

Healthdirect's After Hours GP Helpline – A Survey of Patient Satisfaction with the Service and Compliance with Advice

Ling LI^{a,1}, Andrew GEORGIU^a, Juan XIONG^a, Mary BYRNE^b,
Maureen ROBINSON^b and Johanna I. WESTBROOK^a

^a *Centre for Health Systems & Safety Research, Australian Institute of
Health Innovation, Macquarie University, Sydney, Australia*

^b *Healthdirect, Australia*

Abstract. The after hours GP helpline (AGPH), one of the key services provided by Healthdirect, is an extension of the existing healthdirect telephone nurse triage and advice service. It provides access to telephone health advice by GPs after hours to patients/callers who are triaged by the telephone nurse as needing to see a GP immediately, within four hours or within 24 hours. The aims of this study were to assess patient satisfaction with the AGPH service and compliance with the GP advice; and to investigate factors associated with patients' compliance. This study included 2486 patients/callers who used the AGPH and participated in a survey between February and September 2013. Over 97.1% of patients/callers were either satisfied or very satisfied with the AGPH service. Compliance was measured in two ways: i) self-reported compliance to advice provided; and ii) matching of self-reported actions with actual GP advice given: 94.0% of patients reported they followed the advice given to them by GPs and for 86.8% of patients their reported actions following consultations matched the recommended advice documented by GPs in the healthdirect database. Patients' compliance with recommended advice were associated with patient overall satisfaction with the service, the type of AGPH advice received, and the estimated severity level of the conditions. Improving patient satisfaction with the service along with patient understanding of the advice can lead to an increased compliance rate.

Keywords. patient compliance, recommended advice followed, patient satisfaction, after hours GP helpline, medical advice

Introduction

Healthdirect Australia provides Australians with access to health advice and information using telecommunications and online technologies. The after hours GP helpline (AGPH), one of the key services provided by Healthdirect, is an extension of the existing nurse-provided healthdirect telephone triage and advice service. It provides access to telephone health advice by GPs after hours for patients/callers who are triaged by the telephone nurse as needing to see a GP immediately, within four hours or within 24 hours.

¹ Corresponding Author: Dr Ling Li, Senior Research Fellow, Centre for Health Systems and Safety Research, Australian Institute of Health Innovation, Macquarie University, NSW 2109, Australia. Email: ling.li@mq.edu.au

Surveying patient compliance with the after hours GP advice can help to identify potential areas for improving aspects of patient management provided by telephone consultation services [1] and determining the impact of services on health services utilisation and outcomes. A previous study investigating nurse triage telephone helplines has reported advice compliance rates ranging from 60-75% [2]. Compliance has been shown to depend on what advice was given, and attributes of the patient. The aims of this paper were to assess patients' overall satisfaction and compliance with advice provided by the AGPH service and to identify potential factors associated with advice compliance.

1. Method

1.1. Study Setting and Data Source

Regular Computer-assisted Telephone Interview (CATI) surveys were conducted two-weeks after an AGPH consultation among those patients/callers who indicated a willingness to provide feedback. The surveys were conducted by an independent research company in compliance with the Privacy Act. Survey data for the period between February and September 2013 were used in this study. Ethics approval was granted by the University of New South Wales HREC and by Macquarie University HREC (Medical Sciences, Reference N0: 5201401033).

1.2. Study Outcome Measures

Two types of compliance data were collected: 1) self-reported compliance with advice; and 2) matching of patients' reported actions following consultations with the recommended advice documented by GPs in the healthdirect database, in order to determine whether patients followed the recommended advice. Participants were asked 1) "was the GP's advice followed/partly followed/not followed/unsure?" and 2) "What action was taken for the health issue you called about?". The answers to the second question were matched with the care advice recorded in the healthdirect database at the time of consultation. Both compliance measures were recorded at three levels: fully compliant/advice followed, partly compliant and non-compliant. The recommended advice followed was considered to be a more rigorous measure of compliance as memory for actions taken has been shown to be a more accurate measure than general assessments of advice compliance [3]. Patients were also asked to rate their level of overall satisfaction with the AGPH service on a scale of five (from very dissatisfied to very satisfied).

1.3. Statistical Analysis

The satisfaction rate was calculated as the proportion of surveyed AGPH patients/callers who reported being satisfied or very satisfied with the service. The compliance rate was calculated as the proportion of the patients whose reported actions were fully or partly consistent with recommended advice recorded by GPs. Satisfaction and compliance rates were calculated and presented by month. We examined the relationship between compliance and call characteristics including satisfaction, type of

advice received, and the estimated severity using the Chi square test. The level of significance was set at p -value <0.05 .

