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TITLE: Quality in Australian after-hours doctor home-visits: exploring the clinical, professional and security supports available to involved practitioners.

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ABSTRACT

Background: The after-hours house-call (AHHC) services in Australia has gained huge popularity in recent years, but it is not clear how well supported the involved doctors feel regarding the clinical, professional, and security aspects of their work. It is important that this knowledge-gap is filled given that appropriate support helps engender quality in health service delivery.

Methods: This is a questionnaire-based, electronic survey involving a sample frame of all 300 doctors participating in AHHC through the National Home Doctor Service (NHDS). NHDS is Australia's largest AHHC service providers.

Results: A total of 168 valid responses (56.0%) were received. Overall, the mean support levels were mild to moderate, ranging from 2.4 to 2.8 out of 4.0 for all three parameters. Specifically, 65.3% of the respondents felt well-supported on clinical issues, 64.7% on professional issues, and 43.2% on security issues. Australian-trained doctors (ATDs) were less likely to feel well-supported on all aspects (Clinical: OR 0.38, CI 0.16 to 0.90; Professional: OR 0.30, CI 0.13 to 0.72; and Security: OR 0.22; CI 0.09 to 0.53) compared to overseas-trained ones. Unsurprisingly, doctors who adopted protective measures felt significantly better-supported regarding security (OR 2.75; CI 1.31 to 5.78).

Conclusion: There is room for improvement regarding support on AHHC in Australia, and concerned Surgeries should ensure that where available, these supports are appropriately utilized.

Key Words: "Support", "Clinical", "General Practice", "Family Physicians", "After-Hours", "Professional", "Security".

INTRODUCTION AND BACKGROUND

Also known as Medical Deputizing Service (MDS), the after-hours house call (AHHC) services is becoming increasingly popular in Australia, with the service attending to about 1.5 million patients in 2013.¹ This figure represented about 37.9% of all after-hours presentations at the time, with the Emergency Departments (EDs) accounting for the bulk of the rest.¹ However, given the beneficial cost-per-patient of seeing patients in AHHC compared to EDs (AU\$131.43 vs AU\$239.98), the opinion of experts favour a continued support and growth for AHHC services.¹

To ensure that high quality healthcare services are being continually delivered to patients seen during AHHC, a decent level of support needs to be available to the concerned doctors regarding their professional, clinical and security needs while on duty. Generally, Australian-based general practitioners (GPs) on day time, office-base services have access to a wide range of these supports, but it is not clear if their counterparts involved in AHHC are well supported in these areas as well.

AHHC doctors often drive out and attend to patients alone. There is no doubt that, like their daytime, office-based colleagues, these doctors will run into difficulties from time to time, and will need support on the same clinical, professional, or security matters arising at the points of their care-delivery. Such supports would be important if the quality of patient-care is to be maintained in AHHC services as is the case in daytime, regular-hour services.

Even though the surgeries running these AHHC services do make provisions for some of these supports, this study aims to ascertain how well-supported the involved doctors feel, with respect to the existence of such supports. Given the popular saying that “perception is reality”, one can argue that a doctor who feels poorly supported is unlikely to utilize even the little support-systems available. This can affect confidence and performance, and ultimately, have an impact on the quality of service delivered.² With high quality healthcare services in constant demand from both from patients and

doctors alike,³ exploring this aspect of quality in AHHC will help fill the existing knowledge gap in this regard.

According to the Australian Government Department of Health,⁴ professional support to doctors includes the availability of help when needed regarding issues like medical referrals, second opinions and advices on patient-care, as well access to clinical and procedural medical services . Whether involved in regular-hour duties or in AHHC, requirements for these supports may arise in various forms, including the need to contact senior colleagues, as well as on-call hospital-based doctors, pharmacists, ambulance services, social services and so on. A study on rural-based doctors published in 2007⁵ found that the availability of professional support increased confidence and reduced professional isolation in more than 90% of the respondents. The same study further showed that 80% of the doctors in these rural areas were likely to quit rural practice without these professional supports. Other studies on rural doctors also found that professional support is one of the key considerations for both Australian and International medical graduates based in Australia,⁶ and that doctors satisfied on these areas are likely to stay longer in rural practices if such supports exist.^{6,7} Given this significant impact of professional support in medical practice, one would like to know how well-supported the doctors involved in AHHC feel regarding this.

