

Strategy of Nosocomial Infection Control for Pandemic H1N1 Influenza

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Risk Management

Goal: reduce the risk

Strength of measure



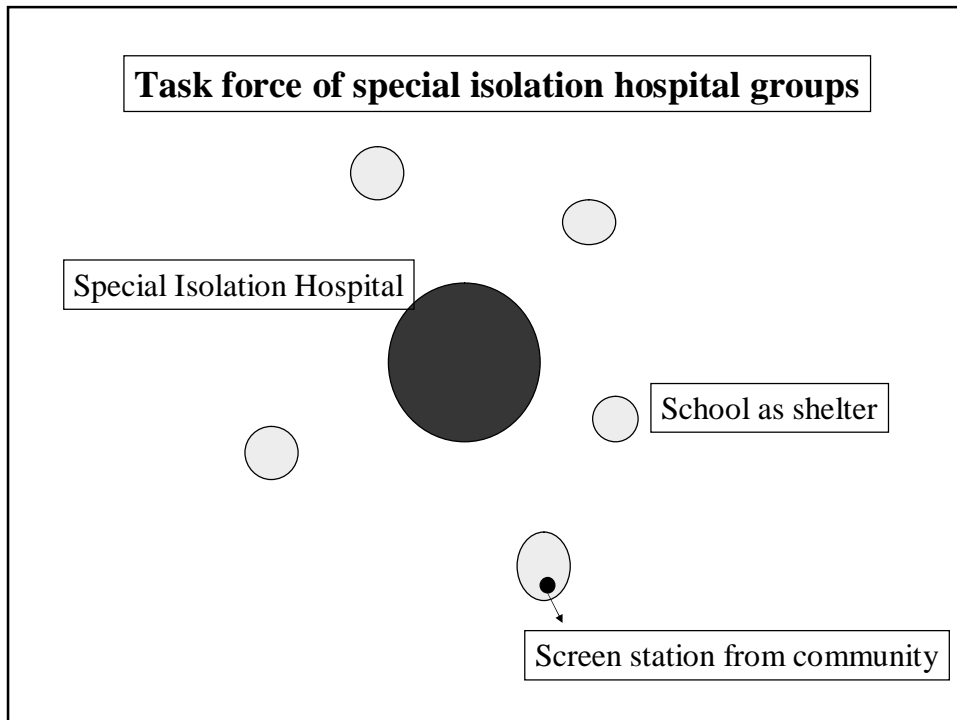
- Administrative Controls
 - Infection Control Programmes, policies, procedures
 - Early recognition, treatment, contention and reporting
 - Triage, organization of work
- Engineering Controls
 - Environmental ventilation
 - Patient placement
- Personal Protective Equipment

Process Management (time axis)

- Levels of alertness
- **0** preparedness
- **A** surveillance
- **B** containment
- **C** impact reduction

Process Management (time axis)

- **0** **preparedness**
 - surveillance
 - surge capacity
 - exercise/drills
- **A** surveillance
- **B** containment
- **C** impact reduction



