

Attitudes, perceptions and practice patterns of primary care practitioners towards house calls

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ABSTRACT

INTRODUCTION: Historically, doctors routinely delivered medical care to sick patients in their homes, with house calls accounting for 40% of all doctor–patient encounters in the 1940s. This proportion has dwindled to less than 1% today. Advantages of house calls include decreased mortality rates, admissions to long-term care in the general elderly population and increased patient appreciation. Therefore, we asked ‘Why do some primary care practitioners do house calls and what are the reasons that others do not?’.

AIM: This review aims to understand the attitudes, perceptions of Primary Care Practitioners (PCPs) towards house calls and their practice patterns.

METHODS: A search of PubMed and Embase was conducted for articles published before 31 December 2017. A total of 531 articles with 44 duplicates was generated. Of these, 13 were shortlisted along with three hand-searched articles for a total of 16 articles included in this review.

RESULTS: Primary care providers were aware of the role of house calls and their advantages in enabling comprehensive care for a patient. They saw making house calls as a responsibility with rewards that enhanced the doctor–patient relationship. However, opportunity cost, time, medical liability and miscellaneous reasons such as the lack of training precluded some PCPs from making more house calls.

DISCUSSION: Primary care practitioners recognise the importance of house calls, especially in the care of elderly patients, but there are many unaddressed issues such as opportunity cost and clinical inadequacy in the home setting that have caused a decline in house calls over the years.

KEYWORDS: Primary health care; general practitioners; health services

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Introduction

House calls are defined as visits made to patients or clients in their own home by a doctor or other professional.¹ Historically, doctors routinely and comprehensively delivered medical care to sick patients in patients’ homes, with house calls accounting for 40% of all doctor–patient encounters in the 1940s.² In Dutch, a general practitioner (GP) is known as a ‘Huisarts’, which directly translated means ‘home doctor’.³ In recent years, the proportion of all consultations that are

house calls has dwindled to less than 1%.⁴ The decline had been attributed to multiple reasons including increased access to transportation, time constraints and economic considerations.

Many felt that house calls had become unnecessary because doctors were not able to do much in a patient’s home.⁵ However, one meta-analysis showed that house calls reduced mortality rates and admissions to long-term care for the general elderly population.⁶ The United States of America (US) Veterans Affairs System’s home-based

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WHAT GAP THIS FILLS

What is already known: The rate of medical house calls is generally declining in many parts of the world and common reasons for this decline include the lack of time because of busy practices, as well as the poor cost-effectiveness of making house calls.

What this study adds: This review summarises the attitudes of primary care practitioners towards home visits across varying contexts of practices. Although the value and benefits of house calls are well recognised, opportunity cost, clinical inadequacy and lack of role models persist as barriers for many primary care practitioners to make regular house calls. House calls exposure and training in medical school curricula and family medicine training can increase the confidence of primary care practitioners to incorporate house calls into their practice.

primary care programme that uses interdisciplinary teams to meet the specific needs of fragile, chronically ill patients, was also shown to improve patient and caregiver satisfaction, reduce hospital readmissions at 6 months and improve caregiver quality of life overall.⁷

Patients and families are known to appreciate house calls, and it is commonly recognised that in making a house call, GPs are going the extra mile for patients.⁵ We therefore asked: 'Why do some GPs make house calls and what are the reasons that others do not?'

In Singapore, privately run clinics are the main provider of primary care services, seeing 81% of primary care attendances.⁸ As in Canada and New Zealand, the traditional model of primary care in Singapore has been based on individual GPs providing primary medical services on a fee-for-service basis.⁹ Rostering, capitation funding or other forms of patient enrolment or registration are not used, and most GPs have a relatively stable group of patients after the initial period required to build up a medical practice. Although patients are free to change their GPs, most choose to have long-standing relationships with one doctor.⁹ Unlike the National Health Service (NHS) in the United Kingdom where GPs usually work as part of a team that includes nurses, health-care assistants, practice managers and other staff, GPs in Singapore generally practice independently.¹⁰

Reasons for house calls made by GPs in Singapore can be arbitrarily divided into the management of acute medical conditions or chronic medical issues. House calls for acute medical conditions are traditionally made by GPs in private practice. GPs in the public primary health-care clinics (polyclinics) do not make house calls. Specialist physicians in Singapore (e.g. geriatricians and paediatricians) also generally do not make house calls, unlike their colleagues in the US¹¹⁻¹³ and Greece.¹⁴

Elderly, home-bound patients with chronic medical issues are cared for by doctors and nurses in specialised organisations that provide home-based medical care. The first home care service offered in Singapore (the Home Nursing Foundation) was established in 1976 and was wholly nurse-run.¹⁵ The involvement of GPs in home care became more common only ~20 years ago. Non-governmental organisations are the main providers of home care services in Singapore and these organisations often include multidisciplinary teams that function primarily on an appointment basis on weekdays during office hours and generally do not attend to acute medical conditions. There are a handful of Singaporean GPs in private practice who run a full-time house call practice equipped to care for patients with acute medical conditions as well as patients with chronic medical conditions.

