

Country Name	Hospital Infection Control Project in Guangzhou
People's Republic of China	

I Project Outline

Project Cost	316 million yen	
Project Period	December 2005 ~ December 2008	
Implementing Agency	Responsible Agency: Guangzhou Municipal Science and Technology Bureau Implementing Agency: Guangzhou Institute of Respiratory Disease (GIRD), First Affiliated Hospital of Guangzhou Medical College (FAH-GMC), Guangzhou Center for Disease Control and Prevention(GZCDC)	
Cooperation Agency in Japan	Kobe City Medical Center General Hospital, Fukuoka Children's Hospital & Medical Center for Infectious Diseases, Kobe Institute of Health, Fukuoka City Institute for Hygiene and the Environment, National Center for Global Health and Medicine, National Institute of Infectious Disease, Sendai Medical Center	
Related Projects	<p>Japanese Assistance: After the end of the project, Project for Improvement of Laboratory Hygiene Inspection and the Ability to Use Health Information in Guangzhou City (JICA Partnership Program, October 2009-March 2012) and Project for Promotion of Community based Hospital Infection Control Activities (JICA Partnership Program, July 2010-March 2013) have been implemented to support same implementing agencies. These projects have been contributing to facilitate the impact generated by the project.</p> <p>Assistance by other foreign donors : Not directly associated with the project, however, after the year of 2003, international agencies and bi-lateral foreign donors had contributed to Severe Acute Respiratory Syndrome (SARS) control in the form of funding assistance, technical cooperation as well as the collaborative studies. One of them is the technical assistance carried out for the period of 2004 to 2006, from the Government of France to improve the capacity of diagnosis and medical treatment of SARS, infection control in the hospital and strengthening of nursing training management. Medical institutions of Guangzhou district were also involved in this project.</p>	
Background	<p>The SARS break in Guangzhou, November 2002 has lead the Chinese Government, particularly Ministry of Science and Technology, to dedicate themselves to the prophylactic and clinical studies of SARS. It was identified by the studies that the inappropriate surveillance operation in the initial stage and the failure of preventing the secondary infection within the hospitals were the major contributing factors of the spread of SARS infection. As a result, it was strongly recommended that the nosocomial infection control team should be established and the countermeasures for standardized preventive control should be taken. However, each individual medical institute and hospital independently had not taken such measure. Therefore, it was urgently needed to strengthen the nosocomial infection control within the hospitals and to improve the surveillance system. FAH-GMC and GIRD are general hospitals of communicable disease control designated by the Guangzhou Health and Medical Bureau, and they have had ample experiences of communicable disease control both in researches and clinical achievement. However, both hospitals have not had collaborative working experiences with GZCDC, the central figure of surveillance system for Guangzhou City, and they did not have sufficient experience of practical nosocomial infection control, either.</p>	
Inputs	Japanese Side	Chinese Side
	<ol style="list-style-type: none"> Expert: 2 Long-term experts, 44 Short-term experts CP trainings: 51 CPs trained at the cooperation agencies in Japan and in the JICA group training courses Equipment: 6,666,290 yuan (103 million yen) Local Cost: 1,792,157 yuan (28 million yen) (ex. Seminars) 	<ol style="list-style-type: none"> CPs assigned: 25 personnel CPs from Guangzhou Municipal Science and Technology Bureau, 8 CPs from FAH-GMC, 5 CPs from GIRD and 10 CPs from GZCDC Provision of facilities: Project Office for experts (both at the FAH-GMC and GIRD) Local costs provided for about 18 million yen for organizing seminars, payrolls for CPs allocation Land, facility and project office
Project Objectives	Overall goal: Infection control measures including prevention of serious infectious diseases in Guangzhou are strengthened.	

