Evaluating Patient Compliance With Nurse Advice Line Recommendations and the Impact on Healthcare Costs

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Objective: To explore the effect of telephone triage and advice lines in uninsured and managed care populations served by a safety net system and to document the relationship between the patient's initial plan for healthcare, the nurse recommendation, and the patient's subsequent healthcare action.

Study Design: Prospective telephone survey.

Patients and Methods: Of 1538 calls to a nurse advice line in a 28-day period, 710 (46%) callers were selected to be surveyed. Of those, 278 (39%) were surveyed by telephone within 7 days of their call to assess patient compliance with recommendations, the patient's actual healthcare actions, and their satisfaction with the service.

Results: Patients' reported actions were classified as either (1) home care (46%), (2) clinic visit (27%), or (3) hospital visit (27%). Seventy percent of patients complied with nurse advice line recommendations. Most patient actions (68%) differed from their original healthcare plan, with many (46%) choosing a lower intensity of care. Changes from patients' original healthcare plans had a potential annual net savings of $322 249.

Conclusion: The simple act of calling a nurse triage and advice line corresponds with a change in the reported actions of uninsured and managed care patients and a potential reduction in costs to the safety net system providing their healthcare.

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For editorial comment, please see page 529.

Healthcare systems throughout the United States have created telephone triage and advice lines to recommend to patients the most appropriate intensity of care.[1] It is estimated that more than 100 million people in the United States have access to telephone triage and advice lines through a particular hospital or health maintenance organization (HMO).[2] The utility of these services to both the healthcare system and the patient assumes compliance with the advice offered and that the advice offered is cost effective. However, few studies have assessed whether the advice provided is actually followed by patients or whether it actually helps to decrease healthcare costs.

Appropriate utilization of facilities allows healthcare systems to reduce expenditures for uncompensated care and to better serve managed care patients within financial limitations. Telephone triage, decision support, and advice lines may assist in cost containment if patients follow the recommendations given.

Studies have reported patient compliance ranging from 4.5% to 88.2% depending upon the intensity of care recommended and the criteria by which compliance was determined.[3-8] Most studies described triage and advice services for pediatric patient populations and parental compliance with recommendations provided by nurses or pediatricians.[3,5,7,8] The only 2 studies to examine the utility of nurse advice line services for general patient populations consisted largely of insured patients.[4,6]

Such an assessment is important because patients using safety net systems are often uninsured or covered by Medicaid. A successful nurse triage and advice line service could reduce costs and improve access to care for these populations. The following study describes the effect of a nurse triage and advice line service on patient healthcare actions in a safety net system by investigating the caller's original plan for healthcare, the nurse recommendation, and the patient's self-reported subsequent action.

METHODS

The Denver Health NurseLine was established on June 2, 1997, to provide triage care recommendations to patients of Denver Health, an urban safety net health network serving a population of approximately 500 000 people. At the time of this study, the NurseLine received a total of 30 000 patient contacts per year. Patients call a local telephone number to contact the NurseLine, and messages in Spanish or English direct those with emergency concerns to call 911. Callers then speak with a nurse. Once connected, the nurse gathers patient

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history and demographic data before triage. A language line service is used to assist non–English-speaking callers. Although the same demographic data is captured and the same triage is provided, non–English-speaking callers were not surveyed for this study due to the language barrier. With the assistance of a commercial software program, Centramax (McKesson HBOC, San Francisco, Calif), the nurse makes an assessment and a recommendation for appropriate care. Before the call ends, patients are asked what they would have done had they not utilized the NurseLine.

Methodology for this study was based on a preliminary survey as well as other reported studies.[3,4,9] This study was approved by the Colorado Multiple Institutional Review Board of the University of Colorado Health Sciences Center (Denver). A random-number generator selected callers from reports of all triage calls to Denver Health NurseLine on each of the 28 days between November 26, 2000, and December 23, 2000, as stratified by shift: day (7:00 AM–2:59 PM), evening (3:00 PM–10:59 PM), and night (11:00 PM–6:59 AM). The ratio of calls to be sampled per shift was determined using a preliminary tally of all triage calls received during October 2000: 678 calls during the day shift, 992 calls during the evening shift, and 188 calls during the night shift (a 3:5:1 ratio). Based on this information, approximately 25 calls were randomly selected per 24-hour day: 8 (32%) day, 14 (56%) evening, and 3 (12%) night shift. At least 3 attempts were made to contact callers over 3 different days with a minimum of 2 different shifts.

