Strengthening of National Capacity for Prevention and Control of SARS

Report of a Regional Consultation
Chennai, Tamil Nadu, 1-3 July 2003

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World Health Organization
Regional Office for South-East Asia
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1. **INTRODUCTION**

Severe Acute Respiratory Syndrome (SARS), the first new infection of the current millennium, recently affected a large number of countries, necessitating a global alert by WHO. Cases were detected in 32 areas in all the five continents. The infection spread rapidly through international travel, causing considerable economic loss. SARS being a new infection generated a lot of panic and Member Countries, in spite of their best efforts, realized the existence of various deficiencies in their infrastructure as well as practices for the prevention and control of SARS and similar infections.

Realizing the global concern for improving the prevention and control measures and to share experiences of Member Countries of the SEA Region, WHO organized a three-day consultation at Chennai, Tamil Nadu, India from 1–3 July 2003. Dr Subhash Salunke, Director-General of Health Services, Maharashtra, India was elected the Chairperson and Dr Nado Zangpo, Joint Director of Health Services, Bhutan as the Co-chairperson of the consultation. The detailed programme of the consultation is placed at Annex 1 and the List of Participants at Annex 2.

2. **OBJECTIVES**

The objectives of the workshop were as follows:

(1) Orientation of participants on various aspects of SARS;

(2) Review of the current status of the state of preparedness in all Member Countries of the SEA Region;

(3) Development of national response mechanism for enhanced surveillance, infection control measures, laboratory support, media management and international travel, and
(4) Formulation of country-specific strategic plan of action for strengthening national response to SARS and other such serious infections.

3. **INAUGURAL SESSION**

Welcoming the participants, Dr Methsiri Gunaratne, Regional Adviser, WHO/SEARO, New Delhi spoke about the global mortality, morbidity and economic loss caused by SARS; timely and rigorous coordinated control activities and inherent weaknesses in the response mechanisms mounted by the countries of the Region.

Dr S.J Habayeb, WHO Representative to India read out the address of Dr Uton Muchtar Rafei, Regional Director, WHO/SEARO, New Delhi. Dr Uton said that SARS was the first readily transmissible new disease to emerge as a serious threat to international public health in the 21st Century. The disease has manifested in wide-ranging social, economic, political and many other repercussions. The impact of the disease made it appear on the agenda of all major high level meetings including the meetings of SEAR Health Secretaries in Nepal, the ASEAN + 3 Ministers of Health at Kuala Lumpur, and Siem Reap, Cambodia, the ASEAN Heads of State in Thailand, and the SAARC Ministers of Health in Maldives. In all these meetings, WHO provided technical support. Dr Uton informed that countries in the SEA Region so far were lucky. Of the three countries reporting imported cases, none resulted in local transmission. However, it was essential to treat the threat from SARS very seriously as it posed a profound threat to a country’s public health due to a variety of reasons including novelty of disease, inadequate understanding of its epidemiology and pathogenesis, absence of any specific treatment or vaccine; great frequent tendency of the virus to undergo mutations; absence of an effective diagnostic test and high case fatality ratio.

Dr Uton said that SARS proved to be an extremely demanding test of the effectiveness of WHO and its Global Outbreak Alert and Response Network partners to mount an adequate response, generate appropriate technical guidelines, get teams of experts and essential supplies and equipment into the countries and ensure adequate monitoring and reporting. The global response was designed to rapidly seal off opportunities for SARS to establish itself. The
current experience highlighted the importance of preparedness in anticipating new emerging or reemerging infectious diseases. WHO was continuing its aggressive policy aimed at preventing SARS becoming a widely established threat. Despite the fact that various facets of SARS are not yet clear, the epidemic seems to have passed its peak. This was largely due to global collaborative efforts in applying rigorous preventive and control measures. However, Dr Uton stressed that though SARS was the effectively controlled, vigilance and political commitment would need to be maintained for which the consultation would be a landmark event.