The other form of support being explored is security support. This includes the ability to get help if the doctor feels threatened (whether verbal, physical, sexual or otherwise), and, for office-based doctors, such help can be in the form of panic buttons or alarms, as well as the presence of security staff, chaperones or work colleagues when the need arises.^{8,9} These same security strategies, or their modifications, can also be useful in AHHC, and a recent study actually did find that possession of these protective measures is associated with increased satisfaction¹⁰ and decreased burnout¹¹ for doctors involved in AHHC. Both satisfaction and burnout affect work outcomes and productivity¹², including healthcare-related ones, and, given their relationships with protective or security measures as already

cited [10,11](#), it is important to explore how well-supported doctors involved in AHHC feel with regards to them.

The third form of support, clinical support for AHHC doctors, can be in the form electronic Clinical Decision Support Systems (CDSS), books, manuals, drug formularies and so on, which help clinicians with point-of-care decision-making on issues like diagnosis, prioritizing investigations, recommending treatments, and ordering medications.[13-22](#) In Australian general practice, most clinical support tools are in-built in softwares like the “Medical Director” or “Best Practice”, and are easily available to regular-hour, office-based GPs through their computers. They create opportunities for accessing and incorporating up-to-date, robust and evidence-based recommendations into everyday practice,[18](#) and have been reported to be the most valued aspect of support for rural-based doctors.[7](#) Reviews of controlled trials on the efficacy of CDSS have shown that practitioner performances were improved in between 64% to 68% of cases.[23-25](#) As found by a study published in 2014,[26](#) up to 192 mobile phone applications for CDSS tools exist, and they cover general practice interests as well as many other medical specialties. A recent study[27](#) has shown that online medical resources, including CDSS, contribute significantly to clinical care in this era of smartphone usage, with up to 86.2% of surveyed doctors accessing them with their devices. Such tools would be theoretically available to AHHC doctors given that they routinely use handheld electronic devices (Tablets, Mobile Phones, etc.) for their work, and this study aims to ascertain how well supported they feel with these.

In addition to the local importance of this study, the findings will also have international relevance given that various countries around the world (United Kingdom, France, Canada, the Netherlands, and so on) are at different levels of involvement and development of their AHHC industry,[1](#) and may want to look at the findings of this paper as they (re)design their own. Also, the Australian medical industry is very cosmopolitan, with a 2011 data showing that 56% of the doctors in the country were either born overseas, or obtained their primary medical degree therefrom. [28](#) There is no indication that this

trend is unlikely to continue, and results from this survey are expected to help overseas trained doctors (OTDs) who hope to get involved in the Australian AHHC industry make better-informed decisions.

In summary, proper support in AHHC can help boost the confidence of the concerned doctors, guarantee a measure of their safety, prolong their stay in the industry, and allow for sound clinical judgement and practitioner-performances. The ultimate reward is best practice and quality healthcare delivery both in Australian AHHC and elsewhere in the world where the services exists. This study therefore aims, firstly to ascertain how well-supported the involved doctors feel with respect to the existence of such supports, and secondly, to identify associations, where they exist, between these feelings and key independent doctor-variables.

METHODS

Definition:

AHHC encompasses house-visits by doctors outside of the regular working hours, which ranges from 6pm to 8am on weekdays, from 12 noon on Saturdays, and all day Sundays and public holidays. [29,30](#) Even though these services are provided almost entirely by private MDS companies,[31](#) they are paid for through the Australian Government's universal health care scheme called Medicare. In Australia, the AHHC is mainly a general practice job, even though doctors from other specialties can be involved as well. Participation is not compulsory for the involved doctors.

