Severe acute respiratory syndrome (SARS) was diagnosed in more than 1800 patients in 17 countries (including the United States and Canada) within two months (between 1 February and 31 March 2003). At the time of writing (20 June 2003), there was a cumulative total of 8416 probable cases and 804 deaths that have been reported from 29 countries (1755 cases in Hong Kong with 296 deaths*). On 12 March the WHO issued a global alert about SARS. Case studies in Hong Kong and Canada make it quite clear that SARS is an infectious disease. Epidemiological investigations and laboratory studies have identified the novel coronavirus playing an aetiological part of SARS.*

The impact of SARS on the world is still unclear at this stage but it is becoming a global hazard with its alarming high infectivity. SARS has spread throughout the world because people can be exposed in one place and be half a world away a day later when they become symptomatic. The outbreak has prompted the hospital authority and the department of health of Hong Kong to implement series of public health measures and hospital policies for the diagnosis and management of patients with SARS. SARS is an emerging infectious disease, and treatment strategies remain diverse and experimental as inclusion of control patients is neither possible nor ethical. It has been shown that the practice of droplet precaution and contact precaution is adequate in significantly reducing the risk of infection after exposure to patients with SARS. Therefore good public health practice in developing similar precaution at community level would also help to reduce the risk of infection in the community.

**WHAT SHOULD BE EFFECTIVE PUBLIC HEALTH PRACTICE?**

Many diseases, including infectious disease can be prevented through self care and self help. Individual citizens should take the responsibility to keep the home environment and public utilities clean and healthy as a long term solution to combat against infectious diseases, and promoting better health and hygiene. The WHO launched the Ottawa Charter for Health with a strong emphasis on strengthening community action, creating a supportive environment, and developing personal skills to promote health. The charter highlighted five principles:

- Building a healthy public policy
- Strengthening community involvement
- Create a supportive environment
- Building personal health skills
- Re-orientation of health services

The declarations of the 4th world conference on health promotion in Jakarta in 1997 and the 5th world conference on health promotion in Mexico in 2001 also called on strengthening the individual and community action and responsibility in health. Promoting good public health practice needs a community development approach that entails supporting local residents in actions to improve their health. The “new public health” movement has been in shape after a series of initiatives from the WHO—starting with Alma Ata Declaration on Primary Health Care in 1977, and culminating in the Healthy Cities Projects. This has led to greater emphasis on improving health through changing peoples environments and living conditions.

The biggest challenge for public health practice is that some of the most important public health measures are to be taken outside the health sector by those with responsibility for economic and social policy, such as politicians, educators, industrialists, and economists. The SARS event in Hong Kong is high priority on the public policy agenda as it affects other sectors such as education, transport, building management, social services, catering, tourism, and so on. The challenge is how to coordinate different sectors to implement effective control measures, and empower the community in taking responsibility for prevention.

**NEW PUBLIC HEALTH INITIATIVES IN FIGHTING AGAINST SARS**

The quote from Kass in 1977 stated, “The terror of unknown is seldom better displayed by the response of a population to the appearance of an epidemic, particularly when the epidemic strikes without cause.” This described the fears
surrounding the newly recognised legionnaires’ disease, and
the same would apply to SARS. Falsey and Walsh described
fears surrounding SARS being the public response to an
unexplained atypical pneumonia. The public health chal-
lenge is to equip the public with the personal health skills
to cope with different uncertain health conditions, which could
come one after the other. The whole community needs to be
strengthened to create a supportive environment conducive
to health. The Ottawa Charter for Health formed the basis for the
growth of the WHO’s “setting approach” to promote health
which views the different settings in which people live and
work as “whole” units. The people within the setting of their
everyday life can create health.

Promoting health through setting approach
School is a prime example and school health education needs
to include the training of skills of health promotion, which is
the process of enabling people to increase control over and
to improve their health. Most school communities are micro-
cosms of the larger community, providing opportunities for
children to develop and practice the skills in supporting a
healthy lifestyle. The health educators should be trained to
adopt the “health-promoting school” model, which is guided
by a holistic view of health and by the principles of equity and
empowerment. Schools would be the catalyst for bringing
together the various agencies having an impact upon the
health of the community. A comprehensive programme is
needed to include teachers’ training, curriculum development,
community participation, changing policies and practices, and
research so a supportive healthy environment can be built at
schools then cascades the effect to the community as schools
are microcosms of the larger community.

