change intervention by community volunteers for 12 months. A baseline, midterm and follow-up study were carried out during entire period of this intervention.

**Results** After 1 year of community based intervention, knowledge on iron richer food increased and causes of anaemia decreased from 62.9% to 82.2% and 36.1% to 71.5% respectively. Knowledge on symptoms and ways to prevent anaemia has also increased. It was found that more than two third (78.7%) of participants has the knowledge on number of iron tablets required per month. After the intervention ended around 16.7% adolescents were taking iron tablet regularly meanwhile when iron folate supplementation was distributed free of cost and after that when it was sold door to door by the Community Volunteers (CVs) the rate was 94% and 28.5% respectively.

**Conclusions** Despite of the knowledge and positive attitude towards taking iron tablets, practice is not quite satisfactory by the Community Volunteers (CVs) the rate was 94% and 28.5% respectively.

**Introduction** To help assess morbidity associated with cold spells, a study was conducted of cold temperature and asthma hospitalisations in New York State, USA.

**Methods** All hospital discharges among New York State residents with a diagnosis of asthma from November 1 to April 30 were obtained for 1991 to 2006. Temperatures were collected from stations in 13 weather regions in New York State. Universal Apparent Temperature was used to take into account wind speed and humidity, and a cold spell as defined as three consecutive days with a mean Universal Apparent Temperature < the monthly 10th percentile for each region. Percent change in asthma hospitalisation during and up to 4 days after each cold spell was evaluated using time series with Generalised Additive Models adjusting for temporal trends.

**Results** On a statewide basis, the results indicated that asthma hospitalisations decreased during cold spells for December through March, but hospitalisations increased in November (9.98%, 95% CI 1.89). After cold spells, there was no change in the asthma hospitalisations for December through March, but hospitalisations increased in November (9.98%, 95% CI 5.84 to 14.27) and April (4.99%, 95% CI 1.18 and 8.94). The point estimates for the winter increase and the November/April increase were greatest for the colder regions.

**Conclusion** The findings suggest that asthmatics may have difficulty acclimating to cold during the transitional months immediately before and after winter; in contrast, during a winter cold spell they may spend more time indoors, thereby preventing exacerbations.

**P2-398** FACTORS ASSOCIATED WITH MULTI-DRUG RESISTANT TUBERCULOSIS IN BANGLADESH

doi:10.1136/jech.2011.142976l.28

**Introduction** Despite success in tuberculosis control, multi-drug resistance tuberculosis (MDR-TB) in Bangladesh is increasing and currently MDR-TB rate is 3.6% in new cases and 19% in re-treatment cases. This study focused determination of environmental and host factors of MDR-TB which is warranted for effective prevention strategy.

**Methods** A case control study was conducted between January and August 2010. Purposively recruited 136 culture-proved MDR-TB cases and 152 cured TB patients were interviewed and 10 cc of blood samples were taken. Associations between exposure and outcome variables were initially tested by χ²-test, t-test, ANOVA. A result was considered significant at p value <0.05. Effects of exposure variables were also assessed after adjusting for other variables by binary logistic regression models. Crude and adjusted OR with 95% CI was computed.

**Results** Younger age (p=0.008), peri-urban locality (p=0.002) associated with MDR-TB. History of contact (p<0.001) and tuberculosis in the past (p<0.001) were four and eight times, respectively, more likely to influence MDR-TB. Regularity [OR 0.05; 95% CI (0.01 to 0.39)] and always observation of treatment [OR 0.25; 95% CI (0.10 to 0.61)], sputum conversion [OR 0.02; 95% CI (0.01 to 0.08)] negatively associated with MDR-TB. Gender, socio-economic status and overcrowding did not show any influence. None was HIV positive, but its risk factors were more common in MDR-TB cases. Sputum conversion was the best predictor.

**Conclusion** Like other developing countries previous treatment status is the most important exposure variable. Strengthening of control activities might contribute in preventing development of resistance in tuberculosis patients.
Factors associated with multi-drug resistant tuberculosis in Bangladesh

M S Flora, M Nurul Amin, M R Karim, S Afroze, S Islam, M Ashraful Alam and M Motahar Hossain

*J Epidemiol Community Health* 2011 65: A332
doi: 10.1136/jech.2011.142976l.28