2. Results

2.1. Patient and Call Characteristics

In this study, 2486 AGPH patients/callers were surveyed between February and September 2013. More than half of the patients/callers were from NSW (54.2%, $n=1348$), followed by Western Australia (25.2%, $n=627$), South Australia (16.1%, $n=400$) and ACT (4.5%, $n=111$).

Table 1. Call and patient characteristics and measured compliance rates

Characteristics	Category	No. of calls (%)	Percentage of patients followed recommended advice*(n)	p -value
Calling-for	Self	1250 (50.3)	85.8 (1072)	0.1
	Other	1236 (49.7)	87.8 (1085)	
Age group	15-29 years	670 (27.0)	86.0 (576)	0.8
	30-59 years	1487 (59.8)	87.1 (1295)	
	60+ years	329 (13.2)	86.9 (286)	
Gender	Female	2018 (81.2)	86.8 (1752)	0.7
	Male	464 (18.7)	86.4 (401)	
Location	Metropolitan	2032 (81.7)	87.4 (1776)	0.09
	Rural	450 (18.1)	83.8 (377)	
Estimated severity	Did not know what to do	435 (17.5)	87.1 (379)	<0.0001
	Over-estimated	658 (26.5)	84.5 (556)	
	Under-estimated	193 (7.8)	76.2 (147)	
	Accurately estimated	1184 (47.6)	89.7 (1062)	
AGPH advice	ED or see GP immediately	851 (34.2)	74.4 (633)	<0.0001
	See GP/AH during business hour	1429 (57.5)	93.5 (1336)	
	Self-care only	206 (8.3)	91.3 (188)	
Satisfaction level	Dissatisfied/very dissatisfied	16 (0.6)	56.3 (9)	<0.0001
	Neutral	55 (2.2)	69.1 (38)	
	Satisfied/very satisfied	2415 (97.1)	87.4 (2110)	

* Including fully and partly complied with the advice received.

As shown in Table 1, 50.3% of calls were made by the patient themselves; 59.8% of callers were between 30 and 59 years old. The majority of calls were from females (81.2%) and people in metropolitan areas (81.7%).

For nearly half of calls (47.6%), the estimated severity of patients' symptoms matched with those from after hours GPs; 26.5% of calls over-estimated; 7.8% of calls under-estimated; and unknown for 17.5% of calls. Patients/callers were advised by a GP to go to an emergency department (ED) or see a GP immediately in 851 cases (34.2%); to see a GP/allied health (AH) professional during business hours in 1429 cases (57.5%); and to self-care only in 206 cases (8.3%).

2.2. Satisfaction and Compliance Rate Over Time

Overall, 97.1% of patients/callers (n=2415) were either satisfied or very satisfied with the AGPH service and 94.0% (n=2338) reported that patients complied with the advice they received, (87.3% reported they fully complied and 6.8% partially). Comparing reported actions to advice provided by the GPs we found that the majority of patients (86.8%, n=2157) followed the recommended advice, (42.2% identified as fully and 44.6% partially). Rates of satisfaction, self-reported compliance and following recommended advice remained stable over the seven month period (Figure 1).

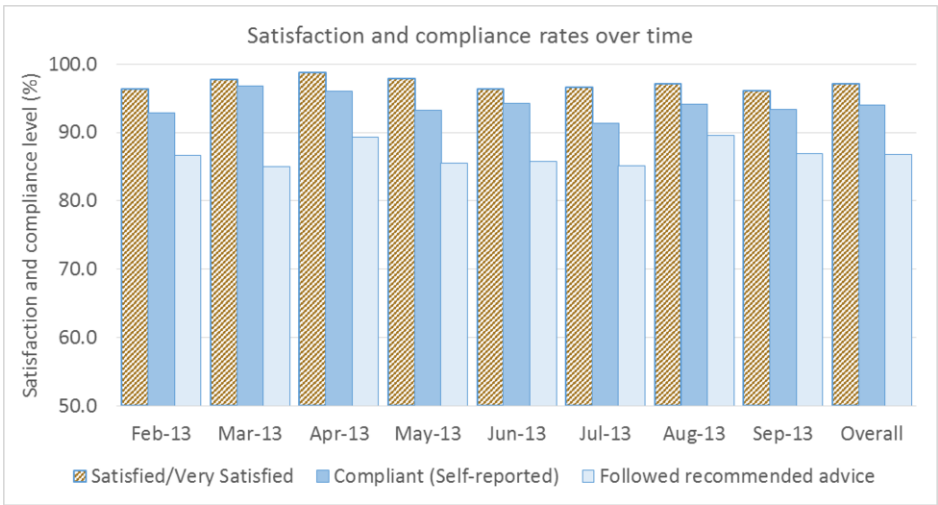


Figure 1. Satisfaction and compliance rates over time

2.3. Measured Compliance and Call Characteristics

As shown in Table 1, whether patients followed the GPs' recommended advice or not did not vary much (range from 84% to 88%) regardless of callers' age, gender and location. The level of recommended advice followed was similar no matter whether calls were made by others on behalf of patients (87.8%) or by the patient themselves (85.8%, p=0.1).