The “Health Promoting Schools” and “Healthy Schools
Award Scheme” launched by the Chinese University of Hong
Kong have fulfilled those needs. These programmes pro-
mulgated the concept of Health Promoting School as new initia-
tive in school based management to move beyond individual
behaviours change to consider organisation changes such as
improvement of physical and social environment. It is in line
with the “New Public Health” concept. This would enable the
students and also the teachers and parents to develop visions
and ideas to influence their lives and living conditions.

With the establishment of a network of “Healthy Schools”
and the training programme the Chinese University of Hong
Kong was able to develop “School against SARS” programme
including an education video and education kit within one
week. The aim is to equip school principals, teachers,
parents, students, and other school staff to fight against SARS.
The school based approach was possible as a group of schools
teachers have been trained as health educators and some
schools have achieved the standard of being “Health Promot-
ing Schools” according to the standard of Hong Kong Healthy
Schools Award based on the WHO Regional guidelines. The
“Schools against SARS” programme has moved away from the
traditional health education approach of information giving
towards demonstration of how members of the schools would
make healthy choices easier choices.

Practical guidelines for “Health Promoting Schools” have
been developed in local context to facilitate schools to develop
healthy school policies, building up personal health schools,
establishing school health services, creating a healthy school
physical and social environment, and maintaining strong
community partnership in health. Those are essential areas
for effective public health practice at schools. Preliminary
analysis has shown that the health risk behaviours of students
were lower among schools achieving high standard of
“Health Promoting Schools”. If the programme can be
widely implemented, it would have an impact on at least 1
million students and 2 million parents in Hong Kong, nearly
half of the total population (total population about 7 million).

Hygiene charter
As a public health discipline, there is no better dictum
“prevention is better than cure” in the SARS crisis and control
of infectious disease. The public should take this opportunity
to equip themselves with the skills needed to maintain a good
standard of hygiene and advancement of health education
knowledge. Effective public health practice needs to involve
the community at large and encourage people to be involved in
dall decision making processes relating to health. As a continu-
ing effort in the fight against SARS, Operation UNITE
(community initiated movement comprising community
leaders from all sectors to help the community in fighting
against SARS) has conceived a hygiene charter with the aca-
demic and professional advice by the Chinese University of
Hong Kong, which aims at encouraging individuals, as well as
business and industry sectors, to pledge their commitment to
improve hygiene practices for the good of all. The main
objectives are to promote civic responsibility at individual
and corporate level to create a healthy environment so the
community can be empowered to take positive action and
assume responsibilities in the continued fight against SARS
and infectious disease in the future.

The charter puts forward suggestions and guidelines on
hygiene practices for individuals, management, and busi-
nesses and organisations over 10 different sectors. The Chinese
University of Hong Kong through their experience in health
promotion through setting approach such as “Healthy
Schools” and “Healthy City”, and also clinical management
of large numbers of patients with SARS, has developed a set
of guidelines and standards for hygienic practice in the com-

munity. Through consultation with experts in different
sectors, it is possible to translate the principle of prevention
into effective, practical, and user friendly procedures. The
charter would facilitate development of healthy public policies
as it involves different sectors, and also strengthening the
community action to create and sustain a supportive environ-
ment for health.

In coping with epidemics of infectious disease, a healthy
epidemic could be considered. The Healthy Cities movement
can provide a framework for an integrated and holistic
approach to public health. The approach can lead to intersec-
tional action and community participation in identifying and
solving priority problems by addressing the physical and social
health determinants.

STRENGTHENING THE HEALTHCARE SYSTEM
Based on our current understanding about the pathogenicity
and transmissibility, SARS needs to be regarded as a serious
threat to population health. Health practitioners should not
wait to take measures until this affects more populations as
was the case for HIV epidemic in many countries in the early
1980s. While work will continue to better understand the
SARS, the healthcare systems in each country should be pre-
pared to manage SARS.

The current experience in Hong Kong and elsewhere
suggests that there is a need for improving the physician
workforce in the field of public health medicine. To carry out
essential public health practice, they should be well trained in
emerging infections and prepared for any new challenges.
Healthcare system need to be strengthened with an efficient
information systems that will gather information from many
sources to disseminate collated information to those who
want to know them in a timely manner. Reorganisation of
healthcare systems with an international focus to ensure

adequate surveillance mechanisms, rapid response to epidemics, prevention and control strategies, and maintenance of optimal infrastructure nationally and internationally. Countries where no SARS cases have yet been reported, should be prepared with clear contingency plans at national and local level, with international cooperation for dealing with the SARS outbreak. International assistance might be necessary to help low income countries to prepare for the SARS epidemic.