Within 7 days of their NurseLine calls, randomly selected callers were contacted by a trained research assistant who initiated telephone surveys using a standardized 5-item questionnaire (**Appendix**). The questionnaire was designed to assess the following: (1) caller's subsequent action for care, (2) satisfaction with the NurseLine service, (3) satisfaction with the nurse's recommendations, (4) perception of wait time for service, and (5) intention to utilize the service in the future. The relationship between caller's original plan, the NurseLine recommendations, and caller's subsequent action was examined. Plans, recommendations, and actions were categorized into 3 levels of care: home care, clinic visit, and hospital visit.

Home care was considered the lowest intensity of care and included all actions not involving a visit to a healthcare agency (bed rest, stay home, etc). *Clinic visit* was the next highest intensity of care and included all nonemergent actions for healthcare (see doctor, call doctor, go to clinic, etc). *Hospital visit,* the highest intensity of care, included all emergent actions for healthcare (go to emergency department, call 911, go to hospital, etc). For example, if a caller's original plan was to go to their community clinic and the nurse recommended bed rest with fluids, then the original plan was categorized as clinic visit, and the recommendation was categorized as home care. The care recommended was of lower intensity than what the patient had originally planned. If the subsequent patient survey indicated that home care was followed, a lower intensity of care had in fact been chosen, and there was concordance of nurse recommendation and patient action. However, there was discordance between the caller's initial plan and the nurse's recommendation. This survey reveals the pattern of behavior from the caller's original plan to nurse recommendation to subsequent action.

The system savings potential of the nurse triage and advice line service was calculated by extending the data regarding alterations in healthcare decisions from the sample to all users. Average charges for home care ($0.00), a clinic visit ($137.08), and a hospital emergency department visit ($969.01) in our system were used to estimate cost savings associated with changes from the patient's original healthcare plan to their subsequent action as a result of nurse advice line recommendations.

In an attempt to validate the self-reported actions of callers, a patient search was conducted within the Denver Health clinical database. The search criteria included a patient visit for either inpatient or outpatient care within 7 days of a call to the NurseLine. This confirmed the statements of those who said they sought care at a clinic or hospital and those who stated that they did not seek care outside of the home. This search could neither confirm nor exclude any patient visits outside of the Denver Health network.

Survey respondents were asked to rate their satisfaction with the NurseLine service using a scale ranging from 1 (extremely dissatisfied) to 10 (extremely satisfied). Respondents were also asked to rate their satisfaction with the nurse's recommendations using the same 10-point scale. To gauge the caller's perception of NurseLine staff accessibility, respondents were asked if they waited long to speak to a nurse (yes or no) and to estimate how many minutes they had waited. Respondents were also asked if they would use the NurseLine service again.

Overall patient compliance was analyzed in 3 categories: (1) the caller's original plan versus the nurse's recommendation, (2) the nurse's recommendation versus the caller's self-reported subsequent action, and (3) the caller's original plan versus the caller's self-reported subsequent action. These patterns illustrate the direction of any deviance from the original plan to the recommendation to the subsequent action based upon the level of intensity of care.

Figure 1. Survey Respondents

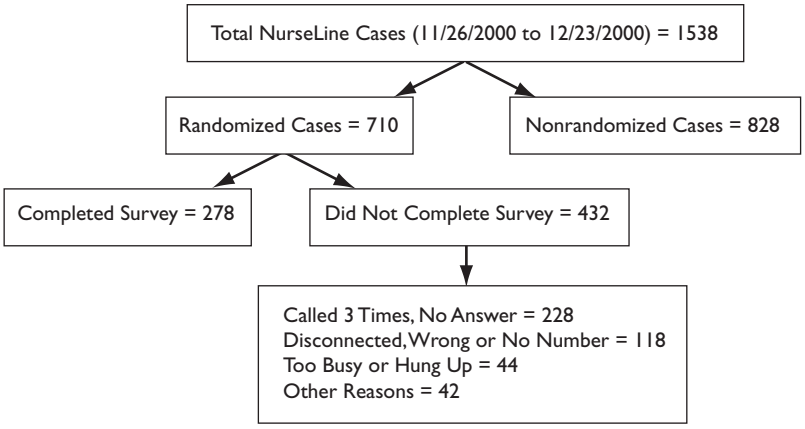


Table 1. Demographics of NurseLine Patients Participating in Study (n = 278)