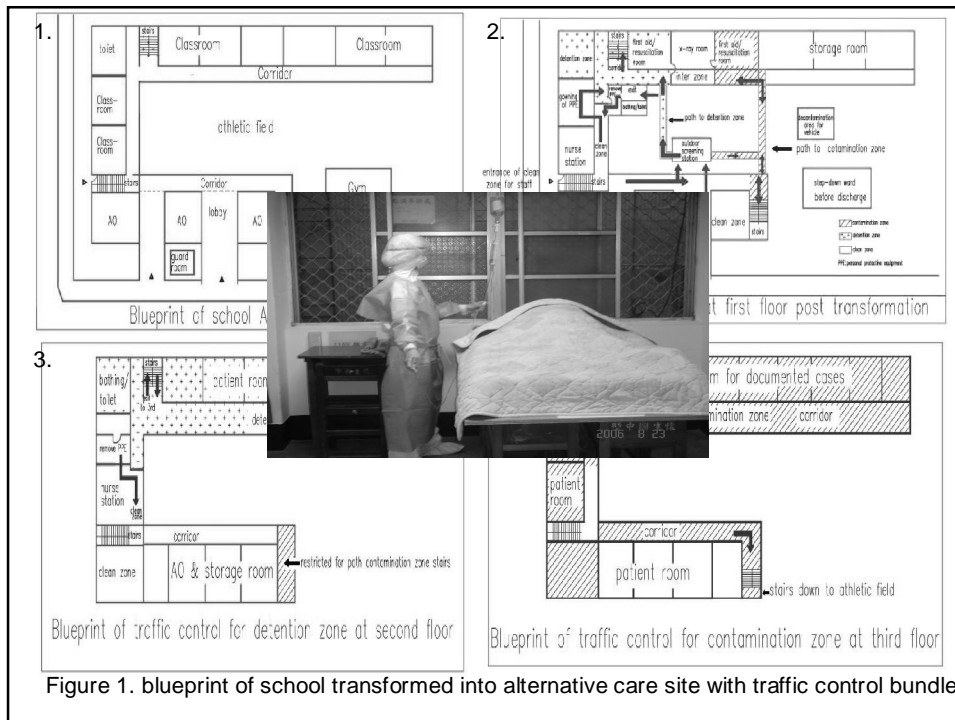


Figure 1. blueprint of school transformed into alternative care site with traffic control bundle.

Transforming schools into pre-designed ACS as part of preparedness plan for pandemic H5N1 influenza.

- 學校具備可近性
- 學校具備可擴充性
- 學校具備可利用性
- 學校具備安全性

- Triage at outdoor screening station

-Yen MY, *J Formos Med Assoc*,2008;107(9):673-676.-

Coming up soon!



**safety of school as ACS
except 6 of TB, measles,
chicken pox, etc.**



Natural Ventilation for Infection
Control in Health-Care Setting



Surge capacity of staff

Mobilization and education/training of human resources

- Prompt response epi. Team
- Obligatory military services for decom.
- Volunteer Taxi Driver to support EMS

- Medical personnel
- **Linking nurse**



Top down HR mobilization

- Timing, donning and removal of PPE
- Stuff ? mask, alc, vaccine, antibiotics?



防護與隔離觀念改變：

1. **個人防護裝備** (Personal protective equipment, PPE) 的選用導入風險概念，強調依照病人情況與接觸情形而定 (見表一)，不以工作性質如醫師或放射師來區分等級。
2. **防護裝備使用狀況** 面對所有具有急性上呼吸道症狀的病人，不管是否有禽流感 (Avian influenza, AI) 的危險，HCW 均應使用標準防護措施與飛沫防護措施，而手部衛生與臉部保護裝備 (保護眼、鼻、口) 是最首要之重點，當資源允許時，可優先加入其他額外的防護措施。

隔離防護措施	依照病人接觸形式的隔離防護措施			
	與急性發燒呼吸道 病 患有 1公尺內之直接 接觸 (病患無禽流感 危險因子)*	進入禽流感病房 / 區域, 但不會與 病患直接接觸	與禽流感病患有 1公 尺內之直接接觸	對禽流感病患執行 引發飛沫產生的治 療措施
洗手	必須	必須	必須	必須
手套	非例行	評估風險	必須	必須
圍裙	非例行	評估風險	非例行	非例行
隔離衣	非例行	評估風險	必須	必須
髮帽	非例行	非例行	非例行	視情形而定
健康照護工作 人員使用外科口 罩	必須	非例行	非例行	非例行
高效過濾口罩	非例行	必須	必須	必須
護目裝備	評估風險	評估風險	必須	必須
病患使用 外科口罩	非例行	不需要	非例行 (若病患可 以忍受)	不需要

控制諮詢委員會審查通過

BCP 異地備援

(surge capacity)

- 核心部門及人員
- 人員分組
- 空間分隔
- 動線分離
- 視訊通聯

Process Management (time axis)

- Levels of alertness: WHO phase 4
- **0** preparedness
- **A** surveillance
- **B** containment
- **C** impact reduction