There are, at present, no official statistics regarding the rate of house calls in Singapore and it does not seem to be a common practice among GPs. However, Singapore is increasingly recognising the importance of providing a spectrum of care for vulnerable patient groups and the accompanying policy challenges are gradually being met.¹⁶

Among the 7.3 billion people worldwide in 2015, an estimated 8.5%, or 617.1 million, are aged ≥65 years. The number of older people globally is projected to increase more than 60% in just 15 years: in 2030, there will be ~1 billion older people.¹⁷ Together with the shift in emphasis to community care and with increasing numbers of older, frail and often homebound patients, the need for house calls will increase. In the context of declining numbers of house calls and increasing

need, this literature review aims to review the recent literature on the attitudes and perceptions of primary care practitioners towards making house calls.

Methods

We searched the electronic databases PubMed and Embase. Search terms used for PubMed were (('Attitude of Health Personnel'[Mesh]) OR 'Perception'[Mesh]) OR 'Practice Patterns, Physicians'[Mesh]) AND ('House Calls'[Mesh]) OR ('Home Care Services'[Mesh] OR 'Home Care Services, Hospital-Based'[Mesh]) AND (('Family Practice'[Mesh]) OR 'Physicians, Family'[Mesh]) OR 'General Practitioners'[Mesh]) OR 'Physicians, Primary Care'[Mesh])) AND English[lang]. For Embase, search terms used were: ('house calls'/exp OR 'house calls' OR 'home visits'/exp OR 'home visits' OR 'home care'/exp OR 'home care') AND ('general practitioners'/exp OR 'general practitioners' OR 'primary care physicians'/exp OR 'primary care physicians' OR 'primary care doctors' OR 'family physicians') AND ('health personnel attitude'/exp OR 'health personnel attitude' OR 'practices') AND [English]/lim.

The search was conducted in January 2018 for articles published before 31 December 2017. A total of 531 articles were identified and 44 duplicates were removed. Both authors screened this list of articles for study inclusion. Based on their titles and abstracts, 457 articles were excluded. House calls or home visits made exclusively by specialists such as palliative care physicians, paediatricians or geriatricians were excluded from this review about the attitudes of primary care practitioners towards house calls. Articles focusing solely on the physical factors affecting house call rates, such as diagnosis and patients' ages, were also excluded. There was no restriction on the research design.

The remaining potentially relevant 30 articles were extracted and reviewed for inclusion. Of these, 20 were from the PubMed search and 10 from Embase, and 14 were excluded because they had no mention about the attitude of GPs towards house calls. Three Commentaries and Editorials were also excluded.

Overall, 13 articles^{12,13,18–28} were found to be relevant, with information regarding the attitudes of GPs towards house calls. Three other articles^{5,29,30} identified from the reference lists of these articles were also found to be relevant and included.

Results

A total of 16 articles were obtained from the database search (Fig. 1). Of these, there were two qualitative studies,^{25,26} 10 questionnaire surveys^{12,14,18–24,31} and two review articles.^{5,29}

