Problems in Implementation of Fire Safety Management in Malaysia Government Hospital

1Woon Chin Ong and 2Mohd Zailan Suleiman

1,2School of Housing, Building and Planning, Universiti Sains Malaysia

INTRODUCTION

Recently, fire safety management was studied by many researchers, such as Lui and Chow [1], Santos-Reyes and Beard [2], Chow [3], Prashant [4], John [5], Kong [6], Chen, Chuang, Huang, Lin and Chien [7], Salleh and Ahmad [8], Howarth and Kara-Zaitri [9] because the fire safety community had widely recognized the importance of good management to reduce the number and effects of accidental fires. [10, 11]. In the Fire Safety Management Handbook which was published by Della-Giustina [11], developing and implementing an effective fire safety management program can bring a lot of benefits, include reducing property insurance premiums, preventing business interruptions, boosting customer service and public images, fostering an efficient work environment, realizing quality gains and impacting the profitability of an organization. However, the researchers have studied fire safety management in different buildings, not hospital buildings. This paper identifies the problems in implementation of fire safety management in hospital buildings, and in alerting the relevant person for handling of fire safety management issues in local hospital buildings.

Mistakes in implementation of fire safety management lead to numerous injuries and fatalities. This could be proved in the history of fire accidents. For an example, in one case the hospital staff did not take their patient during the execution of a fire evacuation in AMRI hospital. [12] They did not evacuate people in the early stage of the fire. There were many patients incapable of self-evacuation in hospital building. They depended on mechanical systems to survive. If there were fire accidents, they could not escape from the building without the help of other people. A hospital source said there was no fire drill at the premises in years. [13] In the fire drill, the hospital staff understood their roles and the execution process. Therefore, in the case of a real fire accident, the hospital staff can act faster and correctly.

Methodology:

For the purpose of this study, four local government hospitals were selected. The applied method in case studying were observation, reviewing documents and interviews with hospital staff and management. The background of the selected hospitals was presented in Table 1; meanwhile the organization of each hospital responsible for fire safety management activity is presented in Table 2.
Table 1: Background of Hospital

<table>
<thead>
<tr>
<th>Hospital Label</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction year</td>
<td>1880-2010</td>
<td>1960-an (approximately)</td>
<td>2002</td>
<td>2005</td>
</tr>
<tr>
<td>Area</td>
<td>35 hectare (land area)</td>
<td>3.2 hectare (land area)</td>
<td>738.41 square km</td>
<td>412145 meter square (building area)</td>
</tr>
</tbody>
</table>

Table 2: Organization of Hospital in Fire Safety Management

<table>
<thead>
<tr>
<th>Hospital Label</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire drill</td>
<td>Security Unit</td>
<td>Health and safety officer</td>
<td>Health and safety officer</td>
<td>Engineering department</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Engineering department</td>
<td>Engineering department</td>
<td>Engineering department</td>
<td>Engineering department</td>
</tr>
<tr>
<td>Training</td>
<td>Public Health Unit</td>
<td>Health and safety officer</td>
<td>Health and safety officer</td>
<td>Engineering department</td>
</tr>
<tr>
<td>Fire safety plan</td>
<td>Health and safety officer &amp; Community health and safety</td>
<td>Health and safety officer &amp; Community health and safety</td>
<td>Health and safety officer &amp; Community health and safety</td>
<td>Hospital supervisor &amp; Community health and safety</td>
</tr>
</tbody>
</table>

RESULT AND DISCUSSION

It was learned that hospital management did some mistakes with fire safety management, including the fire safety management documentation. The fire certificate should be exhibited to the public [14], but the maintenance contractor had documented the Hospital A fire certificate and lift certificate privately, because they had experienced several cases of vandalism on this certificate. There was also no building drawing for the second floor or renovation plan for Hospital D. If management intended to revise their fire safety plan, they could not update it because of this problem.

Besides that, according to feedback received from interviewing of the hospital staff, some Hospital A staff did not know about the existence of these fire action plans. In such conditions, the fire action plan is useless because the hospital staff did not know it existed. The staff made the wrong decisions in dealing with the fire. For an example, in the fire accident in AMRI Hospital Kolkata, West Bengal, dated 9 December 2011, it is surprising to learn that majority of the hospital staff did not assist the patients during evacuation. (11) They did not evacuate people in the early stage of the fire.

