and assesses the effect of livestock vaccination rate on disease report in humans.

**Methods** Necessary Information was achieved from concerned authorities. Data analysis was done by SPSS software version 16. Mapping was performed using ArcGIS version 9.3.

**Results** Brucellosis is reported more in the West and Northwest provinces, where their sheep and goat population density is higher than other parts of the country. The highest incidence of brucellosis was seen in 1991 with a rate 101.63 per one hundred thousand people. On average, each year about 27,500 new cases were reported in the country. Brucellosis incidence over the years showed a decreasing trend ($r=-0.79, P<0.001$). Pearson correlation analysis showed that in different provinces there was a significant association between the annual incidence of Malta fever and the annual infection rate of sheep and goats ($r=0.547, P<0.001$), the annual incidence of Malta fever and the annual infection rate of cattle ($r=0.327, P<0.001$) and the annual incidence of Malta fever and the percentage of vaccinated cows ($r=0.098, P=0.031$).

**Conclusion** As the prevalence of brucellosis depends very closely with the prevalence of brucellosis in animals, the control of the disease in human population is not possible unless it is controlled in livestock; so the cooperation between different organizations (Veterinary, public health …) is needed.

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**P1-256 WHAT NEXT MEASLES CONTROL FOR KARNATAKA INDIA?**

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**Introduction** Worldwide, measles still kills 400 people every day, more than 90% of them being under-fives. Three out of four deaths happen in India. The objectives of my work are to describe the epidemiology of measles in Karnataka and to identify ways to improve measles control in the state.

**Methodology** I collated and tabulated weekly surveillance reports and outbreak investigation line lists for 4 years. I synthesised the spatio-temporal distribution of measles cases and outbreaks in the state. Through logistic regression, multivariate analysis, I assessed the contextual demographic and socio-cultural determinants of measles outbreaks and vaccination coverage in the state of Karnataka.

**Findings** Measles surveillance data from 2006 to 2009 reveal that measles is indeed endemic in Karnataka, with frequent outbreaks. The notification rate of measles is 10.94 cases per 100,000 population per year. Seasonality of notified measles cases characteristically increases between November and April and decreases from May to October. There were 163 confirmed outbreaks in the state in the 4 years under study. Measles outbreaks were happening consistently in the northern part of the state and sporadically in the southern part. The duration of these outbreaks from the date of appearance of rash in a first case to last case was ranged from 7 days to 120 days with median of 39 days.

**Discussion** Significant reduction in measles incidence and outbreaks can be attained only by adding a second dose to the routine vaccination scheme in the whole state and by conducting catch-up campaigns in northern Karnataka.

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**P1-257 RELATIONSHIP BETWEEN THE NUMBER OF ESTABLISHED CARDIOVASCULAR RISK FACTORS AND ANNUAL MEDICAL COSTS IN JAPAN: COST ANALYSIS IN 38 890 JAPANESE INDIVIDUALS**

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**Background** Information about the relationship between the number of established cardiovascular disease risk factors and medical costs is limited.

**Methods** A linked analysis of the medical costs and health examination measures was performed in Shiga, Japan. Medical costs information for the period April 2000—May 2006 was collected from the Shiga National Health Insurance Organization database. Corresponding data for 38 890 individuals (age, ≥40 years) generated during annual health examination conducted between 2000 and 2005 were collected from the local municipalities in the Shiga prefecture. These data were merged by name, sex, and dates of birth. Median and interquartile were used to compare the annual medical costs among groups with different number of risk factors. The risk factors were hypertension ($SBP \geq 140$ or $DBP \geq 90$), high cholesterol (total cholesterol $\geq 240$) and blood glucose levels (casual blood glucose $\geq 126$), and smoking.

**Results** The median total annual medical cost in the group with no risk factors was 217 149 Yen for men and 147 880 Yen for women. The median total annual medical cost in the group with four risk factors was 1.28 times higher in men ($278 651$ Yen) and 1.80 times higher in women ($265 788$ Yen), as compared to that in the group with no risk factors. These trends were most apparent in outpatients (men: 1.47 times ($127 205$ Yen vs $186 811$ Yen); women: 2.23 times ($94 648$ Yen vs $211 125$ Yen)).

**Conclusion** Annual medical costs increase with an increase in the number of cardiovascular disease risk factors in the Japanese population.