University of Pennsylvania
ScholarlyCommons

Departmental Papers (SPP)

School of Social Policy and Practice

May 2008

Nonprice Barriers to Ambulatory Care After an Emergency Department Visit

Teri L. Vieth
Kern Medical Center

Karin V. Rhodes
University of Pennsylvania, kvr@sp2.upenn.edu

Follow this and additional works at: http://repository.upenn.edu/spp_papers

Recommended Citation
Vieth, T. L., & Rhodes, K. V. (2008). Nonprice Barriers to Ambulatory Care After an Emergency Department Visit. Retrieved from http://repository.upenn.edu/spp_papers/123

Postprint version: Published in *Annals of Emergency Medicine*, Volume 51, Issue 5, May 2008, pages 607-613.
Publisher URL: http://dx.doi.org/10.1016/j.annemergmed.2007.10.027

This paper is posted at ScholarlyCommons. http://repository.upenn.edu/spp_papers/123
For more information, please contact repository@pobox.upenn.edu.

Nonprice Barriers to Ambulatory Care After an Emergency Department Visit

Abstract

Study objective: Availability of timely follow-up care is essential in emergency medicine. We describe nonprice barriers to care experienced by callers reporting to be emergency department (ED) patients in need of follow-up care.

Methods: This was a secondary analysis of data collected during a survey of ambulatory clinics in 9 US cities. Research assistants called a random sample of 603 ambulatory clinics, generated from actual ED referral lists. Callers identified themselves as new patients referred by the local ED. Outcome measures were the percentage of callers experiencing failed appointment attempts for a variety of reasons and inconvenience factors associated with the appointment process: number and amount of time spent on hold, voicemail, repeated calls, and total telephone time.

Results: Only 242 (23%) of 1065 total calls resulted in an appointment within one week, for an ultimate caller success rate of 40% (242/603 pseudopatient scenarios). Independent of insurance status, 43% of 603 initial calls to ED referral numbers were unsuccessful: 27% of initial call failures were due to clinic closures, busy signals, voicemail, or personnel too busy to take the call; 6% wrong numbers; 4% disconnected or extended holds; and 6% out of practice scope. If they reached clinic personnel, 55% of callers were placed on hold; average hold time was 2.43 minutes (median 1.35 minutes). Answering system time averaged 1.17 minutes (median 0.68 minutes; range 0.02 to 13.90 minutes). On average, it required 1.7 calls to reach appointment staff and 8% of clinic contacts required 4 or more attempts. Total telephone time averaged 11.1 minutes for successful appointments.

Conclusion: There are important nonprice barriers to obtaining follow-up appointments for urgent conditions, independent of insurance status.

Comments

Postprint version: Published in *Annals of Emergency Medicine*, Volume 51, Issue 5, May 2008, pages 607-613.
Publisher URL: http://dx.doi.org/10.1016/j.annemergmed.2007.10.027

This journal article is available at ScholarlyCommons: http://repository.upenn.edu/spp_papers/123

Nonprice Barriers to Ambulatory Care After an Emergency Department Visit

Teri L. Vieth, MD, MBA
Karin V. Rhodes, MD, MS

From the Department of Emergency Medicine, Kern Medical Center, Bakersfield, CA (Vieth); and the Department of Emergency Medicine, University of Pennsylvania, Pennsylvania, PA (Rhodes).

Study objective: Availability of timely follow-up care is essential in emergency medicine. We describe nonprice barriers to care experienced by callers reporting to be emergency department (ED) patients in need of follow-up care.

Methods: This was a secondary analysis of data collected during a survey of ambulatory clinics in 9 US cities. Research assistants called a random sample of 603 ambulatory clinics, generated from actual ED referral lists. Callers identified themselves as new patients referred by the local ED. Outcome measures were the percentage of callers experiencing failed appointment attempts for a variety of reasons and inconvenience factors associated with the appointment process: number and amount of time spent on hold, voicemail, repeated calls, and total telephone time.

