A B S T R A C T

Objectives: To determine the effectiveness of a recorded information line in communicating health risk during the emergence of a new disease, hantavirus pulmonary syndrome (HPS), in the Edmonton area and to study the accuracy of recall of information about hantavirus among the general public.

Methods: A random telephone survey of residents five months after a death from HPS had occurred.

Results: The number of residents who received their information from the recorded line was quite low (approximately 2%), and more people remembered receiving their information through the news media, particularly television (74%) and newspaper (57%).

Conclusions: An information line by itself will not communicate risk effectively during an outbreak or other emergent health situation. However, an information line used in conjunction with news media proved effective in providing ongoing, accurate information and allaying public fears in a low-risk situation.

A B R É G É

Objectif : Déterminer l'efficacité d'une ligne d'informations enregistrées pour communiquer les risques que présente pour la santé l'émergence d'une nouvelle maladie, le syndrome pulmonaire à hantavirus (SPH), dans la région d'Edmonton, et étudier l'exactitude des informations retenues par le public.

Méthodes : enquête téléphonique aléatoire auprès des résidents, cinq mois après un décès causé par le SPH.

Résultats : Le nombre de résidents ayant obtenu leurs renseignements par la ligne d'informations enregistrées était assez faible (environ 2 %), et un plus grand nombre de personnes se souvenaient avoir obtenu leurs renseignements par les médias, surtout par la télévision (74 %) et par les journaux (57 %).

Conclusions : Une ligne d'informations ne suffit pas à elle-seule à communiquer comme il faut les risques, au cours d'une épidémie ou dans le cas d'une autre situation particulière. Par contre, utilisée conjointement aux services des médias, une ligne d'informations s'avère très utile pour transmettre une information régulière et exacte et, de ce fait, réussir à atténuer les inquiétudes du public en situation de faible risque.

Effectiveness of Recorded Messages to Communicate the Risk of Acquiring Hantavirus Pulmonary Syndrome

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Hantavirus pulmonary syndrome (HPS) was first identified in the U.S.A. in 1993.^{1,2} The first reported cases in Canada occurred in 1994 in the neighbouring province of British Columbia.³

In Alberta, the first confirmed case of HPS, a fatal one, became known on October 4, 1994. The novelty and seriousness of the case generated a storm of media coverage and great public concern. To communicate the health risks of the disease, the Edmonton Board of Health established a recorded information line using existing voice mail technology, and updated it regularly throughout 10 days of public concern and media interest. The Board of Health and other health agencies also provided information to the public on risk reduction through the news media. This information was based on published recommendations.⁴ The media were updated daily through interviews and/or press releases.

This incident had many characteristics associated with events of high public concern.⁵ It was unfamiliar, the infection had catastrophic potential, and there was an identifiable victim.

In the first three days of the event approximately 10,000 calls were taken on the information line out of an urban population in Edmonton of 650,000 and a roughly equal rural population. Staff members took individual calls as well.

In February and March of 1995, the Edmonton Board of Health conducted a telephone survey in conjunction with the University of Alberta to determine the effectiveness of this technology. As far as

the authors are aware, it was the first instance in North America in which a recorded information line was established in a crisis situation using voice mail technology.

METHODS

The survey was conducted by the Population Research Laboratory of the University of Alberta Department of Sociology. The population sampled was all persons 18 years of age or older living in a dwelling unit in the City of Edmonton or within the extended flat rate calling areas around the city. Numbers were randomly selected. Temporary residents, people in nursing homes and numbers not in service were not called.

A total of 740 interviews were completed out of 966 selected numbers (77% response rate). Of the non-respondents 132 refused, and 77 could not be contacted. Three interviews were incomplete, and in 14 households there was no one fluent enough in English to complete the interview.

RESULTS

Overall, 68% of respondents recalled hearing about hantavirus, a high level of recall in the urban/rural sample; 431 (58%) said they knew what hantavirus was. When asked to define it, 93% of these respondents did so accurately, confirming that the information disseminated about hantavirus, whether through the information line, media or other sources, was correct.

When asked about the Edmonton Board of Health information line, 30% of all respondents said that they were aware of it.

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TABLE I
Sources of Information About Hantavirus

	Television	Newspapers	Radio	Word of Mouth	Work	Info Line
Source of Information	74%	57%	33%	11%	3%	2%
Single Best Source	30%	21%	3%	2%	1%	1%

However, only 3% of the total tried to call the line, and only 2% said they had reached the line and listened. This result is consistent with the relatively small number of calls to the line (approximately 10,000) as compared with the total population of northern Alberta (1.3 million). The fact that not all who tried to reach the line could get through also reflects front line experience: the lines were usually busy at peak times and during media announcements keyed to newscasts. The sources of information about hantavirus are shown in Table 1. Some respondents indicated multiple sources.

Of note is the low proportion of respondents (2%) who said they had received information about hantavirus from their physicians. This finding indicated that the respondents did not view physicians as an important information source for this public health issue.

The effect of this information, however obtained, was measured. Of the total number of respondents 30% (n = 224) took action to clean up mouse droppings or otherwise prevent themselves from coming into contact with mice or their droppings. This rose to 44% in the people (n = 505) who had recalled hearing about hantavirus.

DISCUSSION

The results indicate that the infoline was not among the prime vehicles of communication. However, this does not mean

that the information line should not be used. The media received much of their information from the information line as well as from their interviews with public health officials. Also, now that the line has been used and has received a great deal of publicity it should continue to be used, if only to indicate that the public health agency is responding to the public and providing essential information. This study clearly shows that the media must be considered a primary source of health information, and that when the media are properly and fully informed they are a reliable, credible and effective means of communicating health risk information. The onus of ensuring that the media provide accurate information, however, rests on a public health agency that has experience and credibility in dealing with the media in disease-outbreak situations. The Edmonton Board of Health had extensive experience and training in dealing with media to communicate health risk, and that experience paid off in a rapidly evolving situation in which most media relations were *ad hoc* and reactive, rather than planned and prepared.

The information line was not even present on the list of best sources of information, demonstrating again its lack of effectiveness, by itself, as the only source of information in a health risk situation.

The response to the question about best source is interesting also in that radio received such a low rating compared with television and newspapers. It might be that

both television and newspapers can show information that radio cannot (e.g., this is what a deer mouse looks like, this is what mouse droppings look like, this is how to clean up mouse droppings), which illustrates another drawback of an information line: it cannot show information as television and newspapers can; it can only describe, as radio can. Clearly, what the public responds to most is visual information.

CONCLUSION

In responding to incidents associated with high public concern, public health agencies have a need to communicate information about risk quickly and accurately. The news media are the best vehicle for such communication, but an information line with a recorded message is a useful, low cost alternative.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the assistance of Cliff Kinzel and Dr. Harvey Krahn of the University of Alberta.

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Received: October 15, 1996

Accepted: March 1, 1997