Demographic	No. Patients	% Sample
Shift		
Day	89	32
Evening	143	51
Night	46	17
Age		
Mean	23 years (SD ± 20)	Not Applicable
Range	4 days – 85 years	Not Applicable
Gender		
Male	92	33
Female	186	67
Insurance Status		
Managed Care	66	23.7
Denver Health Medical Plan[1]	21	7.6
Other Commercial PPO/HMO	4	1.4
Colorado Access (Managed Medicaid)	36	12.9
Child Health Care Plan	5	1.8
Nonmanaged Care	202	76.3
No Insurance Coverage	94	33.8
Colorado Indigent Care Program[2]	11	4.0
Medicare	6	2.2
Medicaid	91	32.7
Other	10	3.6

[1]Commercial HMO.
[2]State Program for Uninsured.
SD indicates Standard Deviation.

Because these are categorical data, the χ^2 test for independence is used to discern any differences in demographics between people who completed the survey and people who did not (statistically significant if $P < .05$). Additional descriptive statistics provide a summary analysis of caller satisfaction, wait time, and intention to utilize the NurseLine again.

RESULTS

During the 28-day study period, the NurseLine received 1538 triage calls, of which 710 cases (46%) were randomly selected. Of those 710, 278 individuals (39%) completed the survey. The remaining 432 individuals (61%) did not participate for a variety of reasons (**Figure 1**).

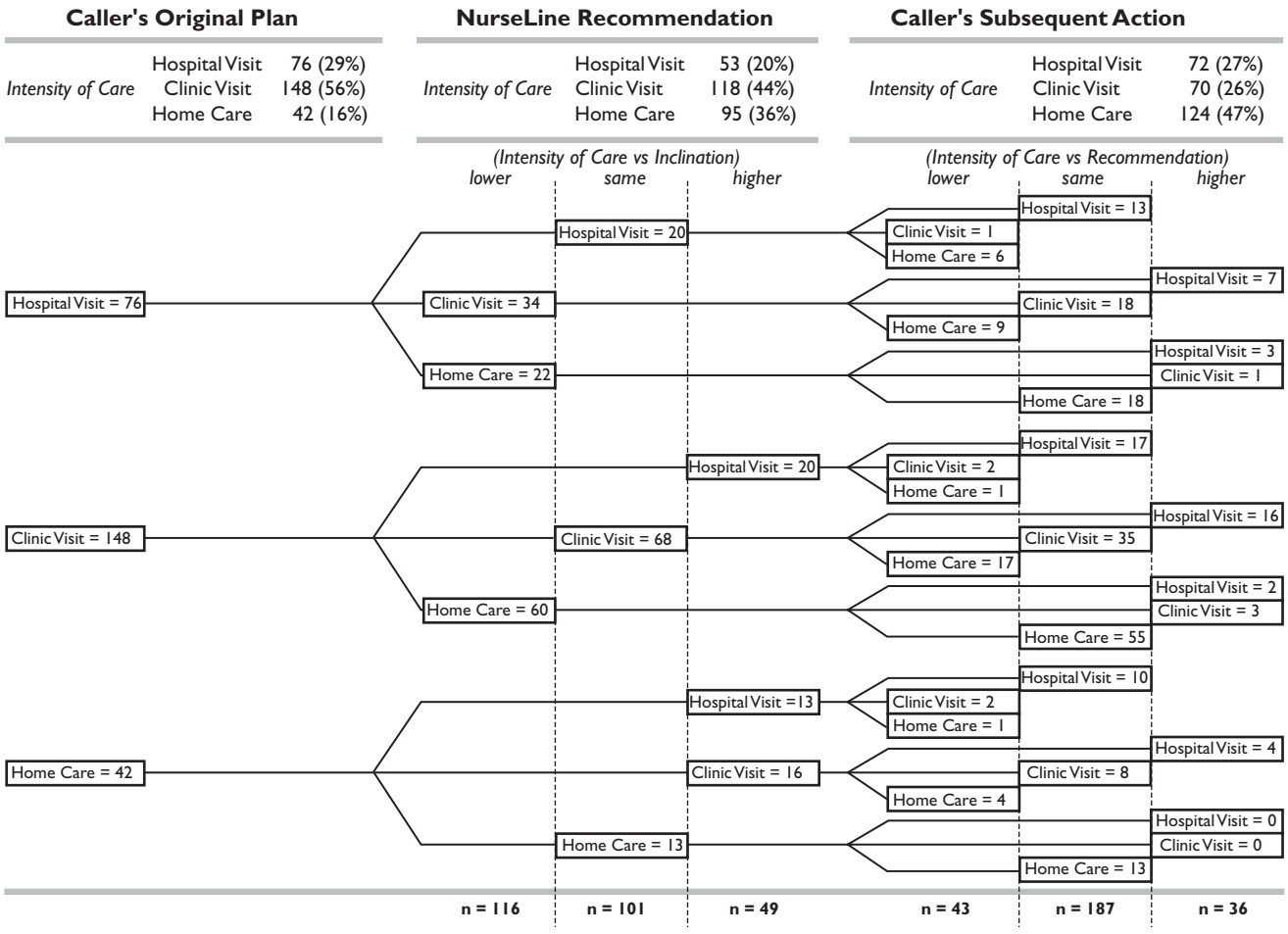
The majority (67%) of patients were female and either did not have insurance (33.8%) or relied upon Medicaid programs (46%) for medical payment (**Table 1**). Managed care patients comprised 24% of those surveyed. Patient age ranged from 4 days to 85 years, with an average patient age of 23 years (SD ± 20). Although detailed information for the nonresponders is not presented, there was no significant difference in shift ratio, age, or gender between those who participated in the survey and those who did not ($P > 0.05$). Nor was there a significant difference in shift ratio, age, or gender between those in managed care and those in other insurance status groups ($P > 0.05$).