	<p>Project Purpose:</p> <ol style="list-style-type: none"> 1) The First Affiliated Hospital of Guangzhou Medical College (FAH-GMC) & Guangzhou Institute of Respiratory Disease (GIRD), as model facilities, disseminate their experiences regarding hospital infection management (including prevention of serious infectious diseases) to major medical institutions in Guangzhou. 2) The Guangzhou Center for Disease Control and Prevention (GZCDC) plays a sufficient role in providing technical instruction regarding hospital infection control (including prevention of serious infectious diseases.)
	<p>Outputs:</p> <ol style="list-style-type: none"> 1. The hospital infection management system of FAH-GMC & GIRD as a general hospital is functional. 2. FAH-GMC & GIRD medical staff's capacity to respond to an onset of serious infectious diseases is improved. 3. FAH-GMC & GIRD laboratory staff's examination techniques are improved. 4. Manuals and education tools regarding hospital infection management are prepared. 5. Other medical institutions are able to access information regarding knowledge and experiences on hospital infection management. 6. GZCDC's capacity to detect major pathogens is improved. 7. GZCDC's capacity to surveillance and instruction on hospital infection control to relevant medical institutions is improved. 8. The partnership regarding hospital infection control (including prevention of serious infectious diseases) between FAH-GMC & GIRD and GZCDC is strengthened.

II Result of the Evaluation

<p>Summary of the Evaluation</p>
<p>Due to the ineffective surveillance operation in the initial stage associated with the failure of preventing the secondary infection within the hospitals, the SARS break in Guangzhou has resulted in the immense damage with which more than 5,000 people were infected throughout the country. Under these circumstances, the project aimed to improve the capacity of infection control in Guangzhou. To be more precise, it aimed to share know-how of the nosocomial infection control at the FAH-GMC & GIRD that have sufficient know-how and have played as the focal points in the field of infectious diseases therapy, and to improve the surveillance system, especially to detect the causal agent as well as the capacity of infection control in the GZCDC.</p> <p>The project purposes are 1) FAH-GMC & GIRD, as model facilities, disseminate their experiences regarding hospital infection management to major medical institutions in Guangzhou, and 2) GZCDC plays a sufficient role in providing technical instruction regarding hospital infection control. FAH-GMC & GIRD, as model facilities, have now been able to perform the quality infection management and disseminate their experiences to more than 40 other medical institutions through the trainings and seminars, and multiple effects have been observed. While, GZCDC, which is responsible to supervise the nosocomial infection control for those hospitals, has periodically conducted the related researches and studies and published 45 research papers. It can be said that the GZCDC has been playing a leading role to technically guide medical institutions in the nosocomial infection control.</p> <p>As for the achievement of overall goal "infection control measures including prevention of serious infectious diseases in Guangzhou are strengthened", it cannot be examined by the given statistical data because of its unavailability; however, it was confirmed that the infection prevention has been successfully managed at the onset of such incidents, by taking the prompt and adequate infection control measures both at the GZCDC and FAH-GMC & GIRD. Furthermore, some positive impacts have been observed. According to the research periodically conducted by FAH-GMC, the ratio of nosocomial infection patients out of all in-patients being hospitalized more than 48 hours and the ratio of nosocomial infection incidents out of all infection incidents of those in-patients have shown the decreasing trends.</p> <p>As for the sustainability, there was no problem observed in the project in terms of related policy, institutional, technical and financial aspects of implementing agencies. For relevance, the project has been highly relevant with China's development policy, development needs as well as Japan's ODA policy. For efficiency, the project cost substantially exceeded the plan due to the modification of project plan.</p> <p>In the light of above, this project is evaluated to be highly satisfactory.</p>

<p>1 Relevance</p>
<p>This project has been highly consistent with China's development policy, such as the strengthening of prevention of major diseases specified under the 11th Five-Year Plan for Health(2006-2010), and development needs to strengthen measures against nosocomial infection in Guangzhou, as well as Japan's ODA policy, at the time of planning and project completion. Therefore, relevance of this project is high.</p>

2 Effectiveness / Impact

As for the one of the Project Purposes, “FAH-GMC & GIRD, as model facilities, disseminate their experiences regarding hospital infection management to major medical institutions in Guangzhou”, FAH-GMC & GIRD, as model facilities, have been able to continuously perform the quality infection management. They have disseminated their knowledge and skills, through the training courses and seminars on the standardized infection control, antimicrobial technique and infection with a drug-resistant organism, etc. The number of those received the trainings has reached to 40 medical institutions and 884 medical professionals. The number of hospitals which has participated in the training session of severe infection control has also reached to 31.

