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Aim

Method

Results

dren were more often the subjects of calls than men; Māori used the service in proportion to their representation in the population. Common symptoms were similar to acute presentations in primary medical care. The timing and level of care advised was often different from the caller's stated intention if they had not accessed triage advice; callers were advised more often to contact general practitioners than other providers.

Conclusions

Healthline provided a primary care service to a substantial number of callers in its pilot regions during the summer public holidays. Many were triaged to a different timing and level of care than they would have sought.

practitioners and self care than either protocols, guidelines or nurse judgement alone: they do so safely – doctors thought a higher level of care was needed for only two per cent of calls, and in no case was the patient endangered.¹

Callers can phone a free 0800 number 24 hours a day, seven days a week. For symptomatic callers the nurse creates a chart, identifies the geographical region, records the clinical complaint and selects and traverses the appropriate algorithm, reaches a triage outcome or endpoint, searches for an appropriate provider or offers self care advice and refers if necessary.

Endpoints are:

- **Appointment:** caller is advised to seek care at GP during regular hours; 3-day or 2-week time-frame specified
- **Self care:** caller is advised of self-care measures. A follow-up call is offered.

Nurses in general medical practices and emergency departments have traditionally triaged calls, and are effective in reducing doctor workload.² General practitioners currently bear most of the cost of nurse telephone consultation and benefit least from the savings associated with it in Britain,³ where the safety and effectiveness of telephone triage by nurses have been demonstrated.^{4,5} Callers are satisfied with a nurse triage service,⁶ (Healthline quarterly reports to Ministry), the service is cost-effective^{7,8} and adherence to advice is similar to that for phoned doctor advice.⁹

About 70% of calls to Healthline are made outside business hours,¹ with the result that the service is increasingly being used as an after-hours triage and information service

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Table 1. Number of calls each day

	Christmas Day	Boxing Day	New Year's Day	2 January 2002	TOTAL CALLS
Calls offered	118	169	183	208	678
Calls handled	116	165	176	198	655

by general practice patients in the pilot areas.

Methods

Data collected by Healthline's call documentation software were analysed for the four summer public holidays, 25 and 26 December 2001, and 1 and 2 January 2002.

Results

Healthline received a total of 678 calls on the four holidays (Table 1). (The average daily call volume was 116 for the year 2001).

82.6 per cent were symptomatic (an algorithm was accessed and a triage completed), 8.7 per cent were for general health information (asymptomatic caller) and 8.5 per cent were seeking information on local health services.

Asymptomatic callers sought the subjects of health information shown in Table 2.

Figure 1 shows the age and sex distribution of symptomatic callers.

Māori callers made 13.0 per cent of calls, about the same as the 14.6 per cent who identify as Māori in the populations of the four pilot regions.

Table 3 shows the algorithms used most often.

The endpoint given to symptomatic callers is shown in Table 4.

Symptomatic callers were asked, 'What would you have done if the Healthline service had not been available?' (Figure 2). For example, 125 callers had intended to use emergency or urgent care services, but only 44 (35.2 per cent) of them were triaged to that level of care, and 33 (26.4 per cent) were triaged to self care. Of the 125 callers who did not intend to contact a doctor at all, 46 (36.8 per cent) were advised to do so, four required 111 call outs, and nine were advised to seek care at the emergency department. Overall, 66.6 per cent of callers were triaged to a different level or timing of care than they would have sought.

Discussion

Our early report¹ showed telephone triage is acceptable to the NZ public, fulfils a niche of providing advice safely and is a valuable method of helping symptomatic people access care at the right place and at the right time, especially after hours. Two-thirds of Healthline callers usually phone outside usual business hours, and two-thirds seek advice on symptom management. The symptoms and the demographics of the callers match those of primary medical care. Māori phone as much as non-Māori (in proportion to their population).

Table 2.