Results: Only 242 (23%) of 1065 total calls resulted in an appointment within one week, for an ultimate caller success rate of 40% (242/603 pseudopatient scenarios). Independent of insurance status, 43% of 603 initial calls to ED referral numbers were unsuccessful: 27% of initial call failures were due to clinic closures, busy signals, voicemail, or personnel too busy to take the call; 6% wrong numbers; 4% disconnected or extended holds; and 6% out of practice scope. If they reached clinic personnel, 55% of callers were placed on hold; average hold time was 2.43 minutes (median 1.35 minutes). Answering system time averaged 1.17 minutes (median 0.68 minutes; range 0.02 to 13.90 minutes). On average, it required 1.7 calls to reach appointment staff and 8% of clinic contacts required 4 or more attempts. Total telephone time averaged 11.1 minutes for successful appointments.

Conclusion: There are important nonprice barriers to obtaining follow-up appointments for urgent conditions, independent of insurance status. [Ann Emerg Med. 2007;xx:xxx.]

0196-0644/$-see front matter
Copyright © 2007 by the American College of Emergency Physicians.
doi:10.1016/j.annemergmed.2007.10.027

INTRODUCTION

In 2004, there were 110 million visits to emergency departments (EDs), up 18% from 1994. Urgent and emergency cases account for 38% and 12% of the patient load, respectively, and 46% of patients are discharged with instructions to follow up with a clinic or ambulatory physician.[1] Although the main barrier to ED throughput is lack of available inpatient beds, an ED physician's ability to obtain timely follow-up care for patients with high-risk medical conditions undoubtedly contributes to admission decisions. In addition, effort spent reaching primary care providers to ensure follow-up imposes additional time burdens on ED providers and slows the rate of discharge.

Many authors throughout the last few decades have documented poor rates of compliance with recommended follow-up appointments. Straus et al,[2] in 1983, found that only 34% of nonurgent ED patients complied with outpatient referral. In a study by Vukmir et al[3] in 1992, only 28% of all discharged ED patients completed an outpatient follow-up appointment. Magnusen et al[4] identified that only 47% of patients were able to get appointments within 3 days of the recommended date, and only 56% were able to complete an appointment within 1 month. Reasons for noncompliance have been documented as multifactorial. Patients are less likely to comply if they are younger and have less acute medical complaints. Financial constraints such as childcare issues, transportation, and medical insurance status affect the ability to make and complete an outpatient appointment. Having a confirmed follow-up appointment on discharge has been cited as a major factor in improving compliance.[3–5] A 1996 article by Thomas et al[5] documented a 67% rate of successful follow-up when the majority (92%) of patients were given a confirmed appointment.

Although it may be ideal for follow-up appointments to be made in the ED before discharge, it would be difficult for many EDs to do this without direct access to appointment scheduling

Editor's Capsule Summary

What is already known on this topic

It is unknown how easy it is for patients with health insurance to find timely follow-up after an emergency department (ED) visit.

What question this study addressed

Research assistants acting as patients just treated in the ED for serious medical conditions attempted to secure a prompt follow-up appointment at clinics recommended by actual EDs. Success rate and the ease of the process were measured.

What this study adds to our knowledge

Only 40% of attempts to schedule an appointment at 603 clinics were successful, regardless of insurance status. Callers routinely encountered wrong numbers, busy signals, voicemail, disconnections, and extended holds, necessitating multiple calls.

How this might change clinical practice

Unless an appointment is made before patients leave the ED, there is a high likelihood that they will not get timely follow-up, a major barrier to accessibility of the health care system for this purpose.

with outpatient clinics. One contributing factor for EDs is that they are open 24 hours per day, 7 days per week, whereas clinics they need to contact have limited business hours. In a study of pediatric asthma patients, only 33 of 97 (34%) patients needing follow-up were successfully given an outpatient appointment when the ED attempted to provide one; this was attributed to no answer after 2 attempts (10%) or being told to have patients call back during business hours (56%).[6]

Realizing that some patients will need to make their own follow-up appointments, Asplin et al[7] examined rates of successful follow-up appointments by insurance status and found that only 64% of privately insured patients and patients willing to pay cash at the visit were successful in obtaining a follow-up appointment within 1 week of ED visit. We further analyzed the data collected for this parent study to identify the nonprice barriers to acquiring ED follow-up appointments, ie, impediments unrelated to financial resources or insurance status. Identifying the nonprice barriers to follow-up care highlights capacity issues and inefficiencies in the health care system that need to be addressed to ensure safe discharge of high-risk patients.