Setting and Participants

The Participants included all Australian-based medical practitioners (GPs and others) who undertake AHHC through the National Home Doctor Service (NHDS).[30](#) Given that the NHDS had successfully annexed the largest after-hours general practice clinics in most Australian major towns and cities over the past few years, it can be safely assumed that a study of NHDS-doctors reasonably represents the

Australian after-hours doctor-population, and this is reflected by a look at the AHHC service providers in Australia.³¹ According to official sources from the company, there were 300 doctors engaged with them at the time of this survey, and this represents the sample frame for this work.

Also, at the time of this survey, the company covered Australian cities and towns like Sydney, the Gold Coast, Adelaide, Brisbane Area (includes Sunshine Coast), and Melbourne Area (includes Geelong and Canberra)³⁰. The expressions, “Melbourne and Brisbane Areas” was based on the NHDS administrative setup, and not on geographical or political classifications. Each NHDS-location is overseen by a Clinical or General Manager.

This study surveyed the experiences of the participants over a twelve-month period, from October 2013 to September 2014. A link to the survey tool was contained in emails sent to the participants by the managers overseeing their respective locations. However, the completed questionnaires were returned directly to the researcher by clicking the “submit” button after completing the survey. This, in addition to the questionnaire being anonymized, was done so as to ensure that the respondents were not influenced by the NHDS management. A total of two reminders were sent out at fortnightly intervals after the initial despatch. Data collection took approximately six weeks, from the end of September 2014 to the middle of November 2014.

Questionnaire

The *SurveyMonkey^R* software was used in the designing and collation of the questionnaire, which was an 11-paged, electronic document divided into seven sections with a total of 25 questions designed to collect data for multiple studies (Appendix 1). The aspect relating to this survey covered Pages 1 to 4 (Introduction/Consent and the Bio-data) as well as Question 22 (Satisfaction Section). These accounted for a total of 14 out of the 25 questions contained in the entire questionnaire.

As no validated, off-the-shelf questionnaire existed to answer the key research questions of this survey, a suitable tool was devised and its validity, consistency and reliability tested by a pilot survey with 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 relevant sections of draft questionnaire, culminating in the final tool (Question 22, which is the main outcome measure of this study). To ensure uniformity of understanding and response by the respondents, explanatory notes were added to the relevant areas of the questionnaire.

For each of the three sub-questions covering clinical, professional and security supports, the respondents chose one answer from “no support at all (score of 1)”, “some or mild support (2)”, “moderate support (3)” and “very well supported (4)”.

Consent was obtained by the respondents answering a relevant question on the front page of the questionnaire.

Analysis:

Analysis was with *IBM SPSS Version 22*, aiming to answer two key research questions of “perceptions of support in AHHC” and “associations between support and doctor-variables”.

Results for the perceptions of support were presented with two parameters: firstly as means scores of the respective support parameters (clinical, professional and security), and also as percentages.

The possible mean scores potentially ranged from 1 to 4, with "1" indicating a feeling of “not being supported at all”, while "4" represents a feeling of being “very well supported”.

The second research question was answered using Ordinal Logistics Regression (OLR) instead of Multiple Logistic Regression (MLR) because the three dependent variables (which are the three support parameters: clinical, professional and security), used in the analysis were ordinal categorical

data available on a Likert Scale format (Question 22, Appendix 1). Associations were explored between them and seven independent doctor-variables variables, which were presented as dichotomous variables (some were re-coded as necessary). They include: gender (male and female), age (<40 years and > or = 40 years), specialty (GPs and Non-GPs), postgraduate vocational status (fellows and non-fellows), duration in after-hours service provision (< or = 2 years and > 2 years), country of primary degree (Australian-trained and overseas-trained), and the use of protective measures while on AHHC (Yes or No). For clarity, this study considers a respondent to be in use of a protective measure if, during AHHC, the doctor consciously adopted any of the listed protective measures contained in the questionnaire (these included: availing oneself of the “surgery/practice policies”, “use of chaperones/security personnel”, “use of self-defence and de-escalation strategies”, and the use of “panic buttons” or “personal alarms”). Respondents who answered, “no” to this question, or who were “unsure of what to do”, or those who “had never thought about using protective measures”, were all re-coded into the “no” category for the analysis.