In order to make comparisons based on the relationship between the caller's original plan, nurse's recommendation, and patient's subsequent action, only the 266 respondents with complete data for all three outcomes were analyzed (96%).

The majority of callers (56%) reported that they would have gone to a clinic for care if they had not used the NurseLine service (**Figure 2**). Another 29% reported that they would have gone to the hospital, and 16% stated that they would have practiced self-care at home (Figure 2). The estimated healthcare charges for the original plan of callers was $93 933 (**Table 2**).

The NurseLine recommended a clinic visit as the appropriate intensity of care in 44% of cases, referral to a hospital in 20% of cases and home care in 36% of

Figure 2. Relationship Between Caller's Original Plan, NurseLine Recommendation, and Caller's Subsequent Action (n = 266)



The intensity of care for each outcome is summarized then stratified as lower, the same, or higher than the previous outcome.

cases (Figure 2). There was concordance of the caller's original plan and the NurseLine recommendation in 101 cases (38%), with the greatest agreement for clinic visit. More importantly, the NurseLine recommendation was for a lower intensity of care in 116 cases (44%) and for a higher intensity of care in 49 cases (18%; Figure 2). The estimated charges for healthcare actions recommended by the NurseLine service were $67 533, represents $26 400 in charges avoided in comparison to the caller's original plan (Table 2). Charges for the lower-intensity care recommended by NurseLine are less than those for higher-intensity care by a 2:1 ratio.

Of the self-reported caller actions, 187 (70%) were in concordance with the documented nurse recommendation (Figure 2). Compliance with recommendations was highest for home care (86/95 = 91%), followed by hospital visit (40/53 = 75%) and clinic visit (61/118 = 52%). Thus a majority of nurse recommendations were heeded by callers. However, when asked "Did you follow the nurse's recommendation?" 94% of the callers said "Yes." This difference may indicate that the caller misunderstood or could not remember the appropriate level of care recommended; it may also indicate poor documentation or communication by the nurse. For the discordant cases, it is noteworthy that 43 callers (16%) chose a lower intensity of care and 36 (14%) chose a higher intensity of care than recommended. Estimated charges for the NurseLine recommendations were $11 831 less than the $79 365 in charges estimated for subsequent patient actions. The total charges for subsequent patient actions are $14 568 less than those associated with the caller's original plan (Table 2).