MATERIALS AND METHODS

Setting

The methods used for the main study were previously described.[7] Study sites in 9 geographically diverse US cities were chosen, with a convenience sample of local EDs selected by each site director. Each ED provided a list of condition-appropriate follow-up clinics from the list of clinics they provide to discharged patients. A clinic was defined as any site providing follow-up care, including hospital and health care system clinics, community clinics, and physician offices. For uninsured and Medicaid callers, safety net clinics were identified and contacted. During the study, 603 clinics were randomly sampled from a possible 1,206 clinics.

Study Design

The study used a deceptive design typical of audit studies.[8] Graduate student research assistants (callers) were trained to pose as patients and were supervised by an expert in survey research using standardized scripts. Calls were made from a central computer-assisted telephone interview center by the research assistants posing as patients attempting to obtain timely outpatient follow-up for new-onset acute medical conditions per their discharge instructions from the ED the previous night. The 3 conditions were community-acquired pneumonia, asymptomatic accelerated hypertension (diastolic blood pressure >110 mm Hg), and possible ectopic pregnancy. Internal medicine and family medicine clinics were called for the pneumonia and hypertension vignettes, whereas obstetrics/gynecology and family medicine clinics were called for the ectopic pregnancy vignette.

For inclusion in the primary study, each clinic was contacted twice by the same caller using the same clinical scenario. For one call, the patient had private insurance, and for the other the patient had either no insurance or Medicaid. The order of the calls was random. The calls were separated by 14 days to avoid caller recognition. The primary study goal was to obtain an appointment within 7 days, and all appointments were cancelled at the end of the call to avoid blocking appointments for actual patients. When asked for insurance or identification numbers, callers used standardized responses ("I don't have that information with me, but I can bring it when I come") to maximize the likelihood of an appointment without providing this information. No false numbers were ever given. The parent study only included clinics with 2 successful contacts, one for each insurance type. For this follow-up study on nonprice barriers to access, all contacts with a referral clinic were analyzed, increasing the number of included clinics from 430 to 603. Clinic contact is defined as all attempts to reach a selected clinic for the randomly selected first insurance type, while the initial call is defined as the first time the caller dialed the clinic number.

The field period for this study ran from March to May 2002 for the pretest and May 2002 to February 2003 for the main study. Because the study could not have been conducted without a deceptive design, appropriate precautions were put in place to avoid compromising patient care and to protect the identity of contacted clinics. The principal investigators were blinded to the identity of the clinics that were randomly sampled from a large sampling frame of actual ED referral numbers from the 9 metropolitan areas. All clinics in the

Table 1. Barriers to appointment process on initial attempt (percentage of total calls).

	Total (N=603)		
Barriers	**No.**	**Percentage**	**95% CI**
Telephone number problems	**35**	**5.8**	**4.9–6.8**
Telephone out of order	17	2.8	2.1–3.5
Wrong number	17	2.8	2.1–3.5
Fax number	1	0.2	0.0–0.3
Requires patient to call later	**166**	**27.5**	**25.7–29.3**
Clinic closed without answering machine	43	7.1	6.1–8.2
Clinic closed with answering machine	18	3.0	2.3–3.7
No answer/no machine	11	1.8	1.3–2.4
Busy	14	2.3	1.7–2.9
Voicemail	49	8.1	7.0–9.2
Asked to call back	31	5.1	4.2–6.0
Call process inconvenience	**22**	**3.6**	**2.9–4.4**
Cut off	17	2.8	2.1–3.5
Extended hold by answering machine	1	0.2	0.0–0.3
Extended hold by person	4	0.7	0.3–1.0
Clinic does not handle condition	**36**	**6.0**	**5.0–6.9**
Total unsuccessful initial calls	**259**	**43.0**	**40.9–45.0**

sampling frame were provided with debriefing letters detailing study results at the end of the study. The study was approved for nationwide administration by the institutional review boards of the parent study principal co-investigators and the survey center.