4. PROCEEDINGS

4.1 Orientation on SARS

Review of global status

Dr Thomas Grein, Project Leader, Alert and Response Operations, CSR, WHO, Geneva updated the participants on the latest global status of SARS. He described the characteristics of the newly isolated causative agent of SARS named SARS-CoV, its spread from Guandong Province of China to Hanoi, Hongkong and subsequently to 32 different areas of all the five continents of the world within a few months, causing 8,447 probable cases and 811 deaths till 30 June 2003.

The economic loss caused by SARS globally (estimated: USD 80 billion) and in Asian countries (estimated: USD 40 billion) where tourism was severely affected, was reiterated. While describing the epidemiology of SARS, Dr Grein elaborated upon the fact that during the initial phase of the pandemic, a large number of hospital care workers contracted this infection, due to inadequate infection control practices. From health care workers, the infection spilled over to the community and air-travellers rapidly carried the infection to various countries of the five continents. Some of the unique features observed in the SARS pandemic viz. role of superspreader in Singapore, coincidental convergence of environmental factors in Amoy Apartments of Hongkong and two distinct waves of cases in Canada are considered unexplainable aberrations in the overall epidemiology of SARS.

Dr Grein gave an overview of the unprecedented global efforts to understand virology, epidemiology, management of cases and control measures as well as sharing of information, resources and expertise. He also highlighted the leadership role played by WHO in the pandemic of SARS.
wherein global wisdom was harnessed effectively and swiftly for the benefit of humanity at large through an effective outbreak containment strategy. The salient lessons learnt by global community were that transparency in sharing information through modern means of communication and well coordinated global efforts can prove successful. Cautioning against complacency, Dr Grein informed that there was an urgent need of continuing surveillance, finding answers to various hitherto unknown facets of SARS and developing effective diagnostic, preventive and therapeutic tools for SARS.

**Review of status in SEAR countries and support provided by WHO**

Dr N Kumara Rai, Director, Communicable Diseases, SEARO/WHO provided the regional perspective of SARS and the support provided by WHO to Member Countries in combating the same. SARS caused considerable panic because of the novelty of the infection, its potential for fast spread to both developing and developed countries of all the continents, high case fatality ratio, transmission of infection to large number of health care workers, lack of knowledge about the reservoir of infection along with absence of specific treatment and vaccine.

Only three countries from the SEA Region viz India, Indonesia and Thailand had reported 3, 2 and 9 probable cases of SARS respectively, with only Thailand reporting two deaths. None of the Member Countries of the Region reported local transmission of the infection.

WHO provided support to all Member Countries in terms of various technical guidelines, personal protective equipment, consultants, laboratory material, training on good infection control practices, frequently asked questions (FAQ) and acted as a coordinating agency to harness the global expertise for the overall benefit of humanity. Rapid sharing of information was achieved through posting of status and evolving knowledge on SARS on the SEARO website ([www.whosea.org/csr](http://www.whosea.org/csr)). Laboratories in Thailand and India were identified for providing diagnostic support to all countries of the SEA Region.

**Epidemiology and surveillance of SARS: what is known and what is yet to be known**

The current knowledge on the epidemiology and surveillance of SARS was elaborated upon by Dr MD Gupte, Director, National Institute of Epidemiology, Indian Council of Medical Research, Chennai. The rapid spread of SARS infection and non-availability of a reliable diagnostic tool resulted in the development of a clinico-epidemiological case definition by
WHO, which has now been shown to carry a sensitivity of almost 83 per cent, as revealed in studies undertaken in Hongkong and published in British Medical Journal (2003). Unprecedented global efforts could result in the identification of the causative agent of SARS (SARS-CoV-a RNA virus) and its survival capabilities in various environments, determination of incubation period, higher case fatality ratio in elderly patients, and variety of clinical features. Mathematical forecasting models have been developed to predict course of the epidemic.

In spite of stupendous success in some fields of SARS, various facets that require further extensive studies to understand the epidemiology and management of infection include identification of animal reservoir, if any; development and validation of a reliable and widely available laboratory test for diagnosis and serosurveillance and development of specific antiviral agents and vaccines. Case definition for suspect and probable case also needs to be revisited, especially when Taiwan gets out of the list of affected areas. Research is also needed to understand epidemiological aberrations as seen in current endemic and pathogenesis of infection including the immune response.

