ment in parent supervision. Other postmarketing surveillance requirements include the monitoring of the durability of the product and determining whether the countermeasure has been applied as intended (for example bicycle helmet fit).5

What's needed is a systematic approach to injury countermeasure postmarketing surveillance. Only then will the full value of the countermeasure for the world community at large be realized. In Australia, we are on the threshold of introducing ground breaking gun control laws (affecting both gun access and registration). Public support arising from the recent shocking Port Arthur massacre in Tasmania has lead to previously almost unimaginable cooperation to introduce strict, uniform state and national gun control laws. Injury control supporters will need to continue swimming strongly against the tide of the gun lobby backlash which will inevitably persist after implementation of the legislation. Postmarketing surveillance of this measure will be vital to ensure its continuing survival.

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Closing remarks from the Haddon Memorial Plenary Session

You have experienced an unusual week, which reinforces the work that occupies your lives by offering new ideas and a broad exposure to diverse subjects. You have had daily choices between sessions dealing with the place of injuries (schools, work, home, highways), risk factors (alcohol, firearms, fireworks, vehicles), technical considerations (measurement, exposure, evaluation), and content (product safety, land mines, war, interpersonal violence).

The question now is how to put this all together. How do we understand where it fits? How can we feel some coherence, some understanding of how we all relate? How does it help that you have attended this conference? It has given us some identity. The feeling we are part of a growing movement.

When Thucydides was asked when justice would come to Athens, the philosopher replied, 'Justice will come to Athens when those who are not injured are as indignant as those who are injured'. What a great motto that would make for this movement. This conference has helped us become indignant on behalf of those who have been injured and those who never should be injured in the future.

Attending has helped me to get a different perspective and I have several conclusions.

1 You are pioneers in an exceedingly diverse undertaking. If we would show you pictures of a bench scientist working on DNA, an emergency room physician saving a life threatened by toxic shock, and a public health worker giving an immunization in Africa, you might have trouble seeing the relationship. If we said all were working on the control of infectious diseases, the relationship would be immediately clear. Similarly, the goal of eliminating unnecessary injury is what joins all of us despite diverse daily activities.

2 I also conclude that you are activists, positive people, who would not be doing this unless you honestly believed that you can change the world.

3 Despite being pioneers, you have a great tradition to fall back on with experiences, guidelines, and information on what works and how to make it work.

4 You have a busy, exciting, and productive decade ahead.

The tradition

While you see yourselves as pioneers, let me for a moment tie you to the great public health culture. We build on a proud tradition which is this year celebrating its 200th anniversary. It was in 1796 that Edward Jenner, after 11 years of observing the protection that milkmaids appeared to have during smallpox outbreaks, worked up the courage to take material from the cowpox lesion on the hand of Sarah Nelmes, and transfer it to the arm of James Phipps. Three weeks later, with a mental burden which I can't imagine, he tried to give James smallpox. The boy was immune. This began a chain of events that led to smallpox eradication, polio vaccine, measles vaccine, and some day will lead to vaccines for AIDS and malaria.

Public health includes countless such chains, such as the work of Oliver Wendell Holmes and Semmelweis on handwashing which led to our current knowledge of sanitation. Work on tuberculosis, iodine, vitamin A, etc, bit by bit leading to the science of public health. It all adds up and in the past third of a century, infant mortality rates have dropped by half, while life expectancy for the world has increased by 15 years, an average of 10 and a half hours a day for every person in the world.

But don't miss the point that two centuries of advances finally paid off in the recent decades. Public health accumulates. It took 180 years to eradicate smallpox after vaccine became available. It will take 45 years to eradicate polio. But we are getting better and faster at using our tools and injury control has already paid off in its first years and will continue to get better.

As the boundaries of public health expanded from infectious diseases, to chronic diseases, to life style factors, environmental health, occupational health, injury control and now even to mental health, the tools have been refined. While these tools are many, they emanate from only two concepts.

CONCEPT 1

This is a cause and effect world. Stephen Hawking has written that the whole history of science has been the
realization that events do not happen in an arbitrary manner. Huxley once defined science as simply common sense at its best. This concept rests on the premise that there are rational answers which can be determined by rational, common sense approaches.

Jean Jacques Rousseau in 1762 wrote, 'Half of all children will die by their 6th birthday. This is nature's law. Do not try to contradict it'. We of course contradict it every day. We no longer live in such a fatalistic world. It is this non-fatalistic approach of science that led to epidemiology.

As I listened to presentations by emergency room physicians comparing groups, defining risk factors, giving relative risks and confidence intervals, it struck me that a large percentage of the audience probably would not know that 80 years ago there wasn't a single department of epidemiology in the world. This is all very recent in the history of science and now it is the backbone of every analysis, every intervention, and every evaluation in public health. That is part of the tradition you draw on in the injury field, the belief that this is a cause and effect world.

