House Call Patterns of New Jersey Family Physicians

S. W. Warburton, Jr., MD, Georgia Robins Sadler, MBA, and Eric F. Eikenberry, PhD

Piscataway, New Jersey

House call attitudes and practice patterns of New Jersey family physicians were studied in order to assist residency programs in curriculum development. House calls were offered by 82 percent of the 290 physicians in the sample; no difference was noted between rural and urban or between younger and older physicians. The average number of house calls per week was 6.05, of which 4.71 and 1.34 were scheduled and emergency respectively. Patients who were elderly, home-bound, had suffered a stroke, had cancer or congestive heart failure made up the majority of those receiving house calls. This survey also showed that many of the physicians who stated that they do not "offer" house calls to their patients, did in fact perform them.

These study results support the thesis that family practice residencies should develop criteria and a protocol for house calls. Among the results which may be expected following such an innovation are increased satisfaction for patients and physicians alike.

This study developed from the desire of New Jersey family practice physicians and educators to make residency training in the State as relevant as possible to the actual practice of family medicine. Earlier studies have shown that physicians are likely to set up practice near the site of their residency training.[1] As a result, it seemed appropriate to examine and analyze the role and responsibilities currently assumed by New Jersey family physicians. The data from this study would then be available to assess the curriculum content of residency training programs in family practice.

As one facet of this analysis, a clear understanding of the function of the house call in family practice throughout the State was needed. There has been a documented decrease in the number of house calls being made in recent decades.[2,3] Mechanic,[2] Todd,[4] and others have called them "defunct" and "buried." Among the factors influential in this decrease in Great Britain, Canada, and the United States have been the introduction of appointment systems, pleasant offices, absence of infectious disease quarantine, readily available transportation, more telephone consultations, and team health care.

In addition, some observers have suggested that the use of paraprofessionals, such as physician's assistants and nurse practitioners, to make house calls will yield results which are as satisfactory but more economical than physician visits.[5] Indeed, studies in this area have reported considerable success in the use of non-physicians to perform this task.[3,6] Hence, it can be expected that the decrease in physician house calls will continue. Regardless of this decrease, house calls are still considered by many to be an important component of family practice.[7-10]

In spite of the research which has already been done on this topic, remarkably little data was available on the use of house calls by New Jersey family physicians. It seemed appropriate to get a more refined understanding of the role of the house call in family practice in New Jersey by surveying the practice patterns of these physicians. Are their practice patterns similar to those disclosed in the larger surveys? Do they still deliver care to their patients in the home? If so, how often do they make such visits and for what purposes? Do they believe such visits are still of value? Finally, what possible influence could these data have on the curriculum planning of Family Practice Residency Programs?

Methods

A sample was drawn from the membership of the New Jersey Academy of Family Physicians. This organization represented a large and accessible group of family physicians with practices throughout the State.

A short (five-minute) questionnaire was developed to elicit data concerning the physician's medical and social attitudes and behaviors in regard to house calls. This was mailed to the 700 members of the Academy as part of the New Jersey Family Physician quarterly bulletin in February 1976. One hundred sixty-one physicians (23 percent) returned their questionnaires. The questionnaire was also included in the registration process of the March 1976, annual meeting of the New Jersey Academy of Family Physicians in Cherry Hill, New Jersey. Of the remaining membership (539), an additional 133 completed the questionnaire at the meeting. One duplicate return was rejected, while insufficient biographical data or poor handwriting eliminated three responses. The remaining 290 questionnaires were analyzed collectively.

The 290 responses (41 percent of the total membership) were considered to be a representative sample of the New Jersey Academy of Family Physicians. All responses were coded and keypunched and the data analyzed using the Statistical Package for the Social Sciences. The primary tool for

From the Department of Family Medicine, with the assistance of the Department of Biochemistry (Dr. Eikenberry), College of Medicine and Dentistry of New Jersey, Rutgers Medical School, Piscataway, New Jersey. Requests for reprints should be addressed to Dr. S. W. Warburton, Department of Family Medicine, College of Medicine and Dentistry of New Jersey, Rutgers Medical School, University Heights, Piscataway, NJ 08854.

analysis was the cross tabulation facility which utilized the chi-square test for association. Throughout this study, results were considered to be statistically significant at a confidence level of 95 percent or above.

Results

Of the 290 respondents, 78 percent (226) indicated they were solo practitioners, while 22 percent (64) were participating in group practice. As previous studies have documented, the majority of physicians in the youngest age group were engaged in group practices, whereas physicians in the older age groups tended predominantly to be solo practitioners. The age-practice pattern is shown in Table 1.