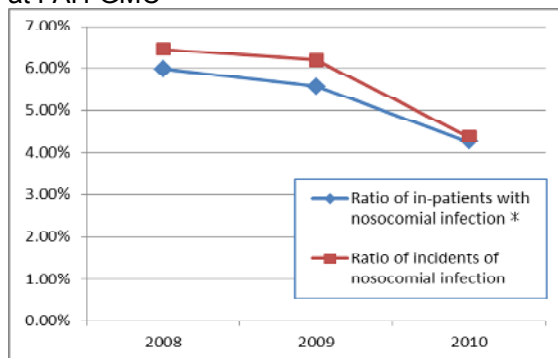
While, as for the other purpose, “GZCDC plays a sufficient role in providing technical instruction regarding hospital infection control”, it was confirmed that the GZCDC has effectively managed the infection control by periodically conducting the researches and surveys on the nosocomial infections, such as the surveillance on the disinfection effects, influenza prevention, and prevention of intestinal and respiratory infection, etc. On top of these, the GZCDC has actively deployed various efforts to conduct the researches and to share the information through the publication of papers in the field of infection control. The number of research papers prepared by the laboratory technicians has reached to 45 after the end of the project. While the quality and quantity of the surveillance on the disinfection effects conducted by the hospitals on the city level has been greatly improved, the further efforts should be made to improve the surveillance implementation system of those local CDCs.

As for the achievement of overall goal, it was not possible to examine by the given statistical data “the number of death caused by the nosocomial infection”, because such data that covers solely for Guangzhou was not available. Therefore, it was examined through setting the proxy indicators. According to the Trends of legal communicable diseases (2008-2011) in Guangzhou, the number of incidents of major serious infectious diseases, which the project focused on such as influenza and pulmonary tuberculosis, has been showing the decreasing trend and being under the control. It was also confirmed that the infection prevention has been successfully managed at the onset of such incidents, by taking the prompt and adequate infection control measures both at the GZCDC and FAH-GMC.

Since 2008, the FAH-GMC has annually conducted the studies on the nosocomial infection according to its draft diagnostic guideline, developed by the Chinese Ministry of Health. The studies revealed that the ratio of patients with nosocomial infection out of total in-patients being hospitalized more than 48 hours (namely, ratio of in-patients with nosocomial infection) decreased from 5.98% (2008) to 4.27% (2010) and the ratio of nosocomial infection incidents out of total infection incidents (namely, the ratio of incidents of nosocomial infection) decreased from 6.44% (2008) to 4.38% (2010). Aside from this, the FAH-GMC has been growing to become a model case in hospital infection control in the aspect of both software and hardware. It has set up the ward floor with the negative pressure ventilator that has not been available in other hospitals throughout the country. Such ward floor has made it possible to switch over its usage in the event of emergency from the usual condition. Consequently, the FAH-GMC has often received the visitors and delegation members from all over the nation and share their knowledge, skill and experiences. As for the impacts on the policy level, it was identified that the GZCDC reviewed and studied the collected specimens and that was reflected on the revised guideline of “draft technical guideline of surveillance on disinfection in quantity and quality” published by the Guangzhou district.

Therefore, it is confirmed that the infection control in Guangzhou has been effectively strengthened and the effectiveness /impact of the project is high.

Ratio of infected patients and infected incidents at FAH-GMC



Source : FAH-GMC

* ratio of in-patients with nosocomial infection = the number in-patient with nosocomial infection / the number of in-patients being hospitalized more than 48 hours

ratio of incidents of nosocomial infection = the number of incidents with nosocomial infection / the number of in-patients being hospitalized more than 48 hours

Difference between the number of in-patients with nosocomial infection and the number of incidents of nosocomial infection are explained that the former is based on the number of in-patients, and the latter on the number of incidents. In case that an in-patient has suffered from the respiratory infection as well as the urinary organs' infection, the number in-patient with nosocomial infection is counted as one and the number of incidents as two.