CONCEPT 2

The second concept that drives everything we do is the understanding and the responsibility for people in the aggregate. This doesn't lessen your responsibility for individuals — instead it multiplies your responsibility. It provides the need to study people in relationships, in families, in communities, in nations, and globally. It provides efficiencies in interventions, as with seat belts, bicycle helmets, or immunization. But it is more than that. It is a responsibility imposed on those who enter public health.

If you go into science, you expect to seek knowledge, to break down the walls of ignorance. If you go into medicine you expect to use that knowledge for the benefit of your patient. But if you go into public health you have the obligation to use that knowledge for the benefit of everyone, therefore, the philosophy behind public health is social justice.

The outcome of this line of reasoning is that social justice has no boundaries just because of national borders. Therefore, by gravitating to public health you have accepted the responsibility to work globally, or at least to think globally.

But social justice also has no time boundaries. You have to ask what is best in the long run. This in turn leads to the vision and patience which you heard characterized Bill Haddow. The vast majority of the public you serve has not yet been born.

Before asking what we could do in the next decade, let's see how the concept of social justice informs the Melbourne Declaration which will be considered later. If we accept the demands of social justice, it means using the information learned for the benefit of all. That requires action and the Melbourne Declaration is an action document. Peter Drucker has said if anything is to happen it must finally degenerate into work. Henry Ford said there were two kinds of people. 'Those who think they can and those who think they can't . . . and they are both right'. We need, as a movement, to become the kind of people who think we can. So the Melbourne Declaration calls for action.

Likewise the declaration calls for giving the same attention to violence as to unintentional injuries. We are learning about the similarity of risk factors for both categories, we are understanding there are similar interventions and we heard at this conference that an unintended injury greatly increases the risk of violence in the following 30 days.

A third ingredient in the declaration is a call for global attention. The understanding of social justice just discussed means global approaches must be an absolute foundation stone if the injury field is to mature.

The future

What should the next decade include if we are to feel we have done right for those who follow? There are lessons to be learned from the emerging infections' movement which is now gathering strength. While infectious diseases were beginning to decline in attention and funding, suddenly AIDS, Ebola virus, Lassa fever, and other problems revived interest in the field by pointing out potential problems no more scary than the current problems of injury and violence. For example, guns and vehicles will continue to result in more deaths in the United States than AIDS.

And combining five injury areas, falls, vehicles, suicide, homicide and war, on a global basis provides the second largest burden of illness in the world, second only to respiratory infections.

The first lesson from emerging infections is that they have demonstrated the importance of a seamless whole. They have shown the value of community surveillance and action and how this is tied to national surveillance and action which in turn is intrinsically linked to global surveillance and action. We must do the same.

Second, they have successfully made the important link of tying the needs of the poor to the fears of the rich. We need to do that also.

Third, in addition to local, national and international links, they have demonstrated true coalitions between UN agencies, national governments, non-governmental organizations, and business concerns. For example, polio eradication has such a coalition, heavily dependent on Rotary International, which has raised over $250 million thus far. The control of onchocerciasis (river blindness) not only has such a coalition but has as its single largest donor the Merck Drug Company, which has provided Mectizan free for the treatment of millions; 14 million last year alone.

Fourth, they have given thought to good surveillance systems. Knowledge is power and collecting the right information not only provides the needed information for interventions but it becomes an educational tool. A single example of many that are available. Less than a decade ago Nigeria was reporting only a few thousand cases of guinea worm a year, hardly enough to cause concern in the Ministry of Health. A village by village survey, however, revealed 700 000 cases at one point in time. The result was a pledge of $1 million by the Nigerian government plus money from outside donors to counteract what was now understood to be a real health problem.

Lessons from other programs provide other suggestions for the next decade. For example, fifth, we need to exploit the new methods of measuring the burden of disease. The 1993 World Bank publication, _The World Development Report_, includes a technique for combining mortality and suffering. This is important in the injury field since the suffering toll is so great. Schweitzer reminded us that pain is a greater burden than even death itself. We need ways to improve our measurement of that burden. Disability adjusted life years (DALY's) permit comparisons between injury and other health conditions, allow comparisons between age groups, between geographic areas, or between groups in different health plans. Exploit these tools for the improvement of injury prevention.