Methods of Measurement

Data collection forms with a priori selected outcomes (ie, "total minutes of call from first ring to hang-up") were used to tabulate information on the entire clinic contact process. Clinic telephone numbers sampled were from each city's ED call roster. The callers could select from a host of connection problems (wrong numbers, fax numbers), as well as conditions that required the caller to try later (busy numbers, voicemail, asked to call back later) or call another number (out-of-scope clinics not handling the caller's medical condition) or other inconveniences (call disconnected by staff or telephone system). Extended holding time (defined as greater than 30 minutes) and number of times placed on hold were collected for the last (successful) contacts only. Voicemail refers to an automated messaging system or answering machine. In addition to documenting these difficulties, the research assistant recorded reasons for failed appointments and unavailability of after-hours appointment. All periods analyzed were collected by the computer-assisted telephone interview system.

Primary Data Analysis

Summary statistics were used to analyze caller call experiences. Although callers could provide additional information in free-form areas, none of this information was included in our analysis. We measured the proportions of unsuccessful call attempts by reason of failure. If contact was successful, reasons for appointment failures or lack of after-hour appointments were analyzed as incidence rates. Means of the "inconvenience factors" (ie, hold time, hang-ups, etc) were calculated, along with 95% confidence intervals (CIs) to determine significance of length of time or quantity. The sample size was determined from the parent study.[7] All analyses were conducted using Stata, version 8.2 (StataCorp, College Station, TX).

RESULTS

Only 242 (23%) of 1065 total calls resulted in an appointment within one week, for an ultimate caller success rate of 40% (242/603 sampled clinics). When we restricted our analysis to initial calls to each clinic (n=603), callers were unsuccessful in contacting clinic personnel 43% of the time (Table 1). The majority of initial call failures required the caller to call back because of clinic closures, busy signals, voicemail, or clinic request. Callers with ectopic pregnancy were more likely to reach a clinic that did not handle their medical condition and to face extended holds.

After multiple attempts, 7% of callers were still unsuccessful in reaching a selected clinic and 10% reached a clinic that did not handle their medical condition (Table 2). Callers with the ectopic pregnancy scenario were more likely to find a clinic out-of-scope, but less likely to require multiple attempts.

When callers succeeded in reaching a clinic, additional nonprice barriers to obtaining an appointment were encountered in 6% of scenarios (Table 3) which increased total appointment failure from 43% to 49%. Either the clinic or specific physician treating the condition was not accepting new patients or the clinic had no appointments available within the 7-day window allowed for a "timely appointment." The ectopic pregnancy patients were less likely to contact a clinic not accepting new patients but more likely to miss the 7-day deadline for a "timely appointment."

Table 2. Barriers to clinic contact at final attempt (percentage of total calls, 95% CI).

Barriers	Pneumonia (N=195)	Hypertension (N=187)	Ectopic Pregnancy (N=221)	Total (N=603)
5 or more attempts	2.6 (1.9–3.2)	4.3 (3.5–5.1)	0.9 (0.5–1.3)	2.5 (1.9–3.1)
Bad number	7.7 (6.6–8.8)	1.6 (1.1–2.1)	4.5 (3.7–5.4)	4.6 (3.8–5.5)
Does not handle condition	6.7 (5.7–7.7)	8.6 (7.4–9.7)	14.5 (13.0–15.9)	10.1 (8.9–11.3)
Total unsuccessful	16.9 (15.4–18.4)	14.4 (13.0–15.9)	19.9 (18.3–21.5)	17.2 (15.7–18.8)

Table 3. Barriers to obtaining appointment after contacting clinic (percentage of total calls, 95% CI).

