Control of Methicillin-Resistant Staphylococcus Aureus (MRSA) in a Chest Hospital—a sustainable success

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Introduction
MRSA is endemic in local hospitals and its control has substantial impacts on patient health, as it is one of the most common causes of ventilator-associated pneumonia, bloodstream infection associated with central venous catheters and surgical-site infections. We reported in the 2007 HA Convention significant improvement in MRSA control in 2002-2006, since implementation of “Active surveillance & immediate isolation of high risk patients for MRSA on readmission” in our department in 2001. In our policy & practice, high risk patients are defined as those with known MRSA infection/colonization in previous hospitalization.

As a continuation of the 2007 report, we now present the annual incidence of MRSA per 1,000 admissions at DTBC for 2007-2010. We also illustrate the importance of hand hygiene & a clean environment in MRSA control.

Methods
Active surveillance similar to what has been practiced in our department since 2001 is recommended by the Society for Healthcare Epidemiology of America on preventing nosocomial transmission of multidrug-resistant strain of staphylococcal aureus & enterococci in 2003. HA’s Hand Hygiene Campaign has been fully implemented in our department by late 2008. It consists of a series of promotional activities, including educational talks, poster campaigns, hand hygiene fair, audit, staff forums and administration’s full commitment. Furthermore, to facilitate staff’s hand hygiene practice, one bottle of alcohol-based hand rub has been placed in each bed in our department. Our wards were completely renovated & reopened in late 2009. The complete renovations contributed to a clean environment, which is debated by D. J. Donker in Lancet 2007 as an important factor in MRSA control.

Results
Taking the average annual incidence in 1999-2000 as reference (which is 13.14), there are significant decrease in the annual incidences in 2007-2010 (except in 2008) which are 8.53, 11.80, 7.83 and 4.68 respectively, with corresponding p values of 0.03, 0.55, 0.015 and <0.001 (Chi square test) respectively. Comparing with the average MRSA incidence in 2001-2008 (which is 9.12) before HA’s Hand Hygiene Campaign and complete ward renovation, there is a significant decrease in the 2010 incidence which is 4.68 (p=0.04, Chi square test). Please refer to the bar chart for illustration.

Conclusions
In conclusion, active surveillance & preemptive isolation of high risk patients for MRSA has a sustainable impact on MRSA control even in endemic area. HA’s Hand Hygiene Campaign & a clean environment further improved MRSA control in our wards.