Table 2. Impact of Changes in Intensity of Care and Associated Charges for Caller's Original Plan, Nurse Recommendation, and Caller's Subsequent Action (n = 266)

Intensity of Care	n	Associated Charges ($)	Changes in Intensity of Care and Associated Charges ($)			
Caller's Original Plan	**266**	**$93 933**	**Comparison to Caller's Subsequent Action**			
			Home	**Clinic**	**Hospital**	**Change**
Home Care	42	$ 0	18 No Change	10 $1371	14 $13 566	$14 937
Clinic Visit	148	$20 288	73 $10 007	40 No Change	35 $29 118	$19 111
Hospital Visit	76	$73 645	33 $31 977	20 $16 639	23 No Change	$48 616
						Charges Avoided = $14 568
Nurse Recommendation	**266**	**$67 533**	**Comparison to Caller's Original Plan**			
			Home	Clinic	Hospital	Change
Home Care	95	$ 0	13 No Change	60 $8225	22 $21 318	$29 543
Clinic Visit	118	$16 175	16 $ 2193	68 No Change	34 $28 286	$26 093
Hospital Visit	53	$51 358	13 $12 597	20 $16 639	20 No Change	$29 236
						Charges Avoided = $26 400
Caller's Subsequent Action	**266**	**$79 365**	**Comparison to Nurse Recommendation**			
			Home	Clinic	Hospital	Change
Home Care	124	$ 0	86 No Change	30 $4112	8 $7752	$11 864
Clinic Visit	70	$9596	4 $548	61 No Change	5 $4160	$3612
Hospital Visit	72	$69 769	5 $4845	27 $22 462	40 No Change	$27 307
						Increased Charges = $11 831

Average charges for care at Denver Health: Home care = $0.00, Clinic visit = $137.08, Hospital visit (Emergency Department) = $969.01.

Where possible, we corroborated the self-reported actions (home care, clinic visit, or hospital visit) of the 278 survey respondents with our in-patient and outpatient visit databases. Only if a patient received documented care in a clinic or the hospital within 7 days of calling did we consider those self-reported subsequent actions to have been supported. We also reasoned that the absence of documented use of services indicated home care since our institution is the most likely provider of healthcare for this patient population. Our records indicated that 93 patients visited a clinic or hospital visit in our system within 7 days of calling the NurseLine. We used ICD-9 codes to determine that 83 of these 93 patients correctly self-reported a clinic or hospital visit related to their NurseLine call. The other 10 patients reported their subsequent actions incorrectly (patient went to a clinic though they reported a hospital visit or home care, or the patient visited the hospital though they reported a clinic visit or home care). With home care represented by no documented

use of services within 7 days of a NurseLine call, 116 of the remaining 176 callers correctly self-reported home care related to their call. The other 60 patients reported their subsequent actions incorrectly (as visiting either a clinic or a hospital). This indicated that 74% of callers (199 of 278) reported their subsequent healthcare actions consistent with inpatient and outpatient databases (patient records).

The relationships between callers' original plans for healthcare and their self-reported subsequent actions are summarized in **Table 3.** In 31% of the cases, the caller reported pursuing the same intensity of care as originally planned. However, over two thirds of callers (69%) altered their plan of action after calling the NurseLine. Most (47%) indicated that their subsequent action was of lower intensity than originally planned, while the remainder (22%) reported pursuing care of higher intensity than what they initially planned.

Table 3. Caller's Original Plan Versus Caller's Subsequent Action (n = 266)

Caller's Original Plan	Caller's Self-Reported Subsequent Action: Home Care	Clinic Visit	Hospital Visit	Row Totals
Home Care	18 (=)	10 (↑)	14 (↑)	42
Clinic Visit	73 (↓)	40 (=)	35 (↑)	148
Hospital Visit	33 (↓)	20 (↓)	23 (=)	76
Column Totals	124	70	72	266 (100%)

(↓) 47%—Caller's self-reported action is a LOWER intensity of care than the caller's original plan (n = 126).
(=) 31%—Caller's self-reported action is in CONCORDANCE with the caller's original plan (n = 81).
(↑) 22%—Caller's self-reported action is a HIGHER intensity of care than the caller's original plan (n = 59).