Barriers	Pneumonia (N=195)	Hypertension (N=187)	Ectopic Pregnancy (N=221)	Total (N=603)
Clinic not accepting new patients	3.1 (2.4–3.8)	4.8 (8.0–5.7)	0.9 (8.0–1.3)	2.8 (8.0–3.5)
Physician for condition not accepting new patients	0	1.1 (0.7–1.5)	0.5 (0.2–0.7)	0.5 (0.2–0.8)
Appointments unavailable within guidelines	0.5 (0.2–0.8)	0.5 (0.2–0.8)	5.0 (4.1–5.9)	2.2 (1.6–2.8)
Total, %	3.6 (2.8–4.3)	6.4 (5.4–7.4)	6.3 (5.3–7.3)	5.5 (4.6–6.4)

Table 4. Barriers to obtaining after-hours appointment after contacting clinic (percentage of total calls, 95% CI).

Barriers	Pneumonia (N=195)	Hypertension (N=187)	Ectopic Pregnancy (N=221)	Total (N=603)
Clinic not offering late hours	32.8 (30.9–34.7)	32.6 (30.7–34.5)	44.8 (8.0–46.8)	37.2 (8.0–39.1)
Late hours unavailable for new patients	21.0 (19.4–22.7)	19.3 (17.6–20.9)	7.7 (6.6–8.8)	15.6 (14.1–17.1)
Physician for condition not offering late hours	0.5 (0.2–0.8)	2.1 (1.6–2.7)	1.4 (0.9–1.8)	1.3 (0.9–1.8)
Total, %	54.4 (52.3–56.4)	54.0 (52.0–56.0)	53.9 (51.8–55.9)	54.1 (52.0–56.1)

Table 5. Inconvenience factors in making appointments across all medical conditions (N=603).

Inconvenience factors	All Callers, Mean (95% CI)	Percentage of Total	Callers Affected		
			Mean	Median	Range
Number of minutes on hold	1.32 (1.13–1.52)	54.6	2.43	1.35	0.02–14.23
Number of minutes on voicemail	0.22 (0.15–0.29)	18.9	1.17	0.68	0.02–13.90
Number of attempts, if successful	1.71 (1.61–1.81)				
	# of attempts required for success (% total)				
	1-2	3.0	4	5	6	7
	83.1	9.4	3.4	3	0.9	0.2

The majority of clinics contacted did not offer appointments after regular business hours (Table 4). Callers with the ectopic pregnancy scenario were more likely to find clinics that did not offer late hours.

Inconvenience factors, including hold time, voicemail, repeated attempts (Table 5), and total telephone time (Table 6), were also measured. Fifty-five percent of all successful callers were placed on hold, with an average wait of 2.4 minutes. Answering system time for callers reaching voicemail lasted as long as 13.90 minutes (mean 1.17 minutes; median 0.68 minutes). Finally, on average 1.7 calls were required to successfully reach a clinic to request an appointment. Although many callers succeeded on the initial call (median 1 call), 8% of the cases required 4 or more attempts. The trend toward increased time spent obtaining an appointment within the 7-day window (Table 6) reflects the additional time needed to negotiate for a timely appointment.

LIMITATIONS

This study has several limitations, the most important of which is that all calls were made by callers without existing primary care providers. It is hoped that patients who have a usual source of care have greater success and spend less time obtaining follow-up appointments, although this remains to be studied. Nevertheless, because 17% of adults either report that the ED is their usual source of care or report no usual source of care,[9] this could be relevant to an estimated 4 million adults requiring ED follow-up yet having no existing outpatient relationship.[1,10,11]

Our success rates were likely overestimated because callers were graduate students willing and able to persist in their attempts, who were not actually ill, and were not limited by other energy or time constraints. Success would likely have improved and time spent decreased if callers had insurance or identification numbers and been able to leave callback numbers.

Table 6. Total minutes spent on appointment access (mean, 95% CI).