For each OLR analysis, an Odds Ratio (OR) was generated and reported with a 95% confidence interval (CI). The level of significance was set at a p-value is less than 0.05.

RESULTS

Basic Demographics

A total of 172 questionnaires were returned, out of which the “basic bio-data section” in four of them were not completed. These four were excluded from the analysis, leaving 168 valid responses out of the 300 that were dispatched. This gave a 56.0% response rate.

The basic demographics of the respondents are shown in Table 1. A summary of it shows that 19.6% (CI 13.7% - 35.6%) of the respondents were females, and more than half (53.6%; CI 45.8% – 61.3%) were aged 40 to 60 years, while only 5.4% (CI 2.4% – 8.9%) are aged over 60. An overwhelming

majority were General Practitioners (84.4%; CI 78.8% – 90.0%), with the rest coming from other specialties like Anaesthesia, Surgery, Emergency Department, Medical and other specialties. Only 28.1% (CI 21.3% – 35.0%) of the respondents obtained their Primary Medical degrees in Australia, and a slight majority (55.5%; CI 47.4% – 64.2%) have not attained post-graduate fellowships (not vocationally-registered).

Levels of Support: Mean and Percentages

The findings are depicted in Table 2. About 65.3% the respondents felt they were either “very well” or “moderately well” supported” clinically, while 64.7% reported same for professional support and 43.2% for security support.

The Means were found to be 2.8 (out of 4) for both clinical and professional supports, but a bit less (2.4 out of 4) for security support, confirming that support levels were less on security compared to the other support parameters, even though all three fall within the mild to moderate levels.

Associations between perceptions of support with independent doctor-variables

All the findings are shown in Tables 3 to 5, but only statistically significant findings are mentioned in the text. Regarding clinical support (Table 3) and professional support (Table 4), it was found that Australian trained doctors (ATDs) were less likely to “feel well supported” relative to the OTDs. The ATDs feel 62% less well supported on clinical issues (OR 0.38; $p=0.03$; CI 0.16 to 0.90), and 70% less so on professional issues (OR 0.30; $P=0.01$; CI 0.13 to 0.72). No other significant associations were found on these two support variables.

On the other hand, two significant associations were found with security support (Table 5). Firstly, as were the cases in Clinical and Professional Supports, ATDs were 78% less likely to “feel well supported” compared to OTDs (OR 0.22; $p<0.01$; CI 0.09 to 0.53). In addition, it was found that doctors who adopt protective measures were nearly three times more likely to “feel well supported” in terms of security while on the job relative to those who do not (OR 2.75; $p=0.01$; CI 1.31 to 5.78).

DISCUSSION

Given the poor response rates associated with online surveys³², the 56% response rate from this study is considered modest. Only 19.6% of the respondents were females, indicating a much fewer female proportion in AHHC than the general Australian general practice population, where 43% are known to be females²⁸. This lower female proportion in AHHC may be related to the higher apprehension female doctors have expressed for AHHC³³.

Only about 1-in-5 respondents felt they were very well supported on clinical issues, even though this number rises to about two-thirds (65.3%) if those admitting “moderate support” are included (Table 2). This leaves a total of 34.8% feeling only “some or no support at all”. These figures show that there exists room for improvement, especially given the proven importance and contributions of CDSS to physician performances²³⁻²⁵. Unfortunately, there were no previous studies done in this field to allow direct comparison. However, this study acknowledges the fact that availability of Clinical Support does not necessarily translate to utilization, as previous studies^{34,35} have reported that even though most doctors agree to the usefulness of CDSS tools, the utilization was poor. In fact, one of the studies³⁴ reported that most respondents use available tools about once a week, despite admitting that the need arises at least once daily. To ensure an improvement in both the perceived availability and the utilization of CDSS in AHHC, therefore, a conscious effort should be made, not just to create their awareness among doctors involved in the service, but also to counter the known limitations to their utilization (which mainly include the belief that, to use them, a doctor needs to invest more time and money³⁶). The AHHC companies involved may help in this regard by advertising the relevant softwares and helping their purchase and installation as might be necessary.