Of particular note are those patients who most radically changed their original plan for healthcare after accessing the NurseLine service (Table 3). For example, 73 out of 148 patients (49%) who were planning on a clinic visit decided on home care, and 53 out of 76 patients (70%) who planned to go to the hospital instead went to a clinic or utilized home care. Conversely, 14 out of 42 patients (33%) who intended home care actually sought hospital care, and 35 out of 148 patients (24%) who intended to utilize clinic services sought hospital care.

The majority of respondents (89%) rated their overall satisfaction with the NurseLine service at 7 or higher (**Figure 3**). Similarly, 91% rated their overall satisfaction with the nurse recommendation at 7 or higher. Only 44 (16%) indicated they had to "wait long." to speak with a nurse, and the estimated wait time ranged from 0 to 80 minutes with a mean of 5 minutes (SD ± 9.6). Most respondents (98%) said they would use the service again.

Further comparison of managed care and nonmanaged care patients (**Table 4**) showed that the 2 groups differed little in intensity of care originally planned by the caller, the caller's subsequent action, and the percentage of those who reported compliance with the nurse recommendation ($P > 0.05$). The NurseLine service recommended different intensities of care for the 2 groups: a higher percentage of managed care patients received a clinic visit recommendation, and home care was recommended to a higher percentage of nonmanaged care patients ($P < 0.05$). There was no difference in the percentages of the 2 groups provided a hospital visit recommendation.

DISCUSSION

An important goal of the healthcare system from both a patient safety and cost efficiency perspective is to assure that patients receive the right care, in the right place, at the right time. One effort to achieve this goal has been the development of nurse triage and advice line services. The utility of these services depends upon patients' willingness to use such a service, the recommendations given, and patient compliance with recommendations.

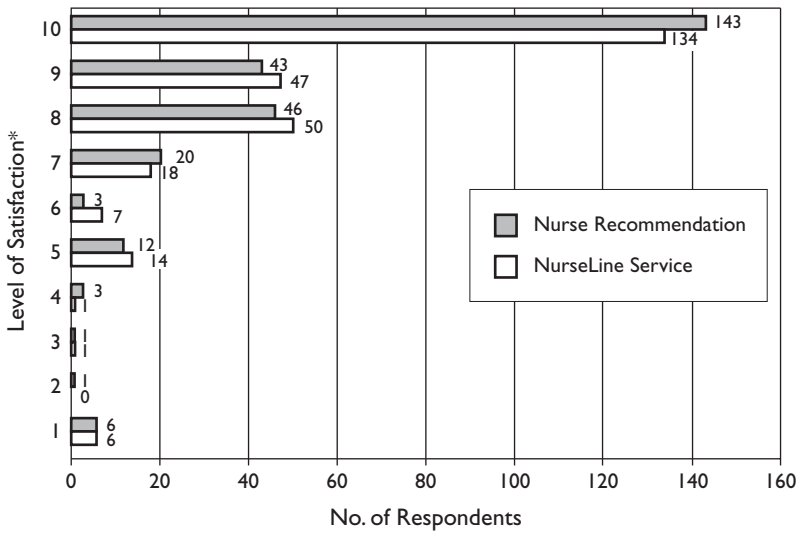
Despite the importance of this information, few studies have examined patient compliance with nurse triage and advice service recommendations.[3-8] Most of these studies examined triage services for pediatric patients or for populations with some form of health insurance. Both of the published studies examining the effect of nurse telephone triage in a general patient population served populations with fewer than 16% uninsured patients.[4,6] Our survey population consisted mostly of the uninsured or those utilizing government medical programs such as

Table 4. Comparison of Managed Care Versus Nonmanaged Care Patients for Caller's Original Plan, Nurse Recommendation, and Caller's Subsequent Action (n = 268)