There were some common mistakes which were encountered by management in managing the fire safety measures. The fire resistance doors were not always closed, especially the main entrance. The hospital staff, especially the front line, were busy with their daily routine. They always go in and out from the department. The closed fire resistance doors were an inconvenience to their job. If the doors were always used, there were high maintenance costs because they easily broke down. It is curious to know that the AMRI Dhakuria night staff not only wasted two hours trying to douse the fire on their own without the requisite equipment or the training, but refused to let the fire brigade enter. [15]

Besides that, some fire equipment was blocked by some obstruction. For example, the cleaner always put the clearance kits in the fire hose room, because the fire hose room is nearer than the store room. When there is a fire, people found it difficult to use the fire hose. Besides that, some escape routes were blocked by medical equipment. For an example, the escape route between the wards was blocked by a wheel chair and other items.

Security is also one of the important issues. Because the patients’ and hospital staff’s property had often been stolen, the main fire resistance doors in the wards of the Hospital A and Hospital B were locked at night, but opened during the day. In case of fire accidents, the patient cannot escape without assistance from the hospital staff. This should be highlighted because there are many people killed because of this reason. In the fire accident of Drug Treatment Hospital No. 17 in southwest Moscow, many of the victims were young recovering addicts who were trapped by a locked gate inside the woman’s ward. In addition, most of the patients died in their sleep from inhaling fumes, but they would have been unable to escape from the fire which raged through the building with bars on the windows. [16]

Lack of installation of the fire measures or outdated of fire safety technology were some of the problems faced by the local hospitals, especially old hospitals. For an example, the installed smoke detector is only heard in its zone and not linked to the main control in Hospital B. In the other words, if the smoke detector detects smoke, it only warns the people in that zone. The other people in the other zones did not notice this fire. If the fire is spreading rapidly, the fire authority will find it hard to extinguish and the public will find it hard to escape from the building. The management of the hospital planned to upgrade this system, but the budget is very huge and KKM has taken a lot of time and effort to approve it. Besides that, the door for the ward of Hospital B is used instead of the sliding door and the gate. If there is a fire, the fire can spread rapidly. The importance of the fire door can be identified in the Cleveland Clinic fire accidents dated 15 May 1929. The condition and function of the fire door in this hospital building was poor due to lack of maintenance. [17] These failures of doors
enabled the fumes to pass from the film room out into another space. These included the machine room and the stairs and elevator shafts to the upper floors. The effect of smoke cannot be ignored in a fire accident. The fumes caused people difficulty in breathing and then killed them. Also, the fumes blinded the people trying to escape from the building. The fire door which was in good condition and repair could minimize the smoke spreading between the buildings.

There are many existing buildings which were established before the fire safety legalization was established. Hospital B and Hospital A are two of these hospitals. Some buildings and furniture are made of combustible material, such as timber. In case of fire, the fire spreads rapidly and is hard to extinguish. Luckily, this timber building is an individual building and not attached to other buildings and fire will not spread to other buildings. These buildings should be banned or demolished in hospital buildings to prevent a similar fire accident to Drug Treatment Hospital No. 17 in southwest Moscow on 9 December 2006. It was believed that the fire started in a wooden cabinet in a kitchen at one end of a corridor on the hospital’s second floor. [18]. According to ITAR-Tass news agency, the area of the fire was comparatively small, some 100 square metres (1075 square feet), but the heavy concentration of smoke killed people. Most victims died of asphyxiation, and some died of burns. One of the factors which lead to this condition was the starting point of the fire. The burning wooden cabinet led to suspicions of arson. Furthermore, there was installed plastic wall covering in this hospital. As the result, its burning worsened the thick toxic smoke. [19]

Although authority always provides the guidelines and monitors the fire safety management in the hospital building, there are many mistake in hospital fire safety management activity. In historical fire accidents in hospitals, these problems were proven to lead to the scarifying of many people and damaging of valuable property. Besides that, it was found that there are problems in fire safety management in localized buildings. The researchers also found out that there are many mistakes in high-rise buildings and heritage building fire safety management activity. [4, 8]

Conclusion:
The problems which are encountered by hospitals in fire safety management are summarized as the following:

- Documentation problems,
- Combustible material,
- Lack of installation of fire measures or outdated fire safety technology,
- Locked doors due to security reasons,
- Lacking of training of hospital staff and blocking of fire safety systems.

These problems caused other fire accidents and killed and injured people in these fire accidents. These problems should be solved as soon as possible to prevent similar tragedies.

REFERENCES

[6] Kong, S.-m.K., 2011. A study of implementing performance-based design for fire safety provisions in higher education institutes, Department of Building Services Engineering, The Hong Kong Polytechnic University, Hong Kong.


