dutifully searched my choked e-mail in-box and replied to Tony. The point of this little anecdote is that although technology has shrunk the distance between Australia and Canada, we have to change our behavior to take advantage of it.

I should tell you that most of my medical colleagues would say that I am a computer expert. I have been the Associate Dean of Medical Informatics at our medical school. Currently, I am responsible for the conversion of our undergraduate curriculum into electronic format, which the students can access over the Web. Indeed, the students here in Australia could access these lectures from their homes as easily as a student in Montreal could. I am also responsible for the development of a digital library of images that medical teachers anywhere can access to enhance their own lectures.

Although “expert” is a debatable title, I do have access to an entire team of computer-based illustrators and programmers. My first thought about preparing this talk was that I would build an interactive Web site and run it from here in Sydney while the “talk” actually resided on a computer in Canada. I could “wow” everyone with video clips of car crashes, animations of mechanisms of injury, and emissions of bone crunching audio. My next thought was whether I could still stand up and simply talk, with no slides, no PowerPoint, no overheads, no technology, nothing—just talk. That seemed a real challenge, and I thought that to deliver a simple message I should not need any technology. In fact, a simple message might get lost in the glitz of the technology.

The point of this story is to introduce the idea that if we are to use technology to real advantage, we need to use it appropriately. To put these two ideas together, the question becomes, “How do we change our behavior to use technology appropriately?” The question that follows is, “What are the implications for our two trauma societies?”

We have similar needs and challenges in terms of collecting appropriate data and turning it into useful information. We have similar countries in terms of their size and the distribution of their populations, and the difficulties of evacuation, transport, and resources. Given the modern computer technology available to us, with flexible database software, overlapping data sets, “fault-tolerant” programming, and so on, it should be relatively simple to merge the appropriate portions of our data sets. I would like to suggest that our two associations change their behavior and work together. Using this modern technology, we can establish a minimal data set acceptable to both and establish “norms” with an appropriate “n” that are pertinent to the common situation with which we have to deal. Only then can we have a rational process of quality improvement that will upgrade the quality of trauma care in each of our countries.

I have tried to make two points this morning. The first was that we need adequate data. The second was that we have the technology to do this. We now need to apply this tech-

nology appropriately in a collaborative fashion. Over the course of this conference we are going to hear about data collection, minimal data sets, trauma registries, and the information that they can generate. We are going to hear about how to apply this information to improve the care of trauma patients. Let's make this conference the first step in working together to build something better than either association could do alone.

The world has shrunk. The implication for trauma care is that we can use this to advantage and take better care of our patients.

I would like to thank everyone here for your attention. Thank you to the Trauma Association of Canada for the privilege of speaking on your behalf and thank you to the Australasia Trauma Society for your hospitality and for allowing us to share your meeting.

ABSTRACTS WANTED



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