**Laboratory diagnosis of SARS**

Dr AC Misra, National Institute of Virology, Indian Council of Medical Research, Pune described the taxonomic status and genetic make-up of the SARS-CoV which has been shown to be a distinct virus within coronoviradae family. The laboratory tests that can detect either the virus or immune response to this agent include virus isolation, electron microscopic demonstration of virus, polymerase chain reaction (PCR) test, enzyme linked immuno-sorbent assay (ELISA) and immunofluorescent assay (IFA). Of all these PCR has been widely available. The WHO Network of Laboratories provided details of primers of SARS-CoV and one of the laboratories also supplied positive RNA which acted as a positive control in PCR test.

Currently, no test is available that carries acceptable sensitivity and specificity and can rule out SARS conclusively, if it is negative. IFA and ELISA tests look promising, but are at present restricted to few laboratories. Even if these become available, ELISA will show antibodies only after 21 days of infection and IFA after 10 days. The virus isolation and handling facilities require biosafety level (BSL) 3 infrastructure. An efficient quality system is also mandatory in laboratories undertaking laboratory tests especially PCR.
Good infection control practices

The current epidemic of SARS was largely contained because of implementation of good infection control practices which prevented the transmission of infection from the patient to those who were providing close continuous care, especially health care workers. Dr Sudarshan Kumari, BCT, SEARO/WHO described the objectives of good infection control in health care facilities and the requirements for their implementation. These include management of case, use of Personal Protective Equipment (PPE), training of staff, adequate physical infrastructure and surveillance of health care workers and their contacts.

The status of good infection control practices in the SEA Region is grossly inadequate and requires concerted efforts in creating appropriate infrastructure, availability of PPE, and extensive training of all categories of health staff to implement effectively desired infection control practices. It was reiterated that PPE are no substitute to good infection control practices, but must be used properly in conjunction with other practices. Good infection control practices may have influenced considerably the containment of the SARS epidemic. These are not SARS–specific, and must be integrated in the daily activities of health care workers to contain spread of other communicable diseases also.

4.2 Status of Preparedness against SARS in SEAR

Preparedness and response plan for SARS

Various components of planning a response mechanism and strengthening preparedness were discussed by Dr Subhash Salunke, Director-General of Health Services, Maharashtra, India. These components and major activities that can be performed under each of these, are shown in Table 1 below:

Table 1: Components of national preparedness and response plan

<table>
<thead>
<tr>
<th>Component</th>
<th>Major activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational set-up</td>
<td>Task Forces at various levels</td>
</tr>
<tr>
<td></td>
<td>Strengthening of surveillance system</td>
</tr>
<tr>
<td></td>
<td>Isolation and management of cases</td>
</tr>
<tr>
<td></td>
<td>Laboratory support</td>
</tr>
<tr>
<td>Component</td>
<td>Major activities</td>
</tr>
<tr>
<td>----------------------------</td>
<td>----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Stockpiling of PPE</td>
<td></td>
</tr>
<tr>
<td>Enhanced surveillance</td>
<td>Develop case definition</td>
</tr>
<tr>
<td></td>
<td>Establish reporting system</td>
</tr>
<tr>
<td></td>
<td>Contact tracing</td>
</tr>
<tr>
<td></td>
<td>Investigating outbreaks</td>
</tr>
<tr>
<td></td>
<td>Verifying rumours</td>
</tr>
<tr>
<td>Clinical preparedness</td>
<td>Triage and screening</td>
</tr>
<tr>
<td></td>
<td>Isolation</td>
</tr>
<tr>
<td></td>
<td>Case management</td>
</tr>
<tr>
<td>Laboratory response</td>
<td>Designated reference labs</td>
</tr>
<tr>
<td></td>
<td>Interpretation of tests</td>
</tr>
<tr>
<td></td>
<td>Collection, storage and transport of specimens</td>
</tr>
<tr>
<td>Quarantine measures</td>
<td>10 days</td>
</tr>
<tr>
<td></td>
<td>Daily review</td>
</tr>
<tr>
<td></td>
<td>Appropriate facilities</td>
</tr>
<tr>
<td>Public awareness</td>
<td>Factual response</td>
</tr>
<tr>
<td></td>
<td>Transparency</td>
</tr>
<tr>
<td></td>
<td>IEC</td>
</tr>
<tr>
<td></td>
<td>Assurance</td>
</tr>
<tr>
<td>Capacity building</td>
<td>Training at all levels</td>
</tr>
<tr>
<td></td>
<td>CME</td>
</tr>
<tr>
<td></td>
<td>Logistics</td>
</tr>
</tbody>
</table>