Study Parameter	Managed Care n (%), n = 66	Nonmanaged Care n (%), n = 202	*P*
Caller's Original Plan			
Home Care	40 (60.6%)	111 (55.0%)	0.42
Clinic Visit	8 (12.1%)	33 (16.3%)	0.41
Hospital Visit	18 (27.3%)	55 (27.2%)	0.99
Nurse Recommendation			
Home Care	22 (33.3%)	99 (49.0%)	0.03*
Clinic Visit	30 (45.5%)	64 (31.7%)	0.04*
Hospital Visit	14 (21.2%)	38 (18.8%)	0.67
Caller's Subsequent Action			
Home Care	15 (22.7%)	54 (26.7%)	0.52
Clinic Visit	35 (55.0%)	87 (43.1%)	0.16
Hospital Visit	15 (22.7%)	54 (26.7%)	0.52
Caller's Subsequent Action in Compliance with Nurse Recommendation	47/65 (72.3%)	140/201 (69.7%)	0.68

* Statistically significant, $P < .05$.

Figure 3. Caller Satisfaction With NurseLine Service and Nurse Recommendation (n = 278)



*Level of satisfaction ranged from 1 = not very satisfied to 10 = extremely satisfied.

Medicare and Medicaid in a safety net healthcare system. For comparison, however, our system also included patients in managed care plans.

It is necessary to examine the utility of nurse triage and advice services for the underinsured or uninsured population for several reasons. First, these patients often encounter economic, transportation, and cultural obstacles that impede healthcare access.[10] A readily available nurse triage service could reduce these barriers. Second, these patients often lack a primary care physician and utilize the emergency department for care. Most visits may not require this high-cost care venue for treatment. Third, although uninsured patients often defer needed care,[11] they may be less likely to do so if advised by a nurse to pursue care. Fourth, the safety net systems that provide care to these populations are often financially fragile and, to remain viable, must maximize the efficiency of providing care.[12] Finally, Medicaid budgets in a majority of states are under duress, and improved efficiency of care could benefit state budgets and those who provide services by controlling costs through appropriate utilization of facilities and resources.

We studied the utilization and outcomes of a nurse triage and advice service at Denver Health, Colorado's principal safety net healthcare institution. Within 3 years of its establishment, the NurseLine service was receiving 30 000 calls per year, demonstrating that both managed care and uninsured patients will utilize such services if they are available. With 90% or more of service users reporting satisfaction with the service, the nurse recommendation and would use the service again, this is an effec-

tive way to help all patients make appropriate healthcare decisions.

The recommendations provided by nurses or physicians providing telephone triage advice were very similar across studies despite differences in patient insurance status. We found, as did the other studies, that nonurgent care at a clinic/physician's office or self-care at home were most often recommended, with less than 20% of patients directed to seek urgent care at a hospital.[5-8] As in other studies, 90% or more of our survey respondents reported following triage recommendations.[3,4,7] However, our examination of inpatient and outpatient records determined that the accuracy of self-reported patient actions for healthcare was approximately 70%, which demonstrates the challenge of relying solely upon recollections of those surveyed.

Patient compliance with our triage service varied according to the intensity of care recommended, with the least compliance associated with recommendations for nonurgent care at a clinic or physician office. Patients were much more likely to comply with recommendations to go to the hospital or for home care. Other studies have reported similar findings for patient compliance[3,5,6,8] However, no other study has described what healthcare actions patients would have taken without the triage and advice service. We demonstrated that, in addition to overall patient compliance of 70%, our nurse triage service was able to change the behavior of 69% of patients. After speaking to a nurse, almost half of these patients decreased the intensity of care they pursued, while approximately a fourth increased the intensity. This finding may indicate that patients are being directed to a more appropriate intensity of care for their health concern. It also suggests that some patients are being directed to pursue urgent care who might have remained home or waited for a clinic appointment. Although the study was not designed to determine if a higher intensity of care was really needed, a nurse's recommendation suggests it may well have been. Preventing the delay in care for these patients may ultimately prevent more costly care at a later date.