Regarding Professional Support, nearly two-thirds (64.7%) of the respondents admit feeling supported to at least moderate levels or more. The importance of improving on this parameter assumes higher significance when one considers that the majority (55.5%) of the respondents in this study have not

attained post-graduate fellowships yet (Table 1). GPs that have attained post-graduate fellowships (also known as vocational registration, VR), have completed the postgraduate examinations and requirements of the relevant postgraduate college. They are allowed to work independently, and are generally more experienced than their non-VR counterparts. The non-VR doctors are therefore more likely to depend on CDSS and the support of their senior colleagues from time to time in their consultations, and this has been supported by the results of a previous survey²⁷.

The perception of Security Support among AHHC doctors found by this study is the least impressive, with less than half (43.2%) admitting moderately levels of support or higher. In fact, about one-in-four doctors (19.1%) felt no support at all. This somewhat disappointing statistic is in line with a recent publication of AHHC doctors,³⁷ which found that more than half (57%) of doctors involved in AHHC do not adopt any form of protective measure while on the job. As previously noted, the possession of protective measure in AHHCs has been positively linked to increased doctor-satisfaction¹⁰ and decreased burnout¹¹, situations which are known to favour quality healthcare outputs¹².

With the mean support for all three support parameters ranging from 2.4 to 2.8 (out of 4) for all the support parameters, it is obvious that support levels are at best “moderate”, re-enforcing the need for improvement. Given that the major hours of work for AHHC doctors happen out of hours, with minimal external support available when compared to regular-hour doctors, a “very good” or “excellent” level of support should be the target if the quality of the services in AHHC is to be improved upon.

The remaining parts of this discussion will now focus on the significant associations identified in this study. Firstly, It is not clear why ATDs perceive less support on all three support parameters compared

to OTDs. However, it may be worthwhile pointing out that a related study published earlier³⁷ found that ATDs were less likely to adopt protective measures anyway, compared to OTDs, and this may explain this current finding. These negative relationships between ATDs and the levels of security, clinical and professional supports in AHHC is quite curious, and while this may be related to cultural variations or differences in the nature of the undergraduate medical training within and outside of Australia, this work recommends that this subject be further explored in future surveys. In the meantime, it is recommended that companies involved in AHHC service provision consider paying more attention to ATDs in their services and ensure that they, along with the OTDs, are well supported in all aspects.

The positive association between perceived support and possession of protective measures is easier to explain, given that recent studies have already found that such protective measures are respectively linked to reduced burnout¹¹ and increased satisfaction.¹⁰

Study Limitations

One weakness of this study was that locations in a few Australian States and Territories (Tasmania, Western Australia and Northern Territory) were not represented in the study. However, given that the AHHC services in these areas were few and not well developed at the time this survey was conducted, the study outcome is unlikely to have been significantly affected. Another limitation was that the survey focused only of the perceived levels of support in AHHC, without attempting to explore the exact nature of these supports or how they were accessed by the doctors while on duty. This limitation may be addressed with future qualitative surveys. The final limitation acknowledged is that the survey relied on a 12-month recall by the respondents, leaving a potential for some recall bias.

Conclusions

The study concludes that nearly two-thirds of the doctors involved in AHHC perceive themselves as receiving clinical support or professional support at moderate levels or more (65.3% and 64.7% respectively). The level is much less for security support, with only 43.2% indicating levels of up to moderate support. Also, with a mean support levels ranging from 2.4 to 2.8 out of 4 across all support parameters, this study concludes that the overall support level for doctors in Australian AHHC is at best moderate, and this creates some room for improvement. Finally, the study concludes that Australian-trained doctors involved in AHHC were between 62% and 78% less likely to feel well supported on clinical, professional and security aspects of their work compared to their overseas-trained counterparts, but doctors that adopt protective measures in AHHC are nearly three times more likely to feel well supported on security issues compared to those without them.