Re-orientation of health services towards primary care

During the SARS crisis, there has been high demand on hospital services. Primary health care is supposed to be the gatekeeper to the hospital. However, the primary care system in Hong Kong is not very well developed and works quite independently from the rest of the healthcare system, which is dominated by the hospital authority (HA): 70% of primary medical care is provided by the private sector whereas 90% of the hospital care is carried out in public settings under HA with little interface between primary and secondary care, let alone collaborations between the private and public sectors. There is a large overlap of symptoms and signs in the clinical manifestations of SARS from upper respiratory infections. With the fear and panic in SARS issue, it would be very difficult for patients with symptoms to be managed in primary care setting without a close working relationship and supporting system between primary and secondary care. All symptomatic cases would end up being admitted to hospitals. If the primary care doctors can have direct access to basic diagnostic procedures such as chest radiographs and blood tests, and direct communication with the hospital team managing SARS, they would have more confidence in selecting suspected cases for secondary care. In doing so primary care physicians would need appropriate training on diagnostic methods and support from additional personnel. Patients who are not sick enough to warrant secondary care should be strongly advised to limit their activities until they are asymptomatic. Also the primary care doctors can be useful health educators in the community if they can be informed rapidly with the latest information on SARS.

SARS AND GLOBALISATION OF PUBLIC HEALTH MEDICINE

Public health care workers can play an important part in combating the spread of SARS as they are front line professionals. The WHO, the CDC, and national and local health agencies across the globe have disseminated latest information for clinicians, public health officials, healthcare professionals, travellers, household contacts, and many other affected parties. Coordination of the international response strategy has been facilitated by regular videoconferences with leaders in the operations centres at the WHO, the health authority, and the CDC. Satellite broadcasts, webcasts, and videoconferencing are supporting the dissemination of latest information to the entire global health community.

With the emergence of SARS and the worldwide scare on population health, this might be the opportunity to globalise public health medicine as an important component of medical practice. Feachem defined globalisation as openness of trade, ideas, people, and culture. Globalisation would permit practitioners in different settings from different countries to become well informed about any new developments with rapid communications and sharing of ideas as to how to control SARS. Coordinated, forthright, and determined advocacy by medical practitioners working in different settings and their national and international associations could and should play a much greater part in mobilising public and political opinion. Groups such as the World Medical Association, the Faculty of Public Health Medicine of the United Kingdom, and the American Public Health Association could play a greater part in this aspect. Their advocacy should include the promotion of essential public health functions with the availability of appropriate services for all practitioners and populations worldwide.

The Way Forward

Good public health measures in maintaining a healthy living environment is the long term solution in controlling an outbreak of infectious disease. The effort can only be sustained if health can be put on high priority in all sectors, and the whole community can be empowered to create a supportive environment conducive to health. Promoting health through setting approach such as healthy cities, healthy schools, hygiene charters should be encouraged to make health and hygiene a priority issue. The primary care should be strengthened in terms of training and integration with the hospital services so the burden of hospital services can be relieved especially during a health crisis such as SARS. A strong primary health care system can also coordinate with different sectors to face the challenges of future epidemic to public health.

References

16. Lee A. Helping schools to promote healthy educational environments as new initiatives for school based management. The Hong Kong Healthy Schools Award Scheme. Promotion and Education 2002;suppl 1:29–32
17. Lee A, Lee SH, Tsang KK, et al. A comprehensive “Healthy Schools Programme” to promote school health. The Hong Kong experience in

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Influential women in occupational health
Sophia Kisting, MD: Internationalist seeking global standards

April 1950–
Country of birth: Namibia

Sophia Kisting works to reduce HIV infection, improve reproductive health, and conduct occupational surveillance, assessing workers for silicosis and asbestosis. A physician and researcher at the School of Public Health at the University of Cape Town, she is involved in occupational health programmes, including prevention of needlesticks and HIV/hepatitis.

Working in a world where over 65% of the population works without insurance or employee protection, Kisting is particularly interested in women in agriculture, especially exposure of women and children on fruit farms. In Sub-Saharan Africa, 75% of agriculture workers are women in seasonal, casual, or subsistence farming.

Kisting looks to help with the establishment of a strong health and safety network in Africa, and to strengthen the north-south relationship internationally. Gaps in legislation can be exploited, but the goal is one good global standard for working conditions.

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“Exposure of women to hazards at work is often invisible, in unpaid as well as paid work.”