



Capture-recapture applied to human populations

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One of the key outputs for a national statistics office are population estimates by age and sex. These define the demographic landscape and are used across a myriad of applications including planning, policy and as denominators in many statistics. In most countries these estimates are usually underpinned by a census of the population although increasingly these are being replaced by re-use of administrative data and population registers. In the UK, the method for producing the population estimates from the census includes a measurement of the population missed by the census, obtained from an independent post-enumeration survey. This presentation will outline how the Office for National Statistics (ONS) used capture-recapture methods in the 2001 and 2011 Censuses to produce population estimates, and describes some of the issues with using this methodology with a human population. These include linkage, closed population assumptions and correlation bias. It will also outline the methods used to adjust for some of the inevitable biases in the capture-recapture estimates. For the future, ONS is exploring the options for producing population statistics that might include using administrative sources. Research has been undertaken to explore the potential for the capture-recapture methods developed for the census to be used within this context. The presentation will thus explore whether the method would be appropriate for future population statistics and some of the challenges this might bring.

Keywords: capture-recapture; census; administrative data; population.