The Front-line checkpoint for surveillance

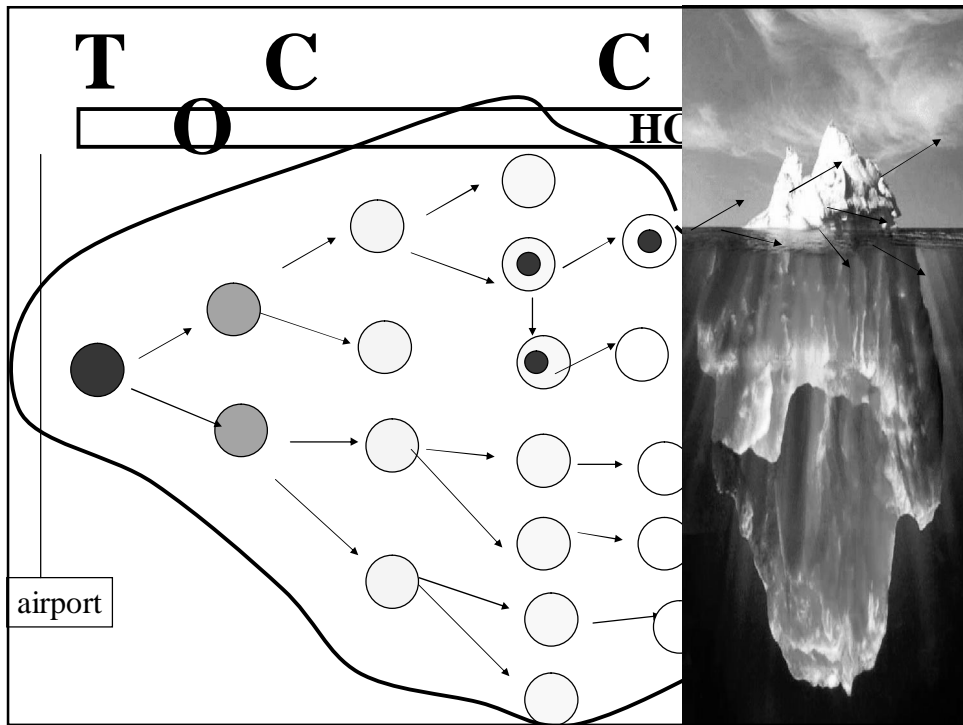
- Airport fever screening station
- Community surveillance (GP, Rx, ER)
 - TOCC**
 - Travel history
 - Occupational/Contact history
 - Cluster

Process Management : algorithm

- Levels of alertness
- **0** preparedness
- **A** surveillance
- **B** **containment**
- **C** harm reduction

Strategy of Responsiveness in level A & B

- **First case finding through active surveillance**
- **Containment**
 - **Epi. Investigation & Contact tracing**
 - **epidemiological linking**
 - **quarantine, isolation and containment**



border closing futile in stopping
pandemic so H1N1

Pandemic phase 6 with
moderate in severity

ADI

- 4th APSIC, 0707/2009 -

SHEA June/10/2009

- NO need for
 - NPIR
 - N95
- nasopharyngeal swab is safe for not provoking aerosol
- Respiratory hygiene & cough etiquette
- HH after cough/sneeze/surfaces

Class I notifiable disease down grade to Class IV

- Crisis Management
- **Prediction / Mitigation**
- **Preparedness**
- **Response**
- **Recovery**

Risk re-assessment

Mortality 0.1 – 0.45 %
Tamiflu resistance
Viral virulence
Young adult as casualties
??

Level B response

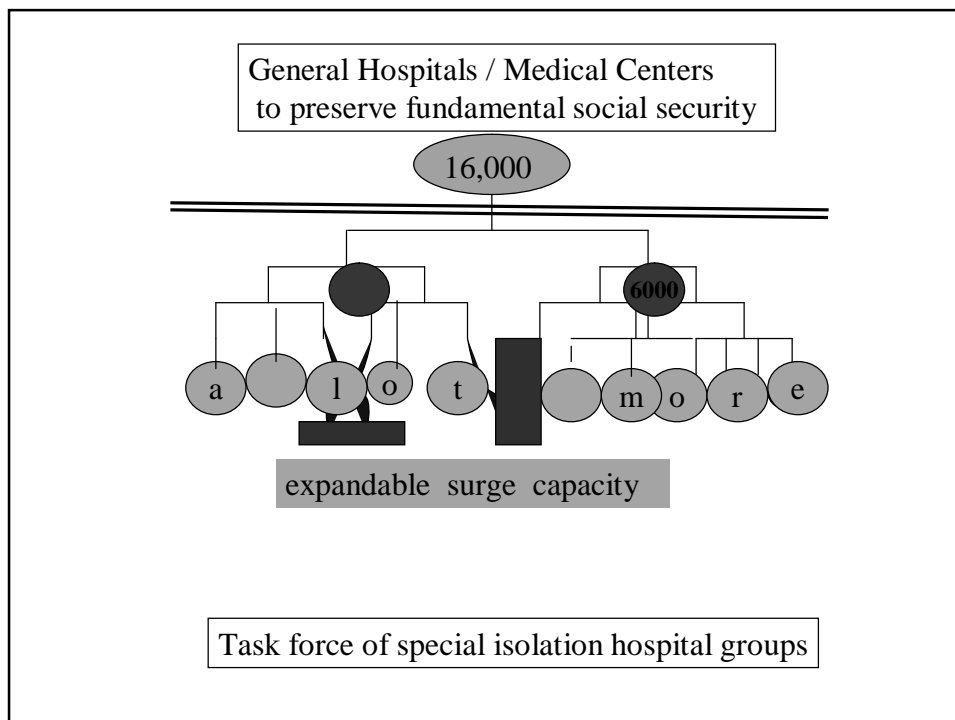
- Layered Containment of the affected area,
 - Hot zone
 - Warm zone
 - Prophylaxis with antiviral agent
- Increase social distance in cold zone
 - Schools and offices and subway off for 3-7 days
 - Cold zone: traffic control into 68 subdivisions

