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**Gerardo Chowell\*** (gchowell@asu.edu), Box 872402, Tempe, AZ 85282, and **Luis MA Bettencourt, Niall Johnson, Wladimir Alonso** and **Cecile Viboud**. *The 1918-19 Influenza Pandemic in England and Wales: Spatial Patterns in Transmissibility and Mortality Impact*.

The association between the 1918-19 influenza pandemic mortality patterns and socio-demographic factors remains poorly understood. We use mathematical and statistical modeling to explore the relation between influenza death rates, transmissibility and several demographic variables for the fall and winter waves of the 1918-19 pandemic in 305 urban and rural areas of England and Wales. We found variability in influenza transmissibility in part related to population size and density, in addition to marked differences in death rates between urban and rural areas. Death rates in cities and towns were 30-40% higher on average than in rural areas, and urban death rates did not vary significantly with population size. By contrast, there were large variations in death rates across rural settings, where smaller population units fared worse. Further studies of the geographical mortality patterns associated with the 1918-19 influenza pandemic may be useful for pandemic planning. (Received September 06, 2007)