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# Regional Variation in the Incidence of End-Stage Renal Disease in Indigenous Australians

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## Abstract

**Objective:** To evaluate regional variation in the incidence of end-stage renal disease (ESRD) in Indigenous Australians, and to examine the proximity to ESRD treatment facilities of Indigenous patients.

**Design:** Secondary data review, with collection of primary data regarding patients' place of residence before beginning ESRD treatment.

**Participants:** Indigenous ESRD patients who commenced treatment in Australia during 1993-1998.

**Methods:** We obtained data from the Australian and New Zealand Dialysis and Transplant Registry regarding 719 Indigenous patients who started ESRD treatment between 1 January 1993 and 31 December 1998. We obtained primary data from the treating renal units to determine the place of residence before beginning renal replacement therapy. We calculated the average annual incidence of ESRD for each of the 36 Aboriginal and Torres Strait Islander Commission regions using population estimates based on the 1996 Census, and calculated standardised incidence ratios with 95% confidence intervals for each region. We compared the number of cases with the treatment facilities available in each region.

**Main outcome measure:** Regional standardised ESRD incidence for Indigenous Australians referenced to the total resident population of Australia.

**Results:** Standardised ESRD incidence among Indigenous Australians is highest in remote regions, where it is up to 30 times the national incidence for all Australians. In urban regions the standardised incidence is much lower, but remains significantly higher than the national incidence. Forty-eight per cent of Indigenous ESRD patients come from regions without dialysis or transplant facilities and 16.3% from regions with only satellite dialysis facilities.

**Conclusions:** There is marked regional variation in the incidence of ESRD among Indigenous Australians. Because of the location of treatment centres, there is inequitable access to ESRD treatment services for a significant proportion of Indigenous patients.