

## Nursing Advice Over the Phone A Triage Pilot Project in Northern Ontario

Before Telehealth Ontario made telehealth services available province-wide, a bilingual pilot project called Direct Health/Télésanté operated out of North Bay for residents of northern Ontario. The Direct Health service processed over 101,200 calls during its 22 months of operation from June 1999 to March 2001. Approximately 8% of the eligible population of northern Ontario called in the last year of the pilot project. Like Telehealth Ontario, Direct Health was managed by Clinidata Corporation.

Two main goals of the Direct Health service were: 1) to reduce unnecessary demand on existing health care resources, such as hospital emergency departments, primary care physicians and walk-in clinics; and 2) to promote patient independence and self-confidence in their decision making regarding their symptoms. There was also an intent to improve access to health care services for those whose access is limited by distance or shortages of health personnel. Rural and remote communities in northern Ontario typically have limited services and access.

Trained registered nurses were available by phone 24 hours a day, 7 days a week. They used computer-assisted, medically approved guidelines and their nursing experience to assess patients' symptoms and suggest the most appropriate type of care (this process is called "triage"). Depending on the nature and severity of the patients' symptoms, the nurses provided recommendations to conduct informal care, visit a family doctor or walk-in clinic, or visit the nearest emergency department. Nurses also provided basic information about diseases, medications, tests, procedures and treatments.

The Centre for Rural and Northern Health Research (CRaNHR) at Laurentian University conducted an evaluation of this triage pilot project. This *Research in FOCUS on Research* looks at the study findings that relate to the quality of the advice given by the nurses and the extent to which the callers followed this advice. Another issue of *Research in FOCUS on Research* examines the characteristics of the callers and patients and the effect of triage on informal care.

This issue of *Research in FOCUS on Research* is based on the study *Evaluation of a Triage Pilot Project in Northern Ontario* (September 2002) by John C. Hogenbirk, Raymond W. Pong, Benjamin T.B. Chan, David R. Robinson, Virginia McFarland, Sandra Lemieux and Linda J. Liboiron. The study was conducted by the Centre for Rural and Northern Health Research (CRaNHR), Laurentian University.

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The interpretations, views and conclusions expressed here are those of the authors, and no endorsement by Laurentian University, the funding agency or the participating organizations is intended or should be inferred.

## How Good Was the Advice?

Researchers obtained 73 taped calls to be audited, for which both the caller and the teletriage nurse had given consent. Although this was a non-random sample, the calls showed a variety of clinical problems (teletriage nurses used 41 different guidelines) and callers sought a variety of health information (14 topics were accessed).

CRaNHR engaged six auditors: two family physicians (FPs), two nurse practitioners (NPs) and two registered nurses (RNs). Each of the 73 calls was audited three times – by one FP, one NP and one RN – for a total of 219 audits.

The advice was found to be appropriate in 83% of the audits. In an additional 8% of the audits, the advice was judged either insufficient or overly cautious but with good reason (either lack of access to an FP or a walk-in clinic, or a caller's difficulties in understanding or complying). That leaves only 8% where the advice was found to be inappropriate and 1% without rating.

In over half of the calls, all three auditors judged that the teletriage nurse's advice was appropriate. At least two of the three judges deemed that the advice was appropriate in over 90% of the calls. For all calls, at least one auditor rated the advice as appropriate.

Where auditors and teletriage nurses disagreed, the auditors judged that the teletriage nurses were three times as likely to err on the side of caution as to give insufficient advice. This is consistent with Clinidata's policy and with recommendations of the Canadian Nurses Association to err on the side of caution.