**Lessons learnt from coverage of SARS epidemic by mass media**

Enormous coverage of SARS epidemic both by print and electronic media all over the world helped pushing health again on the global agenda, mainly because of its economic impact. The important partnership role that media can play in the management of epidemics was described by Ms Harsaran Bir Kaur Pandey, Information Officer, WHO/SEARO, New Delhi. Transparency, continuous interaction and proactive role by health authorities were the key stones of a mutually productive partnership. The media should be provided with accurate and timely information not only during the time of epidemics,
but also in otherwise normal times. Effective and credible outreach of media can be utilized in wide dissemination of information to the general public.

A focal point who is sufficiently senior in the hierarchy to lend authority and credibility should be designated as the coordinating officer with the media to provide right information and avoid contradictions. The mass media on its part should also verify the reports before publishing the same and provide unbiased opinion to its target populations.

**Review of current status of preparedness in SEAR**

A brief overview of the status of SARS preparedness in the SEA Region is depicted in Table 2 below. It shows the efforts put in by the Member Countries as well as the deficiencies that still exist. Whereas higher levels of health authorities were adequately sensitized and active in initiating prevention and control measures, the state of preparedness had numerous shortcomings at the implementation level.

| Table 2: Status of SARS preparedness in the SEA Region |
|---|---|---|---|---|---|---|---|---|---|---|
| BAN | BHU | IND | INO | MAV | MMR | NEP | SRL | THA | T-L |
| No. of probable cases | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 9 | 0 |
| No. of suspect cases | 0 | 0 | 10 | 7 | 0 | 0 | 2 | 4 | 31 | 0 |
| No. of deaths | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Date of onset of last probable case | 0 | 0 | 06/5 | 23/4 | 0 | 0 | 0 | 0 | 7/6 | 0 |
| Local transmission | No | No | No | No | No | No | No | No | No |
| WHO case definition | Yes | Yes | Yes/ CDC | Yes | Yes | Yes | Yes | Yes | Yes |
| National Task Force | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Guidelines on case management | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Contact tracing mechanism in place | Yes | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| IEC material developed | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adequate PPE available | No | No | Yes | No | Yes | No | Yes | No |
| International support other than WHO | Yes | Nil | No | Yes/ USA | No | No | Proposed | Hong Kong | Yes |
| SARS-specific training Entry screening | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| SARS-specific training | Yes | No | Yes | No | Yes | Yes | Yes | Yes | Yes |
## 4.3 Strengthening of National Response Mechanism

Various issues pertaining to strengthening national response mechanism against SARS were discussed in Groups. Broadly, these were devoted to

