17 Conclusions

LESSONS FROM THE PAST

17.1   The Committee has studied in considerable detail the chronology of events during the SARS epidemic in Hong Kong, and heard a great deal of evidence from individuals and organisations that come from a wide background. The story that emerges is one of great courage and dignity, as Hong Kong struggled against this new disease. The Committee has used the opportunity to describe in this Report some of the individual contributions made during the epidemic, though no persons are named. These contributions are described simply to represent the enormous efforts made by the many people that were involved.

17.2   There were criticisms too. The Committee has therefore reviewed carefully several specific areas. These include early events in the Guangdong Province and Hong Kong, early perceptions of whether a community outbreak was occurring, the handling of the PWH and Amoy Gardens outbreaks, public and private sector collaboration, and the apparently high case fatality rate from SARS in Hong Kong. Overall, the epidemic in Hong Kong was handled well, although there were clearly significant shortcomings of system performance during the early phase when little was known about the disease or its cause. The Committee has not found any individual deemed to be culpable of negligence, lack of diligence or maladminis -tration. In reaching this judgement, full account was taken of the hazards of retrospective judgement, and efforts were made in each instance to examine the subject matter in the context of what was known, and what could have been done, at the time. Detailed comments reflecting the Committee's view on each of these areas are given in the body of the report. The main focus of the report is a series of themes, many of which were often reiterated in evidence heard by the Committee. They highlight shortcomings and weaknesses in the Hong Kong health system that make it particularly vulnerable to any new or emerging infectious disease, and that need to be addressed urgently in order to be adequately prepared for any future public health emergency.

PREPAREDNESS FOR THE FUTURE

17.3   The SARS experience in Hong Kong has helped to identify a number of positive lessons as well as highlighting a number of challenges for future preparedness. These apply equally to a recurrence of SARS, an outbreak of a new or emerging disease, or a variety of other public health emergencies. There are common principles for dealing with these that include –

- ◆ Strengthened epidemiology capacity
- ◆ Systems for early detection and reporting

◆ Contingency planning

◆ Clear command and control structures

◆ Integrated response

◆ Surge capacity

◆ Transparency and effective communication.

17.4   The central concept that underlies all these principles is resilience. This is the ability at every level of the system to detect, prevent, control and recover from disruptive challenges. It depends on having a well planned, carefully orchestrated and fully integrated emergency management response.

STRENGTHENING SURVEILLANCE AND REPORTING SYSTEMS

17.5   Good surveillance is the cornerstone of effective communicable disease control. Without it, it is impossible to track disease trends, identify new disease threats, detect serious outbreaks, design appropriate control measures, or evaluate the effectiveness of interventions.

17.6   There needs to be a high level of vigilance throughout all parts of the health system. Public health emergencies take many forms. They may be acute incidents or may develop insidiously over days or months, and may involve communicable diseases or other environmental hazards. New diseases may emerge or old diseases may re-emerge. People need to expect the unexpected. This requires a culture where everyone recognises that their work, whether in primary care or hospital care, may have wider public health implications, and that an illness in one patient may have consequences for the whole community.

17.7   Strengthening surveillance systems is an urgent priority. These are the eyes and ears of the public health service. The success of e-SARS and MIIDSS, developed during the epidemic, show what is possible with existing technology, and what can be achieved during a short space of time when information technology is coupled with remarkable human efforts. DH appears to be inadequately resourced in this regard compared to the investment made in this area by HA, and better information technology support is required to refine and develop robust systems for the future.

17.8   Better reporting would also improve surveillance. The essence of surveillance is a two-way street with an afferent and efferent loop: a positive reinforcement for submitting data is receiving information in a timely manner in return. One important gap in Hong Kong is the absence of comprehensive laboratory surveillance. Efforts should be made to ensure that all laboratories promptly and routinely report all laboratory diagnoses of public health importance to DH. Ideally, an electronic reporting system should be established. Making laboratory reporting of communicable diseases a legal requirement would help underpin such a system. A more fundamental and far-reaching reform would be to integrate all hospital microbiology laboratories within the

new Centre for Health Protection, thereby providing the means to simultaneously strengthen surveillance, hospital infection control and outbreak management at the interface between the hospital and the community.

PREPARING COMPREHENSIVE CONTINGENCY PLANNING

17.9   Contingency planning is the basis for dealing with most health service and public health emergencies. This is no less true for communicable disease outbreaks. It should be a requirement that DH and HA, and each regional office, cluster and hospital should develop and implement an incident plan that includes arrangements for dealing with major outbreaks. This should describe the process whereby an outbreak is declared, an outbreak control team established, and control actions initiated. The objectives of the team should be plainly stated, and roles and responsibilities of outbreak team members clearly specified. A culture of reporting and writing up outbreaks should be cultivated in order to evaluate and disseminate lessons learnt. Plans should be regularly tested and communicable disease outbreaks should be viewed as an integral part of contingency planning.

17.10   Plans will contain the following generic elements –

- ◆ Aims and objectives and their contribution to civil protection policy

- ◆ The emergency management framework

- ◆ Definitions of roles and responsibilities

- ◆ Agreed protocols for alerting and calling out responding organisations

- ◆ Arrangements for activating different levels of response

- ◆ Arrangements for pooling and sharing resources

- ◆ Arrangements for communication within the organisation and with other partners

- ◆ Arrangements for providing public information and working with the media.