A rural-urban analysis of the New Jersey physicians' practices was undertaken using the Standardized Metropolitan Statistical Areas System developed by the United States Census Bureau. Using this system, 87 percent (257) practiced in urban areas and 13 percent (32) in rural areas (one was unknown).

Eighty-two percent (239) of the physicians in the sample said they offered house calls to their patients. While urban physicians (87 percent) were more likely to offer house calls than their rural counterparts (73 percent), the difference was only of marginal statistical significance. This was not the case when physicians were compared by type of practice: 84 percent of the solo practitioners offered house calls, compared with 96 percent of the group practitioners.

The physicians were also asked how many house calls they had made during the week previous to completing the questionnaire. These results are shown in Figure 1. Contrary to other surveys,[11] no correlation was noted between the physicians' age and whether or not they offered house calls to their patients. The average number of house calls per physician in the week previous to the survey was 6.1, of which 4.71 were scheduled and 1.34 were of emergency nature. It is important to note that this survey was conducted during an unexpected outbreak of influenza. It was, therefore, not possible to conclude that these averages represent the physicians' year-round behavior. However, it might be expected that the 4.71 house calls per physician per week is a closer approximation of the physicians' behavior in the absence of such an outbreak.

Twenty-five percent of the house calls were performed by the 18 percent of the physicians who said that they do not offer house calls to their patients. These house calls were evenly distributed between scheduled and emergency. Thus, it appears that while some physicians do not "offer" house calls to their patients, they still perform them.

Further review of the data showed that while the majority of physicians performed or said they offered house calls to their patients, most commented that the majority of house calls were made at the physicians' rather than the patients' discretion. When asked whether they offered house calls, the physicians made such comments as, "I select those I feel are necessary," "selective," "agreed that they should be screened but most are really necessary," and "true many are a nuisance, but this cannot be determined until you have examined the patient."

With almost half (48 percent) of the physicians agreeing that "most house calls are a nuisance and waste of time and could just as well be handled in the office," selectivity and screening house call requests seemed to be considered essential. As might also be expected, those physicians who agreed with this statement were to a large extent those who said they did not "offer" house calls to their patients.

Approximately 75 percent of the physicians "agreed" or "strongly agreed" that "house calls are an important part of continuing comprehensive family care," and almost half (46 percent) of the physicians felt that house calls are an excellent means for gathering "pertinent knowledge of family relationships in the living situation." The following were representative of the comments recorded on this question:

The "patient often puts on a great front in the office,"
"There is no substitute for a house call in evaluating the family's social relationship at a glance," or
"The house call in some cases can provide a depth of background knowledge and appreciation never revealed in the office."

As might be anticipated, those physicians who offered house calls to their patients were to a large extent the same ones who indicated that house calls were of value (Table 2).

When questioned about the average time spent per house call, 66 percent of the physicians recorded that on an average they spent between 15 and 20 minutes in the patient's home. Of the remaining physicians, 12 percent said they spent less than 15 minutes in the home, 17 percent more than 25 minutes, and 4 percent did not respond.

The physicians were also asked to review a list of medical problems and indicate those which they perceived to be appropriate reasons for making a house call. Their responses are presented in Table 3, along with the frequency with which they listed them as reasons for their last three house calls. There appeared to be a direct relationship between these two variables.

A detailed review was made of the reasons listed by the physicians for their last three house calls (Table 4). Patients who were elderly or homebound were the most likely to receive home visits. The physicians were asked specifically to indicate whether these two impediments to mobility, as well as several others, warranted a house call. Table 5 shows the physicians' responses to these non-medical reasons for which a patient might request a house call in comparison with the physicians' actual behavior. Clearly, being home-bound or elderly were regarded above all others as valid reasons for needing a house call.

In order to gain a further insight into the physicians' attitude toward non-medical problems which might necessitate a house call, they were also asked whether "social (non-medical) factors" ever necessitated a house call. Twenty-four percent (69) of the sample responded either "moderately often" or "frequently." Additional questions aimed at better defining the physicians' general attitude concerning house calls and the physicians' responses to these questions are shown in Table 6.