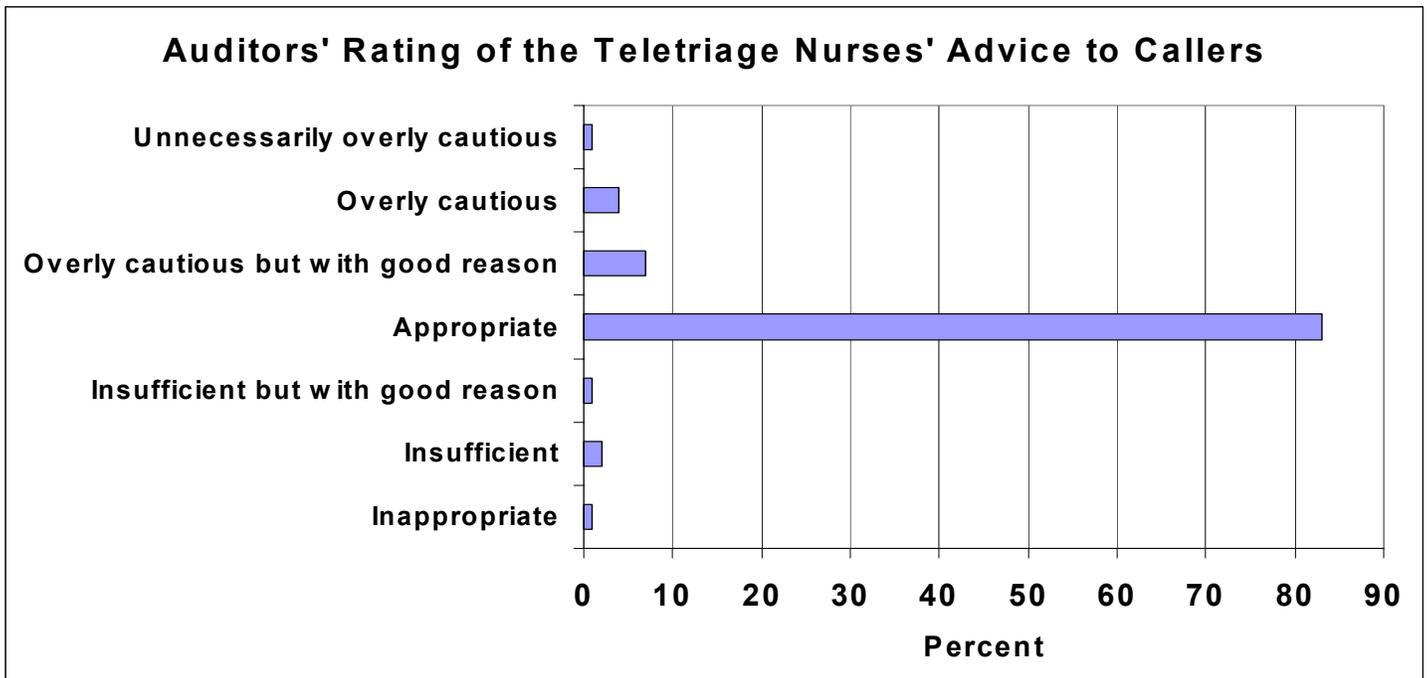
On the whole, the audit results suggest that the teletriage service was providing appropriate advice. However, care must be exercised in generalizing these results because of the non-random selection of calls.

### Interaction between nurse and caller

In over 90% of the audits, the teletriage nurse's abilities to establish a relationship with the caller and to extract pertinent information were rated good or better.

Again in over 90% of the audits, the caller's ability or willingness to describe the problem and the caller's level of literacy or understanding were rated good or better.

The auditors also judged that the caller became less anxious over the course of the call in 57% of the audits. No change in the caller's level of anxiety was recorded for 34% of the audits.



## Was the Advice Followed?

### What callers reported

Between February and June 2001, researchers mailed out questionnaires to people who had called Direct Health. They analysed 2,390 responses (response rate was 44%).

An overwhelming number of surveyed callers reported they had followed the nurse's advice: from 92% (for the 36% of calls where the advice was to visit the emergency department) up to 99% (for the 27% of calls where the advice was to provide informal care only). The majority (74%) of the survey respondents reported that they followed all of the nurse's advice. A further 18% said they followed most of the advice, for a total of 92%

### What call records and OHIP claims showed

A separate analysis shows that the teletriage nurses' advice may not have been followed as often as the callers reported.

CRaNHR used information on the nurses' advice from approximately 28,000 call records from consenting callers, collected between July 11, 2000, and March 31, 2001. These represent 59% of all the calls processed over this period. Medical service use of these callers was determined by counting OHIP