Figure 1. Flow chart of the review

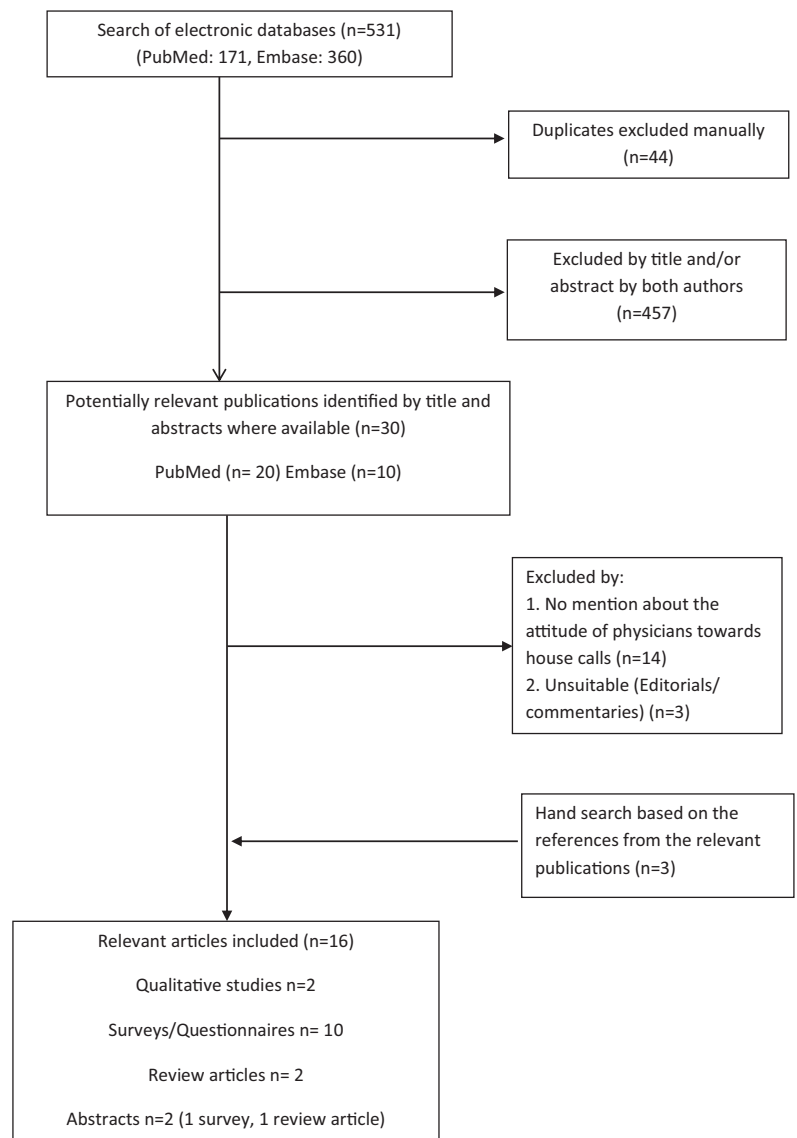


Table 1. Characteristics of included studies and major findings
SORT, strength of recommendation taxonomy

Selected article/ Year (Reference)	Study Design	Inclusion Criteria	Study population	Response rate (%)	Country	'Why' house calls	'Why not' house calls
House calls in Utah/1987 ¹⁸	Cross-sectional one-page survey Level of evidence (SORT³²)- 3	384 (50% of all Utah physicians in family practice, general practice and general internal medicine)	228 Physicians in family practice, general practice and general medicine (three were incomplete, analysis based on 225)	59	USA	Patient is elderly, bedbound or disabled. Assess the home or family situation. Comfort and convenience of patient. Enhance physician-patient relationship. Patient dying.	Inefficient, time- consuming or both. Lack of equipment and/ or facilities. Patient is able to come to clinic. Inadequate or substandard care. Too expensive, not cost- effective.
Factors associated with the frequency of house calls by primary care physicians/1988 ¹⁹	Cross sectional - self- administered 40-item mailed questionnaire Level of evidence (SORT³²)- 3	1000 selected. 249 were excluded as failed to meet definition of primary care physician	389 physicians (124 family practice physicians, 22 general practice, 46 general internal medicine, 23 internal subspecialist)	52	USA	Important service. Provide terminal care/certify death. Transport issues for patient – unavailable or too expensive. Family pressure. Personal satisfaction of doctor.	Time consuming. Unnecessary – other professionals can do it, patients can come. Not enjoyable. Too busy with practice. Uncertain about how to go about a house call. Inadequate reimbursement.
The influence of physician specialty on housecalls/1988 ¹²	Cross-sectional – 40- item, 10-page survey questionnaire Level of evidence (SORT³²)- 3	1000 selected. 249 were excluded as failed to meet definition of primary care physician	389 physicians (124 family practice physicians, 22 general practice, 46 general internal medicine, 23 internal subspecialists)	52	USA	Compared to other specialists – family physicians tend to enjoy house calls more. Fewer family physicians reported being too busy for house calls. Family physicians tend to think that house calls are necessary.	Time consuming. Unnecessary – other professionals can do it, patients can come. Not enjoyable. Too busy. Uncertain about how to go about a house call. Inadequate reimbursement.
House call practices among young family physicians/1989 ²⁰	Cross-sectional survey questionnaire Level of evidence (SORT³²)- 3	301 family physicians who completed a family practice residency from 1981–86	200 family physicians (three excluded as respondent was not resident)	66	USA	Comprehensive family care. High patient satisfaction. Opportunity to assess non-medical aspects of care (home environment and family relationships).	Time constraints. Economic considerations. Safety reasons. Conditions can be better managed in practice.
The home care practice and attitudes of Minnesota family physicians/1991 ²¹	Cross-sectional – Seven page, 55-item survey questionnaire Level of evidence (SORT³²)- 3	1120 practicing family physicians	865 family physicians	80	USA	Geriatric care. Patients with transport issues. Useful for acquiring information that could not be acquired in practice setting.	Dissatisfaction with reimbursement. Inadequate training in home care.