Discussion

From these survey results, it can be concluded that the New Jersey family physicians' house call patterns and attitudes are not inconsistent with those outlined by other stud-

ies.[7,11,12] While the average of 6.1 house calls per week was greater than anticipated, due to the varying methodologies used in other American surveys, it is difficult to determine whether this average is significantly different from the results of those studies.[2,7,11] However, the average of scheduled house calls per week (4.7) is identical to the outcome from a study conducted in London, Ontario.[12] The British average of three or four per day remains considerably higher, but this too has been dramatically declining over the last decade.[3]

These results from a primarily urban-suburban sample also refute the myth that house calls are strictly the province of the rural practitioner.[11] There was no significant difference in the practice patterns of these two groups.

That a considerable proportion (33 percent) of house calls were made for elderly or home-bound patients is also consistent with the observations of other studies.[2,7,11] Smith and colleagues[6] observed that 41 percent of their 100-patient sample were over 65 years of age. In another survey,[11] half of the visits were made to elderly patients for whom travel was difficult without an ambulance. Similarly, Elford and coworkers[7] concluded that 66 percent of all house calls were made for persons over 55 years of age.

Clearly, in New Jersey the home visit is not "defunct" among family physicians. Being elderly, being immobilized, or having heart disease, stroke, or cancer are the predominant reasons for patients receiving house calls. With childhood and infectious diseases better understood and more satisfactorily controlled, the physicians' office has become the more efficient place to care for such problems. Indeed, it appears that when house calls are made for infectious disease, they are done because an underlying problem of age or immobility renders an office visit difficult or impossible. Further, as emergency medical response systems become more sophisticated, highly trained ambulance personnel and Emergency Room physicians are playing an increasingly prominent role in addressing the patients' emergency care needs.[13]

Whereas the majority of respondents in this study felt the family physician is best suited to make the initial house call, studies have shown

Table 1. Age-Practice Pattern of Respondents

Age	Solo		Partner/Group		Total	
	No.	%	No.	%	No.	%
29-45	28	(12)	36	(56)	64	(22)
46-53	57	(25)	16	(25)	73	(25)
54-61	65	(29)	4	(6)	69	(24)
62 and over	66	(29)	3	(5)	69	(24)
unknown	10	(4)	5	(8)	15	(5)
Total	226	(99)	64	(100)	290	(100)

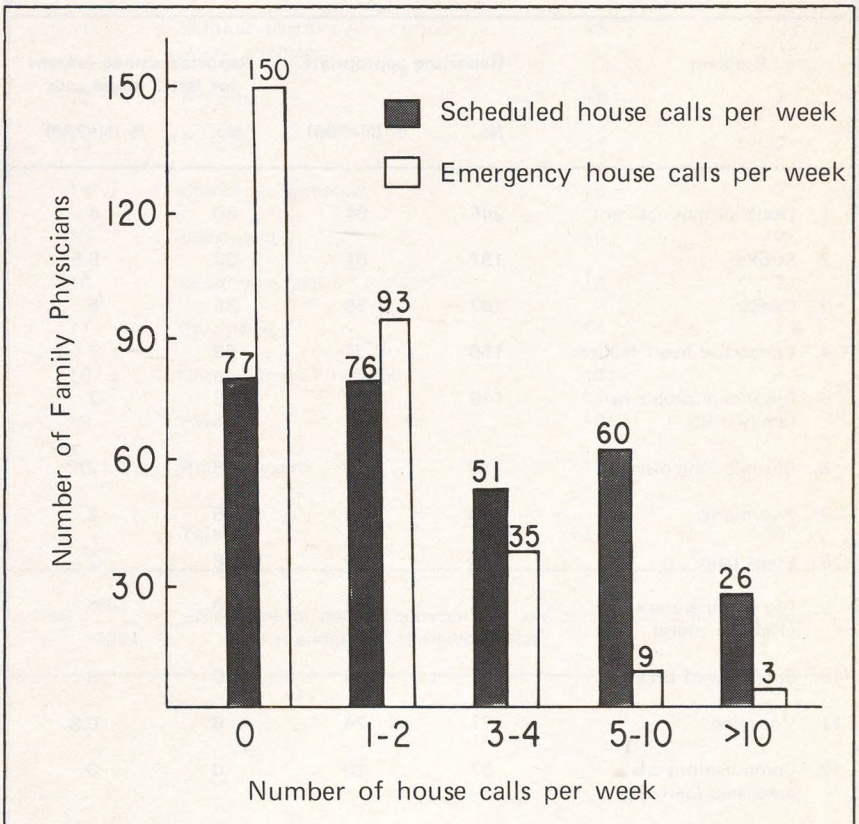

Figure 1. House Calls Made During Week Prior to Survey

Table 2. Physician Attitude and Behavior Toward House Calls

Behavior[2]	0	⩽ 2	⩽ 4	⩽ 10	> 10	Total
Attitude[1]						
Disagree	40	25	5	4	3	77
Agree	29	40	33	32	9	143
Strongly Agree	6	11	13	24	14	68
Unknown	2	0	0	0	0	2
Total	77	76	51	60	26	290

1 — Response to statement "House calls are an important part of comprehensive continuing family care."

