Home visits in family medicine residency

Evaluation of 8 years of a training program

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Abstract

Problem addressed There has been a decline in family physicians providing home visits to housebound patients.

Objective of program To increase family medicine residents' exposure to home visits; their comfort and skills in providing home visits; and their willingness to provide home visits after graduation.

Program description Between 2000 and 2010, each family practice resident at St Joseph's Health Centre Family Medicine Teaching Unit in Toronto, Ont, was assigned at least 1 housebound patient to care for longitudinally over 2 years; the rationale for this was to increase the sense of "ownership" and responsibility among residents for their assigned homebound patients. Starting in 2003, until the program's conclusion in 2010, residents were asked to fill out surveys before and after the program to assess their comfort with and confidence in providing home visits, as well as their satisfaction with the program. Survey responses were analyzed for changes over the course of residency training. A total of 85 residents completed the home visit teaching program between 2003 and 2010 inclusive.

Conclusion While residents' willingness to provide home visits did not increase over the course of residency, their confidence in making housecalls did increase. There was also a trend toward increased confidence among residents in working with community agencies. Thus, having home visit patients be a part of resident practices might play an important role in increasing the likelihood that future family physicians will continue to care for their patients when those patients are no longer ambulatory.

EDITOR'S KEY POINTS

- In the hope of increasing the likelihood that residents would provide housecalls to their patients in future practice, St Joseph's Health Centre Family Medicine Teaching Unit in Toronto, Ont, introduced a home visit training program. The program was well received and valued by participating family practice residents. Residents indicated that they enjoyed the independence of doing housecalls on their own and found the experience worthwhile. One of the main challenges residents found with home visits was that of scheduling.

- While residents' intentions to provide home visits after completing residency did not increase after the program, their confidence in performing home visits did increase. There was also a trend toward increased confidence among residents in working with community agencies.

- Almost half (43%) of graduating residents indicated they intended to provide housecalls to their patients. In the right practice environment, residents who have been exposed to a home visit training program and who have cultivated the necessary confidence and experience might be more likely to make home visits a part of their practices.

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Visites à domicile durant la résidence en médecine familiale

Évaluation d'un programme de formation sur 8 ans

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Résumé

Problème à l'étude Le nombre de médecins de famille qui font des visites à domicile à des patients confinés à la maison a connu un déclin.

Objectif du programme Accroître l'exposition des résidents en médecine familiale aux visites à domicile, leur niveau de confort et leurs compétences à l'égard de ce type de visites, ainsi que leur volonté d'offrir ce service après l'obtention de leur diplôme.

Description du programme Entre 2000 et 2010, on a assigné à chaque résident en pratique familiale de l'Unité d'enseignement de la médecine familiale du Centre de santé St Joseph's à Toronto, en Ontario, au moins 1 patient confiné à la maison pour qu'il lui dispense des soins longitudinaux pendant 2 ans. Ce projet visait à accroître le sentiment « d'appartenance » et de responsabilité des résidents envers les patients confinés qui leur étaient assignés. À partir de 2003 et jusqu'à la conclusion du programme en 2010, les résidents étaient appelés à répondre à un sondage avant et après leur programme pour évaluer leur niveau de confort et leur confiance à l'égard des visites à domicile, ainsi qu'à mesurer leur satisfaction à l'endroit du programme. Tout au long de cette formation en résidence, les réponses au sondage étaient analysées pour apporter des changements. Au total, 85 résidents ont suivi le programme d'enseignement des visites à domicile entre 2003 et 2010 inclusivement.

Conclusion Même si la volonté des résidents de faire des visites à domicile n'a pas augmenté au cours de la résidence, leur confiance à l'égard de telles visites s'est effectivement accrue. On a aussi observé une tendance chez les résidents à être plus à l'aise de travailler dans des centres communautaires. Par conséquent, l'intégration de visites de patients à domicile dans la pratique des résidents pourrait jouer un rôle important pour augmenter la probabilité que les futurs médecins de famille continuent de soigner leurs patients quand ces derniers ne seront plus ambulatoires.

POINTS DE REPÈRE DU RÉDACTEUR

- Dans l'espoir d'augmenter la probabilité que les résidents fassent des visites à domicile dans leur future pratique, l'Unité d'enseignement de la médecine familiale du Centre de santé St Joseph's à Toronto, en Ontario, a instauré un programme de formation en visites à domicile. Les résidents en pratique familiale qui y ont participé l'ont accueilli favorablement et l'ont jugé utile. Les résidents ont signalé qu'ils ont aimé l'indépendance que leur procurait les visites à domicile en solo et ont trouvé l'expérience enrichissante. L'établissement des horaires comptait parmi les principales difficultés cernées par les résidents relativement aux visites à domicile.