Table 1. (continued)

Selected article/ Year (Reference)	Study Design	Inclusion Criteria	Study population	Response rate (%)	Country	Why house calls	Why not house calls
A national survey of the home visiting practice and attitudes of family physicians and internists/1992 ²²	Cross-sectional – structured 15-min telephone survey Level of evidence (SORT³²)- 3	2200 (1100 family physicians and 1100 internists) - 132 deemed ineligible because they were no longer practicing FP or IM; - 283 retired, not locatable, not available) 2200–415 = 1785	1161 physicians involved in home care	65	USA	Assess home situation. Provide terminal care. Improve patient compliance. Pressure from family. Transport issues – unaffordable or unavailable. Patient is a long-term patient. To allow patient to stay home.	Strong dissatisfaction with reimbursement. Lack of available time. Inconvenience of travel to the patient's home. Lack of homecare training and professional role models. Concern about the adequacy of home environments or family supports. Medical liability issues.
House call practices: a comparison by specialty/1994 ¹³	Cross-sectional – mail survey Level of evidence (SORT³²)- 3	1500 primary care physicians	906 primary care physicians of family medicine, internal medicine and paediatrics (51 without responses, analysis based on 857)	59	USA	Important for good comprehensive patient care. Useful for gathering information about family and home environment. Lead to high patient satisfaction.	Personal safety issues. Medical liability issues. Inability to provide usual quality of care in the home. Time constraints. Poor use of physician time. Inadequate reimbursement. Lack of laboratory and x-ray facilities.
The Family physician and house calls: a survey of Colorado Family Physicians/1999 ²³	Cross-sectional – 30-item, self- administered mailed survey Level of evidence (SORT³²)- 3	936 practicing family physicians who were members of the Colorado Academy of Family Practice	617 family physicians completed the survey	66	USA	Provide good patient care. Enhance physician–patient relationship. Personal satisfaction of the physician. Patient convenience.	Time and expense of making house calls. Lack of insurance reimbursement. House calls should be made by home health agencies or nurses.
What do Victoria family physicians think about housecalls?/2013 ²⁴	Cross-sectional – 12-question survey Level of evidence (SORT³²)- 3	250 (selected from 562 family physicians practicing in Victoria British Columbia)	73 surveys returned; five not fully completed but analysed for questions that were answered	29.2	Canada		Lack of time. Suboptimal remuneration. Travel distances. Lack of equipment or technical support. Concern for personal safety. Concern for medical liability. Feeling unprepared or untrained.

(Continued)

Table 1. (continued)

Selected article/ Year (Reference)	Study Design	Inclusion Criteria	Study population	Response rate (%)	Country	Why house calls	Why not house calls
Home visits – central to primary care, tradition or an obligation? A qualitative study/ 2011 ²⁵	Qualitative, semi- structured interviews with GPs – city and rural Level of evidence (SORT)³² - 3	General practitioners in city and rural practices	24 GPs in city and rural areas	Not applicable	Germany	Part of the job and obligatory. Gain additional information about a patient's living conditions, family dynamics and lifestyle. A diversion from daily routine. Satisfying professional curiosity. Preventing hospitalisation. Enhancing the practice's market value/positive marketing effect. Pleasing to patients.	Unpleasant or occasionally dangerous situations. Restricted diagnostic options available. Poor controllability of consultations in the patient's homes. Time consuming. Insufficient reimbursement. Doubt additional value of home visits.
Physicians' attitudes towards healthcare services in Turkey: a qualitative study/ 2016 ²⁶	Qualitative Level of evidence (SORT)³² - 3	Physicians who provide home healthcare services	26 physicians who provide home healthcare services	Not applicable	Turkey	More biopsychosocial approach by exploring their living environment. Caring for bedridden patients. More job satisfaction/pleasure. Avoiding hospital infections. Providing more comfort. Moral support to both patient and caregiver. Desire to be cared at home in end of life. Spending more time with patients.	Excessive workload. Poorly developed legislative background of home healthcare service. Unavailability of equipment and staff support. Security concerns and violence against healthcare staff. Displeasure about misuse abuse of service.
With Abstracts only							
House calls: current status and rationale/1985 ²⁷	Review Level of evidence (SORT)³² - 3				USA	Limited but important role. Enhance doctor- patient relationship. Evaluating and reinforcing the patient's support system. Making an ecologic or family assessment.	
House calls by New Hampshire family practitioners/1986 ³¹	Cross-sectional – questionnaire Level of evidence (SORT)³² - 3	72 family physicians	50 family physicians		USA	Managing elderly or homebound patients. Important service.	Inefficient use of their time.

