

Title: Combating Measles in Central Nebraska

Authors: Melanie Menning, MD\*#, Brady Beecham, MD MPH\*, Aravind Menon, MBBS MPH

Purpose: To raise awareness of pockets of MMR unvaccinated individuals within Nebraska that put us at risk for disease outbreaks

Objectives: 1. Identify specific populations at high risk for measles outbreaks in Nebraska  
2. Identify reasons for MMR hesitancy within the Somali community and ways to increase vaccination rates.

Methods: NESIS data for Lexington Regional Health Center (LRHC) was queried to assess vaccination trends for the clinic. A special emphasis was placed on measles, mumps and rubella vaccinations rates. Vaccination records were attained for all patients between 15 and 72 month who had been seen at LRHC in the last year. Vaccination rates were calculated for the clinic as a whole as well as by age cohort and ethnicity.

Findings: LRHC had an overall MMR vaccination rate of 66.8%. There was a significant lower rate of MMR immunization in the Somali population (28.9%) compared to the Hispanic population (71.6%,  $p < 0.0001$ ) and the Other population (75.4%,  $p < 0.0001$ ). Interestingly, this vaccine hesitancy was unique to MMR vaccination with rates of varicella vaccination significantly higher across all ethnic groups: Hispanic Varicella 94% versus 72% MMR ( $p < 0.0001$ ), Other Varicella 97% versus 75% MMR ( $p < 0.0001$ ), Somali 75% Varicella versus 29% MMR varicella ( $p < 0.0001$ ).

Implications: There is MMR vaccine specific hesitancy within the Somali population in Lexington, Nebraska that puts the community at risk for a measles outbreak. Further studies are underway to identify the major barriers to vaccination within the local Somali population as well as ways to improve vaccination uptake.