	Obtained Appointment Within Seven Days			
	No		Yes	
	Cases, No.	Time, min	Cases, No.	Time, min
Pneumonia	116	8.14 (3.72-9.57)	79	9.51 (6.82–12.19)
Hypertension	116	7.93 (6.31–9.54)	71	10.36 (8.05–12.66)
Ectopic pregnancy	129	10.76 (8.92–12.6)	92	13.11 (11.07–15.16)
Total	361	9.01 (8.05–9.96)	242	11.13 (9.78–12.48)

However, 86% of cases were completed without this information, and therefore, we believe that our results are not substantially affected by this limitation. Other cautions in interpreting our results are warranted, given that this is a secondary analysis of data collected from metropolitan areas 4 years ago. However, in the absence of significant changes in the financing or organization of health care, there are unlikely to have been significant improvements. Likewise, the sites selected for the study were all in large US cities, and results cannot be generalized to rural communities. The study also preselected 3 potential conditions with adult patients, and therefore results cannot be generalized to all medical conditions or to pediatric patients. We can not exclude the possibility that insurance status rather than actual clinic availability may have impacted the additional 6% of nonprice barriers encountered once clinic personnel were reached. However, the fact that 43% of initial call attempts were unsuccessful is independent of insurance status and truly represents a nonprice barrier to follow up care. Finally, it is important to reiterate that a successful follow-up appointment does not guarantee appropriate care, nor does lack of an appointment mean that a patient walking in to a clinic without an appointment would not have been treated by a physician.

DISCUSSION

This study documents that factors beyond patient compliance and insurance status can result in significant barriers to contacting ambulatory care providers. Even if contact is successful, nonprice barriers can prevent patients from obtaining a timely appointment for an urgent condition. Defining and measuring the barriers that exist when motivated patients try to access follow-up care is the first step toward reducing obstacles to care. For an emergency physician, this information might influence whether a patient should be discharged or admitted, the manner in which patients are discharged, and the amount of attention paid to arranging follow-up for sick patients in need of urgent follow-up. Nonetheless, it is clear that the ultimate responsibility for ensuring adequate capacity and mechanisms for follow-up care falls to the health care system. Any attempts to re-engineer the current system need to recognize the role that nonprice barriers play in patient ability to comply with medical advice. These barriers need to be identified, documented, and explicitly addressed.

The telephone numbers used for this study came from actual ED-provided lists of physicians and clinics available for follow-up care for the conditions that we were testing. Some of the referrals provided by the EDs were to incorrect telephone numbers or to clinics that did not treat the medical condition. EDs could increase follow-up success by periodically validating telephone numbers and tracking medical conditions treated at recommended ambulatory clinics. This is particularly important for specialty-specific problems. Our study's callers with possible ectopic pregnancy were twice as likely to contact a clinic that did not treat their condition.

This study specifically examined the success of the initial call to reach a follow-up number on the premise that patients will be less likely to comply with a follow-up appointment if it involves a cumbersome process. Many may try once but are unwilling to make multiple attempts. We found that a large portion of callers with correct telephone numbers failed to reach appointment coordinators with the initial call. Although more than half were able to leave a voicemail, this could present a major barrier for patients with no or limited telephone access. Additional frustration leading to failed initial calls occurred as callers were either cut off or disconnected from a call because of extended hold times. To address these issues, clinics would need additional appointment personnel or systems that transfer calls to voicemail and guarantee callbacks. Alternatively, it would be preferable if ED providers could have direct access to appointment schedules for patients in need of urgent follow-up care.

Problems navigating appointment systems are not unique to the discharged ED patient. In a 2001 survey of US households, 12.3% reported they could not get through on a telephone to a health care provider,[12] which indicates system capacity constraints that will likely require economic incentives to increase primary care access and availability. Because it is unlikely that this problem will be corrected in the near future, ED physicians and discharge personnel should be cautioned to arrange follow-up at the ED visit for patients with urgent conditions. In less urgent situations, we should give multiple numbers and emphasize the necessity of persistence and the importance of returning to or contacting the ED if follow-up is unavailable or the condition worsens.