Process Management : algorithm

- Levels of alertness
- **0** preparedness
- **A** surveillance
- **B** containment
- **C** **Impact reduction**

Medical surge - Impact Reduction

- maintaining social order and integrity of the healthcare system
- The concept of traffic control bundle has now been implemented in our design of medical surge for pandemic influenza preparedness.
- Triage patient into hospital:
 - outdoor screening station.
- Zone of risk
 - Clean Hospitals: traffic control
 - Contamination zones: special isolation hospital groups.
- Alcohol dispensers for hand disinfection at checkpoint

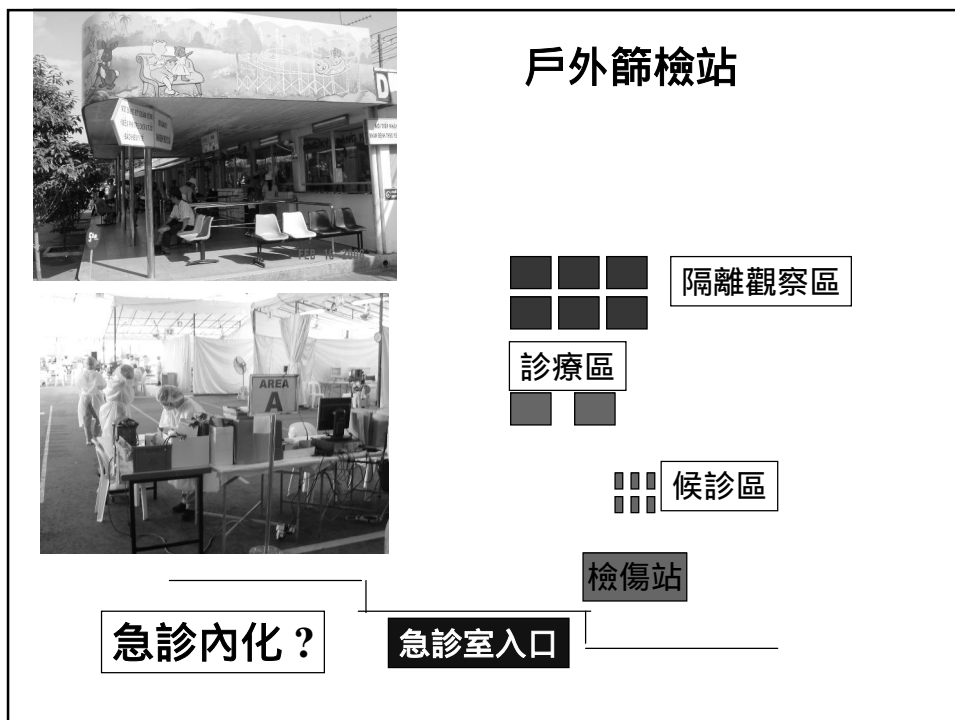
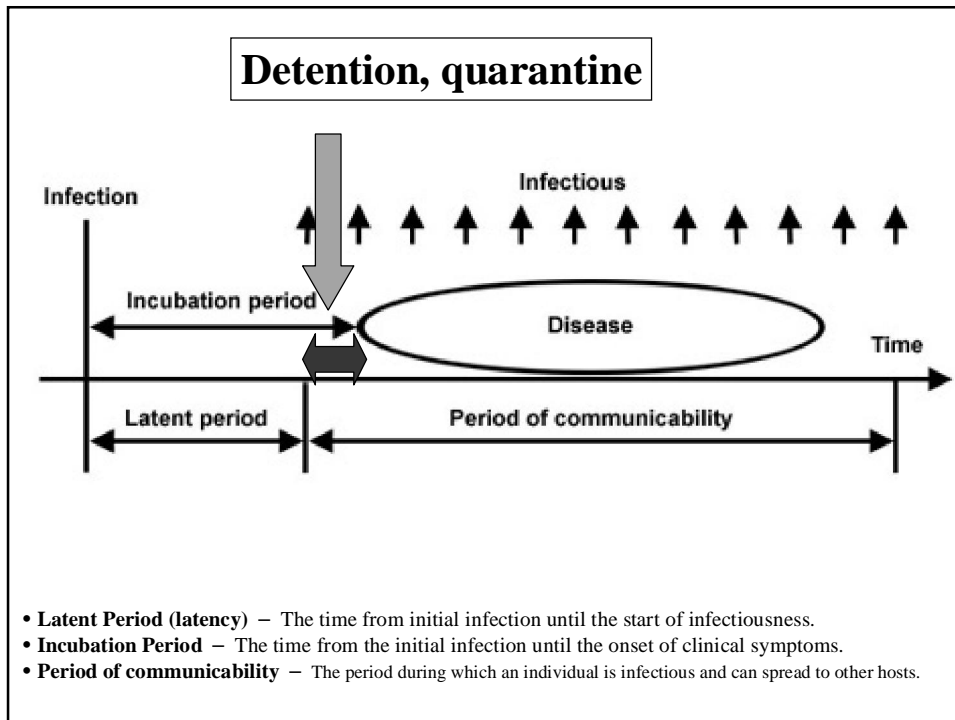