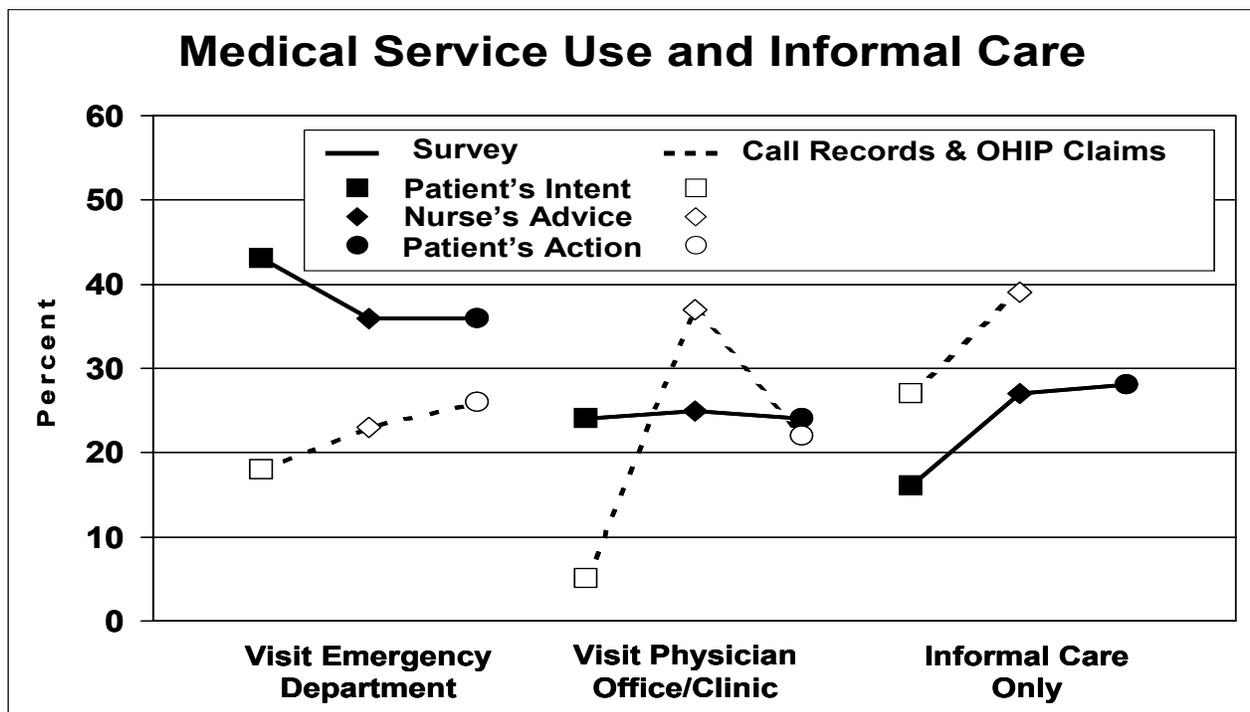
(Ontario Health Insurance Plan) claims within 5 days of the call to Direct Health. Only formal care (visits to emergency departments, doctors' offices and clinics) could be measured – not informal care. Data showed that 64% of patients followed the advice to visit the emergency department (those with joint pain, trauma and rash were most likely to have done so). Only 32% followed the advice to visit a physician (the most likely being those with complaints for ear-throat, allergic reaction and cough and fever).

### Comparing survey and OHIP compliance rates

Why was there a difference of between 30 and 60 percentage points between these compliance rates? Some of the differences were likely due to the fact that neither set of results was obtained from a random sample. Compliance rates depend on which callers decided to participate. The survey results may be more prone to this bias.

Conversely, OHIP-estimated compliance rates may be too low, particularly as some callers may have visited physicians' offices or clinics after the 5-day cutoff period. Extending the cutoff period, however, might result in counting visits not related to the call.

Actual compliance rates are believed to be between the two estimates. More research is needed to investigate the causes of such discrepancies.



## Impact of teletriage service on use of medical services

There are several factors that affect the use of medical services, like availability, access, cost, time, and so on. With particular reference to the teletriage service, if patients were ignoring triage advice or if the triage advice were not different from a patient's original intentions, then the service may not have had a significant impact on the use of medical services.

The survey data suggest a decrease in emergency department visits as a result of calls to Direct Health, while the call record/OHIP claims analysis suggests an increase. The survey data show no change in visits to a physician's office or clinic, while the call record/OHIP data indicate an increase.

Patients' actions, as measured by survey data and call record/OHIP claims, were similar for physician visits and, to a lesser extent, for emergency department visits. Measurement of patients' intent, however, is much more variable and causes much of the difference in measured impact. More research is warranted.

## Summary

- ▶ In over 90% of the audits, advice was judged to be appropriate or to have good reason for being either overly cautious or insufficient.
- ▶ Teletriage nurses were three times more likely to err on the side of caution than to provide insufficient advice.

- ▶ There was good rapport between teletriage nurses and callers, and the nurses were able to extract pertinent information from callers in over 90% of the audits.
- ▶ More than half of the audits found that the caller was less anxious at the end of the call.
- ▶ 92% of callers reported that they followed the advice for formal care. For informal care, the figure is 99%. These may be overestimates.
- ▶ Compliance rates based on call records and OHIP claims are lower: 64% followed the advice to go to the emergency department, and 32% followed the advice to visit a physician's office or clinic. These may be underestimates for a number of reasons.
- ▶ The impact of teletriage on medical service use is uncertain due to large differences in the measurement of patients' intent. More research is needed in this area.

**Overall, the advice was considered to be appropriate in the vast majority of audited calls; and the advice for more urgent situations, such as visiting the emergency department, was followed in 60% to 90% of the calls.**

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