

Exploring the safety measures by doctors on after-hours house call services

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RESEARCH

Please cite this paper as: Ifediora C. Exploring the safety measures by doctors on after-hours house call services.

AMJ 2015;8(7): 239–246.

<http://dx.doi.org/10.4066/AMJ.2015.2439>

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ABSTRACT

Background

Aggression against doctors involved in after-hours house calls (AHHC) is widely perceived to be high. It is, however, unclear how doctors who perform this service manage the risk of aggressive patients during home visits.

Aims

The aim of this paper is to explore if and how doctors manage the risk of violence against them during AHHC.

Methods

A survey was designed and administered to all 300 Australian-based doctors engaged in AHHC under the National Home Doctor Service (NHDS). The survey was conducted from September 2014 to November 2014.

Results

There were 172 responses (57.3 per cent). Only 43 per cent of respondents adopted personal protective measures. The remaining 57 per cent had none; of those 6 per cent had never considered protective measures, and 31.8 per cent were aware of the risk of violence, but were unsure of what

to do. Measures adopted include the use of chaperones/security personnel (34.1 per cent), dependence on surgery policies (31.2 per cent), de-escalation techniques (15.2 per cent), panic buttons (7.2 per cent), personal alarms (6.1 per cent), and others (6.5 per cent). Females were more likely to adopt personal protective measures than males (OR 4.94; $p < 0.01$; CI 1.70–14.34), and Australian-trained doctors were less likely to do so relative to overseas-trained doctors (OR 0.35; $p = 0.04$; CI 0.12–0.99).

Conclusion

Just over half of the doctors involved in AHHC took no precautions against aggressive attacks while on duty, and nearly one-third relied on the policies of their employing surgeries.

Key Words

Protection, family physicians, aggression, general practice, doctors, after-hours house calls

What this study adds:

1. What is known about this subject?

Aggression is a recognised risk in general practice, particularly during after-hours house calls (AHHC). How doctors involved in this service deal with the risks is not clear.

2. What new information is offered in this study?

Most doctors do not take precautions against violent attack when visiting patients out of hours.

3. What are the implications for research, policy, and practice?

General practice surgeries involved in AHHC should ensure doctors are adopting self-protection by encouraging the use of chaperones, attendance at conflict-management seminars, installing tracking devices, electronic alerts or panic buttons, and vetting and blacklisting risky patients.

Background

Internationally, there has been an increase in reported cases of all forms of aggression,¹ and most healthcare professionals, including doctors, are at risk of experiencing violent attack.^{2,3} Threats of aggression toward doctors is a recognised problem in general practice. A number of studies have pointed out that at some point during their careers, most general practitioners (GPs) will experience one or more forms of aggression.^{4–6} The Royal Australian College of General Practitioners (RACGP) posited that within any 12-month period, about two-thirds of GPs experience some form of work-related aggression.⁷

GPs who provide after-hours house call (AHHC) services are perceived to be at higher risk for aggression than at other times.⁸ Despite the growing popularity of AHHC in Australia, no previous study has explored how doctors involved in general practice manage the perceived risk.

As part of measures aimed to stem the risk of aggression to its members, the RACGP published *General Practice: a safe place: tips and tools*,⁷ which suggests ways to address violence in general practice surgeries, and includes measures such as practice design, policy and procedure development, doctor training on de-escalation methods, and escape strategies.

Aggression-minimisation techniques were grouped in a study⁹ that looked into “administrative” and “environmental” strategies, but most of the listed measures are not applicable to after-hours medical services. However, the study did recommend the use of security escorts when making house visits at night and the use of a movement/tracking device. It also recommended pairing doctors to work together for house calls.