Table 1. (continued)

Selected article/ Year (Reference)	Study Design	Inclusion Criteria	Study population	Response rate (%)	Country	Why house calls	Why not house calls
Hand searched articles							
Can house calls survive? ¹⁹⁹⁷ ⁵	Review Level of evidence (SORT)³² - 3	Not applicable	Not applicable	Not applicable	USA	<p>Patients can avoid the discomfort and inconvenience of travel. Avoiding the waiting room. Elderly patients get more reassurance from a house call. Provides support and reassurance for the caregivers at home. Reduce feelings of isolation for patients who live alone. Effective humane care for terminally ill patients. Offer opportunity to assess patient's function and safety. Fewer medication errors and better compliance.</p>	<p>Time-consuming. Inefficient. Poorly reimbursed. Difficult to get to patient's homes. Concern about safety. Deliver care without easy access to laboratories and x-ray, personnel and other conveniences available in offices. Difficult to do minor procedures.</p>
The involvement of physicians in VA home care: results from a national survey/2000 ²³	Cross-sectional –mail survey Level of evidence (SORT)³² - 3	72 physician or medical director of VA (Veteran Affairs) HBPC (Home- based primary care) programme	45 physicians who are active participants in home care	71	USA	<p>Important service. Personal satisfaction from visit. Provide terminal care. Improve compliance with medical treatment plan. Travel is too difficult for patient/ no transportation. Assess family. Family conference. Family pressures to visit.</p>	<p>Too busy. Home visits unnecessary with readily available nurses/aides. Reimbursement inadequate.</p>

(Continued)

Table 1. (continued)

Selected article/ Year (Reference)	Study Design	Inclusion Criteria	Study population	Response rate (%)	Country	Why house calls	Why not house calls
Home visits. An access to care issue for the 21st century/2000 ²⁹	Review Level of evidence (SORT)³² - 3	Not applicable	Not applicable	Not applicable	Canada	Save patients from the stress of going to an office or emergency room. Provide reassurance and support to caregivers. Assess suspected abuse, recent falls, caregiver burden and need for institutionalisation. Reduce subsequent institutionalisation of geriatric patients. Valuable medical service for frail and housebound patients. Satisfaction with work.	Inefficient use of time. Inconvenient. Underfunded. Little diagnostic support. Risk of litigation.

Additionally, one review article²⁷ and one questionnaire survey³¹ had only their abstracts available. The articles with only abstracts available were included because they were published by peer-reviewed journals; however, the full-texts of these articles could not be retrieved. Table 1 summarises each included article. The articles included are all level 3 (other evidence), based on the Strength of Recommendation Taxonomy (SORT).³²

‘Why’ house calls

House calls were generally seen as an important service to provide.^{13,19,21,27,28,31} The reasons why GPs make house calls are summarised in Table 2.

‘Why not’ house calls

Although GPs generally recognised the significance of house calls and believe that they are good for patients, not all had positive attitudes towards house calls. Table 3 summarises the common reasons for primary care practitioners not making house calls.

Discussion

The image of doctors delivering care to sick patients at home is one of the enduring images in the collective consciousness of medicine.³ Over time, however, this image has lost its lustre. In this review, only 16 articles were found to be suitable. One possible reason for the paucity of research in this area might be the lack of new findings over the years. We found that the attitudes of GPs 30 years ago and 2 years ago were very similar.