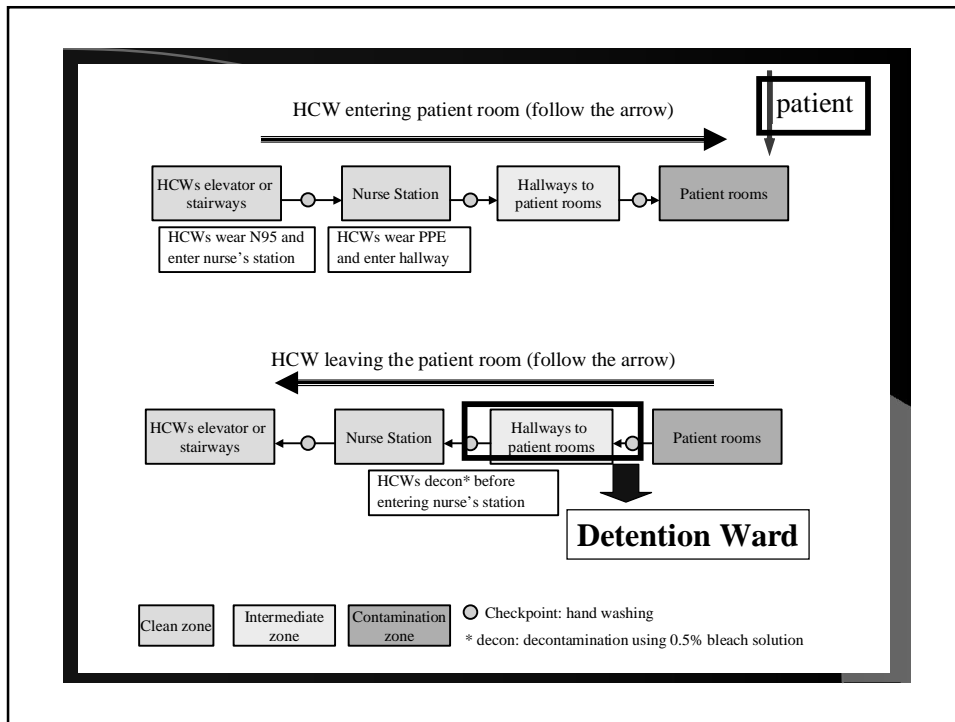
就醫及交通運送流程

- (1) 利用平面及電子大眾傳媒即時Real time宣導各行政區之**區級應變中心就醫專線電話**，引導民眾正確就醫流程。
 - 如符合新感症狀，將依新型流感病患運送作業流程處理，建議自行前往或以車輛運送疑似病患至大型收治場所之戶外疫病篩檢站再確實仔細診治；
- (2) 緊急狀況情求醫消防局（119）則依其常規流程及自我防護SOP同時參考下列派遣原則，持續對急重症進行照護運送前往一般非專責醫院進行急重症醫療。
- (3) 依習性就醫未依此流程者則進入醫院之**戶外疫病篩檢站**或**戶外急門診療**(見EEF VGH護理)之流程。

