

## Emergency department attendance after telephone triage

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### Objectives

To measure compliance with telephone helpline advice to attend an emergency department (ED) and the acuity of patients who presented to ED following a call.

### Approach

Population based, observational cohort study of all calls (n=1.04 million) to the healthdirect helpline over four years made by residents of New South Wales (NSW), Australia, linked to records of ED presentations, hospital admissions and death registrations using probabilistic data linkage. Outcomes measured include: compliance with dispositions to attend an ED, self-referral to ED by patients given low urgency dispositions, predictors of compliance and self-referral, and triage levels at ED presentation. This helpline dataset had not been previously linked with clinical outcome data, and this is the largest population-based linkage of telephone triage data conducted internationally.

### Results

67.2% of patients were compliant with dispositions to attend an ED and the great majority of these (95.2%) attended within four hours of the call. Compliance was highest in patients aged 10-14 years, in residents of major cities and inner regional areas, in middle socio-economic quintiles, in calls triaged after-hours by nurses, in patients who had not been frequent callers to the service, and in callers with an original intention matching the disposition. In patients receiving a low-urgency disposition, 6.2% attended ED within 24 hours of the call (50.4% of these within four hours). Predictors of self-referral included older patient age, and calls triaged after hours. Calls from remote areas and areas in high socio-economic quintiles and where the orig-

inal intention was similar to the disposition, were less likely to self-refer to ED. After age-adjustment, healthdirect compliant patients who attended ED were significantly less likely (7.7%) to receive the least urgent triage category (Australasian Triage Scale [ATS] 5) compared to the general NSW ED population (16.9%). Compliant healthdirect ED attenders also included a significantly higher proportion of patients triaged as the more urgent ATS 3 (37.0%) compared to the general NSW population (30.0%). Conversely, patients who self-referred to the ED did not differ significantly from the general population in allocation to lower urgency categories.

### Conclusion

This large population-based data linkage study provides precise estimates of ED attendance following calls to a telephone triage service, and details the predictors of ED attendance. The findings with regard to triage categories at ED presentation indicate that the healthdirect helpline is not referring substantial numbers of low-urgency patients to EDs.

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