Most doctors recognise the value of making house calls, but at the same time, many barriers have been identified to making house calls. In the research we found, being aware of the non-financial rewards and benefits of house calls was insufficient to entice most primary care practitioners to make more house calls. Knowledge did not necessarily translate to a positive attitude towards the making of house calls. It seemed that altruism could not stand up to the practicalities of maintaining a viable practice.

House calls are predicted to remain an integral part of medical care, especially with the shift

of care from the hospitals to the community.²⁹ House calls are a valuable service, especially to frail and housebound patients.²⁹ In the climate of a growing 'silver tsunami', it is easy to understand the significance of this service. Policy-makers and health system planners need to address the sentiments of doctors towards providing this service.

Reimbursement

There is understandably a call for a revision of the reimbursement for house calls.²² With the shift in emphasis from hospital to community care, funding policies may need to be modified to change payments for house calls. However, improved reimbursement might not increase the frequency of house calls but might only encourage their continuation.²² Adelman *et al.* found that although an overwhelming majority of doctors agreed with the statement that 'reimbursement for house calls is inadequate', this was not associated with making house calls in both univariate and multivariate analyses,¹³ suggesting that although sub-optimal reimbursement was a widespread issue, it was not the main reason for GPs not making more house calls.

Attitudes towards house calls

Some of the articles suggested that subjective attitudes towards house calls are an important part of a physician's decision to make house calls. Supporting this view is the finding that only half (46%) of doctors will make more house calls if reimbursement were improved.²² At the same time, doctors who made house calls were more likely to regard the medical liability risks of house calls as no greater than that of hospital or office practice.²² There were also doctors who simply reported that house calls were not enjoyable.^{12,19} Boling *et al.*^{12,19} distinguished between regular house callers (doctors who made routine house calls) and occasional house callers (doctors who do not make or only make emergency house calls), observing that regular house callers more often considered house calls enjoyable and were more likely to feel that house calls were needed, than occasional house callers. Regular house callers were also less likely than occasional house callers to report being too busy for house calls.

Negative attitudes towards house calls need to be addressed, and exposing medical students to house calls might be a way to foster positive attitudes.¹³ Incorporating house calls into the medical curriculum will address the issue of doctors feeling untrained to make house calls.^{23,24,26} One study evaluating the exposure of family medicine residents to home visits showed that graduating residents had a confidence level of making house calls of 80%, compared to the 40% of entering residents.³⁰ Another study showed that graduates of programmes where faculty made house calls and programmes where residents made house calls on a longitudinal basis were significantly more likely to offer house calls in their practices.³³ This suggests that vocational education can offer positive experiences in house call training that translate to future physicians including house calls in their practices. Some have also recognised that the sustainability of existing and future home-based primary care programmes will rely on effective education in 'house call medicine'.^{3,30}

Table 2. Reasons why GPs make house calls

Responsibility

Part of the job²⁵
Obligation²⁵
Pressure from patient's family^{19,21,28}
Important for providing good, comprehensive care^{13,20,23}
Elderly, homebound or bedbound patients, especially those with transport (unavailable or unaffordable) issues^{5,18,19,21–23,26,28,29,31}
Patients who need end-of-life care^{5,18,19,22,26,28,29}

Rewards

Doctor

Job and personal satisfaction^{19,23,25,26,28,29}
Gathering information about patient and family, especially non-medical aspects^{13,18,20–22,25–29}
Opportunity to assess patient's function and safety⁵
Diversion from daily routine²⁵
Please and satisfy patients^{13,20,25}
Enhance practice's market value²⁵
More time spent with patients²⁶

Patients and caregivers

Comfort and convenience/avoid travel^{5,18,22,23,25}
Reassurance (especially for elderly)^{5,29}
Reduce feelings of isolation for those who live alone⁵
Avoiding the waiting room,^{5,29} preventing hospitalisation¹⁷ and hospital-acquired infections²⁶
Reducing institutionalisation of geriatric patients²⁹
Better compliance with medical treatment plan^{5,21,22,28}

Relationship

Long-term patient²²
Enhances doctor–patient relationship^{18,23,27}
Psycho-emotional support for patients and caregivers^{5,26,29}

However, barriers to making house calls are real and affect the attitudes of doctors towards house calls, while at the same time, the attitude of doctors also affects the way that these barriers are perceived. The decision to make a house call is based on both clinical judgment regarding individual patients and broader issues involving the whole practice.³¹ With an increasing emphasis on community care, especially of the elderly, the medical profession may need to alter the attitudes of GPs with respect to making house calls. Understanding the attitudes of GPs in their geographical and cultural contexts will facilitate the implementation of strategies to encourage the continuation of house calls.