Infection Control against H1N1 for General Hospitals

- In addition to strict infection control programs.
- Outdoor screening station
 - Cough, flu, fever, ILI, diarrhea, DOA
- Traffic control, wearing mask
- Detention ward, fever ward
- Checkpoint hand washing

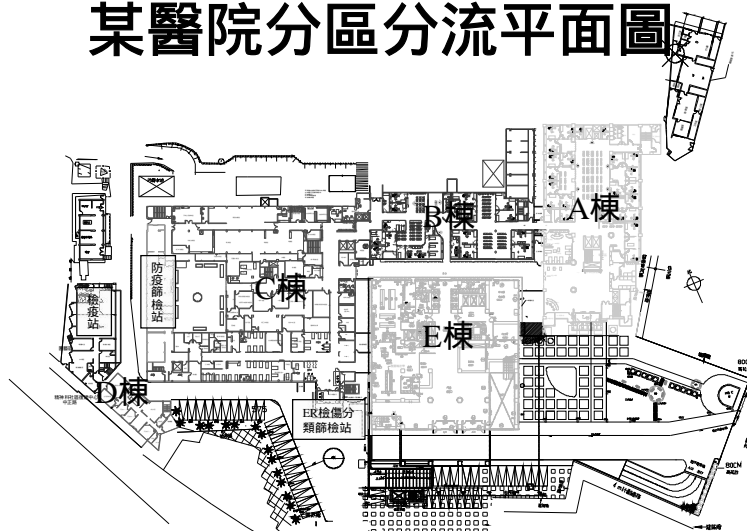




一般綜合醫院防疫應變機制

- 人力、病房、物資動員計劃及準備
- 啟動戶外篩檢站
 - 咳嗽、感冒、發燒、呼吸道癥候、腹瀉、DOA
- 進入院區動線控管，一律配戴外科口罩
- 建構檢疫病房 detention ward, fever ward
- 員工及病患之監測機制：
 - 咳嗽、感冒、發燒、呼吸道癥候、腹瀉、DOA
- 出現單一個案之疫調、移轉(院內)及感控機制。
- 第一線及開放性空間之節點洗手

某醫院分區分流平面圖



Lesson learnt in 2009

- Action plans against Influenza A H1N1 in early 2009 had also provided a platform to access and improve our current system in mitigation for future pandemic influenza.

Welcome to Grand Hyatt Taipei! It is a great pleasure to have you as our guest. We trust that your stay will be a comfortable and enjoyable one.

In view of the current H1N1 Influenza situation in some countries around the world, we would like to take this opportunity to bring you up-to-date on the following measures that we at Grand Hyatt Taipei have put in place:

Grand Hyatt Taipei has developed a preparedness plan for a possible H1N1 influenza pandemic and the relevant employees have received H1N1 training.

We are increasing the **frequency of cleaning our public areas**, including the washrooms, elevators, door handles, and other points of contact in high frequency areas.

We are in close communication with the Center for Disease Control in Taiwan and will implement further actions as per their recommendations and as required.

The well-being of our guests and employees is always of paramount concern to us. In order to protect your health and to avoid the possible spread of any viruses, we would also like to remind you of the following:

Face masks are available for your use. Please contact the Concierge at ext 1.

Various **alcohol-based cleanser dispensers** have been placed at the hotel's entrances, the elevator lift landings on each guest floor, the gymnasium and our restaurants. Please use the dispensers to clean and sanitise your hands before and after using the elevators or when you arrive and depart from the hotel, the gymnasium and the restaurants.

Should you feel ill and/or carry any **flu symptoms** i.e. fever, coughing, sore throat, runny nose, headache, muscle aches, diarrhea, etc, please contact our Assistant Manager on duty on ext. 0 or visit our clinic on level 5. Our team members will be able to assist you and make the necessary arrangements.

Your cooperation in this matter is highly appreciated. If there is anything else we can do to further enhance the comfort of your stay, please contact any one of us at your convenience.

Hotel Management
Grand Hyatt Taipei

July 2009

- H/H as channels of surveillance and communications -



H & H, 台北國際電腦展,

6th WHA, 4th APSIC



Hoping for the best

Prepare for the worst

Thanks for Your Attentions