2 — Number of scheduled house calls per week.

Table 3. Medical Problems Considered to be Appropriate for House Calls

Problem	Reporting appropriate		Reported among reasons for last 3 house calls	
	No.	% (N=290)	No.	% (N=739)
1. Death pronouncement	245	84	30	4
2. Stroke	187	64	63	8.5
3. Cancer	162	56	35	5
4. Congestive heart failure	156	54	53	7
5. Emotional problems/ family crisis	119	41	18	2
6. Chronic lung disease	116	40	16	2
7. Pneumonia	113	39	25	3
8. Chest pain	113	39	16	2
9. High temperature (104F or more)	104	36	10	1
10. Shortness of breath	97	34	0	0
11. Vomiting	71	24	6	0.8
12. Complications of pregnancy/delivery	57	20	0	0
13. Trauma	43	15	17	2

an increase in the use of auxiliary medical personnel to extend medical services where physicians feel their own presence is unnecessary.[3,6] Barber,[14] for example, reported that the use of the nurse to screen house call requests resulted in 22 percent fewer house calls being made by the physician.

Thus, it appears that while the reasons for which a house call will be made by a family physician are decreasing, the house call continues to be a valuable tool in the development of a thorough understanding of the patient and his surroundings.

Teaching the Physician to Make House Calls

These results have important implications for the training of family physicians. Despite the fact that the majority of the physicians in the sample felt that house calls were a nuisance and waste of time, a review of the reasons they listed for their last three house calls suggested that few, if any, were made for reasons they considered to be inappropriate. From this it can be inferred that these physicians have developed a protocol for determining who receives house calls and for what reasons. This suggests that family practice teaching centers could use the practical framework these physicians have evolved to help residents more clearly define those criteria for which house calls are made both during their residency and afterwards. Such criteria will necessarily be flexible and developed within the constraints of the physician's practice and community, and used as one indicator of whether the requested house call necessitates a physician or other health professional. Flexible criteria are essential since geographic areas have different needs. For example, an area with inadequate emergency medical services, unsophisticated team care, or a high percentage of elderly patients may place more demands on the physicians for home visits than another area with more sophisticated health support systems.

Making patients familiar with a developed protocol will help to keep patients' expectations for house calls within realistic limits, while simultaneously assuring them that their genuine needs for house calls will be met. This protocol should increase

patient satisfaction and cooperation providing the patients receive an adequate explanation of why boundaries have been set on this service. Making them aware of why such problems as "no baby sitter" or "no transportation," or certain medical problems are inappropriate reasons for a house call may enhance cooperation so long as patients do not use this knowledge to manipulate the system. Even this abuse will only be short-term, however, since the physician would more closely screen these patients in the future.

Participating in a family practice unit offering house calls in situations meeting clearly defined criteria, under the direction of a faculty with positive attitudes towards house calls, should prepare residents to meet the specific needs of their own patient population. Further, satisfaction with home care delivery should increase among newly graduated family physicians as house calls are made for more appropriate reasons. Training physicians to use their time in the home to gather information not otherwise available should help dispel the view of the house call as a nuisance. The Ecological Systems Review of Bishop and coworkers[15] is one instrument the resident could use to gather "social knowledge" of the patient and family.

In addition to criteria to guide the resident in identifying appropriate requests for house calls, and a system for maximizing their time in the home, they should also be given support in the transition from the office environment to the solo status of the physician on a home visit. The patient's home and family, as well as the lack of paraprofessional support, can seem threatening to the new physician. However, the residents' anxiety level can be expected to make this a highly teachable moment which should be used advantageously by faculty.

As required by licensure regulations in most states, direct supervision of the resident is necessary in the first year. To encourage independence while still offering supervision in the second and third years, faculty could review resident performance using such alternatives as a portable tape recorder or faculty/resident audit of the patient, family, and environment.