A different publication in 2006¹⁰ grouped doctors’ responses to aggression into three categories: primary measures to avoid aggression; secondary measures to prevent escalation of aggression; and tertiary measures for dealing with established violence. The primary measures identified in that publication such as restricting service areas, blacklisting and vetting patients, destination documentation, etc., are expected to be implemented by healthcare organisations offering AHHC through their policies, and are therefore analysed in this study under “Surgery Policies”. The secondary measures, which include de-escalation techniques, prompt consultations, giving in to the aggressor’s demands, having physical boundaries, and maintaining escape routes are captured under “De-Escalation Techniques” by this study. Tertiary measures,

which include the use of alarms and panic buttons, as well as personal self-defence measures are also covered in this study.

This study aims to identify:

1. How many doctors in AHHC use personal protective measures.
2. How often each protective measure is used.
3. What associations, if any, exist between the adoption of protective measures, and different independent doctor variables.

Method

Setting and participants

The participants included all doctors (GPs and others) who undertake after-hours house calls through the National Home Doctor Service (NHDS), Australia’s largest leading provider of doctor home visits.¹¹ This service has a significant presence along the Eastern seaboard of Australia, and delivers AHHC services to Sydney, the Brisbane area (including the Sunshine Coast), the Gold Coast, the Melbourne area (including Geelong and Canberra), and Adelaide. The terms “Melbourne and Brisbane areas” reflect the NHDS administrative groupings, and are not based on geographical or political classifications.

Over the last few years, NHDS has successfully annexed the largest after-hours clinics in the aforementioned locations. It is therefore assumed that a survey inclusive of NHDS doctors properly represents the Australian AHHC medical community. Figures obtained from the NHDS’s chief executive officer indicated that the number of regular doctors employed by them at the time of the survey was 300. Questionnaires were sent to all 300, and this represents the study population. These participants were contacted by emails sent to them by the managers in charge of their respective locations.

By definition, AHHC includes house visits by doctors between 6pm and 8am on weekdays, from midday on Saturday, all day Sunday, and public holidays.¹¹

Questionnaire

Survey Monkey was used to collate responses to the questionnaire. As no validated, off-the-shelf questionnaire existed, a suitable tool was devised based on information gathered from other related studies.^{9,10} The raw tool was tested using 10 GPs in Australia who were not part of the study population. Recommendations and observations

arising from the pilot study were used to modify the draft questionnaire to create the final tool.

The questionnaire was an electronic, structured, self-completion document divided into various sections, and designed to collect data for multiple studies. For this study four sections of the questionnaire were used, which included 20 questions over seven pages. The sections included an “Introduction and Consent Page”, and contained information such as “Bio-data”, “Professional Data” and the “Risks” section. Consent was mandatory before completion of the survey.

Two reminders were sent to the respondents at fortnightly intervals after the initial despatch. Data collection took approximately six weeks, from the end of September 2014 to mid-November 2014.

Analysis

The results were analysed using the IBM SPSS Version 22. Binary logistic regression was used to test associations between the dependent variables (possession or otherwise of personal protective measures) and the 12 independent variables (apprehension, concern, gender, country of primary degree, age, duration in AHHC, hours worked per week, experiences of aggression, marital status, living with kids, area of specialty, and attainment of postgraduate fellowship).

“Apprehension” as it relates to this survey, signifies the “anxiety or fear” that something unpleasant will happen¹² while on the job, and this is different from “concern”, which indicates a preoccupation and an interest¹³ in the risks of aggression, without really being anxious or fearful. Even though “apprehension” and “concern” can be used interchangeably, they were explored separately to allow for different understandings by different responders, and still capture their feelings.

Data was reported as Odd Ratios (OR) with 95% Confidence Intervals (CI), and significant at less than 0.05%. It should be noted that a respondent is considered to use a protective measure if, during AHHC, the respondent consciously adopted any of the protective measures identified in this study, including panic buttons, personal alarms, self-defence/de-escalation techniques, the use of chaperones/security personnel, dependence on surgery policies, and other measures.