- Même si les intentions d'offrir des visites à domicile après la résidence n'ont pas augmenté chez les résidents après le programme, leur confianceà l'égard de telles visites s'est effectivement accrue. On a aussi observé une tendance vers une plus grande confiance des résidents pour travailler avec des organismes communautaires.

- Près de la moitié (43 %) des résidents finissants ont signalé qu'ils avaient l'intention d'offrir des visites à domicile à leurs patients. Dans un environnement de pratique propice, les résidents qui ont été exposés à un programme de formation en soins à domicile et qui ont acquis la confiance et l'expérience nécessaires pourraient être plus enclins à intégrer les visites à domicile dans leur pratique.

Cet article a fait l'objet d'une révision par des pairs.
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The specialty of family medicine has a history of being comprehensive—caring for people from "cradle to grave." An important aspect of this care is having the willingness and the skills to care for patients in their homes.[1,2] The value of physician home visits as part of home health care is well documented[3] and there is evidence of improved health outcomes with housecalls.[4-6] Moreover, the Canadian population is aging[7,8] and the 2013 Seniors Strategy for Ontario report[9] made a key recommendation to maintain and improve funding levels to support the provision of housecalls by primary care providers. However, since the 1930s, the number of family physicians providing care through housecalls has been steadily declining.[1-4,10-13]

There have been a few publications on the training of future physicians in this important aspect of care. When we were preparing this paper, the last article published about teaching housecalls to family medicine residents in Canada was published by *Canadian Family Physician* in 1996.[14] More recent publications from the United States have included a qualitative study of family medicine residents' experiences in a physician home visit program[15]; a survey of family medicine resident attitudes and knowledge[16]; and a needs assessment survey and evaluation of American internal medicine residents for a housecall curriculum.[17,18] These studies showed that residents were interested in caring for the frail elderly in their homes, and that an organized training program improved the knowledge, skills, and attitudes of both family medicine and internal medicine residents in the United States.

Educating residents about home visits is one of the expected standards for training in Canada.[19] Our article provides a description and evaluation of the program developed at St Joseph's Health Centre Family Medicine Teaching Unit at the University of Toronto in Ontario.

Program description

The St Joseph's Health Centre Family Medicine Teaching Unit is 1 of 14 teaching units affiliated with the Department of Family and Community Medicine at the University of Toronto. It serves a mixed inner-city and urban population.

Between 2000 and 2010, family practice residents were each formally assigned their own home visit patient to follow for 2 years. Before 2000, residents accompanied a preceptor during his or her home visits rather than having their own patients to follow. The rationale behind assigning residents their own patients was to increase a sense of "ownership" and responsibility. Before involving every resident in the program, a successful pilot program was completed with 3 residents and 1 staff physician.

To help the residents with the additional responsibility of following a patient in the home, an introductory seminar, a comprehensive patient assessment package, and a preceptor were provided. Housecall patients were either existing practice patients or were referred from a community agency. Most patients were elderly and some were considered palliative.

In some cases, residents were assigned to take over an existing housecall patient from a staff physician. Location and transportation issues were taken into consideration. Patients who lived within walking distance of the hospital or who were easily accessible were assigned to residents.

Each participating staff physician supervised 2 to 3 residents and was expected to accompany the resident on the first home visit and then alternate home visits. The first home visit allowed the staff physician and resident to assess the patient together, to decide if the resident would obtain a good learning experience, and to determine if the resident felt safe and comfortable in the patient's home.

For follow-up visits, residents scheduled their homebound patients either first or last during their regular family practice clinic. The frequency of visits varied according to patient need.

If the assigned resident or staff physician was not available and an urgent issue arose, the patient would be triaged by the clinic nurse and referred to either the patient's doctor or to the doctor on call for home visits that day. As with other patients in residents' practices, the staff physician maintained ultimate responsibility for the patient.

Program evaluation

The first set of residents began with this model in 2000. Starting in 2002, a detailed survey was administered to all residents at the end of the program. Starting in 2003, until the program's conclusion in 2010, an entry survey was also administered at the start of residency using the same attitudinal questions toward home visits as on the exit survey. The before-and-after parts of the survey consisted of 7 questions using a 5-point Likert scale regarding residents' comfort with and confidence in performing home visits, as well as their future intentions to offer home visits in practice, and 1 dichotomous question about home visit experience (**Table 1**). The before-and-after responses to these 8 questions were compared. Unfortunately, we could not do a paired *t* test, as the before-and-after surveys could not be matched by resident because the surveys were anonymous and were not coded.

