Background

- First sporadic nosocomial LD case confirmed in Hong Kong by urinary antigen in April 2011
- Retrospective and prospective case finding did not reveal additional case
- Water sampling during case investigation did not grow *L pneumophila* serogroup 1 but detect total Legionella count of 0.1-12 CFU per mL in various water outlet
- Water disinfection carried out
- Formation of HA expert panel on Legionnaires Disease in July 2011

Risk Assessment of Water Systems in HA

	PLDC-COP	Current status	Remarks/Risk
Fresh-water Cooling Tower (FWCT)	* Code of practice on design, operation and water treatment; regular water Legionella and total bacterial counts	Regular maintenance and water sampling for microbiological testing	Standard protocol on maintenance and prompt reporting & actions on abnormal results is present [Low to Medium]
Centralised hot water system	Outlet temperature=50℃ (43℃ in psy, geri and paed wards)	- Temp. at boiler outlet: **50-54 ºC** - Running temp. at draw-off points: **45-51ºC** - Initial temp. at draw-off points: **22-44ºC**	Control by temp. alone inadequate. Consider the use of biocides and filter, esp. in high risk patient areas,
Cold water supply system	Outlet temperature < 20℃	Winter temp: 17℃ Summer temp: 27℃	regular sampling for microbiological assay. **[Medium]**
Water tanks	Tight-fitting lids with regular cleaning (quarterly or more frequently)	Quarterly checking (without LD counts)	**[Low]**

	PLDC-COP	Current status in QEH	Remarks / Risk Ratiing
Air conditioning system	Drain trays to prevent backflow, require regular inspection	unknown	Risk exist from aerosolization of condensed water, risk assessment is required **[Unknown, ? Low]**
Hydropool	Avoid dead legs and stagnant water; regular maintenance, draining, cleaning and disinfection	HA Guide 2007 water samples sent to DH via ICT for bacterial counts	Right temp. for growth, regular cleansing and monitoring in place **[LOW]**
Architectural fountain	Avoid dead legs and stagnant water; provide adequate access for maintenance purposes	Maintenance by hospital	potential for contamination and spray generation **[? Medium]**
Clinical equipment	Sterile water for operation and cleaning of respiratory devices	1. Dental equipments 2. Respiratory apparatus (e.g. ventilatory machines, nebulizers) 3. Medical humidifiers	Ensure cleansing and disinfection, use of sterile water **[LOW]**
Drinking water device in patient areas	N/A	Use of filter water	Not for use in high risk patient areas **[Unknown]**