Additional system-wide barriers exist after communication with a clinic representative. Some callers reached clinics without

openings for new patients, although all clinics in the sampling frame were presumably on call for the purpose of meeting the needs of patients without another source of care. Others, particularly those with possible ectopic pregnancy, were unable to obtain appointments within recommended periods, which again is not limited to the discharged ED patient. A Kaiser Family Foundation study found that 27% of insured patients with medical problems had difficulty obtaining appointments.[13] Another study found that 14.9% of patients failed to receive timely appointments, even with urgent medical problems.[14] Again, this points to strained ambulatory capacity that severely limits access to urgent appointments. There is evidence that widespread use of an advanced access model in which clinics maintain space for same-day appointments could improve access to timely follow-up care.[15] To further this goal, clinics included on ED follow-up referral lists should be encouraged to adopt this approach.

Many patients have conflicts with daytime weekday appointments, likely contributing to their choosing an ED for nonurgent care. The 2001 US household study documented that 24% of patients reporting health system–related problems were unable to access a clinic when it was open.[12] More than half of our callers were unable to obtain an after-hours appointment, which for workers with traditional hours and limited job flexibility would make follow-up challenging. To improve a patient's ability to follow up, EDs should identify and specify clinic hours on their referral lists. Alternatively, because they are already open continuously, EDs could be restructured to include a nonurgent follow-up care area.

Total time involved in obtaining follow-up care can prevent success. Multiple attempts, being placed on hold, and the appointment scheduling system created a lengthy process for our callers. Additional time will be spent traveling to an appointment and waiting for care on arrival. Time spent negotiating access to the medical system has significant price elasticity and negatively affects demand, particularly when financial factors are decreased.[16,17] Efforts to streamline the process by providing referral lists that are accurate, are geographically convenient, and have availability for urgent appointments will increase follow-up adherence and obviate the need for patients to return to the ED.

ED physicians who care for acutely ill patients need to be able to rely on the availability of timely follow-up care. The parent study found that patients without a usual source of care calling the same clinic twice with different insurance status had higher appointment failure rates when the caller had Medicaid or no insurance.[7] The current analysis study demonstrates that a significant number of initial and nearly 17% of persistent callers fail before they are even asked about insurance status. Although medical outcomes related to the success of follow-up care were not the subject of this study, there is a strong possibility that real patients who lack needed follow-up will have unnecessary adverse health events. As such, ED providers must be aware of the barriers that patients are facing when trying to obtain follow-up care. We can identify the problems and help with monitoring the impact of any interventions designed to expand ambulatory care capacity. Efforts in this area could decrease ED crowding and improve our ability to ensure appropriate follow-up care.

The authors would like to acknowledge Helen Levy, PhD, and Brent Asplin, MD, MPH, for their help with the parent study and input into earlier drafts and Joanna Bisgaier, BA, for help with article preparation. In addition, thanks are due to Martha Van Haitsma, PhD, and the staff at the University of Chicago Survey Laboratory for their hard work and expertise throughout the study.

Supervising editor: Steven M. Green, MD

Author contributions: KVR conceived the study, designed the trial, obtained research funding, and supervised the conduct of the trial and data collection. TLV performed statistical analysis. Both authors interpreted the data and drafted and revised the article. KVR takes responsibility for the paper as a whole.

Funding and support: By *Annals* policy, all authors are required to disclose any and all commercial, financial, and other relationships in any way related to the subject of this article, that might create any potential conflict of interest. See the Manuscript Submission Agreement in this issue for examples of specific conflicts covered by this statement.The original research and parent study for this analysis were sponsored by the Henry J. Kaiser Family Foundation. Karin Rhodes, MD, MS, is supported by a grant from the National Institute of Mental Health, K23/PA-00-004.

Publication dates: Received for publication May 16, 2007. Revision received October 17, 2007. Accepted for publication October 29, 2007.

Reprints not available from the authors.

Address for correspondence: Karin V. Rhodes, MD, MS, Division of Health Care Policy Research, Department of Emergency Medicine, School of Social Policy and Practice, Leonard Davis Institute of Health Economics, 3815 Walnut, Rm 201, University of Pennsylvania, Philadelphia, PA 19104; 215-421-1036; E-mail kvr@sp2.upenn.edu.