Thus, in consultation with a statistician, we first summarized the frequency distribution for each of the variables using counts and percentages. Next, we estimated means and standard deviations for each of the variables. For dichotomous variables, we tested the equality of the independent proportions using a *z* test. For the Likert

Table 1. Residents' survey responses before and after the program: *A) Residents' previous experience with home visits; B) Residents' perceptions about home visits, rated using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).*

	BEFORE PROGRAM					AFTER PROGRAM				
A) QUESTION	YES, %		NO, %			YES, %		NO, %		
Before beginning residency training at St Joseph's Health Centre, did you have experience with home visit patients?	76		24			44		56		
	LIKERT SCALE RATING BEFORE PROGRAM, %					LIKERT SCALE RATING AFTER PROGRAM, %				
B) QUESTIONS	1	2	3	4	5	1	2	3	4	5
Having a home visit patient is a useful learning experience	2	3	13	50	32	7	2	28	34	28
I am comfortable in seeing patients at home	2	4	29	57	8	5	2	14	51	28
I am confident in working with community agencies	3	15	48	27	7	11	5	25	42	17
I intend to do home visits after graduation	0	7	43	29	21	14	13	30	29	14
I find caring for patients in the home rewarding	0	2	21	51	26	4	2	21	52	21
I am confident in my ability to do home visits	0	11	44	42	3	0	2	18	68	12
I feel that caring for patients in the home is important	0	0	8	52	40	0	0	11	54	35

scale questions, we tested the equality of the respective distributions (ie, entry and exit distributions) using the Wilcoxon rank sum test.

Survey results

There was a 74% (63 of 85) response rate for residents entering the program and a 73% (58 of 79) response rate for residents exiting the program. Residents were asked specifically about which aspects of the program they had found helpful, and the responses are given below.

Comparison of the 8 questions asked on both the before-and-after surveys. Of the 8 questions (**Table 1**) that were asked on both the before-and-after surveys, there were 2 statistically significant differences in responses. There was a significant difference ($P = .0004$) between residents' perceptions of their previous home visit experience at the start of residency and their perceptions at the end of residency. A large percentage (76%) of residents indicated at the start of residency that they had had previous exposure to home visits. But by the end of residency, a much smaller percentage (44%) stated that they had had home visit exposure before residency.

Significantly, 80% of graduating residents were confident in their ability to perform housecalls compared with 45% of entering residents ($P < .001$).

While differences in the responses to the other questions did not achieve statistical significance, there was a trend toward increased comfort with home visits, with 79% of exiting residents feeling comfortable with home visits compared with 65% of entering residents. There was also a trend toward increased confidence in working with community agencies, with 59% of residents feeling comfortable at the end of residency compared with 34% of residents upon program entry. Despite these increases in general comfort with home visits and with working with community agencies, there was no increase in graduating residents' intention to provide home visits upon graduation, with 43% of exiting residents

indicating they intended to perform housecalls compared with 50% of entering residents. Also, at the end of the program, only 62% of residents stated that having a home visit patient was a useful learning experience compared with 82% of residents at the beginning of residency.

There were fewer exiting residents owing to transfers out of the family medicine training program, maternity leaves, and residents being away for teaching practices. Also, surveys were administered at the start of the study period and included exiting residents who had entered residency before the start of the study. It was not believed that having answered an entering survey would have an adaptive effect on an exiting survey and thus all surveys were included.

Non-paired results

Preparation: Many residents (72%) found the introductory seminar and home visit guidelines helpful. They also believed that having a staff physician accompany them on the first visit was important.

Workload: Most residents visited their assigned homebound patient once a month or less often. Most residents (87%) did not believe that visiting these patients took too much time (**Figure 1**), and 60% were able to see their home visit patients during their regular clinic. However, 29% of residents found it difficult to schedule the visits during regular clinics. Some residents stated that scheduling could be challenging.

Supervision: Most residents (82%) had their supervisors attend their first home visit, and a third of residents found that their supervisors also attended follow-up visits. Some residents commented that having the supervisor on the first visit helped with developing confidence but that having the supervisor on subsequent visits altered the interaction with the patient. One resident's description was as follows: "Follow-up was better done independently since it provided more autonomy and we needed to make decisions on our own (with supervisor backup if needed)."

Another resident commented: "Doing visits on my own encouraged greater sense of responsibility and improved [my] relationship with patient."

Most residents (91%) found that the quality of supervision they received was good to excellent. Most residents (59%) received supervision by having an in-person discussion with the supervisor after the home visit, and 87% preferred in-person reviews the same day as the home visit. Only 13% preferred being directly supervised in the home or reviewing the home visit with the supervisor over the telephone (**Figure 2**).