Results and discussion

Basic response characteristics

Table 1 shows basic response characteristics. There were 172 responses from a total of 300 questionnaires distributed, representing a 57.3 per cent response rate. From the 168 respondents who answered the question on gender, 135 (80.4 per cent) were male, while 33 (19.6 per cent) were female. More than half (53.6 per cent) of the doctors were aged between 40 and 60, while 5.4 per cent were older than 60. Just over one-quarter of the respondents were Australian-trained, while the others reported gaining their primary medical degrees overseas. Unsurprisingly, more than 8-in-10 of the doctors in the NHDS service were GPs. The remainder were from other professional areas, including medical, surgical, and other specialties. Among the participating GPs, those that have attained their post-graduate fellowships were slightly fewer (44.5 per cent) than those yet to attain a similar qualification (55.5 per cent). Nearly 90 per cent of the respondents were in a form of recognised legal union (married, de facto, etc.). Fifty per cent of the respondents had been working in the AHHC service for less than two years, and just over 60 per cent worked more than 24 hours/week in the service.

Based on known data on GPs in Australia, there are some differences between those GPs who worked in the NHDS, and those who did not. One example where a difference is evident is there are fewer females in AHHC (19.6 per cent), compared to the overall GP population (43 per cent).¹⁴

The 57.3 per cent response rate in this study was considered modest given that completion rates for online questionnaires are noted to be poor.¹⁵

Rates of use of protective measures

Table 2 shows the rate of protective measures. The study found that only 65 of the 151 doctors that responded to this question had adopted protective measures (43 per cent) when they attended a call-out. This means that well over half of the respondents (57 per cent) appeared to have no form of personal protection. This is a concerning statistic given the widespread “perception” of risk associated with AHHC.⁸ The reason for this is unclear, and future studies designed to address this issue would be beneficial.

In addition, six per cent of all respondents have never thought about self-protection measures, and even though another 31.8 per cent had thought about it, they are unsure of what to do. These respondents are included in the total 57 per cent identified by this study as not adopting

protective measures. Unfortunately, comparison with previous reports was not possible as the only study that had expressly attempted to quantify these numbers in relation to safety measures in after-hours services was on office-based doctors and did not cover house visits.⁹

Table 2: Doctors adopting protection measures while on after-hour house calls

Total Responses 151; Missing 21		
Response	Number	%
Yes	65	43.0%
No	29	19.2%
Have never thought about it	9	6.0%
Have thought about it, but unsure of what to do	48	31.8%

Types of protective measures

Table 3 shows the types of protective measures. The use of “chaperones” or “security personnel” is the most popular measure (34.1 per cent), followed by “dependence on surgery policies” (31.2 per cent), “self-defence and de-escalation techniques” (15.2 per cent). Use of “panic buttons” (7.2 per cent), “personal alarms” (6.1 per cent), or “other” measures (6.5 per cent), were not as popular.

Table 3: Types of protection measures adopted by doctors while on after-hour house calls

Total responses (Number of times different protective measures were adopted) = 151; Missing 13 ^a			
	Number of “Yes” responses (138)	% of “Total responses”	% of “Yes” responses
Panic Buttons	10	6.6%	7.2%
Personal Alarms	8	5.3%	6.1%
Chaperones/Security Personnel	47	31.1%	34.1%
Self-defence/De-escalation techniques	21	13.9%	15.2%
Dependent of Surgery Policies	43	28.5%	31.2%
Other measures ^b	9	6.0%	6.5%
Totals	138		100%

^aThis question allowed multiple answers from individual doctors.

^b“Other” techniques identified by this study include wearing “running-friendly” footwear, having mobile phones on the ready, etc.

It is not surprising that nearly one-third of the doctors implicitly depended on their “surgery policies” for protection, since most of them lack personal measures. As mentioned previously, “Surgery Policies” include measures put in place by the surgeries themselves, and may include the restriction of service areas, blacklisting and vetting of “risky” patients, documenting doctors’ destinations, etc. This is an important finding and suggests that the employing healthcare organisations could do more towards embedding evidence-based safety policies into their programmes. Surgeries must find ways to vet “risky” callers, and put in place ways to track the safety of their doctors while on duty. This can help increase confidence in the industry, and limit the negative perceptions regarding doctor safety. According to a previous survey of GPs working in regular-hours environments,⁹ about 70.8 per cent of surgeries had protective policies in place. By comparison, the number in AHHC services with protective measures is not known. Future surveys could be designed to explore this aspect of AHHC.