Recommendations

Recommendations for Policy Action: The study recommends that more effort should be put into, not just providing clinical, professional and security support to doctors involved in AHHC, but also in enlightening the involved practitioners of the existence of such support systems, how they work, and how to best utilize these. For now, the levels of these support parameters are moderate at best, and improving them would definitely help improve the quality of care and entrench best practice in AHHC.

Recommendations for research: Future Research may help to explore the real reasons why ATDs feel less supported in the service relative to OTDs, as this may help get more home-grown doctors join, and stay long in the industry. Research may also be necessary to explore exactly how support in AHHC is provided and accessed.

ETHICAL CONSIDERATIONS: Ethical clearance was obtained from the Human Research Ethics Committee of the Griffiths University, Australia (GU Ref No: MED/34/14/HREC). Consent was compulsory before the respondents were able to complete the questionnaires.

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CONFLICTS OF INTEREST: None.

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TABLES

TABLE 1: Response characteristics of the doctors involved in Australian after-hours house calls

Statistic	Parameters	N (%)	95% Confidence Interval	
			Lower	Upper
Gender Valid=168	Male	135 (80.4)	74.4	86.3
	Female	33 (19.6)	13.7	25.6
Age Range (Yrs) Valid=168	39 or less	69 (41.1)	33.3	48.2
	40-60	90 (53.6)	45.8	61.3
	Over 60	9 (5.4)	2.4	8.9
Vocational Registration status (post graduate fellowships) Valid=137	Vocationally registered (Fellows)	61 (44.5)	35.8	52.6
	Non-vocationally registered (Non-fellows)	76 (55.5)	47.4	64.2
Primary degree Valid=160	Australian-trained	45 (28.1)	21.3	35.0
	Overseas: New Zealand	6 (3.8)	1.3	6.1
	Overseas: other	109 (68.1)	61.3	75.0
Specialty Valid=160	General Practice	135 (84.4)	78.8	90.0
	Medical	7 (4.4)	1.3	7.5
	Surgical	2 (1.3)	0.0	3.1
	Emergency Department	6 (3.8)	1.3	6.9
	Others ^a	10 (6.3)	3.1	10.0
Location of Service Valid=160	Adelaide	51 (31.9)	25.3	39.9
	Brisbane Area ^b	36 (22.6)	16.5	29.1
	Gold Coast	23 (14.4)	8.9	20.3
	Melbourne Area ^c	31 (19.4)	13.3	26.6
	Sydney	17 (10.6)	6.3	15.8
	Other (unfixed location)	2 (1.3)	0.0	3.1
Duration In After-Hours Valid=160	<= 2 yrs	80 (50.0)	41.9	58.1
	2-10 yrs	54 (33.8)	26.3	41.9
	>10 yrs	26 (16.3)	10.6	22.5
Hours worked/week Valid=160	<24 hrs/week	62 (38.8)	31.9	46.9
	24 to 37.5 hrs/week	47 (29.4)	21.9	36.9
	>37.5 hrs/week	51 (31.9)	25.0	40.0
Marital status Valid=168	<i>Married</i>	140 (83.3)	77.4	88.7
	<i>Single</i>	12 (2.4)	3.6	10.7
	<i>De facto^d</i>	10 (6.0)	2.4	10.1
	<i>Separated</i>	4 (2.4)	0.6	4.8
	<i>Widowed</i>	2 (1.2)	0.0	3.0
Whether Protective Measures used or not	<i>Yes</i>	65 (43.0)	35.1	50.3
	<i>No</i>	29 (19.2)	13.2	25.2

Valid=151	Have never thought about it	9 (6.0)	2.6	9.3
	Have thought about it, but unsure of what to do	48 (31.8)	25.2	39.1

^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

Table 2: Frequencies of support parameters for doctors involved in Australian after-hours house calls