General health information accessed	Accesses
Genital warts	3
Chickenpox	2
Three month old child	1
Cardiac drugs	1
Chest pain (angina)	1
Cortisone	1
Eggs	1
Hepatitis	1
Protecting yourself from pregnancy	1
Salmonella infection	1
Teenage drinking	1
Vasectomy	1
Abortion	1
Diarrhoea	1
Ear wax	1
Fever	1
Food poisoning	1
Head lice	1
Kidney and urinary tract infections	1
Plantar warts	1
Rubella	1
Tuberculosis	1
TOTAL: all algorithms	25

Figure 1. Symptomatic callers: number by age and sex

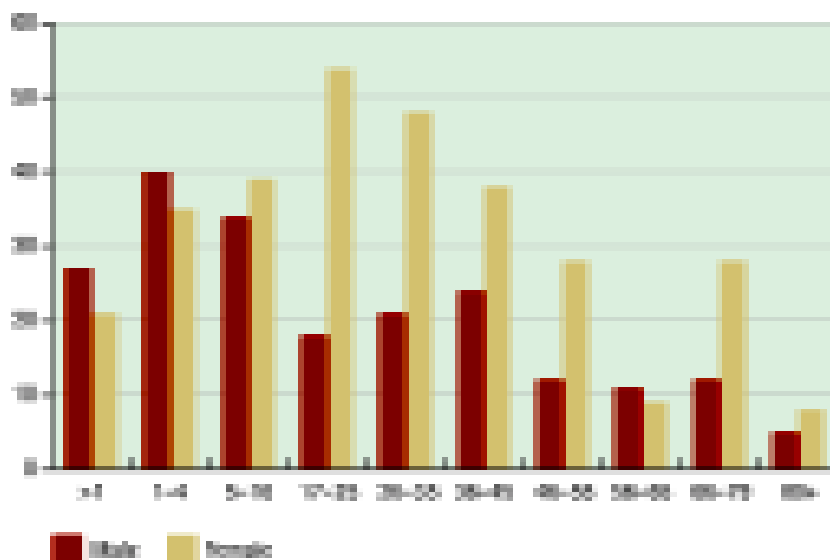


Table 3.

Algorithms accessed	Accesses
Paediatric skin rash	19
Contraception	12
Paediatric abdominal pain	10
Paediatric fever	10
Adult possible insect bites	9
Paediatric diarrhoea	9
Adult abdominal pain	8
Adult skin problems	8
Adult new headache	6
Adult vomiting	6
TOTAL TOP 10 ACCESSES	97
TOTAL ACCESSES: All algorithms	478

In this holiday study, over 80 per cent of callers were symptomatic, the symptoms triaged matching the common primary care complaints.

The triage advice given often differed from the caller's original intention: many people do have difficulty in assessing when and where to seek help. This 'navigational assistance' provided by Healthline appears to fill a gap in primary health services.

Figure 2. Callers intending (y axis) were triaged to (legend)

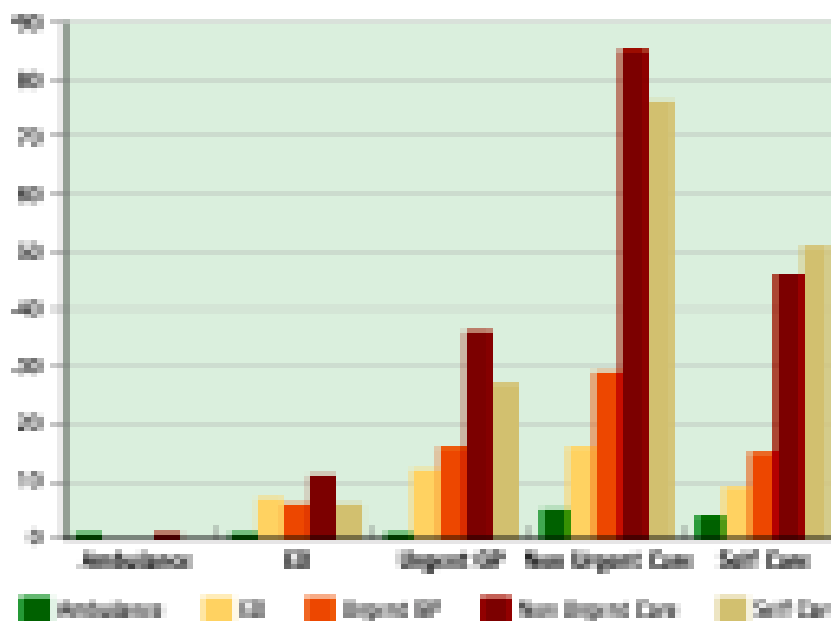


Table 4.

Endpoints	Christmas Day Boxing Day	New Years Day and 2 January	TOTAL
Emergency	10	7	17
Urgent care	43	68	111
Speak to provider	58	70	128
Appointment	22	29	51
Self care	67	93	160

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