Limitations

Types of house calls were not distinguished in this review. Due to the paucity of articles and the differing definitions of primary care practitioners and their roles in different countries, along with differing contexts of practice, we could not

describe separately home visits for acute medical problems or routine home visits for management of chronic medical problems. There were two articles^{27,31} where only the abstracts were available. Most of the articles in this review are, at best, level 3 evidence-based on the SORT guidelines³² because of the nature of the studies – surveys and qualitative studies. However, the findings were reasonably consistent across these studies.

Conclusion

Primary care practitioners recognise the importance of house calls, especially in the care of elderly patients, but there are many unaddressed issues such as opportunity cost and clinical inadequacy in the home setting that have caused the decline in house calls over the years. Attempts should be made to address these issues in order for health care to keep up with increasing patient needs.

References

1. English Oxford Dictionaries. Definition of house call. Oxford, UK: Oxford University Press; [cited 2018 February 1]. Available from: https://en.oxforddictionaries.com/definition/house_call
2. Leff B, Burton JR. The future history of home care and physician house calls in the United States. *J Gerontol A Biol Sci Med Sci*. 2001;56(10):M603–8. doi:10.1093/gerona/56.10.M603
3. Cunney A, O'Kelly FD. House calls in general practice. *Ir Med J*. 2012;105(6):170–1.
4. Kao H, Conant R, Soriano T, McCormick W. The past, present, and future of house calls. *Clin Geriatr Med*. 2009;25(1):19–34. doi:10.1016/j.cger.2008.10.005
5. Campion EW. Can house calls survive? *N Engl J Med*. 1997;337:1840–1. doi:10.1056/NEJM199712183372511
6. Elkan R, Kendrick D, Dewey M, et al. Effectiveness of home based support for older people: systematic review and meta-analysis. *BMJ*. 2001;323(7315):719–25. doi:10.1136/bmj.323.7315.719
7. Cooper DF, Granadillo OR, Stacey CM. Home-based primary care: the care of the veteran at home. *Home Healthc Nurse*. 2007;25(5):315–22. doi:10.1097/01.NNH.0000269965.16119.e5
8. Khoo HS, Lim YW, Vrijhoef HJM. Primary Healthcare System and Practice characteristics in Singapore. *Asia Pac. Fam. Med*. 2014;13(1):8.
9. Marchildon G. Canada: Health system review. *Health Syst Transit*. 2013;15(1):1–179.
10. NHS England. How to register with a GP practice. City: National Health System; [cited 2018 May 15]. Available from: <https://www.nhs.uk/NHSEngland/AboutNHSservices/doctors/Pages/NHSGPs.aspx>
11. Beck RA, Arizmendi A, Purnell C, et al. House calls for seniors: building and sustaining a model of care for home-bound seniors. *J Am Geriatr Soc*. 2009;57(6):1103–9. doi:10.1111/j.1532-5415.2009.02278.x

Table 3. Reasons why GPs do not make house calls

Money	
Unsatisfactory/inadequate reimbursement for house calls ^{5,12,13,19,21–25,28,29}	
Not cost-effective for practitioners ^{18,20,23,29}	
Too expensive for patients ¹⁸	
Minutes	
Time-consuming ^{5,12,18,19,25}	
Busy practices ^{12,13,19,20,22,24,26,28}	
Inefficient ^{5,18}	
Poor/inefficient use of physician time ^{13,29,31}	
Clinical inadequacy in home setting	
Restricted diagnostic options/support (laboratory/x-rays) ^{5,13,25,29}	
Lack/unavailability of equipment and/or personnel to assist ^{5,18,22,24,26}	
Providing inadequate or substandard care as compared to clinic setting ^{13,18,20}	
Difficulty performing minor procedures ⁵	
Poor controllability of consultations in the patient's homes ²⁵	
Miscellaneous	
Medical liability issues ^{13,22,24,26,29}	
Personal safety ^{5,13,22,24–26}	
Not enjoyable ^{12,19}	
Inconvenient to travel ^{5,22,24,29}	
Inadequate or lack of training in the area of house calls ^{21,22,24}	
Uncertain about how to go about a house call ^{12,19}	
Lack of professional role models ²²	
Displeasure about abuse or misuse of service ²⁶	
Unnecessary	
Patients can come to the practice ^{12,18,19}	
Can be made by other professionals such as nurses ^{12,19,23,28}	
Doubt additional value ²⁵	