	Type of Support	No support (%)	Some support (%)	Moderate support (%)	Very well supported (%)	Mean: out of 4 (95% CI)	Standard Error (SE) of Mean	Standard Deviation (SD)
1	Clinical Support (Valid 141)	8 (5.7)	41 (29.1)	63 (44.7)	29 (20.6)	2.8 (2.7-3.0)	0.07	0.8
2	Professional Support (Valid 139)	9 (6.5)	40 (28.8)	58 (41.7)	32 (23.0)	2.8 (2.7-3.0)	0.07	0.9
3	Security Support (Valid 141)	27 (19.1)	53 (37.6)	46 (32.6)	15 (10.6)	2.4 (2.2-2.5)	0.08	0.9

TABLE 3: Associations between the perception of clinical support levels in after-hours house call services and independent doctor-variables

Support Parameter	S/N	Independent doctor-variables	Odds ratio OR	95% CI of OR		Significance (p-value)
				Lower	Upper	
Clinical Support (N = 141)	1	Gender (Male Vs Female)	1.38	0.56	3.43	0.49
	2	Country of primary degree (Australian-trained Vs OTD)	0.38	0.16	0.90	0.03*
	3	Duration in AHHC (2 years or less Vs Over 2 years)	1.35	0.61	2.98	0.46
	4	Age (<40 years Vs 40 or more years)	0.49	0.23	1.06	0.07
	5	Registration Status (VR Vs Non VR)	1.43	0.58	3.53	0.44
	6	Specialty (GP Vs Non-GP)	1.05	0.16	7.05	0.96
	7	Use or otherwise of protection (Yes Vs No)	1.59	0.77	3.28	0.22

NB:

- **Statistically significant*
- *OTD = Overseas-trained doctor*
- *VR = Vocationally trained (attained postgraduate fellowship)*
- *GP = General Practitioner*
- *Under the “independent doctor-variables”, the second variable listed after “Vs” is the reference variable.*

TABLE 4: Associations between the perception of professional support levels in after-hours house call services and independent doctor-variables

Support Parameter	S/N	Independent doctor-variables	Odds ratio OR=Exp(b)	95% CI of OR		Significance (p-value)
				Lower	Upper	
Professional Support (N = 141)	1	Gender (Male Vs Female)	1.76	0.71	4.33	0.22
	2	Country of primary degree (Australian-trained Vs OTD)	0.30	0.13	0.72	0.01*
	3	Duration in AHHC (2 years or less Vs Over 2 years)	0.86	0.39	1.89	0.71
	4	Age (<40 years Vs 40 or more years)	1.02	0.47	2.19	0.97
	5	Registration Status (VR Vs Non VR)	1.41	0.57	3.45	0.46
	6	Specialty (GP Vs Non-GP)	0.72	0.11	4.73	0.73
	7	Use or otherwise of protection (Yes Vs No)	1.42	0.69	2.93	0.34

NB:

- *Statistically significant
- OTD = Overseas-trained doctor
- VR = Vocationally trained (attained postgraduate fellowship)
- GP = General Practitioner
- Under the “independent doctor-variables”, the second variable listed after “Vs” is the reference variable.

TABLE 5: Associations between the perception of security support levels in after-hours house call services and independent doctor-variables

Support Parameter	S/N	Independent doctor-variables	Odds ratio OR=Exp(b)	95% CI of OR		Significance (p-value)
				Lower	Upper	
Security Support (N = 141)	1	Gender (Male Vs Female)	0.74	0.30	1.84	0.52
	2	Country of primary degree (Australian-trained Vs OTD)	0.22	0.09	0.53	0.001*
	3	Duration in AHHC (2 years or less Vs Over 2 years)	1.32	0.61	2.89	0.47
	4	Age (<40 years Vs 40 or more years)	1.41	0.66	3.02	0.37
	5	Registration Status (VR Vs Non VR)	2.29	0.94	5.62	0.07
	6	Specialty (GP Vs Non-GP)	0.24	0.04	1.65	0.15
	7	Use or otherwise of protection (Yes Vs No)	2.75	1.31	5.78	0.01*

NB:

- *Statistically significant
- OTD = Overseas-trained doctor
- VR = Vocationally trained (attained postgraduate fellowship)
- GP = General Practitioner
- Under the “independent doctor-variables”, the second variable listed after “Vs” is the reference variable.