The decision to use a “chaperone” or “security personnel”, adopted by just over one in three of respondents, most often lies with the doctor (not the surgery). Many doctors do not adopt this option due to cost considerations, as the fees paid to these individuals have to come from the doctor’s pocket. However chaperones, in addition to offering protection, help with driving, maintaining the doctor’s bag, and keeping the doctor company throughout the house visits. It may be worthwhile to encourage doctors to hire them.

Other tertiary techniques like the use of personal alarms (6.1 per cent) and panic buttons (7.2 per cent) are not as popular. This contrasts with their use among office-based practitioners, where up to 45.4 per cent of surgeries have duress alarms installed.⁹ Interestingly, this current study is the first to quantify the use of these gadgets by doctors on home visits.

Only about 15 per cent of doctors adopt de-escalation or self-defence measures. This is somewhat concerning for a group that works alone and during such “antisocial” hours. Investing in a training course that equips doctors with self-protection skills and techniques would be a venture worth considering by AHHC surgeries as well as by the individual doctors involved in the service. It is possible that some doctors employ de-escalation strategies, particularly those of a behavioural nature, without realising they are doing so. Such measures might include those mentioned in a study by Alexander et al.¹⁶ staying calm, terminating the

consultation, and negotiating with the aggressor as ways of calming aggressions. “Other” techniques mentioned by respondents in this study include wearing “running-friendly” footwear, having mobile phones on the ready, and so on.

Associations

Using binary logistic regression, the study established that female doctors on AHHC are about five times more likely than their male colleagues to implement personal protective measures (OR 4.94; $p < 0.01$; CI 1.70–14.34) (Table 4). This is not really a surprise, as previous studies had found that females are more apprehensive regarding aggression in AHHC service.^{17–19}

Another significant finding was that Australia-trained doctors are about 35 per cent less likely to adopt personal protective measures than overseas-trained doctors are (OR 0.35; $p = 0.04$; CI 0.12–0.99). Data explaining this finding was not collected in this study.

The study also found that doctors that work fewer than 24 hours/week are about 2.5 times more likely to adopt protective measures than those working 24 hours or more (OR 2.50; $p = 0.05$; CI 1.00–6.25). However, with a p value of exactly 0.05, this finding only just missed statistical significance.

No other significant association was found between “having personal protective measures” and other independent doctor variables such as the experience of “actual aggression”, “being concerned”, “being apprehensive”, “age”, “location of service”, “holding a postgraduate fellowship”, “specialty”, “duration in AHHC”, “being in a legal union (i.e., living with partner)”, and “living with children”.

There was an association, albeit non-significant, between adopting protection and the experience of “actual aggression” (OR 0.94; $p = 0.90$; CI 0.37–2.44), which is contrary to the expectation that an experience of aggression would normally trigger the adoption of some form of protection against violence. The reasons for this are unclear, but there is a chance that the affected doctors might not even be aware at times that some experiences they face could be classified as “aggression”, while others may simply be in “denial” that those experiences indeed were cases of aggression. Future research may be needed to fully explore this finding. It is noted however, that an earlier publication²⁰ had established that the actual experiences of aggression by doctors had no statistical significance with the continued provision of after-hours services.