We were surprised to find a difference in nurse recommendations to different patient populations: a clinic visit was more commonly recommended to managed care patients than to nonmanaged care patients. It is unlikely that this relates to the poverty of patients since the majority of managed care patients in this study are enrolled in a Medicaid program. Although nurses know the insurance status of patients when interviewed they did not believe it altered their recommendations. One explanation could be the different utilization of the service by the 2 populations. A managed care population may know more about healthcare issues and have additional resources (books, Internet, etc) to assist with their health concerns. Nonmanaged care patients may have fewer resources and may need to contact the service with any health concern. The difference or differences between patient populations requires further investigation.

Our study describes the potential savings from more effective utilization of facilities by patients who use a triage and advice line. One limitation is the use of patient charges instead of actual-care costs to determine the degree of this impact on healthcare expenditures. However, any decrease in utilization of resources in our maximally utilized not-for-profit, single-budget system allows us to provide care, including uncompensated care, to others. Therefore, with our patient mix and fixed cost-recovery constraints, any charges avoided for uncompensated and managed care patients reduce expenditures and thereby increase capacity in the system, so that more healthcare can be delivered.

Our study indicated that the actions 266 patients took after calling the NurseLine service ultimately saved a total of $14 568 in charges that would have been incurred had they followed their original healthcare plan. This represents an average of $54.77 in charges avoided per patient. Multiplying this average by the NurseLine's 30 000 annual patient contacts yields $1 643 100 in charges avoided. Multiplication by our consolidated ratio of cost to charges (59%) equates to a savings of $969 429. The NurseLine service has an operating budget of $647 000 per year but no associated patient charges. Subtracting the service budget leaves an estimated net cost savings of $322 429 annually for the Denver Health system.

There are clear shortcomings in equating the potential patient-care savings from utilization of a nurse triage and advice service to actual savings. First, extrapolating from the survey group to the entire population of users may not be valid. Second, if no actual personnel or supplies were decreased, these potential savings to the system may not be realized unless perhaps more uncompensated care can be provided with those resources. This problem is inherent in any estimate of cost avoidance. Even with these limitations, the system is likely to realize some meaningful savings.

While this study supports the effectiveness of phone triage in getting a patient to the right venue of care, it does have limitations. Measuring patients' actual compliance and obtaining complete financial data for what costs are incurred in their treatment are problematic. Sound compliance measurement requires accurate patient recollections of nurse recommendations, well-defined levels of healthcare, ability to survey all service users, and ability to validate all patient self-reported actions. The latter also impacts the determination of

actual-dollar savings. Nonetheless, this study suggests that nurse triage and advice services, used by populations served by a safety net institution, provide a new low-cost venue for access to care. Such services have the potential to improve appropriateness of venues of healthcare for such populations and thereby improve the financial health of the institutions that provide care for these patients.

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Appendix. Denver Health NurseLine Satisfaction Survey

TO BE COMPLETED FROM CASE RECORD

Patient ID: _____ Shift: (*circle*) Day (*7a-3p*) Evening (*3p-11p*) Night (*11p-7a*)
(if no ID, initials)

Patient Insurance Status: _____

Gender: (*circle*) M F Age: _____ Date of Call: _____/_____/_____ Time: _____

Caller's Original Inclination: _____

Program Recommendation: _____

Nurse Recommendation: _____

TO BE COMPLETED BY SURVEYER: (*Complete for all triage calls*)

1. Please rate your satisfaction with the NurseLine on a scale of 1-10: (*circle*)

1 2 3 4 5 6 7 8 9 10
Extremely Not Satisfied Extremely Satisfied

2. Please rate your overall satisfaction with the nurse's recommendations you received on a scale of 1-10? (*circle)*

1 2 3 4 5 6 7 8 9 10
Extremely Not Satisfied Extremely Satisfied

3. Did you have to wait long to speak to a nurse? (*circle*) **Y** **N**

About how long did you have to wait? _____ minutes (*caller estimate*)

4. Would you use this service again? (*circle*) **Y** **N**

5. Did you follow the nurse's recommendation? (see above description) (*circle*) **Y** **N**

What action did you take? _____

SURVEY OUTCOME: (*check one*)

_____ Completed survey

_____ Called 3 times, no response (must have tried during _____ day & _____ evening shifts)

_____ Caller did not wish to participate. Reason given: _____

Survey Conducted By: _____ Date Completed: _____/_____/_____.