REFERENCES

1. McCaig LF, Burt CW. *National Hospital Ambulatory Medical Care Survey: 2003 Emergency Department Summary: Advanced Data From Vital and Health Statistics; No.* 358. Hyattsville, MD: National Center for Health Statistics; 2005.
2. Straus JH, Tangerose SO, Charney E. Referrals from an emergency room to primary care practices at an urban hospital. *Am J Public Health.* 1983;73:57-61.
3. Vukmir RB, Kremen R, Dehart DA, et al. Compliance with emergency department referral. *Am J Emerg Med.* 1992;10:413-417.
4. Magnusen AR, Hedges JR, Vanko M, et al. Follow-up compliance after emergency department evaluation. *Ann Emerg Med.* 1993; 22:560-567.

5. Thomas EJ, Burstin HR, O'Neil AC, et al. Patient noncompliance with medical advice after the emergency department visit. *Ann Emerg Med*. 1996;27:49-55.
6. Zorc JJ, Scarfone RJ, Li Y, et al. Scheduled follow-up after a pediatric emergency department visit for asthma: a randomized trial. *Pediatrics*. 2003;111:495-502.
7. Asplin B, Rhodes KV, Levy H, et al. Insurance status and access to urgent ambulatory care follow-up appointments. *JAMA*. 2005; 294:1248-1254.
8. Fix M, Struck RJ, *Clear and Convincing Evidence: Measurement of Discrimination in America*. Washington, DC: Urban Institute Press; 1993.
9. Lethbridge-Çejku M, Rose D, Vickerie J. Summary health statistics for U.S. adults: National Health Interview Survey, 2004. National Center for Health Statistics. *Vital Health Stat*. 2006;10:228.
10. Weber EJ, Showstack JA, Hunt KA, et al. Does lack of a usual source of care or health insurance increase the likelihood of an emergency department visit? Results of a national population-based study. *Ann Emerg Med*. 2005;45:4-12.
11. US Census Bureau. *Statistical Abstract of the United States: 2006*. US Census Bureau. Available at: http://www.census.gov/prod/2005pubs/06statab/pop.pdf. Accessed December 18, 2007.
12. Strunk BC, Cunningham PJ. *Treading Water: Americans' Access to Needed Medical Care*, 1997-2001. *Track Rep*. March 2002:1-6.
13. Kaiser Family Foundation. *National Survey of Consumer Experiences With Health Plans*. Menlo Park, CA: Kaiser Family Foundation; 2000.
14. Roberts M, Greenblatt J. *Access to Urgent Medical Care Among Adults 18 Years and Older, 2000-2002*. Rockville, MD: Agency for Healthcare Research and Quality; 2005. Statistical Brief No. 74.
15. Murray M, Berwich DM. Advanced access: reducing waiting and delays in primary care. *JAMA*. 2003;289:1035-1040.
16. Phelps CE, Newhouse JP. Coinsurance, the price of time, and the demand for medical services. *Rev Econ Stat*. 1974;56:334-342.
17. Acton JP. Nonmonetary factors in the demand for medical services: some empirical evidence. *J Polit Econ*. 1975;83:595-614.

Editor's Capsule Summary: *What is already known on this topic:* It is unknown how easy it is for patients with health insurance to find timely follow-up after an emergency department (ED) visit. *What question this study addressed:* Research assistants acting as patients just treated in the ED for serious medical conditions attempted to secure a prompt follow-up appointment at clinics recommended by actual EDs. Success rate and the ease of the process were measured. *What this study adds to our knowledge:* Only 40% of attempts to schedule an appointment at 603 clinics were successful, regardless of insurance status. Callers routinely encountered wrong numbers, busy signals, voicemail, disconnections, and extended holds, necessitating multiple calls. *How this might change clinical practice:* Unless an appointment is made before patients leave the ED, there is a high likelihood that they will not get timely follow-up, a major barrier to accessibility of the health care system for this purpose.