Table 4: Associations between possession of protective measures(s) and various doctor-variables (n=130)

Variable	Odds Ratio (OR)	95% Confidence Interval (CI)	P value
Apprehension (Yes/No)	0.428	0.16–1.19	0.10
Gender (Female vs. males)	4.94	1.70 – 14.34	0.003
Country of Primary degree (Australia vs. overseas)	0.35	0.12 – 0.99	0.04
Age (<=39; >40)	1.15	0.47 – 2.82	0.77
Postgraduate Fellowship (Fellow vs. non-fellow)	1.06	0.35 – 3.27	0.92
Specialty (GP vs. non-GPS)	0.56	0.05 – 6.11	0.63
Hours worked/week (<=24 vs. >24)	2.5	1.00 – 6.25	0.05
Concern (Yes/No)	1.31	0.31 – 5.60	0.72
Aggression Experience (Yes/No)	0.56	0.24 – 1.32	0.19
Duration in AHHC (<=years vs. >2 years)	0.94	0.37– 2.44	0.90
Living with partner (yes vs.no) ^a	2.68	0.64 - 11.29	0.18
Living with children (Yes/No)	0.67	0.25 - 1.84	0.44

^aCouple: Married, de facto co-habiting and civil partnership

^aNon-couple: Single, divorced and widowed

Limitations

Limitations of the study include an inability to include cities from Tasmania, Western Australia, and the Northern Territory. This limitation impacted on the study’s ability to provide national views on the topic. Another limitation is respondent bias. While 57 per cent is a good response rate for an online survey, important views of the other 43 per cent may have been missed.

Conclusions

A significant number of the doctors involved in AHHC have no protection, while others have either not thought about the need for self-protection, or are unsure of what to do to protect themselves. The study also concludes that dependence on the safety policies of the employing healthcare organisations were the major means of self-protection, along with the use of chaperones and security personnel.

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ACKNOWLEDGEMENTS

Special thanks to Ben Keneally, CEO of National Home Doctor Service, for his support and understanding during this study.

PEER REVIEW

Not commissioned. Externally peer reviewed.

CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

ETHICS COMMITTEE APPROVAL

Ethical clearance was obtained from the Human Research Ethics Committee of Griffith University prior to commencing the study (Protocol Number MED/34/14/HREC).

Table 1: Summary of the basic statistics of the respondents

Statistic	Parameters	N	%
Gender Valid=168	Male	135	80.4
	Female	33	19.6
Age Range (Yrs) Valid=168	39 or less	69	41.1
	40-60	90	53.6
	Over 60	9	5.4
Vocational status Valid=137	Vocationally registered (Fellows)	61	44.5
	Non-vocationally registered (Non-fellows)	76	55.5
Primary degree Valid=160	Australian-trained	45	28.1
	Overseas: New Zealand	6	3.8
	Overseas: other	109	68.1
Specialty Valid=160	General Practice	135	84.4
	Medical	7	4.4
	Surgical	2	1.3
	Emergency Department	6	3.8
	Others ^a	10	6.3
Location of Service Valid=160	Adelaide	51	31.9
	Brisbane Area ^b	36	22.6
	Gold Coast	23	14.4
	Victoria ^c	31	19.4
	Sydney	17	10.6
	Other (unfixed location)	2	1.3
Duration In After-Hours Valid=160	<= 2 yrs	80	50.0
	2-10 yrs	54	33.8
	>10 yrs	26	16.3
Hours worked/week Valid=160	<24 hrs/week	62	38.8
	24 to 37.5 hrs/week	47	29.4
	>37.5 hrs/week	51	31.9
Marital status Valid=168	<i>Married</i>	140	83.3
	<i>Single</i>	12	2.4
	<i>De facto</i> ^d	10	6.0
	<i>Separated</i>	4	2.4
	<i>Widowed</i>	2	1.2
Family setting Valid=168	Lives with own kids	115	68.5
	Have kids/live with none	17	10.1
	No kids/Live with none	36	21.4
Level of concern Valid=153	No	15	9.8
	Yes	138	90.2
Level of apprehension Valid = 153	No	38	24.8
	Yes	115	75.2

^aOthers: Occupational physicians, Paediatricians, Public Health, etc.

^bBrisbane Area = Brisbane and Sunshine Coast

^cMelbourne Area = Melbourne, Geelong and Canberra

^dDe facto = Co-habitation and civil partnership