Sixth, provide a vision. It can become very confusing even for those who spend every day in the field. F Scott Fitzgerald said the mark of a first rate mind was the ability to hold two conflicting ideas in mind at the same time, such as, 'This is an impossible problem, and here is how we will solve it'. We need to show how we are going to solve the
injury problem. It should be realistic. For example, we could provide a global vision of what would happen if the whole world had the morbidity and mortality rates for vehicle injuries, gun injuries, head injuries, violence injuries, and if everyone achieved the results seen by the top 25% of countries. If 25% of countries have already done it, it is clearly realistic.

We could provide national visions based on the same sort of reality. For example, what would happen if the United States had the homicide rate of Australia, or the family violence improvements which we see in New Zealand? Then the question changes from a fatalistic, 'How can you change human nature?' to a realistic, 'How do we emulate the best?' No country automatically rejects the possibility of winning a gold medal at the Olympics because another country is ‘better’. Instead everyone is always trying to learn from the techniques of the best.

I often dream of what could happen if public health would be made an Olympic event where countries compete, where the news media is in a frenzy, wanting to cover every story, wanting to interview survivors and the healthy, and where young people actually train to emulate public health heroes.

With these visions, improvement of surveillance systems, better coalitions, we could work out objectives that could be reached globally in 10 years. One of the strengths of the Summit for Children, held on 30 September 1990, was the resulting decade goals. The process was simple. Health ministers and others met in March 1988 in France and again in March 1990 in Thailand, to ask what they would feel comfortable having their heads of state agree to. The process wasn’t perfect but did lead to concerted global action and has provided a road map since. Why not do something similar in the injury area, choosing 10 or 15 areas for decade goals. The process could be electronic with anyone providing their contribution but only on the condition that the target they suggest is accompanied by action steps they would suggest to reach the target.

The same thing could then be done nationally to seek consensus on what people think could be accomplished in a decade. Having done this it would become clear that no one owns the problem or the solution. Solutions will require everyone, but especially major government involvement. While many are negative about government, the fact is that in most countries government is the only institution that represents all of us. It is difficult to find examples of social justice outside of government.

And it will require constant public health input with continuous attention to the vision, the development of plans and guidance, as well as the hard and relentless work of program delivery. It will take every public health worker feeling the same obligation to injury control that is now felt towards immunization. It will take non-governmental organizations. Where are the Rotary equivalents in the area of injury and violence? How do we get schools and churches involved. What part could industry play? In the international health area we have been overwhelmed with the contributions made by Merck, Dupont, American Cyanamid.

But there are three additional burdens I would like to place on those in this audience. You are here through self selection, therefore, your challenges can be greater.

First, the challenge of optimism. It is obvious this group is optimistic and needs to convey that to others. Cynics and pessimists abound until it becomes the expected response. Lily Tomlin has said that no matter how cynical you become it is never enough to keep up! Such talk often reminds me of the man told by a fortune teller that he will be very unhappy and very poor until he is 45. Grasping at that straw he asked what would happen when he was 45 and he was told he would then get used to it.

Our job is to be sure that people don’t ever again become used to injuries. That people never again become fatalistic about them.

Second, the challenge of futurism. Some things are very high maintenance while other things have to be done only once in the history of the world, such as developing polio vaccine or eradicating smallpox. Other things have to be done only once and we build on that action, such as developing a technique for calculating DALYs. Our challenge is to identify and invest in those things, having been done once, change the future. So that future workers stand on an even higher plane.

Third, accept the challenge of leadership. You are pioneers . . . but you are also leaders.

Allow me to share some ideas from a book titled, Certain trumpets — the Call of Leaders by Garry Wills. The title is taken from 1 Corinthians 14:8. For if the trumpet give an uncertain sound, who shall prepare himself to the battle?

The author acknowledges there are many books on leadership, with scant attention to followership. But even when the definition of leaders includes the idea of motivating followers, he claims the discussion still misses the essential component, which is an agreement on goals. His definition is ‘The leader is one who mobilizes others toward a goal shared by leader and followers’. He concludes that a leader needs to understand followers far more than they need to understand the leader.

Finally, he asks how should one become a leader? His answer. By finding the right followers and by finding the right goal.

You have the right goal. Eliminating unnecessary injury. This is what binds us and it is absolutely understandable. Refine that idea, work on objectives, and communicate the idea. Choose the words carefully for as Kipling reminds us, ‘Words are the most powerful drug we have in the world’.

And since you have the right goal, now choose the right followers. Make parents, teachers, health care workers, reporters, and politicians your followers by making them aware of this goal and their ability to help plan a rational future . . . to follow you to the goal.

Not only will you find purpose in going to work in the morning . . . Not only will you feel contentment at the end of the day . . . But you will also learn, in the words of Jonas Salk, how to be more than just good citizens, but how also be good ancestors.

Thank you for being part of this exciting movement.

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