

UCLA

BIOSTATISTICS SEMINAR

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SETTING CONFIDENCE INTERVALS ON THE DEATH TOLL OF THE POL-POT REGIME

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3:30pm - 4:30pm, CHS 33-105A

Refreshments served at 3:00 PM in room 51-254 CHS

ABSTRACT: Extant estimates range from under one million to over three million excess deaths in Cambodia during the Pol Pot regime (1975-79). Reviewing the different data sources and methodologies used to derive those estimates, this study explores their variability and reliability. We use a classic demographic model to reconstruct the population dynamics of Cambodia between the two adjacent censuses of 1962 and 1998. However, rather than deterministically producing yet another point estimate, we take a Bayesian approach to derive posterior distributions of the death toll and other demographic indicators from a prior consisting of our assessment of extant estimates, historical records, and demographic data. Our death toll distribution has a median value of 1.9 million excess deaths, or in relative terms, 21.0 percent of the population at risk, but foremost, the distribution illustrates the uncertainty regarding the exact scale of mortality. At a conventional 95-percent level, the confidence interval indeed stretches from 1.2 to 2.8 million excess deaths, whereas half of the published estimates actually fall outside of that interval. If the actual number of excess deaths will never be known with much precision, we show that the death toll has two-third likelihood to be comprised between 1.6 and 2.3 million, which is both a narrower and higher-likelihood interval than the routinely cited range of one to two million.