<table>
<thead>
<tr>
<th>Case management</th>
<th>BAN</th>
<th>BHU</th>
<th>IND</th>
<th>INO</th>
<th>MAV</th>
<th>MMR</th>
<th>NEP</th>
<th>SRL</th>
<th>THA</th>
<th>T-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARS-specific training</td>
<td></td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Contact tracing</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>SARS-specific training Good Infection control practices</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Training material developed</td>
<td>No/WHO</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Designated hospital for isolation</td>
<td>6</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Adequate physical infrastructure and good infection control practices</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>No of beds</td>
<td>16</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>23</td>
<td>NA</td>
<td>16</td>
<td>20</td>
<td>NA</td>
<td>12</td>
</tr>
<tr>
<td>Designated transport facilities for case</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Media strategy</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Attitude of media Friendly(F)/hostile(H)/mixed(M)</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
<td>F</td>
</tr>
<tr>
<td>Information given proactively</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Areas requiring support from international community</td>
<td>Lab</td>
<td>Lab</td>
<td>Lab</td>
<td>Lab</td>
<td>PPE</td>
<td>Lab</td>
<td>Lab</td>
<td>Lab</td>
<td>Lab</td>
<td>Lab</td>
</tr>
<tr>
<td>Were persons coming from all countries screened?</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Yes</td>
</tr>
<tr>
<td>Were persons coming only from countries reporting SARS cases screened?</td>
<td>NA</td>
<td>Yes</td>
<td>NA</td>
<td>Yes</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Were persons coming from SARS affected areas (as specified by WHO) ONLY screened?</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>NA</td>
</tr>
<tr>
<td>Type of screening: Card/Temp/Both</td>
<td>C</td>
<td>B</td>
<td>C</td>
<td>B</td>
<td>B</td>
<td>B</td>
<td>C</td>
<td>C</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Exit screening</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Planned</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

BAN: Bangladesh, BHU:Bhutan; IND:India; INO:Indonesia; MAV:Maldives; MMR:Myanmar; NEP:Nepal; SRL:Sri Lanka; THA:Thailand; *E=ELISA; I:IFA; P:PCR; C: Card only; T: Temperature; B:Both NA: Not applicable/available; PPE:Personal Protective Equipment.

Note: Information in respect of DPR Korea is not available.
include surveillance mechanism; prevention and control as well as media partnership.

**Surveillance of SARS and response coordination**

The groups deliberated on the need for an updated case definition, role of laboratory support, types of surveillance and its mechanism, research issues, role of collaborators and coordinators, structure and functions of response mechanism, capacity building, requirement of supplies and equipment, and monitoring. The salient outcomes of the deliberations were as follows:

- Case definition is the most fundamental component of any surveillance mechanism. The current case definition will become redundant with the removal of Taiwan from the affected area which is expected shortly. Till a reliable diagnostic and sero-epidemiological kit becomes available, clustering of clinically identifiable and linked cases of atypical pneumonia may be considered as suspect cases of SARS. These should be investigated and managed accordingly.

- Pending availability of simpler tests such as ELISA and immunofluorescent assays, PCR test for SARS should be accessible to all countries of the SEA Region, either in their own laboratories or through a functional regional or global network.

- Existing disease surveillance systems need to be strengthened and surveillance for SARS should be integrated into the existing system with inclusion of private sector.

- Occurrence of atypical pneumonia among HCWs should be considered an early warning signal for SARS.

- Collaboration and coordination among professions (Epidemiologists, microbiologists, etc.), among administrative units (departments, ministries, etc.), at national and international levels and in areas such as laboratory support for surveillance, research, capacity building, information sharing and networking is of utmost importance. The collaboration started during the SARS epidemic should continue.

- Capacity building is needed in surveillance, field epidemiology laboratory support, and infection control.

- Guidelines to maintain a minimal stock of PPE and laboratory equipment/reagents for SARS preparedness should be developed and implemented. Identification of designated hospitals and proper
locations of buffer stockpiles should be part of the logistic support plan.

- Ongoing monitoring and evaluation should be integrated into the existing system.
- Regular staff meetings, close supervision, periodic visits, constant telephone contacts are suggested activities to help monitor is needed at all levels.

**Group II Prevention and control of SARS**

Various methods for reducing transmission of SARS in health care facilities including physical infrastructure, good infection control practices and use of PPE were discussed.

- The graded use of various PPE that are available today is shown in Table 3. PPE and good infection control practices are useful not only for the prevention of SARS, but that of other infectious diseases also. At the same time, HCW should avoid unnecessary use of masks, that may create panic.