Table 4. Top 20 Reasons for Last 3 House Calls

Rank Order	Reason	Number Reported (N=739)	% of Total
1	Homebound/Bedbound	112	15
2	Elderly	74	10
3	CVA	63	8.5
4	CHF/ASHD	53	7
5	Influenza	50	7
6	"Medical"	37	5
7	Cancer	35	5
8	Death pronouncement	30	4
9	Upper respiratory infection	25	3
10	Pneumonia	25	3
11	Multiple sclerosis/Amyotrophic lateral sclerosis	19	2.5
12	Arthritis	18	2
13	Fracture	17	2
14	Chronic lung disease	16	2
15	Chest pain	16	2
16	Gastrointestinal	15	2
17	Psychiatric	14	1.8
18	Chronic brain syndrome	13	1.7
19	Fever	10	1
20	Routine exam	10	1
	Total	652	86*

*NB: $\frac{652}{739}$ = 88%. The difference between this and the stated sum is the result of rounding off the percentages.

Table 5. Non-Medical Problems and Physician Response

Non-Medical Reason	Reporting appropriate		Reported among reasons for last 3 house calls	
	No.	% (N=290)	No.	% (N=739)
1. Patient bedridden or home-bound	272	94	119	16
2. Patient elderly	165	57	74	10
3. No car available	38	13	4	0.5
4. Patient request	34	12	4	0.5
5. No baby sitter	25	9	0	0
6. Patient is a child	16	6	0	0

Table 6. Physicians' Attitudes Concerning House Calls

Attitude	Strongly Disagree or Disagree		Neutral		Strongly Agree or Agree	
	No.	(%)	No.	(%)	No.	(%)
1. Important part of comprehensive continuing care	49	(17)	28	(10)	211	(73)
2. Family relationship knowledge just as well obtained in office	133	(46)	35	(12)	107	(37)
3. Only for acute crisis care	169	(58)	26	(9)	89	(31)
4. Keep infectious disease out of office	186	(64)	50	(18)	52	(18)
5. Nuisance and waste of time	113	(39)	33	(11)	140	(48)
6. Moneymaking part of practice	242	(83)	26	(9)	30	(7)
7. Number will increase over 5 years	214	(74)	37	(13)	31	(11)
8. Physician's prerogative to make unsolicited house calls	172	(59)	35	(12)	77	(27)

N = 290. Unanswered questions will cause some totals to be less than 100%.

Conclusion

Through this study, New Jersey family physicians may better understand the current function of house calls. Furthermore, it is obvious that criteria can be established for house calls that will enhance the education of the resident and edify the practicing physician. The family practice curriculum should be developed to include house calls in addition to the training already provided in the office and hospital. The clear implication is that family practice residents must consider the house call an important component of family medicine.

Acknowledgement

This project was supported by a grant from the New Jersey Academy of Family Physicians.

References

1. Mason H: Medical school, residency, and eventual practice location. JAMA 233:49-52, 1975
2. Mechanic D: General medical practice: Some comparisons between the work of primary care physicians in the United States and England and Wales. Med Care 10:402-420, 1972
3. Marsh G: Primary medical care. JAMA 235:45-48, 1976
4. Todd M: Are doctors doing their job? US News and World Report 77(1):30-32, 1974
5. Brickner P, Duque T, Kaufman A, et al: The homebound aged: A medically unreached group. Ann Intern Med 82:1-6, 1975
6. Carrey-Smith K, Dreaper R, Jenkins CW: Home visits — the patient's viewpoint. J R Coll Gen Pract 22:857-865, 1972
7. Elford R, Brown J, Robertson L, et al: A study of house calls in the practices of general practitioners. Med Care 10:173-178, 1972
8. Badger T: In praise of the house call. Medical Dimensions 3:16-18, 1974
9. Clyne M: Night Calls: A Study in General Practice. London, Tavistock, 1961
10. Stevens J: Brief encounter. Practitioner 212:83-102, 1974
11. Wickware D: Three of four family doctors make house calls. Patient Care 7(16):105-118, 1973
12. Bass M: A profile of family practice in London, Ontario. Can Fam Physician 9(21):113-120, 1975
13. Sadler A, Sadler B, Webb S: Emergency Medical Care: The Neglected Public Service. Cambridge, Mass, Ballinger Press, 1977
14. Barber JH: First-contact decisions in general practice. Lancet 1:1191-1192, 1973
15. Bishop M, Neser W, Marianfeld C: Expanding ecologic perception through the medical history. J Med Educ 41:465-468, 1966