Educational poster to promote hygienic behavior on hands and fingers at FAH-GMC



Safety cabinet installed to the infection control laboratory at FAH-GMC

3 Efficiency

Although the project period was within the plan (ratio against the plan: 100%), the project cost significantly exceeded the plan (ratio against the plan: 355%). This is due to that in order to secure the necessary inputs to produce the outputs, the project were reviewed one year and four months after the initiation of the project. Therefore, efficiency of the project is fair.

4 Sustainability

The project is consistent with the 12th Five-Year Plan for Health (2011-2015) which continues focusing on the importance of infection control, as well as the national health plan for the year 2012, which put the priority to the capacity development of prevention control and emergency response for the serious diseases and sporadic public health issues. As for the institutional aspect, working environment can be said to be improved as FAH-GMC & GIRD and GZCDC have established the nosocomial infection unit, as well as person in charge of the project and participants of the training program by the project have got promoted. As for the technical aspects, there is no problem observed. Indicators, such as nosocomial infection rate, rate of omission reports, and detection rate and number of inspection cases have been improved, and the achievement of surveillance have also improved or well-maintained even after the end of project. Educational materials developed during the project period, such as "practical guideline of nosocomial infection control" have been continuously used throughout the seminars and trainings in which more than 2,000 participated, even some minor revision is expected. As for the financial aspects, there is a sufficient fund to strengthen the activities. GZCDC has been allocated the sufficient amount of budget to carry out the annual training programs and FAH-GMC & GIRD has acquired the increasing amount of budget to carry out the research activities and involved in the researches and studies with the support of external sources.

As for the sustainability, there was no problem observed, in policy, institutional, technical and financial aspects of implementing agencies. Therefore, the sustainability of the project effect is high.



Educational materials on the prescription of antibiotics for the clinician published by pharmaceutical department of FAH-GMC

III Recommendations & Lessons Learned

Recommendations for the Implementing Agency :

1. It is necessary to improve the capacity of local CDCs

With the technical assistance by the project, the capacity of GZCDC to conduct surveillance and the capacity of those medical institutes directly assisted by GZCDC have been improved in terms of the nosocomial infection control.

In order to further promote the ripple effects of the project, it is indispensable to systematically strengthen the capacity of local CDCs under the control of the GZCDC. Currently, the frequent transfer of personnel is one of the concerns for the surveillance operation of local CDCs. Another concern is related to the poor quality of surveillance result. Several cases have been identified in the surveillance conducted by the local CDCs that the collected specimens have not reached to the acceptable level stipulated by the standard items, such as the medical products of sterilization, disinfectant, current and maniplanx of health professionals, etc. To improve quality of the surveillance operation is urgently needed. By utilizing the knowledge and skills acquired through the project, the GZCDC should provide those local CDCs with the trainings and instructions in order to expand the surveillance coverage as well as to upgrade its quality.

2. It is necessary to disseminate the acquired knowledge and skills of FAH-GMC to other medical institutions

Adequate measures against nosocomial infection is practically implemented in FAH-GMC, which is the only hospital having set up the ward floor with the negative pressure ventilator which makes it possible to cope with the emergencies. It has demonstrated as the model hospital of hospital infection control which has equipped with the hardware as well as software. One of the strong features is the trans departmental teamwork mechanism among wards, departments and different job categories. Under this mechanism, the ICT team, which was established by the project, takes the leading role and the nosocomial infection control department supervises the activities related to the infection control with keeping up the motivation of health professionals. These days, a number of guiding principles in terms of nosocomial infection control have been released by the Chinese Ministry of Health. It is necessary, therefore, to disseminate the good practices and advanced approaches by the FAH-GMC to other medical institutions and other administrative branch of government. Eventually, this will lead to the further improvement of standards and revision of indicators in the policy level.

Lessons learned for JICA :

After the end of the project, the grass-roots level technical cooperation project was started based in the same implementing agencies and based on the human network constructed through the project. This grass-roots project has greatly contributed to further improve the daily communication and exchange information regarding hospital infection, to expand the effects by the project, to maintain the sound relationship between the JICA office and implementing agencies and thus to facilitate the collaboration with other related projects as well. Impacts generated by the project and the sustainability can be further promoted by continuing some assistance with other JICA schemes, such as the grass-roots technical cooperation, and maintaining the cooperative relationship with implementing agencies.