Lecture

The Role of Public Health and Occupational Physicians in the New Millennium†

HP Lee,[1] *FFPH (UK), FAMS*

Preamble

Our Guest-of-Honour, Ms Yong Ying I; Chairman, Dr Lee Hock Siang; Distinguished Guests and Friends:

I want to thank the Chapter and organisers for honouring me with this kind invitation to speak to you. This millennium is only 4 years old, and yet I cannot see beyond the next decade, with things moving so rapidly. I will therefore confine my remarks to the foreseeable future in this present age.

Public Health and Occupational Medicine are very closely related specialties because they are both multidisciplinary and their prime concerns are largely preventative and promotive, with similar skills and perspectives. One concentrates on the working segment of the population, and the other includes the rest. Disease prevention and health promotion are highly relevant if we are to sustain a healthy population, which includes a healthy workforce. Health, productivity and development are all intertwined in our endeavour to build a better society. This integrated perspective is reflected in a resolution passed by the WHO Regional Committee for Europe in 1998: "…people in the region should have greater opportunities to live in healthy physical and social environments at home, at school, at the workplace and in the local community".

What of the Present Millennium?

The Millennium Summit held from 6 to 8 September 2000 at the United Nations is a good starting point.[1] All 189 member states were represented, many by their Heads of State/Government. Our Prime Minister, Mr Goh Chok Tong, chaired one of the four roundtable meetings. What were their conclusions?

Poverty was identified as the single most pressing global problem to be tackled. Per capita income had decreased in 50 countries in the decade before the summit. About 1.2 billion people are living in extreme poverty (defined as having less than USD 1 per day), and this constitutes one-fifth of the world's population. If one takes the slightly higher cut-off at USD 2 per day, the numbers would increase to 2.7 billion. Such are the harsh socio-economic realities.

More than 10 million children continue to die each year in developing countries, largely due to preventable causes such as infectious diseases and malnutrition. More than 500,000 mothers die from complications of pregnancy and childbirth, while over 50 million suffer from poor reproductive health and disability. In 2002, 42 million adults and 5 million children were living with HIV/AIDS, 95% of them in the developing world. Such are the harsh public health realities of the day.

WHO estimates that about 1.9 to 2.3 million work-related deaths occur globally every year, almost 80% of them being diseases and the rest accidents and injuries. The cost of all work-related accidents and diseases amount to about 4% of the world's GNP, a burden that developing countries can ill afford.

But it is not just poverty per se; rather, it is poverty in the midst of plenty both between and within nations. In the State of the World 2004 report by the Worldwatch Institute, about 1.7 billion people have also entered the "consumer class".[2] This global inequality has increased sharply. In 1950, the gap between the richest and poorest countries was 35:1. By 1992, the gap had widened to 72:1. The socio-economic divide is seen as the greatest threat to international security and world peace. The multifarious implications of extreme poverty in a world of extreme inequalities will continue to plague us for a long time to come. The consequent social inequities, particularly in health, are but shadows of the real burden of this century. There is no point in talking about enlightened occupational safety and health (OSH) policies and management systems if people are without jobs in the first place.

The Millennium Goals

The Millennium Summit identified the following as priority areas of concern:

1) Achieving sustained growth – to ensure that people in all developing countries benefit from globalisation.
2) Generating opportunities for the young – for education and decent work. (Isn't this the logical starting point of an enlightened Occupational Health programme?)
3) Promoting health and combating HIV/AIDS – to redirect health research on problems affecting 90% of the world's people.

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[1] Department of Community, Occupational and Family Medicine, National University of Singapore, Singapore
Address for Reprints: Prof Lee Hin Peng, Department of Community, Occupational and Family Medicine, Faculty of Medicine MD3, National University of Singapore, 16 Medical Drive, Singapore 117597.

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4) Upgrading slums – to improve the lives of 100 million slum dwellers by 2020.
5) Building digital bridges – to enable developing countries to leapfrog technology to maximise people's access to new information networks.
6) Demonstrating global solidarity – through open markets, debt relief and more focused development assistance.

This led to the adoption of the 8 Millennium Development Goals:

1) Eradicate extreme poverty and hunger.*
2) Achieve universal primary education.
3) Promote gender equality and empower women.
4) Reduce child mortality.*
5) Improve maternal health.*
6) Combat HIV/AIDS, malaria and other diseases (e.g. tuberculosis).*
7) Ensure environmental sustainability.*
8) Develop a global partnership for development.*

WHO has gone one step further to reinforce the ones that are more directly related to health (marked with an asterisk*)[3], although we can see that they are closely interrelated and interdependent. The WHO Director-General wrote in his message to the World Health Report, 2003: "A world marked by such inequities is in very serious trouble. We have to find ways to unite our strengths as a global community to shape a healthier future." A recent session of the ILO/WHO Committee on Occupational Health (2003) repeated the oft-quoted injunction that "national ministries of labour and of health need to co-operate more often".