Responsibility and safety: Most residents (80%) found the level of responsibility in looking after their home visit patient to be just right (**Figure 3**), and 94% found that safety was not a concern in looking after their own home visit patients.

Figure 1. Residents' opinions about home visits taking too much time, using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree)

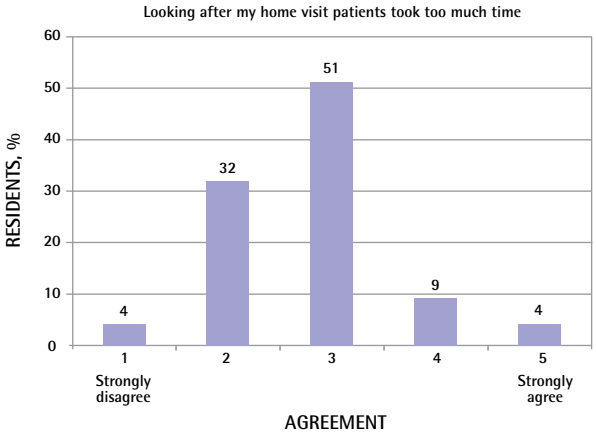
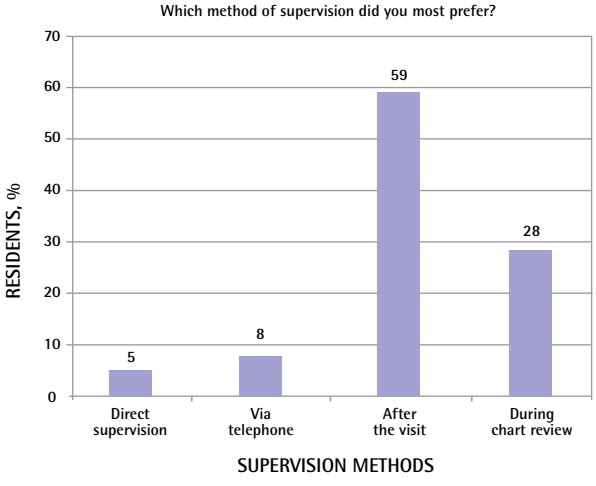


Figure 2. Residents' preferences for methods of supervision

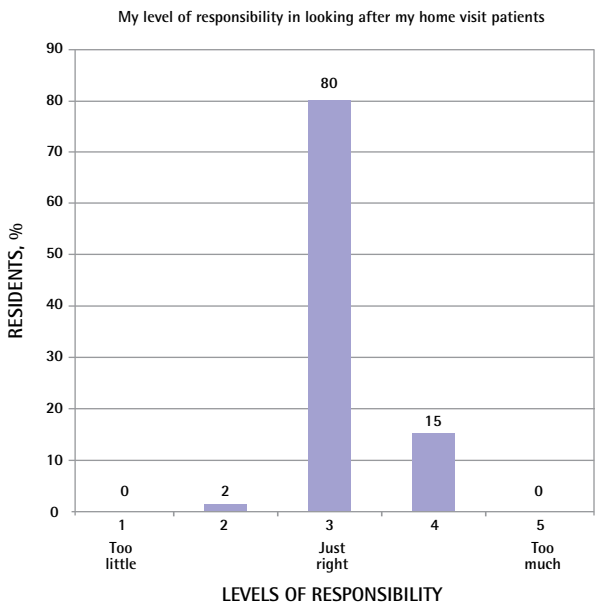


Urgent home visits: For 79% of residents, safety was not an issue when providing urgent care to home visit patients, even when the patients were not their regular home visit patients.

Discussion

Home visits are an important service to patients and their value in family practice has been well established.[5,6,14,17-19] Home visits are a key recommendation from the Ontario Seniors Strategy report to improve care for the elderly.[9] At St Joseph's Health Centre, family practice residents followed their own home visit patients between 2000 and 2010. At the time, St Joseph's Health Centre Family Medicine Teaching Unit had the only organized housecall training program, as

Figure 3. Residents' opinions about their levels of responsibility for home visit patients, using a 5-point Likert scale (1 = too little, 5 = too much)



far as we are aware, at the university. Our study shows that the housecall training program was well received and valued by the family practice residents. Patient satisfaction with the program was also high, as shown in a qualitative patient satisfaction survey of 6 housecall patients in the program; most patients thought that residents' care was adequate despite their relative inexperience and they believed that it was important to have resident involvement (N. Furqan, J. Bui, unpublished data, May 2007).

