For elderly in locations where year-round influenza activities is common, additional influenza vaccination in spring/summer provided improved HAI antibody titers to bridge protection against influenza between annual winter vaccinations.

**RESULTS**

- In twice-annual group, participants had significantly higher GMTs against influenza A(H3N2) vaccine strains between Rounds 2 and 3 (Figure 1).
- In both once- and twice-annual groups, mean-fold rises and post-vaccination GMTs against all vaccine strains were statistically significantly lower in Round 3 than Round 1 (Figure 3).

**DISCUSSION**

The trial is continuing to explore:

- patterns of antibody titers after repeated vaccinations of multiple years
- patterns of antibody titers after repeated vaccinations with vaccine strains change

**Figure 1. The HAI antibody titers against influenza A(H3N2) in the twice-annual vaccination group (red line) and the once-annual vaccination group (blue line) at day 0 and day 30 for each vaccination. The vertical bars indicate the 95% confidence intervals of the GMTs.**

**Figure 2. Study flow chart. Additional recruits in Round 2 all had documented evidence of receipt of 2016/17 NH QIV.**

**Figure 3. Heat map comparing the pre-vaccination versus post-vaccination participant HAI titers against influenza A(H3N2) by round and by vaccination group.**

**Abbreviations:**

NH: northern hemisphere; SH: southern hemisphere; QIV: quadrivalent influenza vaccine; TIV: trivalent influenza vaccine; HAI: hemagglutination inhibition; GMTs: geometric mean titers

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1. World Health Organization Collaborating Centre for Infectious Disease Epidemiology and Control, School of Public Health, The University of Hong Kong, Hong Kong Special Administrative Region, China.
2. Influenza Division, Centers for Disease Control and Prevention, Atlanta, GA, USA.
3. Division of Bacterial Diseases, Centers for Disease Control and Prevention, Atlanta, GA, USA.
4. HKU-Pasteur Research Pole, School of Public Health, The University of Hong Kong, Hong Kong Special Administrative Region, China.