*Table 3: Graded use of PPE in SARS*

<table>
<thead>
<tr>
<th>Facility</th>
<th>Category of staff</th>
<th>Type of PPE</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community</td>
<td>General public</td>
<td>Personal hygiene</td>
<td>Hand washing</td>
</tr>
<tr>
<td>Anywhere incl. Home</td>
<td>Patient</td>
<td>Three layered surgical mask</td>
<td></td>
</tr>
<tr>
<td>Aircraft</td>
<td>Aircrew only in close contact</td>
<td>N 95 mask /equivalent</td>
<td></td>
</tr>
<tr>
<td>Airport/seaport/Border</td>
<td>HCWs screening team</td>
<td>N 95 mask only</td>
<td>Proper disposal of masks</td>
</tr>
<tr>
<td></td>
<td>Other staff in contact</td>
<td>Three layered surgical mask</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All others</td>
<td>No mask</td>
<td></td>
</tr>
<tr>
<td>Ambulance</td>
<td>Driver</td>
<td>N 95 mask only</td>
<td>AC switched off</td>
</tr>
<tr>
<td></td>
<td>HCW</td>
<td>Complete PPE</td>
<td></td>
</tr>
<tr>
<td>Hospital</td>
<td>OPD staff</td>
<td>Three layered surgical mask</td>
<td>Mock drills</td>
</tr>
<tr>
<td></td>
<td>HCW, close contact</td>
<td>Complete PPE</td>
<td>Negative pressure</td>
</tr>
</tbody>
</table>
The travel advisories issued by WHO based on the number of cases and local transmission were found to be adequate and should be continued. Most Member Countries observed this advisory.

All suspect and probable cases should be isolated for defined period preferably in individual rooms; if not feasible, then cohort only probable cases. The health facilities must have adequately equipped ICU.

Backward tracing should be undertaken to detect source of infection and forward tracing to detect contact.

Past experience has shown that direct intercountry communication is invariably delayed, and WHO and other agencies were invariably responsible for cross notification. This should continue while exploring other avenues.

**Roles and responsibilities of media and the health sector**

The roles and responsibilities of media and the health sector for community awareness during the management of an epidemic/outbreak as well as mechanism of developing a sustained relationship were discussed with the following outcome:

- Disease causes anxiety among people. Human behaviour is an important component of epidemic control and print and electronic mass media- play a vital and fast role in influencing it, especially during crisis periods.
- The media has to be provided information by a credible and authoritative source, otherwise it will obtain information from ill-informed sources leading to spread of rumours, creation of panic and negative reporting on health sector capability.
- The media should be made an integral part of disease containment measures. It will be useful to have a media coordinator who should strive to have a long-term relationship with the media through
frequent, “friendly” meetings and providing information in a matter that is useful to it.

- Cooperation from the media should be sought proactively and transparently.

The outcome of the group work was presented in the plenary session. A consensus on strengthening of national response mechanism and its implementation was obtained.

5. RECOMMENDATIONS

Realizing the importance of strengthening national capacity in prevention and control of SARS and other similar infections, and based upon the deliberations in three groups followed by a plenary session, the participants made the following recommendations:

5.1 To Member Countries

(1) All Member Countries should continue surveillance for SARS through existing disease surveillance mechanisms, with active participation by both public and private sectors. Pending availability of a globally accepted case definition, clustering of atypical pneumonia cases, especially in health care workers should be investigated as a possible outbreak of SARS. The surveillance mechanism should be operationalized on an efficient multi-tier referral system.

(2) A field-compatible, validated, rapid, sensitive and specific laboratory diagnostic test should be made available at designated laboratories with appropriate quality system for detection of cases and serosurveillance studies. Till such kits become available, PCR test facilities for SARS should be accessible to all countries of the SEA Region either at the national laboratories or through a multinational arrangement. At least one laboratory at national level must have biosafety level (BSL) 3 facilities and expertise to handle highly infectious material including that of SARS, failing which linkages with other laboratory be established.

(3) Research studies should be undertaken to understand country-specific incidence, aetiology and epidemiology of atypical pneumonia.
(4) Collaboration and coordination among professionals and among administrative units (departments, ministries, universities etc.) both at national and international levels with emphasis on information sharing and networking for timely communication should be strengthened.