Unfortunately, despite being well received by residents and patients alike, the program at St Joseph's Health Centre ended after a successful 10-year term, as the number of residents enrolling in our program increased and there were not enough staff physicians to provide the level of supervision required. Funding models and a new ruling from the provincial resident association, which has since been revoked, also played a role in the decline of the program.

The end of the program was perhaps especially unfortunate when one considers the broader implications for future practice patterns of graduating family practice residents. While the intention to provide home visits after completing residency did not increase after the home visit training experience, our study definitively showed that there was increased confidence among residents in performing home visits. Moreover, there was a trend toward increased comfort with home visits and increased confidence in working with community agencies. More important, residents indicated that they enjoyed the independence of doing housecalls on their own and found the experience worthwhile. All this together would suggest that the home visit training program, aside from providing a valuable clinical service and enjoyable experience for residents, likely played an important role in shaping residents' future practice patterns. Almost half (43%) of graduating residents indicated their intention to provide housecalls to their patients, and this is comparable to the 42.4% of family physicians providing housecalls in 2010.[11] In the right practice environment, residents who have been exposed to a housecall training program such as ours and who have cultivated the necessary confidence and experience might be more likely to carry forth this optimism for housecalls as a part of their practice and turn it into a practice reality.

Interestingly, the other statistically significant result, aside from increased confidence in home visit ability, was that exiting residents were more likely to state that they had not had prior experience with housecalls before residency than those residents entering residency. This might be because of recall bias and greater length of time since medical school; however, it might also be that the entering residents' understanding of what a housecall entailed or its very definition (eg, longitudinal care as part of the home visit patient) might have been different from a graduating residents' understanding.

More concerning perhaps is the fact that while 82% of entering residents thought that housecalls were a useful learning experience, only 62% of exiting residents felt the same way about the experience, despite their increased confidence and comfort with home visits. The reasons for this are not entirely clear. It is possible that residents felt helpless in the face of chronic disease in patients who might have been palliative: this can be quite challenging for some residents who are often hoping to "do something." Residency is a time of intense learning, including procedures and new skills, and this can be associated with feeling "useful." However, the "usefulness" part of home visits might be reevaluated by many residents when they enter into their own practices and are caring for their own patients as part of a continuum of care and the relationship aspect becomes more important.

Perhaps the richest data from the study come from the comments made by some of the residents on their surveys. One resident wrote:

> With regular visits, I really got to develop a good relationship with my patient and he appreciated the frequent visits, which were every 6 weeks by the end of the 2 years. I think because I saw him regularly, I learned a lot from the experience. I also worked directly with home care and his specialists to better

manage his care, which really made me feel like I was part of the team.

It is in these types of captured experiences that we can begin to see the importance of what the home visit experience in residency might be giving future family physicians.

Further study would be needed to elucidate why, despite increased confidence in and a trend toward increased comfort with home visits, there was not a trend toward an increased likelihood to do home visits after residency. Other studies have proposed possible barriers such as travel time, disruption of the office schedule, and actual or perceived lost income.[4,6] The main challenge found by the residents in this study was that of scheduling. Supervision and safety were not concerns. Some possible ways to address the logistical concerns of residents include offering taxi chits to enable easier transportation and having administrative support to assist appointment booking. It is also possible that the demands of resident training, different rotations, and less autonomy over their schedules might have made this more difficult for the residents in this study. This might be a barrier that they are less likely to face as independent practitioners with more control over their schedules and practices.

Limitations

One of the limitations of our study is that we did not pair the before-and-after surveys in our analysis: the surveys were confidential and were not coded for a later paired comparison. Also, there would have been missing data, as the residents who did not complete the surveys upon exiting the program likely were away on teaching practices or outside rotations. Also, we did not look at actual practice patterns of our graduating residents with respect to home visits relative to other graduates or other practising physicians.

Conclusion

We have demonstrated that with a dedicated home visit program, residents' confidence with home visits increased over the course of a residency program. While not statistically significant, our survey results showed that there was a trend toward increased comfort levels with home visits by the end of residency training but that the self-stated likelihood of providing home visits did not increase. Further study would be required to analyze the actual practice patterns of the physicians who were part of this study to elucidate if the home visit program did have an effect on their eventual provision of home visits.

Dr Jakubovicz and **Srivastava** are family physicians at St Joseph's Health Centre in Toronto, Ont, and Assistant Professors in the Department of Family and Community Medicine at the University of Toronto.

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Contributors

Dr Jakubovicz contributed to the concept and design of the program; data gathering, analysis, and interpretation; and preparing the manuscript for submission. **Dr Srivastava** contributed to analysis and interpretation, as well as manuscript preparation.

Competing interests

None declared

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