



Capture-recapture method: the gold standard for incidence and prevalence

The study by Walker et al, published last year in the NZMJ, identified cases through multiple sources for determining the incidence and prevalence of leg ulcers in Auckland.¹ It reported that rates 'appear to be lower than estimates obtained in other countries.' This is likely true since studies of this nature exhibit a large undercount and there is no feasible mechanism for determining this value. Incidence and prevalence is at the heart of epidemiology and accurate data are essential for health planning and continuation of epidemiology for a disease or incident event.

The capture-recapture method (CRM) has been successfully used for decades by population biologists in accurately determining the number of organisms studied (wildlife).² Recently, this method has been applied to epidemiological studies.^{3,4} Many have considered this method to be the most effective in determining counts.^{4,5} It allows an estimation of the undercount, which is those cases or patients that were not counted in a survey, but could have been counted. It will not provide an estimate of those cases that can not be detected. The advantage of this method is that you do not need to find all cases, rather obtain lists of the cases and compare lists.⁶ Since many lists have already been accumulated, cost will be lower and studies are easier to perform for determining incidence and prevalence. Count will also be more accurate in that every case does not have to be located and the undercount is determined from the lists using a statistical method. This would suggest that the CRM really is the gold standard for counting studies.

The CRM can be used to estimate both incidence and prevalence as well as to provide a confidence interval (CI).⁴ This method employs two or more lists (sources). Walker et al collected lists from different parties (eg, hospitals) for patients having leg ulcers.¹ By checking the lists for cases that are in common, or are common on two or more lists, the number of cases with leg ulcers and CI can be determined. This will also allow an estimation of the undercount. Publications in epidemiological journals have presented the mechanisms and procedures of conducting CRM.^{4,6,7}

It is suggested that the CRM be employed as the gold standard for determination of incidence and prevalence. The study by Walker et al is a good example of one in which the CRM can be used to better estimate epidemiological rates.^{1,4}

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