The level of recommended advice followed was significantly associated with the estimated severity of patients' conditions ($p=0.001$). Compliance with advice was lowest in patients who under-estimated the severity of patients condition (76.2%), and highest in patients who accurately estimated the severity of the condition (89.7%).

The findings also show whether advice that was followed was strongly related to the type of AGPH advice ($p<0.0001$): the highest compliance was achieved among patients who were advised to see a GP/AH professional during business hours, (93.5%), followed by those advised to self-care (91.3%). The lowest compliance was among those who were advised to visit an ED or immediately visit a GP (74.4%).

Compliance with recommended advice was also strongly associated with positive satisfaction with the service ($p<0.0001$). Compliance for those patients who reported being satisfied or very satisfied was 87.4% while it was 69.1% and 56.3% respectively for those who felt neutral or dissatisfied with the service.

3. Discussion

This study shows that satisfaction with AGPH service overall was very high (97.1%), which is consistent with findings in past studies [4-6]. Our findings showed that self-reported compliance with AGPH advice was 94.0%, but actions were only consistent with documented GP advice in 86.8% of clients. These rates are higher than previously reported compliance for studies of nurse triage helplines, which have reported an average overall rate of 62% (ranged between 60-75%) from a recent meta-analysis review[2]. A French study of patient compliance with medical advice given by telephone [1] reported a compliance rate of 69.9% of 463 calls.

Although the recommended advice followed is a more rigorous measure [3] than self-reported compliance, there are challenges in applying and interpreting the recommended advice followed. The clinical record system only allowed for the recording of one level of advice, such as 'Self Care and See the GP in business hours'. The GPs tended to give a spectrum of advice to cover any changes in the health condition the patient may experience. An example of this would be: two levels of advice from a GP: advising a mother 1) to give a child paracetamol to relieve symptoms and then see the GP in the morning, 2) but if the child's temperature rose again during the night to take the child to the ED. The healthdirect database only recorded the first set of advice, but the mother might report being advised to do the second (go to ED) as the child did get worse overnight. Therefore, the level of recommended advice followed would under-represent the possible true level of compliance.

Patient opinion of the quality of the AGPH service is crucial to the acceptance and utilisation of the service, as well as influencing patients' adherence to the advice given. We found that patients/callers who were satisfied or very satisfied with the telephone consultant services were more likely to follow the GP's advice; if they were not satisfied with the service, they were less likely to follow the advice given. These findings suggest that increasing satisfaction levels with the service may improve patient compliance.

We compared the level of recommended advice followed by the estimation of the severity of their symptoms. Compliance was greatest among patients who accurately estimated the severity of their condition. To the best of our knowledge, no previous study has reported this association.

4. Conclusion

Patients/callers were generally satisfied with the AGPH service and the majority of patients complied with the recommended advice. The patients who did not follow the AGPH advice may have done so because their health concern had improved before they had organised to go to an ED or see a GP. Compliance with the recommended advice varied depending on a range of factors, such as overall satisfaction with the service, the type of AGPH advice received, and the estimated severity level of the conditions. Improving patient satisfaction with the service along with patient understanding of the advice could lead to an increased compliance rate.

References

- [1] J. Labaree, J. P. Torres, P. Francois, M. Fourny, P. Argento, X. Gensburger, *et al.*, Patient compliance with medical advice given by telephone, *Am J Emerg Med* **21** (2003), 288-92.
- [2] R. J. Purc-Stephenson and C. Thrasher, Patient compliance with telephone triage recommendations: a meta-analytic review, *Patient Educ Couns* **87** (2012), 135-42.
- [3] D. Greatbatch, E. Murphy, and R. Dingwall, Evaluating medical information systems: ethnomethodological and interactionist approaches, *Health Serv Manage Res* **14** (2001), 181-91.
- [4] S. McLean, A. Sheikh, K. Cresswell, U. Nurmatov, M. Mukherjee, A. Hemmi, *et al.*, The impact of telehealthcare on the quality and safety of care: a systematic overview, *PLoS One* **8** (2013), e71238.
- [5] F. Bunn, G. Byrne, and S. Kendall, Telephone consultation and triage: effects on health care use and patient satisfaction, *Cochrane Database Syst Rev* (2004), Cd004180.
- [6] J. Thompson-Coon, A. K. Abdul-Rahman, R. Whear, A. Bethel, B. Vaidya, C. A. Gericke, *et al.*, Telephone consultations in place of face to face out-patient consultations for patients discharged from hospital following surgery: a systematic review, *BMC Health Serv Res* **13** (2013), 128.