12. Boling PA, Retchin SM, Ellis J, Pancoast SA. The influence of physician specialty on house calls. *Arch Intern Med.* 1990;150(11):2333–7. doi:10.1001/archinte.1990.00390220075015
13. Adelman AM, Fredman L, Knight AL. House call practices: a comparison by specialty. *J Fam Pract.* 1994;39(1):39–44.
14. Theocharis G, Barbas SG, Spiropoulos T, et al. Patient house calls in Attica and Thessaloniki, Greece (2005–2015): a model for out-of-hospital multispecialty emergency medicine. *BMC Health Serv Res.* 2018;18:304. doi:10.1186/s12913-018-3111-0
15. Home Nursing Foundation. Moving towards holistic patient care. Annual Report FY2015/16. Singapore. [cited 2018 May 17]. Available from: https://hnf.org.sg/wp-content/uploads/2017/03/HNF_Annual_Report_2015_WEB.pdf
16. Tarricone R, Tsouros AD. Home care in Europe - The solid facts. Denmark: World Health Organization Regional Office for Europe. [cited 2018 May 15]. Available from: <http://www.euro.who.int/en/publications/abstracts/home-care-in-europe.-the-solid-facts>
17. Wan H, Goodkind D, Kowal P. U.S. Census Bureau, International Population Reports, P95/16-1, An Aging World: 2015. International Population Reports Issued March 2016. Chapter 2. Washington, DC: U.S. Government Publishing Office; 2016.
18. Schueler MS, Harris DL, Goodenough GK, Collete L. House calls in Utah. *West J Med.* 1987;147(1):92–4.
19. Boling PA, Retchin SM, Ellis J, Pancoast SA. Factors associated with the frequency of house calls by primary care physicians. *J Gen Intern Med.* 1991;6(4):335–40. doi:10.1007/BF02597433
20. Knight AL, Adelman AM, Sobal J. House call practices among young family physicians. *J Fam Pract.* 1989;29(6):638–42.
21. Keenan JM, Bland CJ, Webster L, Myers S. The home care practice and attitudes of Minnesota family physicians. *J Am Geriatr Soc.* 1991;39(11):1100–4. doi:10.1111/j.1532-5415.1991.tb02876.x
22. Keenan JM, Boling PE, Schwartzberg JG, et al. A national survey of the home visiting practice and attitudes of family physicians and internists. *Arch Intern Med.* 1992;152(10):2025–32. doi:10.1001/archinte.1992.00400220053009
23. Ingram CJ, O'Brien-Gonzales A, Main DS, et al. The family physician and house calls. A survey of Colorado family physicians. *J Fam Pract.* 1999;48(1):62–5.
24. Hammett T. What do Victoria family physicians think about house calls? *Can Fam Physician.* 2013;59(1):e33–8.
25. Theile G, Kruschinski C, Buck M, et al. Home visits – central to primary care, tradition or an obligation? A qualitative study. *BMC Fam Pract.* 2011;12:24. doi:10.1186/1471-2296-12-24
26. Aksoy H, Kahveci R, Doner P, et al. Physicians' attitudes toward home healthcare services in Turkey: a qualitative study. *Eur J Gen Pract.* 2015;21(4):246–52. doi:10.3109/13814788.2015.1096339
27. Siwek J. House calls: current status and rationale. *Am Fam Physician.* 1985;31(4):169–74.
28. Weaver MF, Hughes SL, Giobbie-Hurder A, et al. The involvement of physicians in VA home care: results from a national survey. *J Am Geriatr Soc.* 2000;48(6):677–81. doi:10.1111/j.1532-5415.2000.tb04728.x
29. Pereles L. Home visits. An access to care issue for the 21st century. *Can Fam Physician.* 2000;46:2044
30. Jakubovicz D, Srivastava A. Home visits in family medicine residency: evaluation of 8 years of a training program. *Can Fam Physician.* 2015;61(4):e189–95.
31. Hayton A, Dietrich A, Simmons J. House calls by New Hampshire family practitioners. *Fam Pract Res. J.* 1986;6(1):22–7.
32. Ebell MH, Siwek J, Weiss BD, et al. Strength of recommendation taxonomy (SORT): a patient-centered approach to grading evidence in the medical literature. *Am Fam Physician.* 2004;69(3):548–56.
33. Knight AL, Adelman AM, Sobal J. The house call in residency training and its relationship to future practice. *Fam Med.* 1991;23(1):57–9.

COMPETING INTERESTS
None.