17.11   There will also be a need for site-specific plans, event or scenario specific plans, and plans that take account of the increasingly international dimension of public health incidents. Similar plans and arrangements should exist in the private sector and in other support agencies and organisations. Efforts should be made to ensure that plans are complementary, and support an integrated response across a range of agencies should the need arise.

FORMULATING CLEAR COMMAND AND CONTROL STRUCTURES

17.12   The SARS epidemic posed a real challenge to decision-making and the implementation of public health control measures. It was a new disease and the usual

parameters on which a risk assessment is based were unknown until the epidemic was well advanced. Fortunately, this is not likely to be the case in most future outbreaks, but it does underline the importance of having standing arrangements to deal with outbreaks. The existence of a pre-determined framework for making and implementing critical decisions about control measures means that there is less potential for things to go wrong.

17.13   The effective management of a public health emergency requires a clear chain of command. Various mechanisms and bodies were established on an ad hoc basis in response to the epidemic, from committees at the hospital and HA level, through to the HWFB Task Force and the Chief Executive's Steering Committee at the highest level of Government. Each Government department must maintain a state of readiness and a facility should be maintained as an 'emergency control centre'. These arrangements need to be clarified and formalised in preparation for any future emergency. They should be tested periodically to ensure they are robust, and that there is a clear understanding of the roles of each tier within the command structure.

17.14   A framework of command is needed to manage the response at one or more of three levels: operational, tactical and strategic. Their roles are broadly as follows –

- ◆ Operational - Manage frontline decisions and actions
- ◆ Tactical - Determine priorities for obtaining and allocating resources
    - Plan and coordinate the overall response
- ◆ Strategic - Establish strategic objectives and overall management framework
    - Ensure long-term resourcing and expertise.

17.15   The chain of control is normally activated from the bottom upwards. Incidents are generally first recognised at the local level, as happened with the outbreak at PWH, and then escalate as their wider ramifications become apparent. Command and control arrangements therefore need to reflect this.

17.16   Finally, there needs to be a suitable legislative framework to enable an appropriate public health response. The existing infectious disease law proved to be generally satisfactory for dealing with SARS though there were deficiencies, particularly in relation to border controls. Emerging infectious disease threats demand flexibility of response, and now would be a good time to review the law to ensure that it is fit for purpose.

DEVISING AN INTEGRATED RESPONSE

17.17   Major emergencies demand a combined and coordinated response at the local, regional and territorial level. The resources of statutory organisations, the private sector, academic institutions and voluntary agencies all need to be linked. SARS exposed weaknesses particularly in the relationships between the public and private sectors, but also the difficulties of integrating the activities of HA and DH, and of academic and service sectors.

17.18   These issues will need to be addressed by reviewing the relationships of the various organisations and at various levels of the health system. They should also be clarified and tested by the contingency planning process.

17.19   SARS has also taught many lessons about the importance of international collaboration in response to a global public health emergency. This means that planning cannot be carried out in isolation, but must involve close collaboration with neighbours in the Pearl River Delta region, Mainland China generally, and the international community as a whole.

DEVELOPING BETTER SURGE CAPACITY

17.20   Inadequate surge capacity in hospitals and the public health system has clearly been a major problem with SARS, especially since healthcare workers have themselves been victims of the disease. Several areas of deficit were highlighted, most notably the need for better isolation and infection control facilities; shortages in key skills, particularly field epidemiology, infectious diseases and critical care medicine; and a lack of training in key areas, particularly hospital infection control.

17.21   HA will need to urgently invest in improvements to hospital facilities and to extend the availability of isolation rooms. It should also develop detailed plans on how resources will be shared to deal with an incident that overwhelms the capacity of any one part of the health system, including the role of temporary or standby facilities. Workforce resources are the other critical area for surge capacity. Shortages in clinical specialties and skills should be reviewed and plans made to redress them either by re-training existing staff, where appropriate, or by recruiting and training new staff.

17.22   Many of the shortcomings in public health resources are best dealt with by establishing a Centre for Health Protection. This will provide a focus for improving the communicable disease control infrastructure by strengthening arrangements for the surveillance,

prevention and control of communicable disease, as well as having a pivotal role in promoting training and research. The need for more trained infectious disease epidemiologists is particularly critical. This will require identifying and recruiting suitable candidates for training, and either establishing a field epidemiology training programme in Hong Kong or developing secondment arrangements with other programmes elsewhere.

seniority are properly trained in working with the media, that longer-term partnerships are built with the media and that they are involved in the contingency planning process, and that there is an ongoing programme of public education on public health issues.

ENSURING TRANSPARENCY AND EFFECTIVE COMMUNICATION

17.23   SARS has shown how easily a new and poorly understood communicable disease can incite widespread public anxiety. It has been said that the fear of SARS spread faster than the virus itself. Unwarranted discrimination was another unfortunate problem. To counteract these problems, clear, factual information and reassuring messages need to be issued by trusted authorities. Panic is fuelled when information is concealed or only partially disclosed. WHO has acknowledged that Hong Kong has been exemplary in its transparency of reporting, even when the economic consequences of doing so were known to be significant.

17.24   Communicating risk to the public is never easy, particularly in the face of an overwhelming crisis. Nevertheless, much can be done to improve and prepare for any future eventuality. This involves building a level of trust within the community, by ensuring that professionals with appropriate expertise and