(5) Inventory of personal protective equipment and other logistics should be maintained to meet the national needs as and when required.

(6) Training should be imparted in all fields of epidemiology, laboratory, clinical management and good infection control practices to various categories of health care professionals as per the needs of their job profile.

(7) The designated facility for management of new, severe and rapidly transmissible infections (e.g. SARS) should be strengthened with appropriate physical infrastructure, PPE, trained manpower and waste disposal mechanism. These facilities should have well-equipped intensive care units.

(8) Member Countries should review their entry screening procedures, resources utilized and results obtained and share these with other countries and WHO, so that a global consensus can be obtained.

(9) Importance of media partnership in rapid dissemination of right information, education and awareness to public should be appreciated by health authorities, who should play a proactive role in sharing information with both the electronic and print mass media.

(10) A strategy should be developed to ensure active fruitful relationship with media-both during outbreaks as well as normal times through a designated senior media specialist within the MoH for transparency and credibility in media partnership.

5.2 To WHO

(1) WHO should continue its leadership role in harnessing international expertise, and utilize its global networks for the benefit of humanity through sustained multiagency and multinational coordination and real-time sharing of information.
WHO should use the SARS epidemic as a window of opportunity for sustained global collaboration to contain communicable diseases.

(2) WHO should develop a case definition for SARS.

(3) WHO should aggressively support the studies to identify the reservoir of SARS-CoV.

(4) WHO should facilitate development, validation and availability of reliable diagnostic tools that can be widely used in countries of the SEA Region.

(5) WHO should develop minimal standards for good infection control practices that can be adapted by Member Countries.

WHO should organize hands on training courses on various facets of SARS and other communicable diseases to create a sizeable core of national trainers and also develop model curriculum and training material.
Annex 1

PROGRAMME

Tuesday, 1 July 2003

0900-0930 hrs Registration

0930-1000 hrs Inaugural session
- Welcome address
- Regional Director’s message
- Introduction of participants
- Election of Chair and Rapporteur

1000-1030 hrs Global overview of SARS - WHO / HQ

1030-1100 hrs Regional overview of SARS including support provided by SEARO – CDS/SEARO

1130-1215 hrs Epidemiology and surveillance of SARS: What is known and what is yet to be known – Dr MD Gupte, NIE, Chennai

1215-1300 hrs Laboratory diagnosis for SARS – Dr AC Misra, NIV, Pune

1400-1430hrs Good infection control practices – Dr S Kumari, BCT

1430-1500 hrs Preparedness and Planning for SARS – Dr S Salunke

1530-1630 hrs Lessons learnt from coverage of SARS by electronic and print media – Mrs Harsaran Pandey, Information Officer

1630-1700 hrs Overview of SARS presentations of Day 1 and guidelines for country presentations – Chairman

Wednesday, 2 July 2003

0900-1030 hrs State of preparedness at country level - Country Representative
- Bangladesh
- Bhutan
- Indonesia
- India I & II (Lessons learnt in Maharashtra)

1045-1300 hrs State of Preparedness at Country Level – Country Representative
- Maldives
- Myanmar
- Nepal
- Sri Lanka
- Thailand + Lessons Learnt
1400-1430 hrs  Briefing for group work:
Group I: Surveillance of SARS and response coordination
Group II: Prevention and control of SARS
  - Reducing transmission in health care facilities
  - Preventing International spread
Group III: Handling an epidemic outbreak – Roles and responsibilities of media and the health sector

1430-1730 hrs  Group work:
To identify major areas, issues and constraints and development of Plan of Action
Develop draft recommendations

Thursday, 3 July 2003

0900-0930 hrs  Priorities for future action – HQ/SEARO
0930-1300hrs  Group Work (continued)
1400-1530 hrs  Presentation of group work and recommendations and discussions
1600-1630 hrs  Finalization and adoption of recommendations
1630-1700 hrs  Valedictory Session
Annex 2
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