The problems are not new, and should have been well addressed in the last century. With all the scientific and technological advancement in many areas of human endeavour, we are no better off in terms of our humanity. When Voyager I was hurtling past Neptune and Pluto, in one of its orbits in June 1990, it took a picture from outer space to show the "pale blue dot" that is our home planet. There is a need for a renewed vision of how we should conduct ourselves as the only living creatures known to inhabit this stupendous universe. It is a sobering thought.

The call for visionary leadership at every level can hardly be overemphasised. Twenty-five years following Alma-Ata at a meeting in Brasilia (2003) to commemorate the occasion, "the principles of Health for All as the way to overcome gross health inequalities between and within countries" were reaffirmed. The knowledge is there, the skills and tools are available. What we need is the will and drive to build a better and more equitable world. Naturally, team effort is required and a key member of this team, without any doubt, is a professional with a broad understanding of health issues and the skills to deal with disease prevention, health promotion and the delivery of health programmes and services.

The Health Agenda

The world has become borderless; there are no more local and international health problems or issues. The severe acute respiratory syndrome (SARS) is the latest reminder that we are all in this together. In a pandemic, where can we run to? Pollution, disease and refugees (need I also mention crime and terrorism) know no boundaries. On top of that, we are also faced with complex situations. The Demographic Disparity has resulted in many populations being confronted with the demands of ageing, while others continue to combat the causes of childhood mortality. There is also the Epidemiologic Disparity where emerging and re-emerging diseases will threaten us, while lifestyle changes have brought about new health concerns.

Henry Sigerist (1891-1957) wrote: "The task of medicine has always been the same: to promote health by preventing illness and curing it." Public Health, by definition, is concerned with what happens to the 'publicus' (the people). It is a discipline that moves with the times, responding to new disease patterns and new strategies in healthcare. Thus, it is always present- and future-oriented. In the words of Robert Beaglehole (1997): "Public Health is an evolving term…Ideally, (it) should be dynamic and flexible, incorporating the most appropriate elements of earlier public health movements: disease prevention, health promotion, health education, health policy, environmental concern and community empowerment."[4] All these areas are also the concern of occupational health; for example, the problems of ageing also include those of an ageing workforce.

In our actions, what do we focus on? According to Bernard Turnock, there are the big global problems of poverty, population and pollution.[5] Do we have a role in solving these problems? Definitely, but let's not get carried away by rhetoric and pretend that we are solely responsible for them. The big issues of society are really very big issues. They require the attention and input of economists, politicians, educationists, sociologists, town planners, engineers, lawyers, policy makers and all concerned citizens working together in intersectoral development.

Let not public health be "all things to all men". It does nobody any good if we are diffused and confused about our critical roles in the global agenda of health and development. A *Lancet* editorial put it this way: "woolly breadth will help no-one".[6] We must have definite skills to contribute effectively to this endeavour.

We have 2 major areas of contribution to the global agenda:

1) Handling the Information Explosion

In the exercise of our professional roles, the power of IT in the Global Communications Network is unprecedented.

WHO Europe, in the publication, *Future of Health and Health of the Future*, declared: "The world of 2020 will be a global knowledge village of almost 8 billion people…".[7] The ability of a single individual keeping up even in his own field of interest has become almost impossible. The information will have to be rigorously reviewed and integrated to guide action. Rodolfo Saracci said it well, "…when it comes to population health, communication and integration is imperative: healthy people eat only one diet…".[8] We will need reviewers, with the skills of information assessment, to digest and churn out practical summaries and key points for our "daily reading".

Health need assessment will have to go online. Sentinel surveillance is not an end in itself; its usefulness depends a great deal on how rapid further investigations and actions can be organised in response to certain alarms from the system. The public and occupational health professional of the future will have a much bigger role in educating and interacting with the public – skills in mass media communications that would bring the professional right into the living room of the average citizen, very much like the general in a war.

Furthermore, the need for more reliable and meaningful health information is felt all over the world. We may have the infrastructure, machines and computing power to collect and collate data, but what is even more important is the ability to integrate them into an intelligible body of knowledge.

2) Creating and Applying New Knowledge

The actions we take will have to be evidence-based. This means that there is a need for research to continue aggressively. We should get out of the old mindset of everybody doing a bit of everything. Perhaps it is time to reconfigure the team, with the researchers, planners, implementers and evaluators becoming more specialised in their functional roles. We need to incentivise a cadre of professionals with a passion for population-based research, which is time-consuming, labour-intensive and unglamorous to a great extent.

The 21st century will see even more changes in the areas of the Biomedical Revolution and Health Care Reforms. The former will lead to much more sophisticated methods and strategies in disease identification, treatment and prevention. We need to embrace the "new science" to be able to integrate new knowledge from various fields and translate them into policies and programmes for community-based action.

Indeed, information that does not lead to meaningful action will remain mere data. But gone will be the days when we could take our time, and hope that the problem will disappear or lessen in the process. Urgent action is demanded by a more educated and discerning public.

The New Public and Occupational Health Professional

Because of the demographic and epidemiologic disparities mentioned earlier, we have to prepare the new public and occupational health professional to handle a wider spectrum of diseases and health situations, and a broader age-range of health needs. The demands and expectations of healthcare, including occupational health services, will become more varied and complex. Our population-oriented skills are most needed at the interface between science and policy development to translate scientific results into health-improving strategies.

We need to ensure that our younger colleagues, in the words of Susser and Susser,[9] are "socialised in a manner that keeps alive the idea of improving the public health as a primary value". It is crucial that public health action must lead directly to improvement in health. While keeping our eyes on the vision, we must pursue with zeal and dedication the skills that are required for the practice of our profession because competencies define our professional status and role.

The UK Faculty of Public Health (which dropped the word "Medicine" in June 2003 to emphasise the multidisciplinary nature of the specialty) has identified 3 domains for our consideration:

1) Health Protection – e.g. clean air, water and food, infectious disease control, and environmental health;
2) Health & Social Care Quality – e.g. service planning, clinical governance, audit and evaluation;
3) Health Improvement – e.g. employment, housing, education and lifestyles.

They have indicated 10 key areas of specialist practice as follows:

1) Surveillance and assessment of the population's health and well-being.
2) Promoting and protecting the population's health and well-being.
3) Developing quality and risk management within an evaluative culture.
4) Collaborative working for health.
5) Developing health programmes and services, and reducing inequalities.
6) Policy and strategy development and implementation.
7) Working with and for communities.
8) Strategic leadership for health.
9) Research and development.
10) Ethically managing self, people and resources.

These 10 key areas form the basis for all the Faculty's professional standards and provide a comprehensive framework for generic public health competencies.

The American College of Preventive Medicine has a very similar list, with 7 core competencies and additional ones in the specialty programmes such as Biostatistics & Epidemiology, Management & Administration, Clinical Preventive Medicine, and Occupational & Environmental Health. So too the Australasian Faculty of Public Health.

The UK Faculty of Occupational Medicine, which in April 2003 celebrated its 25th anniversary, is now working on a 5-year plan to transform the Faculty. Its mission includes this statement: "Our aim is for healthy working lives through:

a) Elimination of preventable workplace disease
b) Maximisation of functional capacity
c) Adaptation of work to suit the needs of the individual."

The core competencies, which are being reviewed, include:

1) Identification of occupational hazards to health
2) Assessment of disability and fitness for work
3) Communication with patients, managers and other healthcare professionals
4) Research methods
5) Managing an occupational health service
6) Occupational health laws and ethics
7) Environmental medicine
8) Health promotion.

They are very similar to the ones stipulated by the American College of Occupational and Environmental Medicine, as well as the Australasian Faculty of Occupational Medicine. A more elaborate document can be found in the WHO Europe's publication: Occupational Medicine in Europe: Scope and Competencies (2000).[10]

The Singapore Agenda

Let me end with the public health agenda for Singapore. I have 3 proposals, which I will present in broad brushstrokes:

1) Build a Health Consortium/Coalition

With the borderless and highly competitive world around us, it is time for us to consider building a Health Consortium comprising the public and private sectors (including the NGOs) with the government taking the lead. Internal competition is really artificial and, at best, guided and restricted. Our competition is the rest of the world, and we would do well to pull our resources and expertise together to promote our nation's health, provide cost-effective healthcare and even market our services to all who need.

2) Nurture our Leaders

The scarcity of visionary leaders is a major limiting factor in our health development in clinical and managerial positions at all levels. Many of the problems, and certainly new initiatives, will require creative leaders who will think out of the box to find solutions to them and even improve on what we have. Public and occupational health leaders will continue to contribute by providing the population and workplace perspective.

3) Establish a School of Public Health

This is my shorthand for all the activities related to research and training in public health. It can remain a school or graduate programme within the medical faculty. The time has come for a quantum leap to consolidate and build up our expertise and experiences in the research, training and practice of public and occupational health. It is not a case of keeping up with the Joneses, but a real attempt to showcase the many achievements of public and occupational health in Singapore, which will attract international scholars and students in the field. The state of health in Singapore is very good by any standard, and we can take pride in being a part of this endeavour.

Conclusion

I will summarise my position. We need to have the big picture, to embrace the vision that health is an essential ingredient for human survival, progress and what I would collectively refer to as the "joy of living". But we must act focused – to contribute the essential skills that only public health and occupational health professionals can do, with their training and perspective. We do so through the efficient handling of data, the intelligent integration of key information, the rapid application of new knowledge and the continuing contribution to research and innovation in the delivery of health programmes and services. The key characteristic of the future is speed, and we must have the tenacity and rigour to respond accordingly. In closing, let me paraphrase a lesson I learnt very early on in my public health career. Don't just lament the lack of good data (which is quite often). Do the best with what we have, and in so doing make the case for better data to be collected.

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